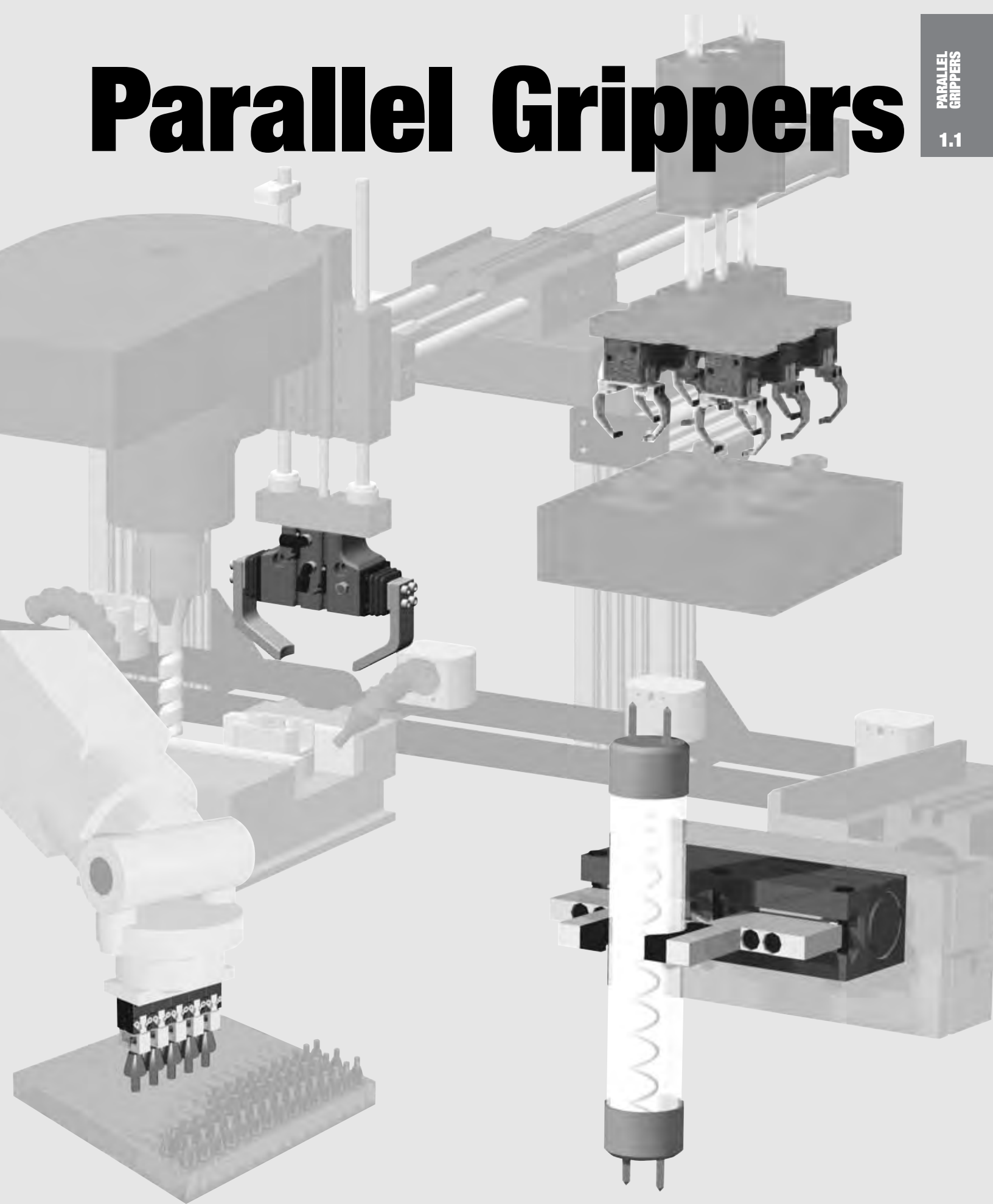


# Parallel Grippers



# Parallel Motion Gripper

## DPE/RPE E-Gripper Electric Gripper

- Clean room class 100, class 10 with scavenge
- Cost comparable to pneumatic systems
- Eliminates need for pneumatics
- Utilizes 24VDC signal
- No programming or software required
- 60 parts per minute—no problem!
- Compact, lightweight design

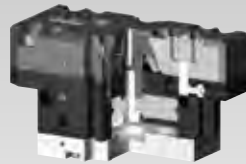


See Page **1.8**

Preferred Market: ● Global

## RDH Series Two Jaw Parallel Gripper

- Shielded design deflects chips and other particulate away from the internal components
- Large surface area of the jaws allows for use of long fingers
- All gripper sizes are available in 2 strokes sizes.



See Page **1.20**

Preferred Market: ● Global

## 2P Series Precision Two Jaw Parallel Gripper

- Precision operation
- Cylindrical design
- Optional springs for failsafe operation or for increased gripforces
- Side or rear airports
- Tandem piston for double grip force
- Optional Protective Boot for harsh environments
- All gripper sizes are available in 2 strokes sizes



See Page **1.40**

Preferred Market: ■ EU ◆ SA

## CP Series Compact Two Jaw Parallel Gripper

- Rugged, compact design
- Shielded design deflects chips and other particulate away from the internal components
- Optional springs for failsafe operation or for increased gripforces
- Side or rear airports
- Multi-sensor capable design
- All gripper sizes are available in 2 strokes sizes



See Page **1.58**

Preferred Market: ■ EU

## DPP Series DIRECTCONNECT Precision Gripper

- Featuring our DIRECTCONNECT™ mounting pattern
- "Dual-V" precision roller bearing design provides zero side play for excellent part position repeatability
- Optional double acting spring assist for increased force or failsafe operation
- Low friction design allows for delicate part handling
- Synchronized and non-synchronized versions available

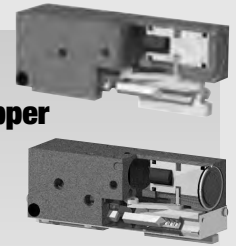


See Page **1.74**

Preferred Market: ● Global

## RPL/RPLC Series Low Profile/Clean Room Gripper

- Lightweight, Compact
- Patented Dual "V" Roller Bearing System
- Excellent accuracy and repeatability
- Synchronized and non-synchronized versions available
- Designed for use in Class 10 clean rooms as well as in harsh environments
- Stainless Steel hardware and covers for durability
- Vacuum/Pressure port

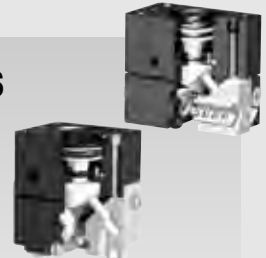


See Page **1.90**

Preferred Market: ● Global

## RPM/RPMC Series Micro/Clean Room Gripper

- Extremely small size—as small as 5/8" wide!
- Compact design allows for gripping small parts in small spaces
- Top air manifold eliminates the need for air fittings and allows grippers to be mounted in close array
- Ultra low friction mechanism allows for consistent, repeatable gripping forces
- Shielded with purge port



See Page **1.106**

Preferred Market: ● Global

## DPG Series DIRECTCONNECT Modular Gripper

- Multiple DIRECTCONNECT™ mounting locations
- Multiple air port locations
- Spring assisted design for failsafe operation or increased grip force
- Shielded design repels contaminants
- Synchronized and non-synchronized versions

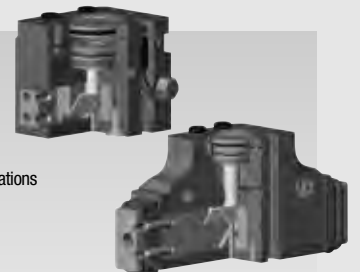


See Page **1.122**

Preferred Market: ● Global

## DPDS & DPDL DIRECTCONNECT Modular Gripper

- Multiple DIRECTCONNECT™ mounting locations
- Multiple air port locations
- Multiple strokes per size
- Front-to-back thru-body mounting
- Extended strokes (DPDL)
- Purge/scavenge ports for harsh environments
- Optional corrosion resistant hardware, high temperature seals, and sealed jaw boot (DPDL)

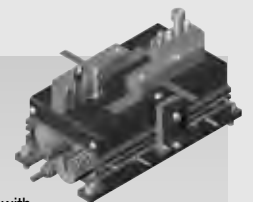


See Page **1.134**

Preferred Market: ● Global

## DPL Series DIRECTCONNECT Long Stroke Gripper

- For use in confined spaces, combining long strokes with the high gripping force provided by two simultaneously acting pistons.
- Offers wide range of options and accessories (safety springs, in-line jaws, magneto resistive or inductive sensors).
- Enclosed, shielded design repels chips and other particulate from internal drive mechanism.



See Page **1.158**

Preferred Market: ● Global

# Products Overview

## RP Series Miniature Double Wedge Gripper

- Compact size, high gripping force, and extended jaw design facilitates finger attachment for smaller parts.
- High grip force to weight ratio make these grippers very popular on small robots.
- Miniature size allows banks of grippers to be mounted in close proximity for multiple part picking and placing.
- Internally sealed for use in hostile environments



See Page **1.170**

Preferred Market: ● Global

## RP Series Double Wedge Gripper

- Patented "Double Wedge Design" for extreme high grip force to size ratio
- Internally sealed for use in hostile environments
- Superior accuracy and repeatability
- Made from 7075-T6 aircraft quality aluminum hardcoat anodized to RC60 with Teflon® impregnation
- Highest grip force to weight/size ratio in the industry

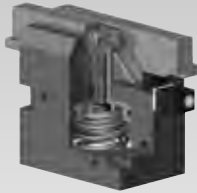


See Page **1.176**

Preferred Market: ● Global

## GC Series Precision Parallel Gripper

- Precision operation
- Spring assist
- Grippers are fitted with 2 sensor holders (sensor available separately)
- Side or rear airports
- Optional 3rd sensor for part sensing, Viton® seals for high temperature applications, and encoder available



See Page **1.186**

Preferred Market: ● Global

## DPW Series *DIRECTCONNECT™* Wide Body Gripper

- Features our DIRECTCONNECT™ mounting pattern
- Excellent jaw support through the full body of the gripper
- Highly configurable gripper featuring multiple options and accessories
- Synchronized and non-synchronized versions available
- Each gripper is offered in 2 different strokes



See Page **1.196**

Preferred Market: ● Global

## RPW Series Large Format Wide Body Gripper

- Excellent jaw support through the full body of the gripper
- High gripping forces utilizing two opposing pistons
- Synchronized and non-synchronized versions available
- Superior accuracy and repeatability
- Sealed design for harsh environments

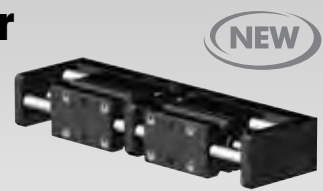


See Page **1.214**

Preferred Market: ● Global

## RPR Gladiator Heavy Duty Parallel Gripper Gripper

- Wide body, long stroke design
- Designed for machining and foundry applications
- Rigid design and full body support of jaws allows for longer finger lengths
- High temperature design available



See Page **1.222**

Preferred Market: ▲ NA ◆ SA

## B-Series Industrial Grippers

- For large and wide parts in machining and foundry applications
- Heavy duty, rugged designs
- Extremely high grip forces and moment loads



See Page **1.228**

Preferred Market: ▲ NA ◆ SA

## RTH Series Three Jaw Centering Gripper

- Shielded design (DTH) deflects chips and other particulate away from the internal components
- Large surface area of the jaws allows for use of long fingers

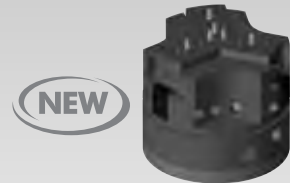


See Page **1.230**

Preferred Market: ● Global

## 3P Series Precision Three Jaw Parallel Gripper

- Precision operation
- Cylindrical design
- Optional springs for failsafe operation or for increased grip forces
- Side or rear airports
- Tandem piston for double grip force
- Optional Protective Boot for harsh environments
- All gripper sizes are available in 2 strokes sizes



See Page **1.252**

Preferred Market: ■ EU ◆ SA

## PPC Series Through Hole Gripper

- Unique through hole design
- 3 jaw concentric parallel gripper
- Shielded design protects internal components for increased life in harsh environments
- Optional safety springs, extended strokes, sensors, and high temperature seals



See Page **1.268**

Preferred Market: ● Global

# Destaco-Robohand Parallel Gripper Product Selector

Model #	Stroke Range	Total Grip Force Range	Maximum Finger Length @ 60 PSI [4 bar]	Actuation Time	Operating Pressure	Environment	Fail-safe Operation	Inductive Sensors	Magnetic Resistive Sensors	Double Acting Cylinder	Single Acting/Spring Return	Double Acting/Spring Assist	Non-Synchronous Option
<b>Two Jaws</b> 0 - 0.25 in. [0 - 6.3mm] 0.25 - 0.50 in. [6.3 - 12.7mm] 0.50 - 0.75 in. [12.7 - 19.1mm] 0.75 - 1.00 in. [19.1 - 25.4mm] 1.00 - 1.25 in. [25.4 - 31.8mm] 1.25 - 1.50 in. [31.8 - 38.1mm] 1.50 - 1.75 in. [38.1 - 44.5mm] 1.75 - 2.00 in. [44.5 - 50.8mm] 2.00 - 2.25 in. [50.8 - 57.1mm] 2.25 - 2.50 in. [57.1 - 63.5mm] 2.50 - 2.75 in. [63.5 - 69.8mm] 2.75 - 3.00 in. [69.8 - 76.2mm] 3.00+ [76.2mm+]													
<b>Three Jaws</b> 1 - 10 lbs. [0.45 - 45N] 10 - 25 lbs. [45 - 111N] 25 - 50 lbs. [111 - 223N] 50 - 100 lbs. [223 - 445N] 100 - 200 lbs. [445 - 890N] 200 - 300 lbs. [890 - 1335N]													
0 - 2 in. [0 - 50.8mm] 2 - 4 in. [50.8 - 102mm] 4 - 6 in. [102 - 152mm] 6 - 8 in. [152 - 203mm] 8 - 10 in. [203 - 254mm] 10 - 12 in. [254 - 305mm] 12 - 14 in. [305 - 356mm] 14 - 16 in. [356 - 406mm] 16 - 18 in. [406 - 457mm] 18 - 20 in. [457 - 508mm] 20 in.+ [508mm+]													
0.05 - 0.1 sec. 0.1 - 0.5 sec. 0.5 - 0.75 sec. 0.75 - 1 sec.													
5 - 100 psi [0.3 - 7 bar] 20 - 100 psi [1.5 - 7 bar] 40 - 100 psi [3 - 7 bar] 50 - 100 psi [3.5 - 7 bar]													
24VDC Electric Actuation Clean Room Environment Normal Environment Harsh/Dirty Environment													
Fail-safe Operation Inductive Sensors Magnetic Resistive Sensors Double Acting Cylinder Single Acting/Spring Return Double Acting/Spring Assist Non-Synchronous Option													
<b>DPE ELECTRIC GRIPPER</b>													
DPE-200-25													
<b>RPE ELECTRIC GRIPPER</b>													
RPE-100													
RPE-101													
<b>RDH/DDH SHIELDED 2 JAW DESIGN</b>													
RDH-1													
RDH-1-L													
RDH-2													
RDH-2-L													
RDH-3													
RDH-3-L													
RDH-4													
RDH-4-L													
RDH-5													
RDH-5-L													
RDH-6													
RDH-6-L													
RDH-7													
RDH-7-L													
RDH-8													
RDH-8-L													
<b>ZP PRECISION DESIGN</b>													
6002P													
6002P-C													
8002P													
8002P-C													
11002P													
11002P-C													
14002P													
14002P-C													
16502P													
16502P-C													
16502PGR													
<b>CP SQUARE DESIGN</b>													
CP-1													
CP-1-C													
CP-2													
CP-2-C													
CP-3													
CP-3-C													
CP-4													
CP-4-C													
CP-5													
CP-5-C													
CP-6													
CP-6-C													
<b>DIRECTCONNECT PRECISION "DUAL-V" DESIGN</b>													
DPP-10M-06													
DPP-10M-12													
DPP-14M-15													
DPP-14M-25													
DPP-20M-25													
DPP-20M-38													
<b>LOW PROFILE DESIGN</b>													
RPL-1													
RPL-2													
RPL-3													
RPL-4													
<b>LOW PROFILE CLEAN ROOM DESIGN</b>													
RPLC-1													
RPLC-2													
RPLC-3													
RPLC-4													
<b>MICRO DESIGN</b>													
RPM-1													
RPM-2													
RPM-3													
<b>MICRO CLEAN ROOM DESIGN</b>													
RPMC-1													
RPMC-2													
RPMC-3													

Continued on next page



# Destaco-Robohand Parallel Gripper Product Selector

Model #	Stroke Range	Total Grip Force Range	Maximum Finger Length @ 60 PSI (4 bar)	Actuation Time	Operating Pressure	Environment	Failsafe Operation	Inductive Sensors	Magneto Resistive Sensors	Double Acting Cylinder	Single Acting/Spring Return	Double Acting/Spring Assist	Non-Synchronous Option
<div style="display: flex; justify-content: space-between; font-size: 8px; margin-bottom: 5px;"> <span>Two Jaws</span> <span>0 - 0.25 in. [0 - 6.3mm]</span> <span>1 - 10 lbs. [0.45 - 45N]</span> <span>0 - 2 in. [0 - 50.8mm]</span> <span>0.05 - 0.1 sec.</span> <span>5 - 100 psi [0.3 - 7 bar]</span> <span>Clean Room Environment</span> </div> <div style="display: flex; justify-content: space-between; font-size: 8px; margin-bottom: 5px;"> <span>Three Jaws</span> <span>0.25 - 0.50 in. [6.3 - 12.7mm]</span> <span>10 - 25 lbs. [45 - 111N]</span> <span>2 - 4 in. [50.8 - 102mm]</span> <span>0.1 - 0.5 sec.</span> <span>20 - 100 psi [1.5 - 7 bar]</span> <span>Normal Environment</span> </div> <div style="display: flex; justify-content: space-between; font-size: 8px; margin-bottom: 5px;"> <span></span> <span>0.50 - 0.75 in. [12.7 - 19.1mm]</span> <span>25 - 50 lbs. [111 - 223N]</span> <span>4 - 6 in. [102 - 152mm]</span> <span>0.5 - 0.75 sec.</span> <span>40 - 100 psi [3 - 7 bar]</span> <span>Harsh/Dirty Environment</span> </div> <div style="display: flex; justify-content: space-between; font-size: 8px; margin-bottom: 5px;"> <span></span> <span>0.75 - 1.00 in. [19.1 - 25.4mm]</span> <span>50 - 100 lbs. [223 - 445N]</span> <span>6 - 8 in. [152 - 203mm]</span> <span></span> <span>50 - 100 psi [3.5 - 7 bar]</span> <span></span> </div> <div style="display: flex; justify-content: space-between; font-size: 8px; margin-bottom: 5px;"> <span></span> <span>1.00 - 1.25 in. [25.4 - 31.8mm]</span> <span>100 - 500 lbs. [445 - 2225N]</span> <span>8 - 10 in. [203 - 254mm]</span> <span></span> <span>70 - 150 psi [5 - 7 bar]</span> <span></span> </div> <div style="display: flex; justify-content: space-between; font-size: 8px; margin-bottom: 5px;"> <span></span> <span>1.25 - 1.50 in. [31.8 - 38.1mm]</span> <span>500 - 3000 lbs. [2225 - 13350N]</span> <span>10 - 12 in. [254 - 305mm]</span> <span></span> <span></span> <span></span> </div> <div style="display: flex; justify-content: space-between; font-size: 8px; margin-bottom: 5px;"> <span></span> <span>1.50 - 1.75 in. [38.1 - 44.5mm]</span> <span></span> <span>12 - 14 in. [305 - 356mm]</span> <span></span> <span></span> <span></span> </div> <div style="display: flex; justify-content: space-between; font-size: 8px; margin-bottom: 5px;"> <span></span> <span>1.75 - 2.00 in. [44.5 - 50.8mm]</span> <span></span> <span>14 - 16 in. [356 - 406mm]</span> <span></span> <span></span> <span></span> </div> <div style="display: flex; justify-content: space-between; font-size: 8px; margin-bottom: 5px;"> <span></span> <span>2.00 - 2.25 in. [50.8 - 57.1mm]</span> <span></span> <span>16 - 18 in. [406 - 457mm]</span> <span></span> <span></span> <span></span> </div> <div style="display: flex; justify-content: space-between; font-size: 8px; margin-bottom: 5px;"> <span></span> <span>2.25 - 2.50 in. [57.1 - 63.5mm]</span> <span></span> <span>18 - 20 in. [457 - 508mm]</span> <span></span> <span></span> <span></span> </div> <div style="display: flex; justify-content: space-between; font-size: 8px; margin-bottom: 5px;"> <span></span> <span>2.50 - 2.75 in. [63.5 - 69.8mm]</span> <span></span> <span>20 in.+ [508mm+]</span> <span></span> <span></span> <span></span> </div> <div style="display: flex; justify-content: space-between; font-size: 8px;"> <span></span> <span>2.75 - 3.00 in. [69.8 - 76.2mm]</span> <span></span> <span></span> <span></span> <span></span> <span></span> </div>													
<b>DIRECTCONNECT GIB DESIGN</b>													
DPG-10-1	•	•	•	•	•	•	•	•	•	•	•	•	•
DPG-10-2	•	•	•	•	•	•	•	•	•	•	•	•	•
DPG-10-3	•	•	•	•	•	•	•	•	•	•	•	•	•
DPG-10-4	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>DIRECTCONNECT DOUBLE WEDGE DESIGN</b>													
DPDS-047	•	•	•	•	•	•	•	•	•	•	•	•	•
DPDS-056	•	•	•	•	•	•	•	•	•	•	•	•	•
DPDS-088	•	•	•	•	•	•	•	•	•	•	•	•	•
DPDS-125	•	•	•	•	•	•	•	•	•	•	•	•	•
DPDL-047	•	•	•	•	•	•	•	•	•	•	•	•	•
DPDL-056	•	•	•	•	•	•	•	•	•	•	•	•	•
DPDL-088	•	•	•	•	•	•	•	•	•	•	•	•	•
DPDL-125	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>DIRECTCONNECT LONG STROKE DESIGN</b>													
DPL-2520	•	•	•	•	•	•	•	•	•	•	•	•	•
DPL-2535	•	•	•	•	•	•	•	•	•	•	•	•	•
DPL-3230	•	•	•	•	•	•	•	•	•	•	•	•	•
DPL-3250	•	•	•	•	•	•	•	•	•	•	•	•	•
DPL-4040	•	•	•	•	•	•	•	•	•	•	•	•	•
DPL-4070	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>DOUBLE WEDGE DESIGN</b>													
RP-5	•	•	•	•	•	•	•	•	•	•	•	•	•
RP-10	•	•	•	•	•	•	•	•	•	•	•	•	•
RP-11	•	•	•	•	•	•	•	•	•	•	•	•	•
RP-12	•	•	•	•	•	•	•	•	•	•	•	•	•
RP-15	•	•	•	•	•	•	•	•	•	•	•	•	•
RP-17	•	•	•	•	•	•	•	•	•	•	•	•	•
RP-18	•	•	•	•	•	•	•	•	•	•	•	•	•
RP-19	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>PRECISION DESIGN</b>													
DGC-25	•	•	•	•	•	•	•	•	•	•	•	•	•
DGC-45	•	•	•	•	•	•	•	•	•	•	•	•	•
DGC-65	•	•	•	•	•	•	•	•	•	•	•	•	•
GC-85	•	•	•	•	•	•	•	•	•	•	•	•	•
GC-105	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>DIRECTCONNECT WIDE BODY DESIGN</b>													
DPW-250M-1	•	•	•	•	•	•	•	•	•	•	•	•	•
DPW-250M-2	•	•	•	•	•	•	•	•	•	•	•	•	•
DPW-375M-1	•	•	•	•	•	•	•	•	•	•	•	•	•
DPW-375M-2	•	•	•	•	•	•	•	•	•	•	•	•	•
DPW-500M-1	•	•	•	•	•	•	•	•	•	•	•	•	•
DPW-500M-2	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>LARGE FORMAT WIDE BODY DESIGN</b>													
RPW-625-1	•	•	•	•	•	•	•	•	•	•	•	•	•
RPW-625-2	•	•	•	•	•	•	•	•	•	•	•	•	•
RPW-750	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>GLADIATOR GRIPPER</b>													
RPR-57-200	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>"B-SERIES" INDUSTRIAL GRIPPERS</b>													
BPW-1600	•	•	•	•	•	•	•	•	•	•	•	•	•
BPW-2000	•	•	•	•	•	•	•	•	•	•	•	•	•
BRP-20	•	•	•	•	•	•	•	•	•	•	•	•	•
BRP-21	•	•	•	•	•	•	•	•	•	•	•	•	•
BRP-21-D	•	•	•	•	•	•	•	•	•	•	•	•	•
BPG-160	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>RTH/DTH SHIELDED 3 JAW DESIGN</b>													
RTH/DTH-1	•	•	•	•	•	•	•	•	•	•	•	•	•
RTH/DTH-1-L	•	•	•	•	•	•	•	•	•	•	•	•	•
RTH/DTH-2	•	•	•	•	•	•	•	•	•	•	•	•	•
RTH/DTH-2-L	•	•	•	•	•	•	•	•	•	•	•	•	•
RTH/DTH-3	•	•	•	•	•	•	•	•	•	•	•	•	•
RTH/DTH-3-L	•	•	•	•	•	•	•	•	•	•	•	•	•
RTH/DTH-4	•	•	•	•	•	•	•	•	•	•	•	•	•
RTH/DTH-4-L	•	•	•	•	•	•	•	•	•	•	•	•	•
RTH/DTH-5	•	•	•	•	•	•	•	•	•	•	•	•	•
RTH/DTH-5-L	•	•	•	•	•	•	•	•	•	•	•	•	•
RTH/DTH-6	•	•	•	•	•	•	•	•	•	•	•	•	•
RTH/DTH-6-L	•	•	•	•	•	•	•	•	•	•	•	•	•
RTH/DTH-7	•	•	•	•	•	•	•	•	•	•	•	•	•
RTH/DTH-7-L	•	•	•	•	•	•	•	•	•	•	•	•	•
RTH/DTH-8	•	•	•	•	•	•	•	•	•	•	•	•	•
RTH/DTH-8-L	•	•	•	•	•	•	•	•	•	•	•	•	•

Continued on next page

# Destaco-Robohand Parallel Gripper Product Selector

Model #	Stroke Range	Total Grip Force Range	Maximum Finger Length @ 60 PSI [4 bar]	Actuation Time	Operating Pressure	Environment	FailSafe Operation	Inductive Sensors	Magneto Resistive Sensors	Double Acting Cylinder	Single Acting/Spring Return	Double Acting/Spring Assist	Non-Synchronous Option
<p>Two Jaws Three Jaws</p> <p>0 - 0.25 in. [0 - 6.3mm] 0.25 - 0.50 in. [6.3 - 12.7mm] 0.50 - 0.75 in. [12.7 - 19.1mm] 0.75 - 1.00 in. [19.1 - 25.4mm] 1.00 - 1.25 in. [25.4 - 31.8mm] 1.25 - 1.50 in. [31.8 - 38.1mm] 1.50 - 1.75 in. [38.1 - 44.5mm] 1.75 - 2.00 in. [44.5 - 50.8mm] 2.00 - 2.25 in. [50.8 - 57.1mm] 2.25 - 2.50 in. [57.1 - 63.5mm] 2.50 - 2.75 in. [63.5 - 69.8mm] 2.75 - 3.00 in. [69.8 - 76.2mm] 3.00+ [76.2mm+]</p> <p>1 - 10 lbs. [0.45 - 45N] 10 - 25 lbs. [45 - 111N] 25 - 50 lbs. [111 - 223N] 50 - 100 lbs. [223 - 445N] 100 - 500 lbs. [445 - 2225N] 500 - 3000 lbs. [2225 - 13350N]</p> <p>0 - 2 in. [0 - 50.8mm] 2 - 4 in. [50.8 - 102mm] 4 - 6 in. [102 - 152mm] 6 - 8 in. [152 - 203mm] 8 - 10 in. [203 - 254mm] 10 - 12 in. [254 - 306mm] 12 - 14 in. [306 - 356mm] 14 - 16 in. [356 - 406mm] 16 - 18 in. [406 - 457mm] 18 - 20 in. [457 - 508mm] 20 in.+ [508mm+]</p> <p>0.05 - 0.1 sec. 0.1 - 0.5 sec. 0.5 - 0.75 sec. 0.75 - 1 sec.</p> <p>5 - 100 psi [0.3 - 7 bar] 20 - 100 psi [1.5 - 7 bar] 40 - 100 psi [3 - 7 bar] 50 - 100 psi [3.5 - 7 bar] 70 - 150 psi [5 - 7 bar]</p> <p>Clean Room Environment Normal Environment Harsh/Dirty Environment</p> <p>FailSafe Operation</p> <p>Inductive Sensors Magneto Resistive Sensors</p> <p>Double Acting Cylinder Single Acting/Spring Return Double Acting/Spring Assist Non-Synchronous Option</p>													
<b>3P PRECISION DESIGN</b>													
6003P	•	•	•	•	•	•	•	•	•	•	•	•	•
6003P-C	•	•	•	•	•	•	•	•	•	•	•	•	•
8003P	•	•	•	•	•	•	•	•	•	•	•	•	•
8003P-C	•	•	•	•	•	•	•	•	•	•	•	•	•
11003P	•	•	•	•	•	•	•	•	•	•	•	•	•
11003P-C	•	•	•	•	•	•	•	•	•	•	•	•	•
14003P	•	•	•	•	•	•	•	•	•	•	•	•	•
14003P-C	•	•	•	•	•	•	•	•	•	•	•	•	•
16503P	•	•	•	•	•	•	•	•	•	•	•	•	•
16503P-C	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>PPC THROUGH HOLE DESIGN</b>													
PPC-12	•	•	•	•	•	•	•	•	•	•	•	•	•
PPC-12-C	•	•	•	•	•	•	•	•	•	•	•	•	•
PPC-25	•	•	•	•	•	•	•	•	•	•	•	•	•
PPC-25-C	•	•	•	•	•	•	•	•	•	•	•	•	•
PPC-34	•	•	•	•	•	•	•	•	•	•	•	•	•
PPC-34-C	•	•	•	•	•	•	•	•	•	•	•	•	•



# DPE Parallel Gripper- Electric Gripper Series

- **Electrically Actuated**

24 VDC, 4-wire input: power, ground, open & closed signals.  
100% duty cycle for high throughput.

- **“Light Switch” Simplicity**

Plug and play. No programming, tuning or adjusting required.  
As easy as a pneumatic gripper to control and operate.

- **Energy Efficient**

Only 3W required. Can be driven directly by most PLC's  
without a separate power supply. Can be battery driven  
for remote applications.

- **High Cycle Life**

20+ million cycles with zero maintenance!  
High reliability eliminates down time.  
Lowest cost of ownership of any gripper,  
pneumatic or electric.

- **Built-in Electronics**

All electronics are sealed  
within the gripper. No external  
control board needed.  
4-pin/wire control cable  
sold separately.

**NO  
ADAPTER  
PLATES!**



**DIRECTCONNECT™**  
ADVANCED MODULAR AUTOMATION TECHNOLOGY

- **Long Stroke, Fast Actuation**

25mm stroke for picking multiple sized parts.  
Full actuation in 0.25 second. Pick up to 150  
parts per minute (with reduced stroke).

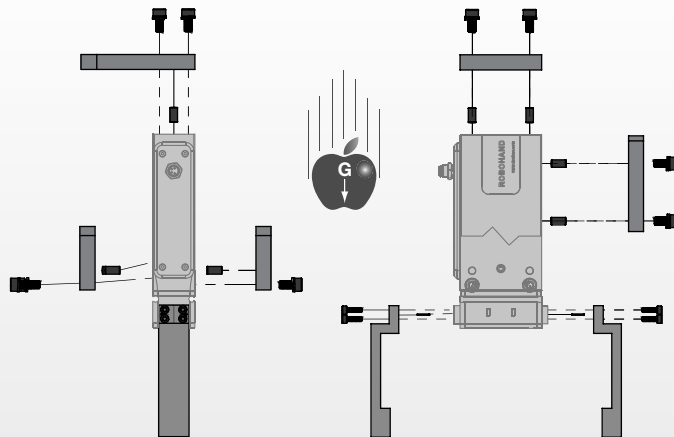
- **Failsafe operation**

In case of a power loss, the jaws will not  
separate but grip force will be diminished.  
Finger design should include features other  
than just friction to retain part for critical  
applications.

Patent Pending.

## Mounting Information:

Gripper can be mounted and operated in any orientation



Body mounts with screws  
and locates with slip fit  
dowel pins for accuracy

Fingers attach to jaws  
with screws and locate  
with dowel pins

## Technical Specifications:

### Product Specifications

Voltage	24 VDC
Power Max.	40 W
Operating Temperature	5° / 50° C (40° / 120°F)
Protection Class	IP54
Clean Room	100
Clean Room with Scavenge Port*	10

\*Contact Tech Support.

### Maintenance Specifications

Field Repairable	Yes
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### Application Restrictions

- Timing, power and load beyond specifications
- Suitable for external gripping only

## Product Features

### Multiple Position Sensing

Slot mounted magneto-resistive sensing. Sense up to 4 gripping positions. Internal magnetic targets and external sensor mounting slots come standard. Sensors & quick disconnect cables sold separately.

### DirectConnect Mounting

Mounts directly to other automation products without adaptor plates. Versatile mounting on top, side front and back of body.

### One-Piece Body

One-piece, lightweight aircraft quality aluminum body ensures product accuracy.

### Hardcoat Anodize

The body and jaws are hardcoat anodized to 60Rc with Teflon impregnation.

### Superior Jaw Support

Ridged design and full body support of the jaws allows for long finger lengths.



### Sealed Design

IP 54 rating for tough application environments.

### Slip Fit Dowel Pin Holes

Located in body and jaws for precision mounting.

### Rack & Pinion Drive

Precision drive components for smooth actuation. Zero backlash while gripping ensures excellent repeatability and accuracy.

## Style-DPE

### Size -200-25

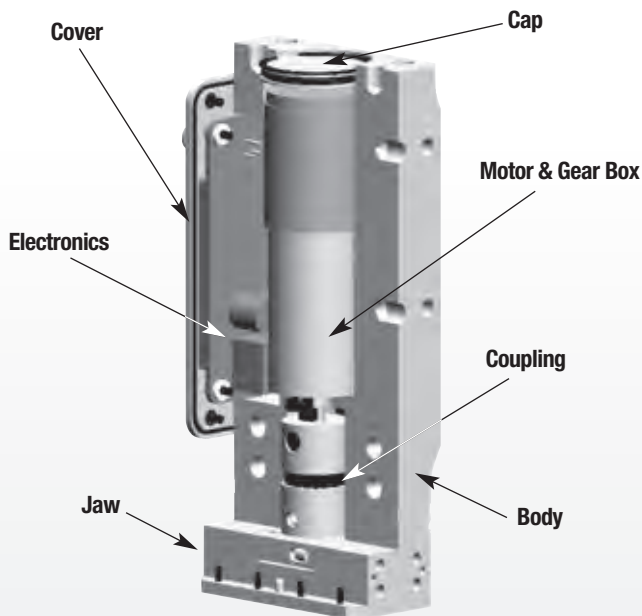


<b>Style:</b>	DPE-200-25	
<b>Stroke:</b>	25 mm	0.98 in
<b>Grip Force:</b>	90 N	20 lbs
<b>Weight:</b>	0.53 Kg	1.16 lbs

See Page **1.10**



## Operating Principle



- Apply +24 VDC from the PLC to the gripper "Close" wire.
- The motor rotates a planetary gear reduction box that is connected to the drive pinion by a coupling
- The pinion drives the integral jaw racks causing the jaws to close synchronously
- Power is maintained to the closed signal to continue gripping force throughout the grip cycle.
- To open, remove signal to "Close" wire and apply +24 VDC from the PLC to the gripper "Open" wire
- Design is suitable for internal or external gripping

**Patent Pending**



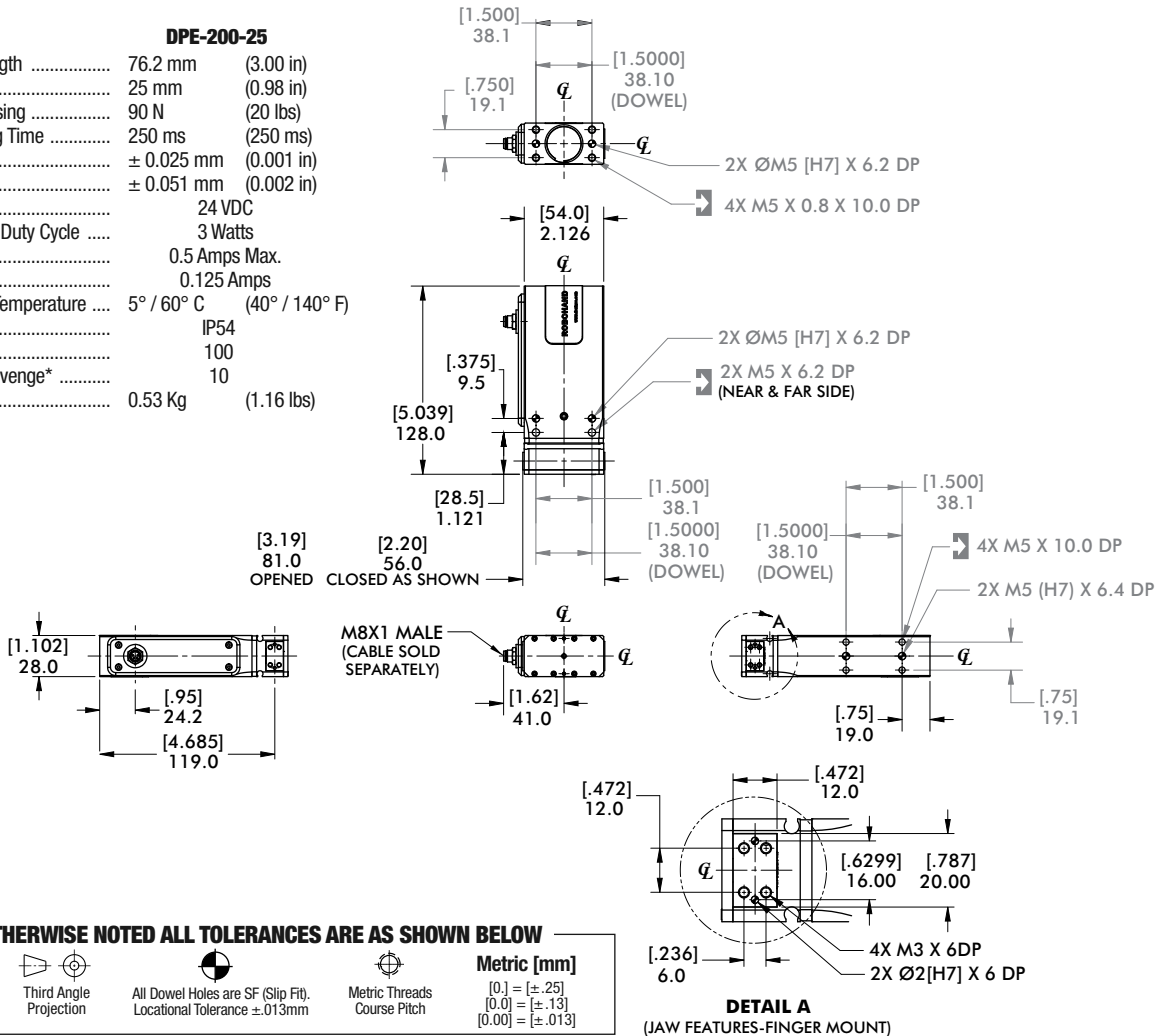
# PARALLEL GRIPPER DPE-200-25

## E-GRIPPER SERIES

### Specifications

	DPE-200-25	
Maximum Finger Length .....	76.2 mm	(3.00 in)
Stroke .....	25 mm	(0.98 in)
Gripping Force in Closing .....	90 N	(20 lbs)
Closing Time/Opening Time .....	250 ms	(250 ms)
Repeatability .....	± 0.025 mm	(0.001 in)
Accuracy .....	± 0.051 mm	(0.002 in)
Voltage .....	24 VDC	
Power Req. @ 100% Duty Cycle .....	3 Watts	
Current - Peak .....	0.5 Amps Max.	
Current - Continuous .....	0.125 Amps	
Min./Max Operating Temperature .....	5° / 60° C	(40° / 140° F)
Protection Class .....	IP54	
Clean Room .....	100	
Clean Room with Scavenge* .....	10	
Weight .....	0.53 Kg	(1.16 lbs)

\*Contact Tech Support.

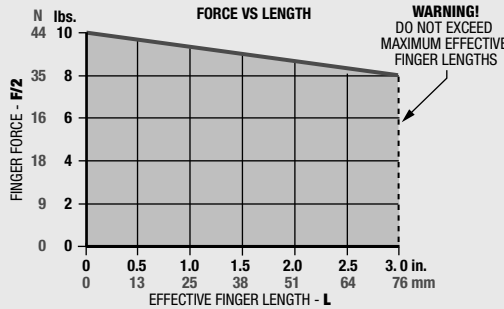


UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.013mm	Metric Threads Course Pitch	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

### Loading Information

How to Order: (Order Accessories separately from Basic Model)



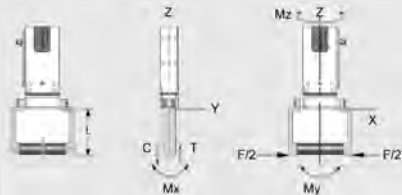
**BASIC MODEL**

## DPE-200-25

### ACCESSORIES\*

4-wire Power and Signal Cable, 5m long	<b>CABL-046</b>	<b>1</b>
NPN Magneto Resistive Sensor (with Qk. Disc.)*†	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor (with Qk. Disc.)*†	<b>OHSP-017</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*†	<b>CABL-013</b>	<b>1 or 2</b>

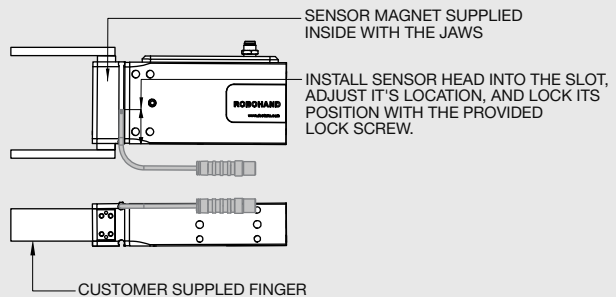
\*Sensor and cables sold separately. † Power cable plus 1 or 2 sensor cables.



### Loading Capacity†

	Static
Maximum Tensile <b>T</b>	75 lbs [10 N]
Maximum Compressive <b>C</b>	75 lbs [10 N]
Maximum Moment <b>M<sub>x</sub></b>	120 lbf-in [14 Nm]
Maximum Moment <b>M<sub>y</sub></b>	150 lbf-in [17 Nm]
Maximum Moment <b>M<sub>z</sub></b>	120 lbf-in [14 Nm]

† Capacities are per set of jaws and are not simultaneous





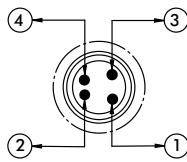
### Installation and Operation:

1. Mount fingers (customer supplied) to gripper jaws using dowel pins and threaded fasteners. See dimensional drawing for hole sizes. Use Loctite® 242 threadlocker or equivalent.
2. Mount gripper using dowel pins and threaded fasteners. Gripper can be mounted and operated in any orientation. See dimensional drawing for mounting hole pattern and sizes. Use Loctite® 242 threadlocker or equivalent.
3. To operate the DPE gripper, follow the instructions below:  
Apply +24VDC to pin 1 (brown) and Ground to pin 3 (blue) to turn on the gripper. To open the fingers, apply +24VDC to pin 2 (white). To close the fingers, remove +24VDC from pin 2, and apply +24VDC to pin 4 (black). +24VDC signal must remain present on the open / close line to maintain the force output. The gripper will do nothing if a +24VDC signal is present on the open and close lines at the same time.

### WARNING:

- Operating gripper outside of power voltages and can cause damage and void warranty
- Disconnect power from gripper before performing maintenance or making adjustments.

### ELECTRICAL INTERFACE

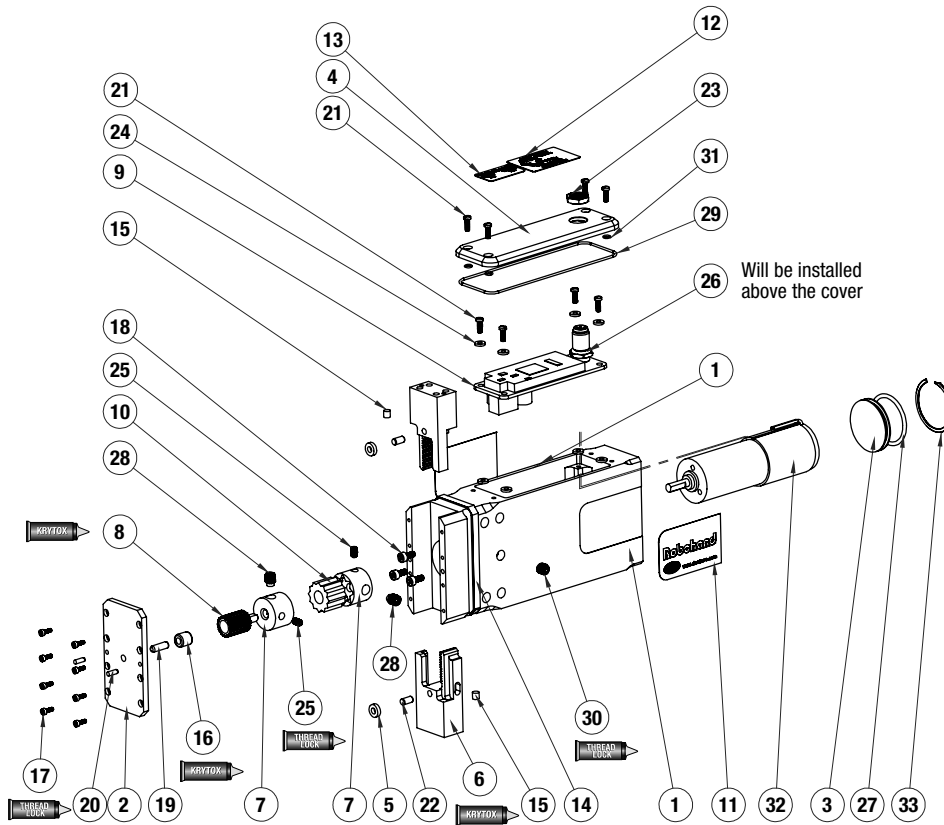


### PIN OUT (LOOKING INTO HEADER CONNECTOR ON GRIPPER)

- |   |       |       |                                  |
|---|-------|-------|----------------------------------|
| 1 | ..... | BROWN | (+ 24 VDC)                       |
| 2 | ..... | WHITE | (OPEN GRIPPER) +24 VDC = ACTIVE  |
| 3 | ..... | BLUE  | (GROUND)                         |
| 4 | ..... | BLACK | (CLOSE GRIPPER) +24 VDC = ACTIVE |

CABLE # CABL-046

## DPE Series Exploded View



Item	Qty	Name
01	1	Body
02	1	Bottom Plate
03	1	Cap
04	1	Cover
05	2	Bumper
06	2	Jaw
07	2	Coupling Pin
08	1	Drive Pin
09	1	Motor Control Board
10	1	Coupling Insert
11	2	Tag-Destaco-Robohand
12	1	Tag-Electric Pin Out
13	1	Tag-Production
14	1	Tag-VBL Collar
15	2	Magnet
16	1	Bearing
17	8	SHCS, M1.6*5mm, Alloy
18	3	SHCS, M2.5*5mm, Alloy
19	1	Dowel Pin: 1/8 Dia X 3/8
20	2	Dowel Pin: 2mm dia*6mm lg
21	8	Screw, Fillister HD, M2x6mm
22	2	Dowel Pin: 3mm dia*6mm lg.
23	0	Jam Nut-Ref Only (Part Of Motor Control Board)
24	8	Washer
25	2	Set Screw
26	0	O-Ring - Ref Only (Comes With Connector)
27	1	O-Ring
28	2	Set Screw
29	1	O-Ring
30	1	Set Screw
31	4	O-Ring, Buna, 70d, 0.026 CS, .097id
32	1	Gear Motor
33	1	Ret. Ring

**Assembly Procedure**

- 1) Clean all make details free of dirt, oil and other contaminants.
- 2) Insert # 32 motor into the # 1 body, line up the motor holes and assemble motor to the body by using # 18 screws. Make sure that the motor wires are carefully routed to the top for it's connection to the motor control board.
- 3) Assemble # 25 set screws one of the # 7 coupling hubs, but not all the way in. Assemble the coupling to the motor shaft, with flat on the motor shaft facing one of the set screws and adjust the inside face of the coupling, flat with end face of the motor shaft. Tighten the set screw on the motor shaft thru the access hole at set screw # 30 location.
- 4) Assemble the # 10 coupling insert into the # 7 hub, as assembled to the motor shaft, as above.
- 5) Assemble # 8 drive pinion with it's shaft all the way into the second # 7 coupling hub and tighten the set screws. Assemble # 16 bearing and # 19 dowel pin into the drive pinion. Now install this assembly hub / insert assembly installed earlier to the motor shaft.
- 7) Assemble # 15 magnets into # 6 jaws, using lok-tite as recommended.
- 8) Lubricate the pinion, the bearing, the jaws and inside surfaces of jaw-ways with lubricant as recommended.
- 9) Install the jaws into the body, meshed with the pinion and symmetrically positioned w.r.t the pinion.
- 10) Install # 5 stop and # 22 dowel pins into the jaws.
- 11) Assemble # 2 cover to the body, with dowel pins # 19 and # 29 aligned to the corresponding holes in the cover. Install fasteners # 17 to secure the cover to the body.
- 12) Install / connect the motor cable connector the motor control board. Use # 21 & # 24 fasteners and install the motor control board to the body. Note: Remove the hex nut supplied with the connector on the motor control board. This hex nut will be re-installed after # 4 cover is installed.
- 13) Install # 4 cover to the body with # 29 gasket and # 21 screws as shown.
- 14) Installed the previously removed hex nut back to the connector. Caution: Only snug tighten this hex nut.
- 15) Install # 3 cap with O ring and snap ring, as shown.
- 16) Install tags and labels as shown.

**NOTE:** Contact the DE-STA-CO Customer Service for a complete spare parts list with order numbers and prices.



Seal Kit  
Items



Thread  
Locker



Krytox™  
Lubricant



Lightweight  
Machine Oil



Teflon™ Based  
Grease



Super  
Bonder



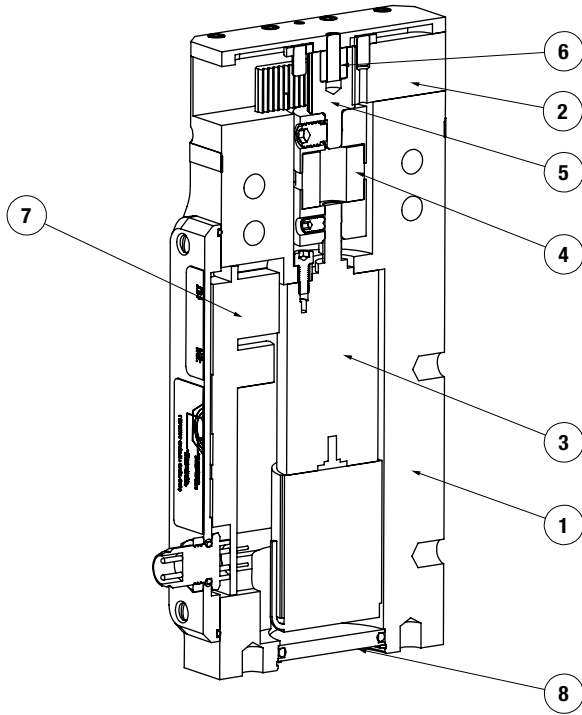
Third Angle  
Projection



# DPE Series Assembled View

DPE SERIES

1.13



Item	Qty	Name
01	1	Body
02	2	Jaw
03	1	Motor/Gear ASM
04	1	Coupling Asm
05	1	Pinion
06	1	Bearing
07	1	Motor Control Board
84	1	End Cap

**NOTE:** Contact the DE-STA-CO Customer Service for a complete spare parts list with order numbers and prices.

DIRECTCONNECT<sup>SM</sup>

<p>SK Seal Kit Items</p>	<p>THREAD LOCKER Thread Locker</p>	<p>KRYTOX Krytox™ Lubricant</p>	<p>O Lightweight Machine Oil</p>	<p>G Teflon™ Based Grease</p>	<p>GLUE Super Bonder</p>	<p>Third Angle Projection</p>
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# RPE Parallel Gripper- Electric Gripper Series

- **Failsafe Operation:**

Spring closed feature allows for full grip force during power off conditions.

- **Electrically Actuated:**

Requires simple 24VDC pulsed signal.  
**No programmable or expensive controller required.**

- **Sensing:**

Adjustable inductive proximity sensors available.

- **Low System Impact:**

Easily integrated into current engineering and manufacturing processes.

- **Miniature size:**

Compact design allows for gripping small parts in small spaces.

- **Precision applications:**

Preloaded "Dual-V" roller bearings eliminate side play for excellent part position repeatability.

- **Delicate part handling:**

Low friction mechanism allows for repeatable gripping forces for holding delicate parts. Grip force is constant throughout stroke.

- **Clean room suitable:**

A corrosion resistant shield protects the drive and bearing mechanism. All internal components are lubricated with Krytox™ grease.

- **Harsh environments:**

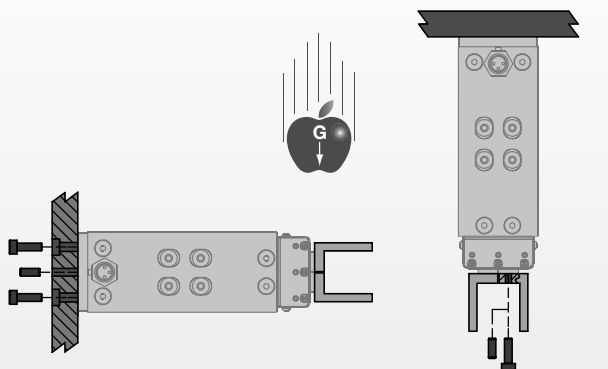
All moving components are located within the corrosion resistant cover.

Patent Pending.

The RPE is CE marked.

## Mounting Information:

Gripper can be mounted and operated in any orientation



Body mounts with screws and locates with slip fit dowel pins for accuracy

Fingers attach to jaws with screws and locate with dowel pins

## Technical Specifications:

### Product Specifications

Voltage	24 VDC
Power Max.	40 W
Operating Temperature	5° / 50° C (40° / 120°F)
Protection Class	IP54
Clean Room	100
Clean Room with Scavenge Port*	10

\*Contact Tech Support.

### Maintenance Specifications

Field Repairable **Yes**

### Application Restrictions

- Timing, power and load beyond specifications
- Suitable for external gripping only



## Product Features

### Quality Components

Body made from aluminum alloy with Teflon™ impregnated hardcoat anodize. Jaws, housing, and end cap nickel plated for use in medical parts handling applications.

### Energy Efficient

Power is only required for 50 msec to open and close the gripper, no power is required to keep the part gripped or to keep the gripper fully opened.

### Adjustable Preloaded Bearings

Adjustable preload screw allows for adjustment of preload on roller bearings. Bearings are preloaded for maximum support and zero side play.

### Spring Close

Spring closed feature for failsafe operation

### Slip Fit Dowel Pin Holes

Located in body and jaws

### Sensor Option

Reads position of jaw (sold separately—see "How to order" Section for more info)

### Stainless Steel Cover

Stationary and non-contacting cover eliminates the possibility of particle generation

### Clean Room

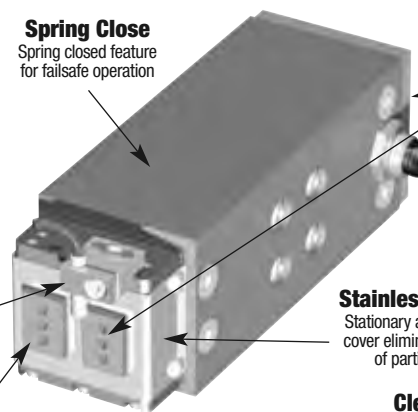
Krytox™ clean-room grade lubricant standard. FDA approved lubricants available. Vacuum scavenge ports are available

### Hardened Plated Jaws

For wear resistance and longer life

### Roller Bearings

Patented Dual-"V" roller bearings provide low friction rolling motion and maximum rigidity for fingers



## Style-RPE

### Size -100M



**Style:** RPE-100M  
**Stroke:** 4 mm (0.16 in)  
**Grip Force:** 5 N (1.1 lbs)  
**Weight:** 226 g (0.50 lbs)

See Page **1.16**

## Style-RPE

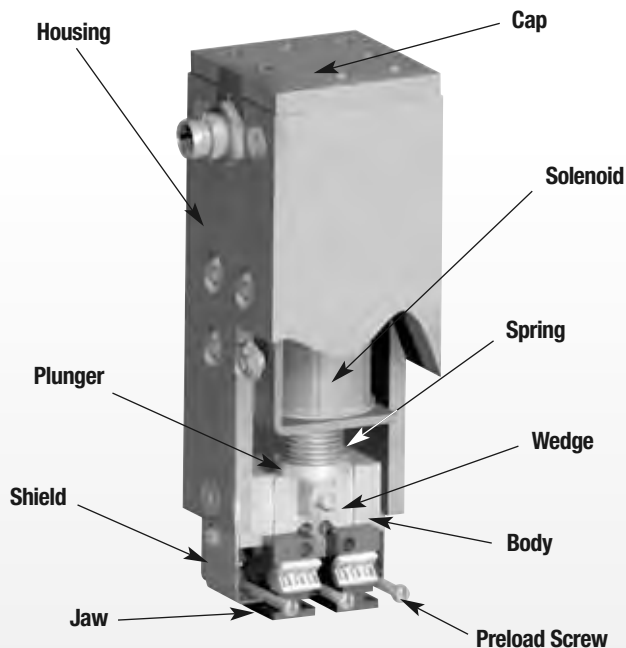
### Size -101M



**Style:** RPE-101M  
**Stroke:** 4 mm (0.16 in)  
**Grip Force:** 5 N (1.1 lbs)  
**Weight:** 226 g (0.50 lbs)

See Page **1.16**

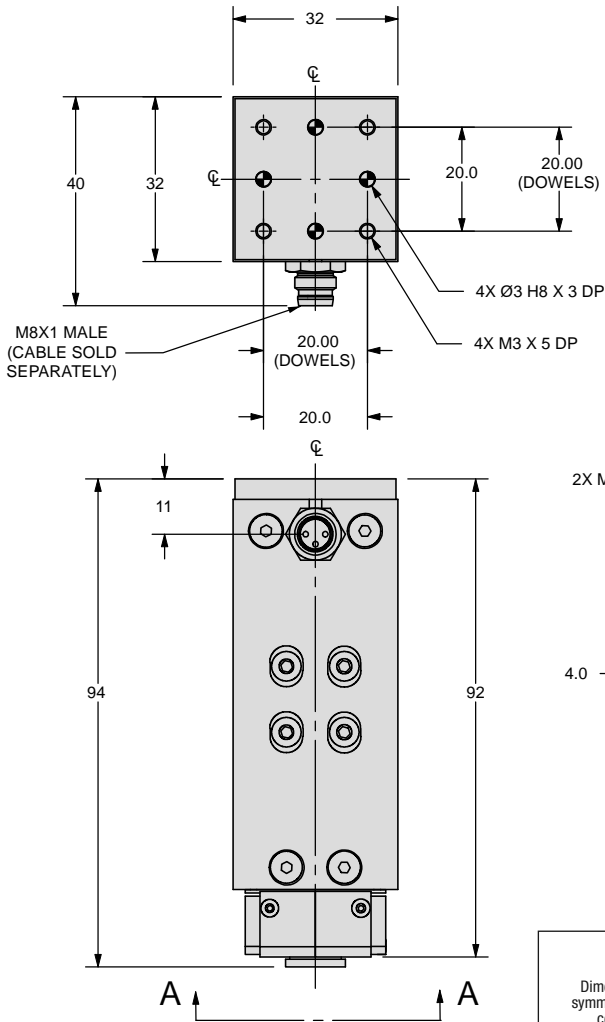
## Operating Principle



- A short power pulse releases the latching solenoid's plunger, allowing the spring to drive the wedge mechanism.
- The spring driven wedge drives the jaws towards one another to grip the part. No power is required to maintain grip force.
- To open the gripper, a short power pulse to the solenoid retracts the plunger to the latched position, which opens the jaws. No power is required to maintain the open position.
- Suitable for external gripping only.

**U.S. Patent # 5,529,359. Other Patents Pending.**

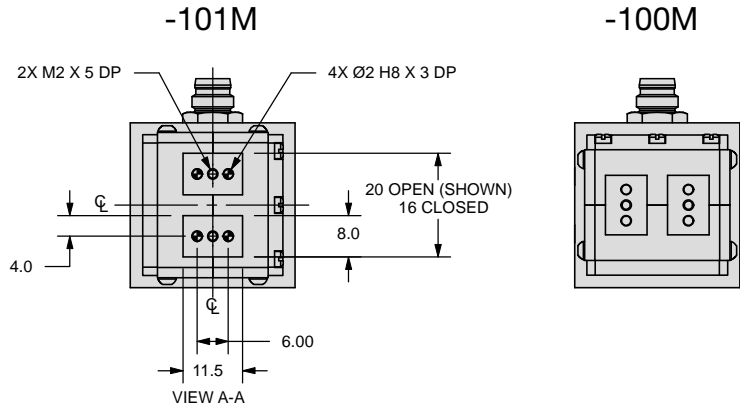
# PARALLEL GRIPPER RPE-100M/-101M E-GRIPPER SERIES



### Specifications

	RPE-100M/-101M	
Maximum Finger Length	50 mm	(1.9 in)
Stroke	4 mm	(0.16 in)
Gripping Force in Closing	5 N	(1.1 lbs)
Closing Time/Opening Time	0.1 sec	(0.1 sec)
Repeatability	± 0.02 mm	(0.0008 in)
Accuracy	± 0.05 mm	(0.002 in)
Voltage	24 VDC	
Power Max.	40 Watts	
Min./Max Operating Temperature	5° / 50° C (40° / 120° F)	
Protection Class	IP54	
Clean Room	100	
Clean Room with Scavenge*	10	
Weight	226 g	(0.50 lbs)

\*Contact Tech Support.

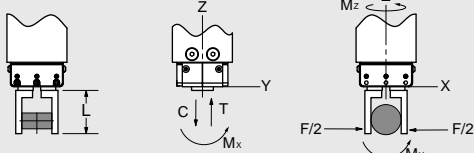
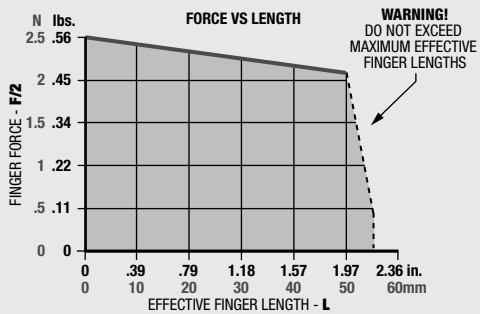


### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.013mm	Metric Threads Course Pitch	<b>Metric [mm]</b> [.] = [± .25] [0.] = [± .13] [0.00] = [± .013]
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## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



### Loading Capacity†

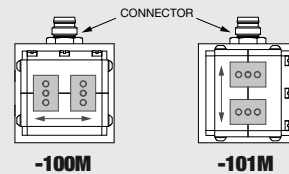
	Static		Dynamic	
Maximum Tensile <b>T</b>	13 lbs	[59 N]	4.5 lbs	[20 N]
Maximum Compressive <b>C</b>	13 lbs	[59 N]	4.5 lbs	[20 N]
Maximum Moment <b>M<sub>x</sub></b>	2.7 lbf-in	[0.75 Nm]	6.6 lbf-in	[0.3 Nm]
Maximum Moment <b>M<sub>y</sub></b>	10.6 lbf-in	[1.2 Nm]	3.5 lbf-in	[0.4 Nm]
Maximum Moment <b>M<sub>z</sub></b>	6.6 lbf-in	[0.75 Nm]	9.7 lbf-in	[1.1 Nm]

†Capacities are per set of jaws and are not simultaneous

## BASIC MODEL GRIPPING ORIENTATION

# RPE - 100M

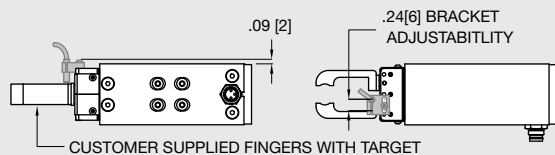
**GRIPPING ORIENTATION -100M** Gripping Direction Perpendicular to Connector  
**-101M** Gripping Direction In-line to Connector



### ACCESSORIES\*

Inductive Sensor Mounting Kit (mounts one sensor)	<b>OSMK-130</b>	<b>1 or 2</b>
NPN Inductive Sensor with Quick Disconnect*	<b>OISN-019</b>	<b>1 or 2</b>
PNP Inductive Sensor with Quick Disconnect*	<b>OISP-019</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1, 2, or 3†</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1, 2, or 3†</b>

\*Sensor and cables sold separately. † Power cable plus 1 or 2 sensor cables.

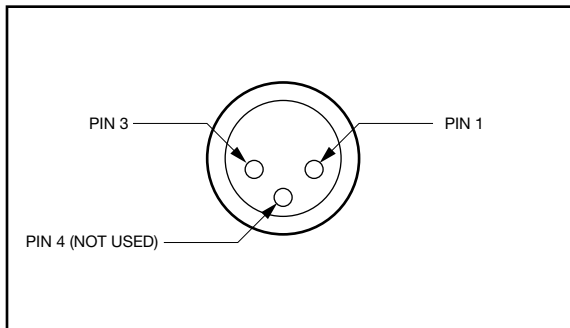


### Installation and Operation:

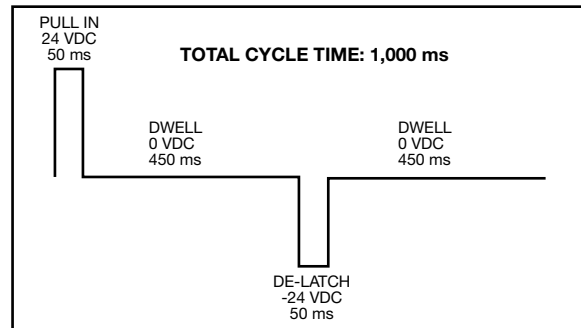
1. Mount fingers (customer supplied) to gripper jaws using dowel pins and threaded fasteners. See dimensional drawing for hole sizes. Use Loctite® 242 threadlocker or equivalent.
2. Mount gripper using dowel pins and threaded fasteners. Gripper can be mounted and operated in any orientation. See dimensional drawing for mounting hole pattern and sizes. Use Loctite® 242 threadlocker or equivalent.
3. The following instructions apply to standard operation and require a 24VDC power supply:  
To open gripper, connect positive lead of power supply to Pin 1 of the connector and negative lead to Pin 3 of the connector. See below for pin orientation. Pulse for 50msec maximum as shown in Timing Diagram. After 50 msec pulse, allow 450msec minimum dwell time. To close gripper, connect positive lead of power supply to Pin 3 of connector and negative lead to Pin 1 of connector. Pulse for 50msec maximum as shown in Timing Diagram. After 50msec pulse, allow 450msec minimum dwell time.

### WARNING:

- Operating gripper outside of power voltages and pulse times will cause damage and void warranty
- Do not insert any foreign objects (tools, body parts, etc) between gripper fingers when power is applied.
- Disconnect power from gripper before performing maintenance or making adjustments.
- Do not apply power to gripper for more than 100msec maximum. Observe 10% duty cycle at all times.



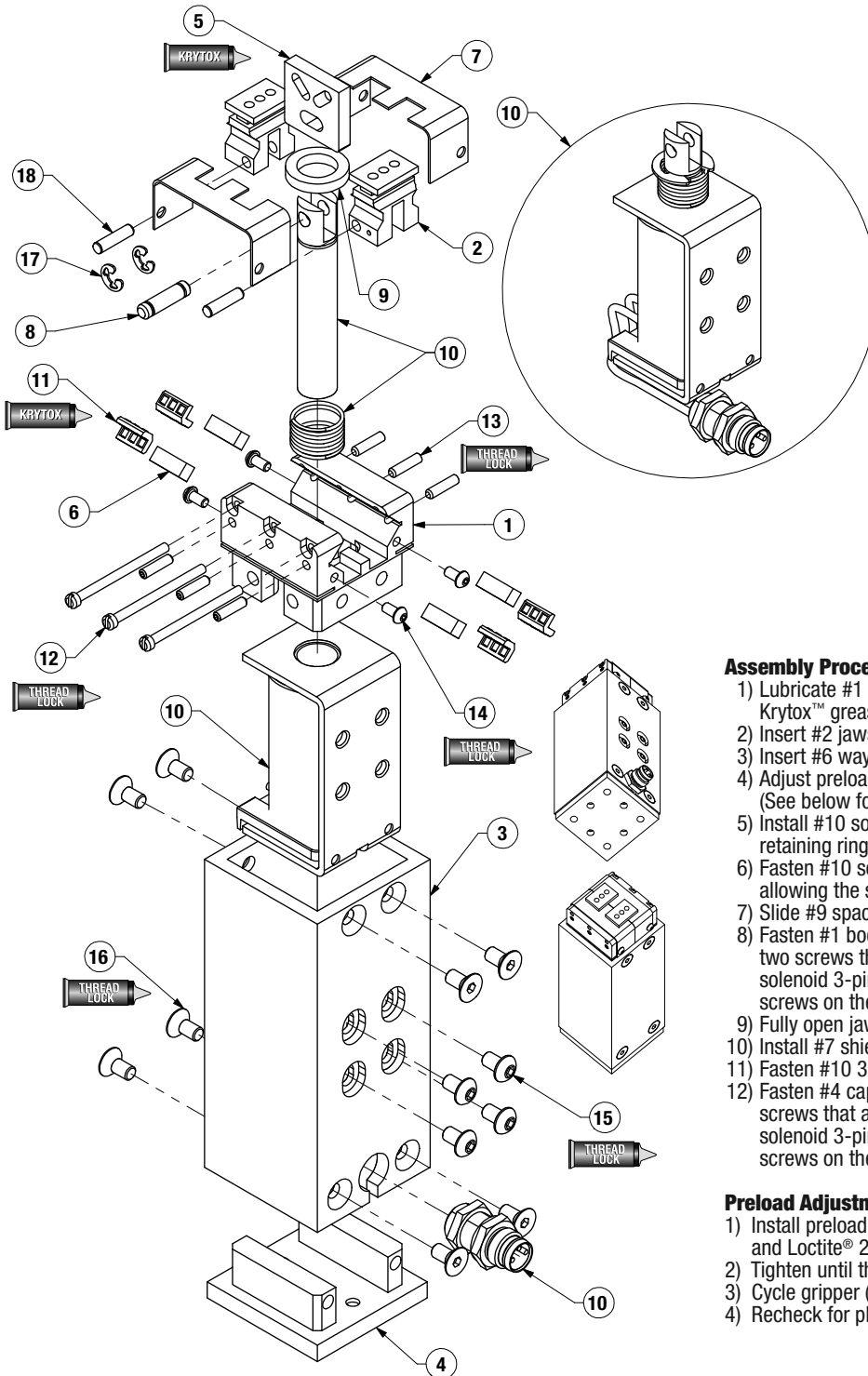
**PIN ORIENTATION**



**TIMING DIAGRAM**

**NOTE:** The RPE is CE marked.

## RPE Series Exploded View



Item	Qty	Name
01	1	Body
02	2	Jaw
03	1	Housing
04	1	Cap
05	1	Wedge
06	4	Way
07	2	Shield
08	1	Clevis Pin
09	1	Spacer
10	1	Solenoid
11	4	Kit, Roller Bearing and Cage
12	3	Preload Screw
13	6	Set Screw-Way Locating
14	4	BHCS-Shield Mounting Screw
15	4	BHCS Solenoid Mounting Screw
16	8	FHCS-Housing Mounting Screw
17	2	Retaining Ring
18	2	Dowel Pin

**NOTE:** Contact the DE-STA-CO Customer Service for a complete spare parts list with order numbers and prices.

#### Assembly Procedure

- 1) Lubricate #1 body, #5 wedge, and #11 bearings using Krytox™ grease.
- 2) Insert #2 jaws and #5 wedge into body.
- 3) Insert #6 way and #11 bearings into each end of the body. (See below for procedure)
- 4) Adjust preload by adjusting #12 preload screws.
- 5) Install #10 solenoid plunger with #8 clevis pin and #17 retaining rings.
- 6) Fasten #10 solenoid to housing. Do not tighten yet, allowing the solenoid to freely move within slots.
- 7) Slide #9 spacer and #10 solenoid spring onto plunger.
- 8) Fasten #1 body into #3 housing. Completely fasten the two screws that are located on the same side as the #10 solenoid 3-pin connector then fasten the two remaining screws on the opposite side.
- 9) Fully open jaws and tighten #15 screws securely.
- 10) Install #7 shields to gripper.
- 11) Fasten #10 3-pin connector.
- 12) Fasten #4 cap into housing. Completely fasten the two screws that are located on the same side as the #10 solenoid 3-pin connector then fasten the two remaining screws on the opposite side.

#### Preload Adjustment Procedure

- 1) Install preload screws (12) with Loctite® 7649 primer and Loctite® 242 thread locker on threads.
- 2) Tighten until there is no side play in the jaws.
- 3) Cycle gripper (w/finger assembly)
- 4) Recheck for play in jaws & tighten or loosen as needed.



Seal Kit Items



Thread Locker



Krytox™ Lubricant



Lightweight Machine Oil



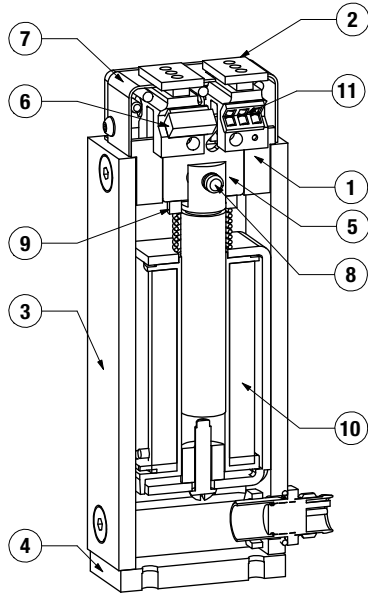
Teflon™ Based Grease



Super Bonder



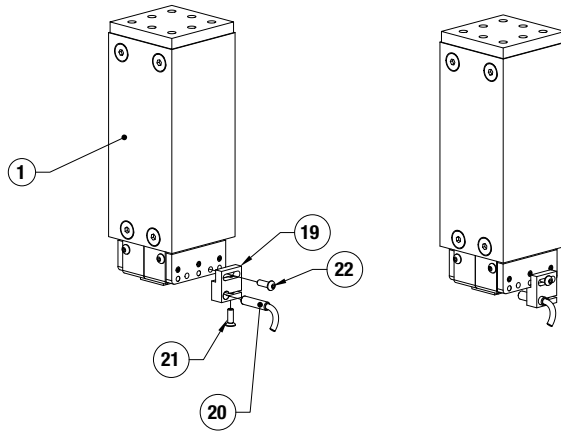
Third Angle Projection



Item	Qty	Name
01	1	Body
02	2	Jaw
03	1	Housing
04	1	Cap
05	1	Wedge
06	4	Way
07	2	Shield
08	1	Clevis Pin
09	1	Spacer
10	1	Solenoid
11	4	Kit, Roller Bearing and Cage

**NOTE:** Contact the DE-STA-CO Customer Service for a complete spare parts list with order numbers and prices.

## Accessory Installation & Adjustment Instructions



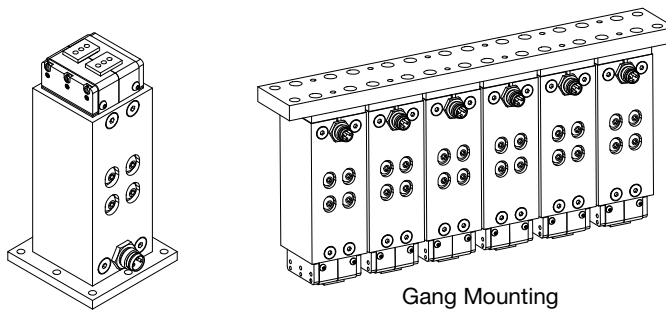
### Installation\*

- 1) Install sensors as shown.
- 2) Adjust for desired end of stroke detection.

\* Fingers should be designed to act as target for inductive sensor. Sensing range is 0.031 [0.8]. The center line of the sensor diameter is located 0.094 [2.4] off of jaw mounting surface.

Fingers supplied by customer.

## Flange Mounting Plate, Gang Mounting and more...



Flange Mounting Plate

Gang Mounting

Drawings shown are for concept only. Contact DE-STA-CO Tech Support with project requirements.



Seal Kit Items



Thread Locker



Krytox™ Lubricant



Lightweight Machine Oil



Teflon™ Based Grease



Super Bonder



Third Angle Projection



# Parallel Grippers - 2-Jaw Parallel Series

## Machine applications:

The 2 symmetric jaws and excellent repeatability allow for precise handling of various parts.

## Harsh environments:

Shielded design repels chips and other particulate from internal drive mechanism.

## Compact, robust and powerful gripper:

This gripper is designed for use in confined spaces, combining long strokes with a high grip force. Optional safety springs retain the components, should the air supply fail or to increase grip force.

## Different strokes:

All gripper sizes are available in 2 strokes sizes.

## For long fingers applications:

The large surface area of the jaws, coupled with the encapsulated bottom case design allows for long fingers applications.

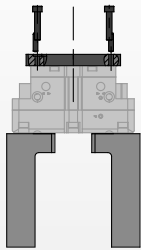
## Multi-purpose gripper:

A wide range of options and accessories (extended stroke, safety springs for internal or external gripping, magneto resistive or inductive sensors) allow these grippers to be used in a wide number of applications.

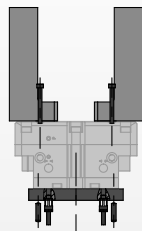
## Mounting Information:

### Grippers can be mounted & operated in any orientation

Gripper is located using 2 dowel pins and assembled from the top with 4 screws.

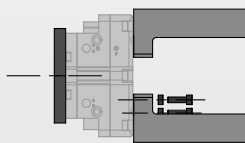


Gripper can also be assembled from the bottom with 4 through body screws.



Gripper is protected from debris when operated upside down.

Gripper can be operated utilizing top manifold air ports



Fingers are located on jaws with 2 dowel sleeves (provided) and assembled with 2 screws.

## Technical Specifications:

### Pneumatic Specifications

Pressure Operating Range  
without Springs  
Cylinder Type

### Imperial

30-100 psi

### Metric

2-7 bar

Double Acting  
or Double Acting Spring Assist  
or Single Acting Spring Return  
Internally Lubricated Buna-N

### Dynamic Seals

Valve Required to Operate:

Double Acting  
Single Acting (-C or -O Option)

4-way, 2-position  
3-way, 2-position

### Air Quality Requirements

Air Filtration  
Air Lubrication  
Air Humidity

40 Micron or Better  
Not Necessary\*  
Low Moisture Content (dry)

### Temperature Operating Range

Buna-N Seals (Standard)

-30°~180° F

-35°~80° C

Viton® Seals (Optional)

-20°~300° F

-30°~150° C

### Maintenance Specifications<sup>†</sup>

Expected Life

Normal Application  
w/ Preventative Maintenance

5 million cycles  
10+ million cycles\*

Field Repairable

Yes

Seal Repair Kits Available

Yes

\*Addition of lubrication will greatly increase service life  
† See Maintenance Section

## Product Features

### Viton® Seals (-V) Option

Optional Viton® seals for high temperatures (-20°F to +300°F / -30°~150° C)

### Finger Locating Sleeves

For precise finger mounting (standard)

### Jaw Components

Hardened and precision ground steel for minimum jaw play with hard plating for wear resistance and long life

### Multiple Air Ports

Side or top air ports (top ports require O-ring)

### Optional Spring Assist

Optional spring assist retains the component should the air supply fail, to assist the gripper for internal (-D) or external (-C) gripping, or in single acting or spring assist mode

### Standard and Extended Stroke (-L)

Each model of gripper is available in two stroke lengths

### Multiple Mounting Locations

Gripper can be mounted from the top or bottom

### Shielded Design

Gripper body is shielded to repel chips and other particulate from internal drive mechanism

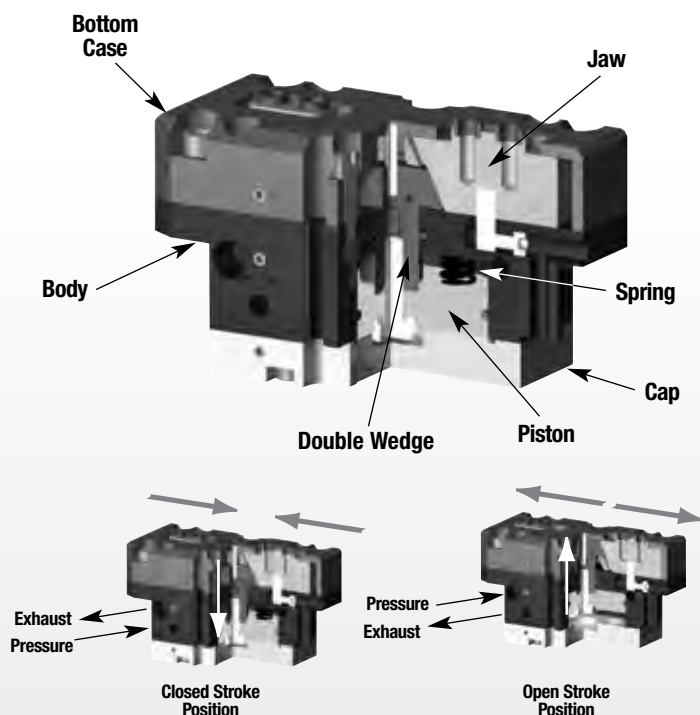
### Multiple Sensing Capabilities

Up to 4 magneto resistive sensors (magnets built-in). Inductive sensors available [except -1M]

### Standard Purge/Scavenge Port

Used with a vacuum for clean room environments or positive pressure for harsh environments

## Operating Principle



- A double acting piston is connected to a double sided wedge.
- The double wedge slides into a slot in each of the jaws converting the vertical motion of the wedge into a horizontal motion of the jaws.
- Each jaw moves within the bottom case, the closed design increases the rigidity and permits the use of longer fingers. The large surface area of the guiding system allows for higher moments loads.
- This gripper is suitable for internal or external gripping using single or double acting mode.

### Style -RDH Parallel Gripper

#### Size -1M

	RDH-1M	RDH-1M-L
Total Stroke:	0.16 in. 4 mm	0.31 in. 8 mm
Grip Force:	156 lbs 693 N	102 lbs 452 N
Weight:	0.4 lbs 0.19 Kg	0.4 lbs 0.19 Kg

See Page **1.22**

### Style -RDH Parallel Gripper

#### Size -2M

	RDH-2M	RDH-2M-L
Total Stroke:	0.23 in. 6 mm	0.47 in. 12 mm
Grip Force:	226 lbs 1006 N	149 lbs 661 N
Weight:	0.9 lbs 0.39 Kg	0.9 lbs 0.39 Kg

See Page **1.24**

### Style -RDH Parallel Gripper

#### Size -3M

	RDH-3M	RDH-3M-L
Total Stroke:	0.31 in. 8 mm	0.62 in. 16 mm
Grip Force:	379 lbs 1683 N	246 lbs 1094 N
Weight:	1.8 lbs 0.82 Kg	1.8 lbs 0.82 Kg

See Page **1.26**

### Style -RDH Parallel Gripper

#### Size -4M

	RDH-4M	RDH-4M-L
Total Stroke:	0.39 in. 10 mm	0.78 in. 20 mm
Grip Force:	628 lbs 2789 N	408 lbs 1814 N
Weight:	3.1 lbs 1.43 Kg	3.1 lbs 1.43 Kg

See Page **1.28**

### Style -RDH Parallel Gripper

#### Size -5M

	RDH-5M	RDH-5M-L
Total Stroke:	0.51 in. 13 mm	1.01 in. 26 mm
Grip Force:	1037 lbs 4609 N	675 lbs 2999 N
Weight:	6.1 lbs 2.75 Kg	6.1 lbs 2.75 Kg

See Page **1.30**

### Style -RDH Parallel Gripper

#### Size -6M

	RDH-6M	RDH-6M-L
Total Stroke:	0.62 in. 16 mm	1.25 in. 32 mm
Grip Force:	1944 lbs 8640 N	1265 lbs 5623 N
Weight:	12.7 lbs 5.77 Kg	12.7 lbs 5.77 Kg

See Page **1.32**

### Style -RDH Parallel Gripper

#### Size -7M

	RDH-7M	RDH-7M-L
Total Stroke:	0.98 in. 25 mm	1.95 in. 50 mm
Grip Force:	2822 lbs 12542 N	1830 lbs 8135 N
Weight:	24.8 lbs 11.25 Kg	24.8 lbs 11.25 Kg

See Page **1.34**

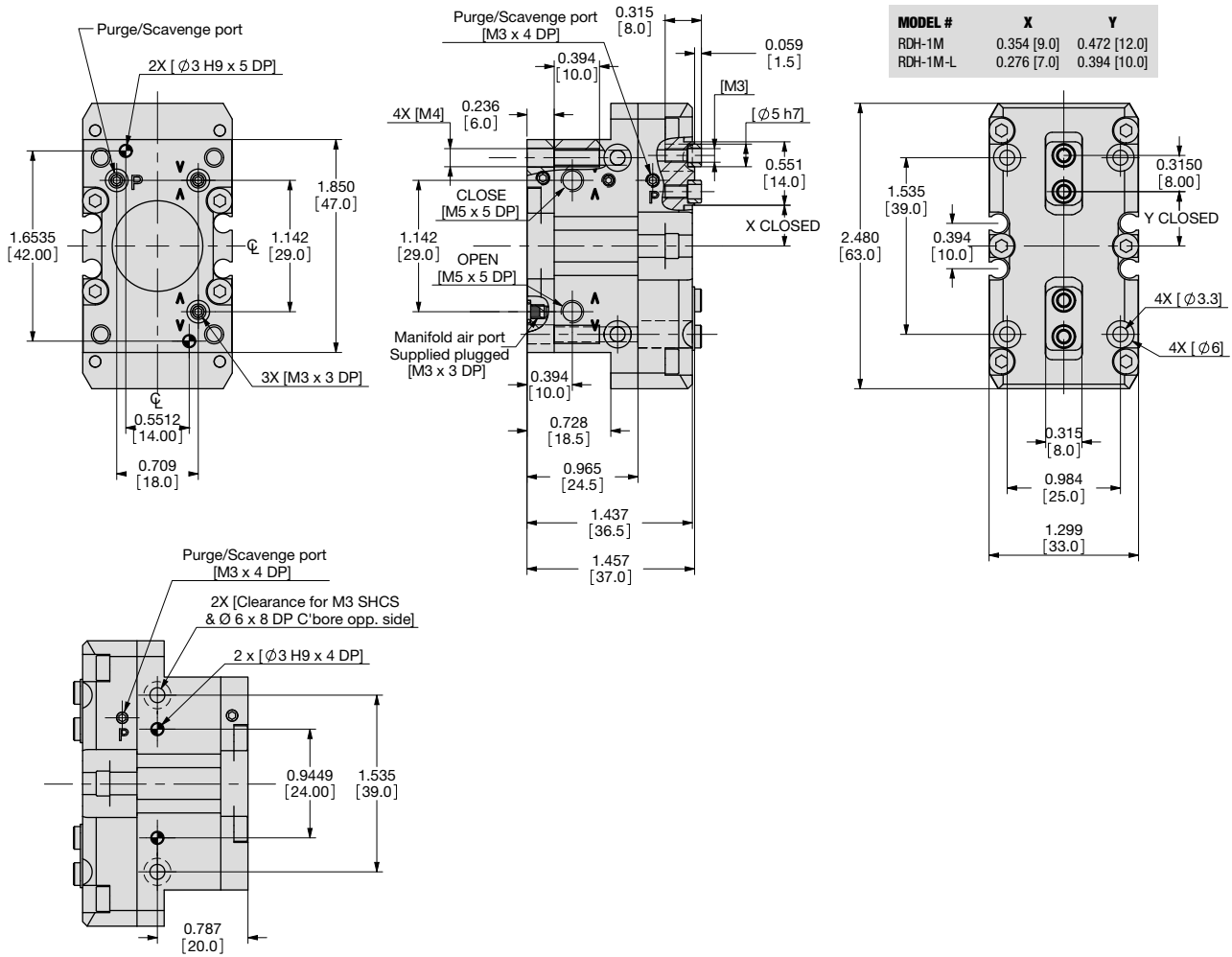
### Style -RDH Parallel Gripper

#### Size -8M

	RDH-8M	RDH-8M-L
Total Stroke:	1.37 in. 35 mm	2.73 in. 70 mm
Grip Force:	6300 lbs 28002 N	4076 lbs 18115 N
Weight:	71.1 lbs 32.3 Kg	71.1 lbs 32.3 Kg

See Page **1.36**

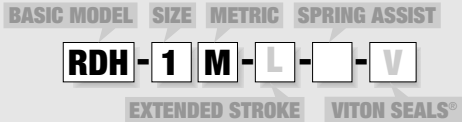
# PARALLEL GRIPPER RDH-1M 2-JAW PARALLEL SERIES



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

## How to Order: (Order Accessories separately from Basic Model)



<b>BASIC MODEL</b>	<b>RDH</b>
<b>SIZE</b>	<b>1</b>
<b>METRIC</b>	<b>M</b>
<b>EXTENDED STROKE</b>	0.16" [4mm] Leave Blank (standard) 0.32" [8mm]
<b>SPRING</b>	<b>C</b> Spring Closed <b>O</b> Spring Open — Leave Blank. No Spring Option (standard)
<b>VITON® SEALS</b>	<b>V</b> High Temperature Viton® Seals

### SENSOR ACCESSORIES\*

PNP Magneto Resistive Sensor Short Barrel w/Qk Disc*	<b>OHSP-017</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor Short Barrel w/Qk Disc*	<b>OHSN-017</b>	<b>1 or 4</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disc*	<b>OHSP-011</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disc*	<b>OHSN-011</b>	<b>1 or 4</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 4</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 4</b>

### PNEUMATIC ACCESSORIES

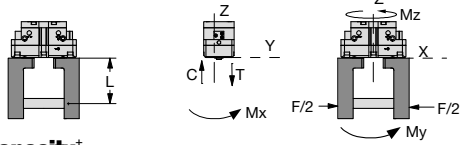
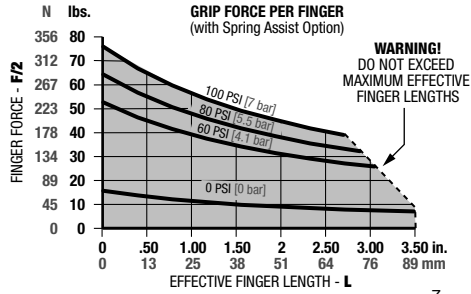
Buna-N Seal Repair Kit	<b>SLKT-416</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-363</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-416V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-363V</b>	<b>1</b>
M5 Adjustable Flow Control	<b>VLVF-008</b>	<b>1 or 2</b>

\*Sensor and cable sold separately.

### SAMPLE ORDER: RDH-1M-L-C-V

Ex: RDH-1M Parallel Gripper, Metric, 8mm Extended Stroke, Spring Closed, Viton® Seals

## RDH-1M Loading Information

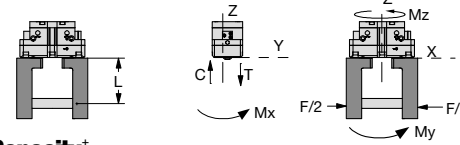
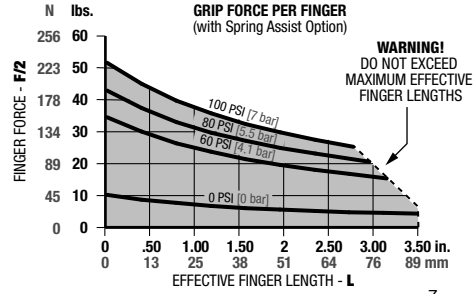


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	134 lbs. [594 N]	17 lbs. [74 N]
Maximum Compressive <b>C</b>	175 lbs. [779 N]	17 lbs. [74 N]
Maximum Moment <b>M<sub>x</sub></b>	159 in.-lbs. [18 Nm]	18 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>y</sub></b>	204 in.-lbs. [23 Nm]	18 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>z</sub></b>	124 in.-lbs. [14 Nm]	18 in.-lbs. [2 Nm]

†Capacities are per set of jaws and are not simultaneous

## RDH-1M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	121 lbs. [540 N]	11 lbs. [48 N]
Maximum Compressive <b>C</b>	159 lbs. [708 N]	11 lbs. [48 N]
Maximum Moment <b>M<sub>x</sub></b>	142 in.-lbs. [16 Nm]	9 in.-lbs. [1 Nm]
Maximum Moment <b>M<sub>y</sub></b>	168 in.-lbs. [19 Nm]	9 in.-lbs. [1 Nm]
Maximum Moment <b>M<sub>z</sub></b>	106 in.-lbs. [12 Nm]	9 in.-lbs. [1 Nm]

†Capacities are per set of jaws and are not simultaneous

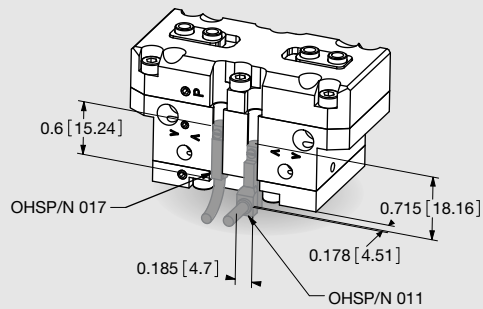
### Specifications

Total Rated Grip Force, <b>F</b> @ 100 psi [7 bar]:		
Without Spring Assist	125 lbs.	555 N
Without Spring Assist <b>-L</b>	81 lbs.	361 N
With Spring Assist	156 lbs.	693 N
With Spring Assist <b>-L</b>	102 lbs.	452 N
Total Stroke:		
Standard	0.16 in.	4 mm
Extended <b>-L</b>	0.32 in.	8 mm
Weight (RDH)	0.4/0.5 lbs.	0.19/0.21 Kg
Pressure Range without Spring	30-100 psi	2-7 Bar
Pressure Range with Spring	50-100 psi	3.5-7 Bar

### Specifications (cont.)

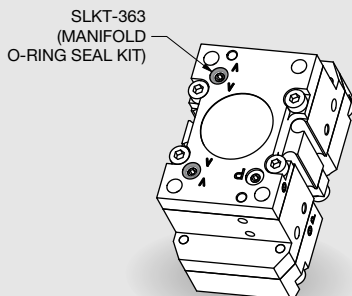
Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Surface	0.9 in <sup>2</sup>	5.8 cm <sup>2</sup>
Displacement	0.31 in <sup>3</sup>	5 cm <sup>3</sup>
Temperature Range	-30°~180° F	-35°~80° C
Actuation (open/close)	0.06 sec./0.06 sec.	
Accuracy	±0.0016 in.	±0.04 mm
Repeatability	±0.001 in.	±0.02 mm
Valve required to actuate single acting		3-way, 2-position
Valve required to actuate double acting		4-way, 2-position

## Accessory Mounting Technical Data



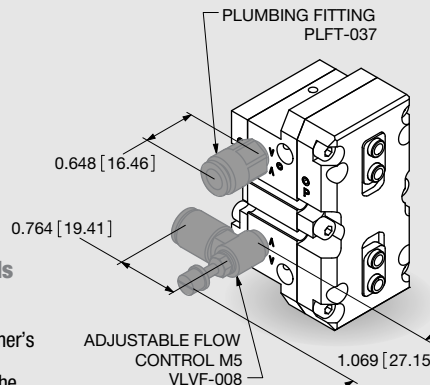
### Magneto Resistive Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M Quick Disconnect mating cable (order separately)



### Manifold O-Ring Seals

- Used to seal top air ports and purge/scavenge port
- No C'bore holes in customer's mounting plate required (C'bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-363V)

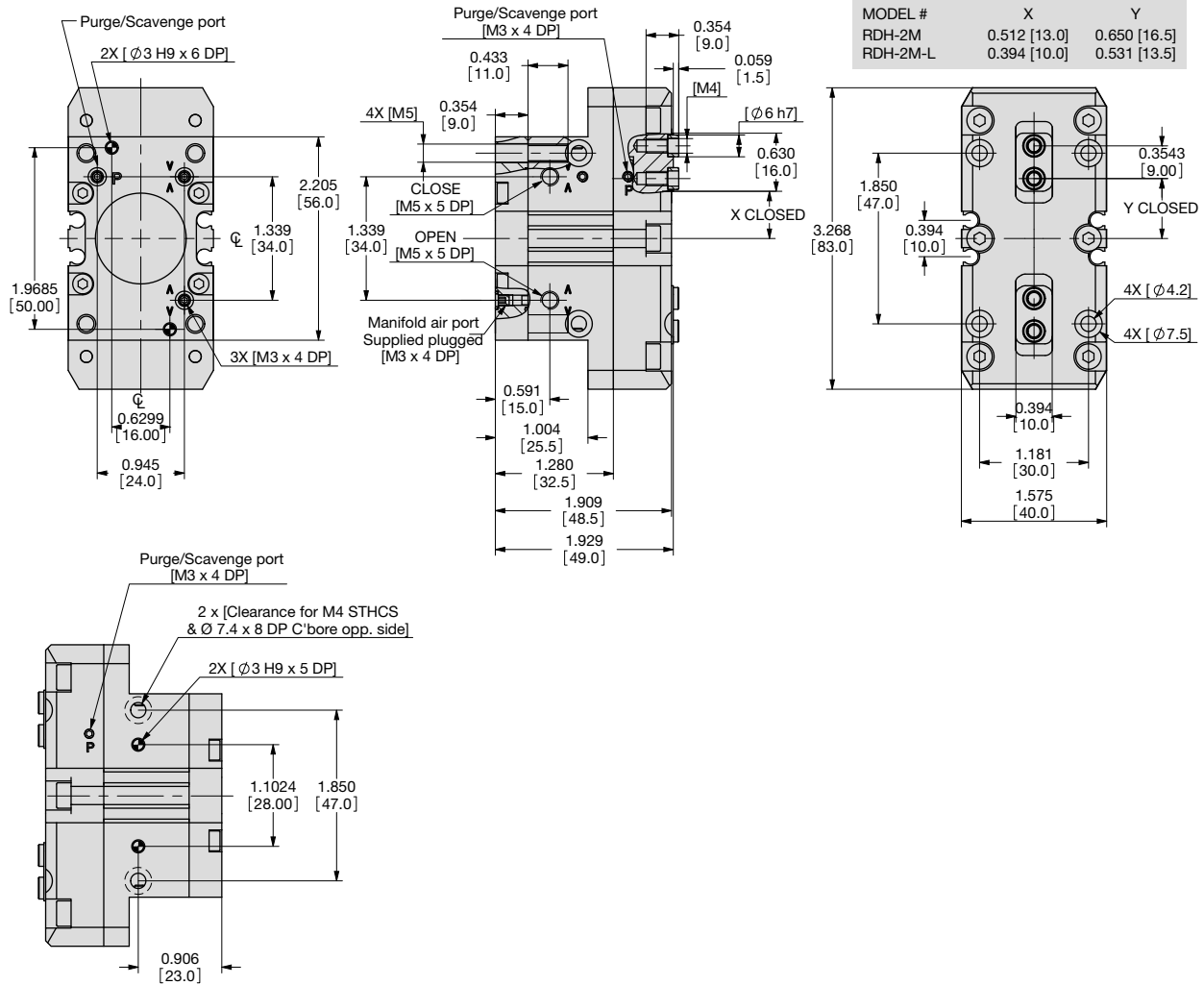


### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard

# PARALLEL GRIPPER RDH-2M

## 2-JAW PARALLEL SERIES



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Symbol	Imperial in.	Metric [mm]
	0.00 = ±.01	[0.] = [±.25]
	0.000 = ±.005	[0.0] = [±.13]
	0.0000 = ±.0005	[0.00] = [±.013]

Dimensions are symmetrical about centerline  
Third Angle Projection  
All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]  
Metric Threads Course Pitch

### How to Order: (Order Accessories separately from Basic Model)

BASIC MODEL SIZE METRIC SPRING ASSIST

**RDH-2M-L-V**

EXTENDED STROKE VITON SEALS®

BASIC MODEL **RDH**

SIZE **2**

METRIC **M**

EXTENDED STROKE **L** 0.24" [6mm] Leave Blank (standard)

**L** 0.47" [12mm]

SPRING **C** Spring Closed  
**O** Spring Open  
Leave Blank. No Spring Option (standard)

VITON® SEALS **V** High Temperature Viton® Seals

#### SENSOR ACCESSORIES\*

PNP Magneto Resistive Sensor Short Barrel w/ M8 Qk Disc*	<b>OHSP-017</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor Short Barrel w/ M8 Qk Disc*	<b>OHSN-017</b>	<b>1 or 4</b>
PNP Magneto Resistive Sensor (90° barrel) w/ M8 Qk. Disc*	<b>OHSP-011</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor (90° barrel) w/ M8 Qk. Disc*	<b>OHSN-011</b>	<b>1 or 4</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 4</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 4</b>

#### PNEUMATIC ACCESSORIES

Buna-N Seal Repair Kit	<b>SLKT-417</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-363</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-417V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-363V</b>	<b>1</b>
M5 Adjustable Flow Control	<b>VLVF-008</b>	<b>1 or 2</b>

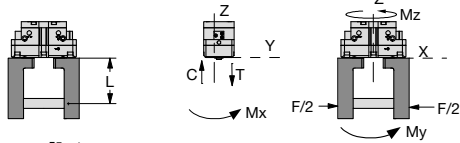
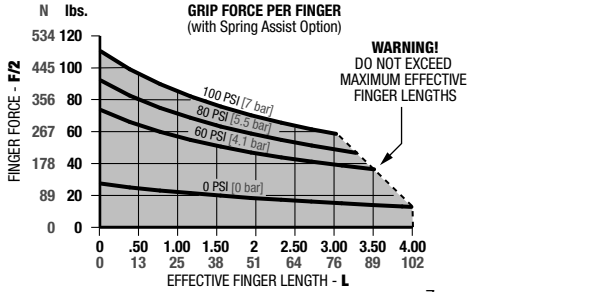
\*Sensor and cable sold separately.

#### SAMPLE ORDER: RDH-2M-L-C-V

Ex: RDH-2M Parallel Gripper, Metric, 12mm Extended Stroke, Spring Closed, Viton® Seals



## RDH-2M Loading Information

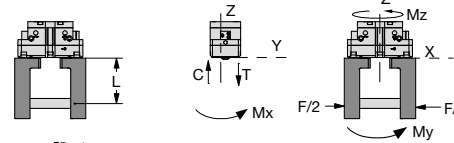
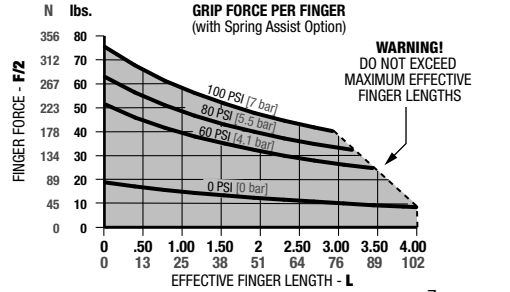


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	191 lbs. [849 N]	18 lbs. [81 N]
Maximum Compressive <b>C</b>	248 lbs. [1103 N]	18 lbs. [81 N]
Maximum Moment <b>M<sub>x</sub></b>	319 in.-lbs. [36 Nm]	27 in.-lbs. [3 Nm]
Maximum Moment <b>M<sub>y</sub></b>	451 in.-lbs. [51 Nm]	35 in.-lbs. [4 Nm]
Maximum Moment <b>M<sub>z</sub></b>	283 in.-lbs. [32 Nm]	35 in.-lbs. [4 Nm]

†Capacities are per set of jaws and are not simultaneous

## RDH-2M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	172 lbs. [764 N]	12 lbs. [53 N]
Maximum Compressive <b>C</b>	223 lbs. [993 N]	12 lbs. [53 N]
Maximum Moment <b>M<sub>x</sub></b>	283 in.-lbs. [32 Nm]	18 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>y</sub></b>	363 in.-lbs. [41 Nm]	18 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>z</sub></b>	230 in.-lbs. [26 Nm]	18 in.-lbs. [2 Nm]

†Capacities are per set of jaws and are not simultaneous

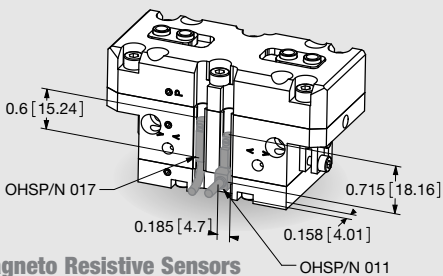
### Specifications

Total Rated Grip Force, <b>F</b> @ 100 psi [7 bar]:		
Without Spring Assist	170 lbs.	754 N
Without Spring Assist <b>-L</b>	111 lbs.	494 N
With Spring Assist	226 lbs.	1006 N
With Spring Assist <b>-L</b>	149 lbs.	661 N
Total Stroke:		
Standard	0.24 in.	6 mm
Extended <b>-L</b>	0.47 in.	12 mm
Weight (RDH)	0.86/0.93 lbs.	0.39/0.42 Kg
Pressure Range without Spring	30-100 psi	2-7 Bar
Pressure Range with Spring	65-100 psi	4.5-7 Bar

### Specifications (cont.)

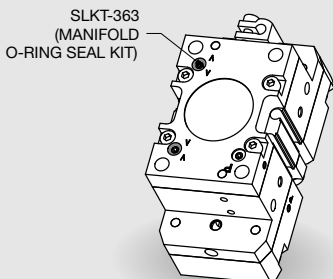
Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Surface	1.24 in. <sup>2</sup>	8 cm <sup>2</sup>
Displacement	0.63 in. <sup>3</sup>	10.3 cm <sup>3</sup>
Temperature Range	-30°~180° F	-35°~80° C
Actuation (open/close)	0.07 sec./0.07 sec.	
Accuracy	±0.0016 in.	±0.04 mm
Repeatability	±0.001 in.	±0.02 mm
Valve required to actuate single acting		3-way, 2-position
Valve required to actuate double acting		4-way, 2-position

## Accessory Mounting Technical Data



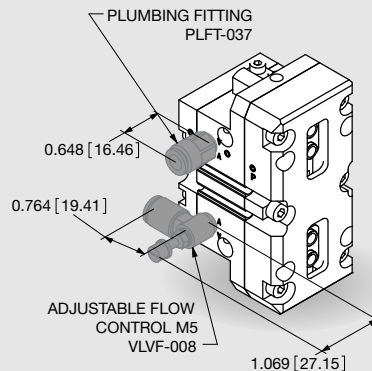
### Magneto Resistive Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M Quick Disconnect mating cable (order separately)



### Manifold O-Ring Seals

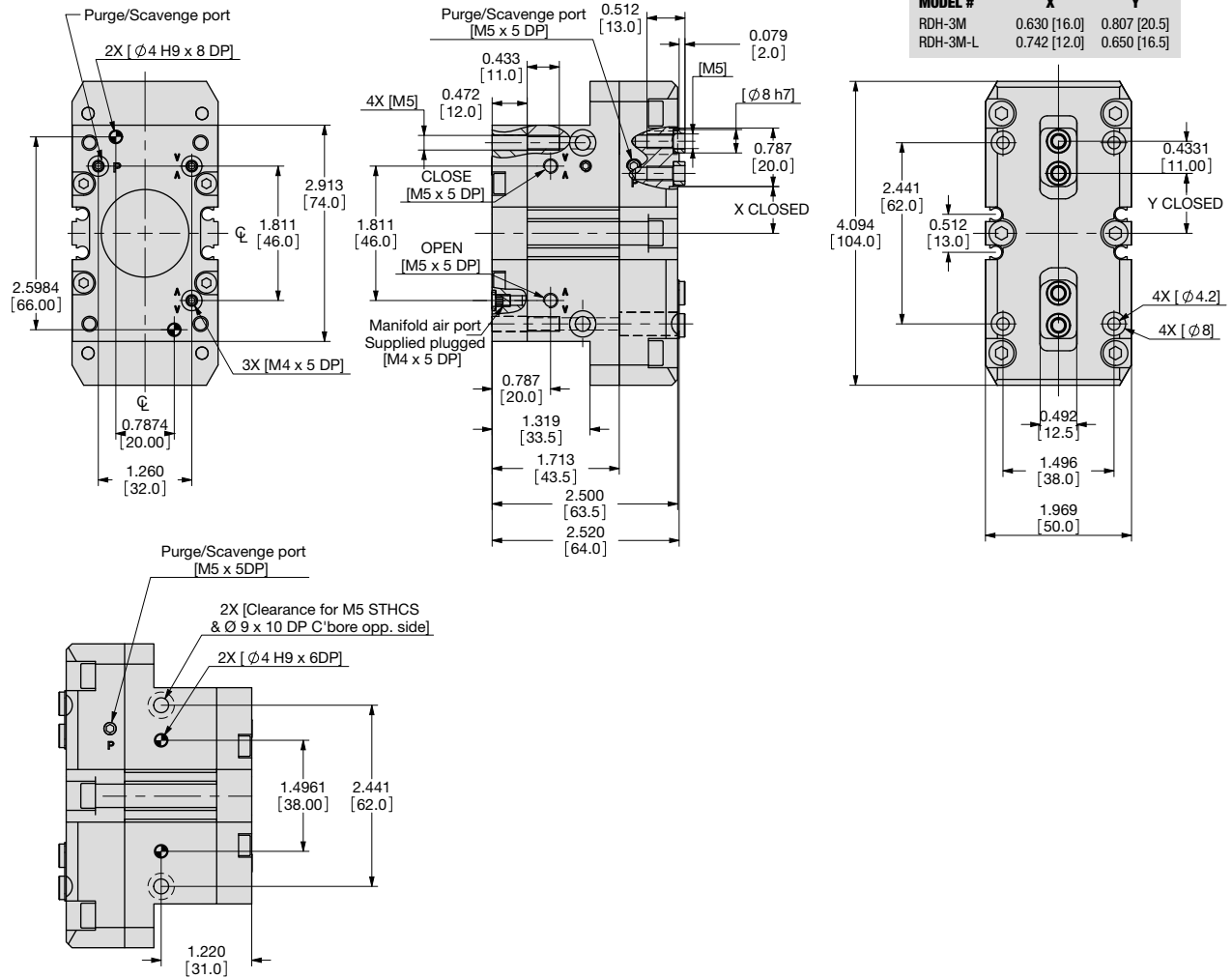
- Used to seal top air ports and purge/scavenge port
- No C'bore holes in customer's mounting plate required (C'bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-363V)



### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard

# PARALLEL GRIPPER RDH-3M 2-JAW PARALLEL SERIES



### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

## How to Order: (Order Accessories separately from Basic Model)

BASIC MODEL SIZE METRIC SPRING ASSIST

**RDH-3M-L-V**

EXTENDED STROKE VITON SEALS®

**BASIC MODEL RDH**

**SIZE 3**

**METRIC M**

**EXTENDED STROKE** — 0.31" [8mm] Leave Blank (standard)

**L** 0.63" [16mm]

**SPRING** **C** Spring Closed  
**O** Spring Open  
— Leave Blank. No Spring Option (standard)

**VITON® SEALS** **V** High Temperature Viton® Seals

### SENSOR ACCESSORIES\*

PNP Magneto Resistive Sensor Short Barrel w/ M8 Qk Disc*	<b>OHSP-017</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor Short Barrel w/ M8 Qk Disc*	<b>OHSN-017</b>	<b>1 or 4</b>
PNP Magneto Resistive Sensor (90° barrel) w/ M8 Qk. Disc*	<b>OHSP-011</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor (90° barrel) w/ M8 Qk. Disc*	<b>OHSN-011</b>	<b>1 or 4</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 4</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 4</b>

### PNEUMATIC ACCESSORIES

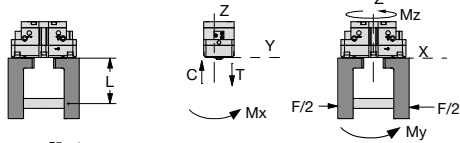
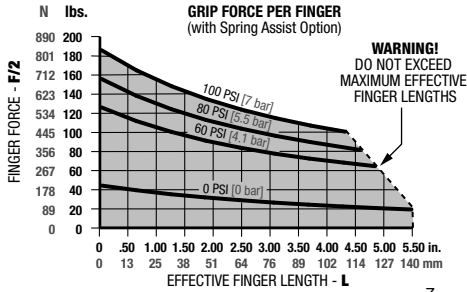
Buna-N Seal Repair Kit	<b>SLKT-418</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-364</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-418V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-364V</b>	<b>1</b>
M5 Adjustable Flow Control	<b>VLVF-008</b>	<b>1 or 2</b>

\*Sensor and cable sold separately.

### SAMPLE ORDER: RDH-3M-L-C-V

Ex: RDH-3M Parallel Gripper, Metric, 16mm Extended Stroke, Spring Closed, Viton® Seals

## RDH-3M Loading Information

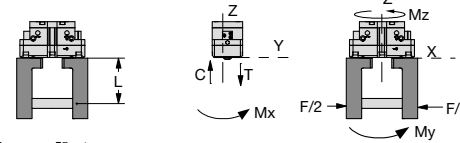
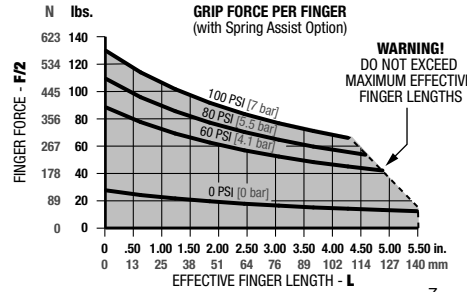


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	289 lbs. [1284 N]	44 lbs. [196 N]
Maximum Compressive <b>C</b>	374 lbs. [1665 N]	44 lbs. [196 N]
Maximum Moment <b>M<sub>x</sub></b>	513 in.-lbs. [58 Nm]	62 in.-lbs. [7 Nm]
Maximum Moment <b>M<sub>y</sub></b>	735 in.-lbs. [83 Nm]	97 in.-lbs. [11 Nm]
Maximum Moment <b>M<sub>z</sub></b>	478 in.-lbs. [54 Nm]	97 in.-lbs. [11 Nm]

†Capacities are per set of jaws and are not simultaneous

## RDH-3M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	258 lbs. [1146 N]	29 lbs. [127 N]
Maximum Compressive <b>C</b>	334 lbs. [1485 N]	29 lbs. [127 N]
Maximum Moment <b>M<sub>x</sub></b>	460 in.-lbs. [52 Nm]	44 in.-lbs. [5 Nm]
Maximum Moment <b>M<sub>y</sub></b>	584 in.-lbs. [66 Nm]	53 in.-lbs. [6 Nm]
Maximum Moment <b>M<sub>z</sub></b>	381 in.-lbs. [43 Nm]	53 in.-lbs. [6 Nm]

†Capacities are per set of jaws and are not simultaneous

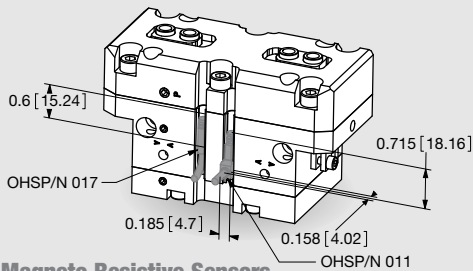
### Specifications

Total Rated Grip Force, <b>F</b> @ 100 psi [7 bar]:		
Without Spring Assist	296 lbs.	1317 N
Without Spring Assist <b>-L</b>	192 lbs.	854 N
With Spring Assist	379 lbs.	1683 N
With Spring Assist <b>-L</b>	246 lbs.	1094 N
Total Stroke:		
Standard	0.31 in.	8 mm
Extended <b>-L</b>	0.63 in.	16 mm
Weight (RDH)	1.81/1.94 lbs.	0.82/0.88 Kg
Pressure Range without Spring	30-100 psi	2-7 Bar
Pressure Range with Spring	50-100 psi	3.5-7 Bar

### Specifications (cont.)

Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Surface	2.14 in. <sup>2</sup>	13.8 cm <sup>2</sup>
Displacement	1.43 in. <sup>3</sup>	23.4 cm <sup>3</sup>
Temperature Range	-30°~180° F	-35°~80° C
Actuation (open/close)	0.08 sec./0.08 sec.	
Accuracy	±0.0016 in.	±0.04 mm
Repeatability	±0.001 in.	±0.02 mm
Valve required to actuate single acting		3-way, 2-position
Valve required to actuate double acting		4-way, 2-position

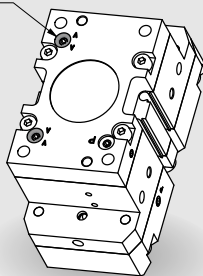
## Accessory Mounting Technical Data



### Magneto Resistive Sensors

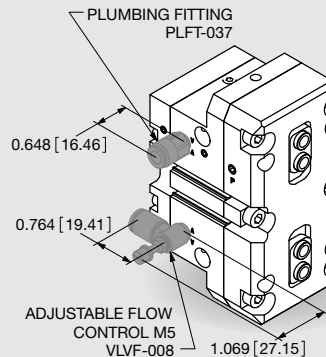
- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M Quick Disconnect mating cable (order separately)

SLKT-364  
(MANIFOLD  
O-RING SEAL KIT)



### Manifold O-Ring Seals

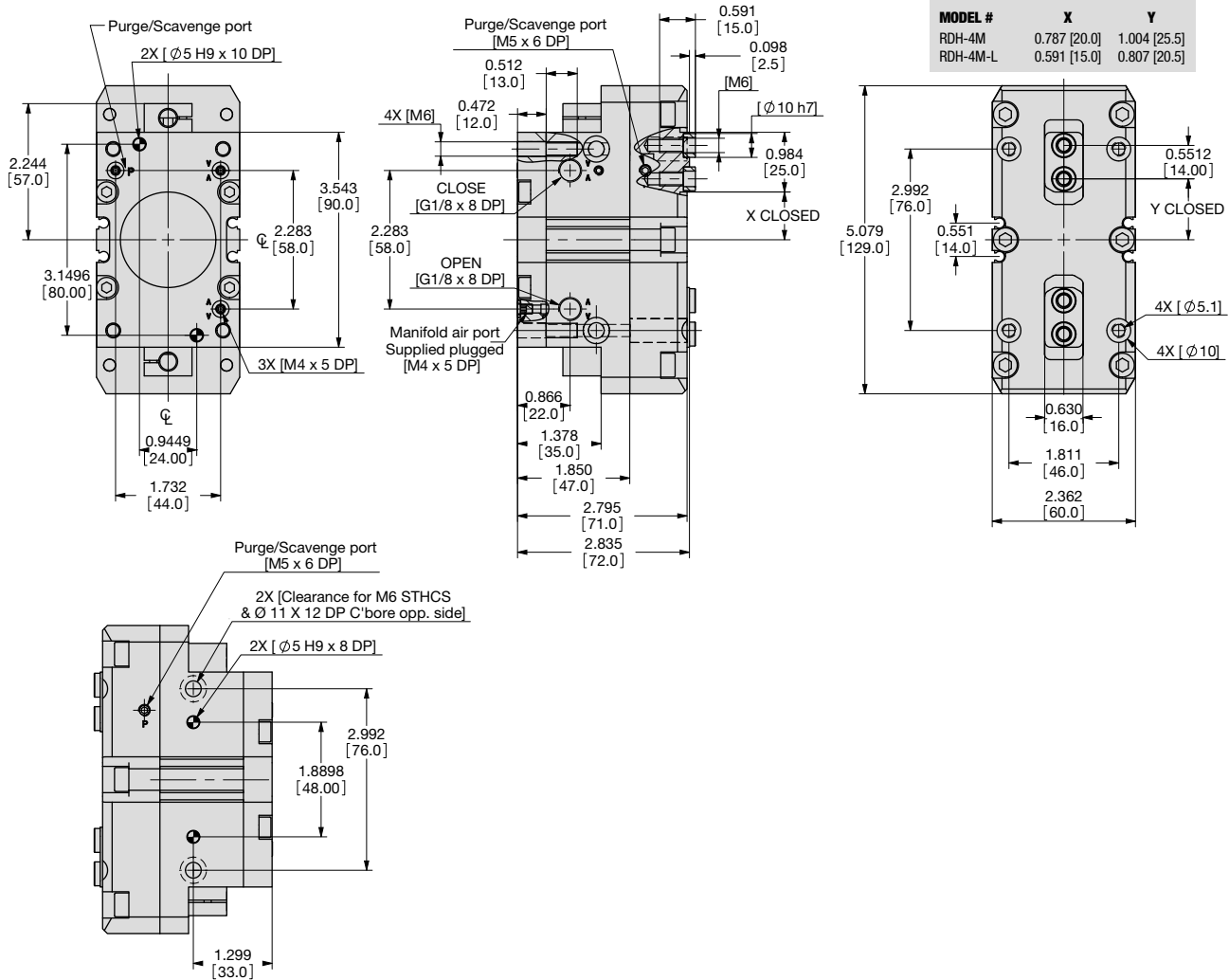
- Used to seal top air ports and purge/scavenge port
- No C'bore holes in customer's mounting plate required (C'bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-364V)



### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard

# PARALLEL GRIPPER RDH-4M 2-JAW PARALLEL SERIES



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

## How to Order: (Order Accessories separately from Basic Model)

BASIC MODEL SIZE METRIC SPRING ASSIST

**RDH-4M-L-V**

EXTENDED STROKE VITON SEALS®

**BASIC MODEL RDH**

**SIZE 4**

**METRIC M**

**EXTENDED STROKE L** 0.39" [10mm] Leave Blank (standard)

**L** 0.79" [20mm]

**SPRING C** Spring Closed  
**O** Spring Open  
— Leave Blank. No Spring Option (standard)

**VITON® SEALS V** High Temperature Viton® Seals

### SENSOR ACCESSORIES\*

8mm PNP Inductive Sensor w/ M8 Quick Disconnect*	<b>OISP-011</b>	<b>1 or 2</b>
8mm NPN Inductive Sensor w/ M8 Quick Disconnect*	<b>OISN-011</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor Short Barrel w/ M8 Qk Disc*	<b>OHSP-017</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor Short Barrel w/ M8 Qk Disc*	<b>OHSN-017</b>	<b>1 or 4</b>
PNP Magneto Resistive Sensor (90° barrel) w/ M8 Qk. Disc*	<b>OHSP-011</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor (90° barrel) w/ M8 Qk. Disc*	<b>OHSN-011</b>	<b>1 or 4</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 4</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 4</b>

### PNEUMATIC ACCESSORIES

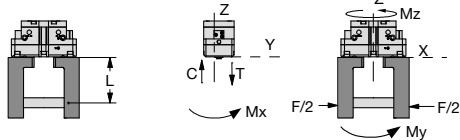
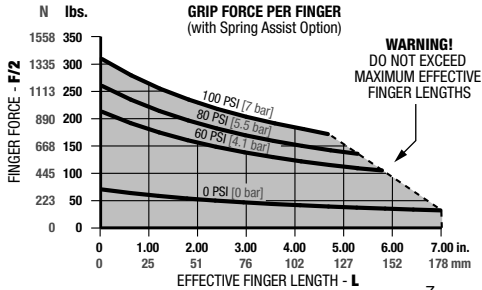
Buna-N Seal Repair Kit	<b>SLKT-419</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-364</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-419V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-364V</b>	<b>1</b>
G 1/8" Adjustable Flow Control	<b>VLVF-005</b>	<b>1 or 2</b>

\*Sensor and cable sold separately.

### SAMPLE ORDER: RDH-4M-L-C-V

Ex: RDH-4M Parallel Gripper, Metric, 20mm Extended Stroke, Spring Closed, Viton® Seals

## RDH-4M Loading Information

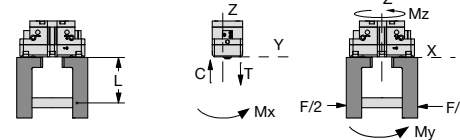
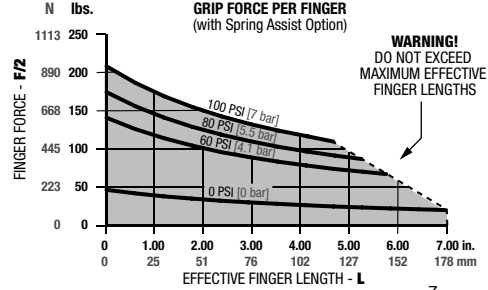


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	352 lbs. [1564 N]	58 lbs. [259 N]
Maximum Compressive <b>C</b>	465 lbs. [2070 N]	58 lbs. [259 N]
Maximum Moment <b>M<sub>x</sub></b>	673 in.-lbs. [76 Nm]	89 in.-lbs. [10 Nm]
Maximum Moment <b>M<sub>y</sub></b>	938 in.-lbs. [106 Nm]	124 in.-lbs. [14 Nm]
Maximum Moment <b>M<sub>z</sub></b>	620 in.-lbs. [70 Nm]	124 in.-lbs. [14 Nm]

†Capacities are per set of jaws and are not simultaneous

## RDH-4M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	313 lbs. [1394 N]	38 lbs. [168 N]
Maximum Compressive <b>C</b>	415 lbs. [1845 N]	38 lbs. [168 N]
Maximum Moment <b>M<sub>x</sub></b>	602 in.-lbs. [68 Nm]	53 in.-lbs. [6 Nm]
Maximum Moment <b>M<sub>y</sub></b>	743 in.-lbs. [84 Nm]	71 in.-lbs. [8 Nm]
Maximum Moment <b>M<sub>z</sub></b>	496 in.-lbs. [56 Nm]	71 in.-lbs. [8 Nm]

†Capacities are per set of jaws and are not simultaneous

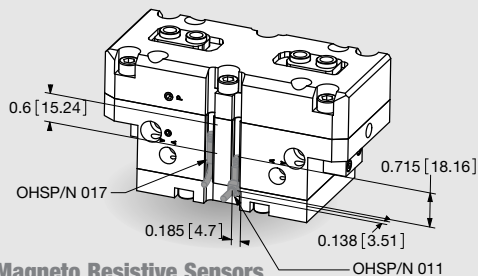
### Specifications

Total Rated Grip Force, <b>F</b> @ 100 psi [7 bar]:		
Without Spring Assist	490 lbs.	2177 N
Without Spring Assist <b>-L</b>	318 lbs.	1414 N
With Spring Assist	628 lbs.	2789 N
With Spring Assist <b>-L</b>	408 lbs.	1814 N
Total Stroke:		
Standard	0.39 in.	10 mm
Extended <b>-L</b>	0.79 in.	20 mm
Weight (RDH)	3.15/3.33 lbs.	1.43/1.51 Kg
Pressure Range without Spring	30-100 psi	2-7 Bar
Pressure Range with Spring	50-100 psi	3.5-7 Bar

### Specifications (cont.)

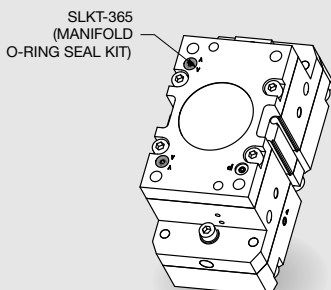
Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Surface	3.52 in <sup>2</sup> .	22.7 cm <sup>2</sup>
Displacement	2.90 in <sup>3</sup> .	47.5 cm <sup>3</sup>
Temperature Range	-30°~180° F	-35°~80° C
Actuation (open/close)	0.08 sec./0.08 sec.	
Accuracy	±0.0024 in.	±0.06 mm
Repeatability	±0.0012 in.	±0.03 mm
Valve required to actuate single acting		3-way, 2-position
Valve required to actuate double acting		4-way, 2-position

## Accessory Mounting Technical Data



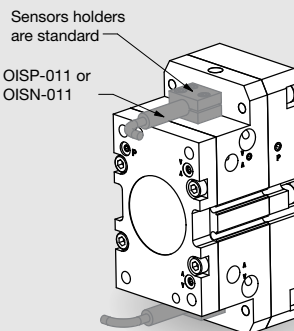
### Magneto Resistive Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M Quick Disconnect mating cable (order separately)



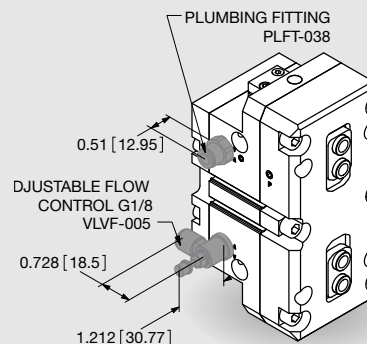
### Manifold O-Ring Seals

- Used to seal top air ports and purge/scavenge port
- No C'bore holes in customer's mounting plate required (C'bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-364V)



### Inductive Sensors

- PNP and NPN Magneto Resistive available
- Sensors holders and targets are standard mounted
- Simple adjustment of the target with screw driver
- Available with 2M Quick Disconnect mating cable (order separately)



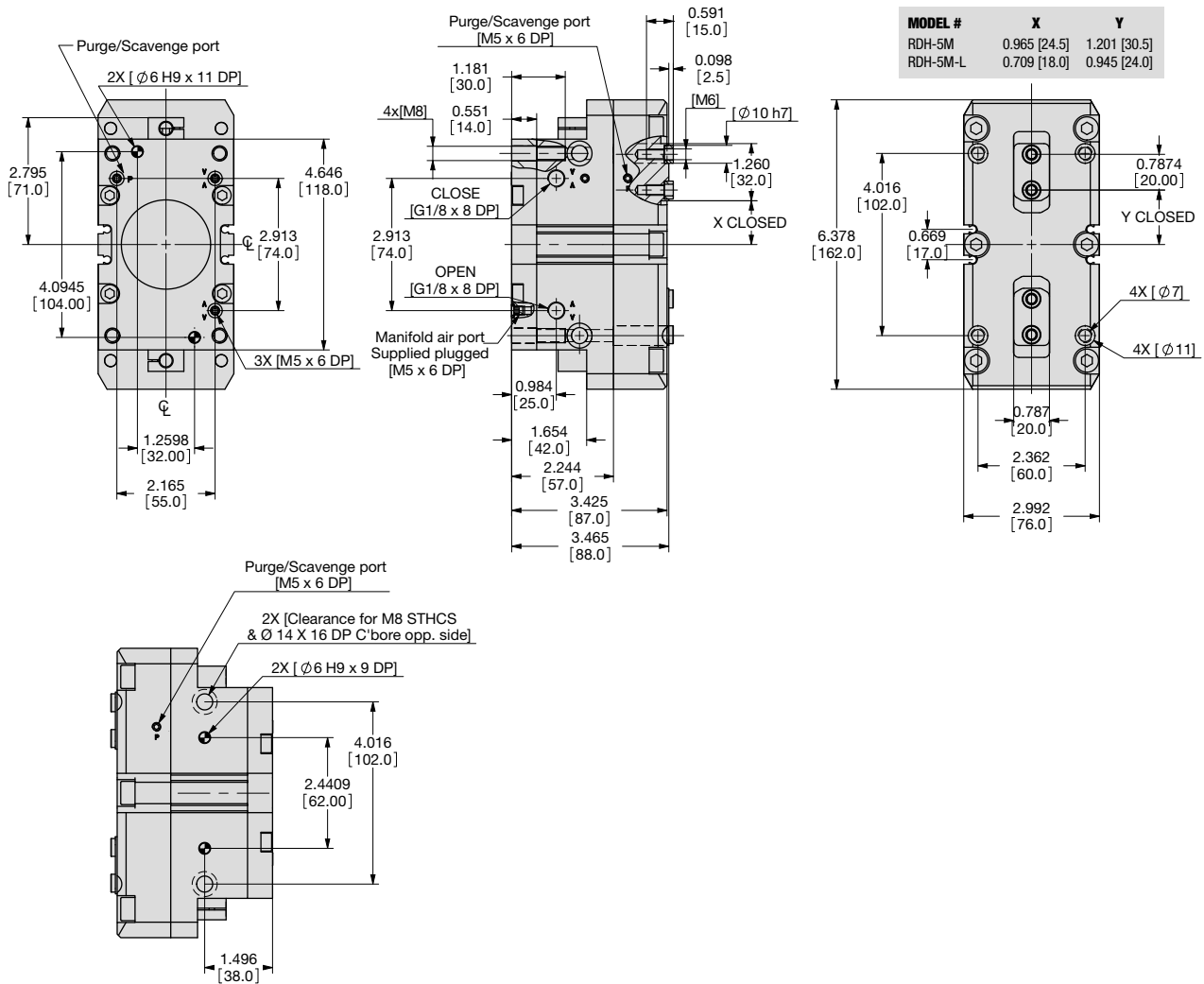
### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard

# PARALLEL GRIPPER RDH-5M

## 2-JAW PARALLEL SERIES

1.30



**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

### How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL SIZE METRIC SPRING ASSIST**

**RDH-5M-L-V**

**EXTENDED STROKE VITON SEALS®**

**BASIC MODEL RDH**

**SIZE 5**

**METRIC M**

**EXTENDED STROKE** — 0.51" [13mm] Leave Blank (standard)

**L** 1.02" [26mm]

**SPRING C** Spring Closed  
**O** Spring Open  
— Leave Blank. No Spring Option (standard)

**VITON® SEALS V** High Temperature Viton® Seals

#### SENSOR ACCESSORIES\*

8mm PNP Inductive Sensor w/ M8 Quick Disconnect*	<b>OISP-011</b>	<b>1 or 2</b>
8mm NPN Inductive Sensor w/ M8 Quick Disconnect*	<b>OISN-011</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor Short Barrel w/ M8 Qk Disc*	<b>OHSP-017</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor Short Barrel w/ M8 Qk Disc*	<b>OHSN-017</b>	<b>1 or 4</b>
PNP Magneto Resistive Sensor (90° barrel) w/ M8 Qk. Disc*	<b>OHSP-011</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor (90° barrel) w/ M8 Qk. Disc*	<b>OHSN-011</b>	<b>1 or 4</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 4</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 4</b>

#### PNEUMATIC ACCESSORIES

Buna-N Seal Repair Kit	<b>SLKT-420</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-365</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-420V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-365V</b>	<b>1</b>
G 1/8" Adjustable Flow Control	<b>VLVF-005</b>	<b>1 or 2</b>

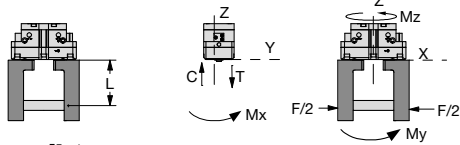
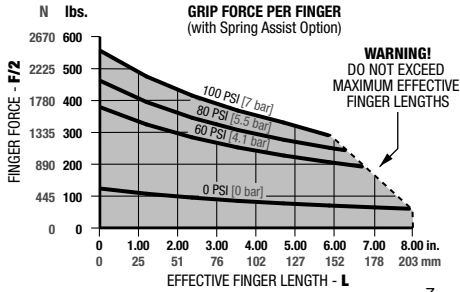
\*Sensor and cable sold separately.

#### SAMPLE ORDER: RDH-5M-L-C-V

Ex: RDH-5M Parallel Gripper, Metric, 26mm Extended Stroke, Spring Closed, Viton® Seals



## RDH-5M Loading Information

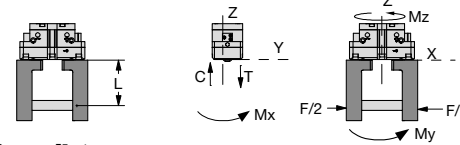
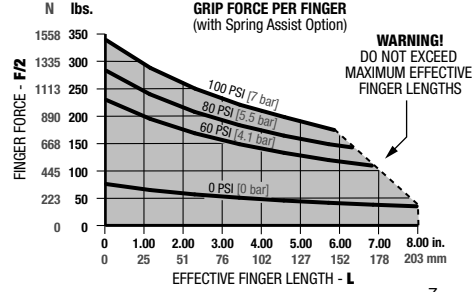


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	493 lbs. [2192 N]	96 lbs. [428 N]
Maximum Compressive <b>C</b>	657 lbs. [2923 N]	96 lbs. [428 N]
Maximum Moment <b>M<sub>x</sub></b>	929 in.-lbs. [105 Nm]	142 in.-lbs. [16 Nm]
Maximum Moment <b>M<sub>y</sub></b>	1310 in.-lbs. [148 Nm]	195 in.-lbs. [22 Nm]
Maximum Moment <b>M<sub>z</sub></b>	859 in.-lbs. [97 Nm]	195 in.-lbs. [22 Nm]

†Capacities are per set of jaws and are not simultaneous

## RDH-5M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	442 lbs. [1966 N]	62 lbs. [278 N]
Maximum Compressive <b>C</b>	589 lbs. [2621 N]	62 lbs. [278 N]
Maximum Moment <b>M<sub>x</sub></b>	832 in.-lbs. [94 Nm]	89 in.-lbs. [10 Nm]
Maximum Moment <b>M<sub>y</sub></b>	1053 in.-lbs. [119 Nm]	115 in.-lbs. [13 Nm]
Maximum Moment <b>M<sub>z</sub></b>	690 in.-lbs. [78 Nm]	115 in.-lbs. [13 Nm]

†Capacities are per set of jaws and are not simultaneous

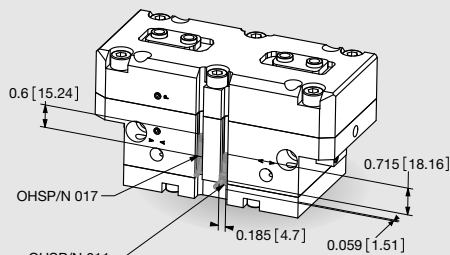
### Specifications

Total Rated Grip Force, <b>F</b> @ 100 psi [7 bar]:		
Without Spring Assist	808 lbs.	3593 N
Without Spring Assist <b>-L</b>	525 lbs.	2333 N
With Spring Assist	1037 lbs.	4609 N
With Spring Assist <b>-L</b>	675 lbs.	2999 N
Total Stroke:		
Standard	0.51 in.	13 mm
Extended <b>-L</b>	1.02 in.	26 mm
Weight (RDH)	6.06/6.57 lbs.	2.75/2.98 Kg
Pressure Range without Spring	30-100 psi	2-7 Bar
Pressure Range with Spring	60-100 psi	4-7 Bar

### Specifications (cont.)

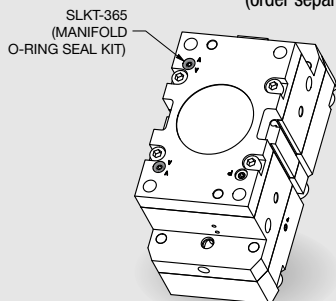
Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Surface	5.81 in <sup>2</sup> .	37.5 cm <sup>2</sup>
Displacement	6.22 in <sup>3</sup> .	102 cm <sup>3</sup>
Temperature Range	-30°~180° F	-35°~80° C
Actuation (open/close)	0.14 sec./0.14 sec.	
Accuracy	±0.0024 in.	±0.06 mm
Repeatability	±0.0012 in.	±0.03 mm
Valve required to actuate single acting		3-way, 2-position
Valve required to actuate double acting		4-way, 2-position

## Accessory Mounting Technical Data



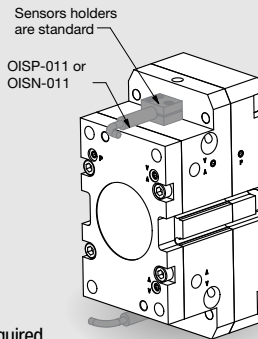
### Magneto Resistive Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M Quick Disconnect mating cable (order separately)



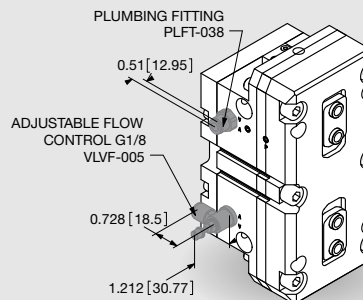
### Manifold O-Ring Seals

- Used to seal top air ports and purge/scavenge port
- No C'bore holes in customer's mounting plate required (C'bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-365V)



### Inductive Sensors

- PNP and NPN Magneto Resistive available
- Sensors holders and targets are standard mounted
- Simple adjustment of the target with screw driver
- Available with 2M Quick Disconnect mating cable (order separately)



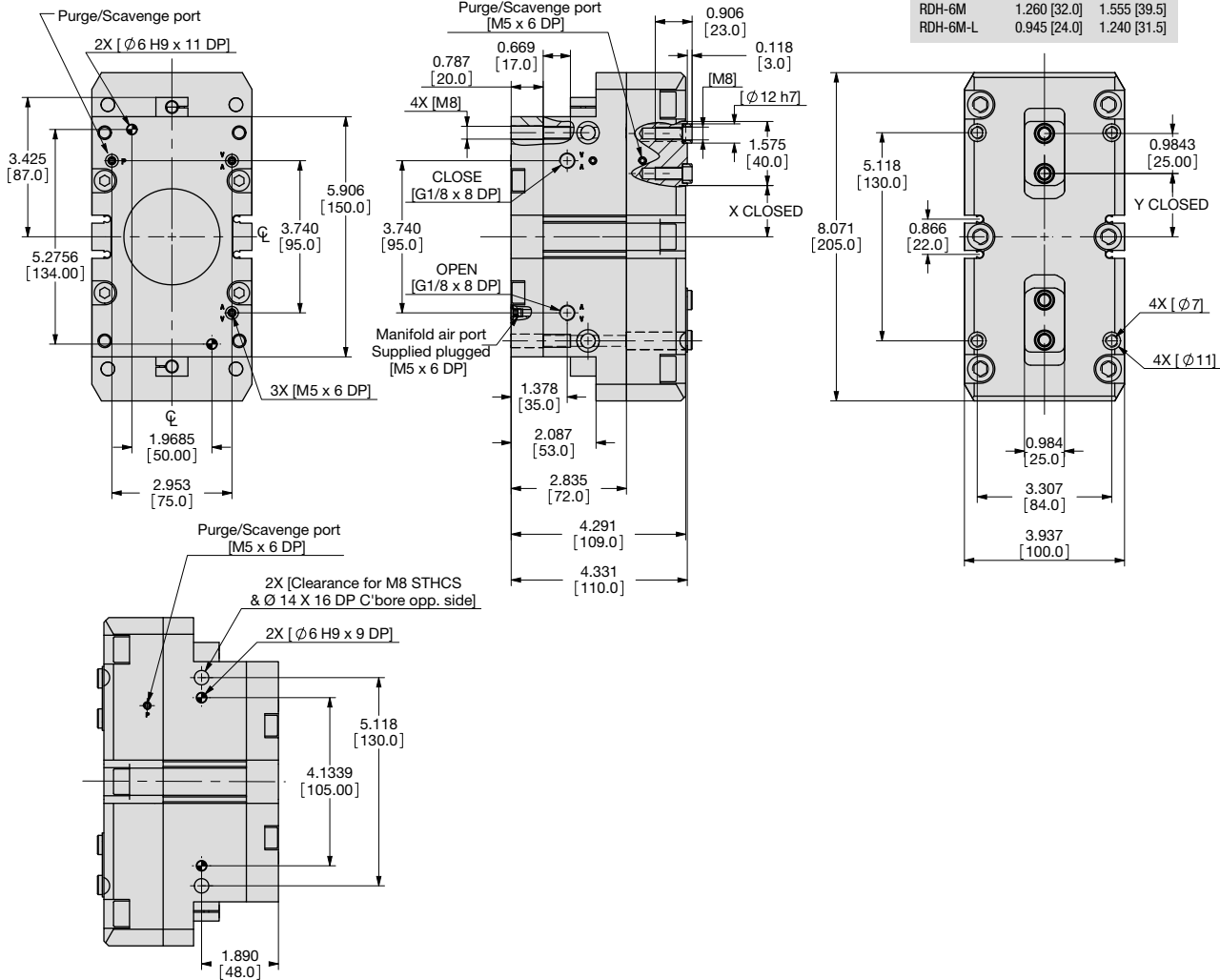
### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard



# PARALLEL GRIPPER RDH-6M 2-JAW PARALLEL SERIES

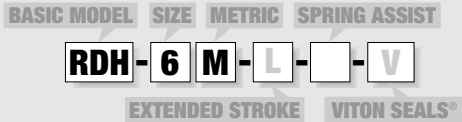
1.32



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

## How to Order: (Order Accessories separately from Basic Model)



<b>BASIC MODEL</b>	<b>RDH</b>
<b>SIZE</b>	<b>6</b>
<b>METRIC</b>	<b>M</b>
<b>EXTENDED STROKE</b>	<b>L</b> 0.63" [16mm] Leave Blank (standard) <b>L</b> 1.26" [32mm]
<b>SPRING</b>	<b>C</b> Spring Closed <b>O</b> Spring Open — Leave Blank. No Spring Option (standard)
<b>VITON® SEALS</b>	<b>V</b> High Temperature Viton® Seals

### SENSOR ACCESSORIES\*

8mm PNP Inductive Sensor w/ M8 Quick Disconnect*	<b>OISP-011</b>	<b>1 or 2</b>
8mm NPN Inductive Sensor w/ M8 Quick Disconnect*	<b>OISN-011</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor Short Barrel w/ M8 Qk Disc*	<b>OHSP-017</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor Short Barrel w/ M8 Qk Disc*	<b>OHSN-017</b>	<b>1 or 4</b>
PNP Magneto Resistive Sensor (90° barrel) w/ M8 Qk. Disc*	<b>OHSP-011</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor (90° barrel) w/ M8 Qk. Disc*	<b>OHSN-011</b>	<b>1 or 4</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 4</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 4</b>

### PNEUMATIC ACCESSORIES

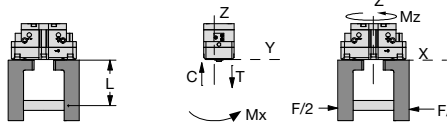
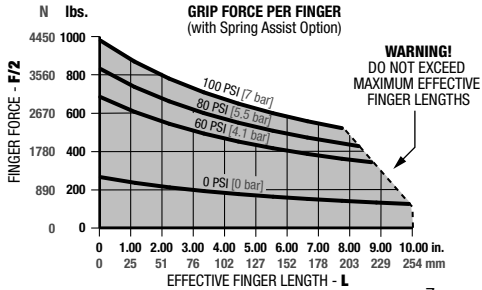
Buna-N Seal Repair Kit	<b>SLKT-421</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-365</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-421V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-365V</b>	<b>1</b>
G 1/8" Adjustable Flow Control	<b>VLVF-005</b>	<b>1 or 2</b>

\*Sensor and cable sold separately.

### SAMPLE ORDER: RDH-6M-L-C-V

Ex: RDH-6M Parallel Gripper, Metric, 32mm Extended Stroke, Spring Closed, Viton® Seals

## RDH-6M Loading Information

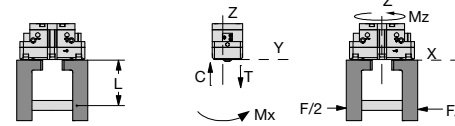
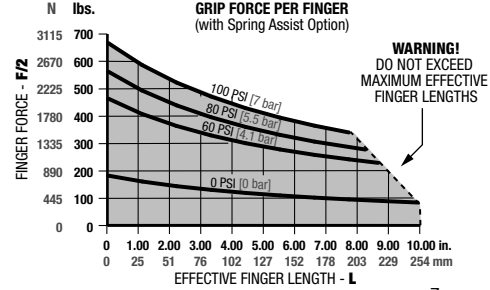


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	779 lbs. [3463 N]	186 lbs. [827 N]
Maximum Compressive <b>C</b>	1045 lbs. [4649 N]	186 lbs. [827 N]
Maximum Moment <b>M<sub>x</sub></b>	1204 in.-lbs. [136 Nm]	248 in.-lbs. [28 Nm]
Maximum Moment <b>M<sub>y</sub></b>	1744 in.-lbs. [197 Nm]	363 in.-lbs. [41 Nm]
Maximum Moment <b>M<sub>z</sub></b>	1151 in.-lbs. [130 Nm]	363 in.-lbs. [41 Nm]

†Capacities are per set of jaws and are not simultaneous

## RDH-6M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	694 lbs. [3089 N]	121 lbs. [537 N]
Maximum Compressive <b>C</b>	932 lbs. [4146 N]	121 lbs. [537 N]
Maximum Moment <b>M<sub>x</sub></b>	1071 in.-lbs. [121 Nm]	159 in.-lbs. [18 Nm]
Maximum Moment <b>M<sub>y</sub></b>	1390 in.-lbs. [157 Nm]	212 in.-lbs. [24 Nm]
Maximum Moment <b>M<sub>z</sub></b>	912 in.-lbs. [103 Nm]	212 in.-lbs. [24 Nm]

†Capacities are per set of jaws and are not simultaneous

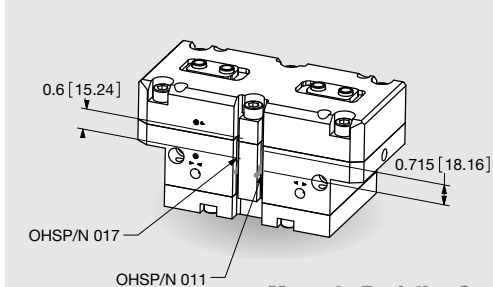
## Specifications

Total Rated Grip Force, <b>F</b> @ 100 psi [7 bar]:		
Without Spring Assist	1406 lbs.	6250 N
Without Spring Assist <b>-L</b>	914 lbs.	4062 N
With Spring Assist	1944 lbs.	8640 N
With Spring Assist <b>-L</b>	1265 lbs.	5623 N
Total Stroke:		
Standard	0.63 in.	16 mm
Extended <b>-L</b>	1.26 in.	32 mm
Weight	12.72 lbs.	5.77 Kg
Pressure Range without Spring	30-100 psi	2-7 Bar
Pressure Range with Spring	65-100 psi	4.5-7 Bar

## Specifications (cont.)

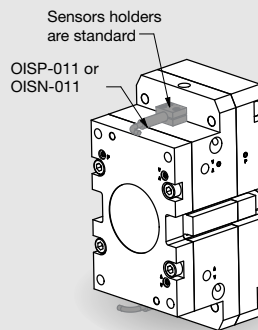
Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Surface	10.08 in <sup>2</sup>	65 cm <sup>2</sup>
Displacement	13.18 in <sup>3</sup>	216 cm <sup>3</sup>
Temperature Range	-30°~180° F	-35°~80° C
Actuation (open/close)	0.20 sec./0.20 sec.	
Accuracy	±0.0031 in.	±0.08 mm
Repeatability	±0.0016 in.	±0.04 mm
Valve required to actuate single acting		3-way, 2-position
Valve required to actuate double acting		4-way, 2-position

## Accessory Mounting Technical Data



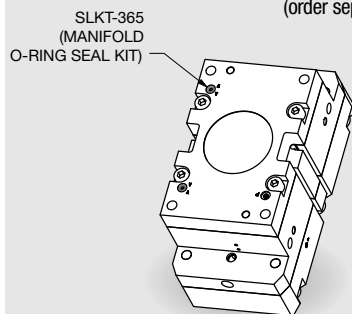
### Magneto Resistive Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M Quick Disconnect mating cable (order separately)



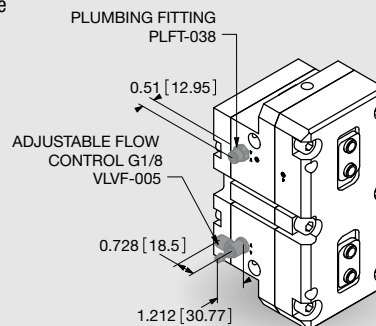
### Inductive Sensors

- PNP and NPN Magneto Resistive available
- Sensors holders and targets are standard mounted
- Simple adjustment of the target with screw driver
- Available with 2M Quick Disconnect mating cable (order separately)



### Manifold O-Ring Seals

- Used to seal top air ports and purge/scavenge port
- No C'bore holes in customer's mounting plate required (C'bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-365V)

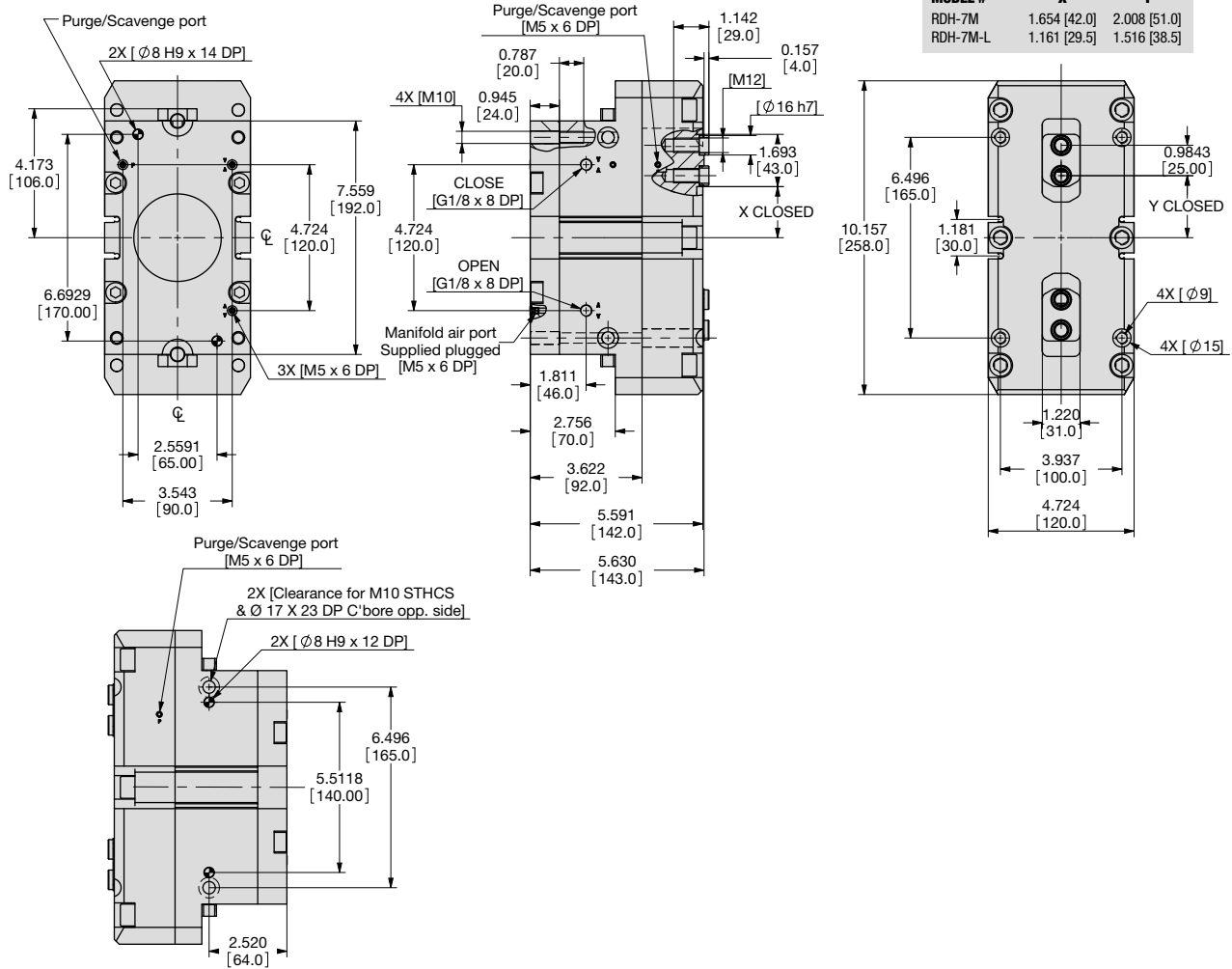


### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard

# PARALLEL GRIPPER RDH-7M 2-JAW PARALLEL SERIES

1.34



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	0.] = [±.25 0.0] = [±.13 0.00] = [±.013]

## How to Order: (Order Accessories separately from Basic Model)

BASIC MODEL SIZE METRIC SPRING ASSIST

**RDH-7M-L-V**

EXTENDED STROKE VITON SEALS®

**BASIC MODEL RDH**

**SIZE 7**

**METRIC M**

**EXTENDED STROKE** — 0.98" [25mm] Leave Blank (standard)

**L** 1.97" [50mm]

**SPRING** **C** Spring Closed  
**O** Spring Open  
— Leave Blank. No Spring Option (standard)

**VITON® SEALS** **V** High Temperature Viton® Seals

### SENSOR ACCESSORIES\*

12mm PNP Inductive Sensor w/ M12 Quick Disconnect*	<b>OISP-017</b>	<b>1 or 2</b>
12mm NPN Inductive Sensor w/ M12 Quick Disconnect*	<b>OISN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor Short Barrel w/ M8 Qk Disc*	<b>OHSP-017</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor Short Barrel w/ M8 Qk Disc*	<b>OHSN-017</b>	<b>1 or 4</b>
PNP Magneto Resistive Sensor (90° barrel) w/ M8 Qk. Disc*	<b>OHSP-011</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor (90° barrel) w/ M8 Qk. Disc*	<b>OHSN-011</b>	<b>1 or 4</b>
M8 Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 4</b>
M8 Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 4</b>
M12 Quick Disconnect 2 Meter Cable Length*	<b>CABL-014</b>	<b>1 or 2</b>
M12 Quick Disconnect 5 Meter Cable Length*	<b>CABL-018</b>	<b>1 to 2</b>

### PNEUMATIC ACCESSORIES

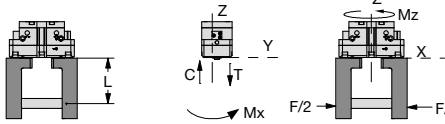
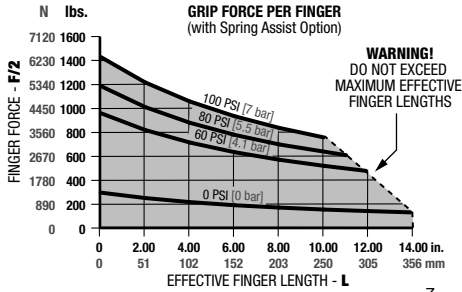
Buna-N Seal Repair Kit	<b>SLKT-422</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-365</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-422V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-365V</b>	<b>1</b>
G 1/8" Adjustable Flow Control	<b>VLVF-005</b>	<b>1 or 2</b>

\*Sensor and cable sold separately.

### SAMPLE ORDER: RDH-7M-L-C-V

Ex: RDH-7M Parallel Gripper, Metric, 50mm Extended Stroke, Spring Closed, Viton® Seals

## RDH-7M Loading Information

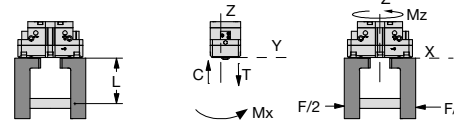
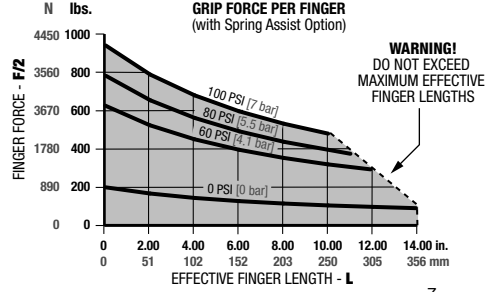


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	1013 lbs. [4505 N]	236 lbs. [1048 N]
Maximum Compressive <b>C</b>	1335 lbs. [5938 N]	236 lbs. [1048 N]
Maximum Moment <b>M<sub>x</sub></b>	1478 in.-lbs. [167 Nm]	319 in.-lbs. [36 Nm]
Maximum Moment <b>M<sub>y</sub></b>	2106 in.-lbs. [238 Nm]	451 in.-lbs. [51 Nm]
Maximum Moment <b>M<sub>z</sub></b>	1425 in.-lbs. [161 Nm]	451 in.-lbs. [51 Nm]

†Capacities are per set of jaws and are not simultaneous

## RDH-7M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	879 lbs. [3911 N]	152 lbs. [678 N]
Maximum Compressive <b>C</b>	1159 lbs. [5155 N]	152 lbs. [678 N]
Maximum Moment <b>M<sub>x</sub></b>	1283 in.-lbs. [145 Nm]	204 in.-lbs. [23 Nm]
Maximum Moment <b>M<sub>y</sub></b>	1584 in.-lbs. [179 Nm]	257 in.-lbs. [29 Nm]
Maximum Moment <b>M<sub>z</sub></b>	1080 in.-lbs. [122 Nm]	257 in.-lbs. [29 Nm]

†Capacities are per set of jaws and are not simultaneous

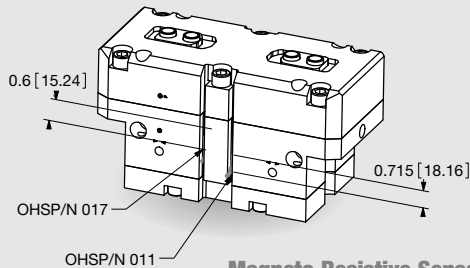
### Specifications

Total Rated Grip Force, <b>F</b> @ 100 psi [7 bar]:		
Without Spring Assist	2228 lbs.	9901 N
Without Spring Assist <b>-L</b>	1441 lbs.	6404 N
With Spring Assist	2822 lbs.	12542 N
With Spring Assist <b>-L</b>	1830 lbs.	8135 N
Total Stroke:		
Standard	0.98 in.	25 mm
Extended <b>-L</b>	1.97 in.	50 mm
Weight	24.8 lbs.	11.25 Kg
Pressure Range without Spring	30-100 psi	2-7 Bar
Pressure Range with Spring	60-100 psi	4-7 Bar

### Specifications (cont.)

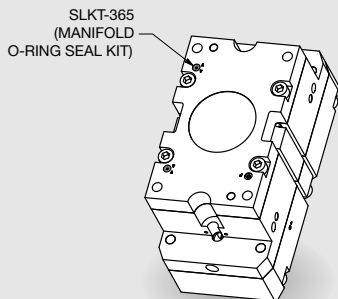
Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Surface	16.12 in. <sup>2</sup>	104 cm <sup>2</sup>
Displacement	32.95 in. <sup>3</sup>	540 cm <sup>3</sup>
Temperature Range	-30°~180° F	-35°~80° C
Actuation (open/close)	0.55 sec./0.55 sec.	
Accuracy	±0.0039 in.	±0.1 mm
Repeatability	±0.002 in.	±0.05 mm
Valve required to actuate single acting		3-way, 2-position
Valve required to actuate double acting		4-way, 2-position

## Accessory Mounting Technical Data



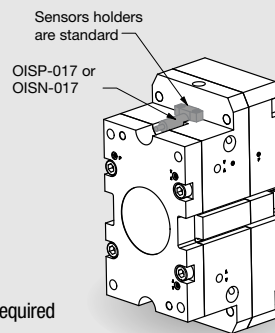
### Magneto Resistive Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M Quick Disconnect mating cable (order separately)



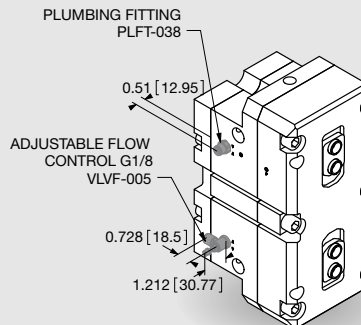
### Manifold O-Ring Seals

- Used to seal top air ports and purge/scavenge port
- No C'bore holes in customer's mounting plate required (C'bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-365V)



### Inductive Sensors

- PNP and NPN Magneto Resistive available
- Sensors holders and targets are standard mounted
- Simple adjustment of the target with screw driver
- Available with 2M Quick Disconnect mating cable (order separately)



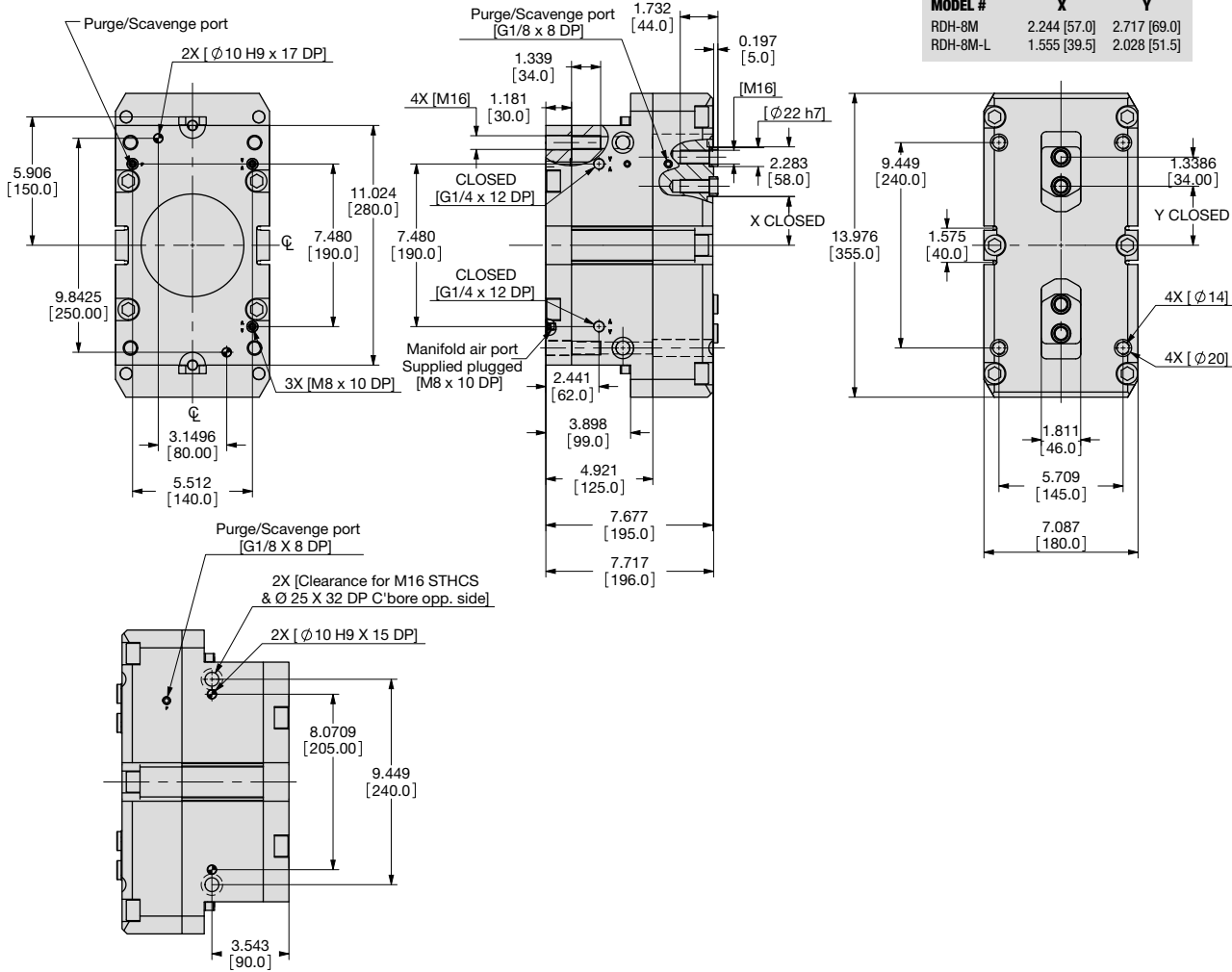
### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard

# PARALLEL GRIPPER RDH-8M 2-JAW PARALLEL SERIES



1.36



MODEL #	X	Y
RDH-8M	2.244 [57.0]	2.717 [69.0]
RDH-8M-L	1.555 [39.5]	2.028 [51.5]

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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## How to Order: (Order Accessories separately from Basic Model)

BASIC MODEL SIZE METRIC SPRING ASSIST

**RDH-8M-L-V**

EXTENDED STROKE VITON SEALS®

<b>BASIC MODEL</b>	<b>RDH</b>
<b>SIZE</b>	<b>8</b>
<b>METRIC</b>	<b>M</b>
<b>EXTENDED STROKE</b>	<b>L</b> 1.38" [35mm] Leave Blank (standard) <b>L</b> 2.76" [70mm]
<b>SPRING</b>	<b>C</b> Spring Closed <b>O</b> Spring Open — Leave Blank. No Spring Option (standard)
<b>VITON® SEALS</b>	<b>V</b> High Temperature Viton® Seals

### SENSOR ACCESSORIES\*

12mm PNP Inductive Sensor w/ M12 Quick Disconnect*	<b>OISP-017</b>	<b>1 or 2</b>
12mm NPN Inductive Sensor w/ M12 Quick Disconnect*	<b>OISN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor Short Barrel w/ M8 Qk Disc*	<b>OHSP-017</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor Short Barrel w/ M8 Qk Disc*	<b>OHSN-017</b>	<b>1 or 4</b>
PNP Magneto Resistive Sensor (90° barrel) w/ M8 Qk. Disc*	<b>OHSP-011</b>	<b>1 or 4</b>
NPN Magneto Resistive Sensor (90° barrel) w/ M8 Qk. Disc*	<b>OHSN-011</b>	<b>1 or 4</b>
M8 Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 4</b>
M8 Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 4</b>
M12 Quick Disconnect 2 Meter Cable Length*	<b>CABL-014</b>	<b>1 or 2</b>
M12 Quick Disconnect 5 Meter Cable Length*	<b>CABL-018</b>	<b>1 to 2</b>

### PNEUMATIC ACCESSORIES

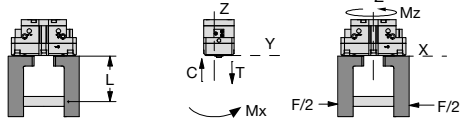
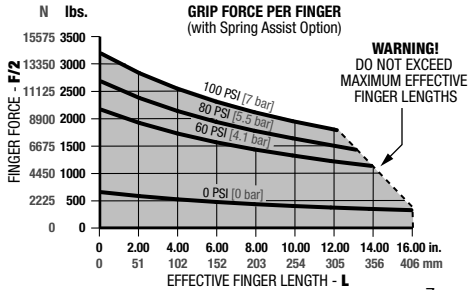
Buna-N Seal Repair Kit	<b>SLKT-423</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-366</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-423V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-366V</b>	<b>1</b>
G 1/4" Adjustable Flow Control	<b>VLVF-010</b>	<b>1 or 2</b>

\*Sensor and cable sold separately.

### SAMPLE ORDER: RDH-8M-L-C-V

Ex: RDH-8M Parallel Gripper, Metric, 70mm Extended Stroke, Spring Closed, Viton® Seals

## RDH-8M Loading Information

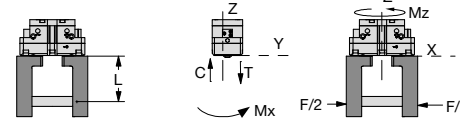
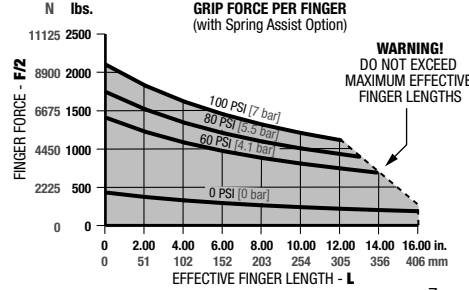


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	1543 lbs. [6863 N]	392 lbs. [1743 N]
Maximum Compressive <b>C</b>	2006 lbs. [8921 N]	392 lbs. [1743 N]
Maximum Moment <b>M<sub>x</sub></b>	3354 in.-lbs. [379 Nm]	743 in.-lbs. [84 Nm]
Maximum Moment <b>M<sub>y</sub></b>	4257 in.-lbs. [481 Nm]	947 in.-lbs. [107 Nm]
Maximum Moment <b>M<sub>z</sub></b>	2664 in.-lbs. [301 Nm]	947 in.-lbs. [107 Nm]

†Capacities are per set of jaws and are not simultaneous

## RDH-8M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	1328 lbs. [5906 N]	253 lbs. [1125 N]
Maximum Compressive <b>C</b>	1726 lbs. [7678 N]	253 lbs. [1125 N]
Maximum Moment <b>M<sub>x</sub></b>	2885 in.-lbs. [326 Nm]	478 in.-lbs. [54 Nm]
Maximum Moment <b>M<sub>y</sub></b>	3160 in.-lbs. [357 Nm]	522 in.-lbs. [59 Nm]
Maximum Moment <b>M<sub>z</sub></b>	1974 in.-lbs. [223 Nm]	522 in.-lbs. [59 Nm]

†Capacities are per set of jaws and are not simultaneous

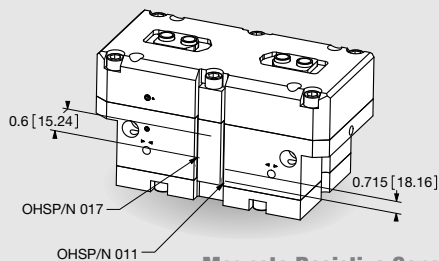
## Specifications

Total Rated Grip Force, <b>F</b> @ 100 psi [7 bar]:		
Without Spring Assist	4941 lbs.	21958 N
Without Spring Assist <b>-L</b>	3190 lbs.	14178 N
With Spring Assist	6300 lbs.	28002 N
With Spring Assist <b>-L</b>	4076 lbs.	18115 N
Total Stroke:		
Standard	1.38 in.	35 mm
Extended <b>-L</b>	2.76 in.	70 mm
Weight	71.1 lbs.	32.3 Kg
Pressure Range without Spring	30-100 psi	2-7 Bar
Pressure Range with Spring	50-100 psi	3.5-7 Bar

## Specifications (cont.)

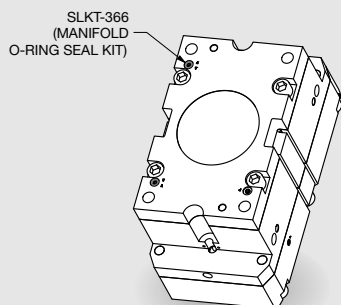
Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Surface	35.81 in. <sup>2</sup>	231 cm <sup>2</sup>
Displacement	103.1 in. <sup>3</sup>	1689 cm <sup>3</sup>
Temperature Range	-30°~180° F	-35°~80° C
Actuation (open/close)	1.3 sec./1.3 sec.	
Accuracy	±0.0039 in.	±0.1 mm
Repeatability	±0.002 in.	±0.05 mm
Valve required to actuate single acting	3-way, 2-position	
Valve required to actuate double acting	4-way, 2-position	

## Accessory Mounting Technical Data



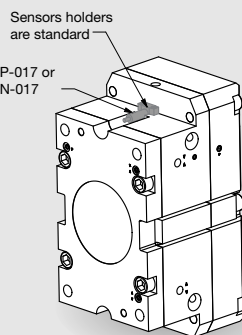
### Magneto Resistive Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M Quick Disconnect mating cable (order separately)



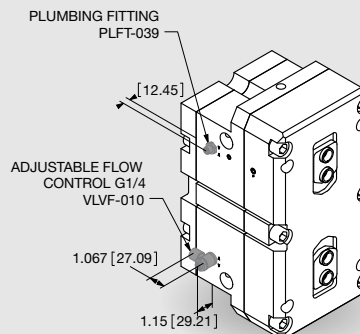
### Manifold O-Ring Seals

- Used to seal top air ports and purge/scavenge port
- No C'bore holes in customer's mounting plate required (C'bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-366V)



### Inductive Sensors

- PNP and NPN Magneto Resistive available
- Sensors holders and targets are standard mounted
- Simple adjustment of the target with screw driver
- Available with 2M Quick Disconnect mating cable (order separately)

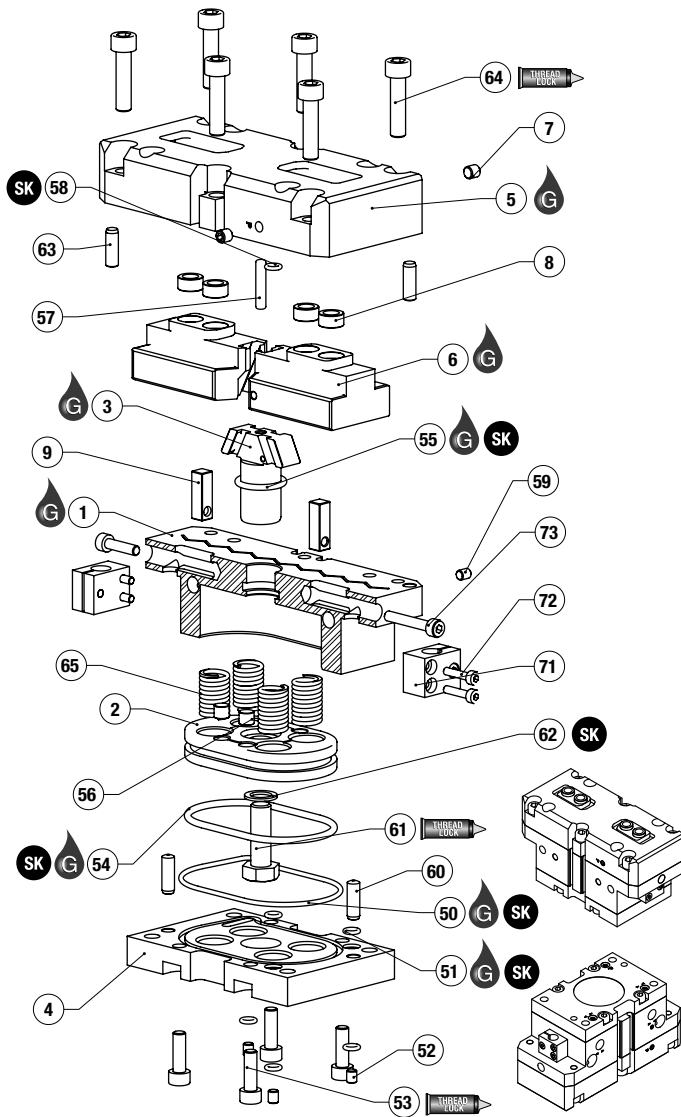


### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard



## RDH Series Exploded View



Item	Qty	Name
01	1	Body
02	1	Piston
03	1	Double wedge
04	1	Cap
05	1	Bottom Case
06	2	Jaws
07	2	Bottom Case, SS Screw
08	4	Locating sleeve
09	2	Sensing nut
50	1	Cap, O-ring
51	2	Cap, O-ring
52	3	Cap, SS screw
53	4	Cap, SHC screw
54	1	Piston, O-ring
55	1	Body, O-ring
56	4	Piston, Magnet
57	1	Piston, Pin
58	1	Bottom case, O-ring
59	1	Body, SS screw
60	2	Cap, Pin
61	1	Double wedge, HH screw
62	1	Double wedge, Seal
63	2	Bottom case, Pin
64	6	Bottom case, SHC Screw
65	4 or 8	Spring
71	2	Sensor holder
72	4	Sensor holder, SHC screw
73	2	Sensing nut, SHC screw

**NOTE:** Contact the Destaco-Robohand Sales Department for a complete spare parts list with order numbers and prices.

**SK Seal Repair Kit Order #'s  
See Product Data Sheets**

### Assembly Procedure

- Lubricate and install seal #55 into the body #1
- Install #59 screw with thread locker into the body #1
- Sub assemble the sensing nuts #9 into the jaws #6
- Sub assemble the jaws #6 on either side of the double wedge #3 with lubrication
- Insert the jaws and double wedge sub assembly into the body
- Install seal #58 into the bottom case #5
- Insert the screws #7 into the bottom case #5
- Install bottom case #5 with pressed-in pins #63 onto the body and fasten with #64 screws with thread locker
- Lubricate and install seal #54 into the piston #2
- Mount magnets #56 to piston #2 with thread locker
- For -C option, insert the springs #65 into the body #1 counterbore holes
- Insert the piston #2 with pressed-in pin #57 onto the double wedge #3 and fasten with screw #61 with thread locker and washer #62. Face mount the piston counterbore holes to the body counterbore holes for -C option. Opposite mount for -O option.
- For -O option, insert the springs #65 into the piston #2 counterbore holes
- Install the screws #52 with thread locker onto the cap #4
- Install seals #50 and #51 into the cap #4
- Insert the cap #4 into the body #1 and locate it using cap dowel pins #60
- Fasten the cap #4 with #53 screws with thread locker
- Install the sensor holders #71 onto the body and fasten with screws #72
- Insert screws #73 into the sensing nuts #9 from the body holes
- Insert locating sleeves #8 into the jaws



Seal Kit Items



Thread Locker



Krytox™ Lubricant



Lightweight Machine Oil



Teflon® Based Grease

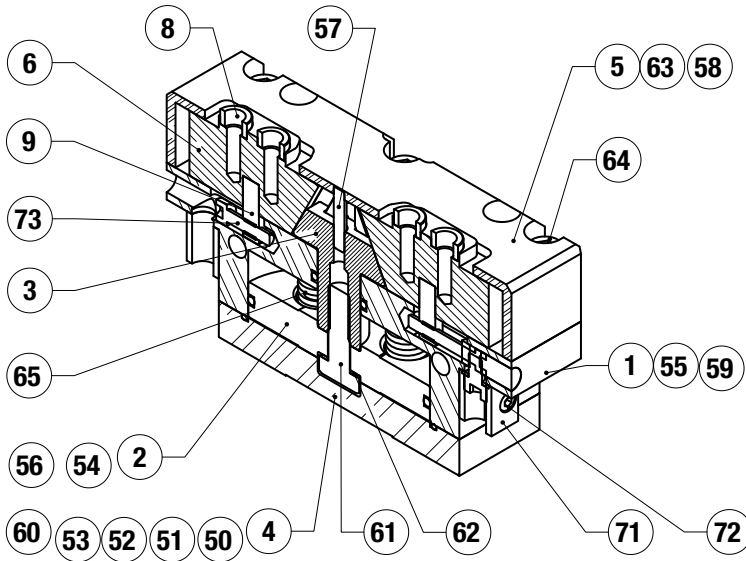


Super Bonder



Third Angle Projection

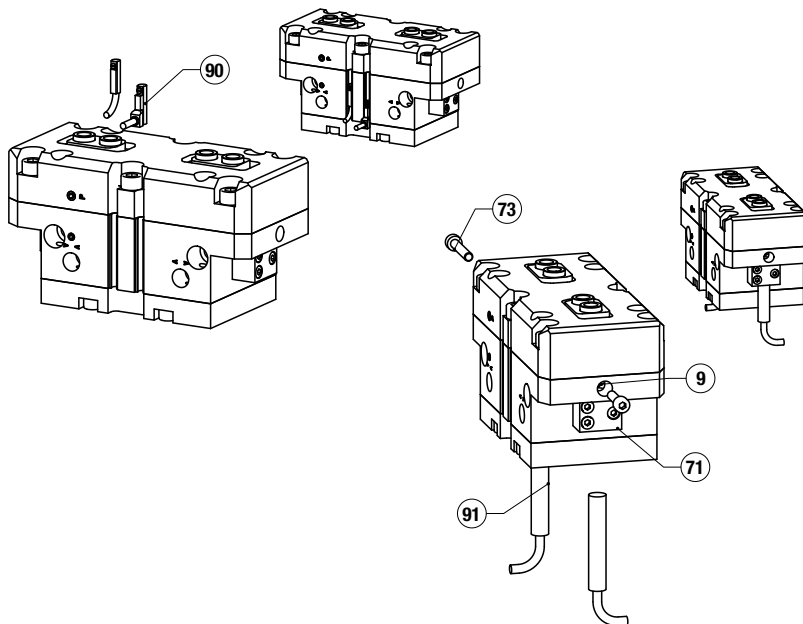




Item	Qty	Name
01	1	Body
02	1	Piston
03	1	Double wedge
04	1	Cap
05	1	Bottom Case
06	2	Jaws
07	2	Bottom Case, SS Screw
08	4	Locating sleeve
09	2	Sensing nut
50	1	Cap, O-ring
51	2	Cap, O-ring
52	3	Cap, SS screw
53	4	Cap, SHC screw
54	1	Piston, O-ring
55	1	Body, O-ring
56	4	Piston, Magnet
57	1	Piston, Pin
58	1	Bottom case, O-ring
59	1	Body, SS screw
60	2	Cap, Pin
61	1	Double wedge, HH screw
62	1	Double wedge, Seal
63	2	Bottom case, Pin
64	6	Bottom case, SHC Screw
65	4 or 8	Spring
71	2	Sensor holder
72	4	Sensor holder, SHC screw
73	2	Sensing nut, SHC screw

**NOTE:** Contact the Destaco-Robohand Sales Department for a complete spare parts list with order numbers and prices.

## Accessory Installation & Adjustment Instructions



### Magneto Resistive Sensor #90

- 1) Insert sensor #90 from either end of the profile slot
- 2) Adjust the sensor #90 into the profile slot, depending on the position to sense
- 3) Set the sensor with the integrated screw

### Inductive Sensor #91

- 1) Insert sensor #91 into the sensor holder #71
- 2) Tighten the sensor using the SHC screw onto the sensor holder #71
- 3) Insert the SHC screw #73 into the sensing nut #9. The SHC screws are the targets to be adjusted in front of the sensor. The SHC screws #73 are supplied with 2 different lengths: depending on the position to sense, use the shortest for open position, or the longest for close position. The sensing nut #9 has a thread insert that prevents the target from loosening (this may make the target harder to tighten into the nut).



Seal Kit Items



Thread Locker



Krytox™ Lubricant



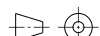
Lightweight Machine Oil



Teflon® Based Grease



Super Bonder



Third Angle Projection

# 2P Parallel Gripper- 2-Jaw Precision Series

## Precision Gripper

Two centering jaws and very good repeatability [0.02mm] allow loading and unloading accurate cylindrical parts.

## Harsh Environments

Shielded design (-E) repels chips and other particulate from internal drive mechanism depending on the chosen material of the shield.

## Compact and Powerful

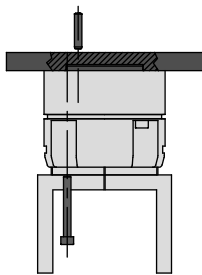
This gripper is designed for use in confined spaces, combining long strokes with a high grip force. Optional safety springs retain the components, should the air supply fail or to increase grip force.

## Multipurpose Gripper

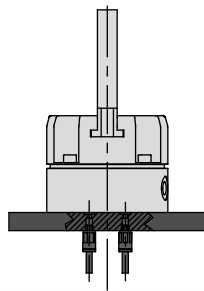
A wide range of options and accessories (extended stroke, hydraulic power, safety springs for internal or external gripping, inductive sensors, tandem cylinder, Viton® seals, and protective boot) allow these grippers to be used in a number of applications.

## Mounting Information:

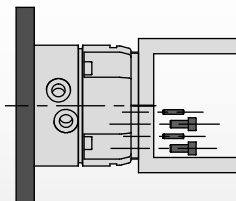
**Gripper can be mounted and operated in any orientation.**



Gripper is located using pilot boss and a dowel pin and assembled with 4 or 6 through body screws.



Gripper can be operated utilizing top manifold air ports.



Fingers are located on jaw with 2 dowel pins and assembled with 1 or 2 screws.

## Technical Specifications:

### Pneumatic Specifications

Pressure Operating Range

**Imperial**  
30-100 psi

**Metric**  
2-7 bar

Cylinder Type

**Double or double acting  
spring-assisted or single  
acting with spring**

Dynamic Seals

**Buna-N**

Valve Required to Operate:

Double Acting  
Single acting (Option RE or RI)

**4-way, 2-position**

**3-way, 2-position**

### Air Quality Requirements

Filtration

**40 Micron or Better**

Lubrication

**Not Necessary\***

### Temperature Operating Range

Buna-N Seals (standard)

**-30°~180° F -35°~80° C**

Viton® Seals (optional)

**-20°~300° F -30°~150° C**

### Application Restrictions

Expected Life

Normal Application  
w/ Preventative Maintenance

**5 million cycles  
10+ million cycles\***

Field Repairable

**Yes**

Seal Repair Kits Available

**Yes**

\*Addition of lubrication will greatly increase service life

## Product Features

### Quality Components

Body made from aluminum alloy with Teflon™ impregnated hardcoat anodize. Other essential parts of the gripper are made of hardened and precision ground steel

### Standard and Extended Stroke (-C)

Each model of gripper is available in two stroke lengths

### Sensor Target

Option (-T) to control the jaw position at the rear of the clamp

### Sensor Unit

Option (-K) to benefit from integrated detection

### Pneumatic Power

Side or top ports (sealing face / face)

### Hydraulic Power

Option (-H) up to 20 bar max, (-H80) up to 80 bar max.

### Versatile Finger Mounting

2 finger mounting surfaces on each jaw

### Viton® Seals

Optional Viton® seals for high temperatures



### Protective Gripper Boot

Optional Gripper Boot (-E) to protect the mechanism of the clamp are liquid and large external impurities.

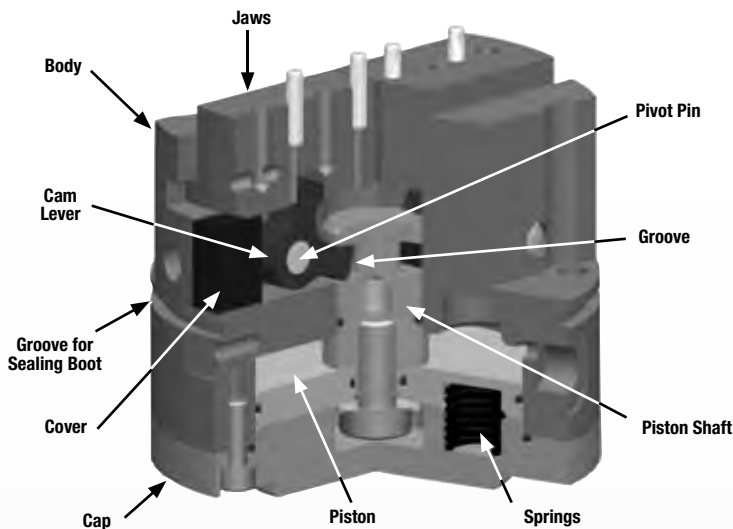
### Optional Spring Assist

Optional spring assist retains the component should the air supply fail, to assist the gripper for internal (-RE) or external (-RI) gripping, or in single acting mode

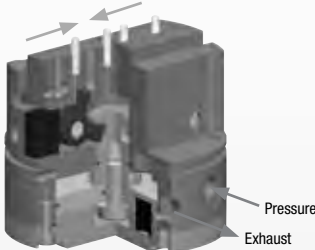
### Tandem Cylinder

Option (-M) doubles the grip force

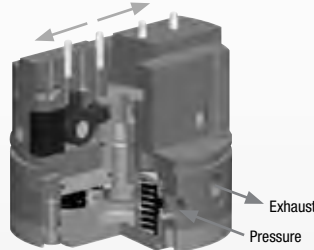
## Operating Principle



Closed Stroke Position



Open Stroke Position



- A large double-acting piston is connected to the piston shaft at its end with a driving groove.
- Levers pivot in the body about an axis of articulation. Their two heads agree precisely on one side in the groove of the small piston, the other in a groove cut in each jaw holder.
- The rotation of the levers converts the vertical movement of the piston in a horizontal motion and synchronized two-bit gates, which are guided in grooves in «T» fitting body.
- This gripper is suitable for internal or external gripping and can be mounted in any orientation
- Optional failsafe spring can be used to maintain gripping force if gripper loses air pressure or as a single acting return gripper.

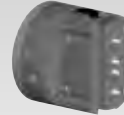
## Style: 2P Precision Parallel Gripper



	6002P	6002P-C
Total Stroke:	10 mm	16 mm
Force at 6bar: <sup>1</sup>	694 N	432 N
Force w/o air: <sup>2</sup>	176 N	109 N
Weight:	0.51 kg	0.51 kg

See Page **1.42 & 1.43**

## Style: 2P Precision Parallel Gripper



	8002P	8002P-C
Total Stroke:	13 mm	20 mm
Force at 6bar: <sup>1</sup>	1946 N	1256 N
Force w/o air: <sup>2</sup>	635 N	410 N
Weight:	0.84 kg	0.84 kg

See Page **1.44 & 1.45**

## Style: 2P Precision Parallel Gripper



	11002P	11002P-C
Total Stroke:	20 mm	30 mm
Force at 6bar: <sup>1</sup>	3043 N	2030 N
Force w/o air: <sup>2</sup>	965 N	644 N
Weight:	2.04 kg	2.04 kg

See Page **1.46 & 1.47**

## Style: 2P Precision Parallel Gripper



	14002P	14002P-C
Total Stroke:	26 mm	40 mm
Force at 6bar: <sup>1</sup>	6232 N	4031 N
Force w/o air: <sup>2</sup>	2305 N	1490 N
Weight:	4.20 kg	4.20 kg

See Page **1.48 & 1.49**

## Style: 2P Precision Parallel Gripper



	16502P	16502P-C
Total Stroke:	30 mm	50 mm
Force at 6bar: <sup>1</sup>	11475 N	6878 N
Force w/o air: <sup>2</sup>	3825 N	2292 N
Weight:	8.74 kg	8.74 kg

See Page **1.50 & 1.51**

## Style: 2P Precision Parallel Gripper



	16502PGR
Total Stroke:	30 mm
Force at 6bar: <sup>1</sup>	11475 N
Force w/o air: <sup>2</sup>	3825 N
Weight:	11.5 kg

See Page **1.52**

## OPTIONS & ACCESSORIES

See Pages **1.53-1.56**

1. Force with spring and air at 6bar  
2. Force with spring without air

# PARALLEL GRIPPER 6002P PRECISION 2P GRIPPER SERIES

Specifications	6002P
Grip Force (F6+R) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	694 N
Grip Force (F0+R) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	176 N
Total Stroke	10 mm
Weight	0.51 kg
Pressure Range	2 - 7 bar
Pressure Range with Springs	3 - 7 bar
Ø Cylinder Bore	40 mm
Displacement	12 cm <sup>3</sup>
Actuation (open / close)	0.07 s / 0.07 s
Repeatability	± 0.02 mm

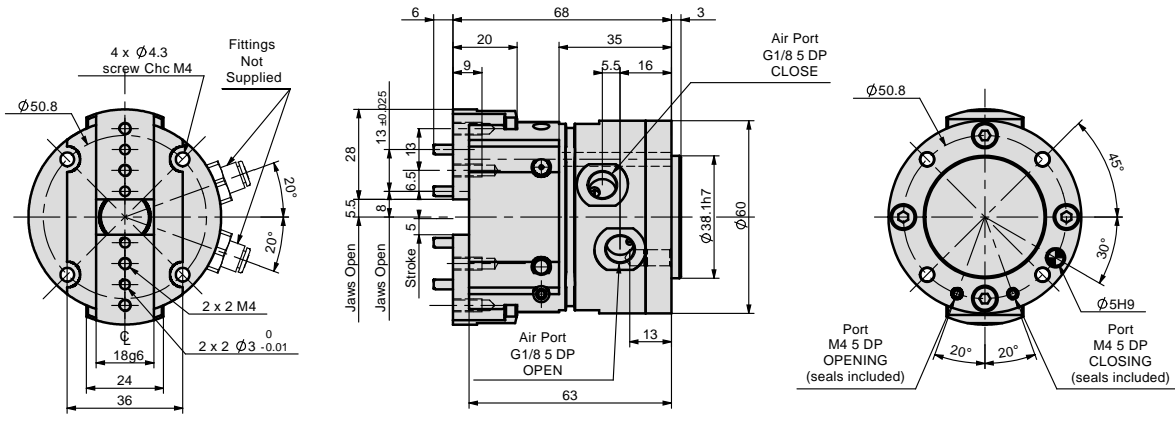
1. Force with spring and air at 6bar  
2. Force with spring without air

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Imperial in.	Metric [mm]
0.00 = ± .01	[0.] = [± .25]
0.000 = ± .005	[0.0] = [± .13]
0.0000 = ± .0005	[0.00] = [± .013]

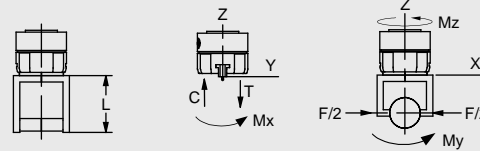
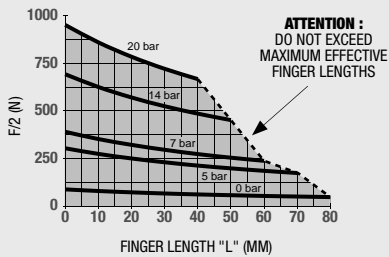
Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.

O-Ring IØ1.5 x Ø41



## Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)

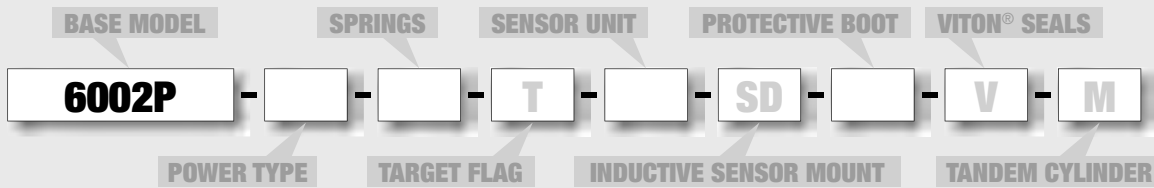


Loading Capacity*	Static	Dynamic
Maximum Tensile <b>T</b>	546 N	140 N
Maximum Compressive <b>C</b>	1037 N	140 N
Maximum Moment <b>Mx</b>	28 Nm	4 Nm
Maximum Moment <b>My</b>	22 Nm	4 Nm
Maximum Moment <b>Mz</b>	36 Nm	4 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:

See Pages 53-56 for incompatible accessory combinations



POWER TYPE
P Pneumatic
H Hydraulic (page 1.53)
(One of two options is mandatory P or H)

SPRINGS
RE External Gripping
RI Internal Gripping

SENSOR UNIT
• KT1    • KT2    • KX1    • KX2

PROTECTIVE BOOT
• E    • E3

PROTECTIVE BOOT ACCESSORIES	Model Code	Order #	Qty/Unit
PVC Protective Boot, Brown or Black	<b>E</b>	<b>ER62P</b>	1
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>E3R62P</b>	1

SENSOR ACCESSORIES	Model Code	Order #	Qty/Unit
Inductive Sensor Kit (1 holder, 1 flag)	<b>SD</b>	<b>SD60-80P</b>	1 or 2
M8 Inductive Sensor PNP with M8 connector		<b>OISP-011-C</b>	1 or 4
M8 Inductive Sensor NPN with M8 connector		<b>OISN-011-C</b>	1 or 4
Cable (2 meters) with M8 screw right gold		<b>CABL-010</b>	1 or 4

PNEUMATIC ACCESSORIES	Model Code	Order #	Qty/Unit
Standard Seal Repair Kit		<b>SLKT-156</b>	1
Viton® Seal Repair Kit		<b>SLKT-156V</b>	1
Hydraulic Seal Repair Kit		<b>SLKT-330</b>	1

Options and Accessories:  
See Page 1.53

### Specifications

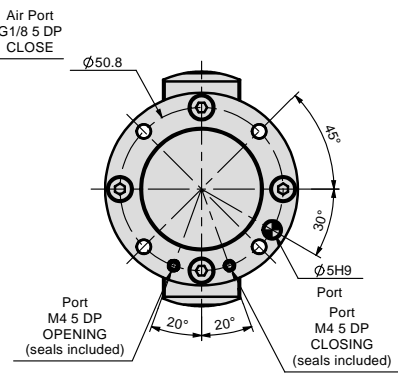
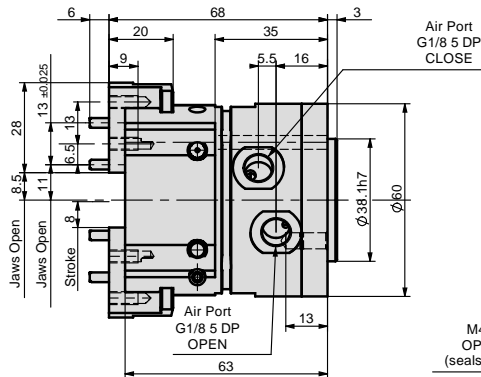
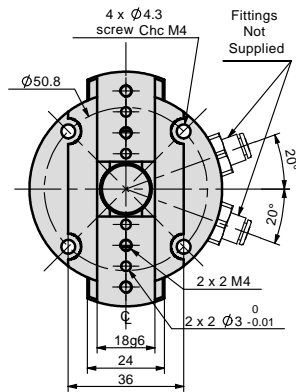
	<b>6002P-C</b>
Grip Force (F6+R) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	432 N
Grip Force (F0+R) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	109 N
Total Stroke	16 mm
Weight	0.51 kg
Pressure Range	2 - 7 bar
Pressure Range with Springs	3 - 7 bar
Ø Cylinder Bore	40 mm
Displacement	12 cm <sup>3</sup>
Actuation (open / close)	0.07s / 0.07 s
Repeatability	± 0.02 mm

1. Force with spring and air @ 6bar  
2. Force with spring without air

### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

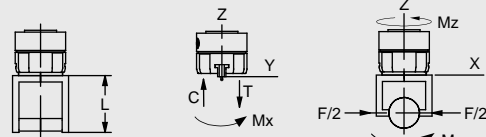
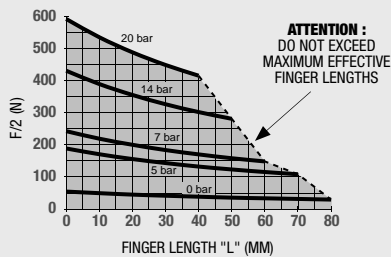
Imperial in.	Metric [mm]
0.00 ± .01	[0.1] = [±.25]
0.000 ± .005	[0.0] = [±.13]
0.0000 ± .0005	[0.00] = [±.013]

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



### Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)

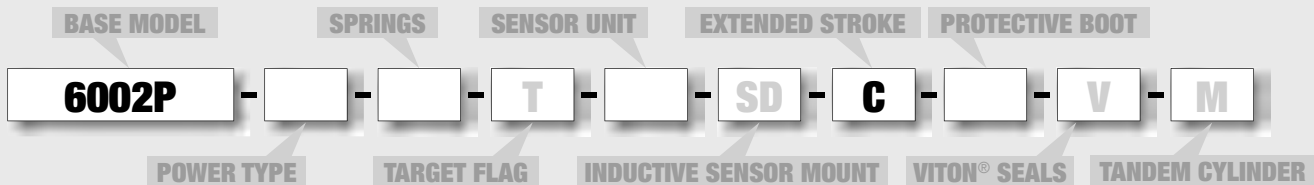


Loading Capacity*	Static	Dynamic
Maximum Tensile <b>T</b>	410 N	95 N
Maximum Compressive <b>C</b>	780 N	95 N
Maximum Moment <b>Mx</b>	21 Nm	3 Nm
Maximum Moment <b>My</b>	16 Nm	3 Nm
Maximum Moment <b>Mz</b>	27 Nm	3 Nm

\* The Capacities are per set of jaws and are not simultaneous.

### How To Order:

See Pages 53-56 for incompatible accessory combinations



POWER TYPE	
P	Pneumatic
H	Hydraulic (page 1.53)
(One of two options is mandatory P or H)	
SPRINGS	
RE	External Gripping
RI	Internal Gripping
SENSOR UNIT	
• KT1	• KT2
• KX1	• KX2
PROTECTIVE BOOT	
• E	• E3

PROTECTIVE BOOT ACCESSORIES	Model Code	Order #	Qty/Unit
PVC Protective Boot, Brown or Black	<b>E</b>	<b>ER62P</b>	1
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>E3R62P</b>	1
SENSOR ACCESSORIES			
Inductive Sensor Kit (1 holder, 1 flag)	<b>SD</b>	<b>SD60-80P</b>	1 or 2
M8 Inductive Sensor PNP with M8 connector		<b>OISP-011-C</b>	1 or 4
M8 Inductive Sensor NPN with M8 connector		<b>OISN-011-C</b>	1 or 4
Cable (2 meters) with M8 screw right gold		<b>CABL-010</b>	1 or 4
PNEUMATIC ACCESSORIES			
Standard Seal Repair Kit		<b>SLKT-156</b>	1
Viton® Seal Repair Kit		<b>SLKT-156V</b>	1
Hydraulic Seal Repair Kit		<b>SLKT-330</b>	1

Options and Accessories:  
See Page 1.53



# PARALLEL GRIPPER 8002P PRECISION 2P GRIPPER SERIES

### Specifications

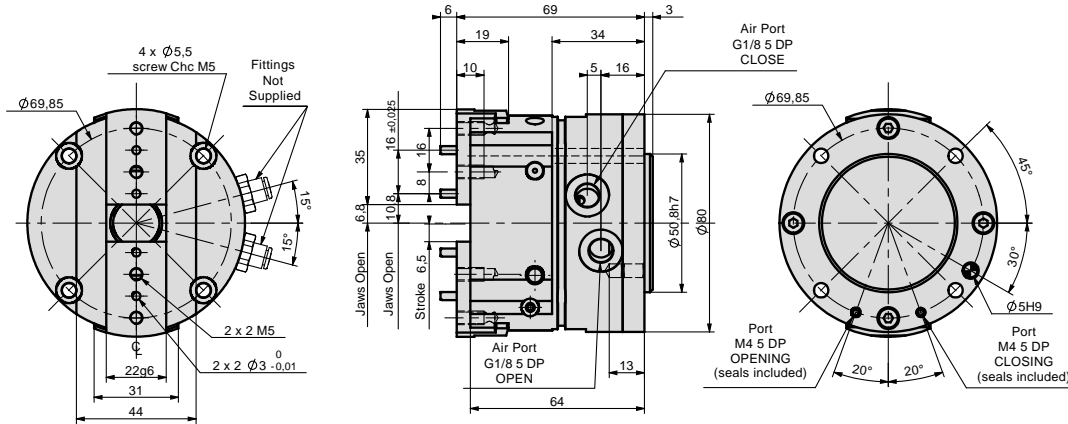
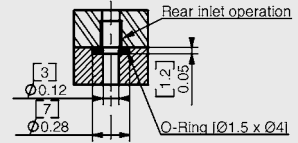
Grip Force (F <sub>6+R</sub> ) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	<b>8002P</b> 1946 N
Grip Force (F <sub>0+R</sub> ) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	635 N
Total Stroke	13 mm
Weight	0.84 kg
Pressure Range	2 - 7 bar
Pressure Range with Springs	4 - 7 bar
Ø Cylinder Bore	60 mm
Displacement	35 cm <sup>3</sup>
Actuation (open / close)	0.08 s / 0.08 s
Repeatability	± 0.02 mm

- Force with spring and air at 6bar
- Force with spring without air

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

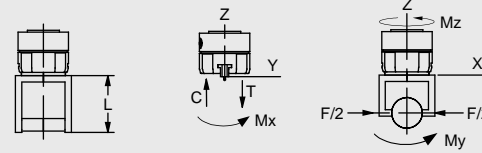
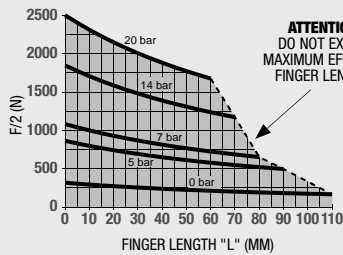
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.1] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



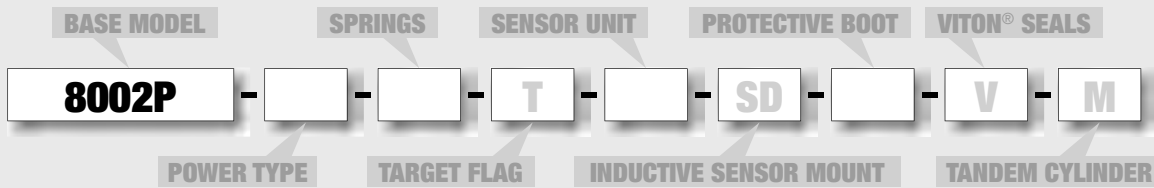
### Loading Capacity\*

	Static	Dynamic
Maximum Tensile <b>T</b>	819 N	348 N
Maximum Compressive <b>C</b>	1383 N	348 N
Maximum Moment <b>Mx</b>	40 Nm	13 Nm
Maximum Moment <b>My</b>	45 Nm	15 Nm
Maximum Moment <b>Mz</b>	25 Nm	15 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:

See Pages 53-56 for incompatible accessory combinations



<b>POWER TYPE</b>
P Pneumatic
H Hydraulic (page 1.53)
(One of two options is mandatory P or H)
<b>SPRINGS</b>
RE External Gripping
RI Internal Gripping
<b>SENSOR UNIT</b>
• KT1 • KT2 • KX1 • KX2
<b>PROTECTIVE BOOT</b>
• E • E3

### PROTECTIVE BOOT ACCESSORIES

PVC Protective Boot, Brown or Black	<b>E</b>	<b>ER82P</b>	1
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>E3R82P</b>	1

### SENSOR ACCESSORIES

Inductive Sensor Kit (1 holder, 1 flag)	<b>SD</b>	<b>SD60-80P</b>	1 or 2
M8 Inductive Sensor PNP with M8 connector		<b>OISP-011-C</b>	1 or 4
M8 Inductive Sensor NPN with M8 connector		<b>OISN-011-C</b>	1 or 4
Cable (2 meters) with M8 screw right gold		<b>CABL-010</b>	1 or 4

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>S80</b>	1
Viton® Seal Repair Kit	<b>S80V</b>	1
Hydraulic Seal Repair Kit	<b>S80H</b>	1

Options and Accessories:  
See Page 1.53





# PARALLEL GRIPPER 8002P-C PRECISION 2P GRIPPER SERIES

PRECISION 2P  
1.45

## Specifications

Grip Force (F<sub>6+R</sub>)<sup>1</sup>, 6 bars, Springs Mid-Way, L=0  
410 N  
Grip Force (F<sub>0+R</sub>)<sup>2</sup>, 0 bars, Springs Mid-Way, L=0  
20 mm  
Total Stroke  
0.84 kg  
Weight  
2 -7 bar  
Pressure Range  
4 -7 bar  
Pressure Range with Springs  
Ø Cylinder Bore  
60 mm  
Displacement  
35 cm<sup>3</sup>  
Actuation (open / close)  
Repeatability

## 8002P-C

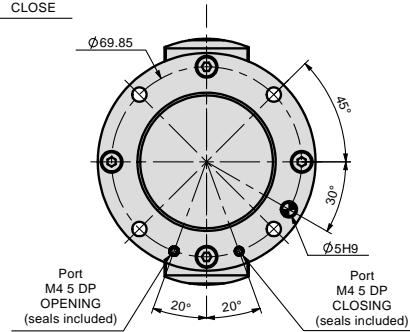
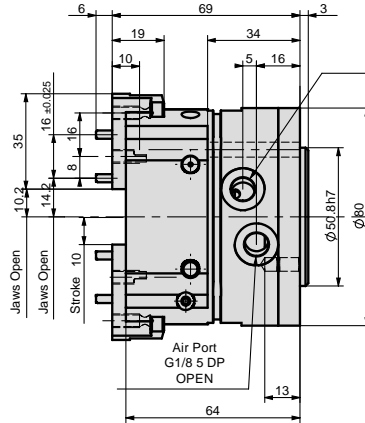
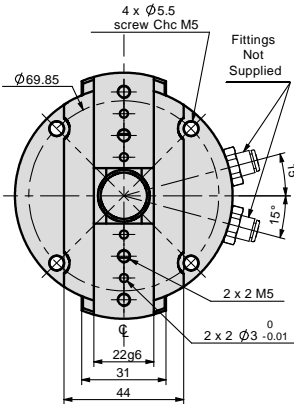
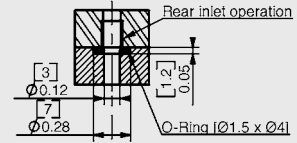
1256 N  
410 N  
20 mm  
0.84 kg  
2 -7 bar  
4 -7 bar  
60 mm  
35 cm<sup>3</sup>  
0.08 s / 0.08 s  
± 0.02 mm

- Force with spring and air at 6bar
- Force with spring without air

### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

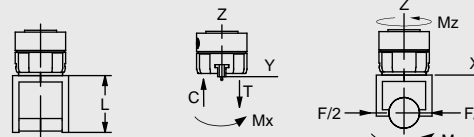
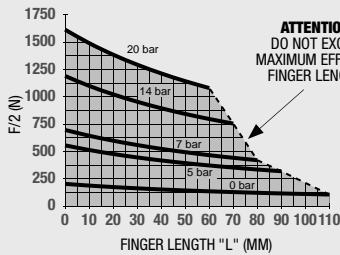
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)

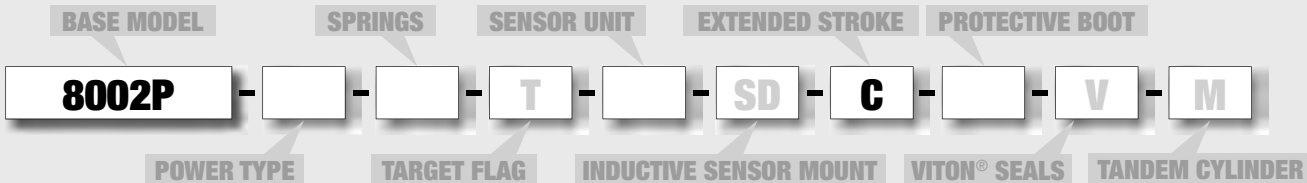


Loading Capacity*	Static	Dynamic
Maximum Tensile <b>T</b>	615 N	236 N
Maximum Compressive <b>C</b>	1040 N	236 N
Maximum Moment <b>Mx</b>	30 Nm	9 Nm
Maximum Moment <b>My</b>	33 Nm	10 Nm
Maximum Moment <b>Mz</b>	18 Nm	10 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:

See Pages 53-56 for incompatible accessory combinations



POWER TYPE			
P	Pneumatic		
H	Hydraulic (page 1.53)		
(One of two options is mandatory P or H)			
SPRINGS			
RE	External Gripping		
RI	Internal Gripping		
SENSOR UNIT			
• KT1	• KT2	• KX1	• KX2
PROTECTIVE BOOT			
• E	• E3		

### PROTECTIVE BOOT ACCESSORIES

	Model Code	Order #	Qty/Unit
PVC Protective Boot, Brown or Black	<b>E</b>	<b>ER82P</b>	1
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>E3R82P</b>	1

### SENSOR ACCESSORIES

	Model Code	Order #	Qty/Unit
Inductive Sensor Kit (1 holder, 1 flag)	<b>SD</b>	<b>SD60-80P</b>	1 or 2
M8 Inductive Sensor PNP with M8 connector		<b>OISP-011-C</b>	1 or 4
M8 Inductive Sensor NPN with M8 connector		<b>OISN-011-C</b>	1 or 4
Cable (2 meters) with M8 screw right gold		<b>CABL-010</b>	1 or 4

### PNEUMATIC ACCESSORIES

	Order #	Qty/Unit
Standard Seal Repair Kit	<b>S80</b>	1
Viton® Seal Repair Kit	<b>S80V</b>	1
Hydraulic Seal Repair Kit	<b>S80H</b>	1

Options and Accessories:  
See Page 1.53





# PARALLEL GRIPPER 11002P PRECISION 2P GRIPPER SERIES

## Specifications

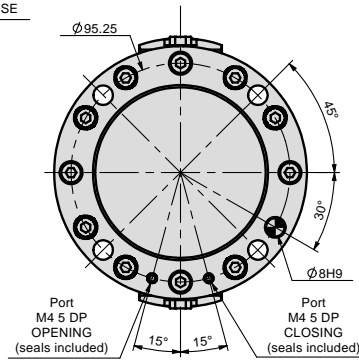
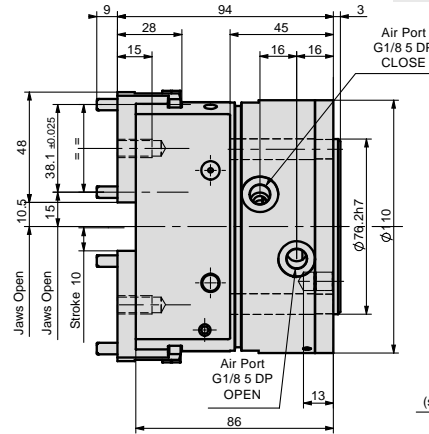
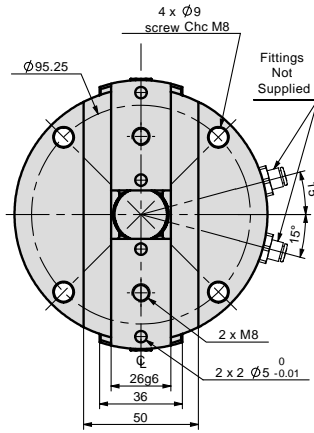
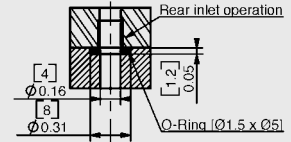
Grip Force (F6+R) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	<b>11002P</b> 3043 N
Grip Force (F0+R) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	965 N
Total Stroke	20 mm
Weight	2.04 kg
Pressure Range	2 - 7 bar
Pressure Range with Springs	4 - 7 bar
Ø Cylinder Bore	76 mm
Displacement	87 cm <sup>3</sup>
Actuation (open / close)	0.10 s / 0.10 s
Repeatability	± 0.02 mm

- Force with spring and air @ 6bar
- Force with spring without air

## UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

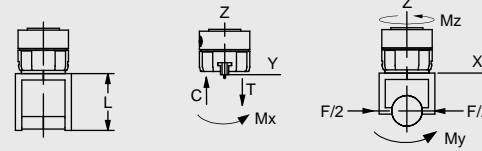
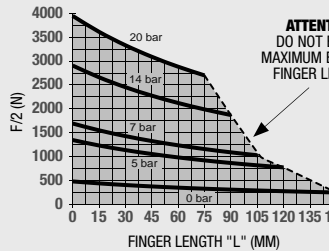
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 ± .01 0.000 ± .005 0.0000 ± .0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



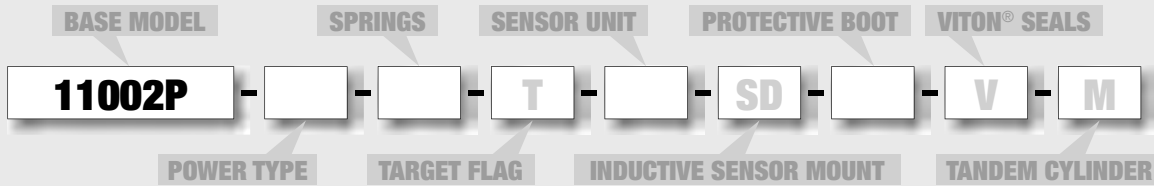
### Loading Capacity\*

	Static	Dynamic
Maximum Tensile <b>T</b>	1040 N	556 N
Maximum Compressive <b>C</b>	1768 N	556 N
Maximum Moment <b>Mx</b>	39 Nm	25 Nm
Maximum Moment <b>My</b>	53 Nm	33 Nm
Maximum Moment <b>Mz</b>	60 Nm	33 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:

See Pages 53-56 for incompatible accessory combinations



POWER TYPE	
P	Pneumatic
H	Hydraulic (page 1.53)
(One of two options is mandatory P or H)	
SPRINGS	
RE	External Gripping
RI	Internal Gripping
SENSOR UNIT	
• KT1	• KT2
• KX1	• KX2
PROTECTIVE BOOT	
• E	• E3

### PROTECTIVE BOOT ACCESSORIES

PVC Protective Boot, Brown or Black	<b>E</b>	<b>ER112P</b>	1
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>E3R112P</b>	1

### SENSOR ACCESSORIES

Inductive Sensor Kit (1 holder, 1 flag)	<b>SD</b>	<b>SD110P</b>	1 or 2
M8 Inductive Sensor PNP with M8 connector		<b>OISP-011-C</b>	1 or 4
M8 Inductive Sensor NPN with M8 connector		<b>OISN-011-C</b>	1 or 4
Cable (2 meters) with M8 screw right gold		<b>CABL-010</b>	1 or 4

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>S110</b>	1
Viton® Seal Repair Kit	<b>S110V</b>	1
Hydraulic Seal Repair Kit	<b>S110H</b>	1

Options and Accessories:  
See Page 1.53



# PARALLEL GRIPPER 11002P-C PRECISION 2P GRIPPER SERIES

PRECISION 2P  
1.47

### Specifications

Grip Force (F6+R)<sup>1</sup>, 6 bars, Springs Mid-Way, L=0  
 Grip Force (F0+R)<sup>2</sup>, 0 bars, Springs Mid-Way, L=0  
 Total Stroke  
 Weight  
 Pressure Range  
 Pressure Range with Springs  
 Ø Cylinder Bore  
 Displacement  
 Actuation (open / close)  
 Repeatability

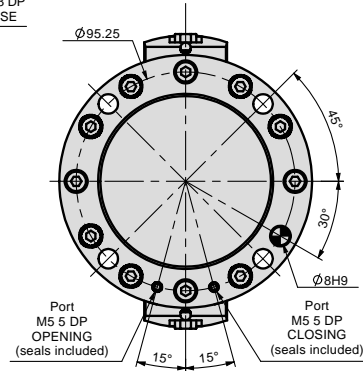
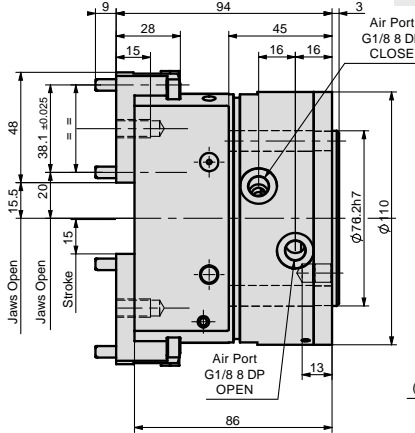
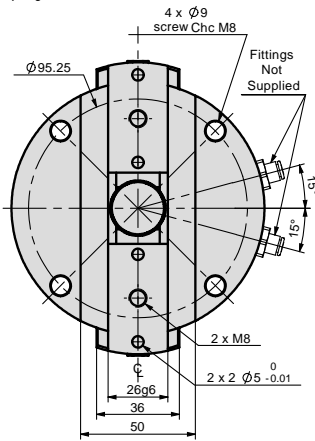
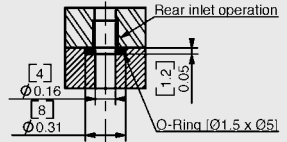
### 11002P-C

2030 N  
 644 N  
 30 mm  
 2.04 kg  
 2 -7 bar  
 4 -7 bar  
 76 mm  
 87 cm<sup>3</sup>  
 0.10 s / 0.10 s  
 ± 0.02 mm

### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

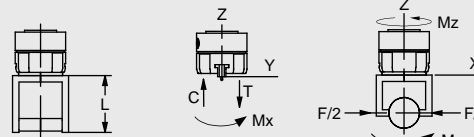
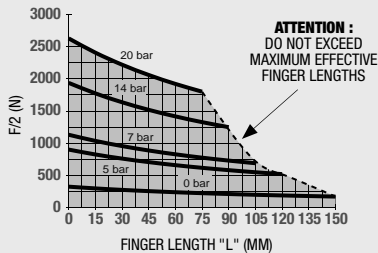
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
 (Springs compressed at 50% stroke)



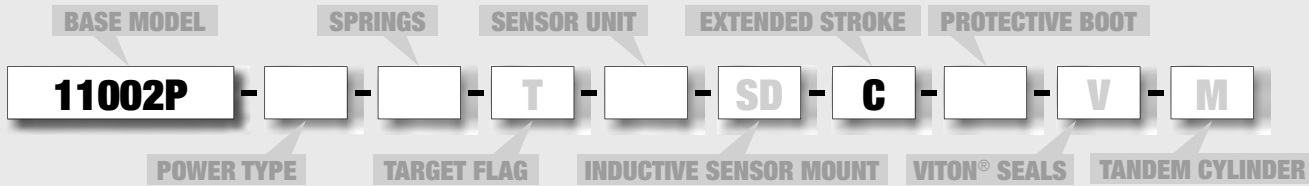
### Loading Capacity\*

	Static	Dynamic
Maximum Tensile <b>T</b>	945 N	370 N
Maximum Compressive <b>C</b>	1607 N	370 N
Maximum Moment <b>Mx</b>	35 Nm	18 Nm
Maximum Moment <b>My</b>	47 Nm	24 Nm
Maximum Moment <b>Mz</b>	56 Nm	24 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:

See Pages 53-56 for incompatible accessory combinations



POWER TYPE	
P	Pneumatic
H	Hydraulic (page 1.53)
(One of two options is mandatory P or H)	
SPRINGS	
RE	External Gripping
RI	Internal Gripping
SENSOR UNIT	
• KT1	• KT2
• KX1	• KX2
PROTECTIVE BOOT	
• E	• E3

### PROTECTIVE BOOT ACCESSORIES

PVC Protective Boot, Brown or Black  
 Fireproof KEVLAR Protective Boot, Red

Model Code	Order #	Qty/Unit
<b>E</b>	<b>ER112P</b>	1
<b>E3</b>	<b>E3R112P</b>	1

### SENSOR ACCESSORIES

Inductive Sensor Kit (1 holder, 1 flag)  
 M8 Inductive Sensor PNP with M8 connector  
 M8 Inductive Sensor NPN with M8 connector  
 Cable (2 meters) with M8 screw right gold

Model Code	Order #	Qty/Unit
<b>SD</b>	<b>SD110P</b>	1 or 2
	<b>OISP-011-C</b>	1 or 4
	<b>OISN-011-C</b>	1 or 4
	<b>CABL-010</b>	1 or 4

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit  
 Viton® Seal Repair Kit  
 Hydraulic Seal Repair Kit

Model Code	Order #	Qty/Unit
	<b>S110</b>	1
	<b>S110V</b>	1
	<b>S110H</b>	1

Options and Accessories:  
 See Page 1.53



# PARALLEL GRIPPER 14002P PRECISION 2P GRIPPER SERIES

### Specifications

	14002P
Grip Force (F6+R) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	6232 N
Grip Force (F0+R) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	2305 N
Total Stroke	26 mm
Weight	4.20 kg
Pressure Range	2 - 7 bar
Pressure Range with Springs	4 - 7 bar
Ø Cylinder Bore	105 mm
Displacement	220 cm <sup>3</sup>
Actuation (open / close)	0.16 s / 0.16 s
Repeatability	± 0.02 mm

1. Force with spring and air @ 6bar
2. Force with spring without air

### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Imperial in.	Metric [mm]
0.00 ± 0.01	[0.1] = [±.25]
0.000 ± 0.005	[0.0] = [±.13]
0.0000 ± 0.0005	[0.00] = [±.013]

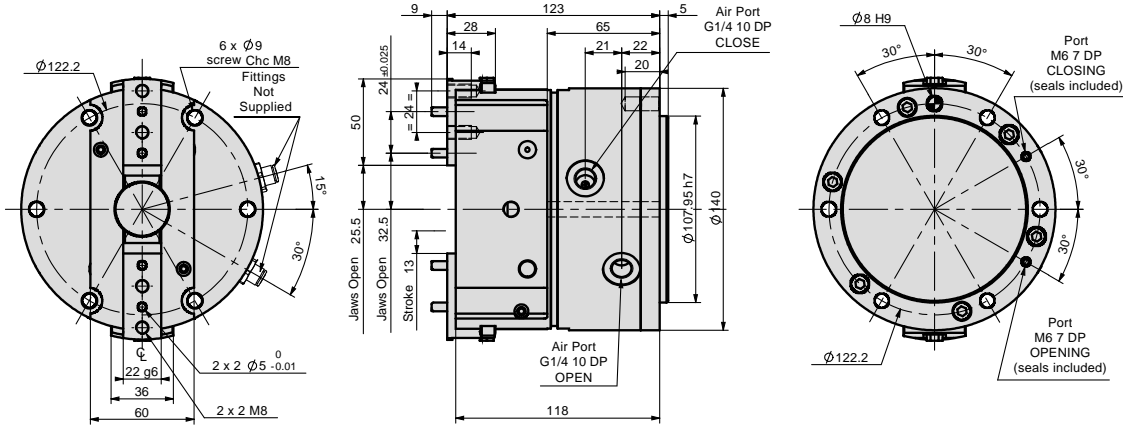
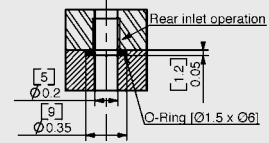
Dimensions are symmetrical about centerline

Third Angle Projection

All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]

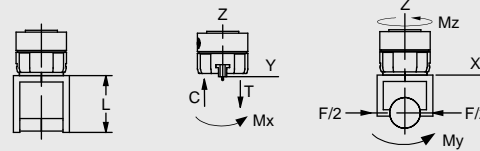
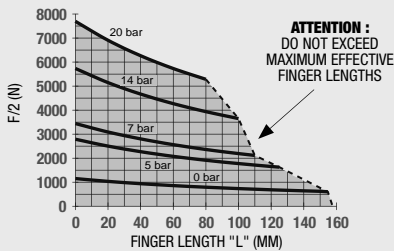
Metric Threads Course Pitch

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



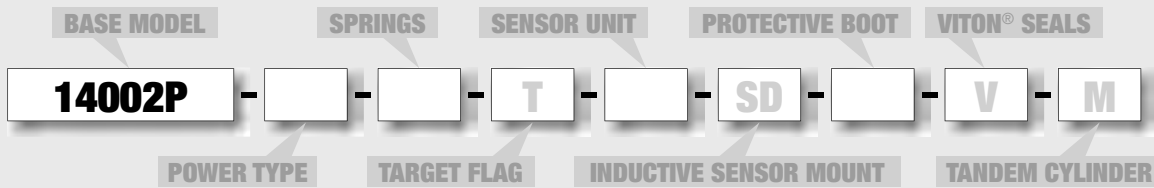
### Loading Capacity\*

	Static	Dynamic
Maximum Tensile <b>T</b>	1600 N	550 N
Maximum Compressive <b>C</b>	1820 N	550 N
Maximum Moment <b>Mx</b>	55 Nm	18 Nm
Maximum Moment <b>My</b>	90 Nm	30 Nm
Maximum Moment <b>Mz</b>	90 Nm	30 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:

See Pages 53-56 for incompatible accessory combinations



POWER TYPE	
P	Pneumatic
H	Hydraulic (page 1.53)
(One of two options is mandatory P or H)	
SPRINGS	
RE	External Gripping
RI	Internal Gripping
SENSOR UNIT	
• KT1	• KT2
• KX1	• KX2
PROTECTIVE BOOT	
• E	• E3

### PROTECTIVE BOOT ACCESSORIES

Model Code	Order #	Qty/Unit	
PVC Protective Boot, Brown or Black	<b>E</b>	<b>KP-311</b>	1
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>KP-313</b>	1

### SENSOR ACCESSORIES

Model Code	Order #	Qty/Unit	
Inductive Sensor Kit (1 holder, 1 flag)	<b>SD</b>	<b>OSMK-114</b>	1 or 2
M8 Inductive Sensor PNP with M12 connector		<b>OISP-017-C</b>	1 or 4
M8 Inductive Sensor NPN with M12 connector		<b>OISN-017-C</b>	1 or 4
Cable (2 meters) with M12 screw right gold		<b>CABL-014</b>	1 or 4

### PNEUMATIC ACCESSORIES

Model Code	Order #	Qty/Unit	
Standard Seal Repair Kit		<b>SLKT-333</b>	1
Viton® Seal Repair Kit		<b>SLKT-333V</b>	1
Hydraulic Seal Repair Kit		<b>SLKT-334</b>	1

Options and Accessories:  
See Page 1.53



# PARALLEL GRIPPER 14002P-C PRECISION 2P GRIPPER SERIES

PRECISION 2P  
1.49

### Specifications

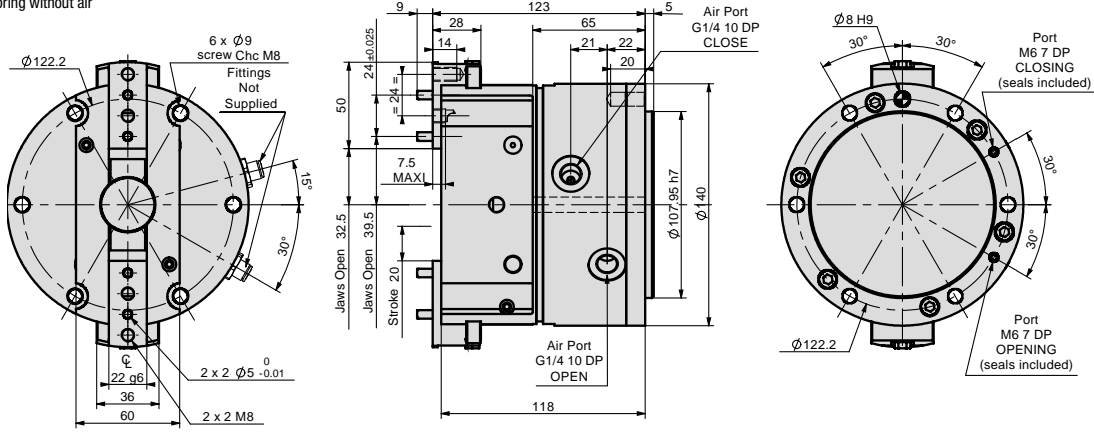
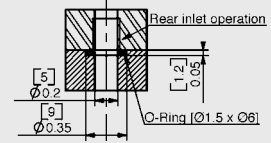
Grip Force (F6+R) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	4031 N
Grip Force (F0+R) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	1490 N
Total Stroke	40 mm
Weight	4.20 kg
Pressure Range	2 - 7 bar
Pressure Range with Springs	4 - 7 bar
Ø Cylinder Bore	105 mm
Displacement	220 cm <sup>3</sup>
Actuation (open / close)	0.16 s / 0.16 s
Repeatability	± 0.02 mm

1. Force with spring and air at 6bar
2. Force with spring without air

### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

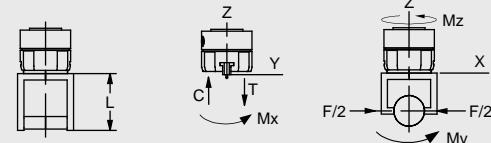
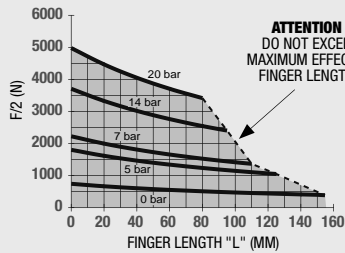
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)

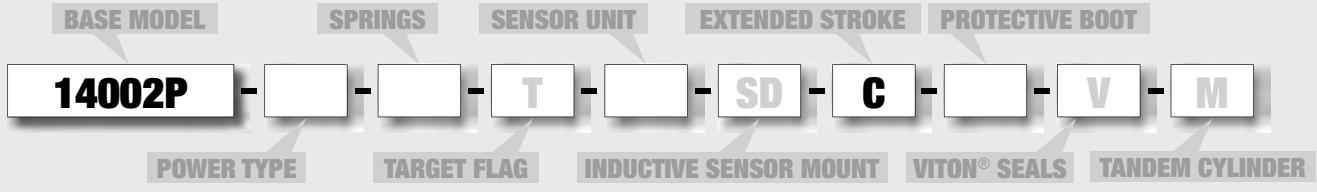


Loading Capacity*	Static	Dynamic
Maximum Tensile <b>T</b>	1450 N	400 N
Maximum Compressive <b>C</b>	1660 N	400 N
Maximum Moment <b>Mx</b>	50 Nm	15 Nm
Maximum Moment <b>My</b>	75 Nm	25 Nm
Maximum Moment <b>Mz</b>	75 Nm	25 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:

See Pages 53-56 for incompatible accessory combinations



<b>POWER TYPE</b>
P Pneumatic
H Hydraulic (page 1.53)
(One of two options is mandatory P or H)
<b>SPRINGS</b>
RE External Gripping
RI Internal Gripping
<b>SENSOR UNIT</b>
• KT1 • KT2 • KX1 • KX2
<b>PROTECTIVE BOOT</b>
• E • E3

PROTECTIVE BOOT ACCESSORIES	Model Code	Order #	Qty/Unit
PVC Protective Boot, Brown or Black	<b>E</b>	<b>KP-311</b>	1
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>KP-313</b>	1
<b>SENSOR ACCESSORIES</b>			
Inductive Sensor Kit (1 holder, 1 flag)	<b>SD</b>	<b>OSMK-114</b>	1 or 2
M8 Inductive Sensor PNP with M12 connector		<b>OISP-017-C</b>	1 or 4
M8 Inductive Sensor NPN with M12 connector		<b>OISN-017-C</b>	1 or 4
Cable (2 meters) with M12 screw right gold		<b>CABL-014</b>	1 or 4
<b>PNEUMATIC ACCESSORIES</b>			
Standard Seal Repair Kit		<b>SLKT-333</b>	1
Viton® Seal Repair Kit		<b>SLKT-333V</b>	1
Hydraulic Seal Repair Kit		<b>SLKT-334</b>	1

Options and Accessories:  
See Page 1.53

# PARALLEL GRIPPER 16502P

## PRECISION 2P GRIPPER SERIES



A DIVISION OF DESTACO COMPANY

**Specifications**

	<b>16502P</b>
Grip Force (F <sub>6+R</sub> ) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	11475 N
Grip Force (F <sub>0+R</sub> ) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	3825 N
Total Stroke	30 mm
Weight	8.74 kg
Pressure Range	2 - 7 bar
Pressure Range with Springs	4 - 7 bar
Ø Cylinder Bore	120 mm
Displacement	494 cm <sup>3</sup>
Actuation (open / close)	0.29 s / 0.29 s
Repeatability	± 0.02 mm

- Force with spring and air @ 6bar
- Force with spring without air

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline

Third Angle Projection

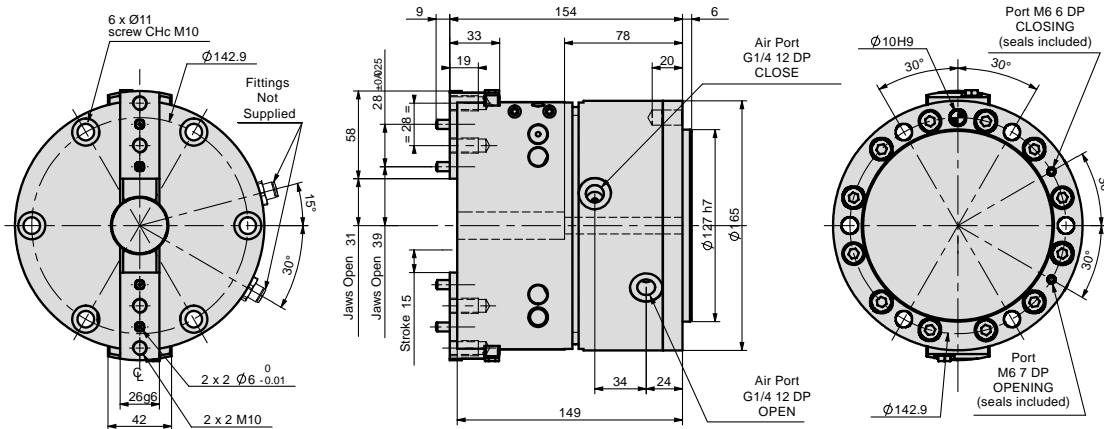
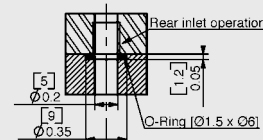
All Dowel Holes are SF (Slip Fit).  
Locational Tolerance  
±.0005" or [±.013mm]

Metric Threads  
Course Pitch

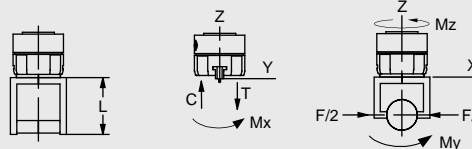
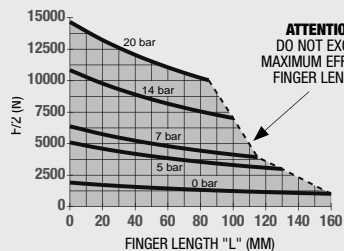
**Imperial in.**  
0.00 = ±.01  
0.000 = ±.005  
0.0000 = ±.0005

**Metric [mm]**  
[0.] = [±.25]  
[0.0] = [±.13]  
[0.00] = [±.013]

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.


**Loading Information:**

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)

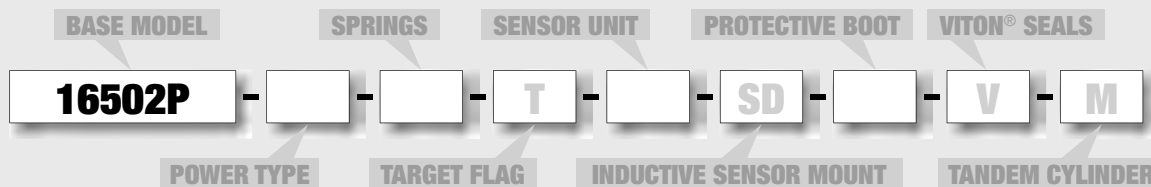

**Loading Capacity\***

	<b>Static</b>	<b>Dynamic</b>
Maximum Tensile <b>T</b>	1720 N	650 N
Maximum Compressive <b>C</b>	2160 N	650 N
Maximum Moment <b>Mx</b>	70 Nm	17 Nm
Maximum Moment <b>My</b>	100 Nm	30 Nm
Maximum Moment <b>Mz</b>	100 Nm	30 Nm

\* The Capacities are per set of jaws and are not simultaneous.

**How To Order:**

See Pages 53-56 for incompatible accessory combinations


**POWER TYPE**

P Pneumatic  
H Hydraulic (page 1.53)  
(One of two options is mandatory P or H)

**SPRINGS**

RE External Gripping  
RI Internal Gripping

**SENSOR UNIT**

• KT1 • KT2 • KX1 • KX2

**PROTECTIVE BOOT**

• E • E3

**PROTECTIVE BOOT ACCESSORIES**

PVC Protective Boot, Brown or Black  
Fireproof KEVLAR Protective Boot, Red

**SENSOR ACCESSORIES**

Inductive Sensor Kit (1 holder, 1 flag)  
M8 Inductive Sensor PNP with M12 connector  
M8 Inductive Sensor NPN with M12 connector  
Cable (2 meters) with M12 screw right gold

**PNEUMATIC ACCESSORIES**

Standard Seal Repair Kit  
Viton® Seal Repair Kit  
Hydraulic Seal Repair Kit

Model Code	Order #	Qty/Unit
E	KP-314	1
E3	KP-316	1
SD	OSMK-115	1 or 2
	OISP-017-C	1 or 4
	OISN-017-C	1 or 4
	CABL-014	1 or 4
	SLKT-335	1
	SLKT-335V	1
	SLKT-336	1

**Options and Accessories:**  
See Page 1.53



# PARALLEL GRIPPER 16502P-C PRECISION 2P GRIPPER SERIES

PRECISION 2P  
1.51

### Specifications

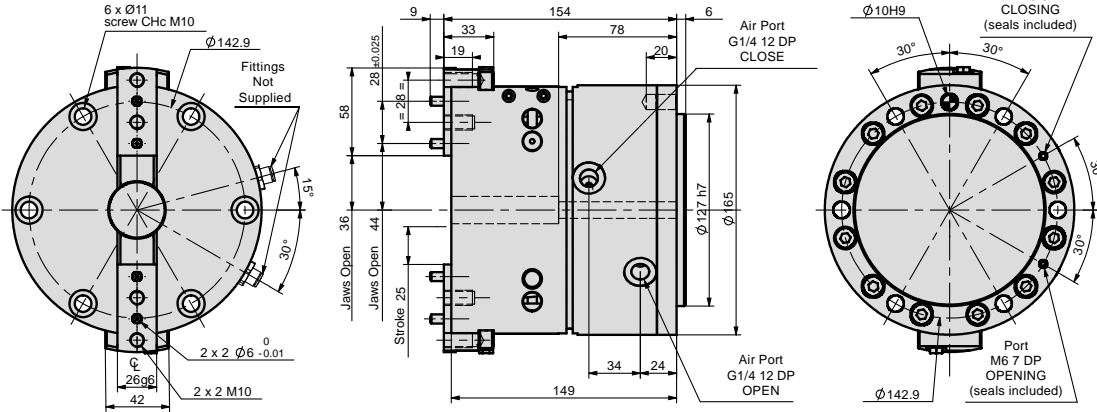
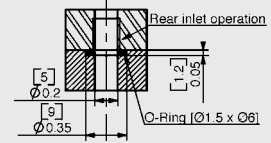
Grip Force (F6+R) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	6878 N
Grip Force (F6+R) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	2292 N
Total Stroke	50 mm
Weight	8.74 kg
Pressure Range	2 -7 bar
Pressure Range with Springs	4 -7 bar
Ø Cylinder Bore	120 mm
Displacement	494 cm <sup>3</sup>
Actuation (open / close)	0.29 s / 0.29 s
Repeatability	± 0.02 mm

1. Force with spring and air at 6bar  
2. Force with spring without air

### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

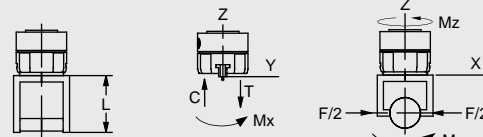
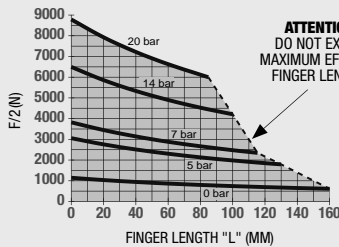
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)

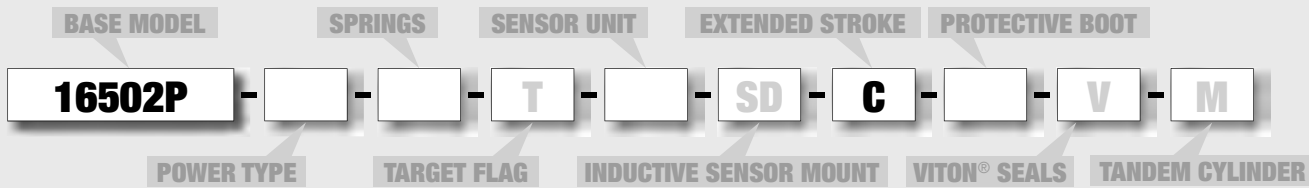


Loading Capacity*	Static	Dynamic
Maximum Tensile <b>T</b>	1550 N	580 N
Maximum Compressive <b>C</b>	1950 N	580 N
Maximum Moment <b>Mx</b>	60 Nm	20 Nm
Maximum Moment <b>My</b>	80 Nm	25 Nm
Maximum Moment <b>Mz</b>	90 Nm	25 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:

See Pages 53-56 for incompatible accessory combinations



<b>POWER TYPE</b>
P Pneumatic
H Hydraulic (page 1.53)
(One of two options is mandatory P or H)
<b>SPRINGS</b>
RE External Gripping
RI Internal Gripping
<b>SENSOR UNIT</b>
• KT1 • KT2 • KX1 • KX2
<b>PROTECTIVE BOOT</b>
• E • E3

PROTECTIVE BOOT ACCESSORIES	Model Code	Order #	Qty/Unit
PVC Protective Boot, Brown or Black	<b>E</b>	<b>KP-314</b>	1
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>KP-316</b>	1
<b>SENSOR ACCESSORIES</b>			
Inductive Sensor Kit (1 holder, 1 flag)	<b>SD</b>	<b>OSMK-115</b>	1 or 2
M8 Inductive Sensor PNP with M12 connector		<b>OISP-017-C</b>	1 or 4
M8 Inductive Sensor NPN with M12 connector		<b>OISN-017-C</b>	1 or 4
Cable (2 meters) with M12 screw right gold		<b>CABL-014</b>	1 or 4
<b>PNEUMATIC ACCESSORIES</b>			
Standard Seal Repair Kit		<b>SLKT-335</b>	1
Viton® Seal Repair Kit		<b>SLKT-335V</b>	1
Hydraulic Seal Repair Kit		<b>SLKT-336</b>	1

Options and Accessories:  
See Page 1.53





# PARALLEL GRIPPER 16502PGR PRECISION 2P GRIPPER SERIES

### Specifications

Grip Force (F6+R) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	11475 N
Grip Force (F0+R) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	3825 N
Total Stroke	30 mm
Weight	8.74 kg
Pressure Range	2 - 7 bar
Pressure Range with Springs	4 - 7 bar
Ø Cylinder Bore	120 mm
Displacement	494 cm <sup>3</sup>
Actuation (open / close)	0.29 s / 0.29 s
Repeatability	± 0.02 mm

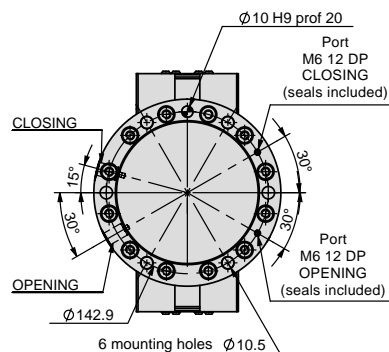
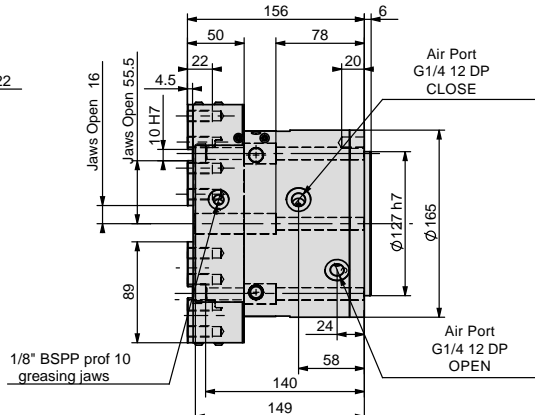
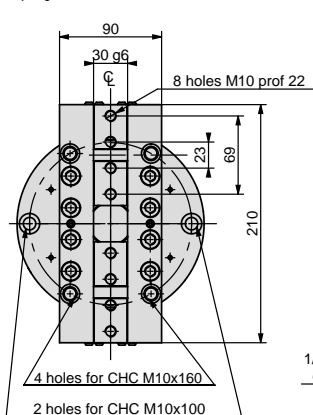
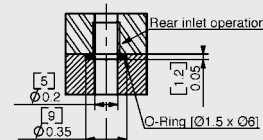
- Force with spring and air at 6bar
- Force with spring without air

### 16502P

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

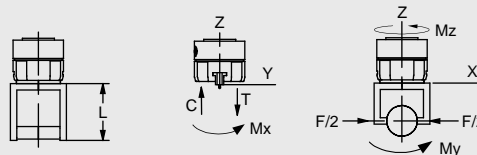
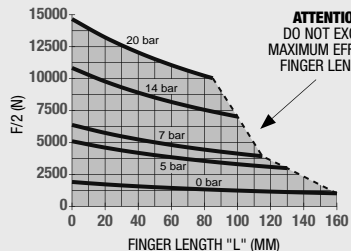
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



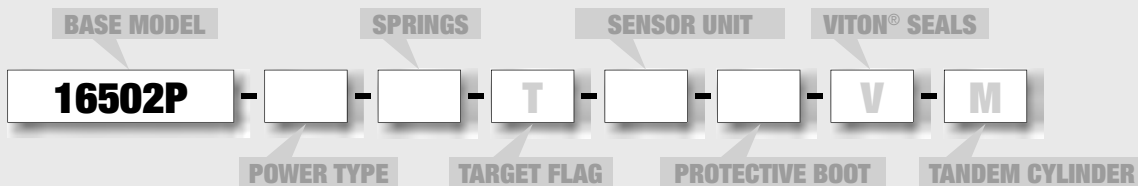
### Loading Capacity\*

	Static
Maximum Tensile <b>T</b>	5200 N
Maximum Compressive <b>C</b>	6400 N
Maximum Moment <b>Mx</b>	270 Nm
Maximum Moment <b>My</b>	350 Nm
Maximum Moment <b>Mz</b>	300 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How to Order:

See Pages 53-56 for incompatible accessory combinations



<b>POWER TYPE</b>
P Pneumatic
H Hydraulic (page 1.53)
(One of two options is mandatory P or H)
<b>SPRINGS</b>
RE External Gripping
RI Internal Gripping
<b>SENSOR UNIT</b>
• KT1 • KT2 • KX1 • KX2
<b>PROTECTIVE BOOT</b>
• E • E3

### ACCESSOIRES ENVELOPPE DE PROTECTION

	Model Code	Order #	Qty/Unit
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>KENVE2-21384</b>	1

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SLKT-335</b>	1
Viton® Seal Repair Kit	<b>SLKT-335V</b>	1
Hydraulic Seal Repair Kit	<b>SLKT-336</b>	1

Options and Accessories:  
See Page 1.53



## SUPPLY: (P) Pneumatic (H) (H80) Hydraulic

As standard, the clamp is supplied with air to a pressure of 7 bar. The clamp is fitted with Viton O-ring seals for high temperatures.

On request (contact us) the gripper can be supplied with hydraulic fluid. The clamp is fitted with seals Viton Quad-Ring.

- Choice **(H)** allows a hydraulic power to a pressure of 20 bar max. In this case the overall dimensions do not change. For better security the gripper must be fixed on their support before being fired. **CAUTION: Hydraulic cycle times are longer.**
- Choice **(H80)** allows a hydraulic power to a pressure of 80 bar max. In this case the total height of the gripper is increased (contact us).

**The hydraulic power is incompatible with the option tandem (M).**

## Option (RE) or (RI): Spring Assist

The internal springs of the gripper ensures failsafe operation by retaining the component during pressure loss, to increase the gripforce, or allows the usage of the gripper in single acting operation.

Option **(RE)** for external gripping. Option **(RI)** for internal gripping.

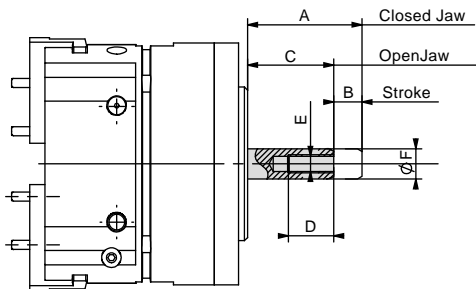
**The (RE) is incompatible with the option (RI).**

## Option (T): Sensor Rod

Option **(T)** is a steel rod which comes out on the rear side of the gripper. The rod is fixed with the piston and has the same stroke movement. The open end of the rod allows for mounting a cam which allows to control the position of the jaws by using inductive sensors, micro switches, etc

**WARNING:** when screwing on cam rod, make sure the sensor rod does not rotate to prevent twisting of the springs of options **(RE)** or **(RI)**.

**Option (T) is incompatible with option (K).**



Model	A	B	C	D	E	F
6002P & 6002P-C	35	5	30	15	M6	10
8002P & 8002P-C	35	6.5	28.5	15	M6	10
11002P & 11002P-C	35	10	25	15	M6	15
14002P & 14002P-C	55	13	42	20	M8	15
16502P & 16502P-C	53	23	30	20	M8	15

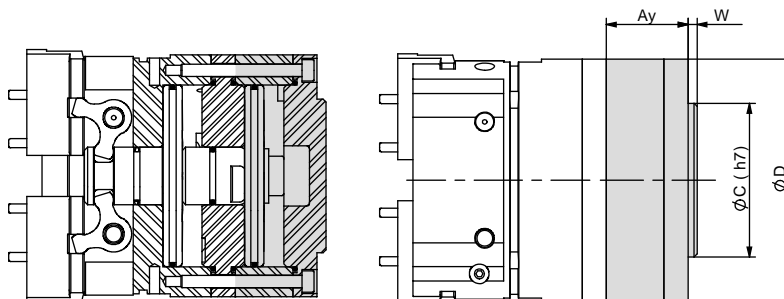
## Option (M): Tandem Cylinder

The **(M)** is a cylinder light-alloy that fits behind the bottom plate. This actuator's integral action allows to double the gripforce by using the same pressure.

The combination of tandem option tandem **(M)** and Option **(RE)** or **(RI)** can double the clamping forces of the spring assist option. For cycle times of the tandem option, apply a factor of 3 to the actuation time.

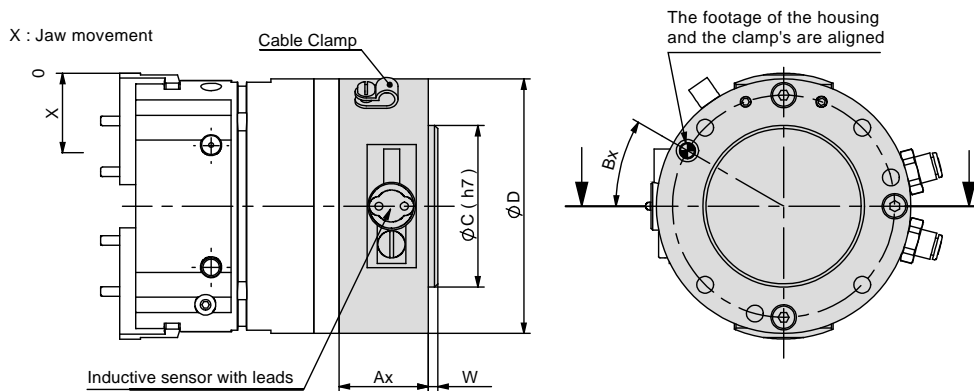
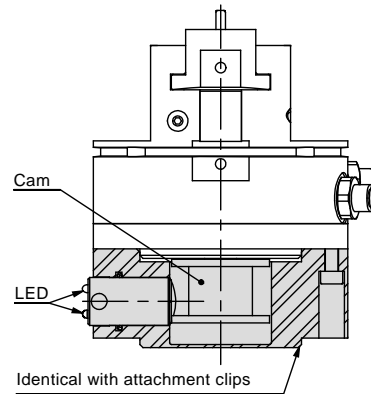
**The (M) is incompatible with the option (H).**

Model	Ay	ØC	ØD	W	Weight (kg)
6002P & 6002P-C	28.5	38.1	60	3	0.200
8002P & 8002P-C	27	50.8	80	3	0.300
11002P & 11002P-C	34	76.2	110	3	0.750
14002P & 14002P-C	49	107.95	140	5	2.100
16502P & 16502P-C	65	127	165	6	3.600



### Option (KT1), (KX1), (KT2), (KX2): Sensor Unit

The **(K)** is a lightweight alloy housing that fits on the back of the gripper. An integrated shaft follows the movement of the piston to provide information to the sensor attached to the side of the unit. It can control two positions of the grippers jaws. 2 types of inductive sensors (**KT, KX**) and 2 detection zones (**1, 2**) are possible to allow for the combination of 2 to 4 possible positions (**KT1, KX1, KT2, KX2**). For **KT, KX** sensor specifications.



Model #	Ax	Bx	ØC	ØD	W	Weight (kg)	No. of Sensing Postions <small>(please specify when ordering)</small>	Information area from the open grip position (green LED)	Area information relative to the closed grip position (yellow LED)
								X (mm)	X (mm)
<b>6002P</b>	23	30°	38.1	60	3	0.180	1	0 or 1 $\begin{matrix} +0,5 \\ -0 \end{matrix}$	4 $\begin{matrix} +0 \\ -0,5 \end{matrix}$ or 5
							2	0 or 2 $\begin{matrix} +0,5 \\ -0 \end{matrix}$	3 $\begin{matrix} +0 \\ -0,5 \end{matrix}$ or 5
<b>6002P-C</b>	23	30°	38.1	60	3	0.180	1	0 or 1.6 $\begin{matrix} +0,8 \\ -0 \end{matrix}$	7 $\begin{matrix} +0 \\ -0,8 \end{matrix}$ or 8
							2	0 or 3.2 $\begin{matrix} +0,8 \\ -0 \end{matrix}$	4.8 $\begin{matrix} +0 \\ -0,8 \end{matrix}$ or 8
<b>8002P</b>	28	30°	50.8	80	3	0.400	1	0 or 1 $\begin{matrix} +0,5 \\ -0 \end{matrix}$	5.5 $\begin{matrix} +0 \\ -0,5 \end{matrix}$ or 6,5
							2	0 or 2 $\begin{matrix} +0,5 \\ -0 \end{matrix}$	4.5 $\begin{matrix} +0 \\ -0,5 \end{matrix}$ or 6,5
<b>8002P-C</b>	28	30°	50.8	80	3	0.400	1	0 or 1.5 $\begin{matrix} +0,8 \\ -0 \end{matrix}$	8.5 $\begin{matrix} +0 \\ -0,8 \end{matrix}$ or 10
							2	0 or 3.1 $\begin{matrix} +0,8 \\ -0 \end{matrix}$	6.9 $\begin{matrix} +0 \\ -0,8 \end{matrix}$ or 10
<b>11002P</b>	36	30°	76.2	110	3	0.900	1	0 or 1 $\begin{matrix} +0,5 \\ -0 \end{matrix}$	9 $\begin{matrix} +0 \\ -0,5 \end{matrix}$ or 10
							2	0 or 3 $\begin{matrix} +0,5 \\ -0 \end{matrix}$	7 $\begin{matrix} +0 \\ -0,5 \end{matrix}$ or 10
<b>11002P-C</b>	36	30°	76.2	110	3	0.900	1	0 or 1.5 $\begin{matrix} +0,8 \\ -0 \end{matrix}$	13.5 $\begin{matrix} +0 \\ -0,8 \end{matrix}$ or 15
							2	0 or 4.5 $\begin{matrix} +0,8 \\ -0 \end{matrix}$	10.5 $\begin{matrix} +0 \\ -0,8 \end{matrix}$ or 15
<b>14002P</b>	45.5	165°	107.95	140	5	1.670	1	0 or 2 $\begin{matrix} +0,5 \\ -0 \end{matrix}$	11 $\begin{matrix} +0 \\ -0,5 \end{matrix}$ or 13
							2	0 or 4 $\begin{matrix} +0,5 \\ -0 \end{matrix}$	9 $\begin{matrix} +0 \\ -0,5 \end{matrix}$ or 13
<b>14002P-C</b>	45.5	165°	107.95	140	5	1.670	1	0 or 3 $\begin{matrix} +0,8 \\ -0 \end{matrix}$	17 $\begin{matrix} +0 \\ -0,8 \end{matrix}$ or 20
							2	0 or 6.2 $\begin{matrix} +0,8 \\ -0 \end{matrix}$	13.8 $\begin{matrix} +0 \\ -0,8 \end{matrix}$ or 20
<b>16502P</b>	65.5	165°	127	165	6	2.670	1	0 or 2 $\begin{matrix} +0,5 \\ -0 \end{matrix}$	13 $\begin{matrix} +0 \\ -0,5 \end{matrix}$ or 15
							2	0 or 4 $\begin{matrix} +0,5 \\ -0 \end{matrix}$	11 $\begin{matrix} +0 \\ -0,5 \end{matrix}$ or 15
<b>16502P-C</b>	65.5	165°	127	165	6	2.670	1	0 or 3.3 $\begin{matrix} +0,8 \\ -0 \end{matrix}$	21.7 $\begin{matrix} +0 \\ -0,8 \end{matrix}$ or 25
							2	0 or 7 $\begin{matrix} +0,8 \\ -0 \end{matrix}$	18 $\begin{matrix} +0 \\ -0,8 \end{matrix}$ or 25

**Option (V): Viton® Seals**

Gripper with Viton® seals allows for use in high temperature environments [-30 ° C or 150 ° C].

**Accessory (E): Protective Boot**

The accessory (E) is a protective boot that fits over the gripper. It protects the mechanism and thus improves the life of the gripper in hostile environments. The accessory (E) causes a different location of the fingers on the jaws as compared to the standard installation. Before attaching the boot, perform the following steps:

1. Mount gripper to machine.
2. Slip boot over gripper and secure in place.
3. Attached fingers to jaws using finger adapter.

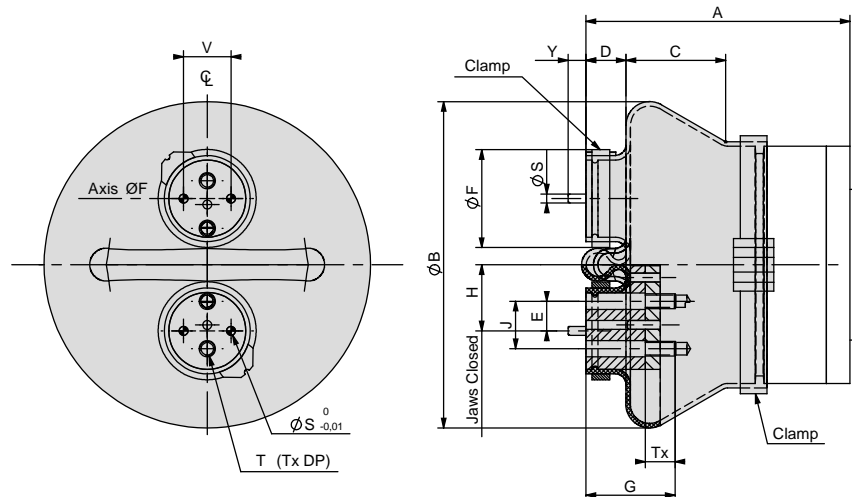
Depending on the environment 2 types of envelopes are available:

- (E) Envelope of black or brown PVC for environmental grinding with emery presence.
- (E3) red envelope containing KEVLAR fireproof silicone environment for hot chips and weld spatter.

The accessory (E) is incompatible with the accessory (SD)

Model Code	Order #	Model	A	B	C	D	E	F	G	H	J	K	S	T	TX	V	Y
E	ER62P	6002P &	88	98	35	13.5	8	29	29	17.5	13	-	3	M4	9	13	6
E3	E3R62P	6002P-C															
E	ER82P	8002P &	89	110	34	13.5	10	33	30	22.3	16	-	3	M5	10	16	6
E3	E3R82P	8002P-C															
E	ER112P	11002P &	See drawing														
E3	E3R112P	11002P-C															
E	KP-311	14002P &	143	185	50	18	12	55	34	19.5	24	18	5	M8	14	-	8
E3	KP-313	14002P-C															
E	KP-314	16502P &	172	220	70	16	14	67	37	24 19	28	23	6	M10	19	-	8
E3	KP-316	16502P-C															

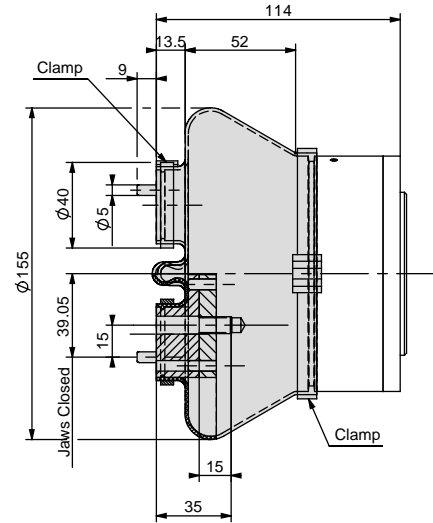
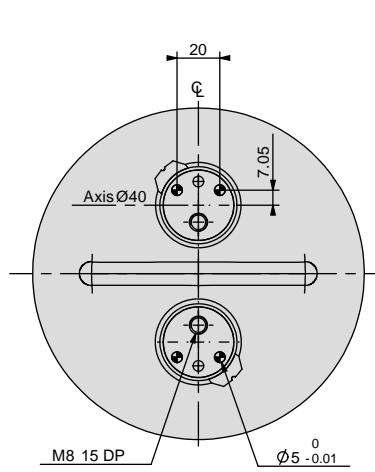
6002P  
8002P



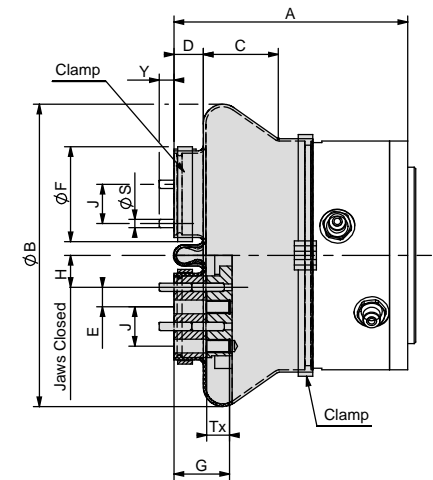
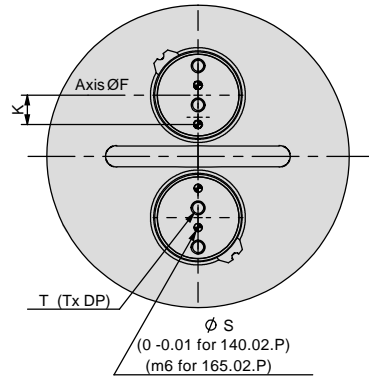
**OPTIONS AND ACCESSORIES  
PRECISION 2P GRIPPER SERIES**

1.56

11002P



14002P  
16502P



**Accessory (SD): Inductive Sensor Mounting Kit**

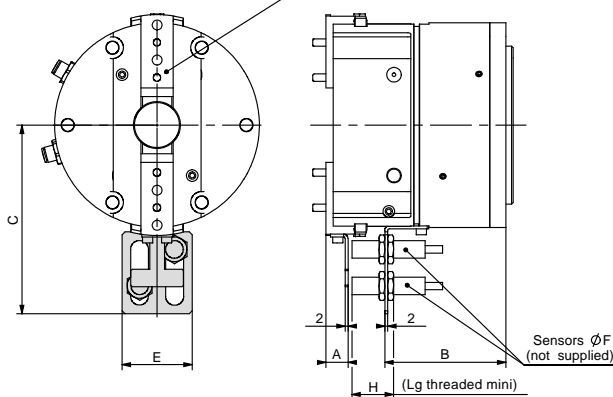
Allows for sensing of two positions: open and closed jaw. The accessory kit (SD) includes: 1 sensor bracket, 1 flag and screws.  
**Sensors are not provided.**

**NOTES:**

To be usable, the cylindrical inductive sensors selected by the customer must have tapped their bodies to a minimum depth H (see table below).

Depending on their length, the cylindrical inductive sensors can extend below the clamp, requiring provision of suitable housing in the surrounding parts. It is possible to control more than 2 positions using a second attachment (SD).

Ability to adapt a second set of sensors on this jaw



Order #	Model	A	B	C	E	F	H
<b>SD60-80P</b>	6002P & 6002P-C	20	35	67	32	8	35
<b>SD60-80P</b>	8002P & 8002P-C	19	34	77	32	8	35
<b>SD110P</b>	11002P & 11002P-C	19.5	45	97	32	8	35
<b>OSMK-114</b>	14002P & 14002P-C	15	83	129	48	12	28.5
<b>OSMK-115</b>	16502P & 16502P-C	29	96	147	48	12	33



# Parallel Gripper- CP Square Jaw Series

## Compact and Powerful

This gripper is designed for use in confined spaces, combining long strokes with a high grip force. Optional safety springs retain the components, should the air supply fail or to increase grip force.

## Multipurpose Gripper

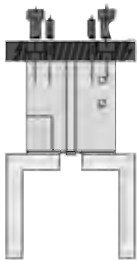
A wide range of options and accessories (extended stroke, safety springs for internal or external gripping, inductive sensors and Viton® seals) allow these grippers to be used in a number of applications.

## Harsh Environments

Shielded design repels chips and other particulate from internal drive mechanism depending on the chosen material of the shield.

## Mounting Information:

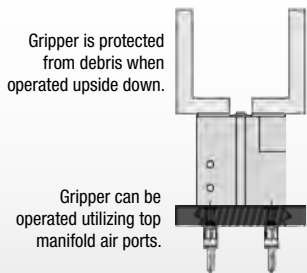
### Gripper can be mounted and operated in any orientation.



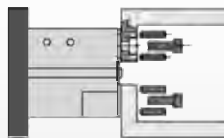
Gripper is located using 2 dowel pins and assembled from the top with 2 screws.



Gripper can also be assembled from the bottom with 2 through body screws.



Gripper is protected from debris when operated upside down.



Fingers are located on jaw with 2 dowel pins and assembled with 1 screw.

## Technical Specifications:

### Pneumatic Specifications

Pressure Operating Range

**3-10 bar**

Cylinder Type

**Double Acting**

Dynamic Seals

**Buna-N**

Valve Required to Operate:

Double Acting

**4-way, 2-position**

Single acting (Option RE or RI)

**3-way, 2-position**

### Air Quality Requirements

Air Filtration

**40 Micron or Better**

Air Lubrication

**Not Necessary\***

### Temperature Operating Range

Buna-N Seals (standard)

**-35°~80° C**

Viton® Seals (optional)

**-30°~150° C**

### Application Restrictions

Expected Life

Normal Application

w/ Preventative Maintenance

Field Repairable

Seal Repair Kits Available

**3 million cycles**

**6 million cycles\***

**Yes**

**Yes**

\*Addition of lubrication will greatly increase service life



## Product Features

### Multiple Air Ports

Side or top air ports (top ports require O-ring)

### Angular Finger Jaws Option (-Q)

**Quality Components**  
Body made from aluminum alloy with Teflon™ impregnated hardcoat anodize. Other essential parts of the gripper are made of hardened and precision ground steel

### Shielded Design

Gripper body is shielded to repel chips and other particulate from internal drive mechanism

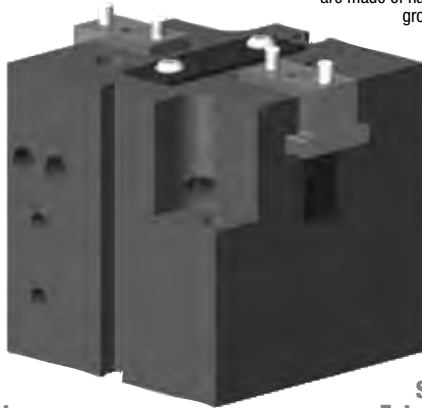
Optional: the front (push) or backward (pulling).

### Inductive Sensors

Accessory (SD) for control jaw position. Support for two sensors, adjustable screen and spacer.

### Viton® Seals

Optional Viton® seals (-V) for high temperatures



### Optional Spring Assist

Optional spring assist retains the component should the air supply fail, to assist the gripper for internal (-RE) or external (-RI) gripping, or in single acting mode

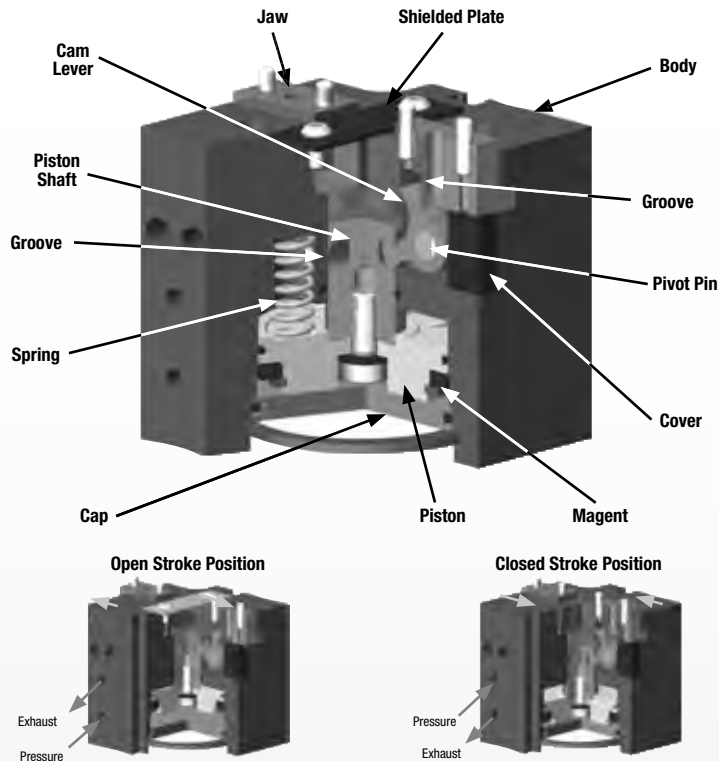
### Magnetic Sensing

Gripper is pre-equipped with 2 magnets for sensors, adjustable in grooves (for sensing the position of the jaw).

### Standard and Extended Stroke (-C)

Each model of gripper is available in two stroke lengths

## Operating Principle



- A double-acting piston is connected to the piston shaft at its end with a driving groove. The piston is pre-fitted with a ring magnet for sensor detection.
- Levers pivot in the body about an axis of articulation. Their two heads agree precisely on one side in the groove of the small piston, the other in a groove cut in each jaw holder.
- The rotation of the levers converts the vertical movement of the piston in a horizontal motion and synchronized two-bit gates, which are guided in grooves in «T» fitting body.
- This gripper is suitable for internal or external gripping and can be mounted in any orientation
- Optional failsafe spring can be used to maintain gripping force if gripper loses air pressure or as a single acting return gripper.

## Style: CP Parallel Gripper



Model	CP-1	CP-1-C
Total Stroke:	4 mm	6 mm
Force at 6bar: <sup>1</sup>	88 N	60 N
Force w/o air: <sup>2</sup>	15 N	10 N
Weight:	0.09 kg	0.09 kg

See Pages **1.60 & 1.61**

## Style: CP Parallel Gripper



Model	CP-2	CP-2-C
Total Stroke:	6 mm	9 mm
Force at 6bar: <sup>1</sup>	238 N	161 N
Force w/o air: <sup>2</sup>	43 N	29 N
Weight:	0.21 kg	0.20 kg

See Pages **1.62 & 1.63**

## Style: CP Parallel Gripper



Model	CP-3	CP-3-C
Total Stroke:	10 mm	16 mm
Force at 6bar: <sup>1</sup>	677 N	407 N
Force w/o air: <sup>2</sup>	161 N	97 N
Weight:	0.45 kg	0.47 kg

See Pages **1.64 & 1.65**

## Style: CP Parallel Gripper



Model	CP-4	CP-4-C
Total Stroke:	13 mm	20 mm
Force at 6bar: <sup>1</sup>	1016 N	665 N
Force w/o air: <sup>2</sup>	222 N	145 N
Weight:	0.73 kg	0.75 kg

See Pages **1.66 & 1.67**

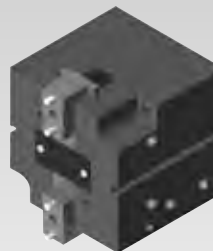
## Style: CP Parallel Gripper



Model	CP-5	CP-5-C
Total Stroke:	18 mm	27 mm
Force F <sub>6-R</sub> :	1591 N	1081 N
Force F <sub>0-R</sub> :	322 N	219 N
Weight:	1.25 kg	1.27 kg

See Pages **1.68 & 1.69**

## Style: CP Parallel Gripper



Model	CP-6	CP-6-C
Total Stroke:	24 mm	32 mm
Force at 6bar: <sup>1</sup>	2749 N	2092 N
Force w/o air: <sup>2</sup>	711 N	541 N
Weight:	2.50 kg	2.56 kg

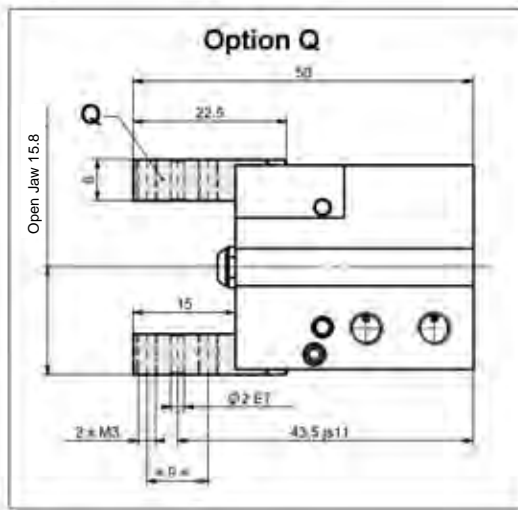
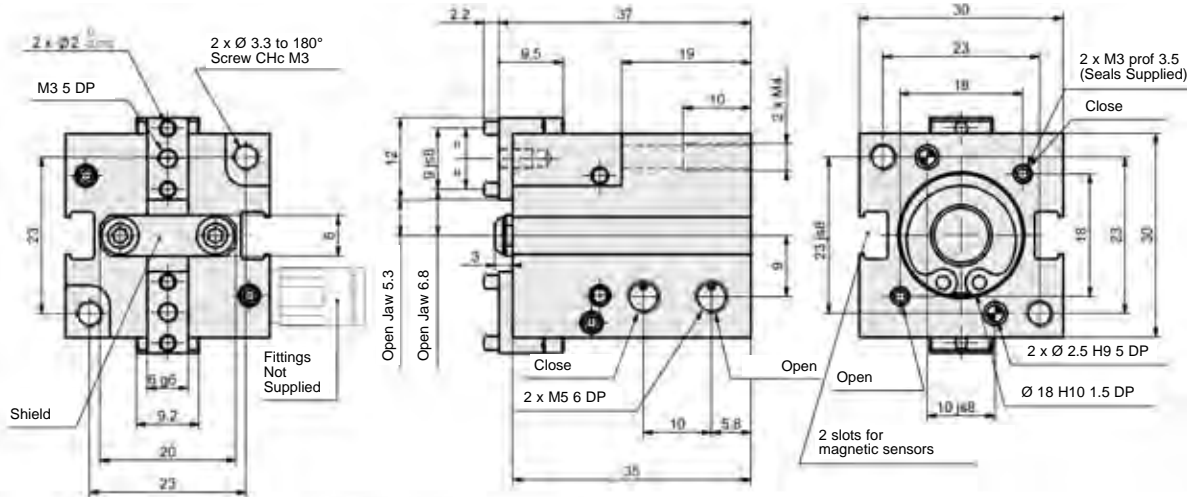
See Pages **1.70 & 1.71**

## OPTIONS & ACCESSOIRES

See Page **1.72**

1. Force with spring and air at 6bar
2. Force with spring without air

# PARALLEL GRIPPER CP-1 COMPACT GRIPPER SERIES

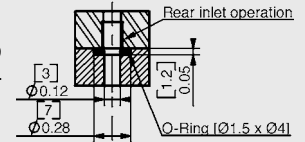


### Specifications

Grip Force (F <sub>6+R</sub> ) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	<b>CP-1</b> 88 N
Grip Force (F <sub>0+R</sub> ) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	15 N
Total Stroke	4 mm
Weight	0.09 kg
Pressure Range	2-10 bar
Pressure Range with Springs	2.5-10 bar
Ø Cylinder Bore	16 mm
Displacement	0.7 cm <sup>3</sup>
Actuation (open / close)	0.06 s / 0.06 s
Repeatability	± 0.025

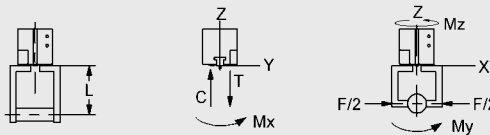
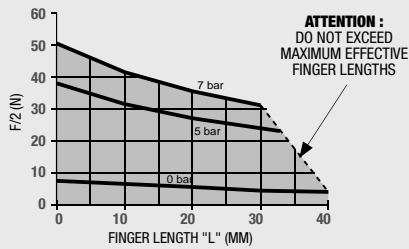
1. Force with spring and air at 6bar  
2. Force with spring without air

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information

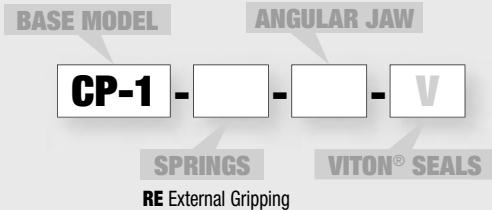
Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



Loading Capacity*	Static	Dynamic
Maximum Tensile <b>T</b>	110 N	10 N
Maximum Compressive <b>C</b>	190 N	10 N
Maximum Moment <b>M<sub>x</sub></b>	1 Nm	0.2 Nm
Maximum Moment <b>M<sub>y</sub></b>	2 Nm	0.4 Nm
Maximum Moment <b>M<sub>z</sub></b>	2 Nm	0.4 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How to Order: (Order Accessories separately from Basic Model)



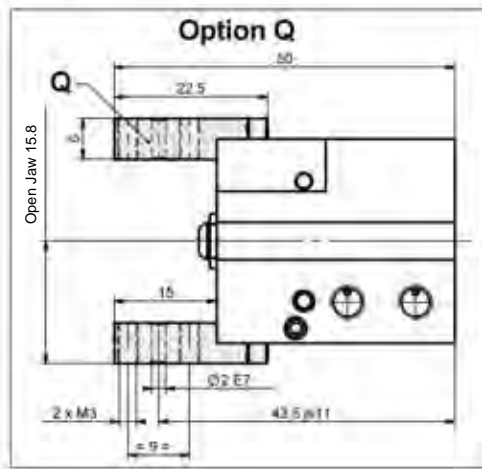
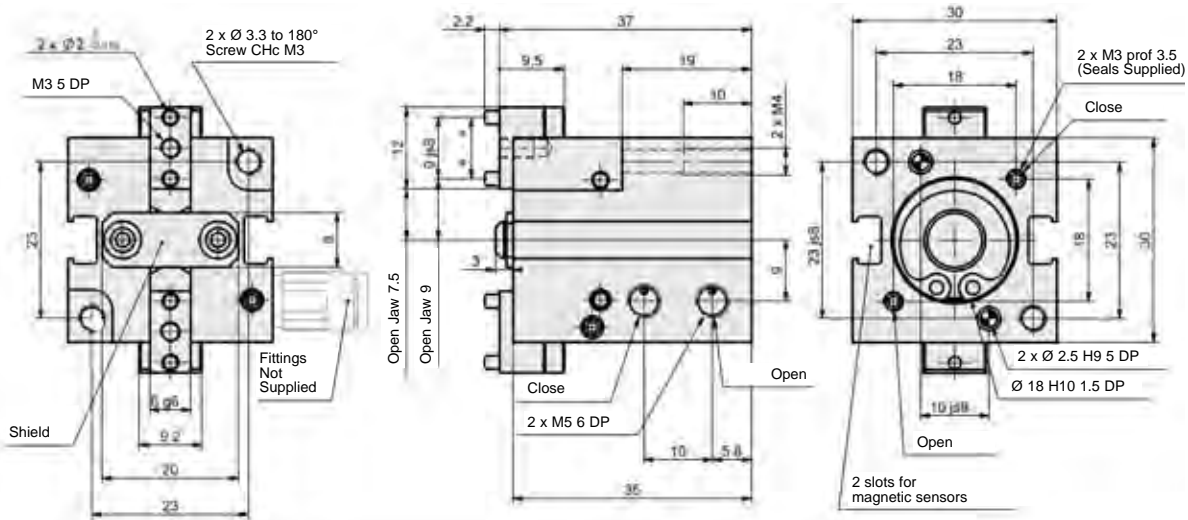
### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D1</b>	1 or 2
PNP Sensor with 0.3m Output Cable with M8 connector	<b>D4</b>	1 or 2
Quick Disconnect 2 Meter Cable Length	<b>CABL-010</b>	1 or 2

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SCP1</b>	1
Viton® Seal Repair Kit	<b>SCP1V</b>	1
Repair Kit (screws, springs, standard seals)	<b>KSCP1</b>	1
Repair Kit (screws, springs, seals Viton)	<b>KSCP1V</b>	1

Accessories: see page 70



### Specifications

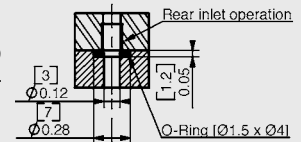
- Grip Force (F6+R)<sup>1</sup>, 6 bars, Springs Mid-Way, L=0
- Grip Force (F0+R)<sup>2</sup>, 0 bars, Springs Mid-Way, L=0
- Total Stroke
- Weight
- Pressure Range
- Pressure Range with Springs
- Ø Cylinder Bore
- Displacement
- Acuation (open / close)
- Repeatability

### CP-1-C

- 60 N
- 10 N
- 6 mm
- 0.09 kg
- 2-10 bar
- 2.5-10 bar
- 16 mm
- 0.7 cm<sup>3</sup>
- 0.06 s / 0.06 s
- ± 0.025

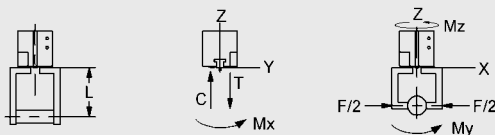
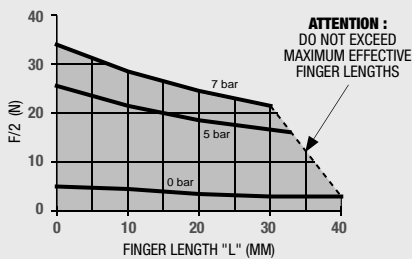
- Force with spring and air at 6bar
- Force with spring without air

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information

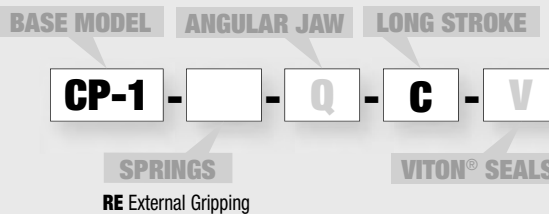
Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



Loading Capacity*	Static	Dynamic
Maximum Tensile <b>T</b>	110 N	8 N
Maximum Compressive <b>C</b>	190 N	8 N
Maximum Moment <b>Mx</b>	1 Nm	0.2 Nm
Maximum Moment <b>My</b>	2 Nm	0.3 Nm
Maximum Moment <b>Mz</b>	2 Nm	0.3 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How to Order: (Order Accessories separately from Basic Model)



### SENSOR ACCESSORIES

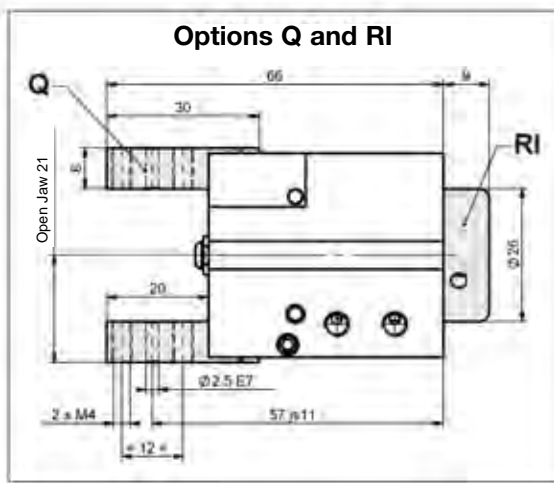
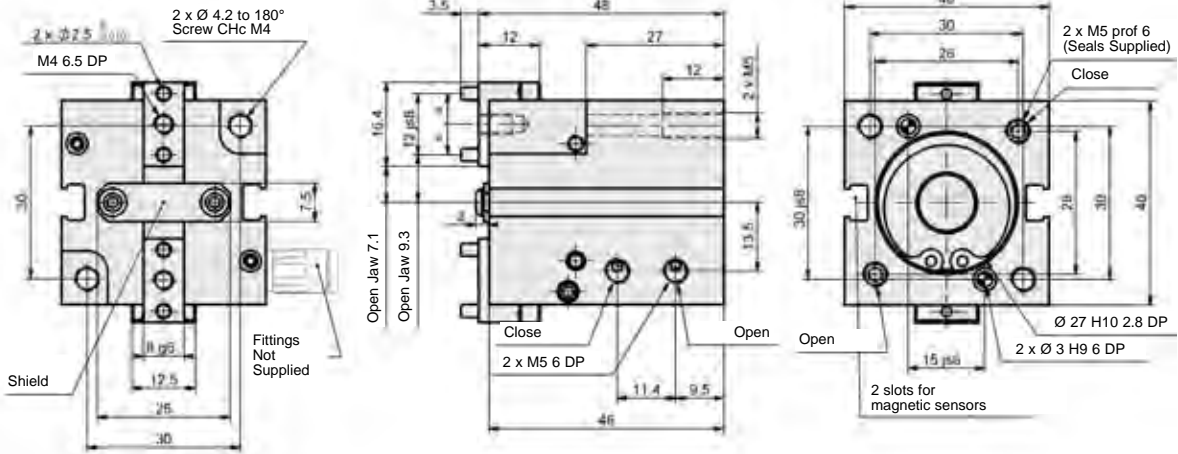
	ORDER #	QTY/UNIT
PNP Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D1</b>	1 or 2
PNP Sensor with 0.3m Output Cable with M8 connector	<b>D4</b>	1 or 2
Quick Disconnect 2 Meter Cable Length	<b>CABL-010</b>	1 or 2

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SCP1</b>	1
Viton® Seal Repair Kit	<b>SCP1V</b>	1
Repair Kit (screws, springs, standard seals)	<b>KSCP1</b>	1
Repair Kit (screws, springs, seals Viton)	<b>KSCP1V</b>	1

Accessories: see page 70

# PARALLEL GRIPPER CP-2 COMPACT GRIPPER SERIES

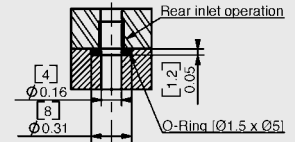


### Specifications

	CP-2
Grip Force (F6+R) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	238 N
Grip Force (F0+R) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	43 N
Total Stroke	6 mm
Weight	0.21 kg
Pressure Range	2-10 bar
Pressure Range with Springs	2.5-10 bar
Ø Cylinder Bore	25 mm
Displacement	2.7 cm <sup>3</sup>
Acuation (open / close)	0.06 s / 0.06 s
Repeatability	± 0.025

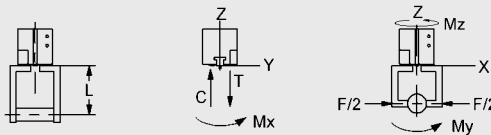
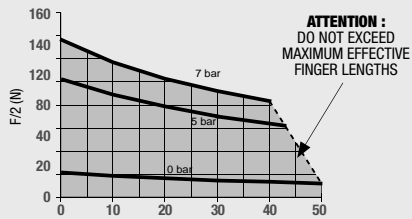
1. Force with spring and air at 6bar  
2. Force with spring without air

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



Loading Capacity*	Static		Dynamic	
	T	C	Mx	Mz
Maximum Tensile <b>T</b>	260 N	26 N	5 Nm	0.9 Nm
Maximum Compressive <b>C</b>	375 N	26 N	8 Nm	1.5 Nm
Maximum Moment <b>Mx</b>	5 Nm	0.9 Nm	8 Nm	1.5 Nm
Maximum Moment <b>My</b>	8 Nm	1.5 Nm	8 Nm	1.5 Nm
Maximum Moment <b>Mz</b>	8 Nm	1.5 Nm		

\* The Capacities are per set of jaws and are not simultaneous.

## How to Order: (Order Accessories separately from Basic Model)

BASE MODEL    ANGULAR JAW    VITON® SEALS

**CP-2** - [ ] - **Q** - **SD** - **V**

**RE** External Gripping    **RI** Internal Gripping    **SPRINGS**    **SENSOR MOUNTS**

### SENSOR ACCESSORIES

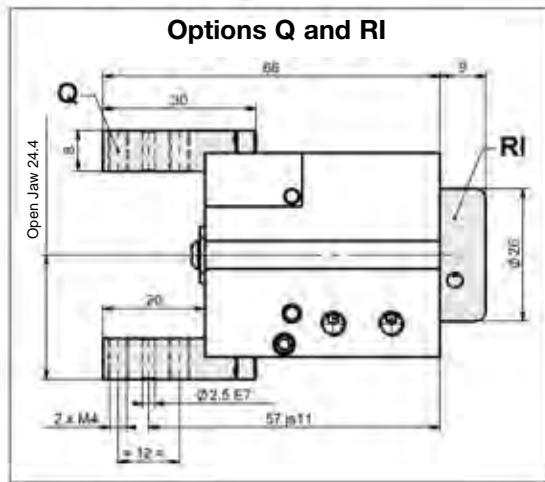
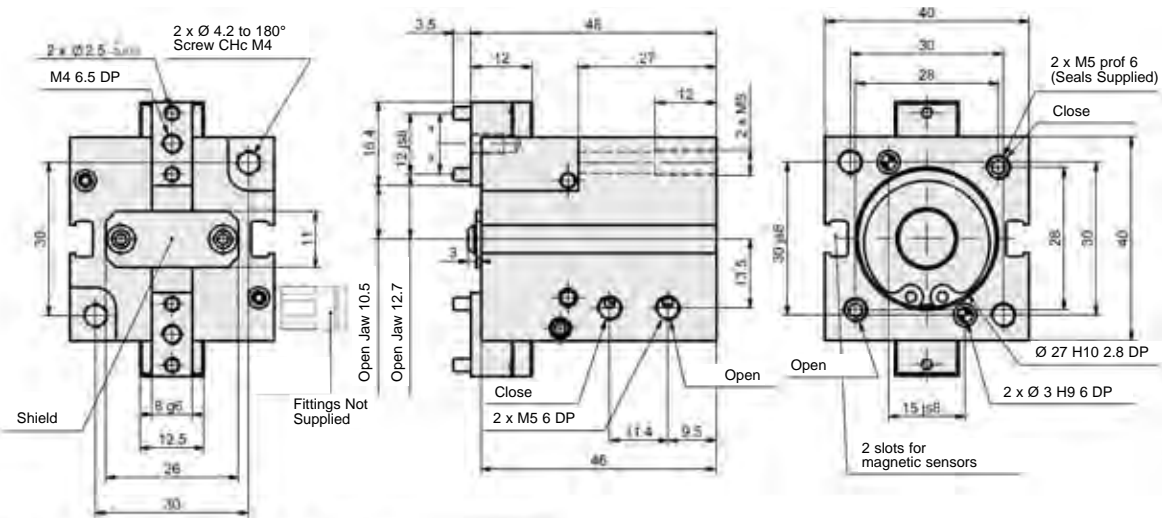
	ORDER #	QTY/UNIT
PNP Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D1</b>	1 or 2
NPN Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D10</b>	1 or 2
PNP Sensor with 0.3m Output Cable with M8 connector	<b>D4</b>	1 or 2
NPN Sensor with 0.3m Output Cable with M8 connector	<b>D7</b>	1 or 2
Inductive Sensor Mounting Kit for (mounts 2 sensors) ( <b>SD</b> )	<b>SDCP2</b>	1
Inductive PNP Sensor with M8 Connector	<b>OISP-011-C</b>	1 or 2
Inductive NPN Sensor with M8 Connector	<b>OINP-011-C</b>	1 or 2
Quick Disconnect 2 Meter Cable Length	<b>CABL-010</b>	1 or 2

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SCP2</b>	1
Viton® Seal Repair Kit	<b>SCP2V</b>	1
Repair Kit (screws, springs, standard seals)	<b>KSCP2</b>	1
Repair Kit (screws, springs, seals Viton)	<b>KSCP2V</b>	1

Accessories: see page 70





### Specifications

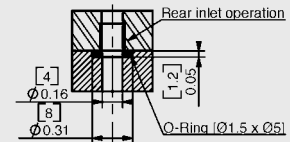
- Grip Force (F<sub>6+R</sub>)<sup>1</sup>, 6 bars, Springs Mid-Way, L=0
- Grip Force (F<sub>0+R</sub>)<sup>2</sup>, 0 bars, Springs Mid-Way, L=0
- Total Stroke
- Weight
- Pressure Range
- Pressure Range with Springs
- Ø Cylinder Bore
- Displacement
- Acuation (open / close)
- Repeatability

### CP-2-C

- 161 N
- 29 N
- 9 mm
- 0.20 kg
- 2-10 bar
- 2.5-10 bar
- 25 mm
- 2.7 cm<sup>3</sup>
- 0.06 s / 0.06 s
- ± 0.025

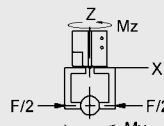
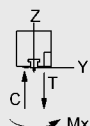
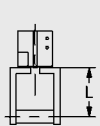
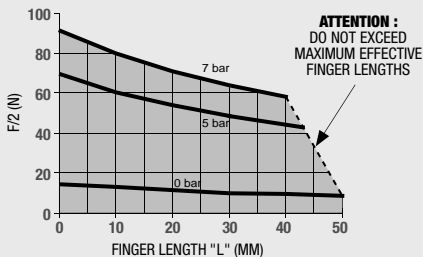
- Force with spring and air at 6bar
- Force with spring without air

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



Loading Capacity*	Static		Dynamic	
	T	C	M <sub>x</sub>	M <sub>y</sub>
Maximum Tensile <b>T</b>	260 N	22 N	4 Nm	0.7 Nm
Maximum Compressive <b>C</b>	375 N	22 N	8 Nm	1.2 Nm
Maximum Moment <b>M<sub>x</sub></b>	4 Nm	0.7 Nm	8 Nm	1.2 Nm
Maximum Moment <b>M<sub>y</sub></b>	8 Nm	1.2 Nm	8 Nm	1.2 Nm
Maximum Moment <b>M<sub>z</sub></b>	8 Nm	1.2 Nm		

\* The Capacities are per set of jaws and are not simultaneous.

## How to Order: (Order Accessories separately from Basic Model)

BASE MODEL

ANGULAR JAW

LONG STROKE

**CP-2** - [ ] - **Q** - **SD** - **C** - **V**

**RE** External Gripping  
**RI** Internal Gripping

**SPRINGS**

**SENSOR MOUNTS**

**VITON® SEALS**

### SENSOR ACCESSORIES

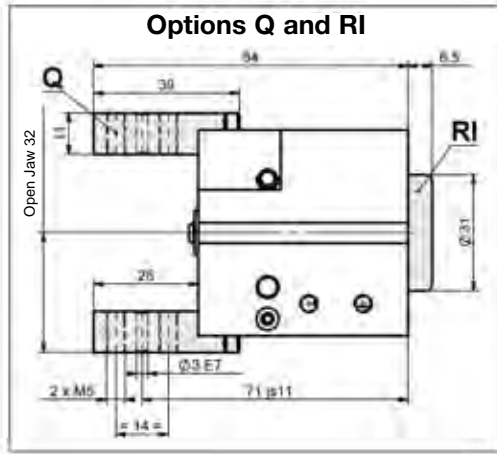
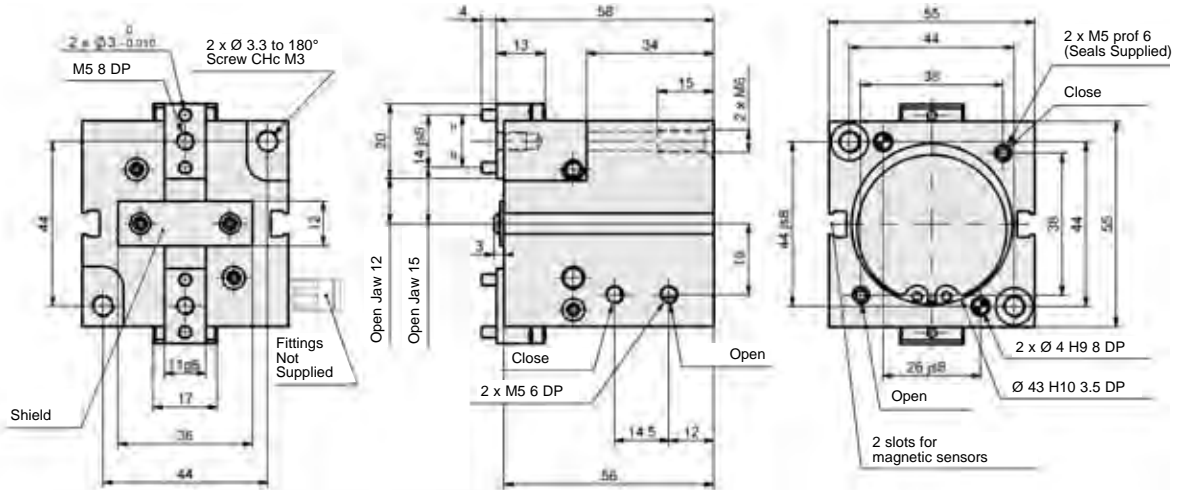
	ORDER #	QTY/UNIT
PNP Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D1</b>	1 or 2
NPN Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D10</b>	1 or 2
PNP Sensor with 0.3m Output Cable with M8 connector	<b>D4</b>	1 or 2
NPN Sensor with 0.3m Output Cable with M8 connector	<b>D7</b>	1 or 2
Inductive Sensor Mounting Kit for (mounts 2 sensors) ( <b>SD</b> )	<b>SDCP2</b>	1
Inductive PNP Sensor with M8 Connector	<b>OISP-011-C</b>	1 or 2
Inductive NPN Sensor with M8 Connector	<b>OINP-011-C</b>	1 or 2
Quick Disconnect 2 Meter Cable Length	<b>CABL-010</b>	1 or 2

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SCP2</b>	1
Viton® Seal Repair Kit	<b>SCP2V</b>	1
Repair Kit (screws, springs, standard seals)	<b>KSCP2</b>	1
Repair Kit (screws, springs, seals Viton)	<b>KSCP2V</b>	1

Accessories: see page 70

# PARALLEL GRIPPER CP-3 COMPACT GRIPPER SERIES

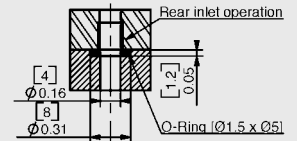


### Specifications

Grip Force (F6+R) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	677 N
Grip Force (F0+R) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	161 N
Total Stroke	10 mm
Weight	0.45 kg
Pressure Range	2-10 bar
Pressure Range with Springs	3-10 bar
Ø Cylinder Bore	40 mm
Displacement	11.7 cm <sup>3</sup>
Acuation (open / close)	0.07 s / 0.07 s
Repeatability	± 0.025

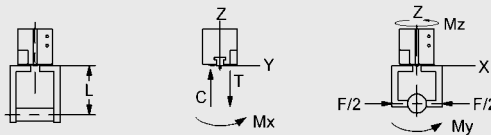
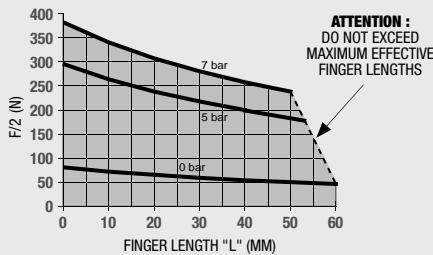
- Force with spring and air at 6bar
- Force with spring without air

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



Loading Capacity*	Static		Dynamic	
	T	C	Mx	My
Maximum Tensile <b>T</b>	520 N	690 N	72 N	72 N
Maximum Compressive <b>C</b>	690 N	690 N	72 N	72 N
Maximum Moment <b>Mx</b>	11 Nm	11 Nm	3.5 Nm	3.5 Nm
Maximum Moment <b>My</b>	18 Nm	18 Nm	6 Nm	6 Nm
Maximum Moment <b>Mz</b>	17 Nm	17 Nm	6 Nm	6 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How to Order: (Order Accessories separately from Basic Model)

BASE MODEL    ANGULAR JAW    VITON® SEALS

**CP-3** - [ ] - **Q** - **SD** - **V**

**RE** External Gripping  
**RI** Internal Gripping

**SPRINGS**

**SENSOR MOUNTS**

### SENSOR ACCESSORIES

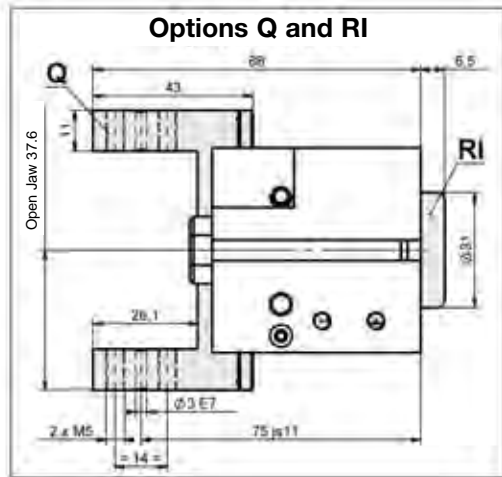
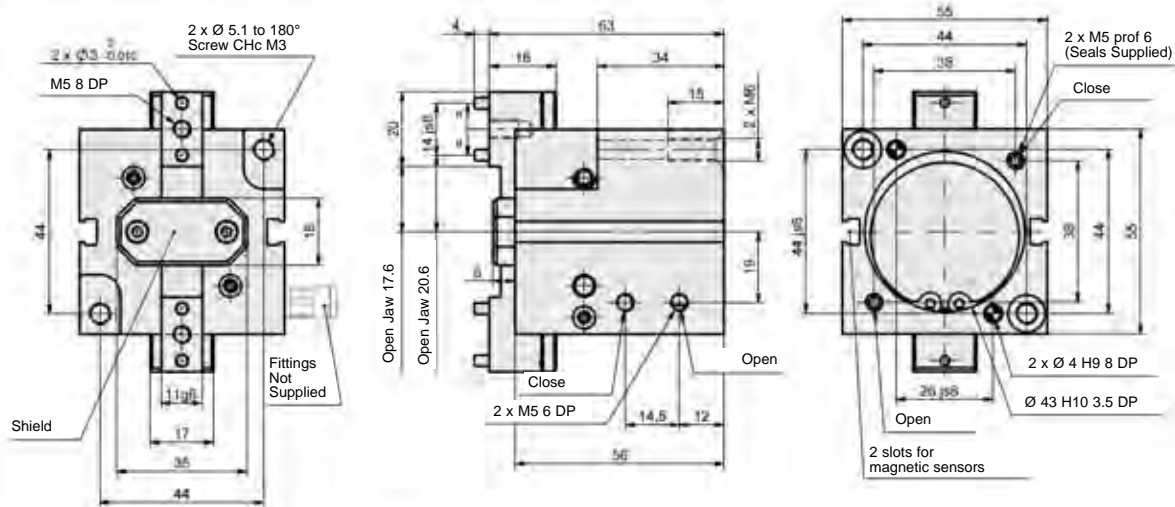
	ORDER #	QTY/UNIT
PNP Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D1</b>	1 or 2
NPN Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D10</b>	1 or 2
PNP Sensor with 0.3m Output Cable with M8 connector	<b>D4</b>	1 or 2
NPN Sensor with 0.3m Output Cable with M8 connector	<b>D7</b>	1 or 2
Inductive Sensor Mounting Kit for (mounts 2 sensors) ( <b>SD</b> )	<b>SDCP3</b>	1
Inductive PNP Sensor with M8 Connector	<b>OISP-011-C</b>	1 or 2
Inductive NPN Sensor with M8 Connector	<b>OINP-011-C</b>	1 or 2
Quick Disconnect 2 Meter Cable Length	<b>CABL-010</b>	1 or 2

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SCP3</b>	1
Viton® Seal Repair Kit	<b>SCP3V</b>	1
Repair Kit (screws, springs, standard seals)	<b>KSCP3</b>	1
Repair Kit (screws, springs, seals Viton)	<b>KSCP3V</b>	1

Accessories: see page 70



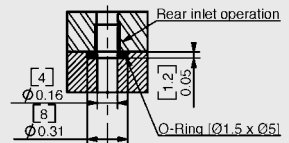


### Specifications

- Grip Force (F<sub>6+R</sub>)<sup>1</sup>, 6 bars, Springs Mid-Way, L=0 407 N
  - Grip Force (F<sub>0+R</sub>)<sup>2</sup>, 0 bars, Springs Mid-Way, L=0 97 N
  - Total Stroke 16 mm
  - Weight 0.47 kg
  - Pressure Range 2-10 bar
  - Pressure Range with Springs 3-10 bar
  - Ø Cylinder Bore 40 mm
  - Displacement 11.7 cm<sup>3</sup>
  - Acuation (open / close) 0.07 s / 0.07 s
  - Repeatability ± 0.025
- Force with spring and air at 6bar
  - Force with spring without air

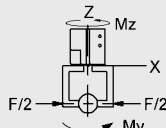
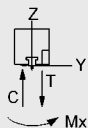
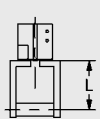
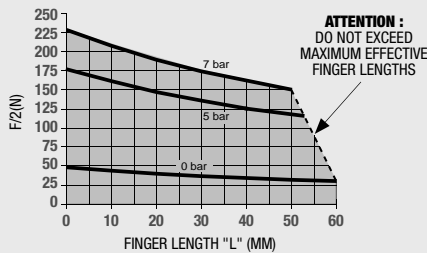
### CP-3-C

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



### Loading Capacity\*

	Static	Dynamic
Maximum Tensile <b>T</b>	500 N	55 N
Maximum Compressive <b>C</b>	675 N	55 N
Maximum Moment <b>M<sub>x</sub></b>	9 Nm	2.5 Nm
Maximum Moment <b>M<sub>y</sub></b>	16 Nm	4 Nm
Maximum Moment <b>M<sub>z</sub></b>	17 Nm	4 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How to Order: (Order Accessories separately from Basic Model)

BASE MODEL

ANGULAR JAW

LONG STROKE

**CP-3** - [ ] - **Q** - **SD** - **C** - **V**

**RE** External Gripping  
**RI** Internal Gripping

**SPRINGS**

**SENSOR MOUNTS**

**VITON® SEALS**

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D1</b>	1 or 2
NPN Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D10</b>	1 or 2
PNP Sensor with 0.3m Output Cable with M8 connector	<b>D4</b>	1 or 2
NPN Sensor with 0.3m Output Cable with M8 connector	<b>D7</b>	1 or 2
Inductive Sensor Mounting Kit for (mounts 2 sensors) ( <b>SD</b> )	<b>SDCP3</b>	1
Inductive PNP Sensor with M8 Connector	<b>OISP-011-C</b>	1 or 2
Inductive NPN Sensor with M8 Connector	<b>OINP-011-C</b>	1 or 2
Quick Disconnect 2 Meter Cable Length	<b>CABL-010</b>	1 or 2

### PNEUMATIC ACCESSORIES

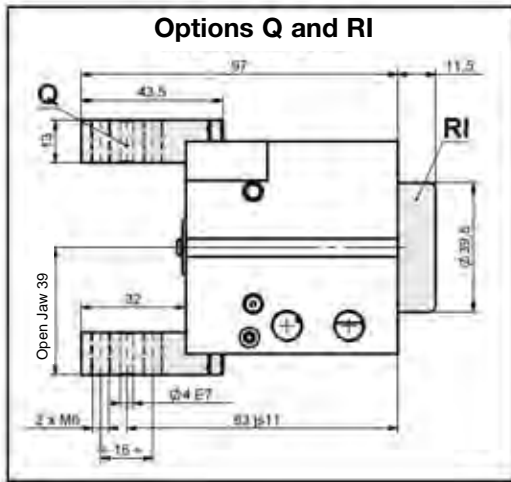
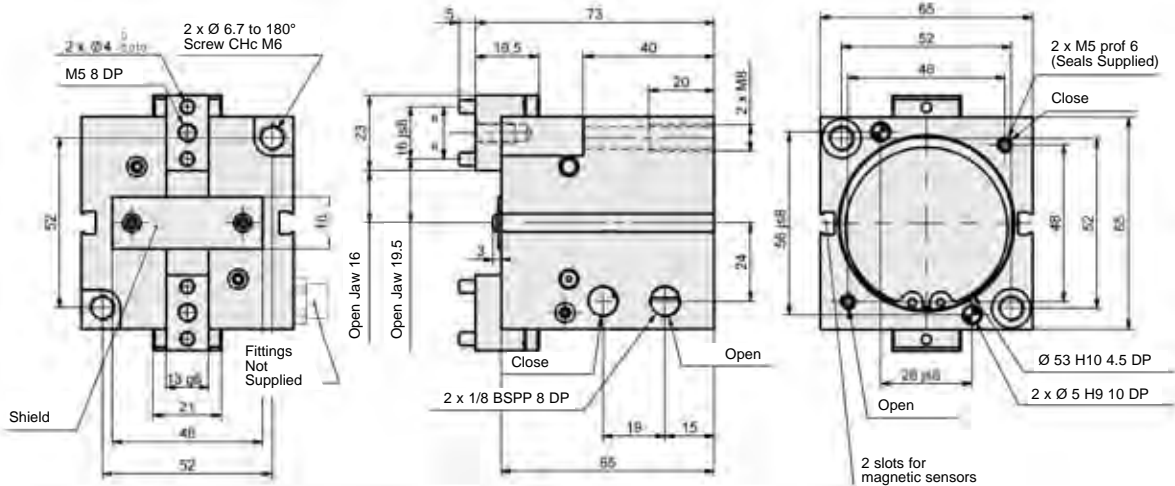
Standard Seal Repair Kit	<b>SCP3</b>	1
Viton® Seal Repair Kit	<b>SCP3V</b>	1
Repair Kit (screws, springs, standard seals)	<b>KSCP3</b>	1
Repair Kit (screws, springs, seals Viton)	<b>KSCP3V</b>	1

Accessories: see page 70

# PARALLEL GRIPPER CP-4 COMPACT GRIPPER SERIES



1.66

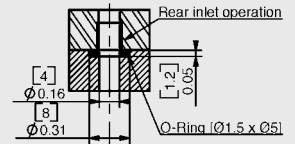


### Specifications

	CP-4
Grip Force (F6+R) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	1016 N
Grip Force (F0+R) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	222 N
Total Stroke	13 mm
Weight	0.73 kg
Pressure Range	2-10 bar
Pressure Range with Springs	3-10 bar
Ø Cylinder Bore	50 mm
Displacement	24.2 cm <sup>3</sup>
Acuation (open / close)	0.07 s / 0.07 s
Repeatability	± 0.025

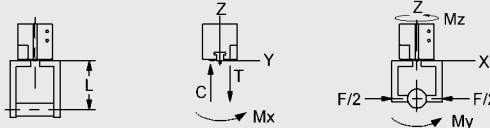
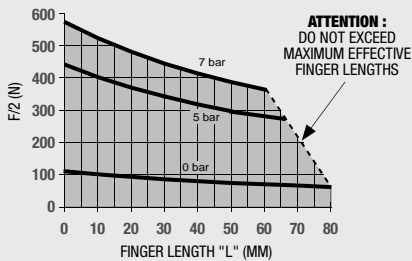
- Force with spring and air at 6bar
- Force with spring without air

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



Loading Capacity*	Static		Dynamic	
	Value	Value	Value	Value
Maximum Tensile <b>T</b>	740 N	109 N	109 N	109 N
Maximum Compressive <b>C</b>	830 N	109 N	109 N	109 N
Maximum Moment <b>Mx</b>	23 Nm	6.5 Nm	6.5 Nm	6.5 Nm
Maximum Moment <b>My</b>	35 Nm	10 Nm	10 Nm	10 Nm
Maximum Moment <b>Mz</b>	25 Nm	8 Nm	8 Nm	8 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How to Order: (Order Accessories separately from Basic Model)

BASE MODEL    ANGULAR JAW    VITON® SEALS

**CP-4** - [ ] - **Q** - **SD** - **V**

**RE** External Gripping  
**RI** Internal Gripping

**SPRINGS**

**SENSOR MOUNTS**

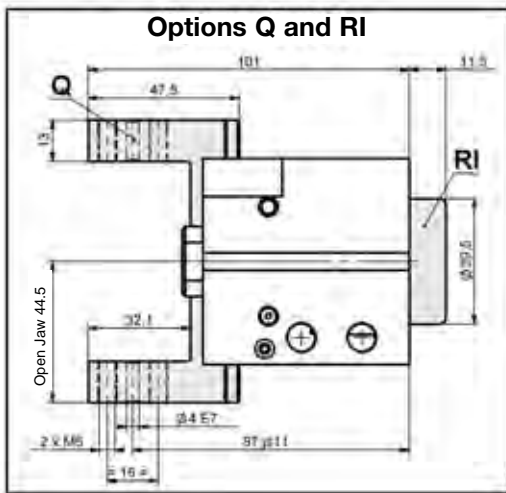
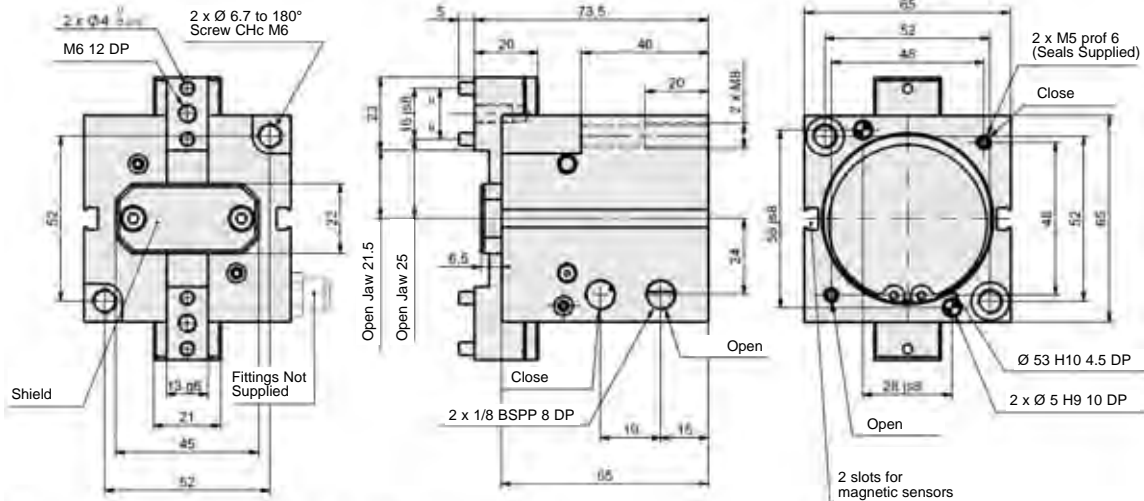
### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D1</b>	1 or 2
NPN Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D10</b>	1 or 2
PNP Sensor with 0.3m Output Cable with M8 connector	<b>D4</b>	1 or 2
NPN Sensor with 0.3m Output Cable with M8 connector	<b>D7</b>	1 or 2
Inductive Sensor Mounting Kit for (mounts 2 sensors) ( <b>SD</b> )	<b>SDCP4</b>	1
Inductive PNP Sensor with M8 Connector	<b>OISP-011-C</b>	1 or 2
Inductive NPN Sensor with M8 Connector	<b>OINP-011-C</b>	1 or 2
Quick Disconnect 2 Meter Cable Length	<b>CABL-010</b>	1 or 2

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SCP4</b>	1
Viton® Seal Repair Kit	<b>SCP4V</b>	1
Repair Kit (screws, springs, standard seals)	<b>KSCP4</b>	1
Repair Kit (screws, springs, seals Viton)	<b>KSCP4V</b>	1

Accessories: see page 70

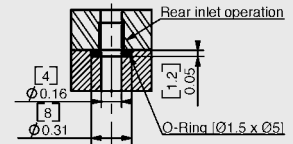


### Specifications

	CP-4-C
Grip Force (F6+R) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	665 N
Grip Force (F0+R) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	145 N
Total Stroke	20 mm
Weight	0.75 kg
Pressure Range	2-10 bar
Pressure Range with Springs	3-10 bar
Ø Cylinder Bore	50 mm
Displacement	24.2 cm <sup>3</sup>
Acuation (open / close)	0.07 s / 0.07 s
Repeatability	± 0.025

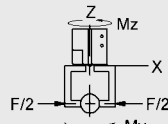
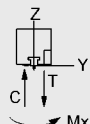
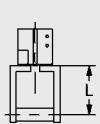
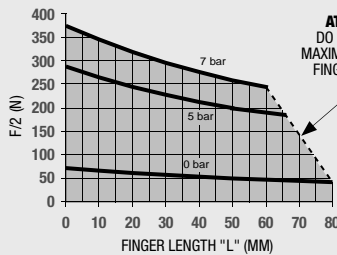
1. Force with spring and air at 6bar
2. Force with spring without air

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



Loading Capacity*	Static	Dynamic
Maximum Tensile <b>T</b>	710 N	89 N
Maximum Compressive <b>C</b>	800 N	89 N
Maximum Moment <b>Mx</b>	18 Nm	4.7 Nm
Maximum Moment <b>My</b>	30 Nm	7.6 Nm
Maximum Moment <b>Mz</b>	25 Nm	7.6 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How to Order: (Order Accessories separately from Basic Model)

BASE MODEL

ANGULAR JAW

LONG STROKE

**CP-4** - [ ] - **Q** - **SD** - **C** - **V**

RE External Gripping  
RI Internal Gripping

SPRINGS

SENSOR MOUNTS

VITON® SEALS

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D1</b>	1 or 2
NPN Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D10</b>	1 or 2
PNP Sensor with 0.3m Output Cable with M8 connector	<b>D4</b>	1 or 2
NPN Sensor with 0.3m Output Cable with M8 connector	<b>D7</b>	1 or 2
Inductive Sensor Mounting Kit for (mounts 2 sensors) ( <b>SD</b> )	<b>SDCP4</b>	1
Inductive PNP Sensor with M8 Connector	<b>OISP-011-C</b>	1 or 2
Inductive NPN Sensor with M8 Connector	<b>OINP-011-C</b>	1 or 2
Quick Disconnect 2 Meter Cable Length	<b>CABL-010</b>	1 or 2

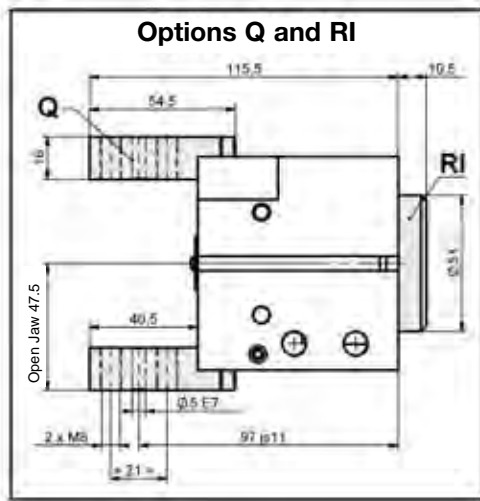
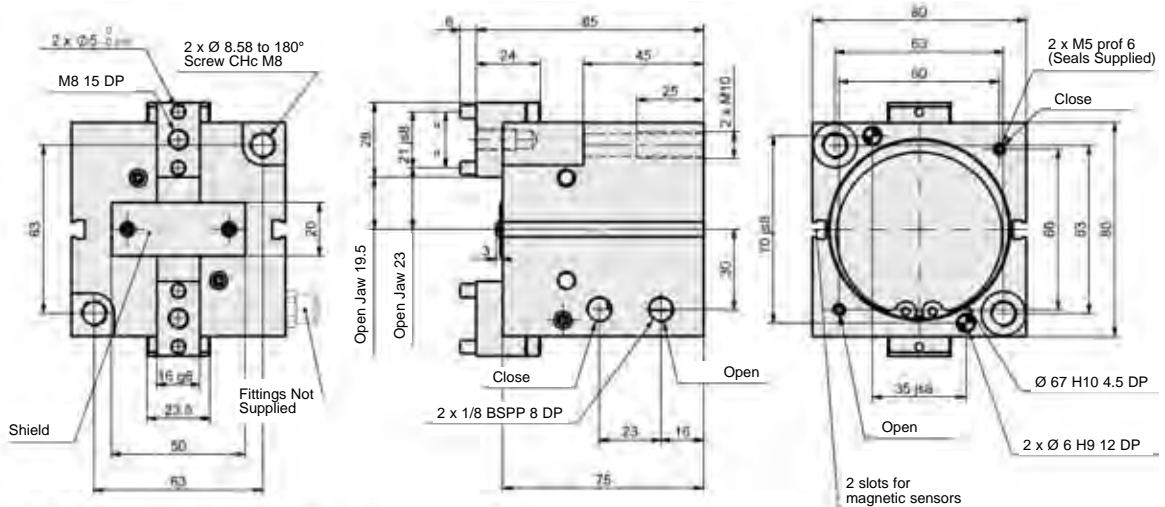
### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SCP4</b>	1
Viton® Seal Repair Kit	<b>SCP4V</b>	1
Repair Kit (screws, springs, standard seals)	<b>KSCP4</b>	1
Repair Kit (screws, springs, seals Viton)	<b>KSCP4V</b>	1

Accessories: see page 70

# PARALLEL GRIPPER CP-5 COMPACT GRIPPER SERIES

1.68

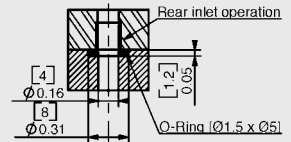


### Specifications

	CP-5
Grip Force (F <sub>6+R</sub> ) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	1591 N
Grip Force (F <sub>0+R</sub> ) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	322 N
Total Stroke	18 mm
Weight	1.25 kg
Pressure Range	2-10 bar
Pressure Range with Springs	3-10 bar
Ø Cylinder Bore	63 mm
Displacement	53.5 cm <sup>3</sup>
Acuation (open / close)	0.09 s / 0.09 s
Repeatability	± 0.025

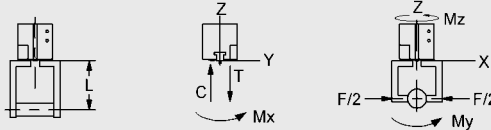
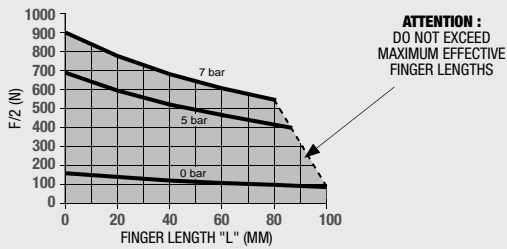
1. Force with spring and air at 6bar  
2. Force with spring without air

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



Loading Capacity*	Static	Dynamic
Maximum Tensile <b>T</b>	830 N	169 N
Maximum Compressive <b>C</b>	940 N	169 N
Maximum Moment <b>M<sub>x</sub></b>	27 Nm	9 Nm
Maximum Moment <b>M<sub>y</sub></b>	44 Nm	14 Nm
Maximum Moment <b>M<sub>z</sub></b>	30 Nm	10 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How to Order: (Order Accessories separately from Basic Model)

BASE MODEL    ANGULAR JAW    VITON® SEALS

**CP-5** - [ ] - **Q** - **SD** - **V**

**RE** External Gripping  
**RI** Internal Gripping

**SPRINGS**

**SENSOR MOUNTS**

### SENSOR ACCESSORIES

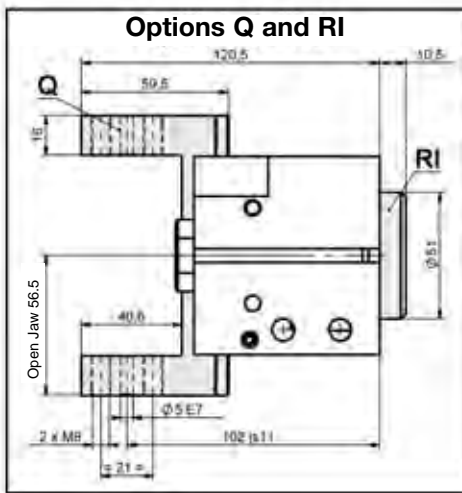
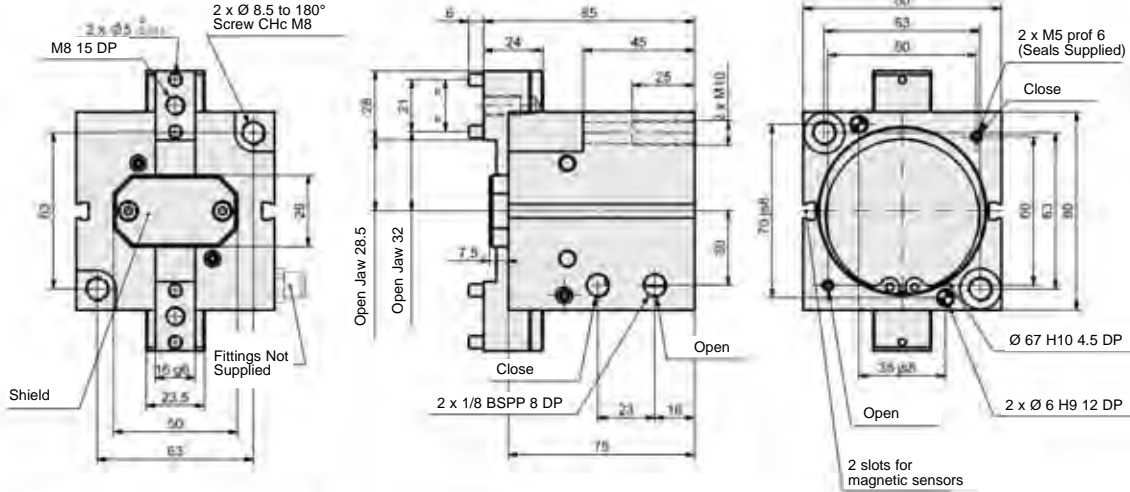
	ORDER #	QTY/UNIT
PNP Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D1</b>	1 or 2
NPN Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D10</b>	1 or 2
PNP Sensor with 0.3m Output Cable with M8 connector	<b>D4</b>	1 or 2
NPN Sensor with 0.3m Output Cable with M8 connector	<b>D7</b>	1 or 2
Inductive Sensor Mounting Kit for (mounts 2 sensors) ( <b>SD</b> )	<b>SDCP5</b>	1
Inductive PNP Sensor with M12 Connector	<b>OISP-017-C</b>	1 or 2
Inductive NPN Sensor with M12 Connector	<b>OINP-017-C</b>	1 or 2
Quick Disconnect 2 Meter M12 Cable Length	<b>CABL-014</b>	1 or 2

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SCP5</b>	1
Viton® Seal Repair Kit	<b>SCP5V</b>	1
Repair Kit (screws, springs, standard seals)	<b>KSCP5</b>	1
Repair Kit (screws, springs, seals Viton)	<b>KSCP5V</b>	1

Accessories: see page 70





### Specifications

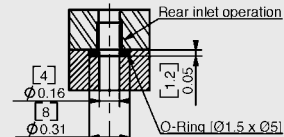
- Grip Force (F6+R)<sup>1</sup>, 6 bars, Springs Mid-Way, L=0
- Grip Force (F0+R)<sup>2</sup>, 0 bars, Springs Mid-Way, L=0
- Total Stroke
- Weight
- Pressure Range
- Pressure Range with Springs
- Ø Cylinder Bore
- Displacement
- Acuation (open / close)
- Repeatability

### CP-5-C

- 1081 N
- 219 N
- 27 mm
- 1.27 kg
- 2-10 bar
- 3-10 bar
- 63 mm
- 53.5 cm<sup>3</sup>
- 0.09 s / 0.09 s
- ± 0.025

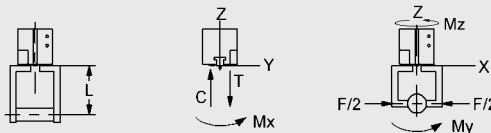
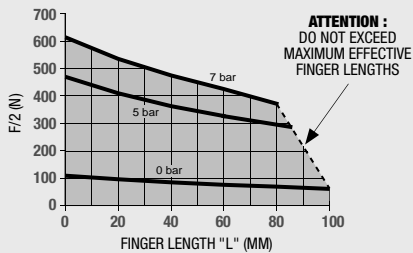
- Force with spring and air at 6bar
- Force with spring without air

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



### Loading Capacity\*

	Static	Dynamic
Maximum Tensile <b>T</b>	820 N	144 N
Maximum Compressive <b>C</b>	930 N	144 N
Maximum Moment <b>Mx</b>	22 Nm	7 Nm
Maximum Moment <b>My</b>	40 Nm	13 Nm
Maximum Moment <b>Mz</b>	30 Nm	10 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How to Order: (Order Accessories separately from Basic Model)

BASE MODEL

ANGULAR JAW

LONG STROKE

**CP-5** - [ ] - **Q** - **SD** - **C** - **V**

**RE** External Gripping  
**RI** Internal Gripping

**SPRINGS**

**SENSOR MOUNTS**

**VITON® SEALS**

### SENSOR ACCESSORIES

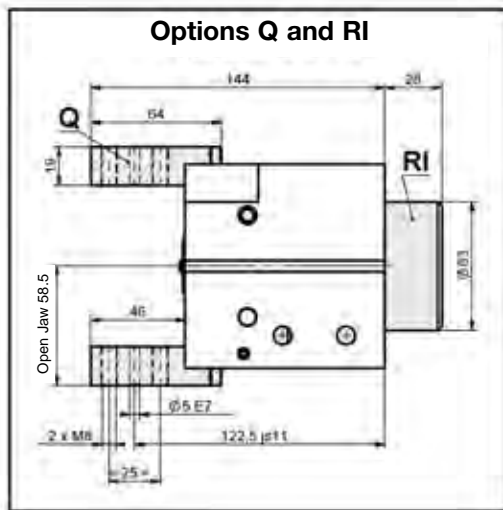
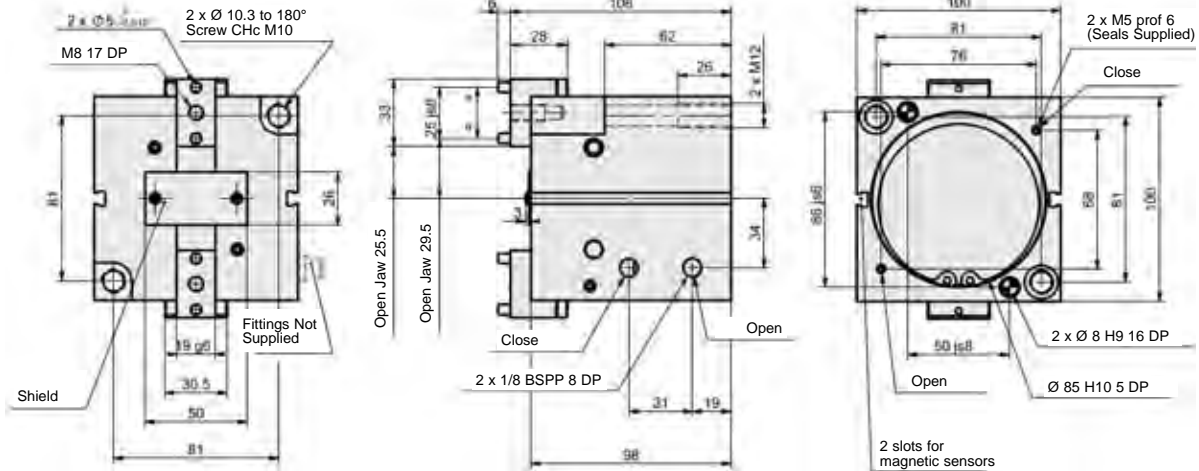
	ORDER #	QTY/UNIT
PNP Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D1</b>	1 or 2
NPN Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D10</b>	1 or 2
PNP Sensor with 0.3m Output Cable with M8 connector	<b>D4</b>	1 or 2
NPN Sensor with 0.3m Output Cable with M8 connector	<b>D7</b>	1 or 2
Inductive Sensor Mounting Kit for (mounts 2 sensors) ( <b>SD</b> )	<b>SDCP5</b>	1
Inductive PNP Sensor with M8 Connector	<b>OISP-017-C</b>	1 or 2
Inductive NPN Sensor with M8 Connector	<b>OINP-017-C</b>	1 or 2
Quick Disconnect 2 Meter Cable Length	<b>CABL-014</b>	1 or 2

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SCP5</b>	1
Viton® Seal Repair Kit	<b>SCP5V</b>	1
Repair Kit (screws, springs, standard seals)	<b>KSCP5</b>	1
Repair Kit (screws, springs, seals Viton)	<b>KSCP5V</b>	1

Accessories: see page 70

# PARALLEL GRIPPER CP-6 COMPACT GRIPPER SERIES

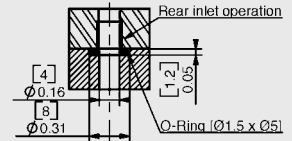


### Specifications

Specifications	CP-6
Grip Force (F <sub>6+R</sub> ) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	2749 N
Grip Force (F <sub>0+R</sub> ) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	711 N
Total Stroke	24 mm
Weight	2.50 kg
Pressure Range	2-10 bar
Pressure Range with Springs	3.5-10 bar
Ø Cylinder Bore	80 mm
Displacement	114.8 cm <sup>3</sup>
Acuation (open / close)	0.12 s / 0.12 s
Repeatability	± 0.025

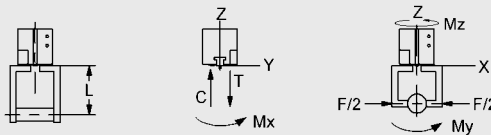
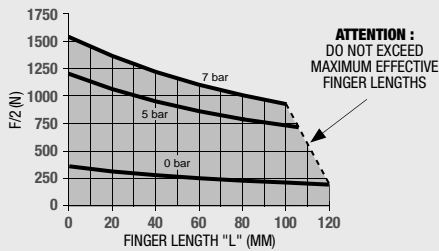
1. Force with spring and air at 6bar  
2. Force with spring without air

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



Loading Capacity*	Static	Dynamic
Maximum Tensile <b>T</b>	1375 N	209 N
Maximum Compressive <b>C</b>	1500 N	209 N
Maximum Moment <b>M<sub>x</sub></b>	48 Nm	16 Nm
Maximum Moment <b>M<sub>y</sub></b>	72 Nm	24 Nm
Maximum Moment <b>M<sub>z</sub></b>	68 Nm	22 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How to Order: (Order Accessories separately from Basic Model)

BASE MODEL    ANGULAR JAW    VITON® SEALS

**CP-6** - [ ] - **Q** - **SD** - **V**

**RE** External Gripping  
**RI** Internal Gripping

**SPRINGS**

**SENSOR MOUNTS**

### SENSOR ACCESSORIES

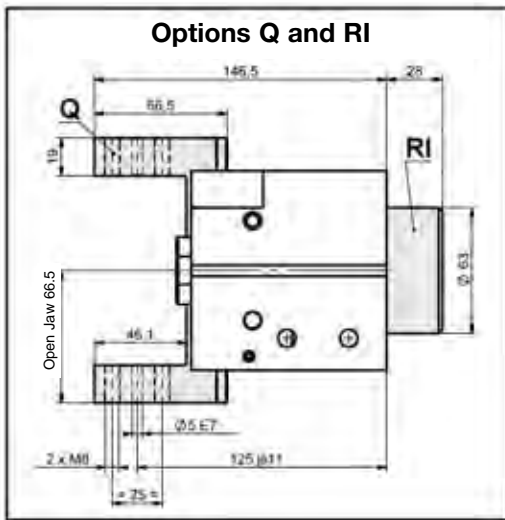
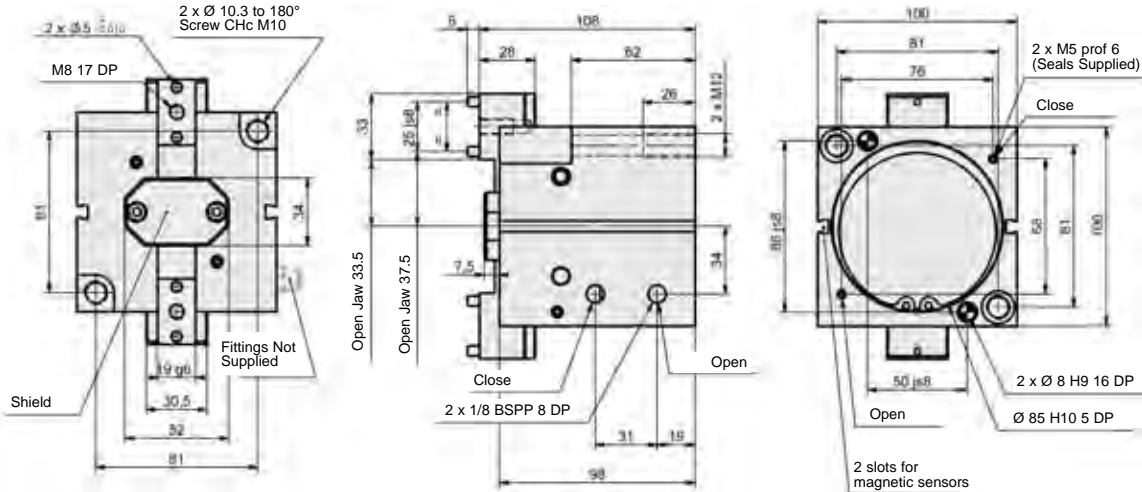
	ORDER #	QTY/UNIT
PNP Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D1</b>	1 or 2
NPN Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D10</b>	1 or 2
PNP Sensor with 0.3m Output Cable with M8 connector	<b>D4</b>	1 or 2
NPN Sensor with 0.3m Output Cable with M8 connector	<b>D7</b>	1 or 2
Inductive Sensor Mounting Kit for (mounts 2 sensors) ( <b>SD</b> )	<b>SDCP6</b>	1
Inductive PNP Sensor with M12 Connector	<b>OISP-017-C</b>	1 or 2
Inductive NPN Sensor with M12 Connector	<b>OINP-017-C</b>	1 or 2
Quick Disconnect 2 Meter M12 Cable Length	<b>CABL-014</b>	1 or 2

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SCP6</b>	1
Viton® Seal Repair Kit	<b>SCP6V</b>	1
Repair Kit (screws, springs, standard seals)	<b>KSCP6</b>	1
Repair Kit (screws, springs, seals Viton)	<b>KSCP6V</b>	1

Accessories: see page 70



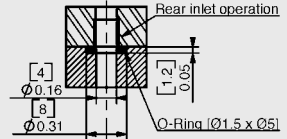


### Specifications

	<b>CP-6-C</b>
Grip Force (F6+R) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	2092 N
Grip Force (F0+R) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	541 N
Total Stroke	32 mm
Weight	2.56 kg
Pressure Range	2-10 bar
Pressure Range with Springs	3.5-10 bar
Ø Cylinder Bore	80 mm
Displacement	114.8 cm <sup>3</sup>
Acuation (open / close)	0.12 s / 0.12 s
Repeatability	± 0.025

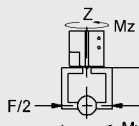
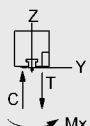
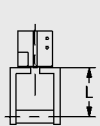
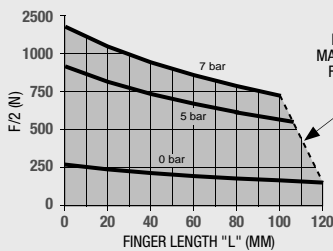
1. Force with spring and air at 6bar  
2. Force with spring without air

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



<b>Loading Capacity*</b>	<b>Static</b>	<b>Dynamic</b>
Maximum Tensile <b>T</b>	1340 N	279 N
Maximum Compressive <b>C</b>	1450 N	279 N
Maximum Moment <b>Mx</b>	42 Nm	14 Nm
Maximum Moment <b>My</b>	70 Nm	23 Nm
Maximum Moment <b>Mz</b>	64 Nm	21 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How to Order: (Order Accessories separately from Basic Model)

BASE MODEL

ANGULAR JAW

LONG STROKE

**CP-6 - [ ] - Q - SD - C - V**

RE External Gripping  
RI Internal Gripping

SPRINGS

SENSOR MOUNTS

VITON® SEALS

### SENSOR ACCESSORIES

	<b>ORDER #</b>	<b>QTY/UNIT</b>
PNP Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D1</b>	1 or 2
NPN Sensor with 0.3m Output Cable with 90° with M8 connector	<b>D10</b>	1 or 2
PNP Sensor with 0.3m Output Cable with M8 connector	<b>D4</b>	1 or 2
NPN Sensor with 0.3m Output Cable with M8 connector	<b>D7</b>	1 or 2
Inductive Sensor Mounting Kit for (mounts 2 sensors) ( <b>SD</b> )	<b>SDCP6</b>	1
Inductive PNP Sensor with M8 Connector	<b>OISP-017-C</b>	1 or 2
Inductive NPN Sensor with M8 Connector	<b>OINP-017-C</b>	1 or 2
Quick Disconnect 2 Meter Cable Length	<b>CABL-014</b>	1 or 2

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SCP6</b>	1
Viton® Seal Repair Kit	<b>SCP6V</b>	1
Repair Kit (screws, springs, standard seals)	<b>KSCP6</b>	1
Repair Kit (screws, springs, seals Viton)	<b>KSCP6V</b>	1

Accessories: see page 70

# OPTIONS AND ACCESSORIES

1.72

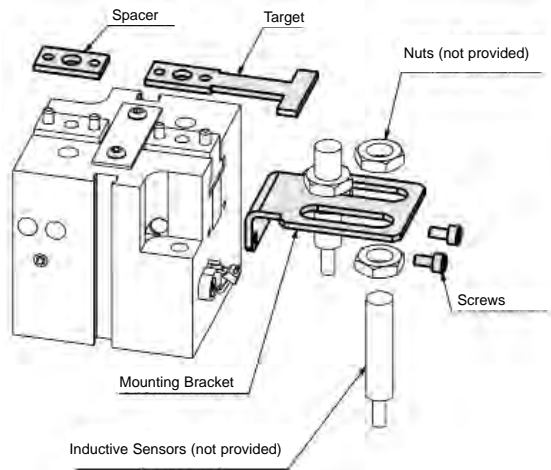
## Accessories (SD): Inductive Sensor Mounting Kit

Allows for sensing of two positions: open and closed jaw. The accessory kit (SD) includes: 1 sensor bracket, 1 flag and screws. **Sensors are not provided.**

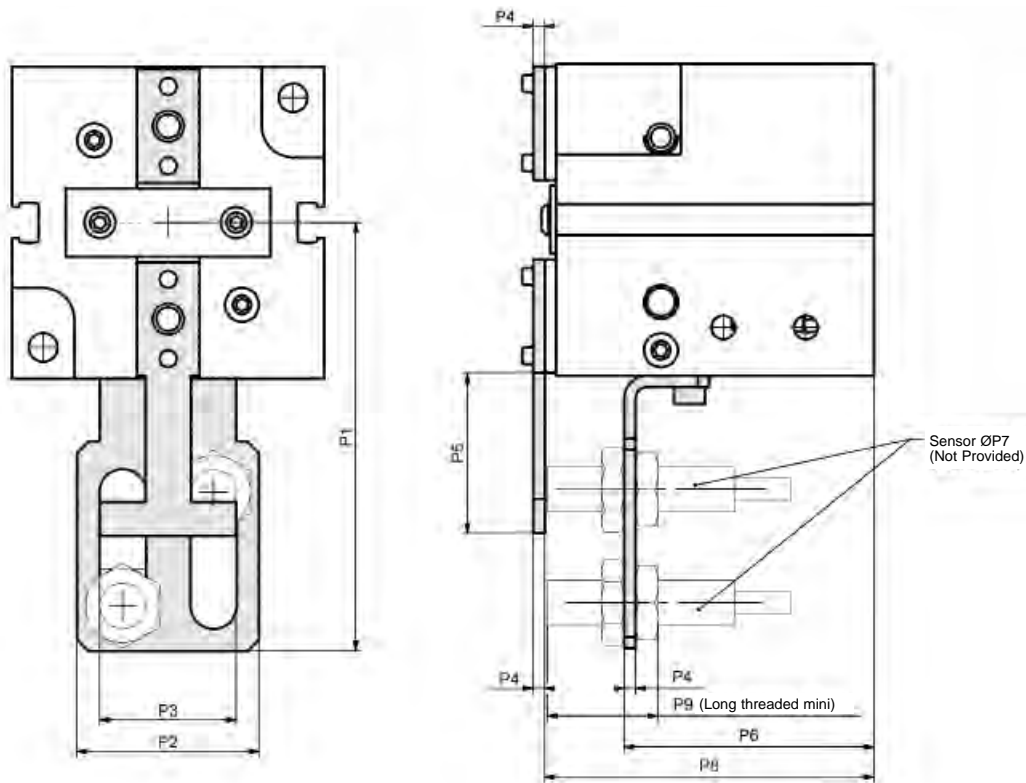
**NOTES:**

To be usable, the cylindrical inductive sensors selected by the customer must have tapped their bodies to a minimum depth H (see table below).

Depending on their length, the cylindrical inductive sensors can extend below the clamp, requiring provision of suitable housing in the surrounding parts. It is possible to control more than 2 positions using a second attachment (SD).



MODELS	P1	P2	P3	P4	P5	P6	P7	P8	P9	Order #
CP-1										accessory not available
CP-1-C										accessory not available
CP-2	58	32	24	2	21.9	35.5	8	48	18	<b>SDCP2</b>
CP-2-C	58	32	24	2	21.9	35.5	8	48	18	<b>SDCP2</b>
CP-3	75.5	32	24	2	28.2	44	8	58	20	<b>SDCP3</b>
CP-3-C	75.5	32	24	2	28.2	44	8	63	24	<b>SDCP3</b>
CP-4	80.5	32	24	2	27	52.5	8	73	26	<b>SDCP4</b>
CP-4-C	80.5	32	24	2	27	52.5	8	73.5	27	<b>SDCP4</b>
CP-5	108	43	28	2.5	38	60	12	85	33	<b>SDCP5</b>
CP-5-C	108	43	28	2.5	38	60	12	85	33	<b>SDCP5</b>
CP-6	118	43	28	2.5	39	76.5	12	108	39	<b>SDCP6</b>
CP-6-C	118	43	28	2.5	39	76.5	12	108	39	<b>SDCP6</b>



## Option (V) : Viton® Seals

Gripper with Viton® seals allows for use in high temperature environments [-30 ° C or 150 ° C].



# Parallel Grippers - DPP DIRECTCONNECT™ Precision Series

## • Multiple Mounting Locations:

All sizes have DIRECTCONNECT top mounting and DIRECTCONNECT thru hole mounting on back side.

## • Multiple Air Port Locations:

Multiple airport locations: tapped air ports on front, top and both sides are standard. Top port is also manifold ready.

## • Sensing options:

Magneto resistive or inductive proximity sensors available. Up to 4 positions can be sensed.

## • Precision applications:

Preloaded "Dual-V" roller bearings eliminate side play for excellent part position repeatability.

## • Longer finger applications:

Rigid design and low friction design allows for longer gripper finger lengths to be used when compared to other grippers of equal weight & size.

## • Delicate part handling:

Low friction mechanism allows for repeatable gripping forces for holding delicate parts. Grip force is easily adjusted by regulating air pressure.

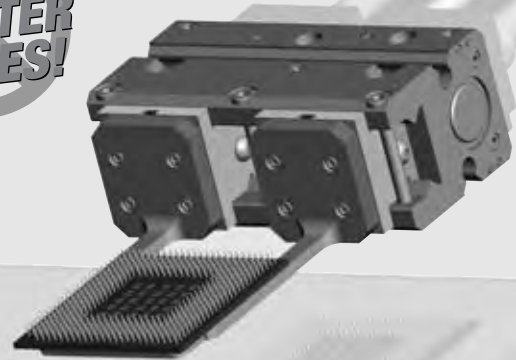
## • Non-synchronous motion:

Non-synchronous option provides independent jaw motion allowing the gripper to pick or place at a point other than its center.

## • Spring return:

Optional double acting spring assist for increased force or fail-safe operation or operate as a single acting to open and to spring closed.

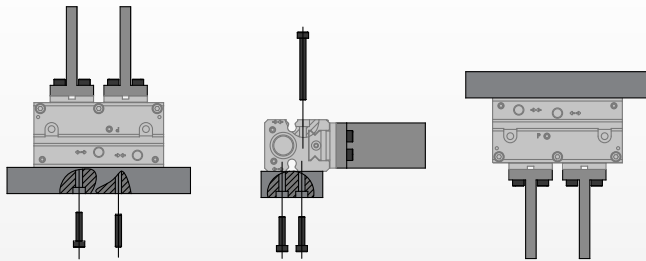
**NO  
ADAPTER  
PLATES!**



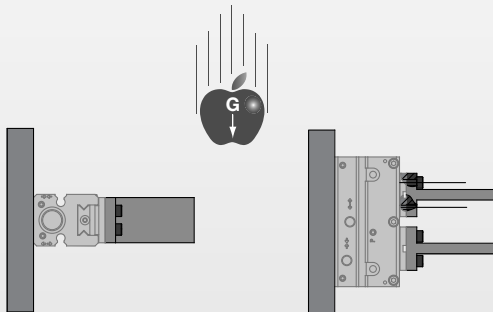
**DIRECTCONNECT™**  
ADVANCED MODULAR AUTOMATION TECHNOLOGY

## Mounting Information:

Grippers can be mounted & operated in any orientation



Body mounts with screws and locates with H7 dowel pins for accuracy



Fingers attach to jaws with screws and locate by key slot and/or H7 dowel pins

## Technical Specifications:

### Pneumatic Specifications

Pressure Operating Range  
Standard  
-C Spring Closed Option  
Cylinder Type

### Imperial

5-100 psi  
20-100 psi

### Metric

0.3-7 bar  
1.5-7 bar

Dynamic Seals  
Valve Required to Operate

Double Acting or  
Single Acting Spring Return or  
Double Acting Spring Assist  
Internally Lubricated Buna-N  
4-way, 2-position for Double Acting  
or  
3-way, 2-position for Single Acting

### Air Quality Requirements

Air Filtration  
Air Lubrication  
Air Humidity

40 Micron or Better  
Not Necessary\*  
Low Moisture Content (dry)

### Temperature Operating Range

Buna-N Seals (standard)  
Viton® Seals (optional)

-30°~180° F  
-20°~250° F

-35°~80° C  
-30°~120° C

### Maintenance Specifications†

Expected Life  
Normal Application  
w/Preventative Maintenance  
Field Repairable  
Seal Repair Kits Available

5 million cycles  
10+ million cycles\*  
Yes  
Yes

### Application Restrictions

- Dirty or gritty environments
- Machine operations generating chips
- Environments with loose particulate
- Applications where mechanism lubricant could cause contamination

\*Addition of lubrication will greatly increase service life  
†See Maintenance Section

## Product Features

### Excellent Accuracy

Excellent parallelism and accuracy between gripper mounting surface and jaw surfaces

### Standard Purge/Scavenge Port

Used with a vacuum for clean room environments or positive pressure for harsh environments and jaw surfaces

### Shielded Design

Shielded design repels contamination from penetrating the "Dual-V" roller bearings

### Accessory Mounting Slots

For Magneto Resistive and Inductive sensors (Sensors sold separately)

### Top Manifold Air Ports

Eliminates the need for airlines

### Hard Coat Anodize

One piece, aircraft quality aluminum body, has hard-coat anodize 60 RC with Teflon impregnation

### Multiple Air Port Locations

4 standard locations; front, top and both sides

### DIRECTCONNECT Mounting Patterns

DIRECTCONNECT™ tapped and dowel mounting surfaces on top and side of body.

### Superior Jaw Support

Jaws are supported using our patented "Dual-V" roller bearing design

### Dowel Holes

H7 dowel pin holes in body and jaws. Jaws also have key slot for better finger alignment

### Hardened Plated Jaws

For wear resistance and longer life

### "Dual-V" Roller Bearings

Provide low friction motion and are preloaded for maximum support and zero side play

### Adjustable Pre-load Screws

Allows for adjustment of preload on roller bearings

### Multiple Sensor Capabilities

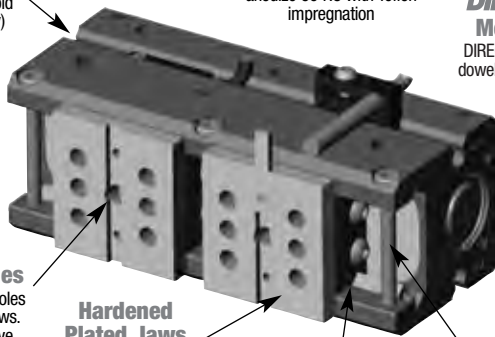
Capable of sensing both jaws in the open and closed positions (up to 4 sensors can be used for multi-position sensing)  
Sensor magnets on pistons come standard for Magneto Resistive Sensing

### Viton Seals

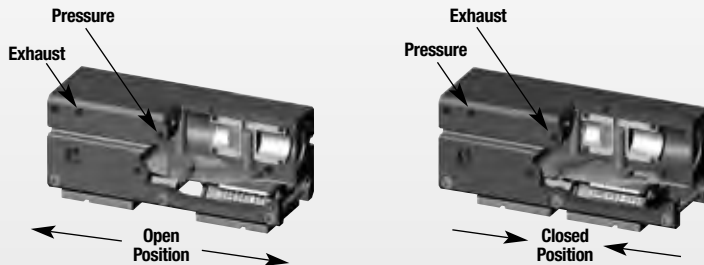
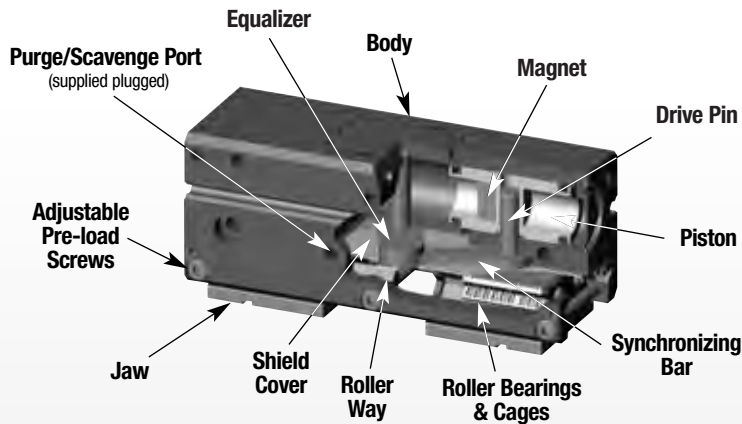
Available for high temperature applications

### High Grip Force

With respect to weight due to extremely efficient drive mechanism



## Operating Principle



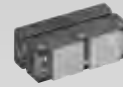
- Dual double acting opposed pistons, connected to both a jaw and a synchronizing bar by a drive pin, actuate in opposite directions.
- The synchronizing bars are connected to the equalizer which synchronizes the motion.
- Suitable for internal or external gripping.
- The synchronizing elements can be removed for non-synchronous operation.

**Designed, manufactured and assembled in the USA**

## Style -DPP Parallel Gripper

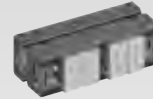
### Size -10M-06

Style:	10M-06
Stroke:	0.25 in. 6.4 mm
Grip Force:	25 lbs. 111 N
Weight:	0.35 lbs. 0.16 Kg



### Size -10M-12

Style:	10M-12
Stroke:	0.50 in. 12.7 mm
Grip Force:	25 lbs. 111 N
Weight:	0.45 lbs. 0.20 Kg



## Style -DPP Parallel Gripper

### Size -14M-15

Style:	14M-15
Stroke:	0.63 in. 15.9 mm
Grip Force:	45 lbs. 200 N
Weight:	1.05 lbs. 0.48 Kg



### Size -14M-25

Style:	14M-25
Stroke:	1.00 in. 25.4 mm
Grip Force:	45 lbs. 200 N
Weight:	1.25 lbs. 0.57 Kg



## Style -DPP Parallel Gripper

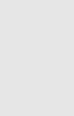
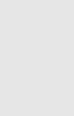
### Size -20M-25

Style:	20M-25
Stroke:	1.00 in. 25.4 mm
Grip Force:	95 lbs. 423 N
Weight:	2.25 lbs. 1.02 Kg



### Size -20M-38

Style:	20M-38
Stroke:	1.50 in. 38.1 mm
Grip Force:	95 lbs. 423 N
Weight:	3.10 lbs. 1.41 Kg



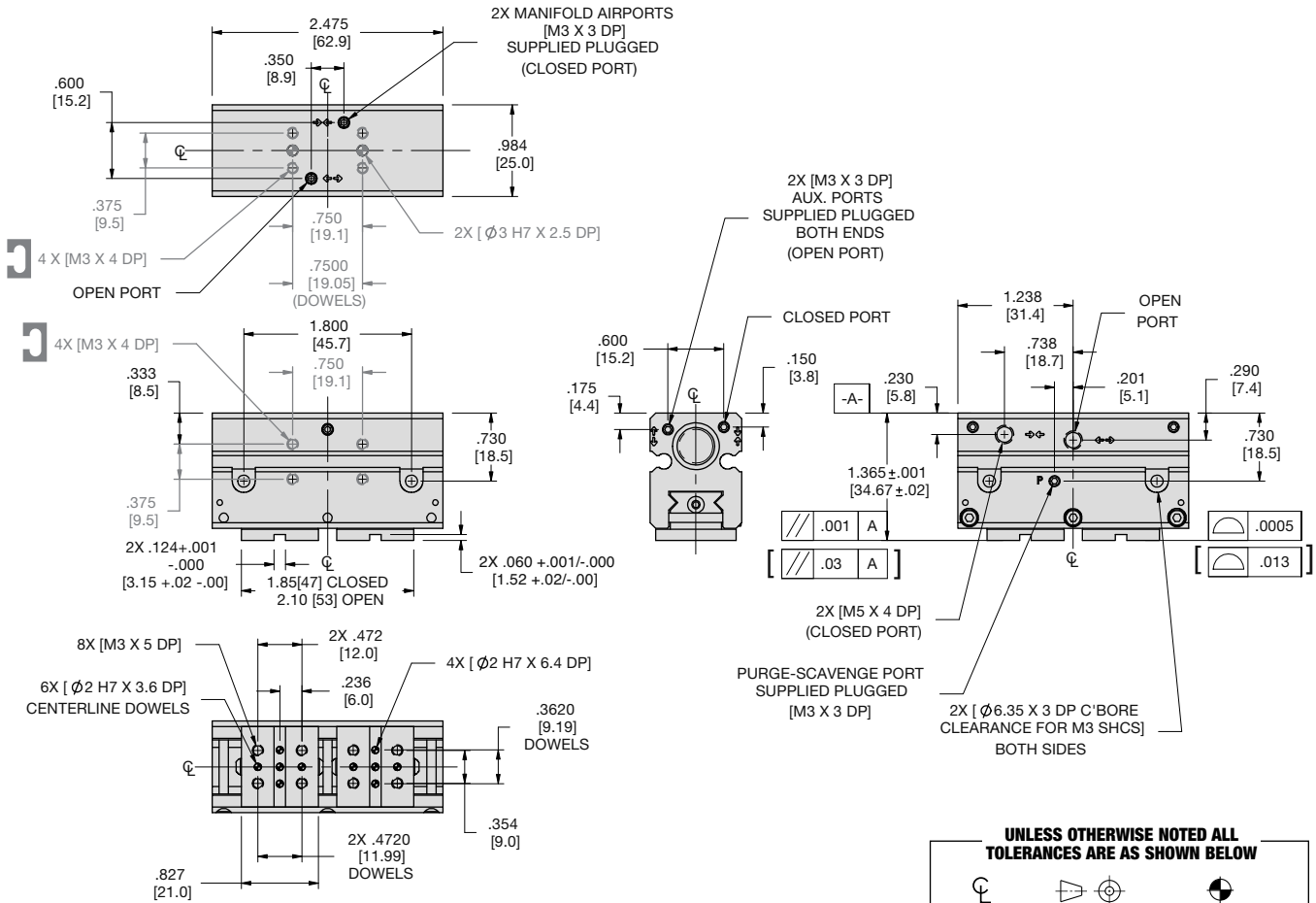




# PARALLEL GRIPPERS DPP-10M-06 DIRECTCONNECT PRECISION SERIES

DPP SERIES

1.76



**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or (±.013mm)
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0] = (±.25) [0.0] = (±.13) [0.00] = (±.013)

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

BASIC MODEL    SPRING    VITON SEALS

**DPP-10M-06 - C - NS - V**

NON-SYNCHRONOUS

**SPRING C** Spring Closed  
— Leave Blank. No Spring Option (standard)

**JAW SYNCHRONIZATION NS** Non-Synchronous Operation  
— Leave Blank for Synchronous (standard)

**VITON® SEALS V** High Temperature Viton Seals

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Inductive Sensor Mounting Kit (Mounts 2 sensors)	<b>OSMK-119</b>	<b>1 or 2</b>
NPN Inductive Sensor (with Qk. Disc.)*	<b>OISN-014</b>	<b>1, 2, 3 or 4</b>
PNP Inductive Sensor (with Qk. Disc.)*	<b>OISP-014</b>	<b>1, 2, 3 or 4</b>
NPN Magneto Resistive Sensor (with Qk. Disc.)*†	<b>OHSN-017</b>	<b>1, 2, 3 or 4</b>
PNP Magneto Resistive Sensor (with Qk. Disc.)*†	<b>OHSP-017</b>	<b>1, 2, 3 or 4</b>
NPN Magneto Resistive Sensor 90° (with Qk. Disc.)*†	<b>OHSN-011</b>	<b>1, 2, 3 or 4</b>
PNP Magneto Resistive Sensor 90° (with Qk. Disc.)*†	<b>OHSP-011</b>	<b>1, 2, 3 or 4</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1, 2, 3 or 4</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1, 2, 3 or 4</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Seal Repair Kit (Standard Buna-N)	<b>SLKT-343</b>	<b>1</b>
Seal Repair Kit (Viton)	<b>SLKT-343V</b>	<b>1</b>
Manifold Seal Kit (Viton® only)	<b>SLKT-241V</b>	<b>1</b>
Adjustable Flow Control-M3 Elbow-3MM OD Tube Push-in Style	<b>VLVF-018</b>	<b>1 or 2</b>
Adjustable Flow Control-M5 Elbow-6MM OD Tube Push-in Style	<b>VLVF-008</b>	<b>1 or 2</b>
Fail Safe Valve- M5	<b>OFSV-004</b>	<b>1</b>

\*Sensor and cable sold separately. †Piston Magnet standard

### SAMPLE ORDER: DPP-10M-06-C-NS-V

Ex: DPP-10 Metric Gripper, 6mm Stroke, Spring Closed, Non Synchronous, Viton Seals

DIRECTCONNECT™





# PARALLEL GRIPPERS DPP-10M-06 DIRECTCONNECT PRECISION SERIES

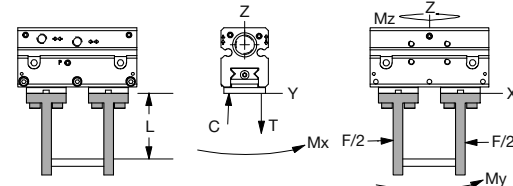
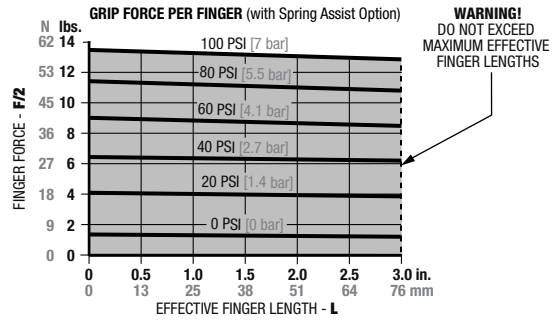
DPP SERIES

1.77



Specifications	DPP-10M-06	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	27 lbs.	120 N
Stroke	0.25 in.	6.4 mm
Weight	0.35 lbs.	0.16 Kg
Pressure Range (Without Springs)	5-100 psi	0.3-7 bar
Pressure Range (With Springs)	20-100 psi	1.4-7 bar
Cylinder Bore (2X)	0.406 in.	10.3 mm
Displacement	0.032 in <sup>3</sup>	0.5 cm <sup>3</sup>
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~150° C
Actuation (Without Spring/With Spring)	0.10/0.11 sec.	0.10/0.11 sec.
Accuracy	±0.001 in.	±0.03 mm
Repeatability	±0.0005 in.	±0.01 mm
Valve required to actuate single acting	3-way, 2-position	
Valve required to actuate double acting	4-way, 2-position	

\*With Springs

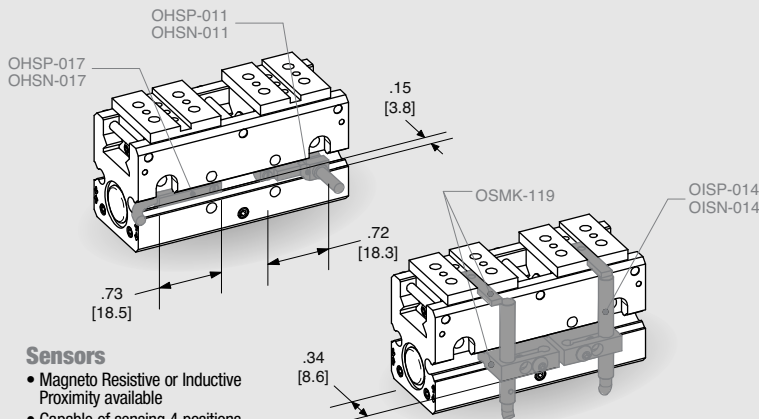


### Loading Capacity

	Static	Dynamic
Maximum Tensile <b>T</b>	60 lbs. [267 N]	20 lbs. [89 N]
Maximum Compressive <b>C</b>	60 lbs. [267 N]	20 lbs. [89 N]
Maximum Moment <b>M<sub>x</sub></b>	35 in.-lbs. [4.0 Nm]	12 in.-lbs. [1.4 Nm]
Maximum Moment <b>M<sub>y</sub></b>	50 in.-lbs. [5.6 Nm]	17 in.-lbs. [1.9 Nm]
Maximum Moment <b>M<sub>z</sub></b>	35 in.-lbs. [4.0 Nm]	12 in.-lbs. [1.4 Nm]

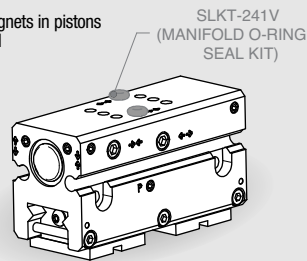
Note: Capacities are per set of jaws and are not simultaneous.

## Accessory Mounting Technical Data



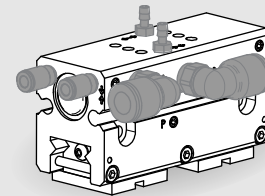
### Sensors

- Magneto Resistive or Inductive Proximity available
- Capable of sensing 4 positions open and closed on both jaws
- PNP and NPN available
- Magneto resistive sensors are slot mounted, no mounting kits required
- Threaded Quick Disconnect with Built-in LED output
- Sensors mount on either side of gripper
- Sensors magnets in pistons are standard



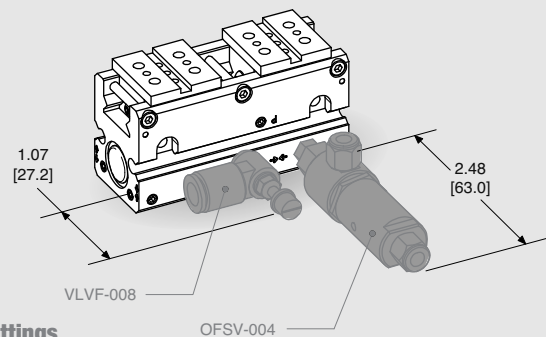
### Manifold O-Ring Seals

- Can be used to seal top Air Ports
- Seals in manifold kit are Viton
- O-Ring C'bores in customer's mounting plate must be:  $\varnothing.215$  [05.5] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs and wrenches needed



### Multiple Air Port Locations

- Standard M5 Air Ports on front surface
- 3 M3 Air Port locations (Left, right, and top surface) are plugged as standard



### Plumbing Fittings

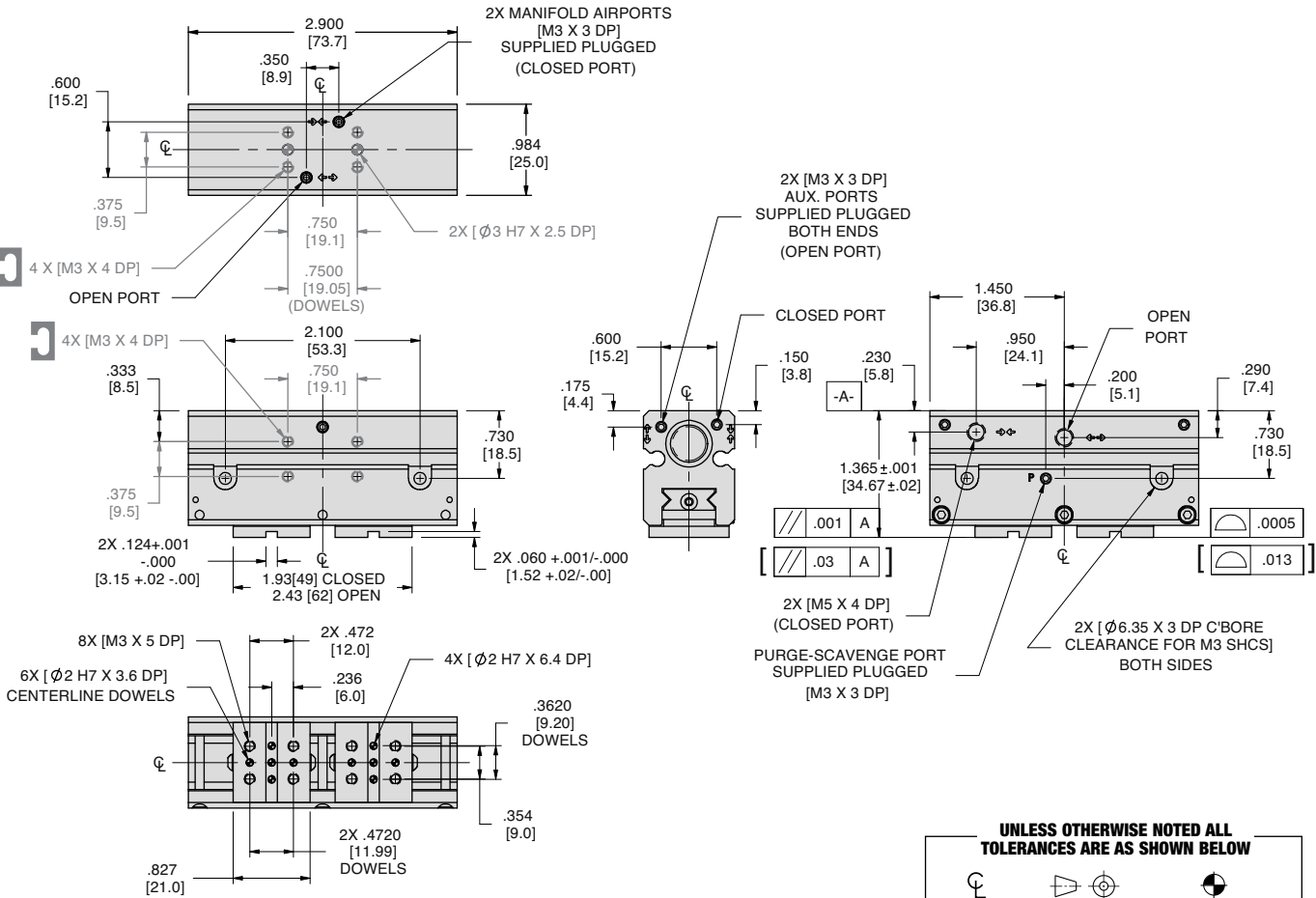
- Adjustable flow controls
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 3mm or 6mm O.D. Tubing
- Failsafe valve for applications
  - Where it is critical that the part being gripped not be dropped if air pressure is lost
  - Can mount directly to gripper or in-line with plumbing to gripper
  - For M5 Air Ports
- Consult factory for additional plumbing fittings

DIRECTCONNECT™





# PARALLEL GRIPPERS DPP-10M-12 DIRECTCONNECT PRECISION SERIES

DPP SERIES

1.78



**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

		
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or (±.013mm)
	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0] = (±.25) [0.0] = (±.13) [0.00] = (±.013)
Metric Threads Course Pitch		

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**    **SPRING**    **VITON SEALS**

**DPP-10M-12 - C - NS - V**

**NON-SYNCHRONOUS**

**SPRING**    **C** Spring Closed  
                  — Leave Blank. No Spring Option (standard)

**JAW SYNCHRONIZATION**    **NS** Non-Synchronous Operation  
  — Leave Blank for Synchronous (standard)

**VITON® SEALS**    **V** High Temperature Viton Seals

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Inductive Sensor Mounting Kit (Mounts 2 sensors)	<b>OSMK-119</b>	<b>1 or 2</b>
NPN Inductive Sensor (with Qk. Disc.)*	<b>OISN-014</b>	<b>1, 2, 3 or 4</b>
PNP Inductive Sensor (with Qk. Disc.)*	<b>OISP-014</b>	<b>1, 2, 3 or 4</b>
NPN Magneto Resistive Sensor (with Qk. Disc.)*†	<b>OHSN-017</b>	<b>1, 2, 3 or 4</b>
PNP Magneto Resistive Sensor (with Qk. Disc.)*†	<b>OHSP-017</b>	<b>1, 2, 3 or 4</b>
NPN Magneto Resistive Sensor 90° (with Qk. Disc.)*†	<b>OHSN-011</b>	<b>1, 2, 3 or 4</b>
PNP Magneto Resistive Sensor 90° (with Qk. Disc.)*†	<b>OHSP-011</b>	<b>1, 2, 3 or 4</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1, 2, 3 or 4</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1, 2, 3 or 4</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Seal Repair Kit (Standard Buna-N)	<b>SLKT-343</b>	<b>1</b>
Seal Repair Kit (Viton)	<b>SLKT-343V</b>	<b>1</b>
Manifold Seal Kit (Viton® only)	<b>SLKT-241V</b>	<b>1</b>
Adjustable Flow Control-M3 Elbow-3MM OD Tube Push-in Style	<b>VLVF-018</b>	<b>1 or 2</b>
Adjustable Flow Control-M5 Elbow-6MM OD Tube Push-in Style	<b>VLVF-008</b>	<b>1 or 2</b>
Fail Safe Valve- M5	<b>OFSV-004</b>	<b>1</b>

\*Sensor and cable sold separately. †Piston Magnet standard

### SAMPLE ORDER: DPP-10M-12-C-NS-V

Ex: DPP-10 Metric Gripper, 12mm Stroke, Spring Closed, Non Synchronous, Viton Seals

DIRECTCONNECT™



# PARALLEL GRIPPERS DPP-10M-12 DIRECTCONNECT PRECISION SERIES

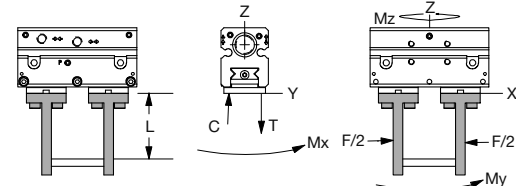
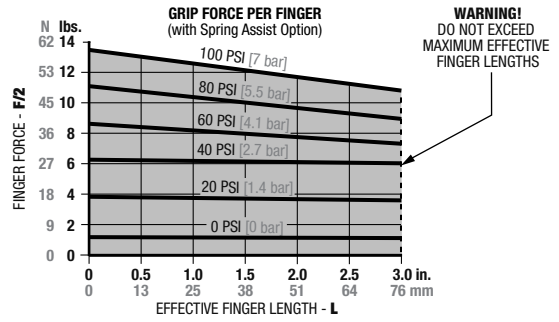
DPP SERIES

1.79



Specifications	DPP-10M-12	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	27 lbs.	120 N
Stroke	0.50 in.	12.7 mm
Weight	0.45 lbs.	0.20 Kg
Pressure Range (Without Springs)	5-100 psi	0.3-7 bar
Pressure Range (With Springs)	20-100 psi	1.4-7 bar
Cylinder Bore (2X)	0.406 in.	10.3 mm
Displacement	0.065 in <sup>3</sup>	1.1 cm <sup>3</sup>
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation (Without Spring/With Spring)	0.11/0.12 sec.	0.11/0.12 sec.
Accuracy	±0.001 in.	±0.03 mm
Repeatability	±0.0005 in.	±0.01 mm
Valve required to actuate single acting	3-way, 2-position	
Valve required to actuate double acting	4-way, 2-position	

\*With Springs

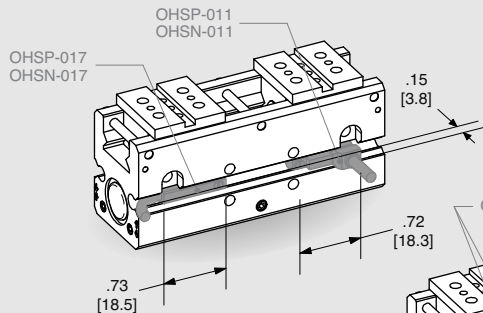


### Loading Capacity

	Static	Dynamic
Maximum Tensile <b>T</b>	70 lbs. [311 N]	23 lbs. [102 N]
Maximum Compressive <b>C</b>	70 lbs. [311 N]	23 lbs. [102 N]
Maximum Moment <b>M<sub>x</sub></b>	50 in.-lbs. [5.6 Nm]	17 in.-lbs. [1.9 Nm]
Maximum Moment <b>M<sub>y</sub></b>	65 in.-lbs. [7.3 Nm]	22 in.-lbs. [2.5 Nm]
Maximum Moment <b>M<sub>z</sub></b>	50 in.-lbs. [5.6 Nm]	17 in.-lbs. [1.9 Nm]

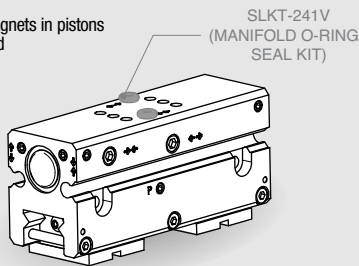
Note: Capacities are per set of jaws and are not simultaneous.

## Accessory Mounting Technical Data



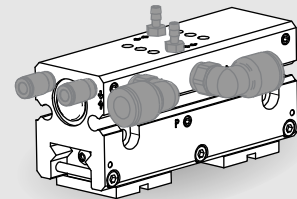
### Sensors

- Magneto Resistive or Inductive Proximity available
- Capable of sensing 4 positions open and closed on both jaws
- PNP and NPN available
- Magneto resistive sensors are slot mounted, no mounting kits required
- Threaded Quick Disconnect with Built-in LED output
- Sensors mount on either side of gripper
- Sensors magnets in pistons are standard



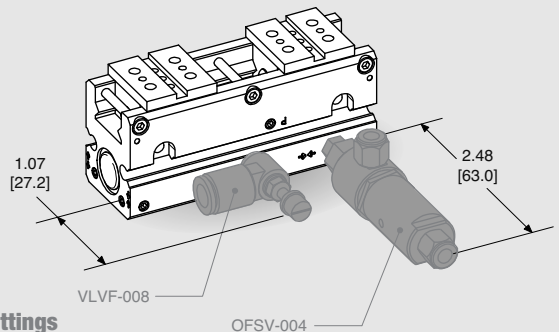
### Manifold O-Ring Seals

- Can be used to seal top Air Ports
- Seals in manifold kit are Viton
- O-Ring C'bores in customer's mounting plate must be:  $\varnothing.215 [\varnothing5.5] \times .060 \pm .002 [1.52 \pm .05]$  deep
- Kit is supplied with all seals, plugs and wrenches needed



### Multiple Air Port Locations

- Standard M5 Air Ports on front surface
- 3 M3 Air Port locations (Left, right, and top surface) are plugged as standard



### Plumbing Fittings

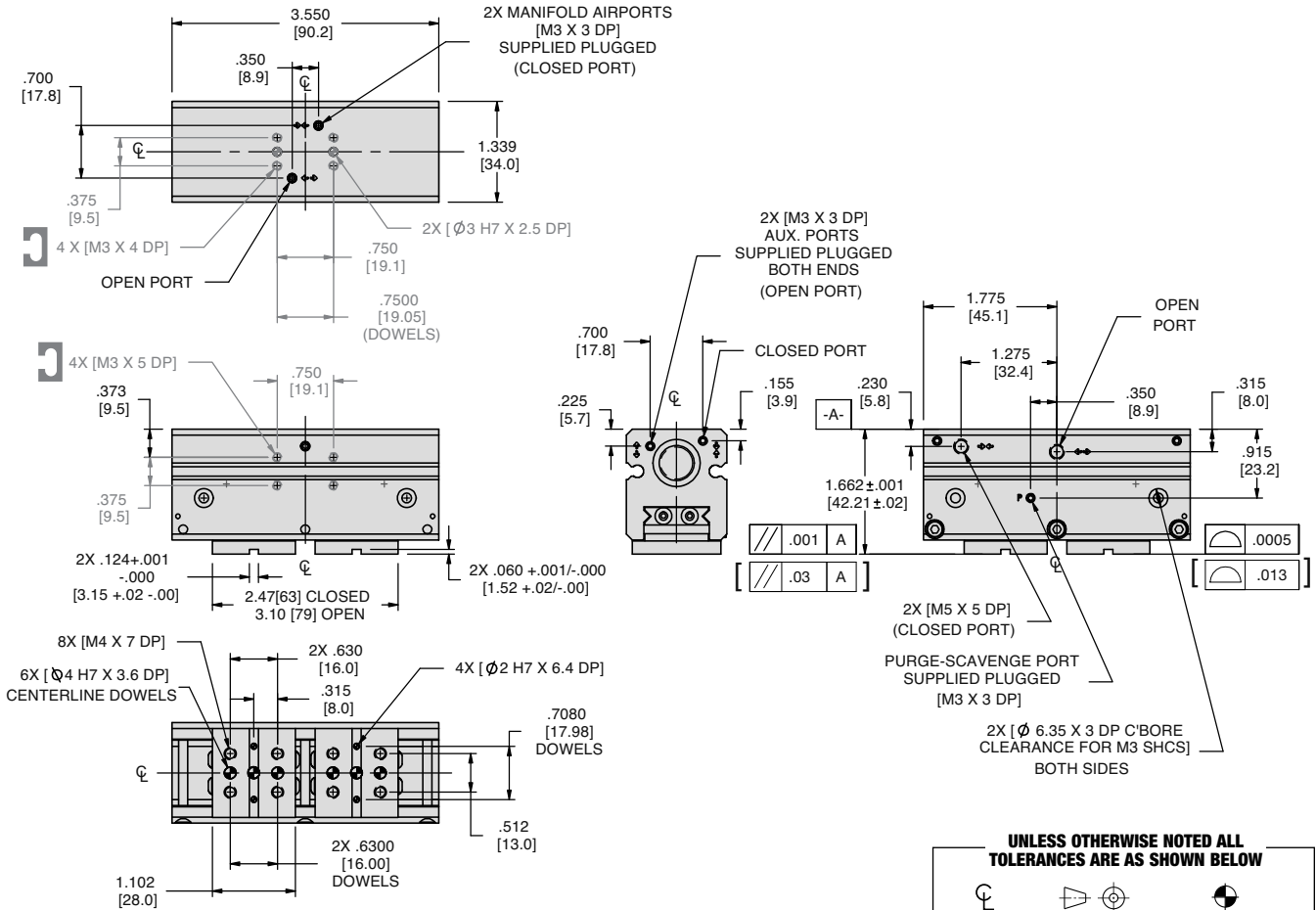
- Adjustable flow controls
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 3mm or 6mm O.D. Tubing
- Failsafe valve for applications
  - Where it is critical that the part being gripped not be dropped if air pressure is lost
  - Can mount directly to gripper or in-line with plumbing to gripper
  - For M5 Air Ports
- Consult factory for additional plumbing fittings

DIRECTCONNECT™

# PARALLEL GRIPPERS DPP-14M-15 DIRECTCONNECT PRECISION SERIES

DPP SERIES

1.80



**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or (±.013mm)
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ± .01 0.000 = ± .005 0.0000 = ± .0005	<b>Metric [mm]</b> [0] = (±.25) [0.0] = (±.13) [0.00] = (±.013)

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

BASIC MODEL    SPRING    VITON SEALS

**DPP-14M-15 - C - NS - V**

NON-SYNCHRONOUS

**SPRING C** Spring Closed  
— Leave Blank. No Spring Option (standard)

**JAW SYNCHRONIZATION NS** Non-Synchronous Operation  
— Leave Blank for Synchronous (standard)

**VITON® SEALS V** High Temperature Viton Seals

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Inductive Sensor Mounting Kit (Mounts 2 sensors)	<b>OSMK-119</b>	<b>1 or 2</b>
NPN Inductive Sensor (with Qk. Disc.)*	<b>OISN-014</b>	<b>1, 2, 3 or 4</b>
PNP Inductive Sensor (with Qk. Disc.)*	<b>OISP-014</b>	<b>1, 2, 3 or 4</b>
NPN Magneto Resistive Sensor (with Qk. Disc.)*†	<b>OHSN-017</b>	<b>1, 2, 3 or 4</b>
PNP Magneto Resistive Sensor (with Qk. Disc.)*†	<b>OHSP-017</b>	<b>1, 2, 3 or 4</b>
NPN Magneto Resistive Sensor 90° (with Qk. Disc.)*†	<b>OHSN-011</b>	<b>1, 2, 3 or 4</b>
PNP Magneto Resistive Sensor 90° (with Qk. Disc.)*†	<b>OHSP-011</b>	<b>1, 2, 3 or 4</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1, 2, 3 or 4</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1, 2, 3 or 4</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Seal Repair Kit (Standard Buna-N)	<b>SLKT-344</b>	<b>1</b>
Seal Repair Kit (Viton)	<b>SLKT-344V</b>	<b>1</b>
Manifold Seal Kit (Viton® only)	<b>SLKT-241V</b>	<b>1</b>
Adjustable Flow Control-M3 Elbow-3MM OD Tube Push-in Style	<b>VLVF-018</b>	<b>1 or 2</b>
Adjustable Flow Control-M5 Elbow-6MM OD Tube Push-in Style	<b>VLVF-008</b>	<b>1 or 2</b>
Fail Safe Valve- M5	<b>OFSV-004</b>	<b>1</b>

\*Sensor and cable sold separately. †Piston Magnet standard

### SAMPLE ORDER: DPP-14M-15-C-NS-V

Ex: DPP-14 Metric Gripper, 15mm Stroke, Spring Closed, Non Synchronous, Viton Seals

DIRECTCONNECT™



# PARALLEL GRIPPERS DPP-14M-15 DIRECTCONNECT PRECISION SERIES

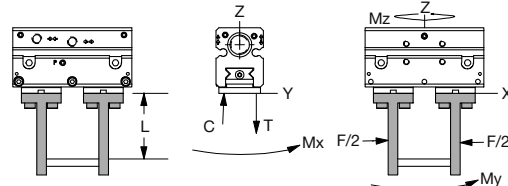
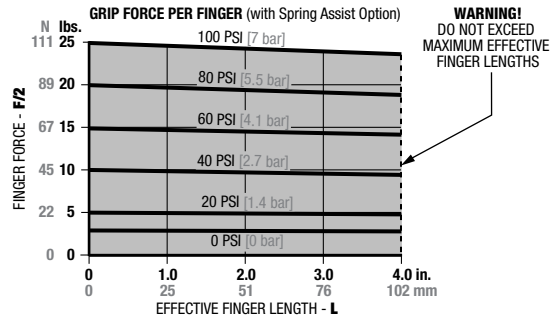
DPP SERIES

1.81



Specifications	DPP-14M-15	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	51 lbs.	227 N
Stroke	0.63 in.	15.9 mm
Weight	1.05 lbs.	0.48 Kg
Pressure Range (Without Springs)	5-100 psi	0.3-7 bar
Pressure Range (With Springs)	50-100 psi	3.4-7 bar
Cylinder Bore (2X)	0.563 in.	14.3 mm
Displacement	0.156 in <sup>3</sup>	2.5 cm <sup>3</sup>
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation (Without Spring/With Spring)	0.15/0.16 sec.	0.15/0.16 sec.
Accuracy	±0.001 in.	±0.03 mm
Repeatability	±0.0005 in.	±0.01 mm
Valve required to actuate single acting	3-way, 2-position	
Valve required to actuate double acting	4-way, 2-position	

\*With Springs

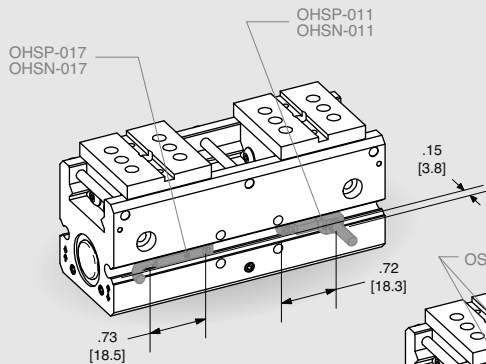


### Loading Capacity

	Static	Dynamic
Maximum Tensile <b>T</b>	125 lbs. [556 N]	42 lbs. [187 N]
Maximum Compressive <b>C</b>	125 lbs. [556 N]	42 lbs. [187 N]
Maximum Moment <b>M<sub>x</sub></b>	80 in.-lbs. [9.0 Nm]	27 in.-lbs. [3.1 Nm]
Maximum Moment <b>M<sub>y</sub></b>	105 in.-lbs. [12 Nm]	35 in.-lbs. [4.0 Nm]
Maximum Moment <b>M<sub>z</sub></b>	80 in.-lbs. [9.0 Nm]	27 in.-lbs. [3.1 Nm]

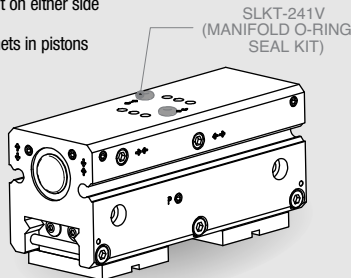
Note: Capacities are per set of jaws and are not simultaneous.

## Accessory Mounting Technical Data



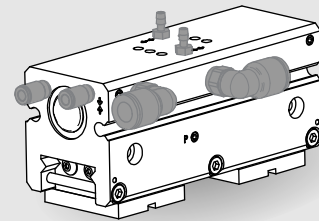
### Sensors

- Magneto Resistive or Inductive Proximity available
- Capable of sensing 4 positions open and closed on both jaws
- PNP and NPN available
- Magneto resistive sensors are slot mounted, no mounting kits required
- Threaded Quick Disconnect with Built-in LED output
- Sensors mount on either side of gripper
- Sensors magnets in pistons are standard



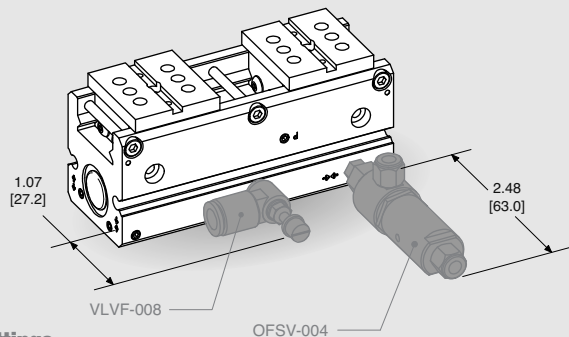
### Manifold O-Ring Seals

- Can be used to seal top Air Ports
- Seals in manifold Kit are Viton
- O-Ring C'bores in customer's mounting plate must be:  $\varnothing.215 [\varnothing5.5] \times .060 \pm .002 [1.52 \pm .05]$  deep
- Kit is supplied with all seals, plugs and wrenches needed



### Multiple Air Port Locations

- Standard M5 Air Ports on front surface
- 3 M3 Air Port locations (Left, right, and top surface) are plugged as standard



### Plumbing Fittings

- Adjustable flow controls
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 3mm or 6mm O.D. Tubing
- Failsafe valve for applications
  - Where it is critical that the part being gripped not be dropped if air pressure is lost
  - Can mount directly to gripper or in-line with plumbing to gripper
  - For M5 Air Ports
- Consult factory for additional plumbing fittings

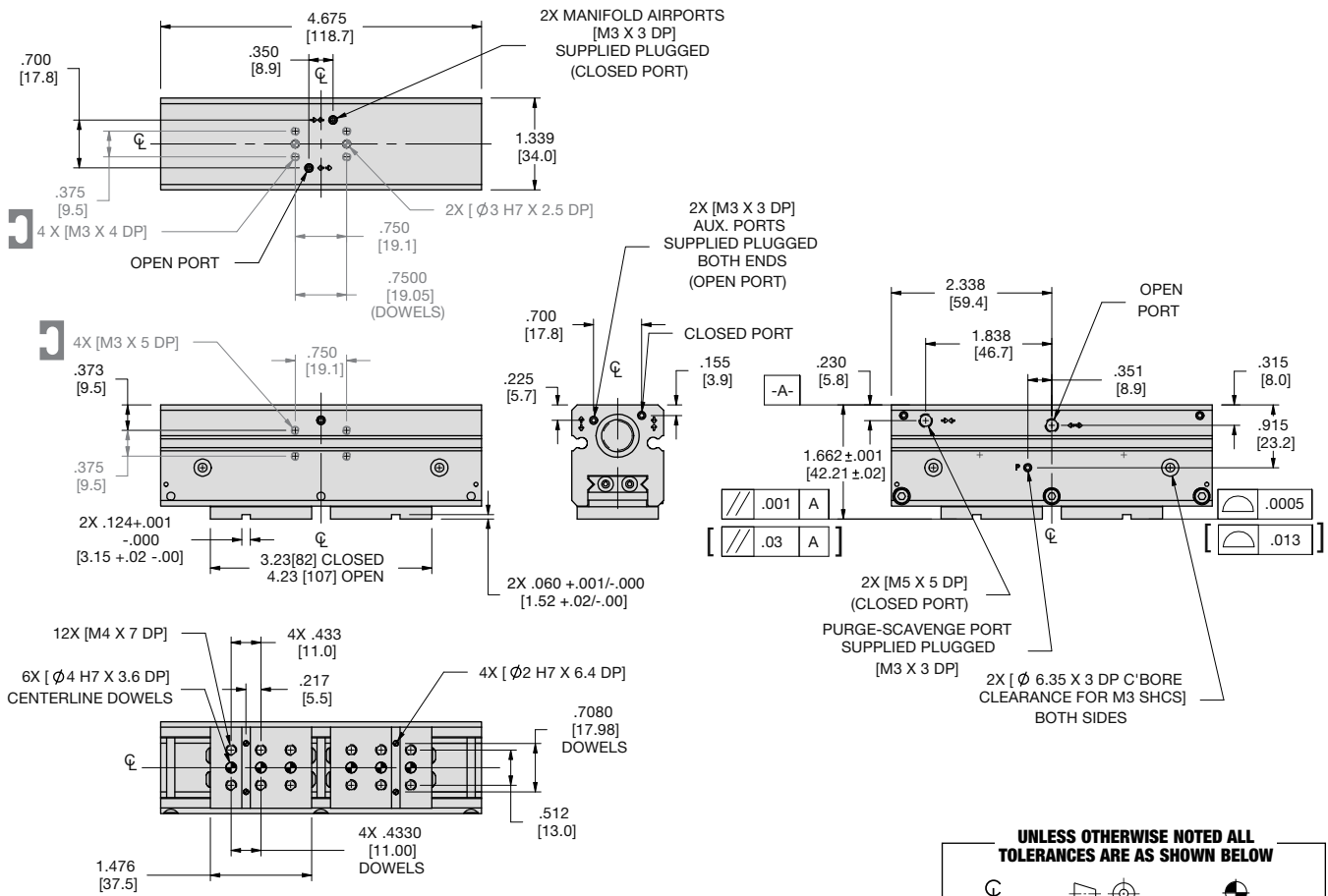
DIRECTCONNECT™



# PARALLEL GRIPPERS DPP-14M-25 DIRECTCONNECT PRECISION SERIES

DPP SERIES

1.82



**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or (±.013mm)
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ± .01 0.000 = ± .005 0.0000 = ± .0005	<b>Metric [mm]</b> [0] = (±.25) [0.0] = (±.13) [0.00] = (±.013)

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**    **SPRING**    **VITON SEALS**

**DPP-14M-25 - C - NS - V**

**NON-SYNCHRONOUS**

**SPRING C** Spring Closed  
— Leave Blank. No Spring Option (standard)

**JAW SYNCHRONIZATION NS** Non-Synchronous Operation  
— Leave Blank for Synchronous (standard)

**VITON® SEALS V** High Temperature Viton Seals

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Inductive Sensor Mounting Kit (Mounts 2 sensors)	<b>OSMK-119</b>	<b>1 or 2</b>
NPN Inductive Sensor (with Qk. Disc.)*	<b>OISN-014</b>	<b>1, 2, 3 or 4</b>
PNP Inductive Sensor (with Qk. Disc.)*	<b>OISP-014</b>	<b>1, 2, 3 or 4</b>
NPN Magneto Resistive Sensor (with Qk. Disc.)*†	<b>OHSN-017</b>	<b>1, 2, 3 or 4</b>
PNP Magneto Resistive Sensor (with Qk. Disc.)*†	<b>OHSP-017</b>	<b>1, 2, 3 or 4</b>
NPN Magneto Resistive Sensor 90° (with Qk. Disc.)*†	<b>OHSN-011</b>	<b>1, 2, 3 or 4</b>
PNP Magneto Resistive Sensor 90° (with Qk. Disc.)*†	<b>OHSP-011</b>	<b>1, 2, 3 or 4</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1, 2, 3 or 4</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1, 2, 3 or 4</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Seal Repair Kit (Standard Buna-N)	<b>SLKT-344</b>	<b>1</b>
Seal Repair Kit (Viton)	<b>SLKT-344V</b>	<b>1</b>
Manifold Seal Kit (Viton® only)	<b>SLKT-241V</b>	<b>1</b>
Adjustable Flow Control-M3 Elbow-3MM OD Tube Push-in Style	<b>VLVF-018</b>	<b>1 or 2</b>
Adjustable Flow Control-M5 Elbow-6MM OD Tube Push-in Style	<b>VLVF-008</b>	<b>1 or 2</b>
Fail Safe Valve- M5	<b>OFSV-004</b>	<b>1</b>

\*Sensor and cable sold separately. †Piston Magnet standard

### SAMPLE ORDER: DPP-14M-25-C-NS-V

Ex: DPP-14 Metric Gripper, 25mm Stroke, Spring Closed, Non Synchronous, Viton Seals





# PARALLEL GRIPPERS DPP-14M-25 DIRECTCONNECT PRECISION SERIES

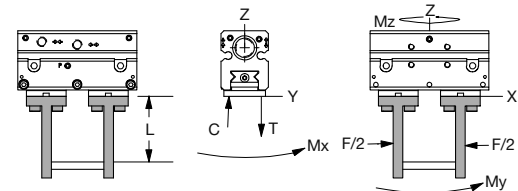
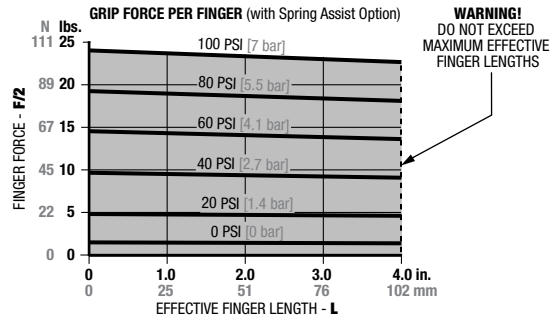
DPP SERIES

1.83



Specifications	DPP-14M-25	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	48 lbs.	214 N
Stroke	1.00 in.	25.4 mm
Weight	1.25 lbs.	0.57 Kg
Pressure Range (Without Springs)	5-100 psi	0.3-7 bar
Pressure Range (With Springs)	50-100 psi	3.4-7 bar
Cylinder Bore (2X)	0.563 in.	14.3 mm
Displacement	0.249 in <sup>3</sup>	4.1 cm <sup>3</sup>
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation (Without Spring/With Spring)	0.19/0.20 sec.	0.19/0.20 sec.
Accuracy	±0.001 in.	±0.03 mm
Repeatability	±0.0005 in.	±0.01 mm
Valve required to actuate single acting	3-way, 2-position	
Valve required to actuate double acting	4-way, 2-position	

\*With Springs

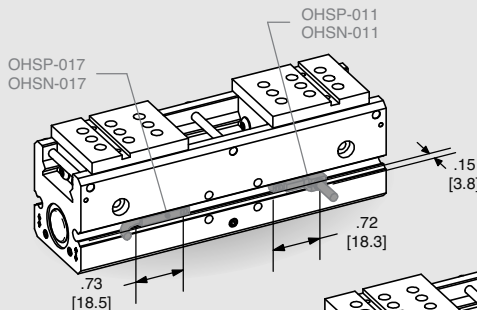


### Loading Capacity

	Static	Dynamic
Maximum Tensile <b>T</b>	165 lbs. [734 N]	55 lbs. [245 N]
Maximum Compressive <b>C</b>	165 lbs. [734 N]	55 lbs. [245 N]
Maximum Moment <b>M<sub>x</sub></b>	100 in.-lbs. [11 Nm]	33 in.-lbs. [3.7 Nm]
Maximum Moment <b>M<sub>y</sub></b>	125 in.-lbs. [14 Nm]	42 in.-lbs. [4.7 Nm]
Maximum Moment <b>M<sub>z</sub></b>	100 in.-lbs. [11 Nm]	33 in.-lbs. [3.7 Nm]

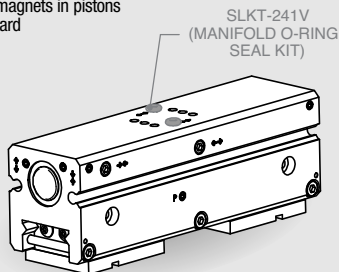
Note: Capacities are per set of jaws and are not simultaneous.

## Accessory Mounting Technical Data



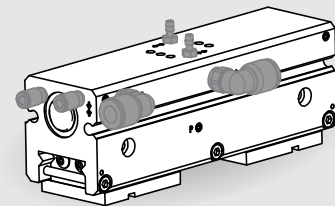
### Sensors

- Magneto Resistive or Inductive Proximity available
- Capable of sensing 4 positions open and closed on both jaws
- PNP and NPN available
- Magneto resistive sensors are slot mounted, no mounting kits required
- Threaded Quick Disconnect with Built-in LED output
- Sensors mount on either side of gripper
- Sensors magnets in pistons are standard



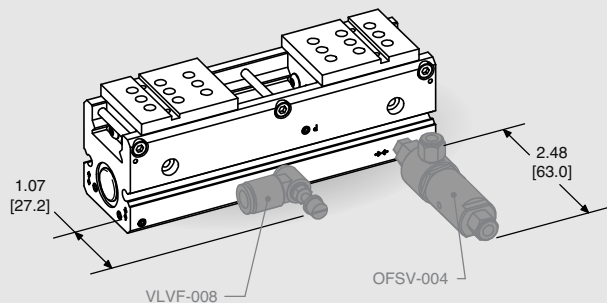
### Manifold O-Ring Seals

- Can be used to seal top Air Ports
- Seals in manifold kit are Viton
- O-Ring C'bores in customer's mounting plate must be:  $\varnothing.215 [\varnothing 5.5] \times .060 \pm .002 [1.52 \pm .05]$  deep
- Kit is supplied with all seals, plugs and wrenches needed



### Multiple Air Port Locations

- Standard M5 Air Ports on front surface
- 3 M3 Air Port locations (Left, right, and top surface) are plugged as standard



### Plumbing Fittings

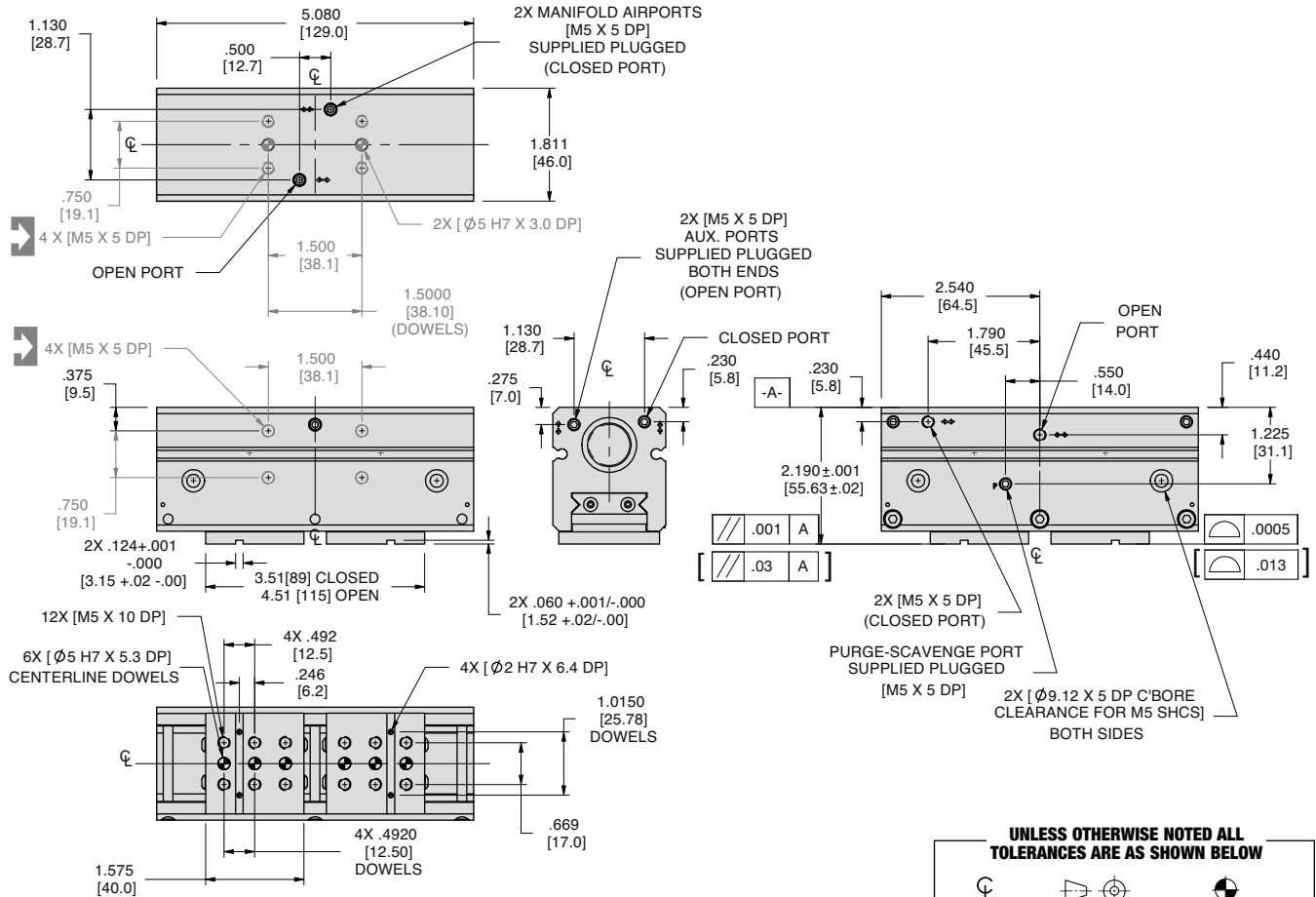
- Adjustable flow controls
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 3mm or 6mm O.D. Tubing
- Failsafe valve for applications
  - Where it is critical that the part being gripped not be dropped if air pressure is lost
  - Can mount directly to gripper or in-line with plumbing to gripper
  - For M5 Air Ports
- Consult factory for additional plumbing fittings

DIRECTCONNECT™

# PARALLEL GRIPPERS DPP-20M-25 DIRECTCONNECT PRECISION SERIES

DPP SERIES

1.84



**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or (±.013mm)
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0] = (±.25) [0.0] = (±.13) [0.00] = (±.013)

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**    **SPRING**    **VITON SEALS**

**DPP-20M-25 - C - NS - V**

**NON-SYNCHRONOUS**

**SPRING C** Spring Closed  
— Leave Blank. No Spring Option (standard)

**JAW SYNCHRONIZATION NS** Non-Synchronous Operation  
— Leave Blank for Synchronous (standard)

**VITON® SEALS V** High Temperature Viton Seals

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Inductive Sensor Mounting Kit (Mounts 2 sensors)	<b>OSMK-120</b>	<b>1 or 2</b>
NPN Inductive Sensor (with Qk. Disc.)*	<b>OISN-014</b>	<b>1, 2, 3 or 4</b>
PNP Inductive Sensor (with Qk. Disc.)*	<b>OISP-014</b>	<b>1, 2, 3 or 4</b>
NPN Magneto Resistive Sensor (with Qk. Disc.)*†	<b>OHSN-017</b>	<b>1, 2, 3 or 4</b>
PNP Magneto Resistive Sensor (with Qk. Disc.)*†	<b>OHSP-017</b>	<b>1, 2, 3 or 4</b>
NPN Magneto Resistive Sensor 90° (with Qk. Disc.)*†	<b>OHSN-011</b>	<b>1, 2, 3 or 4</b>
PNP Magneto Resistive Sensor 90° (with Qk. Disc.)*†	<b>OHSP-011</b>	<b>1, 2, 3 or 4</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1, 2, 3 or 4</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1, 2, 3 or 4</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Seal Repair Kit (Standard Buna-N)	<b>SLKT-345</b>	<b>1</b>
Seal Repair Kit (Viton)	<b>SLKT-345V</b>	<b>1</b>
Manifold Seal Kit (Viton® only)	<b>SLKT-242V</b>	<b>1</b>
Adjustable Flow Control-M5 Elbow-6MM OD Tube Push-in Style	<b>VLVF-008</b>	<b>1 or 2</b>
Fail Safe Valve- M5	<b>OFSV-004</b>	<b>1</b>

\*Sensor and cable sold separately. †Piston Magnet standard

### SAMPLE ORDER: DPP-20M-25-C-NS-V

Ex: DPP-20 Metric Gripper, 25mm Stroke, Spring Closed, Non Synchronous, Viton Seals



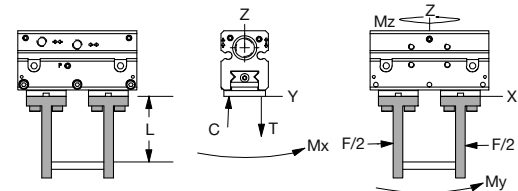
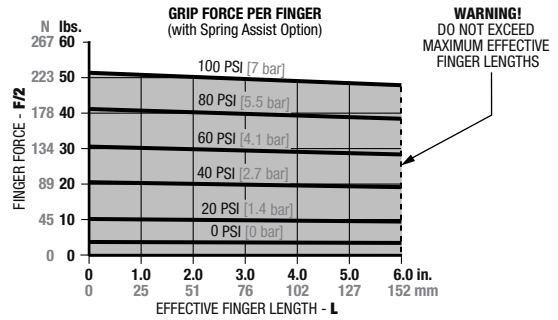
# PARALLEL GRIPPERS DPP-20M-25 DIRECTCONNECT PRECISION SERIES

DPP SERIES

1.85

Specifications	DPP-20M-25	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	103 lbs.	458 N
Stroke	1.00 in.	25.4 mm
Weight	2.25 lbs.	1.02 Kg
Pressure Range (Without Springs)	5-100 psi	0.3-7 bar
Pressure Range (With Springs)	40-100 psi	2.8-7 bar
Cylinder Bore (2X)	0.813 in.	20.7 mm
Displacement	0.519 in <sup>3</sup>	8.5 cm <sup>3</sup>
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation (Without Spring/With Spring)	0.20/0.22 sec.	0.20/0.22 sec.
Accuracy	±0.001 in.	±0.03 mm
Repeatability	±0.0005 in.	±0.01 mm
Valve required to actuate single acting	3-way, 2-position	
Valve required to actuate double acting	4-way, 2-position	

\*With Springs

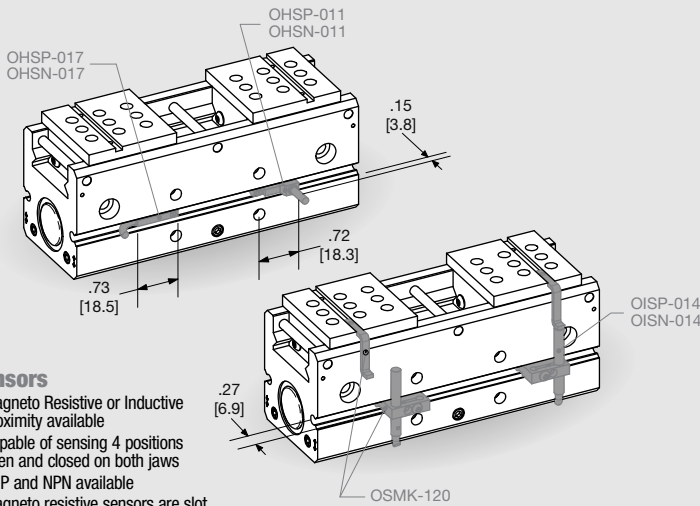


### Loading Capacity

	Static	Dynamic
Maximum Tensile <b>T</b>	150 lbs. [667 N]	50 lbs. [222 N]
Maximum Compressive <b>C</b>	150 lbs. [667 N]	50 lbs. [222 N]
Maximum Moment <b>M<sub>x</sub></b>	300 in.-lbs. [34 Nm]	100 in.-lbs. [11 Nm]
Maximum Moment <b>M<sub>y</sub></b>	350 in.-lbs. [40 Nm]	117 in.-lbs. [13 Nm]
Maximum Moment <b>M<sub>z</sub></b>	300 in.-lbs. [34 Nm]	100 in.-lbs. [11 Nm]

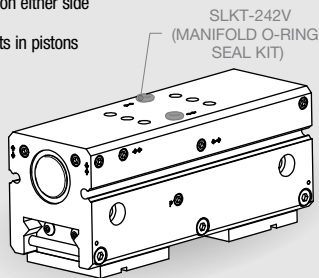
Note: Capacities are per set of jaws and are not simultaneous.

## Accessory Mounting Technical Data



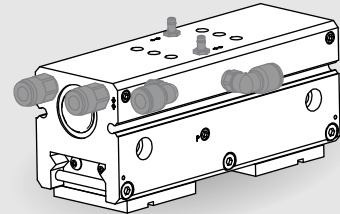
### Sensors

- Magneto Resistive or Inductive Proximity available
- Capable of sensing 4 positions open and closed on both jaws
- PNP and NPN available
- Magneto resistive sensors are slot mounted, no mounting kits required
- Threaded Quick Disconnect with Built-in LED output
- Sensors mount on either side of gripper
- Sensors magnets in pistons are standard



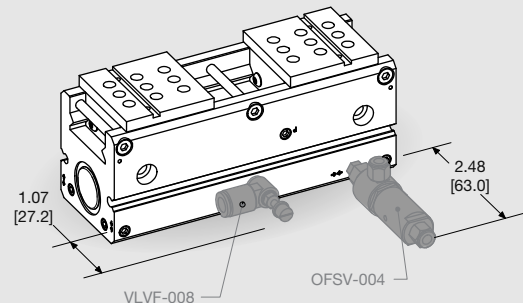
### Manifold O-Ring Seals

- Can be used to seal top Air Ports
- Seals in manifold kit are Viton
- O-Ring C'bores in customer's mounting plate must be:  $\varnothing.290 [07.4] \times .060 \pm .002 [1.52 \pm .05]$  deep
- Kit is supplied with all seals, plugs and wrenches needed



### Multiple Air Port Locations

- Standard M5 Air Ports on front surface
- 3 M5 Air Port locations (Left, right, and top surface) are plugged as standard



### Plumbing Fittings

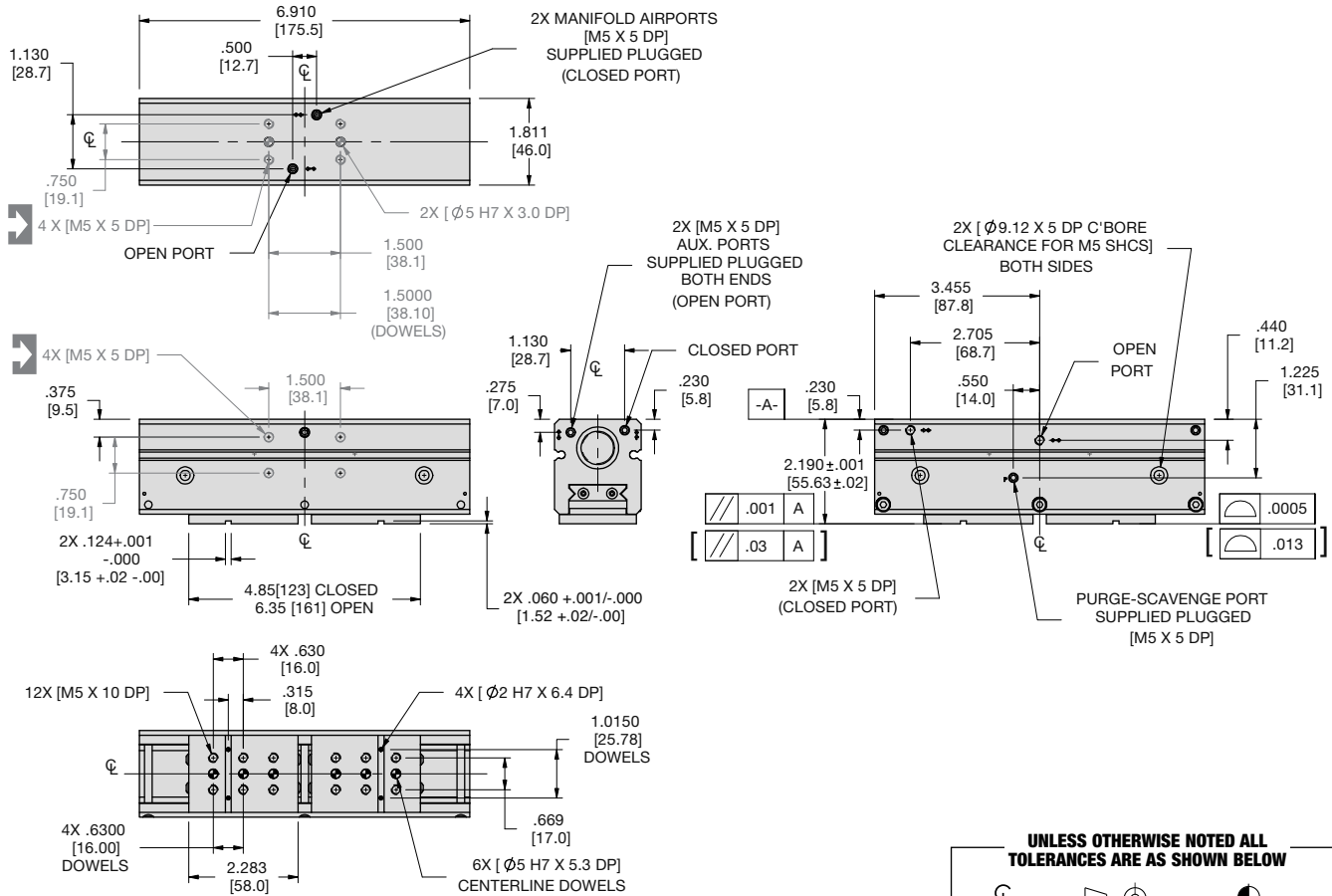
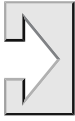
- Adjustable flow controls
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm O.D. Tubing
- Failsafe valve for applications
  - Where it is critical that the part being gripped not be dropped if air pressure is lost
  - Can mount directly to gripper or in-line with plumbing to gripper
  - For M5 Air Ports
- Consult factory for additional plumbing fittings

DIRECTCONNECT™

# PARALLEL GRIPPERS DPP-20M-38 DIRECTCONNECT PRECISION SERIES

DPP SERIES

1.86



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

	Dimensions are symmetrical about centerline		Third Angle Projection		All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or (±.013mm)
	Metric Threads Course Pitch	<b>Imperial in.</b>	<b>Metric [mm]</b>		
		0.00 = ±.01	[0] = (±.25)		
		0.000 = ±.005	[0.0] = (±.13)		
		0.0000 = ±.0005	[0.00] = (±.013)		

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

**How to Order:** (Order Accessories separately from Basic Model)

BASIC MODEL    SPRING    VITON SEALS

**DPP-20M-38 - C - NS - V**

NON-SYNCHRONOUS

**SPRING C** Spring Closed  
— Leave Blank. No Spring Option (standard)

**JAW SYNCHRONIZATION NS** Non-Synchronous Operation  
— Leave Blank for Synchronous (standard)

**VITON® SEALS V** High Temperature Viton Seals

**SENSOR ACCESSORIES**

	ORDER #	QTY/UNIT
Inductive Sensor Mounting Kit (Mounts 2 sensors)	<b>OSMK-120</b>	<b>1 or 2</b>
NPN Inductive Sensor (with Qk. Disc.)*	<b>OISN-014</b>	<b>1, 2, 3 or 4</b>
PNP Inductive Sensor (with Qk. Disc.)*	<b>OISP-014</b>	<b>1, 2, 3 or 4</b>
NPN Magneto Resistive Sensor (with Qk. Disc.)*†	<b>OHSN-017</b>	<b>1, 2, 3 or 4</b>
PNP Magneto Resistive Sensor (with Qk. Disc.)*†	<b>OHSP-017</b>	<b>1, 2, 3 or 4</b>
NPN Magneto Resistive Sensor 90° (with Qk. Disc.)*†	<b>OHSN-011</b>	<b>1, 2, 3 or 4</b>
PNP Magneto Resistive Sensor 90° (with Qk. Disc.)*†	<b>OHSP-011</b>	<b>1, 2, 3 or 4</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1, 2, 3 or 4</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1, 2, 3 or 4</b>

**PNEUMATIC ACCESSORIES**

	ORDER #	QTY/UNIT
Seal Repair Kit (Standard Buna-N)	<b>SLKT-345</b>	<b>1</b>
Seal Repair Kit (Viton)	<b>SLKT-345V</b>	<b>1</b>
Manifold Seal Kit (Viton® only)	<b>SLKT-242V</b>	<b>1</b>
Adjustable Flow Control-M5 Elbow-6MM OD Tube Push-in Style	<b>VLVF-008</b>	<b>1 or 2</b>
Fail Safe Valve- M5	<b>OFSV-004</b>	<b>1</b>

\*Sensor and cable sold separately. †Piston Magnet standard

**SAMPLE ORDER: DPP-20M-38-C-NS-V**

Ex: DPP-20 Metric Gripper, 38mm Stroke, Spring Closed, Non Synchronous, Viton Seals

DIRECTCONNECT™



# PARALLEL GRIPPERS DPP-20M-38 DIRECTCONNECT PRECISION SERIES

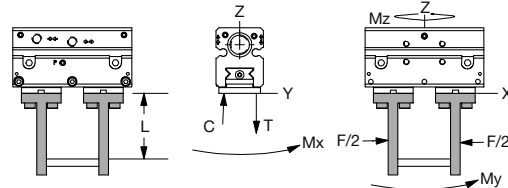
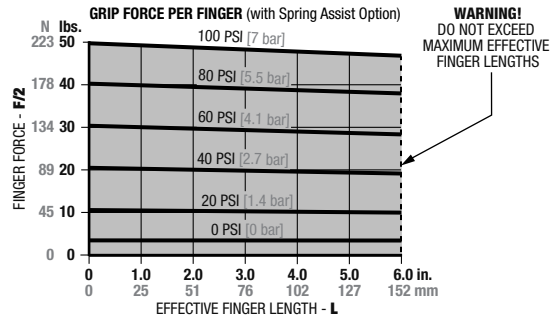
DPP SERIES

1.87



Specifications	DPP-20M-38	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	101 lbs.	449 N
Stroke	1.50 in.	38.1 mm
Weight	3.10 lbs.	1.41 Kg
Pressure Range (Without Springs)	5-100 psi	0.3-7 bar
Pressure Range (With Springs)	30-100 psi	2.1-7 bar
Cylinder Bore (2X)	0.813 in.	20.7 mm
Displacement	0.779 in <sup>3</sup>	12.8 cm <sup>3</sup>
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation (Without Spring/With Spring)	0.24/0.29 sec.	0.24/0.29 sec.
Accuracy	±0.001 in.	±0.03 mm
Repeatability	±0.0005 in.	±0.01 mm
Valve required to actuate single acting	3-way, 2-position	
Valve required to actuate double acting	4-way, 2-position	

\*With Springs

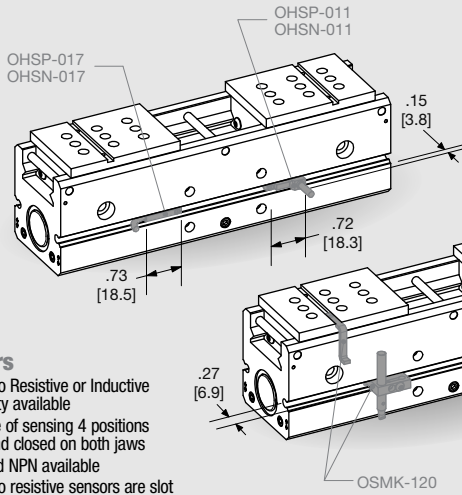


### Loading Capacity

	Static	Dynamic
Maximum Tensile <b>T</b>	200 lbs. [890 N]	67 lbs. [298 N]
Maximum Compressive <b>C</b>	200 lbs. [890 N]	67 lbs. [298 N]
Maximum Moment <b>M<sub>x</sub></b>	400 in.-lbs. [45 Nm]	133 in.-lbs. [15 Nm]
Maximum Moment <b>M<sub>y</sub></b>	450 in.-lbs. [51 Nm]	150 in.-lbs. [17 Nm]
Maximum Moment <b>M<sub>z</sub></b>	400 in.-lbs. [45 Nm]	133 in.-lbs. [15 Nm]

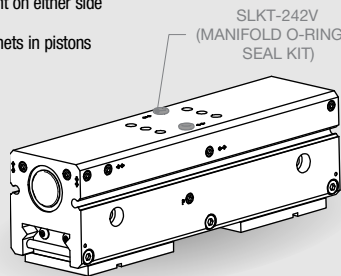
Note: Capacities are per set of jaws and are not simultaneous.

## Accessory Mounting Technical Data



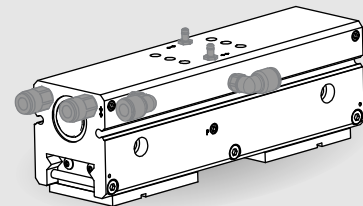
### Sensors

- Magneto Resistive or Inductive Proximity available
- Capable of sensing 4 positions open and closed on both jaws
- PNP and NPN available
- Magneto resistive sensors are slot mounted, no mounting kits required
- Threaded Quick Disconnect with Built-in LED output
- Sensors mount on either side of gripper
- Sensors magnets in pistons are standard



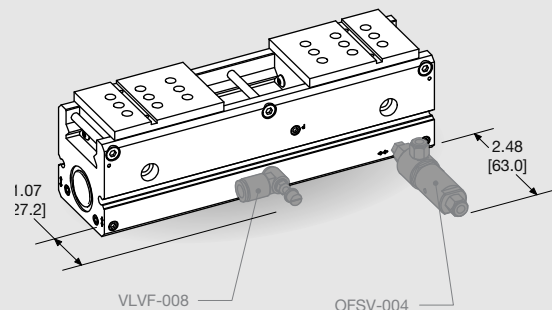
### Manifold O-Ring Seals

- Can be used to seal top Air Ports
- Seals in manifold kit are Viton
- O-Ring C'bores in customer's mounting plate must be: 0.290 [07.4] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs and wrenches needed



### Multiple Air Port Locations

- Standard M5 Air Ports on front surface
- 3 M5 Air Port locations (Left, right, and top surface) are plugged as standard



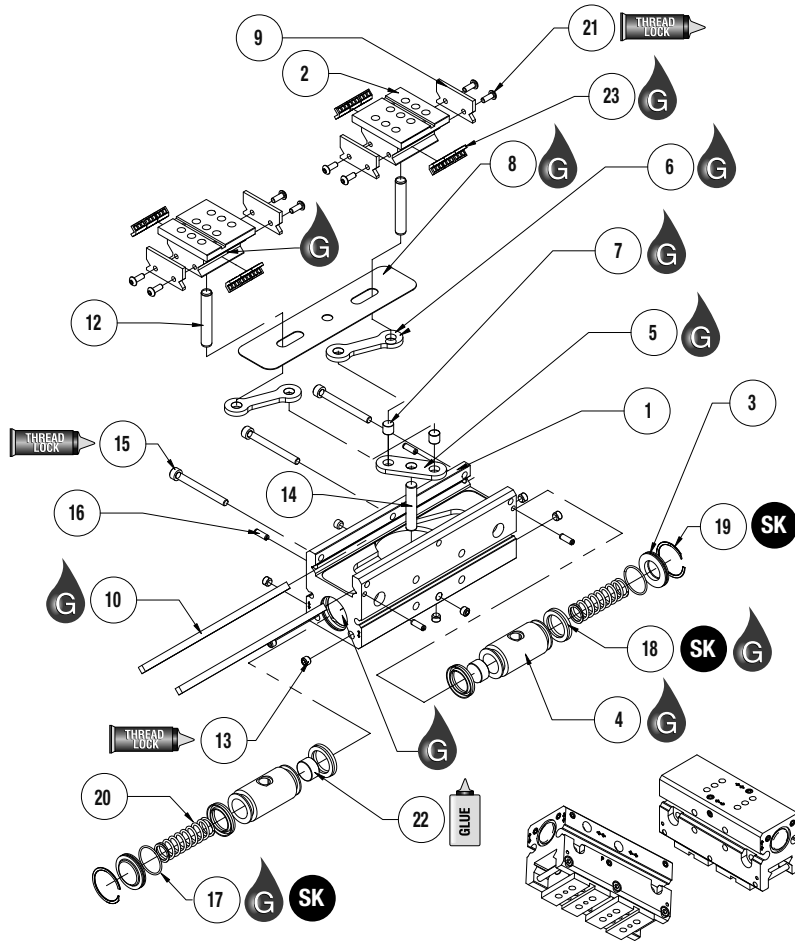
### Plumbing Fittings

- Adjustable flow controls
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm O.D. Tubing
- Failsafe valve for applications
  - Where it is critical that the part being gripped not be dropped if air pressure is lost
  - Can mount directly to gripper or in-line with plumbing to gripper
  - For M5 Air Ports
- Consult factory for additional plumbing fittings

DIRECTCONNECT™



# DPP SERIES EXPLODED VIEW



Item	Qty	Name
01	1	Body
02	2	Jaw
03	2	Cap
04	2	Piston
05	1	Equalizer
06	2	Link
07	2	Equalizer Pin
08	1	Linkage Cover
09	4	Wiper
10	2	Way
12	2	Drive Pin
13	10	Set Screw – Air & Purge Plug
14	1	Pivot Pin
15	3	Preload Screw
16	4	Way Locating Pin
17	2	O-Ring – Cap Seal
18	4	U-Cup – Piston Seal
19	2	Retaining Ring
20	2	Spring for -C Spring Closed Option
21*	–	BHCS – Wiper Mounting Screw
22*	–	Magnet
23*	–	S'assy, Cage & Roller Bearings

### Notes:

- 1) Contact the Robohand Sales Department for a complete spare parts list with order number and prices.
- 2)\* Item #21 quantity varies per gripper size. Size -10M has 4 per unit. Sizes -14M, -20M have 8 per unit.
- 3)\* Item #22 quantity varies per gripper size. Size -10M has 4 per unit. Sizes -14M, -20M have 2 per unit.
- 4)\* Item #23 quantity and number of different sub-assemblies varies per gripper model. Contact Sales to determine the correct quantity and part numbers needed.

### SK Seal Repair Kit Order #'s See Product Data Sheets

### Assembly Procedure:

- 1) Lubricate #1 body (jaw cavity & bore).
- 2) Plug cross ports in body with #13 set screws.
- 3) Press #14 pivot pin into body.
- 4) Insert #22 magnet(s) into each #4 piston making sure magnets repel each other between pistons.
- 5) Lubricate and install #18 seals onto pistons.
- 6) Insert pistons into body with magnet sides facing in toward pivot pin.
- 7) Press #7 equalizer pins into #5 equalizer.
- 8) Assemble equalizer with #6 links and place onto pivot pin in body making sure holes in links line up with holes in pistons.
- 9) Place #8 linkage cover over equalizer and link assembly and seat in body pocket.
- 10) Press #12 drive pin into each #2 jaw.
- 11) Lubricate jaw bearing surfaces and install #9 wiper on each jaw end with #21 mounting screws.
- 12) Place #23 cage and roller bearing assemblies on jaw bearing grooves.
- 13) Place jaws into body aligning the drive pins with the holes in the linkage cover, links, and pistons. If jaws have off center key slot in them, jaws should be installed with this slot farther away from the gripper's center.
- 14) Slide #10 ways into body trapping them between body and jaws.
- 15) Install #16 way locating pins at each end of body to secure ways.
- 16) For -C spring closed option, insert #20 springs into pistons.
- 17) Place #17 seals onto #3 caps and install onto body with #19 retaining rings.
- 18) Install #15 preload screws and torque per preload adjustment procedure.

### Preload Adjustment Procedure:

- 1) Tighten center preload screw first and then outer ones to the torque specification in step 2.
- 2) Use the following torque specification per gripper.
  - DPP-10M – 6 in-lb [0.68 Nm]
  - DPP-14M – 8 in-lb [0.90 Nm]
  - DPP-20M – 13 in-lb [1.47 Nm]

**Note:** Torque specifications provided are factory settings. Fine adjustment may be needed based on intent & application.

### Non-Synchronous Procedure:

- 1) Remove preload screws, press out way locating pins, and slide out ways.
- 2) Pull out jaws and roller bearing assemblies. (If -C spring closed option, remove retaining rings, caps, and springs first.)
- 3) Remove linkage cover from body.
- 4) Remove equalizer and links from body.
- 5) Re-install linkage cover into body.
- 6) Re-install jaws and roller bearing assemblies into body aligning the drive pins with the hole in the linkage cover and each piston.
- 7) Re-install ways, press in way locating pins, and re-install preload screws. (If -C spring closed option, re-install springs, caps and retaining rings.)



Seal Kit Items



Thread Locker



Krytox™ Lubricant



Lightweight Machine Oil



Teflon™ Based Grease

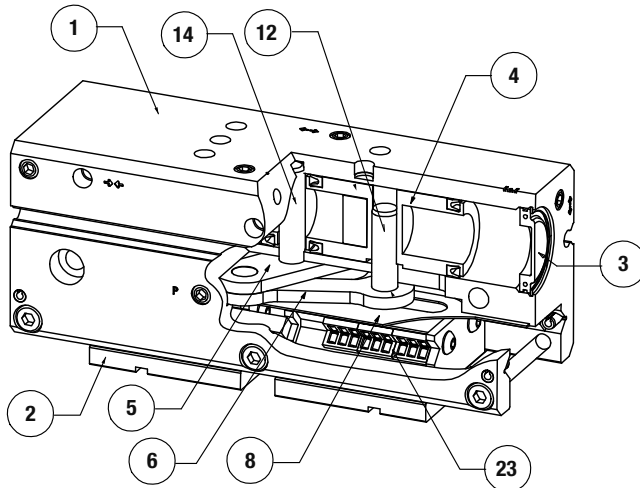


Super Bonder



Third Angle Projection



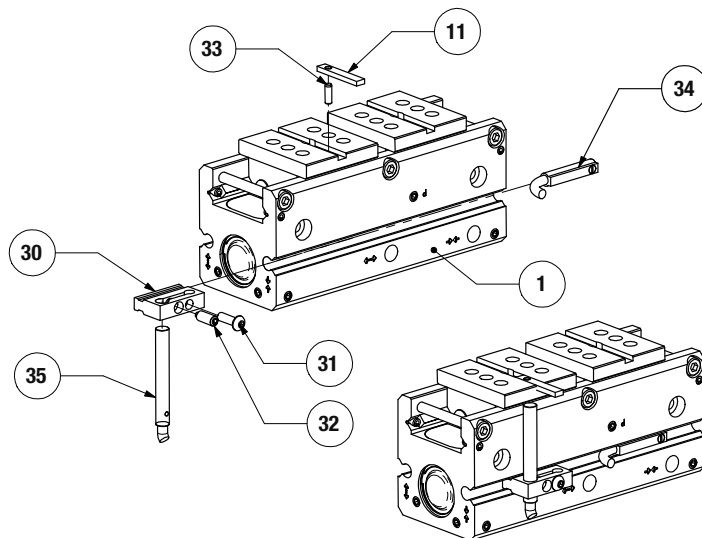


Item	Qty	Name
01	1	Body
02	2	Jaw
03	2	Cap
04	2	Piston
05	1	Equalizer
06	2	Link
08	1	Linkage Cover
12	2	Drive Pin
14	1	Pivot Pin
23*	-	S'assy, Cage & Roller Bearings

**Notes:**

- 1) Contact the Robohand Sales Department for a complete spare parts list with order number and prices.
- 2)\* Item #23 quantity and number of different sub-assemblies varies per gripper model. Contact Sales to determine the correct quantity and part numbers needed.

## Accessory Installation & Adjustment Instructions



**Magneto-Resistive Sensors:**

- 1) Install sensors in profile slots of gripper body as shown.
- 2) Set sensors with integrated screw.

**Inductive Sensors:**

- 1) Insert sensor bracket (#30) into slot of body.
- 2) Insert dowel pin (#33) and target (#11) into jaw slot.
- 3) Insert sensor into bracket and adjust sensor depth so that sensor light indicates on target.
- 4) Tighten sensor locking screw (#31) to hold sensor depth.
- 5) Position sensor bracket for desired stroke detection.
- 6) Tighten sensor bracket with set screw (#32) to lock stroke detection position.



Seal Kit Items



Thread Locker



Krytox™ Lubricant



Lightweight Machine Oil



Teflon™ Based Grease



Super Bonder



Third Angle Projection

# Parallel Grippers - Low Profile Series

- **Precision applications:**

Preloaded "Dual-V" roller bearings eliminate side play for excellent part position repeatability.

- **Repeatable grip force:**

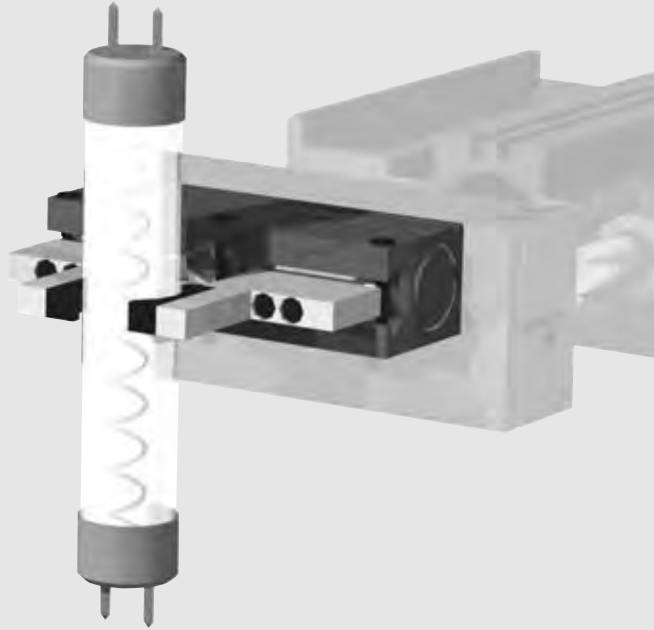
Low friction mechanism allows for consistent, repeatable gripping forces. To grip delicate parts, grip force can be easily altered by adjusting air pressure.

- **Longer finger applications:**

Rigid design allows for longer gripper finger lengths to be used when compared to other grippers of equal weight & size.

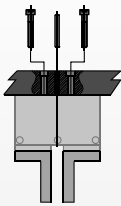
- **Non-synchronous motion:**

The unit can be made non-synchronous providing independent jaw motion allowing the gripper to pick or place at a point other than it's center.



## Mounting Information:

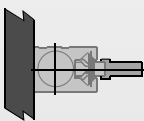
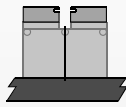
Grippers can be mounted & operated in any orientation



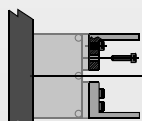
Body mounts with screws and locates with slip fit dowel pins for accuracy



**Warning!** Protect drive and bearing mechanism from falling debris when mounted upside down



Fingers attach to jaws with screws and locate by keying



## Technical Specifications:

### Pneumatic Specifications

Pressure Operating Range  
Cylinder Type  
Dynamic Seals  
Valve Required to Operate

<b>Imperial</b>	<b>Metric</b>
5-100 psi	.3-7 bar
Dual Double Acting	
Internally Lubricated Buna-N	
4-way, 2-position	

### Air Quality Requirements

Air Filtration  
Air Lubrication  
Air Humidity

40 Micron or Better
Not Necessary*
Low Moisture Content (dry)

### Temperature Operating Range

Buna-N Seals (standard)	-30°~180° F	-35°~80° C
Viton® Seals (optional)	-20°~250° F	-30°~120° C

### Maintenance Specifications†

Expected Life	5 million cycles
Normal Application	10+ million cycles*
w/ Preventative Maintenance	Yes
Field Repairable	Yes
Seal Repair Kits Available	Yes

### Application Restrictions

- Dirty or gritty environments
- Machining operations generating chips
- Environments with loose particulate
- Applications where mechanism lubricant could cause contamination

\*Addition of lubrication will greatly increase service life  
† See Maintenance Section

## Product Features

### Pre-Load Adjustment Screws

Adjustable preload screws allow for adjustment of preload on roller bearings

### Hard Coat Anodize

The body has hard-coat anodize 60 RC with Teflon® impregnation

### Self Lubricating Seals

Self lubricating dynamic seals (Buna-N only)

### Quality Components

Internal components are made from hardened bearing & tool steels

### One Piece Body

One piece lightweight aluminum body

### Dowel Holes

Slip fit dowel pin holes in body

### Accessory Mounting Bracket

### Sensors

Reads position of jaw (Sold Separately- See "How to Order" Section for more info)

### Preloaded Bearings

Roller bearings are preloaded for maximum support and zero side play

### High Grip Force

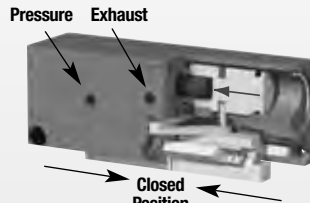
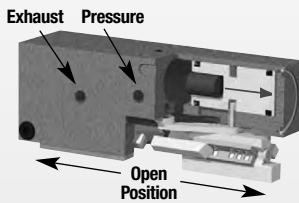
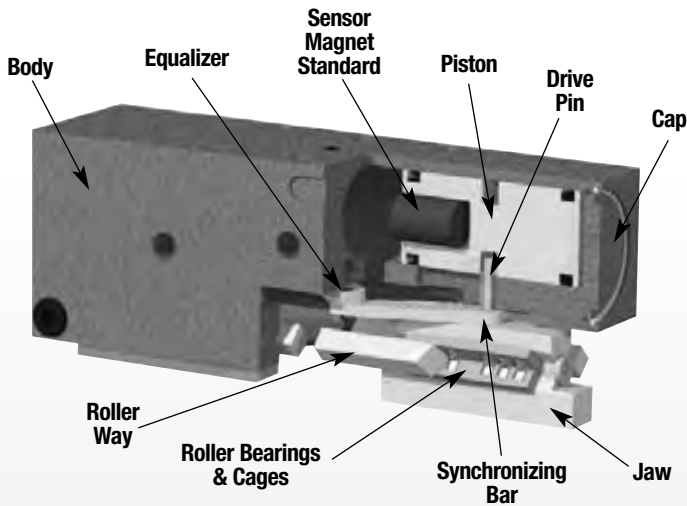
High grip force with respect to weight due to extremely efficient drive mechanism

### Non-Synchronous Operation Available

### Patented Bearing Support

"Dual-V" roller bearings provide low friction rolling motion

## Operating Principle



- Dual double acting opposed pistons, connected to both a jaw and a synchronizing bar by a drive pin, actuate in opposite directions.
- The synchronizing bars are connected to the equalizer which synchronizes the motion.
- Suitable for internal or external gripping.
- The synchronizing elements can be removed for non-synchronous operation.

**U.S. Patent # 5,529,359**

**Designed and manufactured in the USA**

## Style-RPL Parallel Gripper

### Size -1M

Style:	RPL-1	RPL-1M
Stroke:	0.25 in.	6.4 mm
Grip Force:	26 lbs.	116 N
Weight:	.16 lbs.	.07 Kg



See Page **1.92**

## Style-RPL Parallel Gripper

### Size -2M

Style:	RPL-2	RPL-2M
Stroke:	0.50 in.	12.7 mm
Grip Force:	26 lbs.	116 N
Weight:	.20 lbs.	.09 Kg

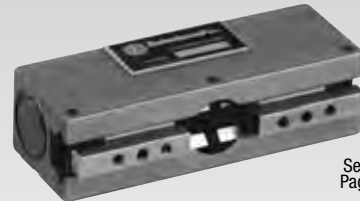


See Page **1.93**

## Style-RPL Parallel Gripper

### Size -3M

Style:	RPL-3	RPL-3M
Stroke:	0.75 in.	19.1 mm
Grip Force:	36 lbs.	160 N
Weight:	.32 lbs.	.14 Kg



See Page **1.94**

## Style-RPL Parallel Gripper

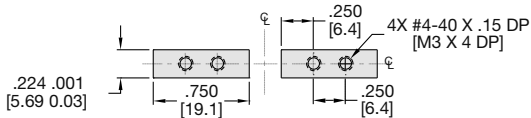
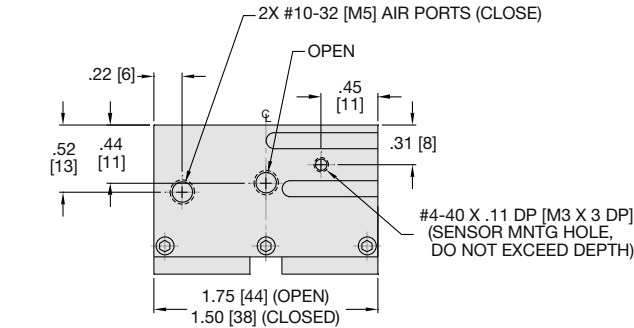
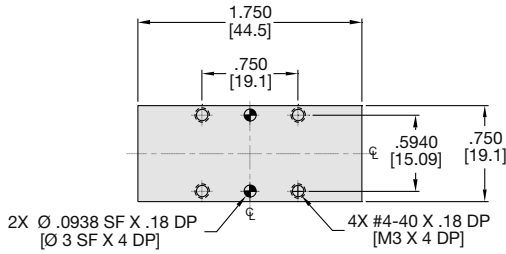
### Size -4M

Style:	RPL-4	RPL-4M
Stroke:	1.00 in.	25.4 mm
Grip Force:	36 lbs.	160 N
Weight:	.38 lbs.	.17 Kg



See Page **1.95**

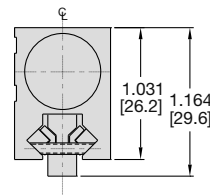
# PARALLEL GRIPPER RPL-1M PRECISION DUAL "V" LOW PROFILE SERIES



JAW MOUNTING PATTERN  
(SHOWN IN OPEN POSITION)

### Specifications

	RPL-1	RPL-1M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	26 lbs.	116 N
Stroke	0.25 in.	6.4 mm
Weight	0.16 lbs.	0.07 Kg
Pressure Range	5-100 psi	0.3-7 bar
Cylinder Bore Ø	0.438 in.	11.1 mm
Displacement	0.038 in <sup>3</sup>	0.6 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation	0.10 sec.	0.10 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate	4-way, 2-position	

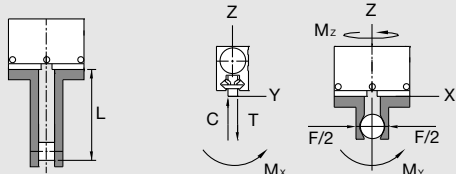
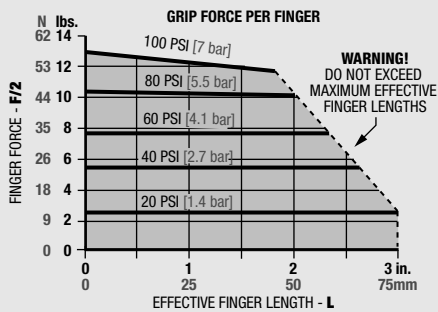


### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

	Imperial in.	Metric [mm]
Dimensions are symmetrical about centerline	0.00 ± .01	[0.] = [±.25]
Third Angle Projection	0.000 ± .005	[0.0] = [±.13]
All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	0.0000 ± .0005	[0.00] = [±.013]
Metric Threads Course Pitch		

## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



### Loading Capacity†

	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	50 lbs.	222 N	15 lbs.	67 N
Maximum Compressive <b>C</b>	50 lbs.	222 N	15 lbs.	67 N
Maximum Moment <b>M<sub>x</sub></b>	30 in.-lbs.	3.4 Nm	10 in.-lbs.	1.1 Nm
Maximum Moment <b>M<sub>y</sub></b>	40 in.-lbs.	4.5 Nm	12 in.-lbs.	1.4 Nm
Maximum Moment <b>M<sub>z</sub></b>	30 in.-lbs.	3.4 Nm	10 in.-lbs.	1.1 Nm

†Capacities are per set of jaws and are not simultaneous

### BASIC MODEL NON-SYNCHRONOUS

**RPL-1 M-NS-V**

### METRIC VITON® SEALS

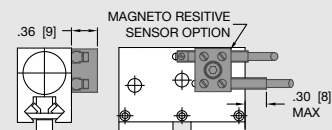
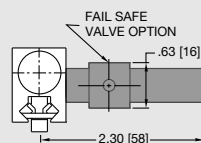
### SENSOR ACCESSORIES\*†

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-008</b>	<b>1</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHP-017</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

Fail Safe Valve (Imperial)	<b>OFSV-001</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-004</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-010</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-010V</b>	<b>1</b>

\*Sensor and cable sold separately †Piston magnet standard

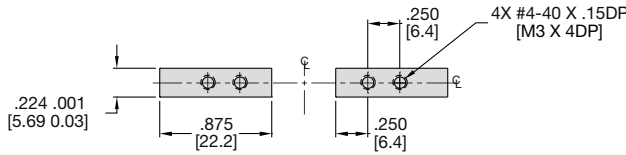
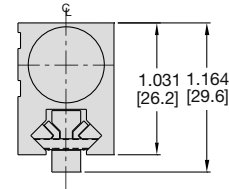
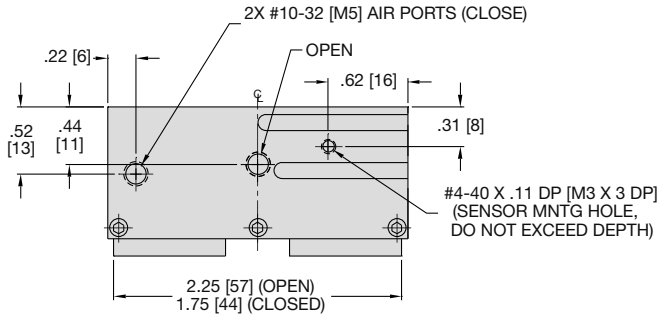
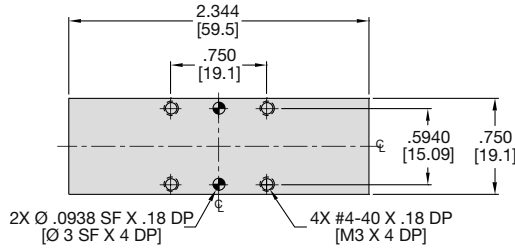




# PARALLEL GRIPPER RPL-2M PRECISION DUAL "V" LOW PROFILE SERIES

RPL SERIES

1.93



JAW MOUNTING PATTERN (SHOWN IN OPEN POSITION)

### Specifications

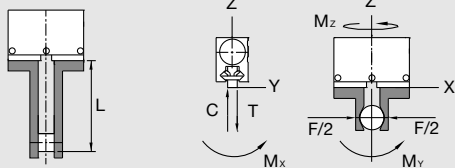
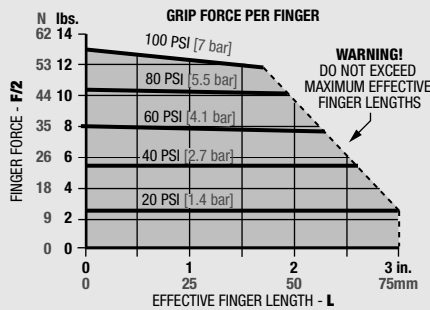
	RPL-2	RPL-2M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	26 lbs.	116 N
Stroke	0.50 in.	12.7 mm
Weight	0.20 lbs.	0.09 Kg
Pressure Range	5-100 psi	0.3-7 bar
Cylinder Bore Ø	0.438 in.	11.1 mm
Displacement	0.075 in <sup>3</sup>	1.2 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation	0.13 sec.	0.13 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate	4-way, 2-position	

### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

	Imperial in.	Metric [mm]
Dimensions are symmetrical about centerline	0.00 = ±.01	[0.] = [±.25]
Third Angle Projection	0.000 = ±.005	[0.0] = [±.13]
All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	0.0000 = ±.0005	[0.00] = [±.013]
Metric Threads Course Pitch		

## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



### Loading Capacity†

	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	65 lbs.	289 N	20 lbs.	89 N
Maximum Compressive <b>C</b>	65 lbs.	289 N	20 lbs.	89 N
Maximum Moment <b>M<sub>x</sub></b>	45 in.-lbs.	5.1 Nm	15 in.-lbs.	1.7 Nm
Maximum Moment <b>M<sub>y</sub></b>	60 in.-lbs.	6.8 Nm	20 in.-lbs.	2.3 Nm
Maximum Moment <b>M<sub>z</sub></b>	45 in.-lbs.	5.1 Nm	15 in.-lbs.	1.7 Nm

†Capacities are per set of jaws and are not simultaneous

### BASIC MODEL NON-SYNCHRONOUS

**RPL-2 M-NS-V**

METRIC VITON® SEALS

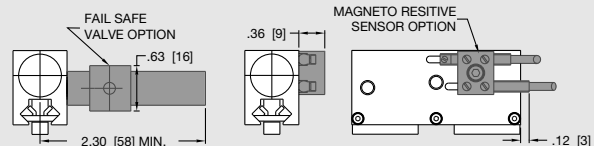
### SENSOR ACCESSORIES\*

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-008</b>	<b>1</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>

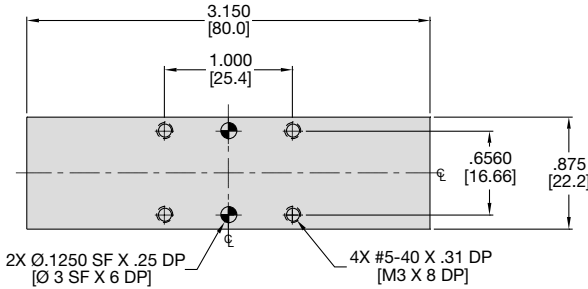
### PNEUMATIC ACCESSORIES

Fail Safe Valve (Imperial)	<b>OFSV-001</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-004</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-010</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-010V</b>	<b>1</b>

\*Sensor and cable sold separately †Piston magnet standard

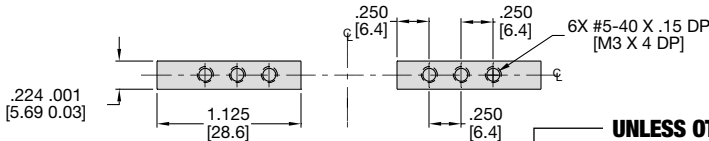
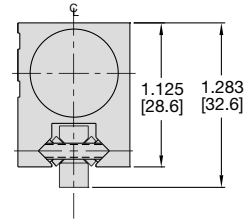
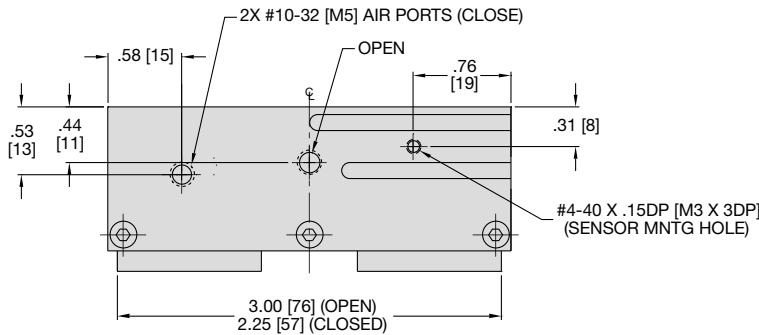


# PARALLEL GRIPPER RPL-3M PRECISION DUAL "V" LOW PROFILE SERIES



### Specifications

	RPL-3	RPL-3M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	36 lbs.	160 N
Stroke	0.75 in.	19.1 mm
Weight	0.32 lbs.	0.15 Kg
Pressure Range	5-100 psi	0.3-7 bar
Cylinder Bore Ø	0.500 in.	12.7 mm
Displacement	0.147 in <sup>3</sup>	2.4 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation	0.14 sec.	0.14 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate	4-way, 2-position	



JAW MOUNTING PATTERN  
(SHOWN IN OPEN POSITION)

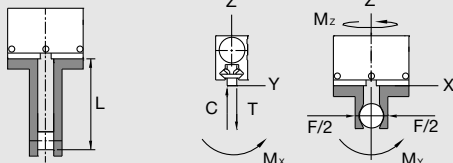
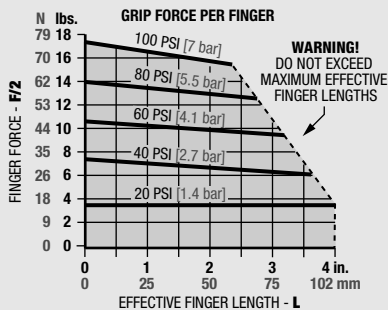
UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Symbol	Imperial in.	Metric [mm]
	0.00 ±.01	[0.] = [±.25]
	0.000 ±.005	[0.0] = [±.13]
	0.0000 ±.0005	[0.00] = [±.013]

Dimensions are symmetrical about centerline  
 Third Angle Projection  
 All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]  
 Metric Threads Course Pitch

## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	90 lbs.	400 N	30 lbs.	133 N
Maximum Compressive <b>C</b>	90 lbs.	400 N	30 lbs.	133 N
Maximum Moment <b>M<sub>x</sub></b>	60 in.-lbs.	6.8 Nm	20 in.-lbs.	2.3 Nm
Maximum Moment <b>M<sub>y</sub></b>	80 in.-lbs.	9.0 Nm	25 in.-lbs.	2.8 Nm
Maximum Moment <b>M<sub>z</sub></b>	60 in.-lbs.	6.8 Nm	20 in.-lbs.	2.3 Nm

†Capacities are per set of jaws and are not simultaneous

BASIC MODEL NON-SYNCHRONOUS

**RPL-3 M-NS-V**

METRIC VITON® SEALS

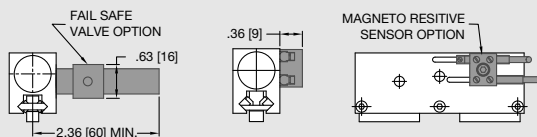
### SENSOR ACCESSORIES†

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-008</b>	<b>1</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

Fail Safe Valve (Imperial)	<b>OFSV-001</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-004</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-012</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-012V</b>	<b>1</b>

\*Sensor and cable sold separately †Piston magnet standard



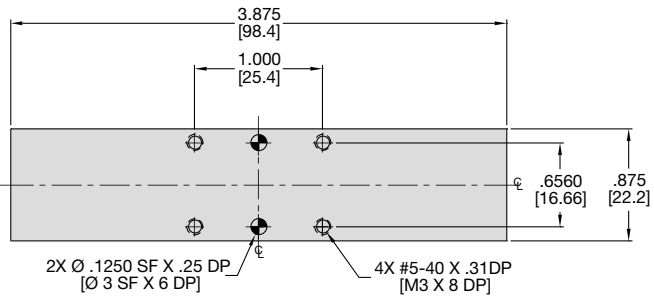




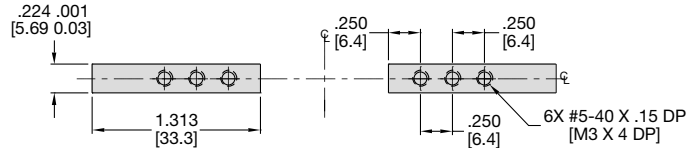
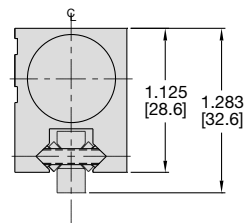
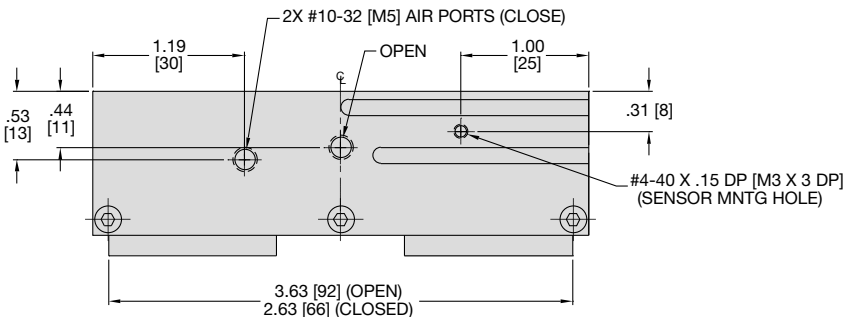
# PARALLEL GRIPPER RPL-4M PRECISION DUAL "V" LOW PROFILE SERIES

RPL SERIES

1.95



Specifications	RPL-4	RPL-4M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	36 lbs.	160 N
Stroke	1.00 in.	25.4 mm
Weight	0.38 lbs.	0.17 Kg
Pressure Range	5-100 psi	0.3-7 bar
Cylinder Bore Ø	0.500 in.	12.7 mm
Displacement	0.196 in <sup>3</sup>	3.2 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation	0.19 sec.	0.19 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate	4-way, 2-position	



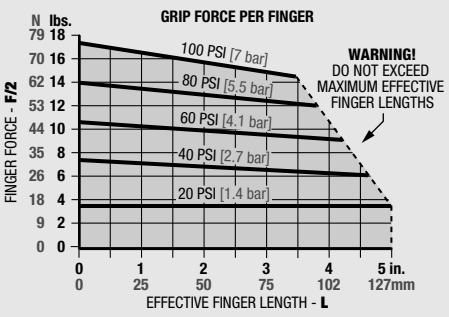
JAW MOUNTING PATTERN (SHOWN IN OPEN POSITION)

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Symbol	Imperial in.	Metric [mm]
	0.00 = ±.01	[0.] = ±.25
	0.000 = ±.005	[0.0] = ±.13
	0.0000 = ±.0005	[0.00] = ±.013

## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



BASIC MODEL NON-SYNCHRONOUS

RPL-4 M - NS - V

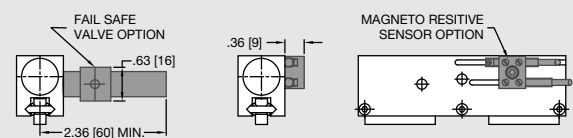
METRIC VITON® SEALS

SENSOR ACCESSORIES*	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-008</b>	<b>1</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>
<b>PNEUMATIC ACCESSORIES</b>		
Fail Safe Valve (Imperial)	<b>OFSV-001</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-004</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-012</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-012V</b>	<b>1</b>

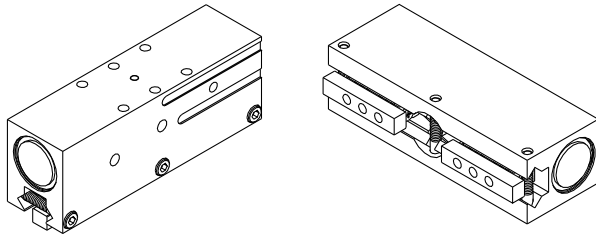
\*Sensor and cable sold separately \*Piston magnet standard

Loading Capacity*	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	120 lbs.	534 N	40 lbs.	178 N
Maximum Compressive <b>C</b>	120 lbs.	534 N	40 lbs.	178 N
Maximum Moment <b>M<sub>x</sub></b>	75 in.-lbs.	8.5 Nm	25 in.-lbs.	2.8 Nm
Maximum Moment <b>M<sub>y</sub></b>	100 in.-lbs.	11.3 Nm	35 in.-lbs.	4.0 Nm
Maximum Moment <b>M<sub>z</sub></b>	75 in.-lbs.	8.5 Nm	25 in.-lbs.	2.8 Nm

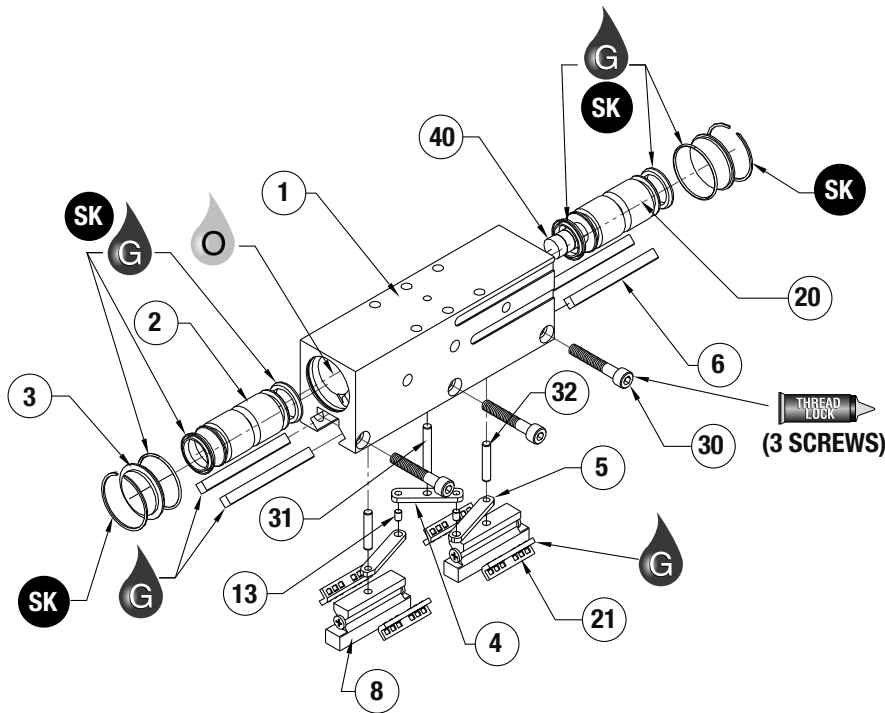
\*Capacities are per set of jaws and are not simultaneous



# RPL Series Exploded View



Item	Qty	Name
01	1	Body
02	1	Piston
03	2	Cap
04	1	Equalizer
05	2	Link
06	4	Way
08	2	Jaw
13	2	Pin
20	1	Piston W/Magnet Slot
21	4	S'assy,Cage & Rollers
30	3	SHCS
31	1	Dowel Pin
32	2	Dowel Pin
40	2	Magnet



**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

**Assembly Procedure**

- 1) Lubricate and install seals.
- 2) Press dowel pin into center of body.
- 3) Place links and equalizers into body.
- 4) Press dowel pins into jaws.
- 5) Place jaws through links and into pistons.
- 6) Install cages on jaws.
- 7) Place ways behind cages with flat facing out and install screws.
- 8) Adjust preload.

**Preload Adjustment Procedure**

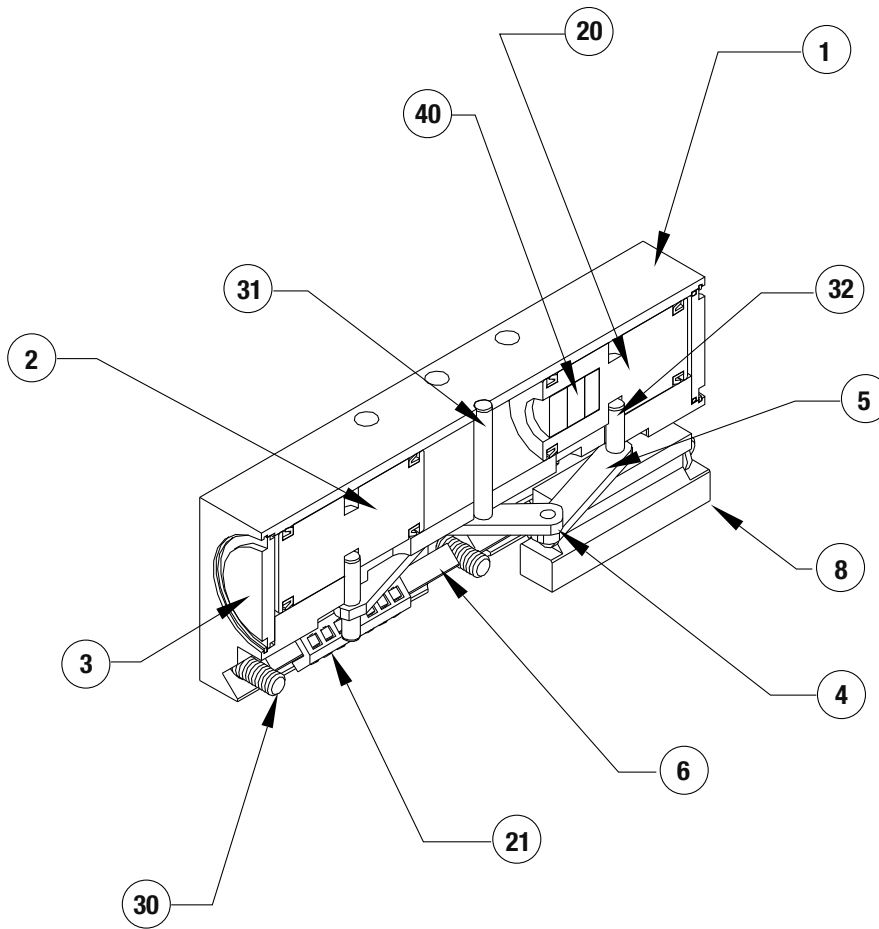
- 1) Tighten center screw (#30) so that fingers bind slightly.
- 2) Tighten outer screws in the same fashion.
- 3) Cycle the gripper.
- 4) Re-adjust screws so that when you push the cage, the finger moves freely. (the finger movement should not feel gritty.)

**Non-Synchronous Procedure**

- 1) Remove preload screws (#30) and ways.
- 2) Remove cages, jaws and dowel pins.
- 3) Remove equalizer, links, and roller bearings.
- 4) Re-assemble jaws and dowel pins into pistons.
- 5) Re-install cages on jaws.
- 6) Place ways behind cages with flat facing out and install preload screws.
- 7) Adjust preload.

**SK Seal Repair Kit Order #'s See Product Data Sheets**

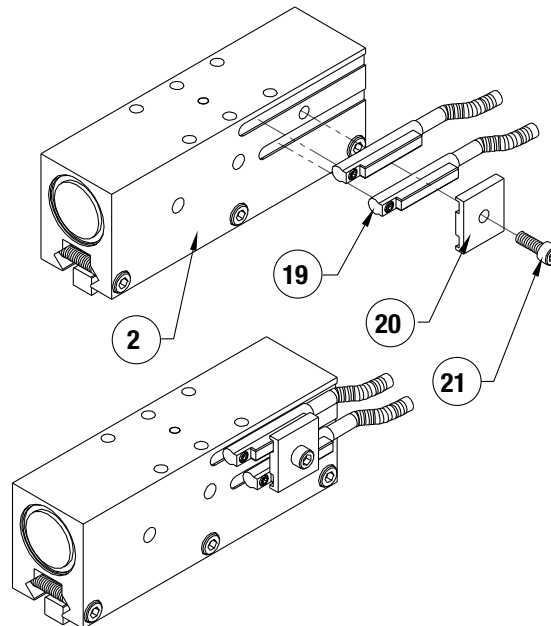
Seal Kit Items	Thread Locker	Krytox™ Lubricant	Lightweight Machine Oil	Teflon™ Based Grease	Super Bonder	Third Angle Projection



Item	Qty	Name
01	1	Body
02	1	Piston
03	2	Cap
04	1	Equalizer
05	2	Link
06	4	Way
08	2	Jaw
13	2	Bearing,Roller
20	1	Piston W/Magnet Slot
21	4	S'assy,Cage & Rollers
30	3	SHCS
31	1	Dowel Pin
32	2	Dowel Pin
40	2	Magnet

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

## Accessory Installation & Adjustment Instructions



### Installation

1. Install sensors as shown.
2. Adjust for desired end of stroke detection.



Seal Kit Items



Thread Locker



Krytox™ Lubricant



Lightweight Machine Oil



Teflon™ Based Grease



Super Bonder



Third Angle Projection

# Parallel Grippers

## Clean Room / Harsh Environments Series



- **Precision applications:**

Preloaded "Dual-V" roller bearings eliminate side play for excellent part position repeatability.

- **Clean Room rated:**

A corrosion resistant shield protects the drive and bearing mechanism. All internal components are lubricated with clean room grade lubricant. The scavenge port can be used with vacuum pressure to prevent escape of particulate generated by the internal mechanism.

- **Harsh environments:**

All moving components are located within the stainless steel shield. The body has a purge port which can expel contaminants from the mechanism using low air pressure.

- **Repeatable grip force:**

Low friction mechanism allows for consistent, repeatable gripping forces. To grip delicate parts, grip force can be easily altered by adjusting air pressure.

- **Longer finger applications:**

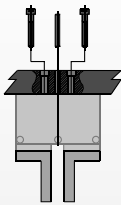
Rigid design allows for longer gripper finger lengths to be used when compared to other grippers of equal weight.

- **Non-synchronous motion:**

The unit can made non-synchronous providing independent jaw motion allowing the gripper to pick or place at a point other than it's center.

### Mounting Information:

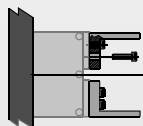
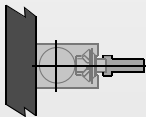
Grippers can be mounted & operated in any orientation



Body mounts with screws and locates with slip fit dowel pins for accuracy



Shields provide protection from falling debris when mounted upside down



Fingers attach to jaws with screws and locate by keying

### Technical Specifications:

#### Pneumatic Specifications

Pressure Operating Range  
Cylinder Type  
Dynamic Seals  
Valve Required to Operate

**Imperial**  
5-100 psi  
**Metric**  
.3-7 bar  
Dual Double Acting  
Internally Lubricated Buna-N  
4-way, 2-position

#### Air Quality Requirements

Air Filtration  
Air Lubrication  
Air Humidity

40 Micron or Better  
Not Necessary\*  
Low Moisture Content (dry)

#### Temperature Operating Range

Buna-N Seals (standard)  
Viton® Seals (optional)

-30°~180° F  
-20°~250° F  
-35°~80° C  
-30°~120° C

#### Maintenance Specifications†

Expected Life  
Normal Application  
w/ Preventative Maintenance  
Field Repairable  
Seal Repair Kits Available

5 million cycles  
10+ million cycles\*  
Yes  
Yes

\*Addition of lubrication will greatly increase service life  
†See Maintenance Section

## Product Features

### Pre-Load Adjustment Screws

Adjustable preload screws allow for adjustment of preload on roller bearings

### Hard Coat Anodize

The body has hard-coat anodize 60 RC with Teflon® impregnation

### Clean-Room Lubrication

Units are lubricated with a clean-room grade grease

### Self Lubricating Seals

Self lubricating dynamic seals (Buna-N only)

### Quality Components

Internal components are made from hardened bearing & tool steels  
External components are made from corrosion resistant materials for resistance to de-ionized water or for use in FDA & medical parts handling applications

### One Piece Body

One piece lightweight aluminum body

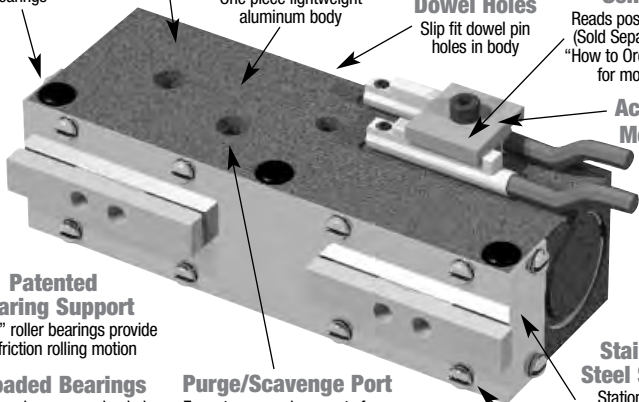
### Dowel Holes

Slip fit dowel pin holes in body

### Sensors

Reads position of jaw (Sold Separately-See "How to Order" Section for more info)

### Accessory Mounting Holes



### Patented Bearing Support

Dual "V" roller bearings provide low friction rolling motion

### Preloaded Bearings

Roller bearings are preloaded for maximum support and zero side play

### Non-Synchronous Operation Available

### Purge/Scavenge Port

For extreme environments from dirty & gritty to clean-room Class 10 or better

### High Grip Force

High grip force with respect to weight due to extremely efficient drive mechanism

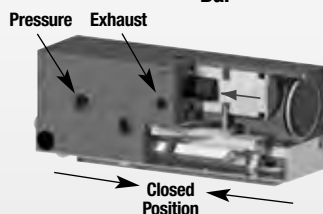
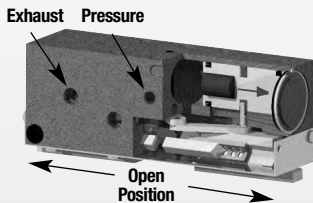
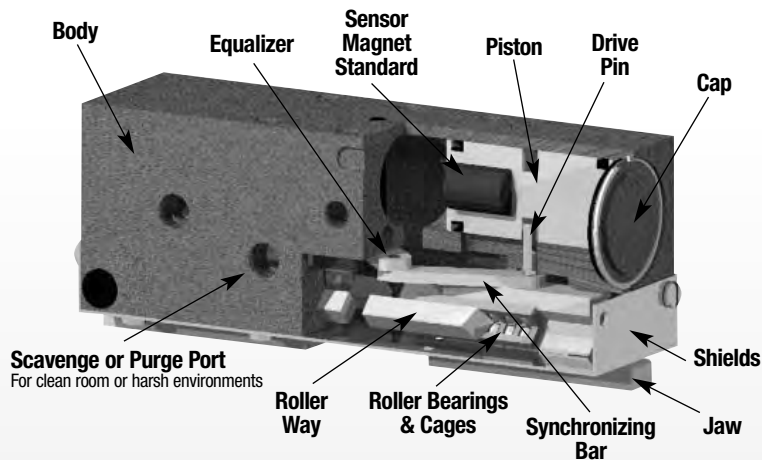
### Stainless Steel Shields

Stationary and non-contacting shields eliminate the possibility of particle generation.

### Stainless Steel Screws

Provides protection against corrosion

## Operating Principle



- Dual double acting opposed pistons, connected to both a jaw and a synchronizing bar by a drive pin, actuate in opposite directions.
- The synchronizing bars are connected to the equalizer which synchronizes the motion.
- The purge/scavenge port can be used to expel or retain contaminants using pressure or vacuum respectively.
- Suitable for internal or external gripping.
- The synchronizing elements can be removed for non-synchronous operation.

U.S. Patent # 5,529,359 Designed and manufactured in the USA

## Style-RPLC Parallel Gripper

### Size -1M

Style:	RPLC-1	RPLC-1M
Stroke:	0.25 in.	6.4 mm
Grip Force:	26 lb	116 N
Weight:	.16 lb	.07 Kg



See Page **1.100**

## Style-RPLC Parallel Gripper

### Size -2M

Style:	RPLC-2	RPLC-2M
Stroke:	0.50 in.	12.7 mm
Grip Force:	26 lb	116 N
Weight:	.20 lb	.09 Kg

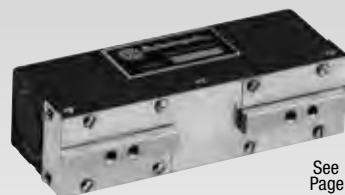


See Page **1.101**

## Style-RPLC Parallel Gripper

### Size -3M

Style:	RPLC-3	RPLC-3M
Stroke:	0.75 in.	19.1 mm
Grip Force:	36 lb	160 N
Weight:	.32 lb	.15 Kg



See Page **1.102**

## Style-RPLC Parallel Gripper

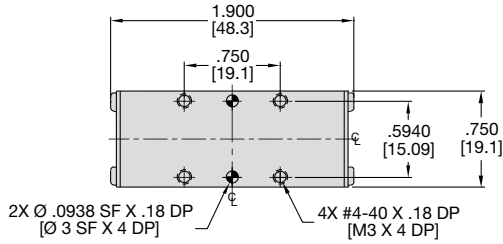
### Size -4M

Style:	RPLC-4	RPLC-4M
Stroke:	1.00 in.	25.4 mm
Grip Force:	36 lb	160 N
Weight:	.38 lb	.17 Kg



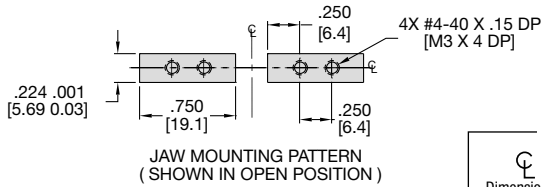
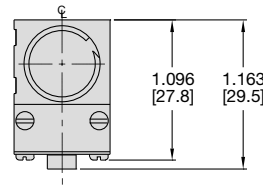
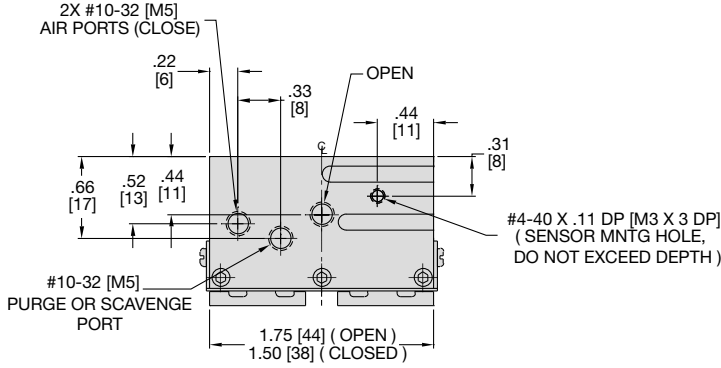
See Page **1.103**

# PARALLEL GRIPPER RPLC-1M PRECISION DUAL "V" CLEAN ROOM SERIES



### Specifications

	RPLC-1	RPLC-1M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	26 lb	116 N
Stroke	0.25 in.	6.4 mm
Weight	0.16 lb	0.07 Kg
Pressure Range	5-100 psi	0.3-7 bar
Cylinder Bore Ø	0.438 in.	11.1 mm
Displacement	0.038 in <sup>3</sup>	0.6 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation	0.10 sec.	0.10 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate	4-way, 2-position	

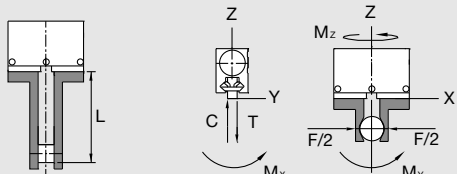
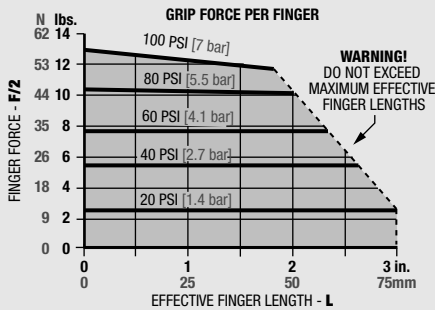


### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

	Imperial in.	Metric [mm]
Dimensions are symmetrical about centerline	0.00 ± .01	[0.] = [±.25]
Third Angle Projection	0.000 ± .005	[0.0] = [±.13]
All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	0.0000 ± .0005	[0.00] = [±.013]
Metric Threads		
Course Pitch		

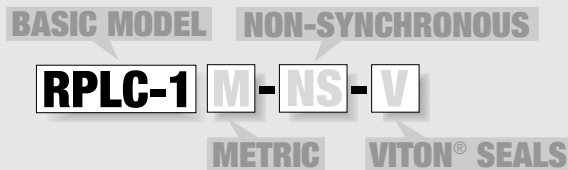
## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	50 lbs.	222 N	15 lbs.	67 N
Maximum Compressive <b>C</b>	50 lbs.	222 N	15 lbs.	67 N
Maximum Moment <b>M<sub>x</sub></b>	30 in.-lbs.	3.4 Nm	10 in.-lbs.	1.1 Nm
Maximum Moment <b>M<sub>y</sub></b>	40 in.-lbs.	4.5 Nm	12 in.-lbs.	1.4 Nm
Maximum Moment <b>M<sub>z</sub></b>	30 in.-lbs.	3.4 Nm	10 in.-lbs.	1.1 Nm

†Capacities are per set of jaws and are not simultaneous



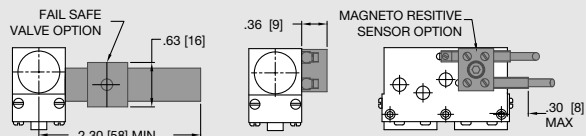
### SENSOR ACCESSORIES\*†

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-008</b>	<b>1</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

Fail Safe Valve (Imperial)	<b>OFSV-001</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-004</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-010</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-010V</b>	<b>1</b>

\*Sensor and cable sold separately †Piston magnet standard



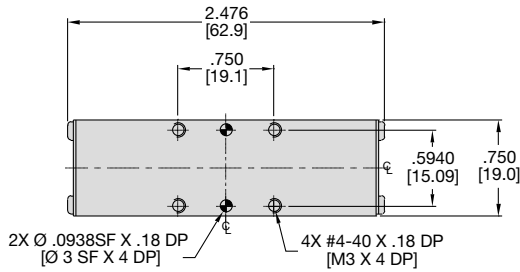




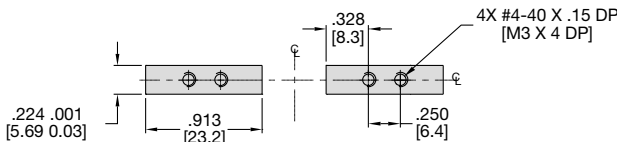
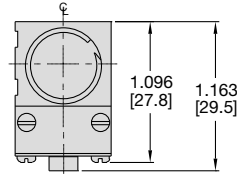
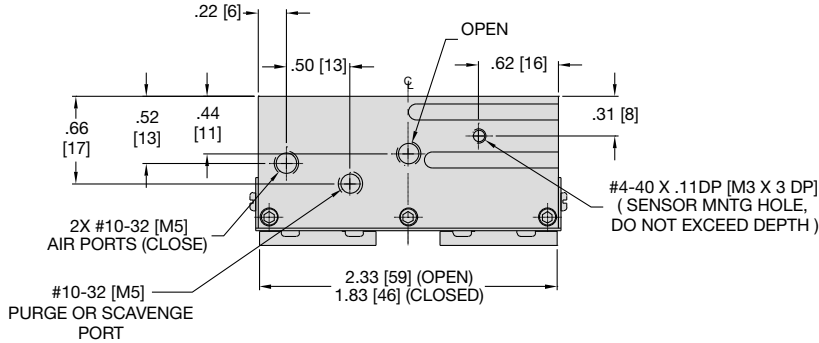
# PARALLEL GRIPPER RPLC-2M PRECISION DUAL "V" CLEAN ROOM SERIES

RPLC SERIES

1.101



Specifications	RPLC-2	RPLC-2M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	26 lb	116 N
Stroke	0.50 in.	12.7 mm
Weight	0.20 lb	0.09 Kg
Pressure Range	5-100 psi	0.3-7 bar
Cylinder Bore Ø	0.438 in.	11.1 mm
Displacement	0.075 in <sup>3</sup>	1.2 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation	0.13 sec.	0.13 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate	4-way, 2-position	



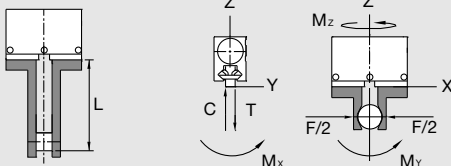
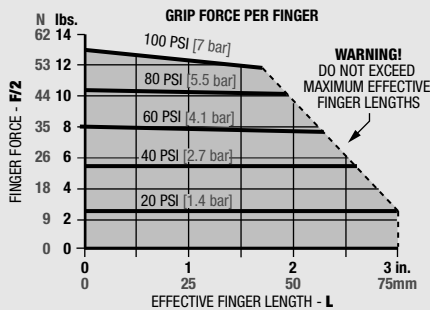
JAW MOUNTING PATTERN  
(SHOWN IN OPEN POSITION)

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



Loading Capacity <sup>†</sup>	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	65 lbs.	289 N	20 lb	89 N
Maximum Compressive <b>C</b>	65 lbs.	289 N	20 lb	89 N
Maximum Moment <b>M<sub>x</sub></b>	45 in.-lbs.	5.1 Nm	15 in.-lbs.	1.7 Nm
Maximum Moment <b>M<sub>y</sub></b>	60 in.-lbs.	6.8 Nm	20 in.-lbs.	2.3 Nm
Maximum Moment <b>M<sub>z</sub></b>	45 in.-lbs.	5.1 Nm	15 in.-lbs.	1.7 Nm

<sup>†</sup>Capacities are per set of jaws and are not simultaneous

BASIC MODEL NON-SYNCHRONOUS

RPLC-2 M-NS-V

METRIC VITON® SEALS

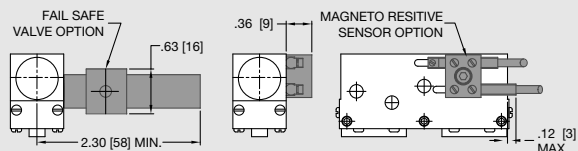
### SENSOR ACCESSORIES<sup>\*</sup>

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-008</b>	<b>1</b>
NPN Magneto Resistive Sensor with Quick Disconnect <sup>*</sup>	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor with Quick Disconnect <sup>*</sup>	<b>OHSP-017</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length <sup>*</sup>	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length <sup>*</sup>	<b>CABL-013</b>	<b>1 or 2</b>

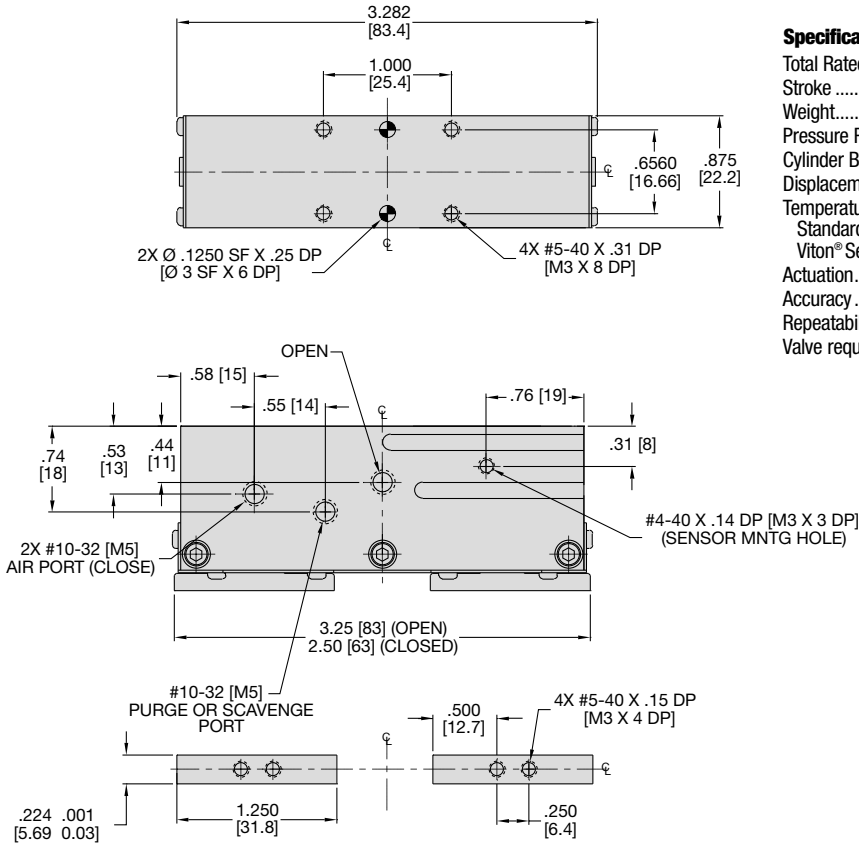
### PNEUMATIC ACCESSORIES

Fail Safe Valve (Imperial)	<b>OFVS-001</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFVS-004</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-010</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-010V</b>	<b>1</b>

<sup>\*</sup>Sensor and cable sold separately <sup>†</sup>Piston magnet standard

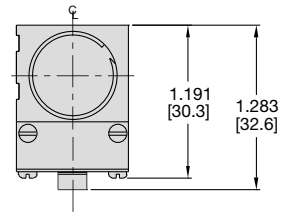


# PARALLEL GRIPPER RPLC-3M PRECISION DUAL "V" CLEAN ROOM SERIES



### Specifications

	RPLC-3	RPLC-3M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	36 lb	160 N
Stroke	0.75 in.	19.1 mm
Weight	0.32 lb	0.15 Kg
Pressure Range	5-100 psi	0.3-7 bar
Cylinder Bore Ø	0.500 in.	12.7 mm
Displacement	0.147 in <sup>3</sup>	2.4 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation	0.14 sec.	0.14 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate	4-way, 2-position	



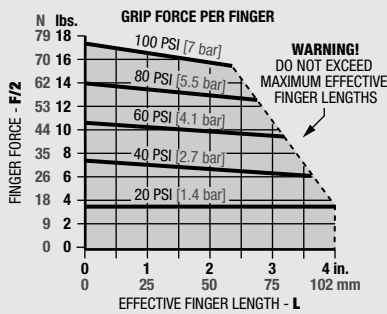
JAW MOUNTING PATTERN (SHOWN IN OPEN POSITION)

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Imperial in.	Metric [mm]
0.00 = ±.01	[.0] = [±.25]
0.000 = ±.005	[0.0] = [±.13]
0.0000 = ±.0005	[0.00] = [±.013]

## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



BASIC MODEL NON-SYNCHRONOUS  
**RPLC-3 M-NS-V**  
METRIC VITON® SEALS

### SENSOR ACCESSORIES\*

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-008</b>	<b>1</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSM-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

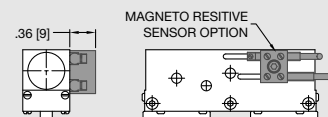
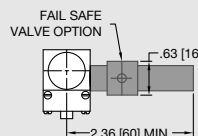
Fail Safe Valve (Imperial)	<b>OFSV-001</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-004</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-012</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-012V</b>	<b>1</b>

\*Sensor and cable sold separately \*Piston magnet standard

### Loading Capacity†

	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	90 lbs.	400 N	30 lbs.	133 N
Maximum Compressive <b>C</b>	90 lbs.	400 N	30 lbs.	133 N
Maximum Moment <b>M<sub>x</sub></b>	60 in.-lbs.	6.8 Nm	20 in.-lbs.	2.3 Nm
Maximum Moment <b>M<sub>y</sub></b>	80 in.-lbs.	9.0 Nm	25 in.-lbs.	2.8 Nm
Maximum Moment <b>M<sub>z</sub></b>	60 in.-lbs.	6.8 Nm	20 in.-lbs.	2.3 Nm

†Capacities are per set of jaws and are not simultaneous

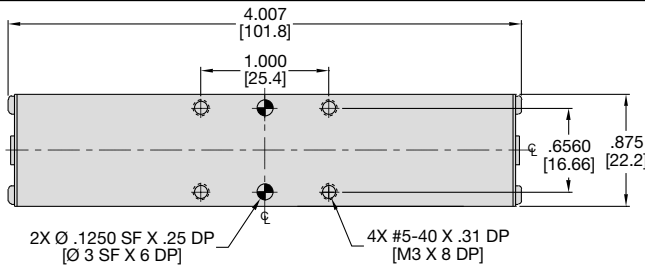




# PARALLEL GRIPPER RPLC-4M PRECISION DUAL "V" CLEAN ROOM SERIES

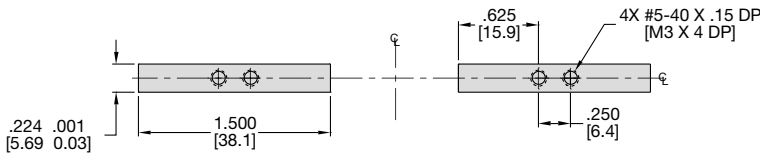
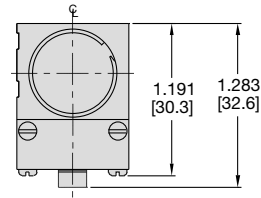
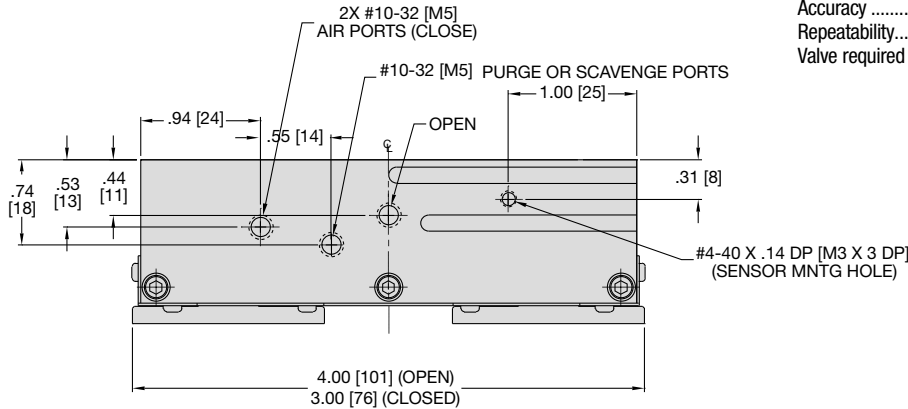
RPLC SERIES

1.103



### Specifications

	RPLC-4	RPLC-4M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	36 lb	160 N
Stroke	1.00 in.	25.4 mm
Weight	0.38 lb	0.17 Kg
Pressure Range	5-100 psi	0.3-7 bar
Cylinder Bore Ø	0.500 in.	12.7 mm
Displacement	0.196 in <sup>3</sup>	3.2 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation	0.19 sec.	0.19 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate	4-way, 2-position	



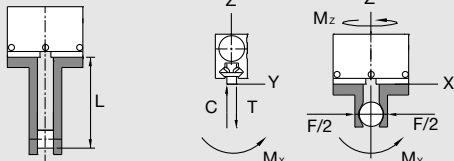
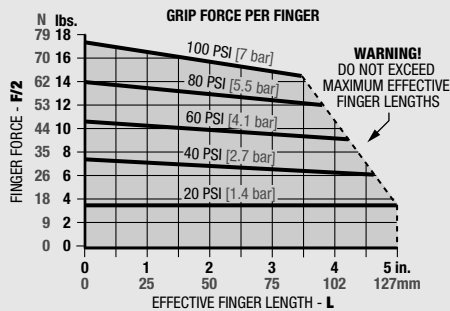
JAW MOUNTING PATTERN  
(SHOWN IN OPEN POSITION)

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Imperial in.	Metric [mm]
0.00 ± .01	[0.] = [±.25]
0.000 ± .005	[0.0] = [±.13]
0.0000 ± .0005	[0.00] = [±.013]

## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



### Loading Capacity†

	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	120 lbs.	534 N	40 lbs.	178 N
Maximum Compressive <b>C</b>	120 lbs.	534 N	40 lbs.	178 N
Maximum Moment <b>M<sub>x</sub></b>	75 in.-lbs.	8.5 Nm	25 in.-lbs.	2.8 Nm
Maximum Moment <b>M<sub>y</sub></b>	100 in.-lbs.	11.3 Nm	35 in.-lbs.	4.0 Nm
Maximum Moment <b>M<sub>z</sub></b>	75 in.-lbs.	8.5 Nm	25 in.-lbs.	2.8 Nm

†Capacities are per set of jaws and are not simultaneous

BASIC MODEL NON-SYNCHRONOUS

**RPLC-4** M - NS - V

METRIC VITON® SEALS

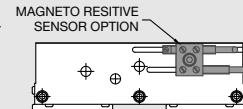
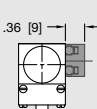
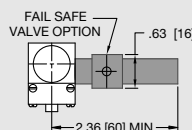
### SENSOR ACCESSORIES\*†

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-008</b>	<b>1</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>

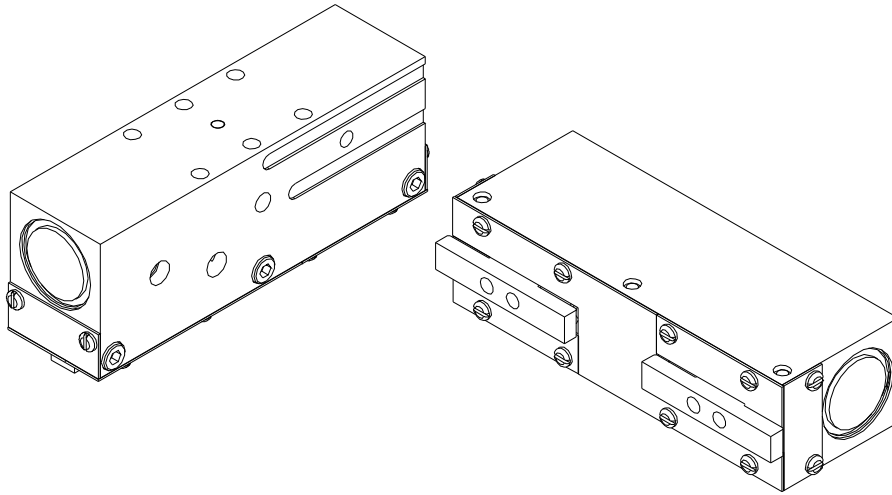
### PNEUMATIC ACCESSORIES

Fail Safe Valve (Imperial)	<b>OFSV-001</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-004</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-012</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-012V</b>	<b>1</b>

\*Sensor and cable sold separately †Piston magnet standard



# RPLC Series Exploded View



Item	Qty	Name
01	1	Body
02	1	Piston
03	2	Cap
04	1	Equalizer
05	2	Link
06	4	Way
08	2	Jaw
10	1	Cover, Bottom
11	2	Cover, Bottom, Corners
12	2	Cover, End
13	2	Bearing, Roller
20	1	Piston W/Magnet Slot
21	4	S'assy, Cage & Rollers
30	3	SHCS
31	1	Dowel Pin
32	2	Dowel Pin
40	2	Magnet

**Note:** contact the robohand sales department for a complete spare parts list with order numbers and prices.

### Assembly procedure

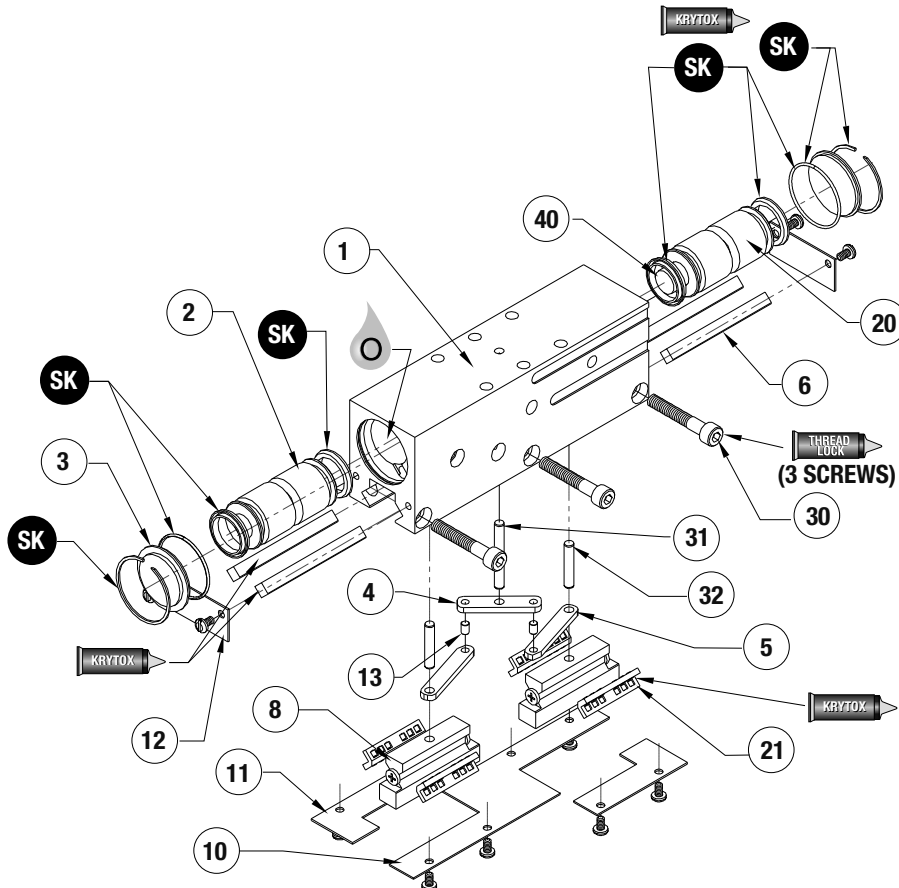
- 1) Lubricate and install seals.
- 2) Glue magnets into one piston, install pistons, caps and retaining rings.
- 3) Press dowel pin into center of body.
- 4) Place links and equalizers into body.
- 5) Press dowel pins into jaws.
- 6) Place ways behind links and into pistons.
- 7) Install cages on jaws.
- 8) Place ways behind cages with flat facing out and install screws.
- 9) Adjust preload.
- 10) Install bottom cover, bottom cover corners and end covers.

### Preload adjustment procedure

- 1) Tighten center screw (#30) so that fingers preload adjustment procedure
- 2) Tighten outer screws in the same fashion. Bind slightly.
- 3) Cycle the gripper.
- 4) Re-adjust screws so that when you push the cage, the finger moves freely. (the finger movement should not feel gritty.)

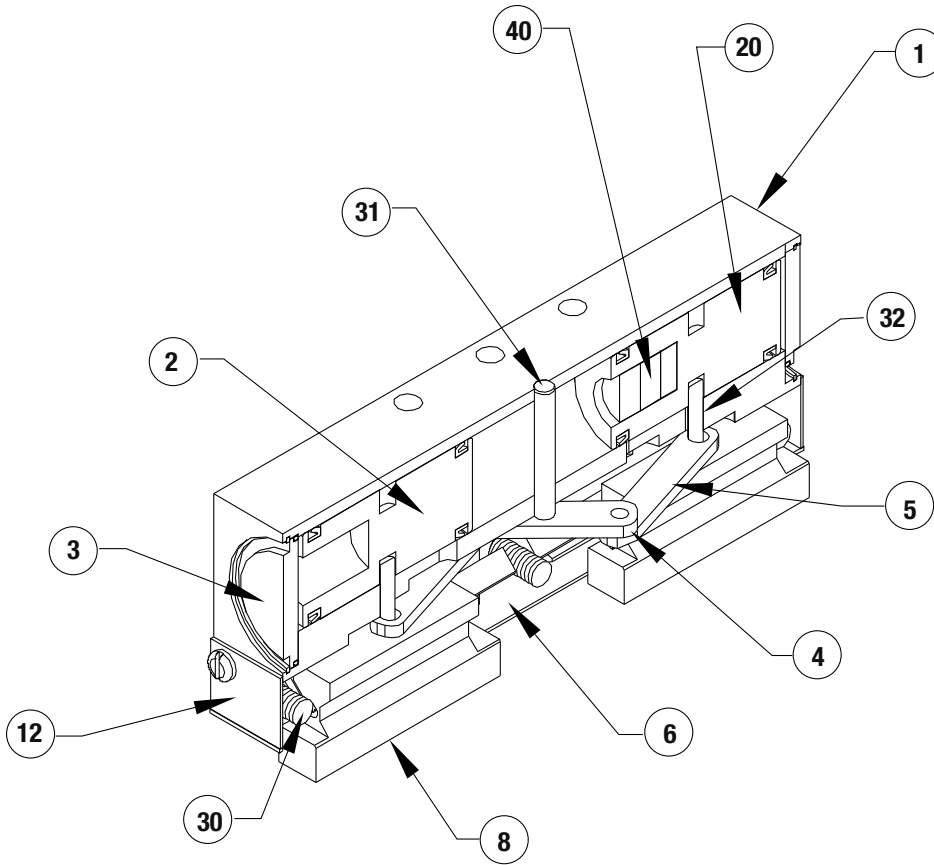
### Non-synchronous procedure

- 1) Remove end covers, bottom cover corners, and bottom cover.
- 2) Remove preload screws (#30) and ways.
- 3) Remove cages, jaws and dowel pins.
- 4) Remove equalizer, links, and roller bearings.
- 5) Re-assemble jaws and dowel pins into pistons.
- 6) Re-install cages on jaws.
- 7) Place ways behind cages with flat facing out and
- 8) Adjust preload. Install preload screws.
- 9) Re-attach bottom cover, bottom cover corners and end covers. Gripper is now non-synchronous.



**SK Seal Repair Kit Order #'s  
See Product Data Sheets**

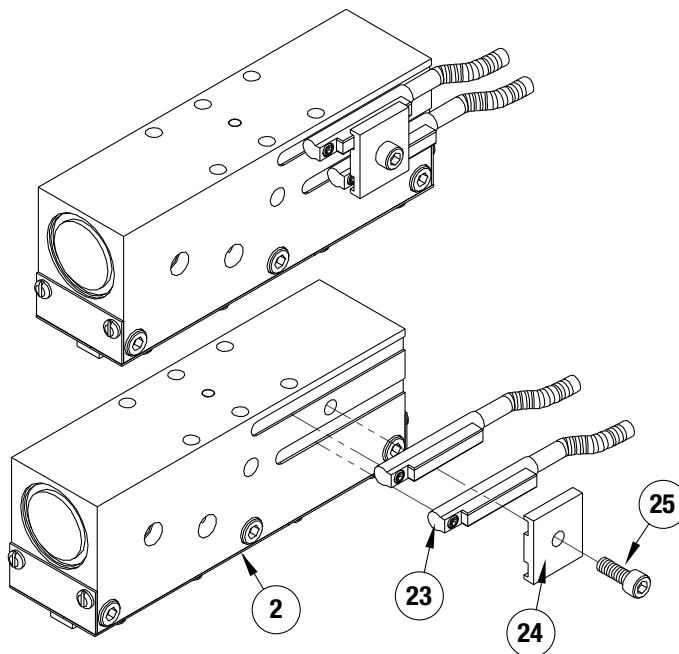




Item	Qty	Name
01	1	Body
02	1	Piston
03	2	Cap
04	1	Equalizer
05	2	Link
06	4	Way
08	2	Jaw
10	1	Cover, Bottom
11	2	Cover, Bottom, Corners
12	2	Cover, End
13	2	Bearing, Roller
20	1	Piston W/Magnet Slot
21	4	S'assy, Cage & Rollers
30	3	SHCS
31	1	Dowel Pin
32	2	Dowel Pin
40	2	Magnet

**Note:** contact the robohand sales department for a complete spare parts list with order numbers and prices.

## Accessory Installation & Adjustment Instructions



### Installation

- 1) Install sensors as shown.
- 2) Adjust for desired end of stroke detection.



Seal Kit  
Items



Thread  
Locker



Krytox™  
Lubricant



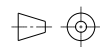
Lightweight  
Machine Oil



Teflon® Based  
Grease



Super  
Bonder



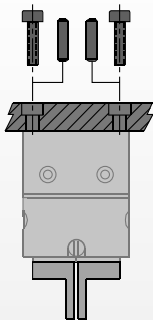
Third Angle  
Projection

# Parallel Grippers - Miniature Series

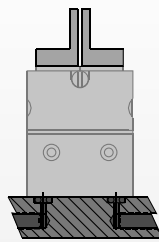
- Precision applications:**  
 Preloaded dual-"V" roller bearings eliminate side play for excellent part position repeatability.
- Miniature size:**  
 Compact design allows for gripping small parts in small spaces.
- Top manifold:**  
 Grippers can be manifolded through the top mounting surface. This eliminates the need for air fittings and allows grippers to be mounted in close array.
- Repeatable grip force:**  
 Low friction mechanism allows for consistent, repeatable gripping forces. To grip delicate parts, grip force can be easily altered by adjusting air pressure.

## Mounting Information:

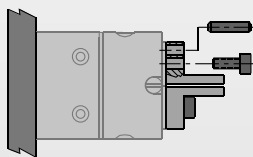
Grippers can be mounted & operated in any orientation



Body mounts with screws and locates with slip fit dowel pins for accuracy



Unit has top manifold ports



Fingers attach to jaws with screws and locate with dowel pins or by keying

## Technical Specifications:

Pneumatic Specifications	Imperial	Metric
Pressure Operating Range	40-100 psi	1.3-7 bar
Cylinder Type	Double Acting	
Dynamic Seals	Internally Lubricated Buna-N	
Valve Required to Operate	4-way, 2-position	
<b>Air Quality Requirements</b>		
Air Filtration	40 Micron or Better	
Air Lubrication	Not Necessary*	
Air Humidity	Low Moisture Content (dry)	
<b>Temperature Operating Range</b>		
Buna-N Seals (standard)	-30°~180° F	-35°~80° C
Viton® Seals (optional)	-20°~250° F	-30°~120° C
<b>Maintenance Specifications†</b>		
Expected Life	5 million cycles	
Normal Application	10+ million cycles*	
w/ Preventative Maintenance	Yes	
Field Repairable	Yes	
Seal Repair Kits Available	Yes	
<b>Application restrictions</b>		
Dirty or gritty environments		
Machining operations generating chips		
Environments with loose particulate		
Applications where mechanism lubricant could cause contamination		

\*Addition of lubrication will greatly increase service life  
 †See Maintenance Section



## Product Features

**Slip Fit Dowel Pin Holes**  
Located in body and jaws

**Quality Components**  
Internal drive components are made from hardened bearing and tool steels

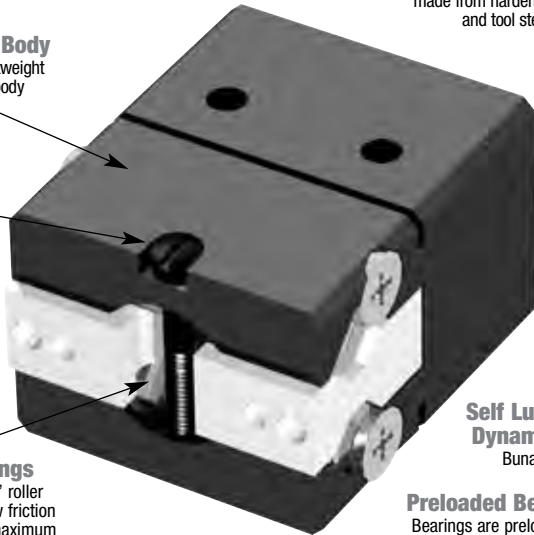
**One Piece Body**  
One piece lightweight aluminum body

**Adjustable Preload**  
Adjustable preload screw allows for adjustment of preload on roller bearings

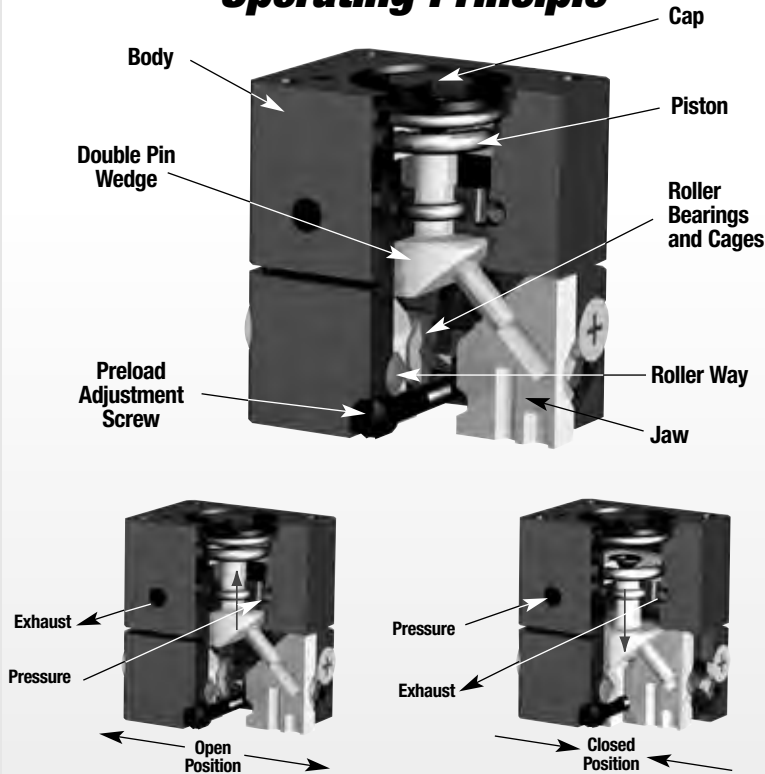
**Roller Bearings**  
Patented Dual-"V" roller bearings provide low friction rolling motion and maximum rigidity for fingers

**Self Lubricating Dynamic Seals**  
Buna-N only

**Preloaded Bearings**  
Bearings are preloaded for maximum support and zero side play



## Operating Principle



- A double acting piston is connected by a shaft to a double sided pin wedge.
- The pin wedge slides in a hole located in each of the jaws converting vertical motion of the wedge into horizontal synchronous motion of the jaws.
- This gripper is suitable for internal or external gripping.

**U.S. Patent #5,529,359 & #5,125,708**  
**Designed and manufactured in the USA**

## Style-RPM Parallel Gripper

### Size -1M

<b>Style:</b>	RPM-1M	
<b>Stroke:</b>	0.13 in.	3.2 mm
<b>Grip Force:</b>	8 lbs.	36 N
<b>Weight:</b>	0.052 lbs.	.02 Kg



See Page **1.108**

## Style-RPM Parallel Gripper

### Size -2M

<b>Style:</b>	RPM-2M	
<b>Stroke:</b>	0.19 in.	4.8 mm
<b>Grip Force:</b>	8 lbs.	36 N
<b>Weight:</b>	0.058 lbs.	.03 Kg



See Page **1.109**

## Style-RPM Parallel Gripper

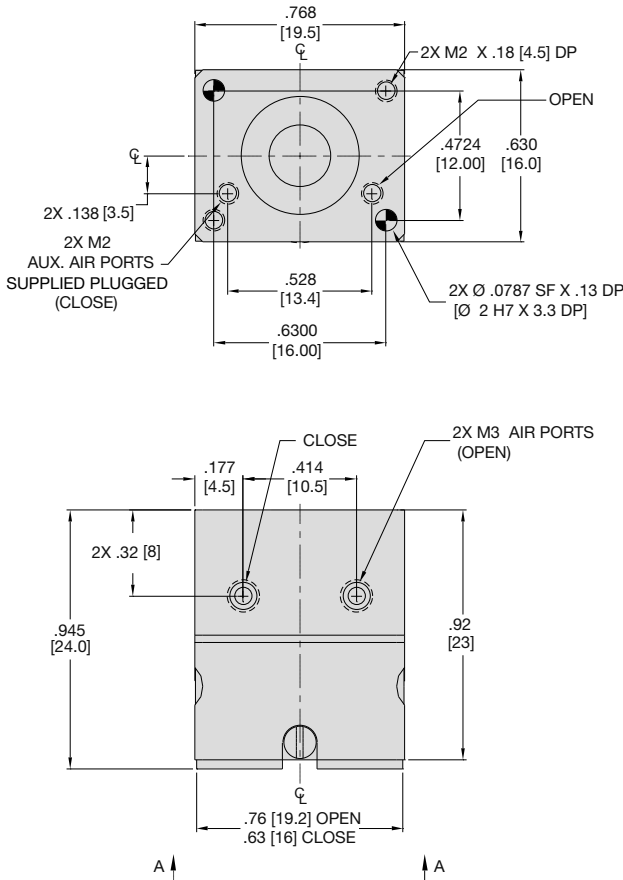
### Size -3M

<b>Style:</b>	RPM-3M	
<b>Stroke:</b>	0.25 in.	6.3 mm
<b>Grip Force:</b>	8 lbs.	36 N
<b>Weight:</b>	0.074 lbs.	.03 Kg



See Page **1.110**

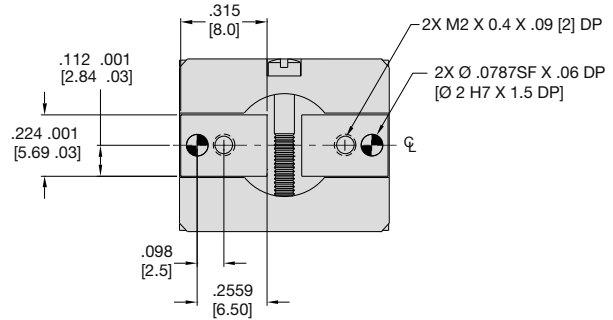
# PARALLEL GRIPPER RPM-1M MINIATURE SERIES



### Specifications

### RPM-1M

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	8 lbs.	36 N
Stroke	.13 in.	3.2 mm
Weight	0.052 lbs.	0.024 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore Ø	0.394 in.	10.0 mm
Displacement	0.008 in <sup>3</sup>	0.13 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation	0.10 sec.	0.10 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate		4-way, 2-position

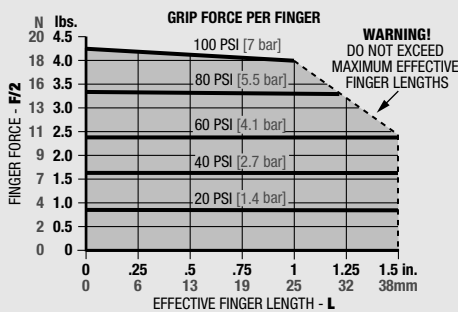


**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

	Dimensions are symmetrical about centerline		Third Angle Projection		All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
	Metric Threads Course Pitch	<b>Imperial in.</b>	<b>Metric [mm]</b>		
		0.00 = ±.01	[0.] = [±.25]		
		0.000 = ±.005	[0.0] = [±.13]		
		0.0000 = ±.0005	[0.00] = [±.013]		

## Loading Information

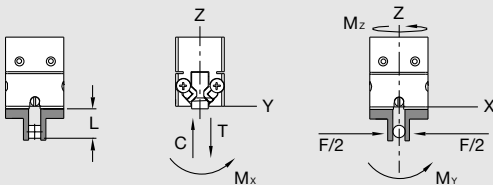
## How to Order: (Order Accessories separately from Basic Model)



BASIC MODEL

**RPM-1M - V**

VITON® SEALS



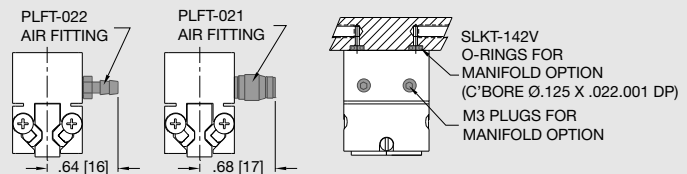
### Loading Capacity<sup>1</sup>

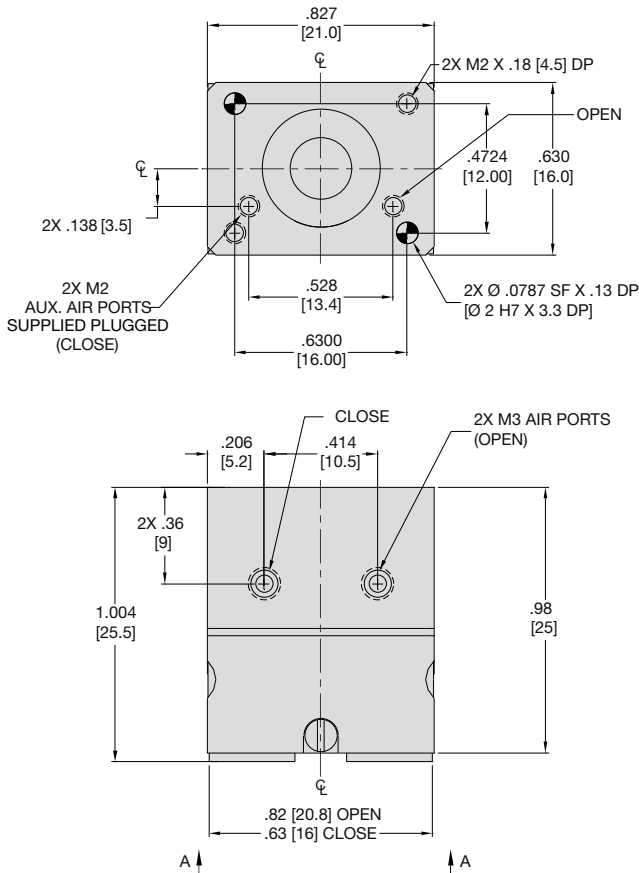
	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	20 lbs.	89 N	7 lbs.	31 N
Maximum Compressive <b>C</b>	20 lbs.	89 N	7 lbs.	31 N
Maximum Moment <b>M<sub>x</sub></b>	12 in.-lbs.	1 Nm	4 in.-lbs.	0.5 Nm
Maximum Moment <b>M<sub>y</sub></b>	15 in.-lbs.	2 Nm	5 in.-lbs.	0.6 Nm
Maximum Moment <b>M<sub>z</sub></b>	12 in.-lbs.	1 Nm	4 in.-lbs.	0.5 Nm

<sup>1</sup>Capacities are per set of jaws and are not simultaneous

### PNEUMATIC ACCESSORIES

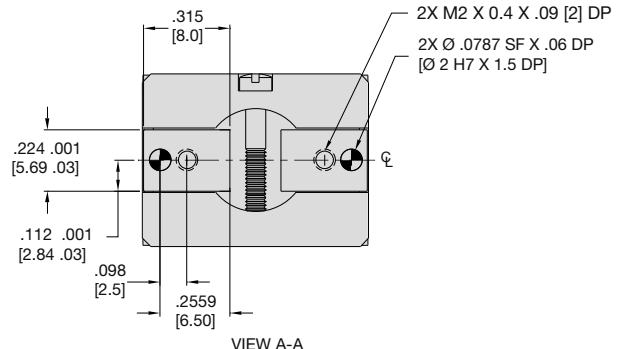
	Order #	QTY/UNIT
M3 Plumbing Fitting Push-in for 3mm O.D. Tube	<b>PLFT-021</b>	<b>2</b>
M3 Plumbing Fitting Barb for 2mm I.D. Tube	<b>PLFT-022</b>	<b>2</b>
Standard Seal Repair Kit	<b>SLKT-121</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-121V</b>	<b>1</b>
Top Air Ports Manifold Seal Kit (available in Viton® only)	<b>SLKT-142V</b>	<b>1</b>





### Specifications

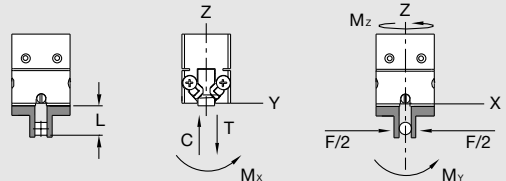
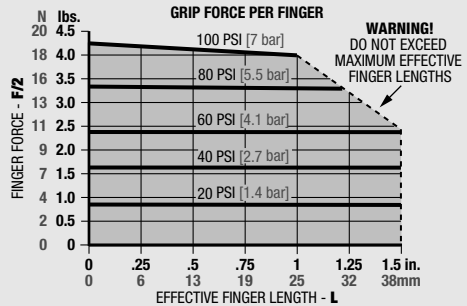
	RPM-2M	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	8 lbs.	36 N
Stroke	.19 in.	4.8 mm
Weight	0.058 lbs.	0.026 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore Ø	0.394 in.	10.0 mm
Displacement	0.012 in <sup>3</sup>	0.20 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation	0.10 sec.	0.10 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate	4-way, 2-position	



**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

	Dimensions are symmetrical about centerline		Third Angle Projection		All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
	Metric Threads Course Pitch	<b>Imperial in.</b>	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b>	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

## Loading Information



### Loading Capacity<sup>1</sup>

	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	20 lbs.	89 N	7 lbs.	31 N
Maximum Compressive <b>C</b>	20 lbs.	89 N	7 lbs.	31 N
Maximum Moment <b>M<sub>x</sub></b>	12 in.-lbs.	1 Nm	4 in.-lbs.	0.5 Nm
Maximum Moment <b>M<sub>y</sub></b>	15 in.-lbs.	2 Nm	5 in.-lbs.	0.6 Nm
Maximum Moment <b>M<sub>z</sub></b>	12 in.-lbs.	1 Nm	4 in.-lbs.	0.5 Nm

<sup>1</sup>Capacities are per set of jaws and are not simultaneous

## How to Order: (Order Separately)

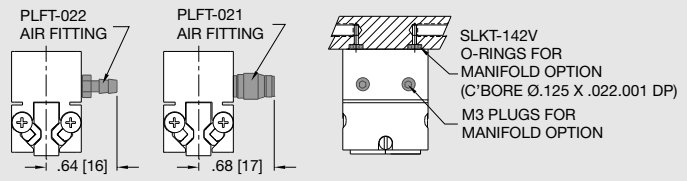
BASIC MODEL

**RPM-2M - V**

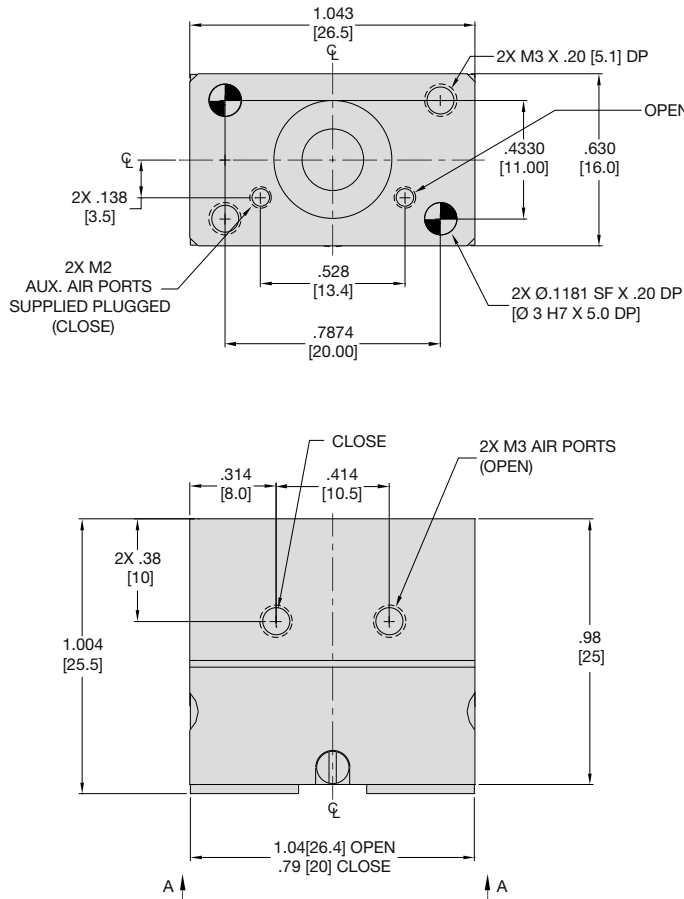
VITON® SEALS

### PNEUMATIC ACCESSORIES

	Order #	QTY/UNIT
M3 Plumbing Fitting Push-in for 3mm O.D. Tube	<b>PLFT-021</b>	<b>2</b>
M3 Plumbing Fitting Barb for 2mm I.D. Tube	<b>PLFT-022</b>	<b>2</b>
Standard Seal Repair Kit	<b>SLKT-121</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-121V</b>	<b>1</b>
Top Air Ports Manifold Seal Kit (available in Viton® only)	<b>SLKT-142V</b>	<b>1</b>

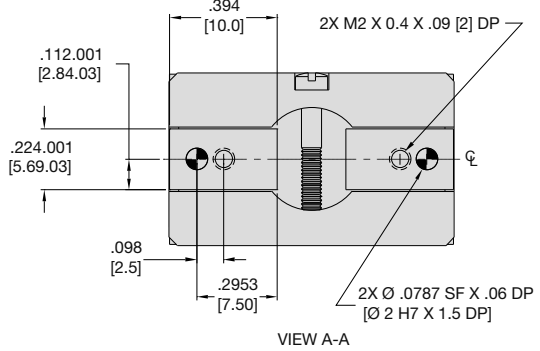


# PARALLEL GRIPPER RPM-3M MINIATURE SERIES



### Specifications

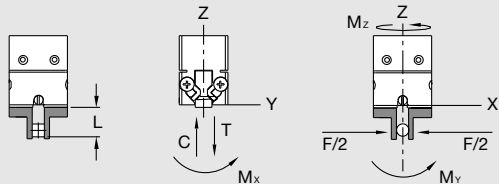
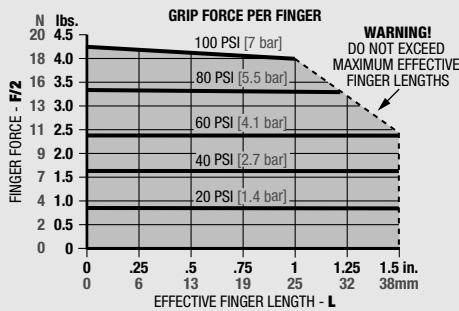
		RPM-3M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	8 lbs.	36 N
Stroke	.25 in.	6.3 mm
Weight	0.074 lbs.	0.034 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore $\varnothing$	0.394 in.	10.0 mm
Displacement	0.015 in <sup>3</sup>	0.25 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation	0.10 sec.	0.10 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate		4-way, 2-position



### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

## Loading Information



### Loading Capacity†

	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	20 lbs.	89 N	7 lbs.	31 N
Maximum Compressive <b>C</b>	20 lbs.	89 N	7 lbs.	31 N
Maximum Moment <b>M<sub>x</sub></b>	12 in.-lbs.	1 Nm	4 in.-lbs.	0.5 Nm
Maximum Moment <b>M<sub>y</sub></b>	15 in.-lbs.	2 Nm	5 in.-lbs.	0.6 Nm
Maximum Moment <b>M<sub>z</sub></b>	12 in.-lbs.	1 Nm	4 in.-lbs.	0.5 Nm

†Capacities are per set of jaws and are not simultaneous

## How to Order: (Order Separately)

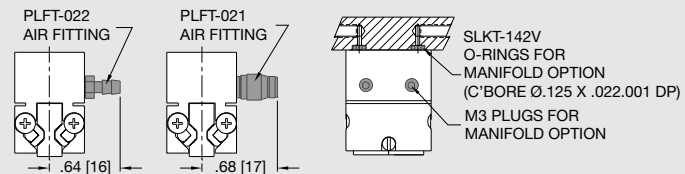
BASIC MODEL

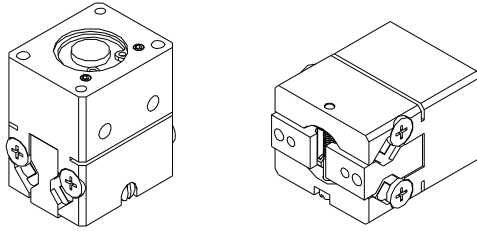
**RPM-3M - V**

VITON® SEALS

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
M3 Plumbing Fitting Push-in for 3mm O.D. Tube	PLFT-021	2
M3 Plumbing Fitting Barb for 2mm I.D. Tube	PLFT-022	2
Standard Seal Repair Kit	SLKT-121	1
Viton® Seal Repair Kit	SLKT-121V	1
Top Air Ports Manifold Seal Kit (available in Viton® only)	SLKT-142V	1





Item	Qty	Name
01	1	Body
02	2	Jaw
03	1	Wedge
04	1	Piston
05	1	Cap
06	2	Way
07	4	Kit, Roller Bearings And Cage
08	1	Preload
12	2	Dowel Pin
15	4	Stop Screw

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

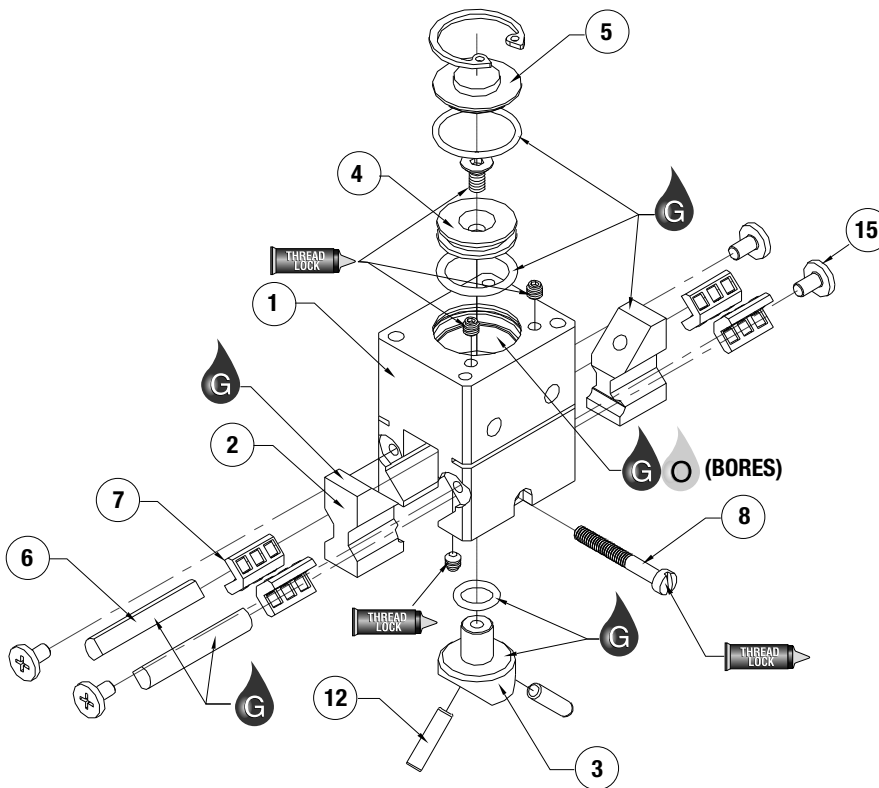
### Assembly Procedure

- 1) Lubricate and install seals
- 2) Install pins (12) and wedge (3) into body
- 3) Install piston (4), screw, cap (5), & retaining ring
- 4) Install set screws for airport plugs
- 5) Install jaws (2) over pins
- 6) Install ways (6), cages (7), & screws (15)

### Preload Adjustment

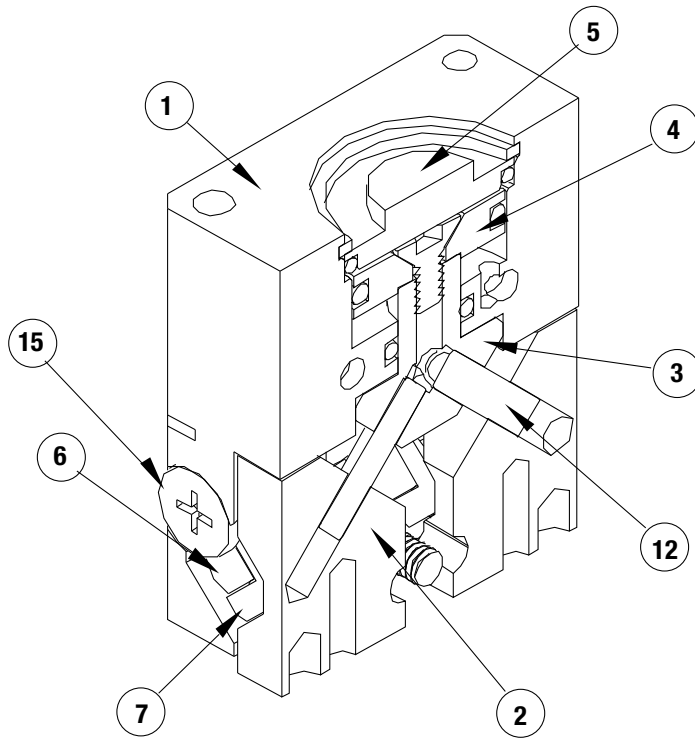
- 1) Install preload screw (8) w/Loctite on 1st 6-8 threads
- 2) Tighten until there is no side-play in the jaws
- 3) Cycle gripper (w/fingers preferably)
- 4) Recheck for play in jaws & tighten or loosen as needed

**SK Seal Repair Kit Order #'s See Product Data Sheets**



<b>SK</b> Seal Kit Items	 Thread Locker	 Krytox™ Lubricant	 Lightweight Machine Oil	 Teflon® Based Grease	 Super Bonder	 Third Angle Projection
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# RPM Series Assembled View



**Item Qty Name**

01	1	Body
02	2	Jaw
03	1	Wedge
04	1	Piston
05	1	Cap
06	2	Way
07	4	Kit, Roller Bearings And Cage
08	1	Preload
12	2	Dowel Pin
15	4	Stop Screw

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

**Non-Repairable Items List**  
NONE



Seal Kit  
Items



Thread  
Locker



Krytox™  
Lubricant



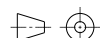
Lightweight  
Machine Oil



Teflon® Based  
Grease



Super  
Bonder



Third Angle  
Projection





# QUALITY PRECISION DURABILITY DESIGN NOTES

RPM SERIES

1.113



# Parallel Grippers - Miniature Clean Room Series

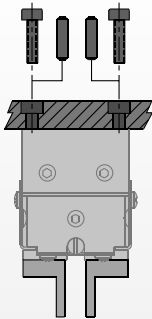


- Precision applications:**  
 Preloaded dual-"V" roller bearings eliminate side play for excellent part position repeatability.
- Miniature size:**  
 Compact design allows for gripping small parts in small spaces.
- Top manifold:**  
 Grippers can be manifolded through the top mounting surface. This eliminates the need for air fittings and allows grippers to be mounted in close array.
- Clean room rated:**  
 A corrosion resistant shield protects the drive and bearing mechanism. All internal components are lubricated with clean room grade grease. The scavenge port can be used with vacuum pressure to prevent escape of particulate generated by the internal mechanism.
- Harsh environments:**  
 All moving components are located within the corrosion resistant cover. The body has a purge port which can expel contaminants from the mechanism using low pressure compressed air.

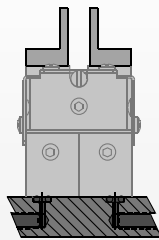


## Mounting Information:

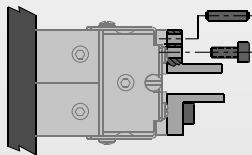
Grippers can be mounted & operated in any orientation



Body mounts with screws and locates with slip fit dowel pins for accuracy



Unit has top manifold ports



Fingers attach to jaws with screws and locate with dowel pins or by keying

## Technical Specifications:

Pneumatic Specifications	Imperial	Metric
Pressure Operating Range	40-100 psi	3-7 bar
Cylinder Type	Double Acting	
Dynamic Seals	Internally Lubricated Buna-N	
Valve Required to Operate	4-way, 2-position	
<b>Air Quality Requirements</b>		
Air Filtration	40 Micron or Better	
Air Lubrication	Not Necessary*	
Air Humidity	Low Moisture Content (dry)	
<b>Temperature Operating Range</b>		
Buna-N Seals (standard)	-30°~180° F	-35°~80° C
Viton® Seals (optional)	-20°~250° F	-30°~120° C
<b>Maintenance Specifications†</b>		
Expected Life	5 million cycles	
Normal Application w/ Preventative Maintenance	10+ million cycles*	
Field Repairable	Yes	
Seal Repair Kits Available	Yes	

\*Addition of lubrication will greatly increase service life  
 †See Maintenance Section

## Product Features

### Preload Bearings

Bearings are preloaded for maximum support and zero side play

### Hard Coat Anodize

The body has hard-coat anodize 60 RC with Teflon® impregnation

### Quality Components

External components are made from corrosion resistant materials for resistance to de-ionized water or for use in FDA & medical parts handling applications

### Clean Room Contaminants

Units are lubricated with a clean-room grade grease

### Purge/Scavenge Port

Purge/Scavenge port for extreme environments from dirty & gritty to clean-room Class 10 or better

### Adjustable Preload Screw

Adjustable preload screw allows for adjustment of preload on roller bearings

### Roller Bearings

Patented Dual-"V" roller bearings provide low friction rolling motion and maximum rigidity for fingers

### Slip Fit Dowel Pin Holes

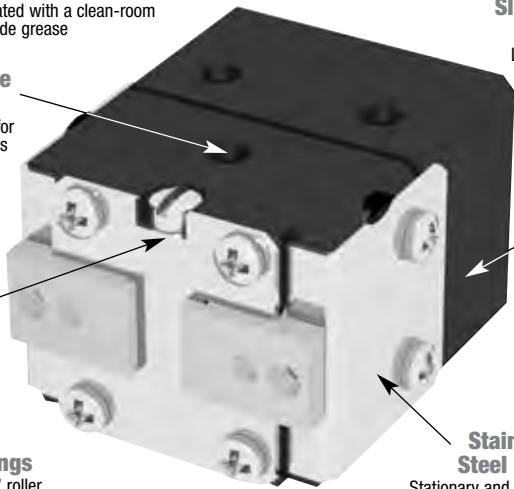
Located in body and jaws

### One Piece Body

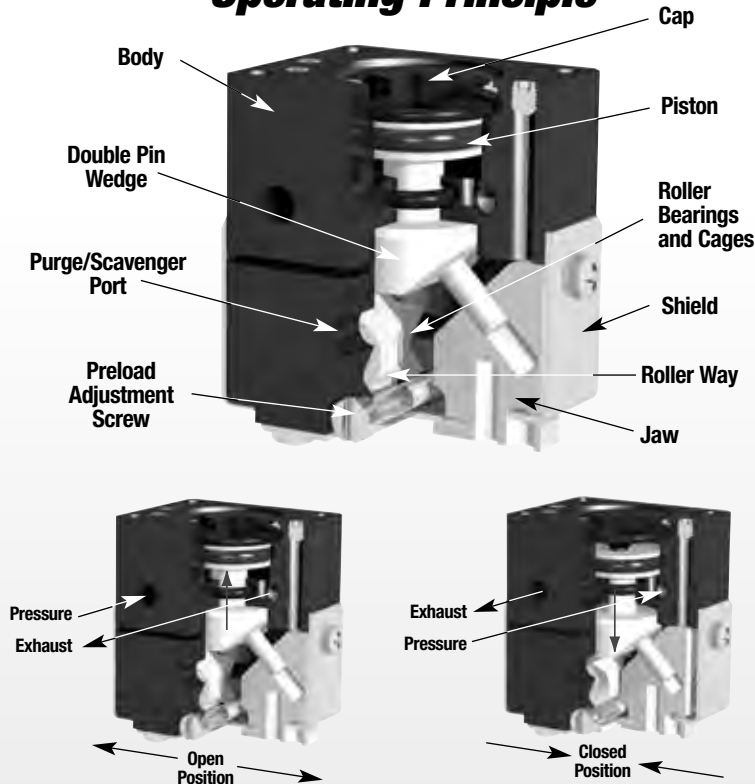
One piece lightweight aluminum body

### Stainless Steel Cover

Stationary and non-contacting cover eliminates the possibility of particle generation



## Operating Principle



- A double acting piston is connected by a shaft to a double sided pin wedge.
- The pin wedge slides in a hole located in each of the jaws converting vertical motion of the wedge into horizontal synchronous motion of the jaws.
- This gripper is suitable for internal or external gripping.

**U.S. Patent #5,529,359 & #5,125,708**  
**Designed and manufactured in the USA**

## Style-RPMC Parallel Gripper

### Size -1M

Style:	RPMC-1M	
Stroke:	0.13 in.	3.2 mm
Grip Force:	8 lb	36 N
Weight:	0.052 lb	.02 Kg



See Page **1.116**

## Style-RPMC Parallel Gripper

### Size -2M

Style:	RPMC-2M	
Stroke:	0.19 in.	4.8 mm
Grip Force:	8 lb	36 N
Weight:	0.058 lb	.03 Kg



See Page **1.117**

## Style-RPMC Parallel Gripper

### Size -3M

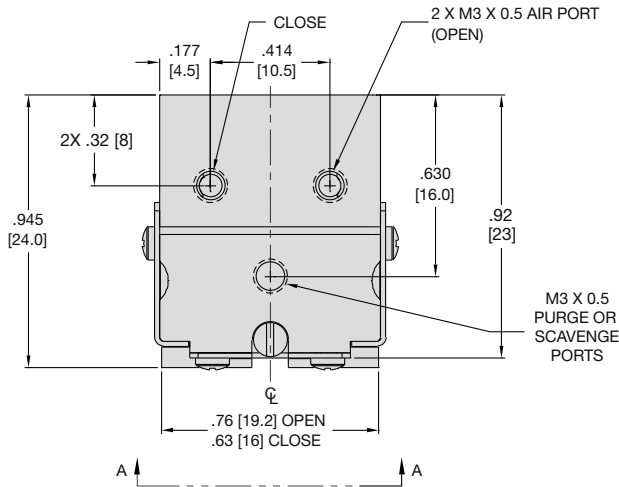
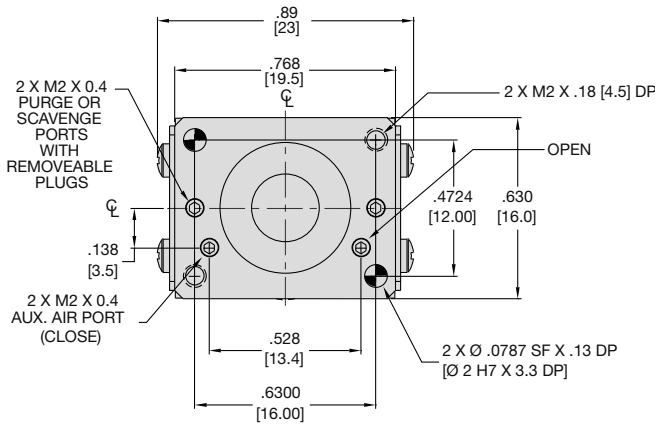
Style:	RPMC-3M	
Stroke:	0.25 in.	6.3 mm
Grip Force:	8 lb	36 N
Weight:	0.074 lb	.03 Kg



See Page **1.118**

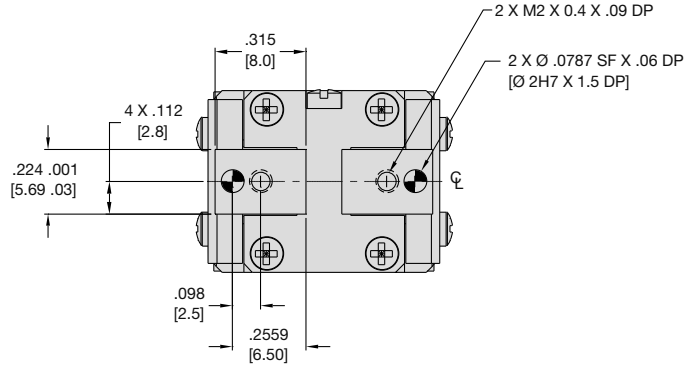


# PARALLEL GRIPPER RPMC-1M MINIATURE CLEAN ROOM SERIES



### Specifications

		RPMC-1M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	lb	36 N
Stroke	in.	3.2 mm
Weight	lb	0.024 Kg
Pressure Range	psi	3-7 bar
Cylinder Bore Ø	in.	10.0 mm
Displacement	in <sup>3</sup>	0.13 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation Time	sec.	0.10 sec.
Accuracy	in.	±0.002 in. ±0.05 mm
Repeatability	in.	±0.001 in. ±0.03 mm
Valve required to actuate		4-way, 2-position

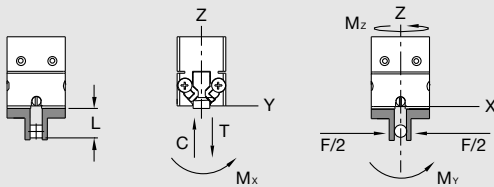
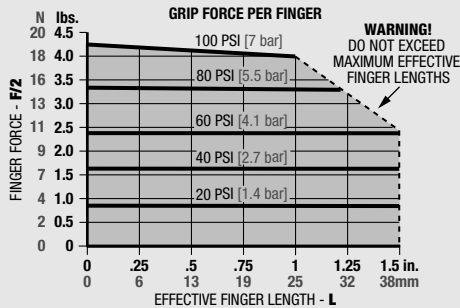


VIEW A-A

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

## Loading Information



### Loading Capacity†

	Imperial		Metric	
	Static	Metric	Dynamic	Metric
Maximum Tensile <b>T</b>	20 lbs.	89 N	7 lbs.	31 N
Maximum Compressive <b>C</b>	20 lbs.	89 N	7 lbs.	31 N
Maximum Moment <b>M<sub>x</sub></b>	12 in.-lbs.	1 Nm	4 in.-lbs.	0.5 Nm
Maximum Moment <b>M<sub>y</sub></b>	15 in.-lbs.	2 Nm	5 in.-lbs.	0.6 Nm
Maximum Moment <b>M<sub>z</sub></b>	12 in.-lbs.	1 Nm	4 in.-lbs.	0.5 Nm

†Capacities are per set of jaws and are not simultaneous

## How to Order: (Order Separately)

BASIC MODEL

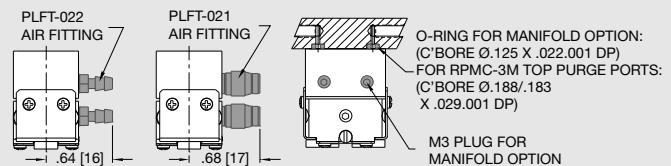
**RPMC-1M - V**

VITON® SEALS

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
M3 Plumbing Fitting Push-in for 3mm O.D. Tube	<b>PLFT-021</b>	<b>2</b>
M3 Plumbing Fitting Barb for 2mm I.D. Tube	<b>PLFT-022</b>	<b>2</b>
Standard Seal Repair Kit	<b>SLKT-121</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-121V</b>	<b>1</b>
Top Air Ports Manifold Seal Kit (available in Viton® only)	<b>SLKT-143V</b>	<b>1</b>

For Detailed Accessory Mounting Technical Data Refer to Accessories Section

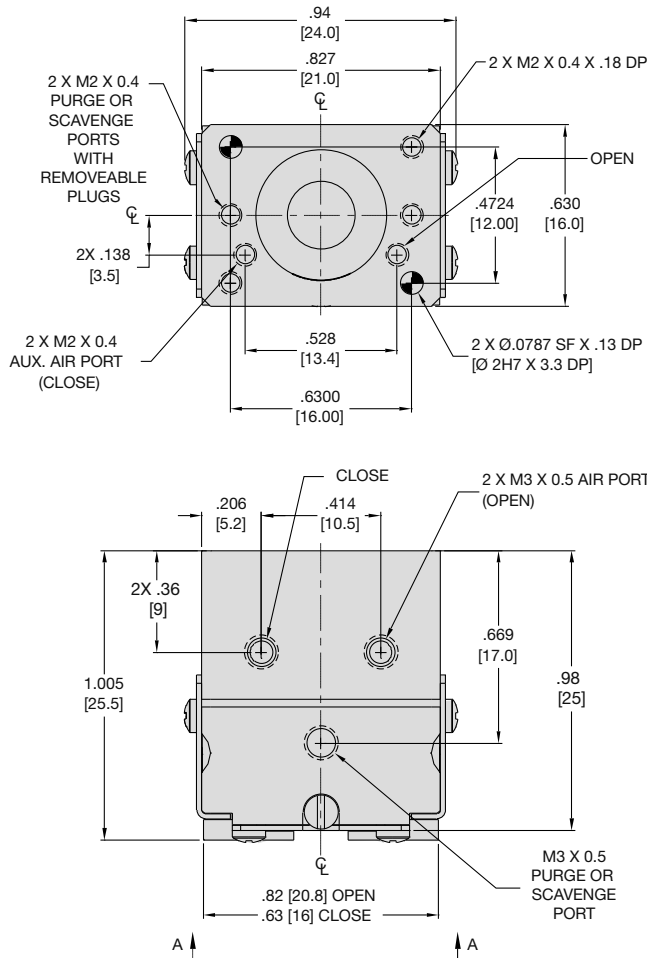




# PARALLEL GRIPPER RPMC-2M MINIATURE CLEAN ROOM SERIES

RPMC SERIES

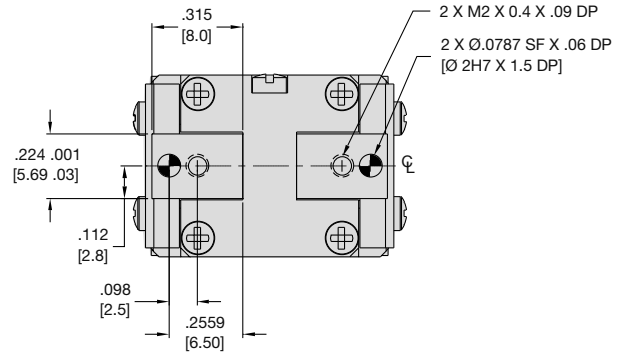
1.117



## Specifications

## RPMC-2M

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar <sup>8</sup> lb	36 N
Stroke	.19 in. 4.8 mm
Weight	0.058 lb 0.026 Kg
Pressure Range	40-100 psi 3-7 bar
Cylinder Bore Ø	0.394 in. 10.0 mm
Displacement	0.012 in <sup>3</sup> 0.20 cm <sup>3</sup>
Temperature Range	
Standard Seals	-30°~180° F -35°~80° C
Viton® Seals	-20°~250° F -30°~120° C
Actuation Time	0.10 sec. 0.10 sec.
Accuracy	±0.002 in. ±0.05 mm
Repeatability	±0.001 in. ±0.03 mm
Valve required to actuate	4-way, 2-position

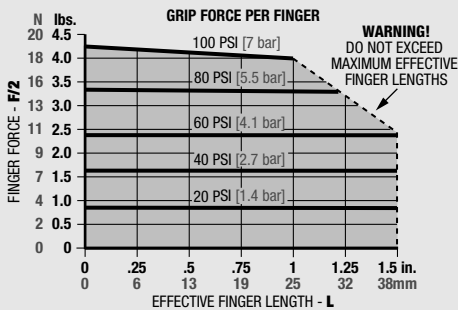


UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

## Loading Information

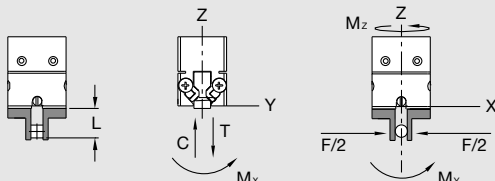
## How to Order: (Order Separately)



BASIC MODEL

**RPMC-2M - V**

VITON® SEALS



### Loading Capacity†

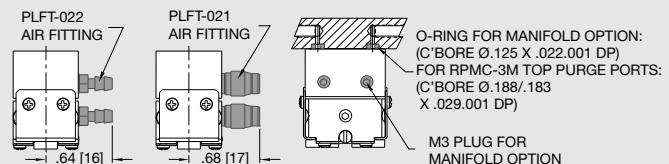
	Imperial		Metric	
	Static	Dynamic	Static	Dynamic
Maximum Tensile <b>T</b>	20 lbs.	7 lbs.	89 N	31 N
Maximum Compressive <b>C</b>	20 lbs.	7 lbs.	89 N	31 N
Maximum Moment <b>M<sub>x</sub></b>	12 in.-lbs.	4 in.-lbs.	1 Nm	0.5 Nm
Maximum Moment <b>M<sub>y</sub></b>	15 in.-lbs.	5 in.-lbs.	2 Nm	0.6 Nm
Maximum Moment <b>M<sub>z</sub></b>	12 in.-lbs.	4 in.-lbs.	1 Nm	0.5 Nm

†Capacities are per set of jaws and are not simultaneous

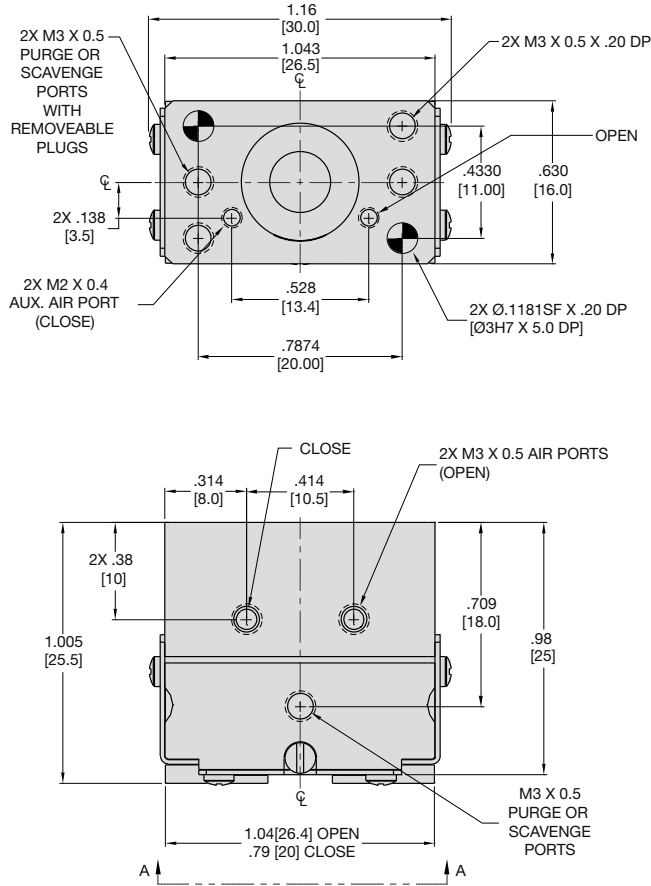
### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
M3 Plumbing Fitting Push-in for 3mm O.D. Tube	PLFT-021	2
M3 Plumbing Fitting Barb for 2mm I.D. Tube	PLFT-022	2
Standard Seal Repair Kit	SLKT-121	1
Viton® Seal Repair Kit	SLKT-121V	1
Top Air Ports Manifold Seal Kit (available in Viton® only)	SLKT-143V	1

For Detailed Accessory Mounting Technical Data Refer to Accessories Section

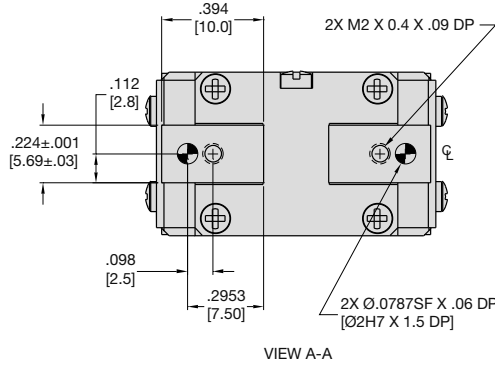


# PARALLEL GRIPPER RPMC-3M MINIATURE CLEAN ROOM SERIES



### Specifications

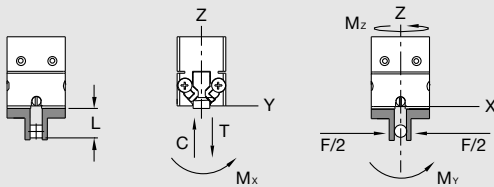
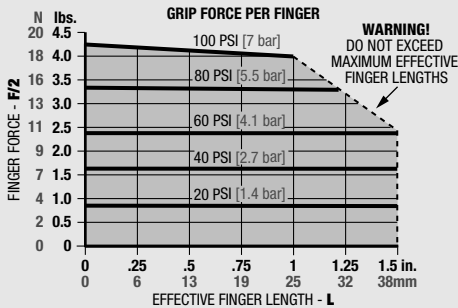
		RPMC-3M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	8	36 N
Stroke	.25 in.	6.3 mm
Weight	0.074 lb	0.034 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore Ø	0.394 in.	10.0 mm
Displacement	0.015 in <sup>3</sup>	0.25 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~250° F	-30°~120° C
Actuation Time	0.10 sec.	0.10 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate		4-way, 2-position



### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

## Loading Information



### Loading Capacity<sup>†</sup>

	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	20 lbs.	89 N	7 lbs.	31 N
Maximum Compressive <b>C</b>	20 lbs.	89 N	7 lbs.	31 N
Maximum Moment <b>M<sub>x</sub></b>	12 in.-lbs.	1 Nm	4 in.-lbs.	0.5 Nm
Maximum Moment <b>M<sub>y</sub></b>	15 in.-lbs.	2 Nm	5 in.-lbs.	0.6 Nm
Maximum Moment <b>M<sub>z</sub></b>	12 in.-lbs.	1 Nm	4 in.-lbs.	0.5 Nm

<sup>†</sup>Capacities are per set of jaws and are not simultaneous

## How to Order: (Order Separately)

BASIC MODEL

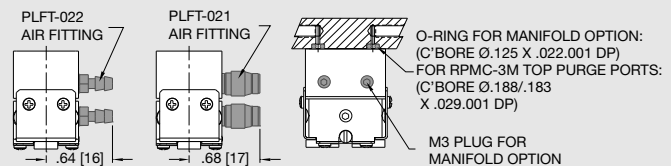
**RPMC-3M - V**

VITON® SEALS

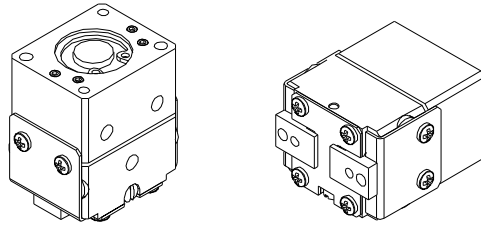
### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
M3 Plumbing Fitting Push-in for 3mm O.D. Tube	PLFT-021	2
M3 Plumbing Fitting Barb for 2mm I.D. Tube	PLFT-022	2
Standard Seal Repair Kit	SLKT-121	1
Viton® Seal Repair Kit	SLKT-121V	1
Top Air Ports Manifold Seal Kit (available in Viton® only)	SLKT-143V	1

### For Detailed Accessory Mounting Technical Data Refer to Accessories Section







Item	Qty	Name
01	1	Body
02	2	Jaw
03	1	Wedge
04	1	Piston
05	1	Cap
06	2	Way
07	4	Kit, Roller Bearings And Cage
08	1	Screw, Preload
10	2	Shield, Side
11	1	Shield, Top
12	2	Dowel Pin
15	4	Stop Screw

NOTE: Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

### Assembly Procedures

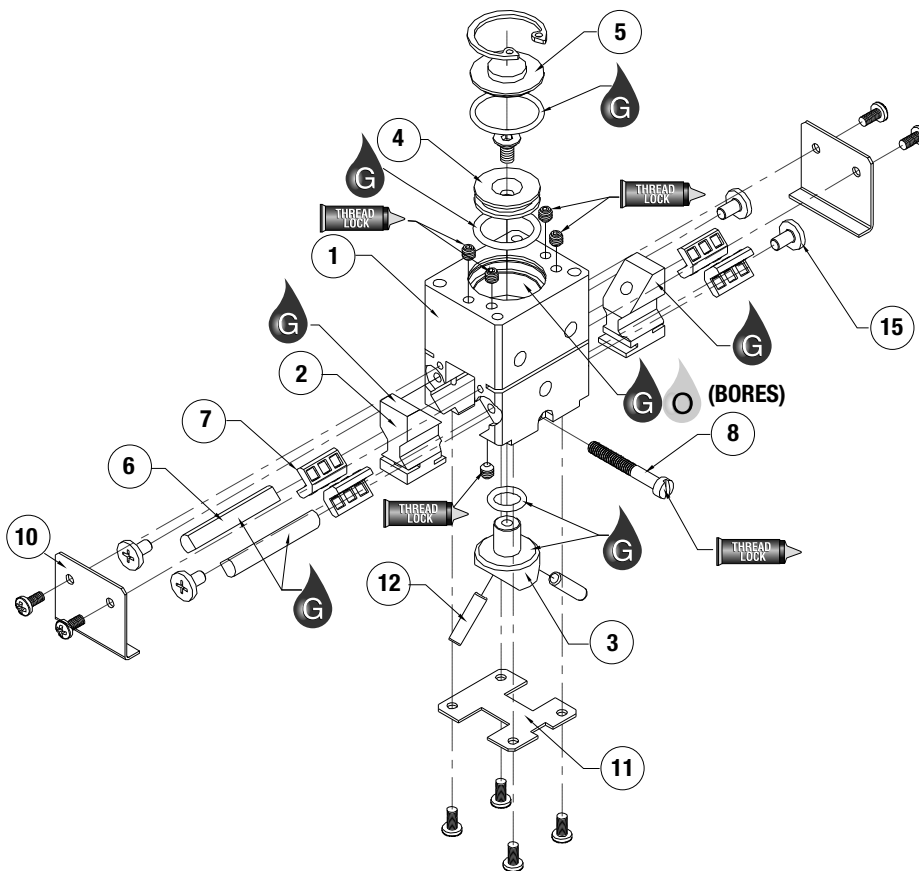
- 1) Lubricate and install seals.
- 2) Install pins (12) and wedge (3) into body.
- 3) Install piston (4), screw, cap (5), & Retaining Ring.
- 4) Install set screws for air port plugs.
- 5) Install jaws (2) over pins.
- 6) Install ways (6), cages (7), & screws (15).

### Preload Adjustment

- 1) Install preload screw (8) with Loctite on first 6 -8 threads.
- 2) Tighten until there is no side play in the jaws.
- 3) Cycle gripper(w/finger assembly)
- 4) Recheck for play in jaws & tighten or loosen as needed.



**Seal Repair Kit Order #'s  
See Product Data Sheets**



Seal Kit Items



Thread Locker



Krytox™ Lubricant



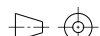
Lightweight Machine Oil



Teflon® Based Grease

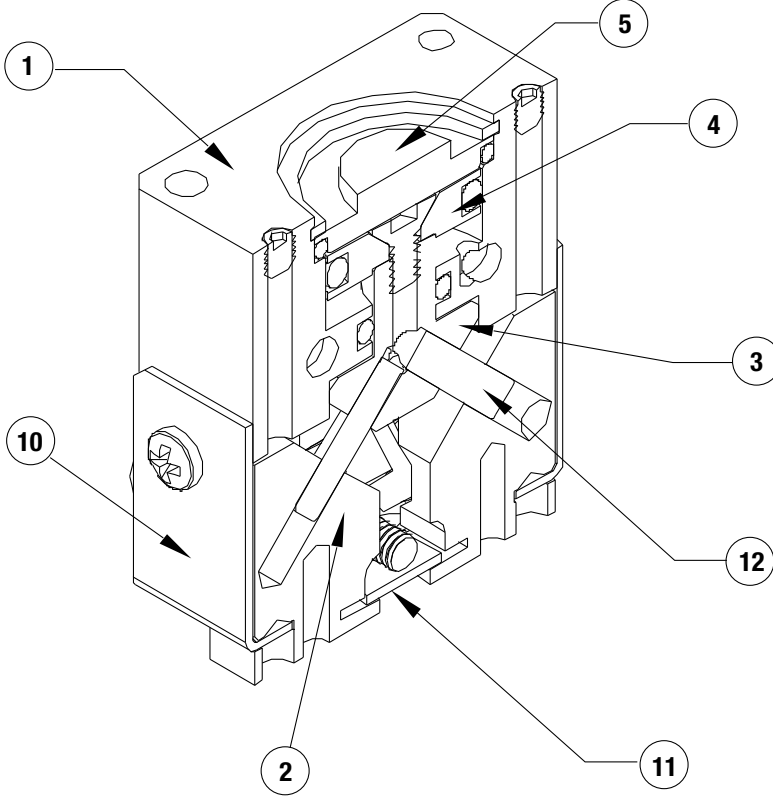


Super Bonder



Third Angle Projection

# RPMC Series Assembled View



Item	Qty	Name
------	-----	------

01	1	Body
02	2	Jaw
03	1	Wedge
04	1	Piston
05	1	Cap
06	2	Way
07	4	Kit, Roller Bearings And Cage
08	1	Screw, Preload
10	2	Shield, Side
11	1	Shield, Top
12	2	Dowel Pin
15	4	Stop Screw

NOTE: Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.



Seal Kit Items



Thread Locker



Krytox™ Lubricant



Lightweight Machine Oil



Teflon® Based Grease



Super Bonder



Third Angle Projection



# QUALITY PRECISION DURABILITY DESIGN NOTES

RPMC SERIES  
1.121





# Parallel Grippers - DPG DIRECTCONNECT™ Modular Series

**DIRECTCONNECT™**  
ADVANCED MODULAR AUTOMATION TECHNOLOGY

**NO  
ADAPTER  
PLATES!**

**NO  
ADAPTER  
PLATES!**

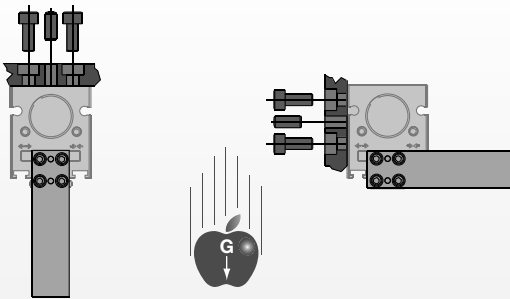
- **Multiple mounting locations:** DIRECTCONNECT™ mounting on top and back of body. Fingers mount to sides or bottom of jaws.
- **Multiple air port positions:** Tapped air ports on front and both sides are standard. Top air ports with counterbores for o-ring manifolded operation and threads for screw-in type fittings are available.

- **Sensing options:** Magneto resistive (Hall Effect) or inductive proximity sensors available.
- **Sense up to four positions:** Up to four jaw positions can be sensed to allow open, closed, part present, or variable part size sensing.
- **Shielded to repel contaminate:** Design repels chips and particulate. Closed jaw position spacing eliminates "chip compactor" effect.
- **Longer finger applications:** Rigid design and full body support of jaw allows for longer finger lengths.

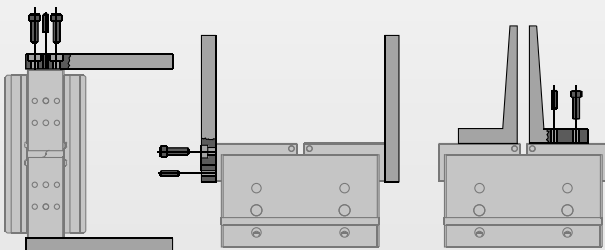
- **Spring assist, spring return:** Cylinders can be double acting, double acting spring assist, failsafe, or single acting in either open or closed direction.
- **Non-synchronous motion:** Non-synchronous motion option provides independent jaw motion allowing the gripper to pick or place at a point other than it's center.
- **Single jaw motion with fixed jaw:** This option locks one jaw in a fixed position while the other jaw is free to move.

## Mounting Information:

Grippers can be mounted & operated in any orientation



Body mounts with screws and locates with slip fit dowel pins for accuracy



Fingers attach with screws and locate on jaws by keying or dowel pin holes

## Technical Specifications:

Pneumatic Specifications	Imperial	Metric
Pressure Operating Range	40-100 psi	3-7 bar
Cylinder Type	Double Acting or Single Acting Spring Return or Double Acting Spring Assist	
Dynamic Seals	Internally Lubricated Buna-N	
Valve Required to Operate	4-way, 2-position for Double Acting or 3-way, 2-position for Single Acting	
<b>Air Quality Requirements</b>	40 Micron or Better	
Air Filtration	Not Necessary*	
Air Lubrication	Low Moisture Content (dry)	
Air Humidity		
<b>Temperature Operating Range</b>		
Buna-N Seals (standard)	-30°~180° F	-35°~80° C
Viton® Seals (optional)	-20°~300° F	-30°~150° C
<b>Maintenance Specifications†</b>		
Expected Life		
Normal Application	5 million cycles	
w/ Preventative Maintenance	10+ million cycles*	
Field Repairable	Yes	
Seal Repair Kits Available	Yes	
<b>Application Restrictions</b>	Applications where mechanism lubricant could cause contamination	

\*Addition of lubrication will greatly increase service life  
†See Maintenance Section

## Product Features

**Hard Coat Anodize**  
The body and jaws have hard-coat anodize 60RC with Teflon® impregnation

**High Temperature**  
Optional Viton® seals are available for high temperature applications

**Multiple Air Port Locations**  
3 standard airport locations (front & both sides)  
Optional top airports available

**Sensor Mounting Slots**  
Standard mounting slots for magneto resistive and inductive sensors (sensors sold separately)

**One Piece Body**  
One piece lightweight aircraft quality aluminum body

**DIRECTCONNECT Mounting Patterns**  
2 DIRECTCONNECT™ mounting surfaces on top and back of body

**Sensor Targets**  
Magnets come standard in pistons for magneto resistive sensors  
Four inductive sensor targets on sides of jaws

**Dowel Holes**  
Slip fit dowel pin holes in body and jaws

**Superior Jaw Support**  
Jaws are supported throughout the length of the body

**Shielded Design**  
Shielded design repels contaminants

**Versatile Finger Mounting**  
2 finger mounting surfaces on each jaw

**Extremely Compact & Robust Design**

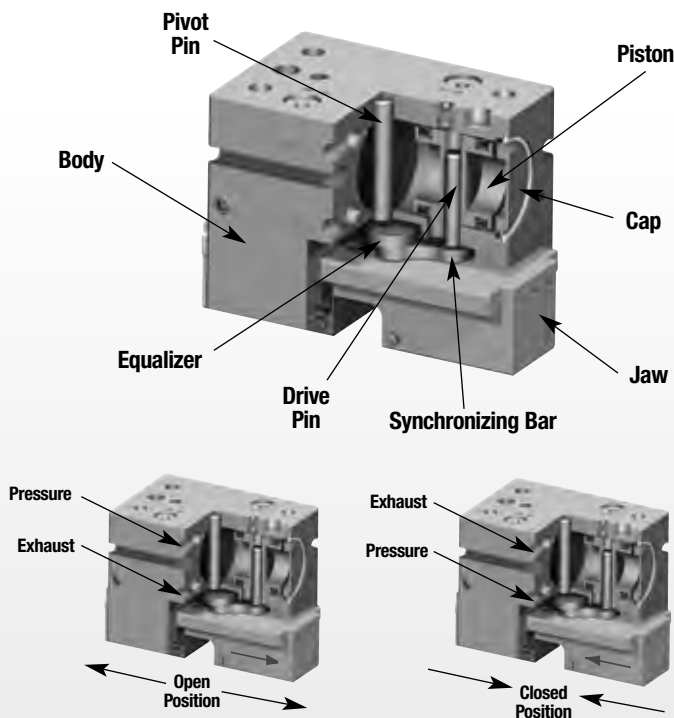
**Multiple Sensor Capabilities**  
Capable of sensing both jaws in the open and closed positions (up to 4 sensors can be used for multi-position sensing)

**Optional Features**

- Top air ports eliminating the need for airlines
- Fixed jaw configurations
- Spring assist for open or close stroke
- Non-synchronous version

**Self-Lubricating Seals**  
Self lubricating dynamic seals (Buna-N only)

## Operating Principle



- Dual double acting opposed pistons, connected to both a jaw and a synchronizing bar by a drive pin, actuate in opposite directions.
- The synchronizing bars are connected to the equalizer which synchronizes the motion.
- Suitable for internal or external gripping.
- The synchronizing elements can be removed for non-synchronous operation.

**Designed and manufactured in the USA**

## Style -DPG-10M Parallel Gripper

### Size -1

Style:	DPG-10M-1	
Stroke:	0.25 in.	6.4 mm
Grip Force:	50 lbs.	222 N
Weight:	0.39 lbs.	0.17 Kg



See Page **1.124**

## Style -DPG-10M Parallel Gripper

### Size -2

Style:	DPG-10M-2	
Stroke:	0.50 in.	12.7 mm
Grip Force:	50 lbs.	222 N
Weight:	0.53 lbs.	0.24 Kg



See Page **1.126**

## Style -DPG-10M Parallel Gripper

### Size -3

Style:	DPG-10M-3	
Stroke:	0.75 in.	19.1 mm
Grip Force:	50 lbs.	222 N
Weight:	0.68 lbs.	0.30 Kg



See Page **1.128**

## Style -DPG-10M Parallel Gripper

### Size -4

Style:	DPG-10M-4	
Stroke:	1.00 in.	25.4 mm
Grip Force:	50 lbs.	222 N
Weight:	0.81 lbs.	0.36 Kg



See Page **1.130**

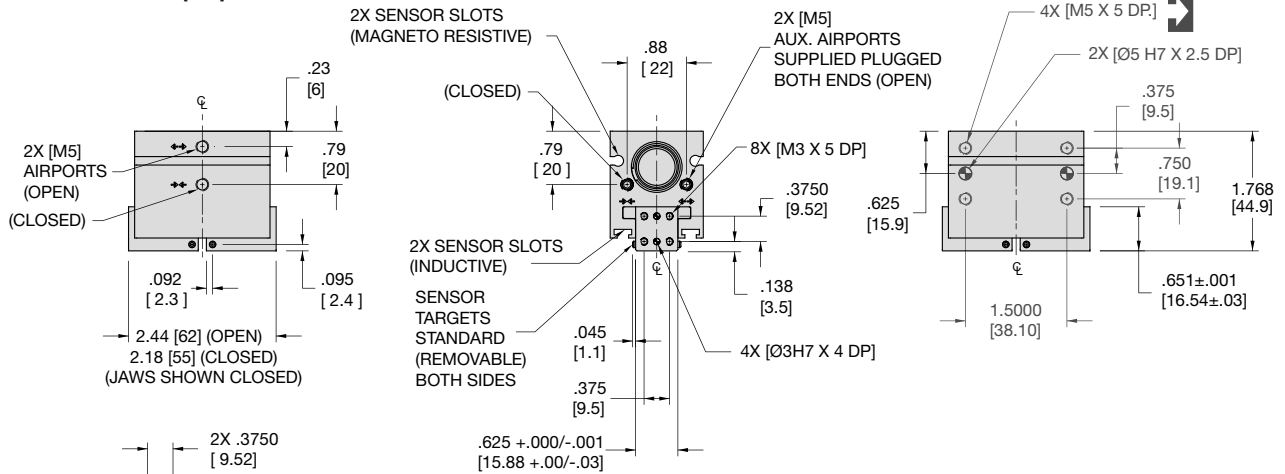
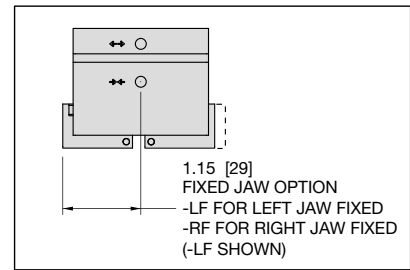
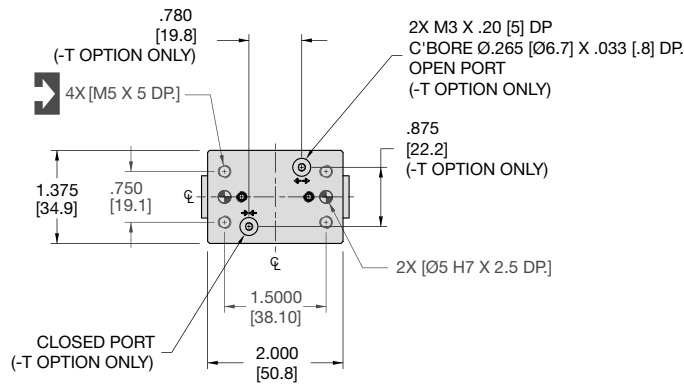




# PARALLEL GRIPPER DPG-10M-1 DIRECTCONNECT™ MODULAR SERIES

DPG SERIES

1.124



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or (±.013mm)
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric (mm)</b> [0.] = (±.25) [0.0] = (±.13) [0.00] = (±.013)

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**    **SIZE**    **SPRING**    **TOP PORTING**

**DPG-10M** - **1** -  -  - **T** - **V**

**JAW SYNC**    **VITON® SEALS**

(See Below)    (See Below)

**SPRING DIRECTION**

**O** Spring Open  
**C** Spring Closed  
— Leave Blank. No Spring Option (standard)

**JAW SYNCHRONIZATION CONFIGURATION**

**LF** Left Jaw Fixed  
**RF** Right Jaw Fixed  
**NS** Non-synchronous Jaws  
— Leave Blank for Synchronous (standard)

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Inductive Sensor Mounting Kit (Mounts 2 Sensors)	<b>OSMK-097</b>	<b>1 or 2</b>
NPN Inductive Sensor with Qk. Disconnect*	<b>OISN-019</b>	<b>1,2,3, or 4</b>
PNP Inductive Sensor with Qk. Disconnect*	<b>OISP-019</b>	<b>1,2,3, or 4</b>
NPN Magneto Resistive Sensor w/Qk. Disconnect*	<b>OHSN-017</b>	<b>1,2,3, or 4</b>
PNP Magneto Resistive Sensor w/Qk. Disconnect*	<b>OHSP-017</b>	<b>1,2,3, or 4</b>
NPN Magneto Resistive Sensor (90°) w/Qk. Disconnect*	<b>OHSN-011</b>	<b>1,2,3, or 4</b>
PNP Magneto Resistive Sensor (90°) w/Qk. Disconnect*	<b>OHSP-011</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable Extension Cord (1 meter long)*	<b>CABL-015</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable Extension Cord (2 meters long)*	<b>CABL-016</b>	<b>1,2,3, or 4</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	<b>SLKT-183</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-183V</b>	<b>1</b>
-T Option Plumbing Fitting - M3 male to 3mm OD Tube Push-in Style	<b>PLFT-021</b>	<b>1 or 2</b>
-T Option Plumbing Fitting - M3 male to 2mm ID Tube Barb Style	<b>PLFT-022</b>	<b>1 or 2</b>
Fail Safe Valve - M5 (Metric)	<b>OFSV-004</b>	<b>1</b>
Adjustable Flow Control (Metric)	<b>VLVF-008</b>	<b>1 or 2</b>
Top Port Manifold Seal Kit	<b>SLKT-184V</b>	<b>1</b>

\*Sensor and cable sold separately

### SAMPLE ORDER: DPG-10M-1-C-V

Ex: DPG-10M Gripper, Metric, Size 1, Spring Close, Viton® Seals

DIRECTCONNECT™

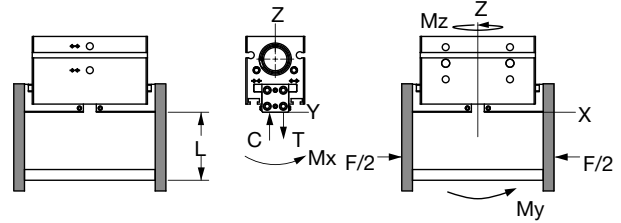
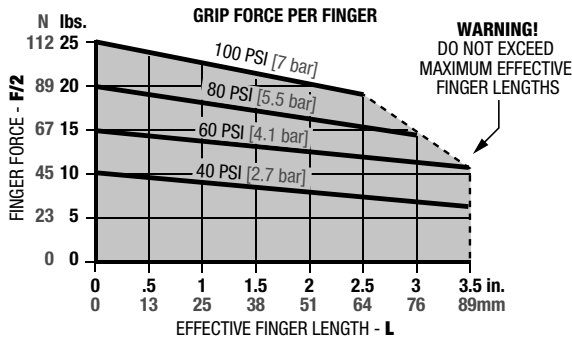




# PARALLEL GRIPPER DPG-10M-1 DIRECTCONNECT™ MODULAR SERIES

DPG SERIES

1.125



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	175 lbs. [778 N]	20 lbs. [89 N]
Maximum Compressive <b>C</b>	400 lbs. [1779 N]	20 lbs. [89 N]
Maximum Moment <b>M<sub>x</sub></b>	150 in.-lbs. [17 Nm]	20 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>y</sub></b>	175 in.-lbs. [20 Nm]	30 in.-lbs. [3 Nm]
Maximum Moment <b>M<sub>z</sub></b>	150 in.-lbs. [17 Nm]	20 in.-lbs. [2 Nm]

†Capacities are per set of jaws and are not simultaneous

Total Additional Grip Force	Spring Open	Spring Close
@ Full Open	6 lbs. 26 N	9 lbs. 40 N
@ Full Close	11 lbs. 49 N	6 lbs. 26 N

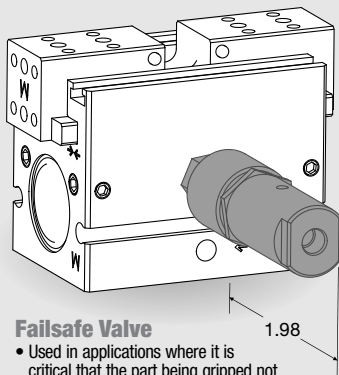
### Specifications DPG-10M-1

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	50 lbs.	222 N
Stroke	0.25 in.	6.4 mm
Weight	0.39 lbs.	0.17 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore $\emptyset$	0.688 in.	17.5 mm
Displacement	0.076 in <sup>3</sup>	1.2 cm <sup>3</sup>

### Specifications (cont.) DPG-10M-1

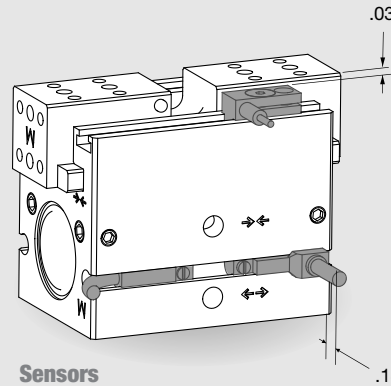
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
	Viton® Seals	-20°~300° F -30°~150° C
Actuation	0.13 sec.	0.13 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.002 in.	±0.05 mm
Valve required to actuate	4-way, 2-position	

## Accessory Mounting Technical Data



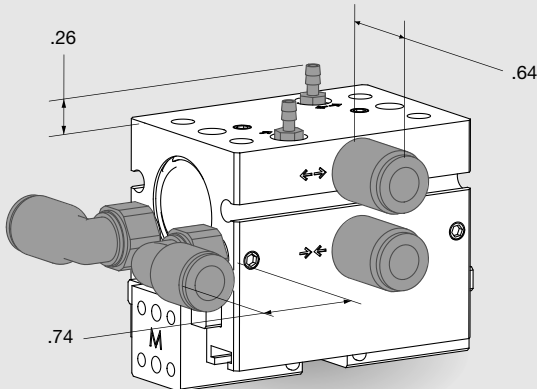
### Failsafe Valve

- Used in applications where it is critical that the part being gripped not be dropped if air pressure is lost
- Mounts directly to gripper
- M5 air port



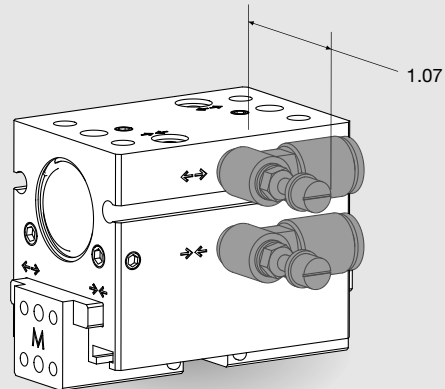
### Sensors

- Choose from magneto resistive and inductive prox
- Capable of sensing 4 positions open and closed on both jaws
- PNP and NPN available
- Magneto resistive sensors are slot mounted, no mounting kits required
- Threaded quick disconnect with built-in led output
- Sensors mount on either side of gripper



### Multiple Air Port Locations

- 3 standard air port locations (front and both sides)
- Optional top ports are tapped for M3 fittings
- Consult factory for plumbing fitting part numbers



### Flow Controls

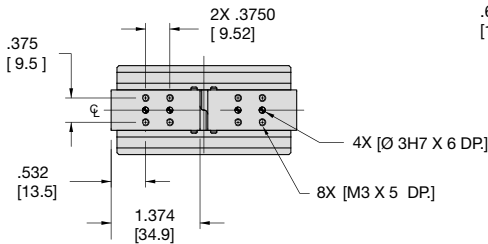
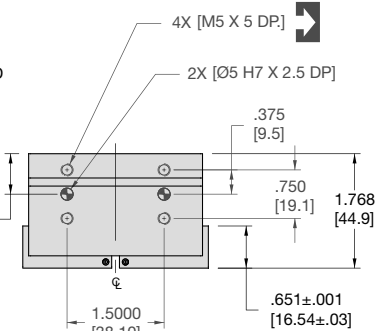
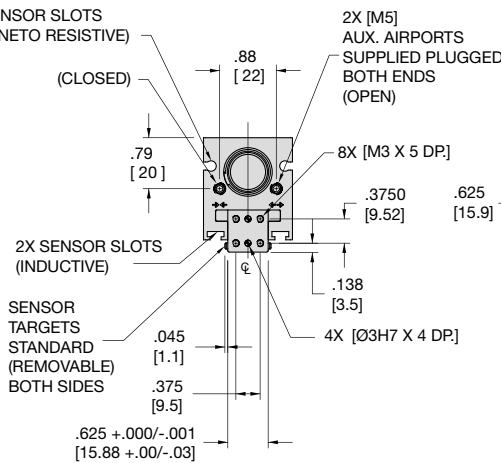
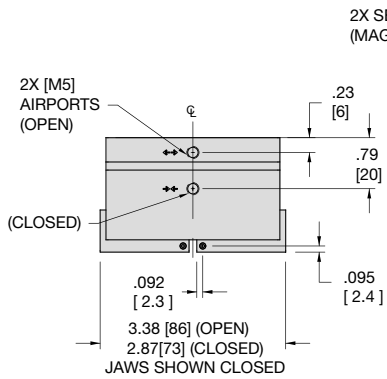
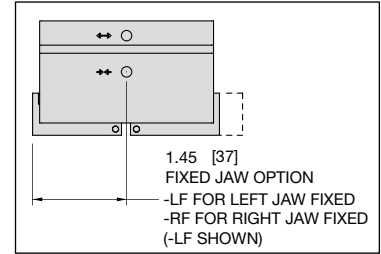
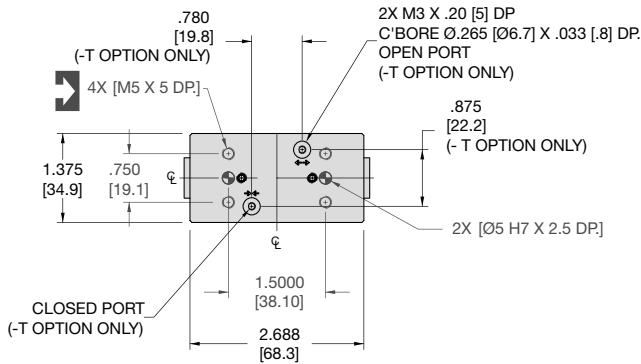
- Thumb screw adjust with locking nut for adjusting actuation time
- Available for 5mm OD tubing

DIRECTCONNECT™

# PARALLEL GRIPPER DPG-10M-2 DIRECTCONNECT™ MODULAR SERIES

DPG SERIES

1.126



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**    **SIZE**    **SPRING**    **TOP PORTING**  
**DPG-10M - 2 -**     **- T - V**

**JAW SYNC**    **VITON® SEALS**  
   

**SPRING DIRECTION**  
**O** Spring Open  
**C** Spring Closed  
 — Leave Blank. No Spring Option (standard)

**JAW SYNCHRONIZATION CONFIGURATION**  
**LF** Left Jaw Fixed  
**RF** Right Jaw Fixed  
**NS** Non-synchronous Jaws  
 — Leave Blank for Synchronous (standard)

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Inductive Sensor Mounting Kit (Mounts 2 Sensors)	<b>OSMK-097</b>	<b>1 or 2</b>
NPN Inductive Sensor with Qk. Disconnect*	<b>OISN-019</b>	<b>1,2,3, or 4</b>
PNP Inductive Sensor with Qk. Disconnect*	<b>OISP-019</b>	<b>1,2,3, or 4</b>
NPN Magneto Resistive Sensor w/Qk. Disconnect*	<b>OHSN-017</b>	<b>1,2,3, or 4</b>
PNP Magneto Resistive Sensor w/Qk. Disconnect*	<b>OHSP-017</b>	<b>1,2,3, or 4</b>
NPN Magneto Resistive Sensor (90°) w/Qk. Disconnect*	<b>OHSN-011</b>	<b>1,2,3, or 4</b>
PNP Magneto Resistive Sensor (90°) w/Qk. Disconnect*	<b>OHSP-011</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable Extension Cord (1 meter long)*	<b>CABL-015</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable Extension Cord (2 meters long)*	<b>CABL-016</b>	<b>1,2,3, or 4</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	<b>SLKT-183</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-183V</b>	<b>1</b>
-T Option Plumbing Fitting - M3 male to 3mm OD Tube Push-in Style	<b>PLFT-021</b>	<b>1 or 2</b>
-T Option Plumbing Fitting - M3 male to 2mm ID Tube Barb Style	<b>PLFT-022</b>	<b>1 or 2</b>
Fail Safe Valve - M5 (Metric)	<b>OFSV-004</b>	<b>1</b>
Adjustable Flow Control (Metric)	<b>VLVF-008</b>	<b>1 or 2</b>
Top Port Manifold Seal Kit	<b>SLKT-184V</b>	<b>1</b>

\*Sensor and cable sold separately

### SAMPLE ORDER: DPG-10M-2-C-LF-V

Ex: DPG-10M Gripper, Metric, Size 2, Spring Close, Left Jaw Fixed, Viton® Seals

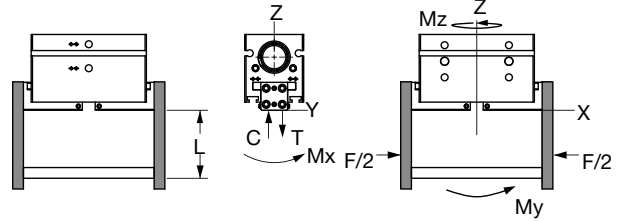
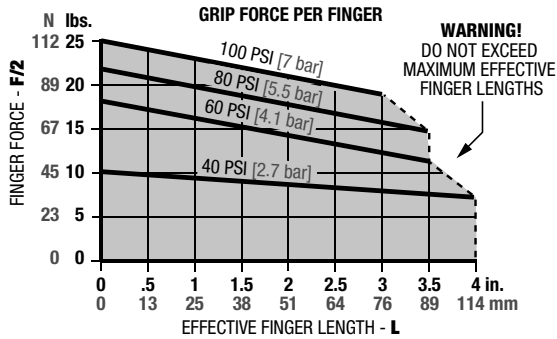
DIRECTCONNECT™



# PARALLEL GRIPPER DPG-10M-2 DIRECTCONNECT™ MODULAR SERIES

DPG SERIES

1.127



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	200 lbs. [890 N]	25 lbs. [111 N]
Maximum Compressive <b>C</b>	425 lbs. [1890 N]	25 lbs. [111 N]
Maximum Moment <b>M<sub>x</sub></b>	175 in.-lbs. [20 Nm]	25 in.-lbs. [3 Nm]
Maximum Moment <b>M<sub>y</sub></b>	200 in.-lbs. [23 Nm]	35 in.-lbs. [4 Nm]
Maximum Moment <b>M<sub>z</sub></b>	175 in.-lbs. [20 Nm]	25 in.-lbs. [3 Nm]

†Capacities are per set of jaws and are not simultaneous

Total Additional Grip Force	Spring Open	Spring Close
@ Full Open .....	6 lbs. 26 N	14 lbs. 62 N
@ Full Close .....	15 lbs. 66 N	6 lbs. 26 N

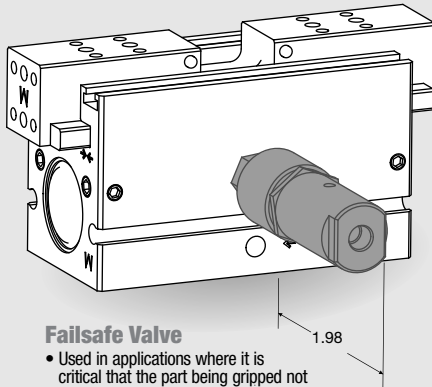
### Specifications DPG-10M-2

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar .....	50 lbs.	222 N
Stroke .....	0.50 in.	12.7 mm
Weight .....	0.53 lbs.	0.24 Kg
Pressure Range .....	40-100 psi	3-7 bar
Cylinder Bore $\emptyset$ .....	0.688 in.	17.5 mm
Displacement .....	0.153 in. <sup>3</sup>	2.5 cm <sup>3</sup>

### Specifications (cont.) DPG-10M-2

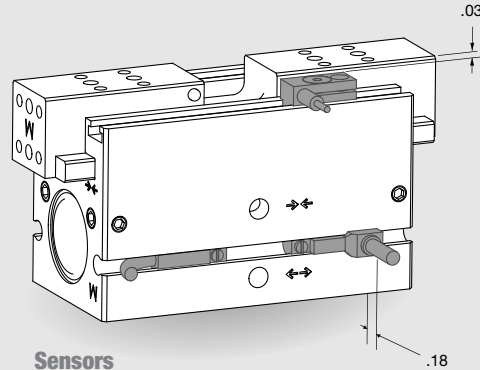
Temperature Range: Standard Seals .....	-30°~180° F	-35°~80° C
	Viton® Seals .....	-20°~300° F
Actuation .....	0.19 sec.	0.19 sec.
Accuracy .....	±0.002 in.	±0.05 mm
Repeatability .....	±0.002 in.	±0.05 mm
Valve required to actuate .....	4-way, 2-position	

## Accessory Mounting Technical Data



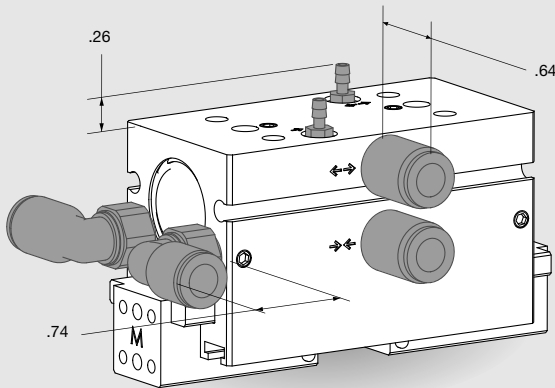
### Failsafe Valve

- Used in applications where it is critical that the part being gripped not be dropped if air pressure is lost
- Mounts directly to gripper
- M5 air port



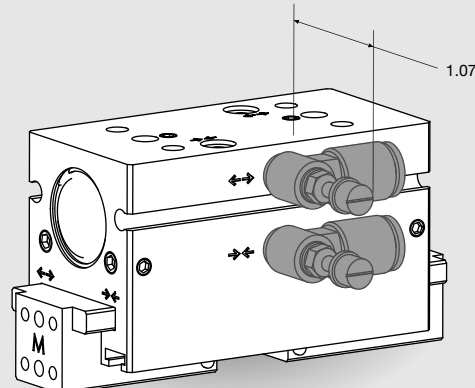
### Sensors

- Choose from magneto resistive and inductive prox
- Capable of sensing 4 positions open and closed on both jaws
- PNP and NPN available
- Magneto resistive sensors are slot mounted, no mounting kits required
- Threaded quick disconnect with built-in led output
- Sensors mount on either side of gripper



### Multiple Air Port Locations

- 3 standard air port locations (front and both sides)
- Optional top ports are tapped for M3 fittings
- Consult factory for plumbing fitting part numbers



### Flow Controls

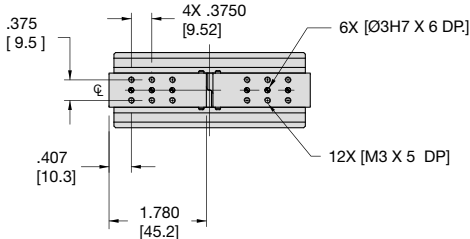
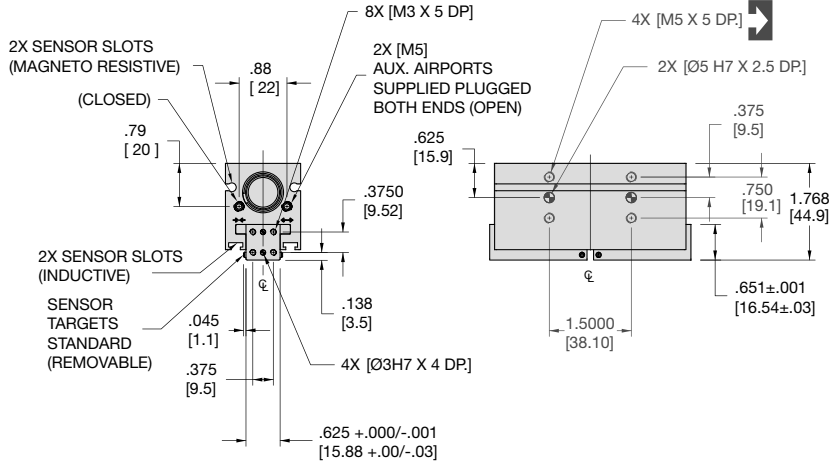
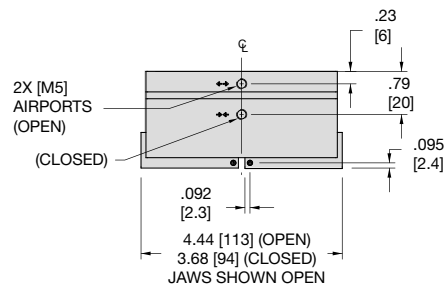
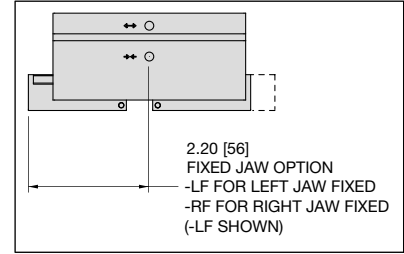
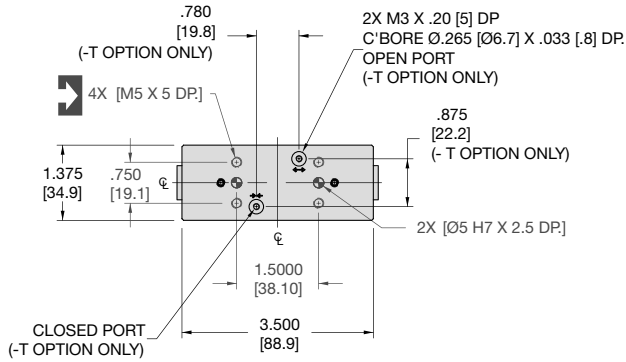
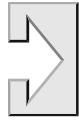
- Thumb screw adjust with locking nut for adjusting actuation time
- Available for 5mm OD tubing

DIRECTCONNECT™

# PARALLEL GRIPPER DPG-10M-3 DIRECTCONNECT™ MODULAR SERIES

DPG SERIES

1.128

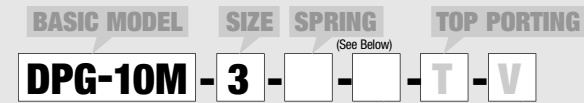


NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

## How to Order: (Order Accessories separately from Basic Model)



**SPRING DIRECTION**

**O** Spring Open  
**C** Spring Closed  
— Leave Blank. No Spring Option (standard)

**JAW SYNCHRONIZATION CONFIGURATION**

**LF** Left Jaw Fixed  
**RF** Right Jaw Fixed  
**NS** Non-Synchronous Jaws  
— Leave Blank for Synchronous (standard)

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Inductive Sensor Mounting Kit (Mounts 2 Sensors)	<b>OSMK-097</b>	<b>1 or 2</b>
NPN Inductive Sensor with Qk. Disconnect*	<b>OISN-019</b>	<b>1,2,3, or 4</b>
PNP Inductive Sensor with Qk. Disconnect*	<b>OISP-019</b>	<b>1,2,3, or 4</b>
NPN Magneto Resistive Sensor w/Qk. Disconnect*	<b>OHSN-017</b>	<b>1,2,3, or 4</b>
PNP Magneto Resistive Sensor w/Qk. Disconnect*	<b>OHSP-017</b>	<b>1,2,3, or 4</b>
NPN Magneto Resistive Sensor (90°) w/Qk. Disconnect*	<b>OHSN-011</b>	<b>1,2,3, or 4</b>
PNP Magneto Resistive Sensor (90°) w/Qk. Disconnect*	<b>OHSP-011</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable Extension Cord (1 meter long)*	<b>CABL-015</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable Extension Cord (2 meters long)*	<b>CABL-016</b>	<b>1,2,3, or 4</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	<b>SLKT-183</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-183V</b>	<b>1</b>
-T Option Plumbing Fitting - M3 male to 3mm OD Tube Push-in Style	<b>PLFT-021</b>	<b>1 or 2</b>
-T Option Plumbing Fitting - M3 male to 2mm ID Tube Barb Style	<b>PLFT-022</b>	<b>1 or 2</b>
Fail Safe Valve - M5 (Metric)	<b>OFSV-004</b>	<b>1</b>
Adjustable Flow Control (Metric)	<b>VLVF-008</b>	<b>1 or 2</b>
Top Port Manifold Seal Kit	<b>SLKT-184V</b>	<b>1</b>

\*Sensor and cable sold separately

### SAMPLE ORDER: DPG-10M-3-C-RF-V

Ex: DPG-10M Gripper, Metric, Size 3, Spring Close, Right Jaw Fixed, Viton® Seals

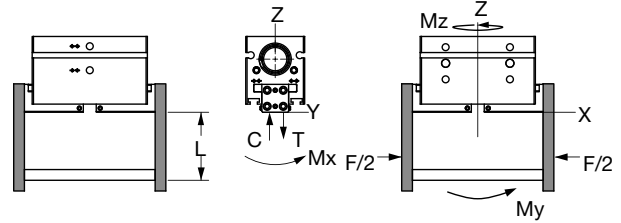
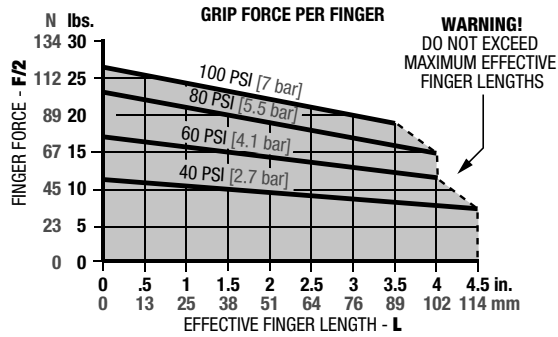
DIRECTCONNECT™



# PARALLEL GRIPPER DPG-10M-3 DIRECTCONNECT™ MODULAR SERIES

DPG SERIES

1.129



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	225 lbs. [1001 N]	30 lbs. [133 N]
Maximum Compressive <b>C</b>	450 lbs. [2002 N]	30 lbs. [133 N]
Maximum Moment <b>M<sub>x</sub></b>	200 in.-lbs. [23 Nm]	30 in.-lbs. [3 Nm]
Maximum Moment <b>M<sub>y</sub></b>	225 in.-lbs. [25 Nm]	40 in.-lbs. [5 Nm]
Maximum Moment <b>M<sub>z</sub></b>	200 in.-lbs. [23 Nm]	30 in.-lbs. [3 Nm]

†Capacities are per set of jaws and are not simultaneous

Total Additional Grip Force	Spring Open		Spring Close	
@ Full Open .....	6 lbs.	26 N	15 lbs.	66 N
@ Full Close .....	23 lbs.	102 N	6 lbs.	26 N

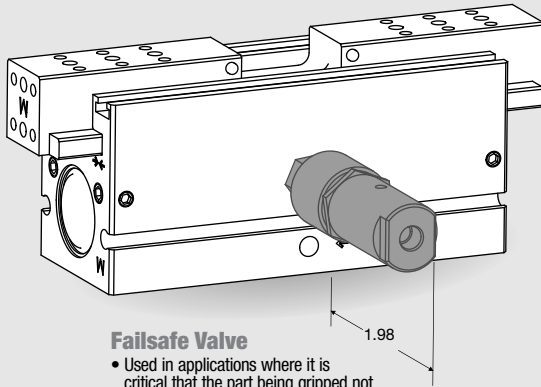
### Specifications DPG-10M-3

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar .....	50 lbs.	222 N
Stroke .....	0.75 in.	19.1 mm
Weight .....	0.68 lbs.	0.30 Kg
Pressure Range .....	40-100 psi	3-7 bar
Cylinder Bore $\emptyset$ .....	0.688 in.	17.5 mm
Displacement .....	0.230 in <sup>3</sup>	3.8 cm <sup>3</sup>

### Specifications (cont.) DPG-10M-3

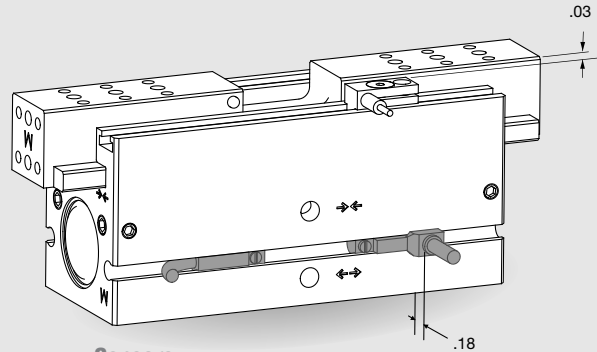
Temperature Range: Standard Seals .....	-30°~180° F	-35°~80° C
Viton® Seals .....	-20°~300° F	-30°~150° C
Actuation .....	0.29 sec.	0.29 sec.
Accuracy .....	±0.002 in.	±0.05 mm
Repeatability .....	±0.002 in.	±0.05 mm
Valve required to actuate .....	4-way, 2-position	

## Accessory Mounting Technical Data



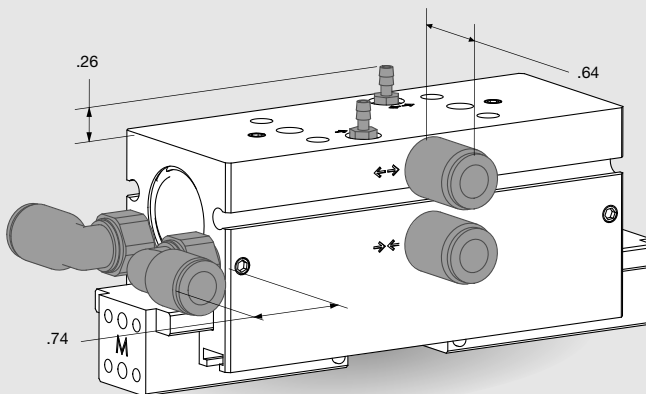
### Failsafe Valve

- Used in applications where it is critical that the part being gripped not be dropped if air pressure is lost
- Mounts directly to gripper
- M5 air port



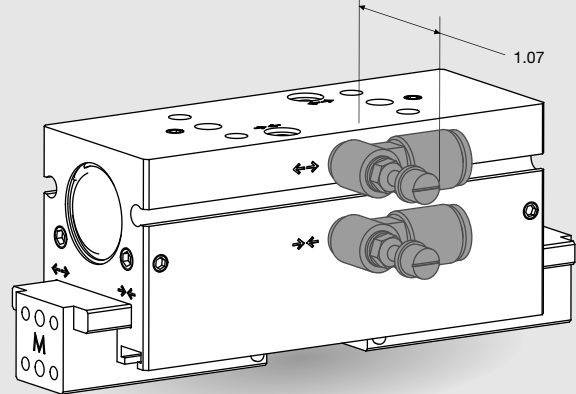
### Sensors

- Choose from magneto resistive and inductive prox
- Capable of sensing 4 positions open and closed on both jaws
- PNP and NPN available
- Magneto resistive sensors are slot mounted, no mounting kits required
- Threaded quick disconnect with built-in led output
- Sensors mount on either side of gripper



### Multiple Air Port Locations

- 3 standard air port locations (front and both sides)
- Optional top ports are tapped for M3 fittings
- Consult factory for plumbing fitting part numbers



### Flow Controls

- Thumb screw adjust with locking nut for adjusting actuation time
- Available for 5mm OD tubing

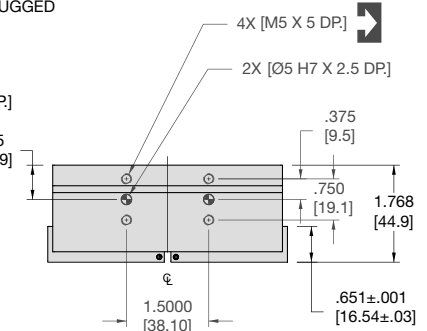
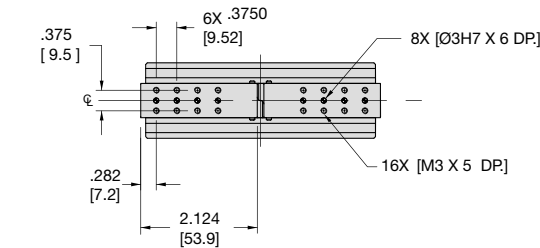
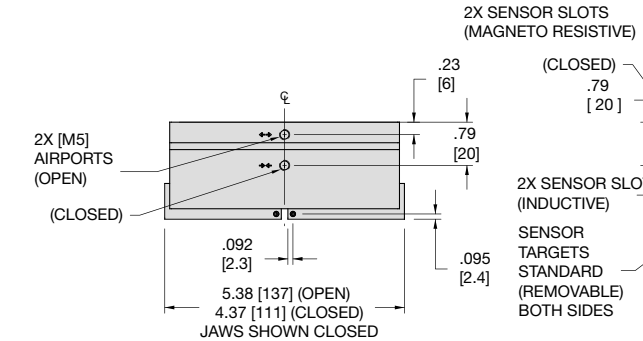
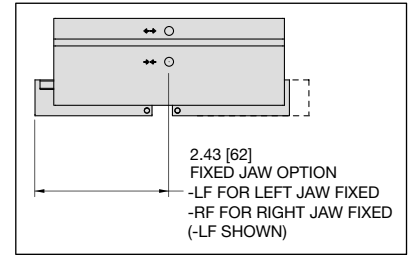
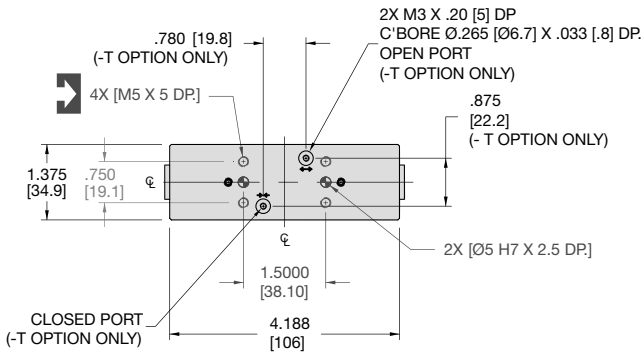
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# PARALLEL GRIPPER DPG-10M-4 DIRECTCONNECT™ MODULAR SERIES

DPG SERIES

1.130



**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**    **SIZE**    **SPRING**    **TOP PORTING**

**DPG-10M** - **4** -  -  - **T** - **V**

**JAW SYNC**    **VITON® SEALS**

**SPRING DIRECTION**

**O** Spring Open  
**C** Spring Closed  
— Leave Blank. No Spring Option (standard)

**JAW SYNCHRONIZATION CONFIGURATION**

**LF** Left Jaw Fixed  
**RF** Right Jaw Fixed  
**NS** Non-Synchronous Jaws  
— Leave Blank for Synchronous (standard)

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Inductive Sensor Mounting Kit (Mounts 2 Sensors)	<b>OSMK-097</b>	<b>1 or 2</b>
NPN Inductive Sensor with Qk. Disconnect*	<b>OISN-019</b>	<b>1,2,3, or 4</b>
PNP Inductive Sensor with Qk. Disconnect*	<b>OISP-019</b>	<b>1,2,3, or 4</b>
NPN Magneto Resistive Sensor w/Qk. Disconnect*	<b>OHSN-017</b>	<b>1,2,3, or 4</b>
PNP Magneto Resistive Sensor w/Qk. Disconnect*	<b>OHSP-017</b>	<b>1,2,3, or 4</b>
NPN Magneto Resistive Sensor (90°) w/Qk. Disconnect*	<b>OHSN-011</b>	<b>1,2,3, or 4</b>
PNP Magneto Resistive Sensor (90°) w/Qk. Disconnect*	<b>OHSP-011</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable Extension Cord (1 meter long)*	<b>CABL-015</b>	<b>1,2,3, or 4</b>
Quick Disconnect Cable Extension Cord (2 meters long)*	<b>CABL-016</b>	<b>1,2,3, or 4</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	<b>SLKT-183</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-183V</b>	<b>1</b>
-T Option Plumbing Fitting - M3 male to 3mm OD Tube Push-in Style	<b>PLFT-021</b>	<b>1 or 2</b>
-T Option Plumbing Fitting - M3 male to 2mm ID Tube Barb Style	<b>PLFT-022</b>	<b>1 or 2</b>
Fail Safe Valve - M5 (Metric)	<b>OFSV-004</b>	<b>1</b>
Adjustable Flow Control (Metric)	<b>VLVF-008</b>	<b>1 or 2</b>
Top Port Manifold Seal Kit	<b>SLKT-184V</b>	<b>1</b>

\*Sensor and cable sold separately

### SAMPLE ORDER: DPG-10M-4-0-NS-V

Ex: DPG-10M Gripper, Metric, Size 4, Spring Open, Non-Synchronous Jaws, Viton® Seals

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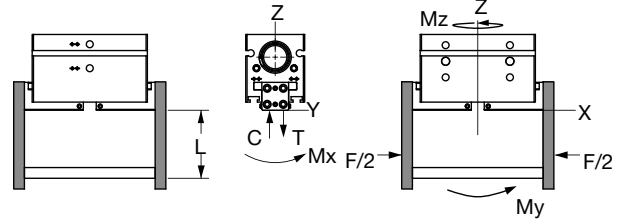
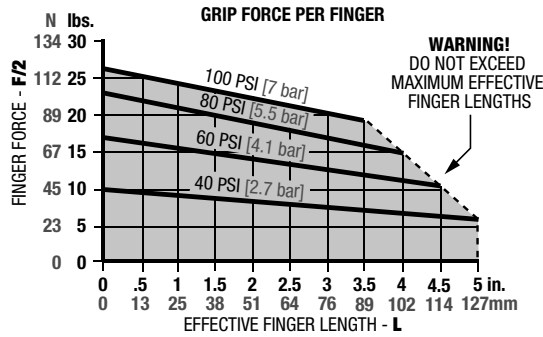




# PARALLEL GRIPPER DPG-10M-4 DIRECTCONNECT™ MODULAR SERIES

DPG SERIES

1.131



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	250 lbs. [1112 N]	35 lbs. [156 N]
Maximum Compressive <b>C</b>	475 lbs. [2113 N]	35 lbs. [156 N]
Maximum Moment <b>M<sub>x</sub></b>	225 in.-lbs. [25 Nm]	35 in.-lbs. [4 Nm]
Maximum Moment <b>M<sub>y</sub></b>	250 in.-lbs. [28 Nm]	45 in.-lbs. [5 Nm]
Maximum Moment <b>M<sub>z</sub></b>	225 in.-lbs. [25 Nm]	35 in.-lbs. [4 Nm]

†Capacities are per set of jaws and are not simultaneous

Total Additional Grip Force	Spring Open	Spring Close
@ Full Open .....	6 lbs. 26 N	15 lbs. 66 N
@ Full Close .....	22 lbs. 97 N	6 lbs. 26 N

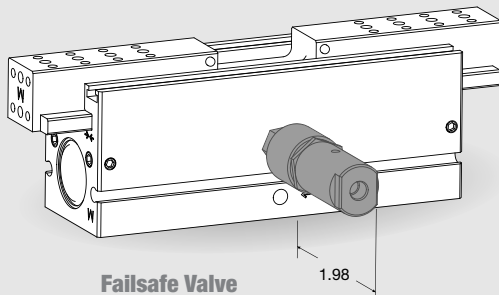
### Specifications DPG-10M-4

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar .....	50 lbs.	222 N
Stroke .....	1.00 in.	25.4 mm
Weight .....	0.81 lbs.	0.36 Kg
Pressure Range .....	40-100 psi	3-7 bar
Cylinder Bore $\varnothing$ .....	0.688 in.	17.5 mm
Displacement .....	0.306 in <sup>3</sup>	5.0 cm <sup>3</sup>

### Specifications DPG-10M-4

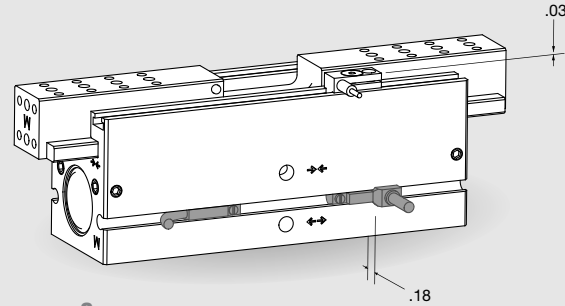
Temperature Range: Standard Seals .....	-30°~180° F	-35°~80° C
Viton® Seals .....	-20°~300° F	-30°~150° C
Actuation .....	0.40 sec.	0.40 sec.
Accuracy .....	±0.002 in.	±0.05 mm
Repeatability .....	±0.002 in.	±0.05 mm
Valve required to actuate .....	4-way, 2-position	

## Accessory Mounting Technical Data



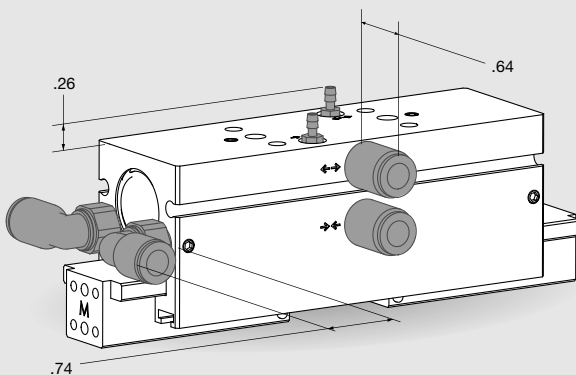
### Failsafe Valve

- Used in applications where it is critical that the part being gripped not be dropped if air pressure is lost
- Mounts directly to gripper
- M5 air port



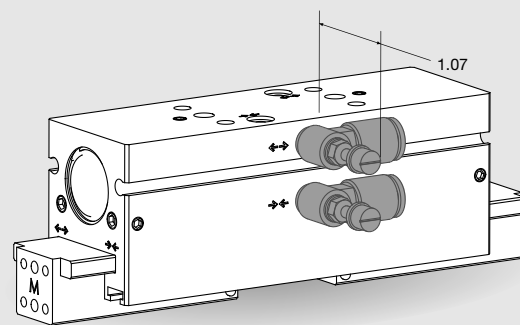
### Sensors

- Choose from magneto resistive and inductive prox
- Capable of sensing 4 positions open and closed on both jaws
- PNP and NPN available
- Magneto resistive sensors are slot mounted, no mounting kits required
- Threaded quick disconnect with built-in led output
- Sensors mount on either side of gripper



### Multiple Air Port Locations

- 3 standard air port locations (front and both sides)
- Optional top ports are tapped for M3 fittings
- Consult factory for plumbing fitting part numbers

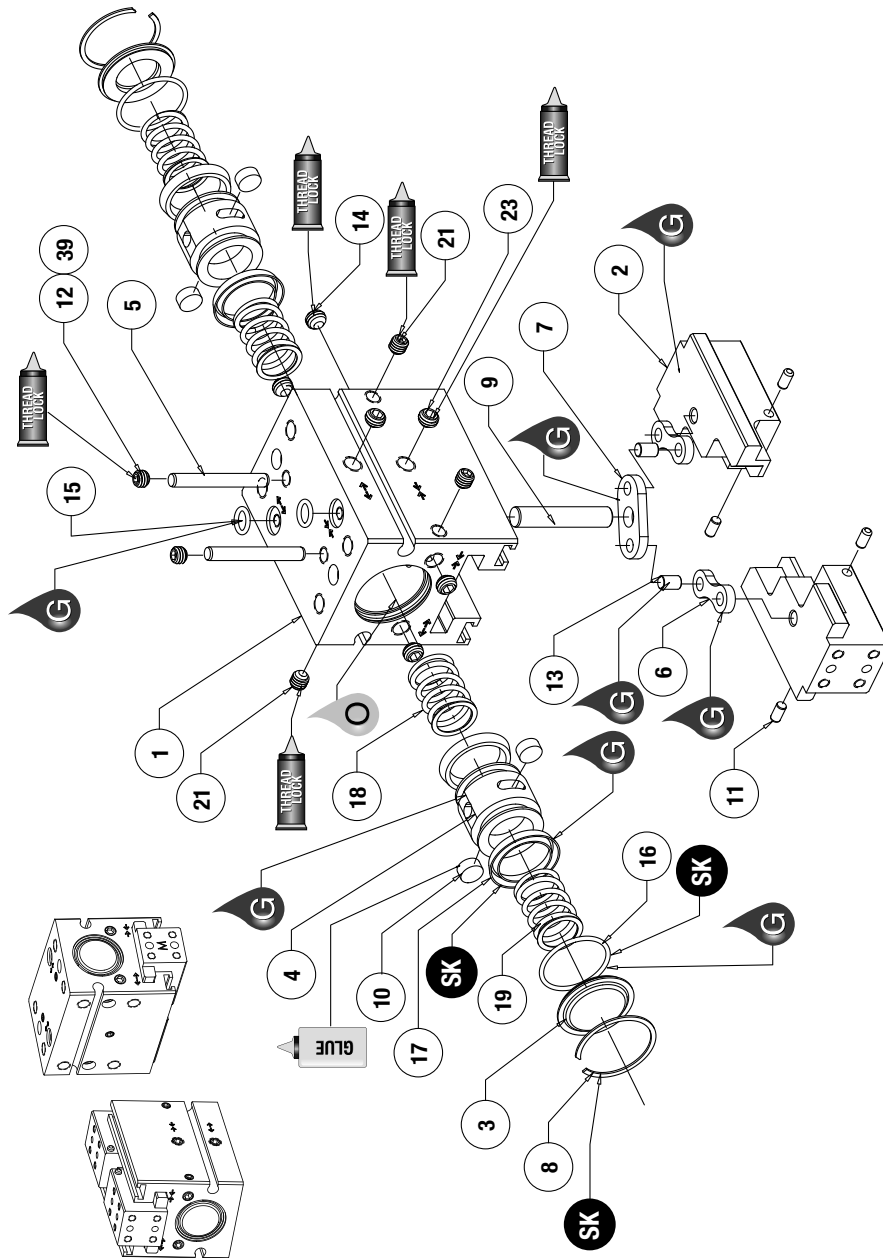


### Flow Controls

- Thumb screw adjust with locking nut for adjusting actuation time
- Available for 5mm OD tubing

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# DPG SERIES EXPLODED VIEW



Item	Qty	Name
01	1	Body
02	2	Jaw
03	2	Cap
04	2	Piston
05	2	Drive Pin
06	2	Synchronizing Bar
07	1	Equalizer
08	2	Retaining Ring
09	1	Pivot Pin
10	4	Magnet
11	4	Targets for Inductive Sensors
12	2	Set Screw - Drive Pin Access Plug
13	2	Equalizer/Synchronizing Bar pivot pin
14	4	Set Screw - End Port Plugs
15	2	O-ring - Top Porting Manifold Seals (-T option)
16	2	O-ring - Cap Seals
17	4	U-cup - Piston Seals
18	2	Springs for "-O" Spring-Open Option
19	2	Springs for "-C" Spring-Closed Option
21	3	Set Screw - Internal Porting Plugs
23	2	Set Screw - Side Porting Plugs (-T option)
39	1	Set Screw - Plug (-LF and -RF options only)

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

**SK Seal Repair Kit Order #'s See Product Data Sheets**

### Assembly Procedure

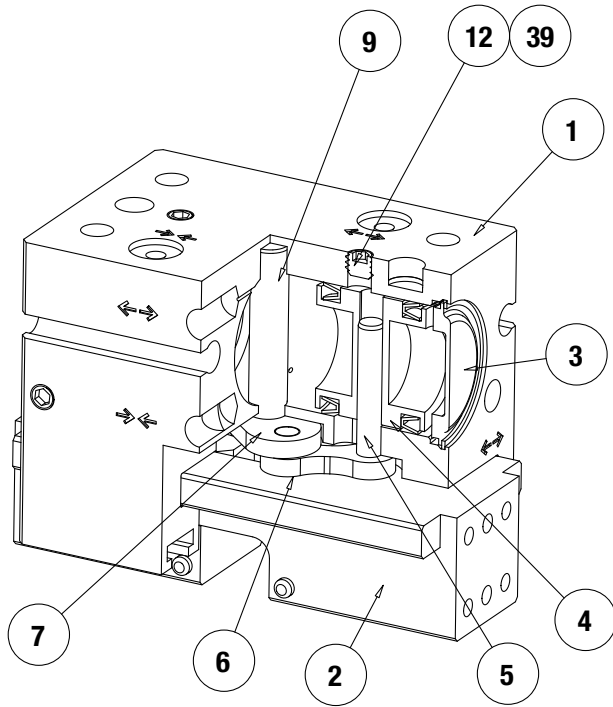
- 1) Lubricate body.
- 2) Plug cross ports in body.
- 3) Press pivot pin into body.
- 4) Insert magnets into pistons making sure magnets attract to each other.
- 5) Lubricate and install seals onto pistons.
- 6) Insert pistons into body aligning drive pin hole in pistons with the drive pin hole in the body.
- 7) Press pins into equalizer.
- 8) Assemble equalizer with synchronizing bars and place onto pivot pin in body

- 9) From top body mounting surface insert drive pins through the pistons and into the synchronizing bars making sure not to go through the synchronizing bars.
- 10) Place jaws into body aligning the drive pins with the hole in the jaws.
- 11) Press drive pins into jaws.
- 12) Install drive pin plugs into body.
- 13) Place seals onto caps and install with retaining rings.

### Non-Synchronous Procedure

- 1) Remove drive pin plugs.
- 2) Press drive pins out of body from jaw side.
- 3) Remove jaws from body.
- 4) Remove equalizer and synchronizing bars from body.
- 5) Re-install jaws into body aligning the drive pin with the hole in the jaws
- 6) Press drive pins into jaws.
- 7) Re-install drive pin plugs into body.

Seal Kit Items	Thread Locker	Krytox™ Lubricant	Lightweight Machine Oil	Teflon™ Based Grease	Super Bonder	Third Angle Projection



Item	Qty	Name
01	1	Body
02	2	Jaw
03	2	Cap
04	2	Piston
05	2	Drive Pin
06	2	Synchronizing Bar
07	1	Equalizer
09	1	Pivot Pin
12	2	Set Screw - Drive Pin Access Plug
39	1	Set Screw - Plug (-LF and -RF options only)

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

## Accessory Installation & Adjustment Instructions

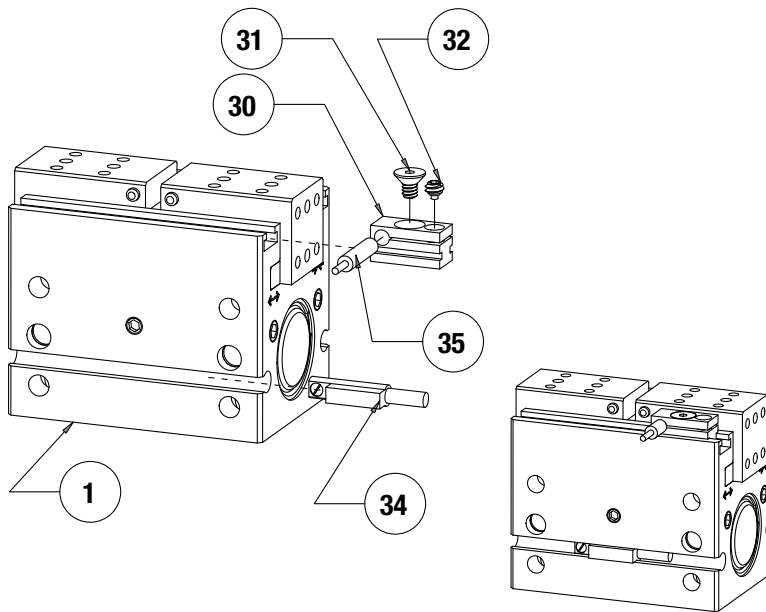
### Installation:

#### Magneto Resistive Sensors

- 1) Install sensors in profile slots of gripper body as shown.
- 2) Set sensors with integrated screw.

#### Inductive Sensors

- 1) Insert sensor bracket into slot of body.
- 2) Insert sensor into bracket and adjust sensor depth so that sensor light indicates on target.
- 3) Tighten sensor locking screw (#31) to hold sensor depth.
- 4) Position sensor bracket for desired stroke detection.
- 5) Tighten sensor bracket with setscrew (#32) to lock stroke detection position.



Seal Kit  
Items



Thread  
Locker



Krytox™  
Lubricant



Lightweight  
Machine Oil



Teflon™ Based  
Grease



Super  
Bonder



Third Angle  
Projection

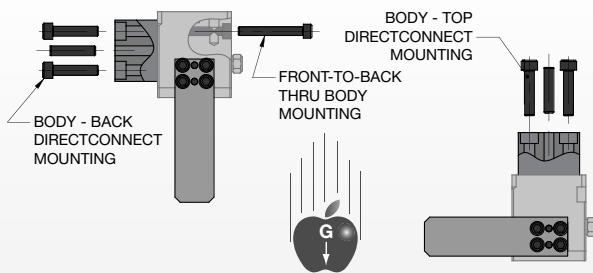
# Parallel Grippers - DPDS DIRECTCONNECT™ Modular Series

**NO  
ADAPTER  
PLATES!**

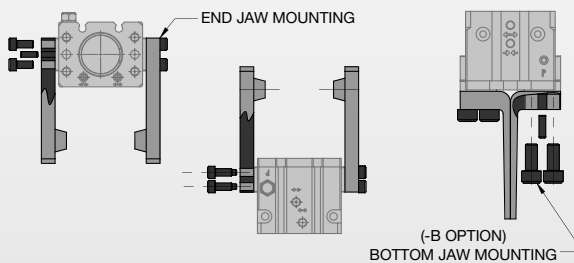
- **Multiple mounting locations:** DIRECTCONNECT™ tapped and dowel mounting on top and back of body.
- **Thru-body mounting:** Front-to-back thru-body mounting.
- **Multiple air port positions:** Tapped air ports on front, top, and back sides are standard.
- **Front purge/scavenge port:** Negative pressure used as a scavenge port for clean room applications. Positive pressure used as a purge port to repel contaminants in harsh environments. Port can also be used for lubrication.
- **Manifold air porting:** Top and back air ports can be manifold o-ring sealed.
- **Sensing:** Full range adjustable magneto resistive sensors.
- **Different strokes:** All gripper sizes are available in 3 different strokes.
- **Multiple jaw styles:** All sizes available with end mounts jaws as standard or bottom mount jaws as an option.
- **Long finger applications:** Rigid design and full body support of jaws allows for longer finger lengths.

## Mounting Information:

Grippers can be mounted & operated in any orientation



Body mounts with screws and locates with slip fit dowel pins for accuracy



Fingers attach with screws and locate on jaws by keying and/or dowel pins.  
Fingers can be mounted in any orientation with respect to the jaw.

## Technical Specifications:

### Pneumatic Specifications

Pressure Operating Range  
Cylinder Type  
Dynamic Seals  
Valve Required to Operate

<b>Imperial</b>	<b>Metric</b>
20-100 psi	1.5-7 bar
<b>Double Acting</b>	
<b>Internally Lubricated Buna-N</b>	
<b>4-way, 2-position</b>	

### Air Quality Requirements

Air Filtration  
Air Lubrication  
Air Humidity

**40 Micron or Better**  
**Not Necessary\***  
**Low Moisture Content (dry)**

### Temperature Operating Range

Buna-N Seals (standard)	-30°~180° F	-35°~80° C
Viton® Seals (optional)	-20°~300° F	-30°~150° C

### Maintenance Specifications†

Expected Life	
Normal Application w/ Preventative Maintenance	<b>5 million cycles</b>
Field Repairable	<b>10+ million cycles*</b>
Seal Repair Kits Available	<b>Yes</b>
	<b>Yes</b>

### Application Restrictions

Applications where mechanism lubricant could cause contamination (use DPDL gripper with -E sealed jaw option)

\*Addition of lubrication will greatly increase service life  
†See Maintenance Section

## Product Features

**Hard Coat Anodize**  
The body and bottom plate have hard-coat anodize 60RC with Teflon® impregnation

**High Temperature**  
Optional Viton® seals are available for high temperature applications

**Multiple Air Port Locations**  
3 standard airport locations (front, back, & top)

**Sensor Mounting Slots**  
Standard mounting slots for magneto resistive (sensors sold separately)

**One Piece Body**  
One piece lightweight aircraft quality aluminum body

**Manifold Air Ports**  
Back & top air ports can be O-ring manifold sealed to eliminate air lines

**Dowel Holes**  
Slip fit dowel pin holes in body and jaws

**DIRECTCONNECT™ Mounting Patterns**  
DIRECTCONNECT™ tapped & dowel mounting surfaces on top and back of body

**Extremely Rugged Design**  
Jaws are supported throughout the length of the body

**Thru-Body Mounting**  
Front-to-back thru C'bores for socket head cap screw mounting

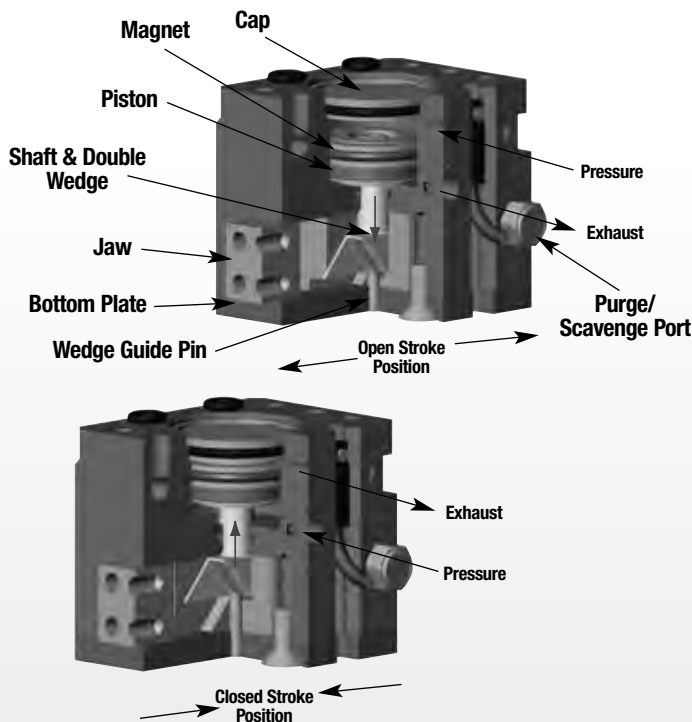
**Bottom Jaw Mounting (-B) Option**  
For alternate finger mounting (standard side mount jaws shown)

**Corrosion Resistant Hardware (-S) or Clean Room (-CR) Options**  
Both options have stainless and brass hardware. Clean room option uses clean room grade greases

**Purge/Scavenge Port**  
Used with a vacuum for clean room environments or positive pressure with harsh environments

**Jaw Components**  
Hardened and precision ground steel for minimum jaw play with hard plating for wear resistance and long life

## Operating Principle



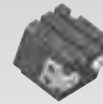
- A double acting piston is connected by a shaft to a double-sided wedge.
- The wedge slides in a slot located in each of the jaws converting vertical motion of the wedge into horizontal synchronous motion of the jaws.
- The large surface area of the wedge minimizes friction wear.
- This gripper is suitable for internal or external gripping and can be mounted in any orientation.

**U.S. Patent # 5,125,708**  
**Designed and manufactured in the USA**

## Style -DPDS Parallel Gripper

### Size -047M

**Style:** DPDS-047M  
**Stroke:** 0.13 in. 3.2 mm  
**Grip Force:** 14 lbs. 62 N  
**Weight:** 0.086 lbs. 0.04 Kg



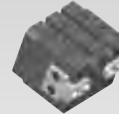
-B Bottom Jaw Mount Shown

See Page **1.136**

## Style -DPDS Parallel Gripper

### Size -056M

**Style:** DPDS-056M  
**Stroke:** 0.19 in. 4.8 mm  
**Grip Force:** 22 lbs. 98 N  
**Weight:** 0.155 lbs. 0.07 Kg



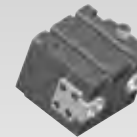
-B Bottom Jaw Mount Shown

See Page **1.138**

## Style -DPDS Parallel Gripper

### Size -088M

**Style:** DPDS-088M  
**Stroke:** 0.25 in. 6.4 mm  
**Grip Force:** 50 lbs. 222 N  
**Weight:** 0.51 lbs. 0.23 Kg



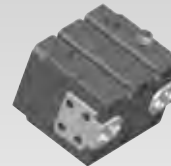
-B Bottom Jaw Mount Shown

See Page **1.140**

## Style -DPDS Parallel Gripper

### Size -125M

**Style:** DPDS-125M  
**Stroke:** 0.38 in. 9.5 mm  
**Grip Force:** 100 lbs. 445 N  
**Weight:** 1.03 lbs. 0.46 Kg



-B Bottom Jaw Mount Shown

See Page **1.142**



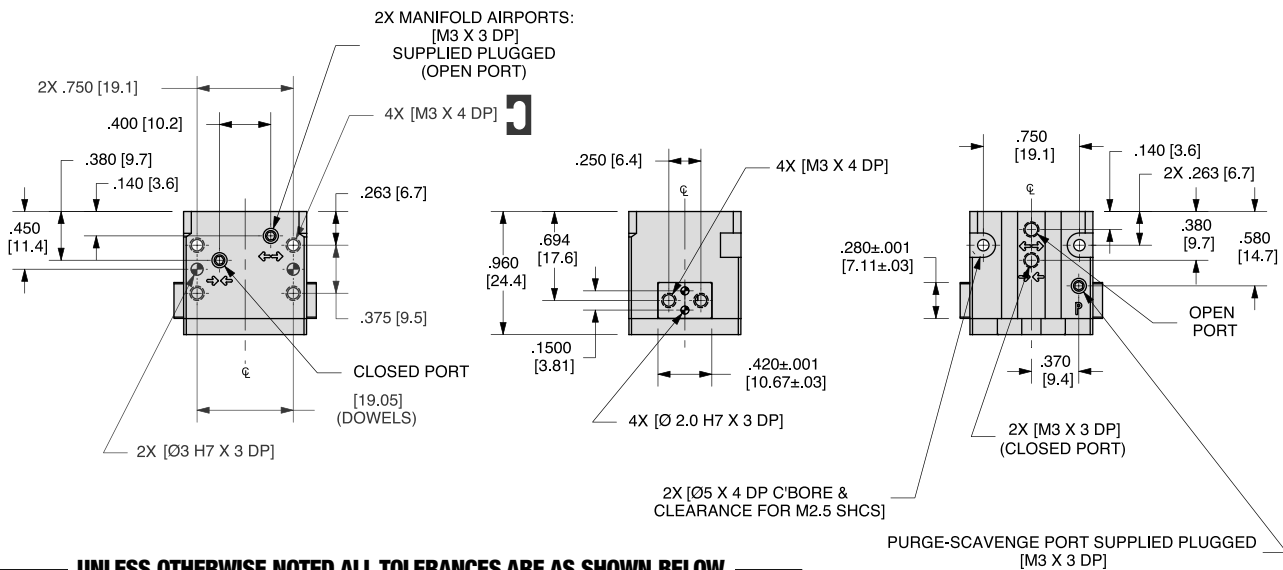
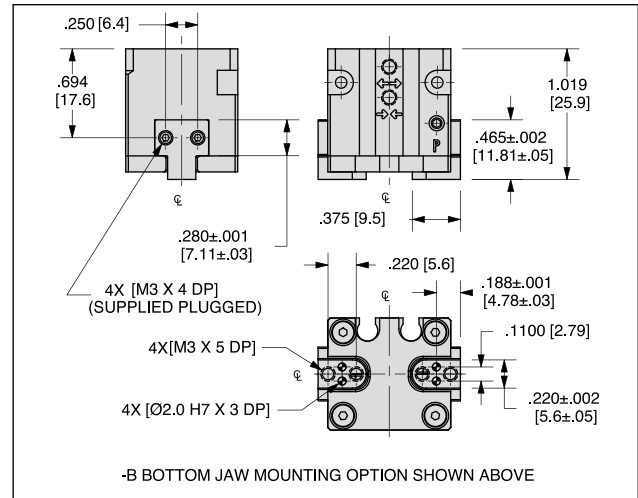
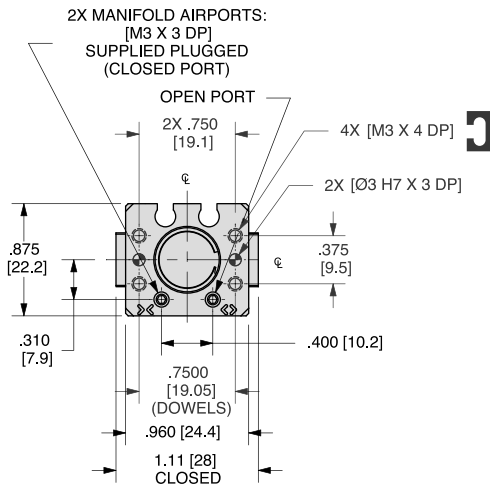




# PARALLEL GRIPPER DPDS-047M DIRECTCONNECT™ MODULAR SERIES

DPDS SERIES

1.136



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**      **STROKE**      **HARDWARE**

**DPDS-047M** -  - **B** -  - **V**

**JAW MOUNTING**      **VITON® SEALS**

<b>STROKE</b>	<b>013</b>	.13" [3.2mm]
	<b>009</b>	.09" [2.4mm]
	<b>006</b>	.06" [1.6mm]
<b>JAW MOUNTING</b>	<b>B</b>	Bottom jaw mounting Leave blank for end jaw mounting (standard)
	—	Leave blank for end jaw mounting (standard)
<b>HARDWARE</b>	<b>S</b>	Corrosion resistant
	<b>CR</b>	Corrosion resistant assembled with clean room grade grease
	—	Leave blank for alloy hardware (standard)
<b>VITON®</b>	<b>V</b>	High Temperature Viton® Seals

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSP-011</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSN-011</b>	<b>1 or 2</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	<b>SLKT-185</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-185V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-197V</b>	<b>1</b>
Plumbing Fitting - M3 male to 3mm OD Tube Push-in Style	<b>PLFT-021</b>	<b>1 or 2</b>
Plumbing Fitting - M3 male to 2mm ID Tube Barb Style	<b>PLFT-022</b>	<b>1 or 2</b>

\*Sensor and cable sold separately

### SAMPLE ORDER: DPDS-047M-006-B-CR-V

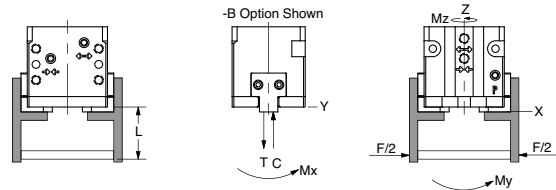
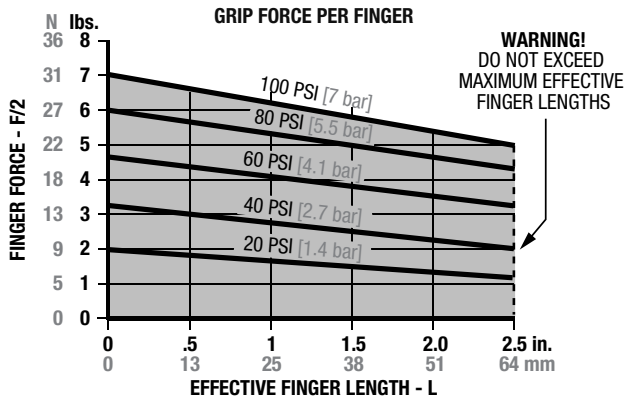
Ex: DPDS-047M Gripper, Metric, 1.6mm Stroke, Bottom Jaw Mounting, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

DIRECTCONNECT™





## Loading Information



### Loading Capacity†

	Static	Dynamic
<b>DPDS-047M</b>		
Maximum Tensile <b>T</b>	30 lbs. [134 N]	6 lbs. [27 N]
Maximum Compressive <b>C</b>	50 lbs. [223 N]	10 lbs. [45 N]
Maximum Moment <b>M<sub>x</sub></b>	20 in.-lbs. [2 Nm]	5 in.-lbs. [0.6 Nm]
Maximum Moment <b>M<sub>y</sub></b>	20 in.-lbs. [2 Nm]	5 in.-lbs. [0.6 Nm]
Maximum Moment <b>M<sub>z</sub></b>	20 in.-lbs. [2 Nm]	5 in.-lbs. [0.6 Nm]
<b>DPDS-047M-B (Bottom Jaw Mounting Option)</b>		
Maximum Tensile <b>T</b>	24 lbs. [107 N]	5 lbs. [22 N]
Maximum Compressive <b>C</b>	40 lbs. [178 N]	8 lbs. [36 N]
Maximum Moment <b>M<sub>x</sub></b>	16 in.-lbs. [2 Nm]	4 in.-lbs. [0.5 Nm]
Maximum Moment <b>M<sub>y</sub></b>	16 in.-lbs. [2 Nm]	4 in.-lbs. [0.5 Nm]
Maximum Moment <b>M<sub>z</sub></b>	16 in.-lbs. [2 Nm]	4 in.-lbs. [0.5 Nm]

†Capacities are per set of jaws and are not simultaneous

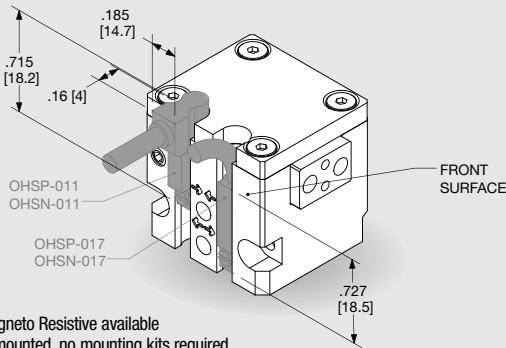
### Specifications DPDS-047M

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	14 lbs. — 62 N
Maximum Stroke	0.13 in. — 3.2 mm
Maximum Operating Pressure Range	20-100 psi 1.5-7 bar
Maximum Vacuum for Scavenge Port	8 in. Hg 200 mm Hg
Maximum Pressure for Purge Port	20 psi 1.4 bar
Cylinder Bore $\varnothing$	0.469 in. 11.9 mm
Displacement	0.013 in <sup>3</sup> 0.2 cm <sup>3</sup>

### Specifications (cont.) DPDS-047M

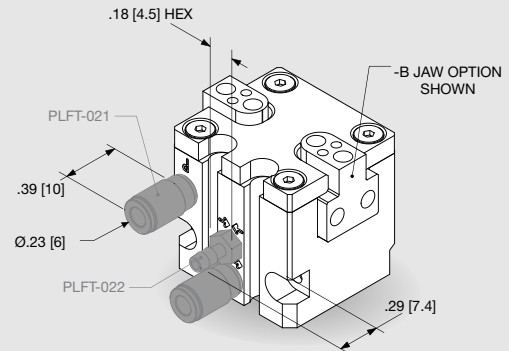
Weight	0.086 lbs.	0.04 Kg
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.13 sec.	0.13 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve Required to Actuate	4-way, 2-position	

## Accessory Mounting Technical Data



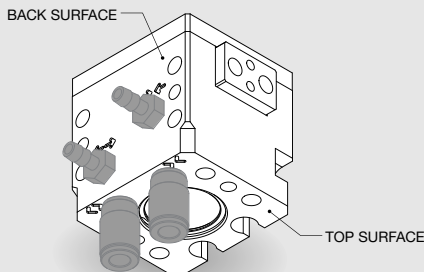
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Low profile underflush sensor version or 90° wire exit sensor version
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



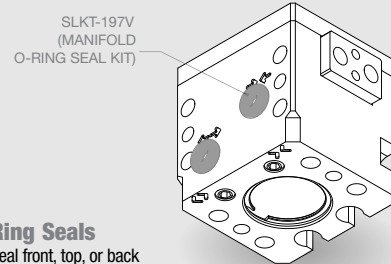
### Plumbing Fittings

- M3 fitting for 2mm I.D. tube (PLFT-022 straight barbed style)
- M3 fitting for 3mm O.D. tube (PLFT-021 straight tube push-in style)
- M3 fittings can be used in any airport including the front purge/scavenge port



### Multiple Air Port Locations

- 3 standard M3 air port locations (front, top, and back surface)
- Top and Back air ports are plugged as standard



### Manifold O-Ring Seals

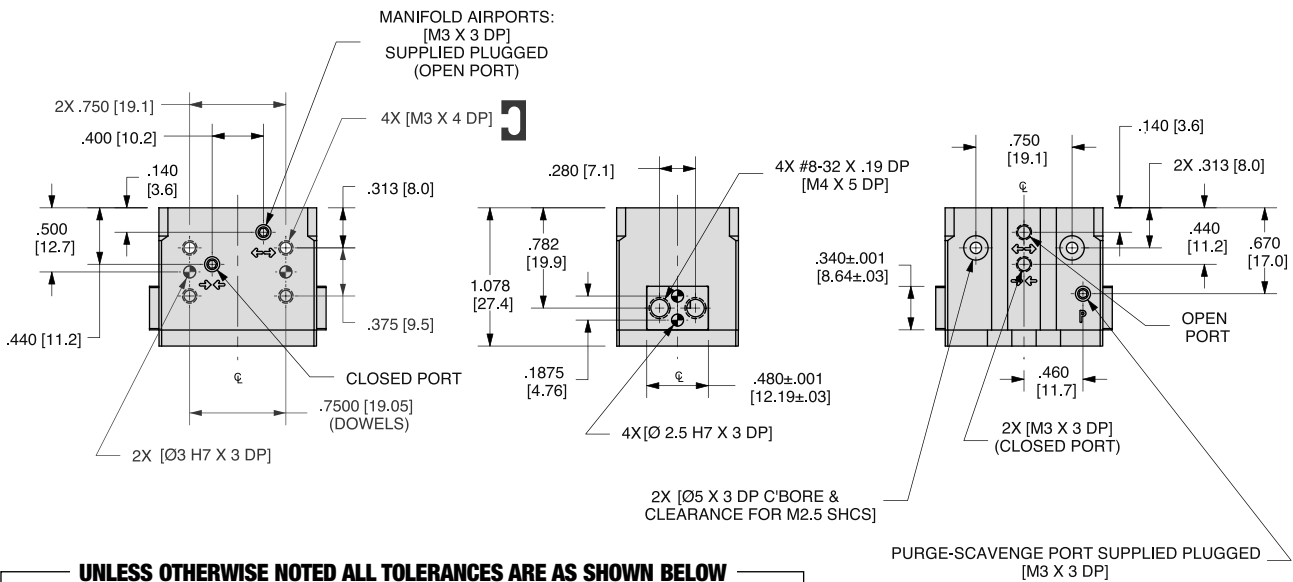
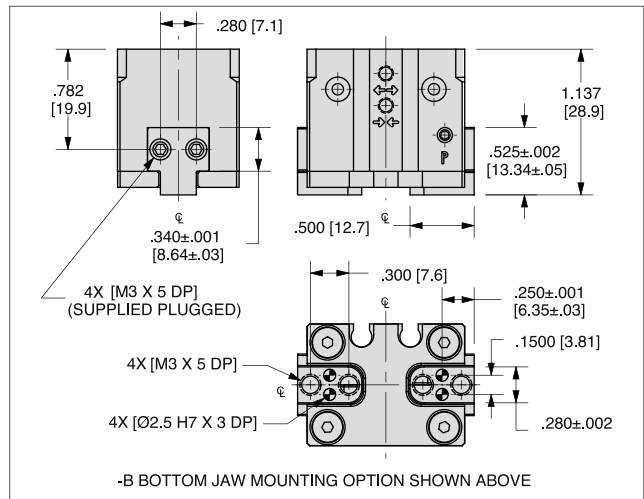
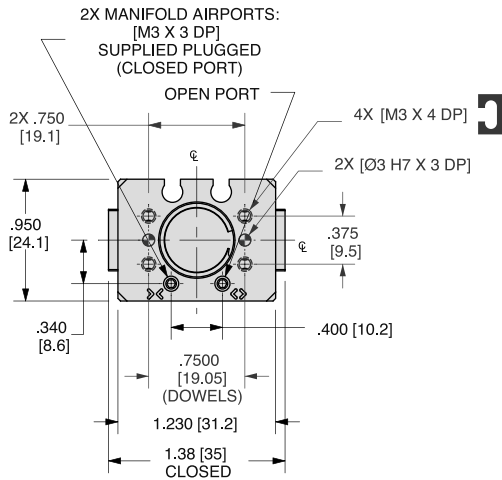
- Can be used to seal front, top, or back air ports and front purge/scavenge port
- Seals in Manifold kit are Viton®
- O-Ring C'bores in customer's mounting plate must be:  $\varnothing$ .215 [5.5] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs, & wrenches needed



# PARALLEL GRIPPER DPDS-056M DIRECTCONNECT™ MODULAR SERIES

DPDS SERIES

1.138



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**      **STROKE**      **HARDWARE**

**DPDS-056M** -  - **B** -  - **V**

**JAW MOUNTING**      **VITON® SEALS**

<b>STROKE</b>	<b>019</b>	.19" [4.8mm]
	<b>013</b>	.13" [3.2mm]
	<b>009</b>	.09" [2.4mm]
<b>JAW MOUNTING</b>	<b>B</b>	Bottom jaw mounting
	—	Leave blank for end jaw mounting (standard)
<b>HARDWARE</b>	<b>S</b>	Corrosion resistant
	<b>CR</b>	Corrosion resistant assembled with clean room grade grease
	—	Leave blank for alloy hardware (standard)
<b>VITON®</b>	<b>V</b>	High Temperature Viton® Seals

### SENSOR ACCESSORIES

PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSP-011</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSN-011</b>	<b>1 or 2</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

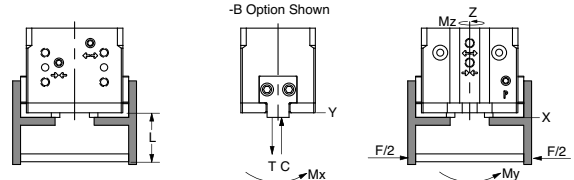
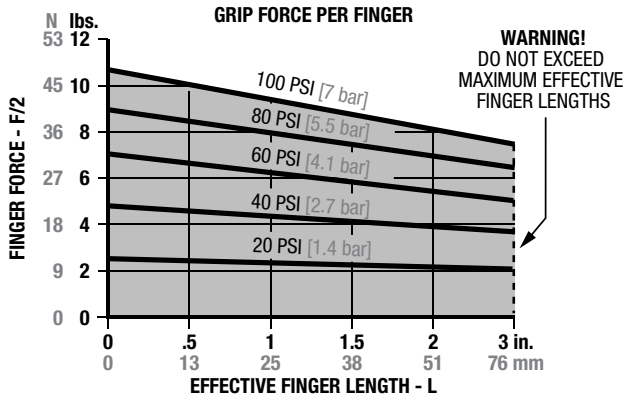
Standard Seal Repair Kit	<b>SLKT-186</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-186V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-197V</b>	<b>1</b>
Plumbing Fitting - M3 male to 3mm OD Tube Push-in Style	<b>PLFT-021</b>	<b>1 or 2</b>
Plumbing Fitting - M3 male to 2mm ID Tube Barb Style	<b>PLFT-022</b>	<b>1 or 2</b>

\*Sensor and cable sold separately

### SAMPLE ORDER: DPDS-056M-009-B-CR-V

Ex: DPDS-056M Gripper, Metric, 2.4mm Stroke, Bottom Jaw Mounting, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

DIRECTCONNECT™



### Loading Capacity†

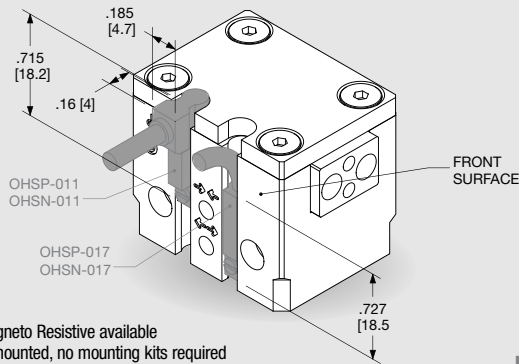
	Static	Dynamic
<b>DPDS-056M</b>		
Maximum Tensile <b>T</b>	60 lbs. [267 N]	10 lbs. [45 N]
Maximum Compressive <b>C</b>	90 lbs. [401 N]	15 lbs. [67 N]
Maximum Moment <b>M<sub>x</sub></b>	40 in.-lbs. [5 Nm]	7 in.-lbs. [0.8 Nm]
Maximum Moment <b>M<sub>y</sub></b>	40 in.-lbs. [5 Nm]	7 in.-lbs. [0.8 Nm]
Maximum Moment <b>M<sub>z</sub></b>	40 in.-lbs. [5 Nm]	7 in.-lbs. [0.8 Nm]
<b>DPDS-056M-B (Bottom Jaw Mounting Option)</b>		
Maximum Tensile <b>T</b>	48 lbs. [214 N]	8 lbs. [36 N]
Maximum Compressive <b>C</b>	72 lbs. [320 N]	12 lbs. [53 N]
Maximum Moment <b>M<sub>x</sub></b>	32 in.-lbs. [4 Nm]	6 in.-lbs. [1 Nm]
Maximum Moment <b>M<sub>y</sub></b>	32 in.-lbs. [4 Nm]	6 in.-lbs. [1 Nm]
Maximum Moment <b>M<sub>z</sub></b>	32 in.-lbs. [4 Nm]	6 in.-lbs. [1 Nm]

†Capacities are per set of jaws and are not simultaneous

Specifications	DPDS-056M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	22 lbs. — 98 N
Maximum Stroke	0.19 in. — 4.8 mm
Maximum Operating Pressure Range	20-100 psi 1.5-7 bar
Maximum Vacuum for Scavenge Port	8 in. Hg 200 mm Hg
Maximum Pressure for Purge Port	20 psi 1.4 bar
Cylinder Bore $\varnothing$	0.563 in. 14.3 mm
Displacement	0.028 in. <sup>3</sup> 0.5 cm <sup>3</sup>

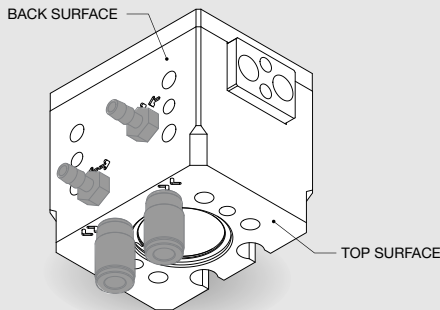
Specifications (cont.)	DPDS-056M
Weight	0.155 lbs. 0.07 Kg
Temperature Range: Standard Seals	-30°~180° F -35°~80° C
Viton® Seals	-20°~300° F -30°~150° C
Actuation	0.16 sec.
Accuracy	±0.002 in. ±0.05 mm
Repeatability	±0.001 in. ±0.03 mm
Valve Required to Actuate	4-way, 2-position

## Accessory Mounting Technical Data



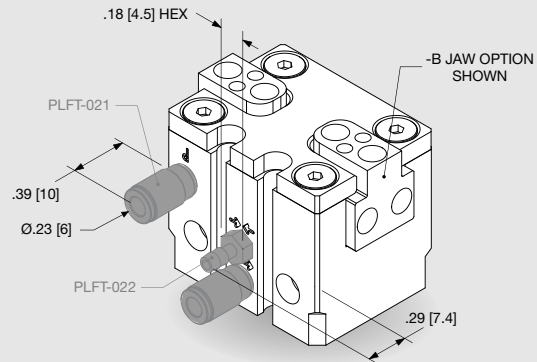
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Low profile underflush sensor version or 90° wire exit sensor version
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



### Multiple Air Port Locations

- 3 standard M3 air port locations (front, top, and back surface)
- Top and Back air ports are plugged as standard



### Plumbing Fittings

- M3 fitting for 2mm I.D. tube (PLFT-022 straight barbed style)
- M3 fitting for 3mm O.D. tube (PLFT-021 straight tube push-in style)
- M3 fittings can be used in any airport including the front purge/scavenge port

SLKT-197V  
(MANIFOLD  
O-RING SEAL KIT)

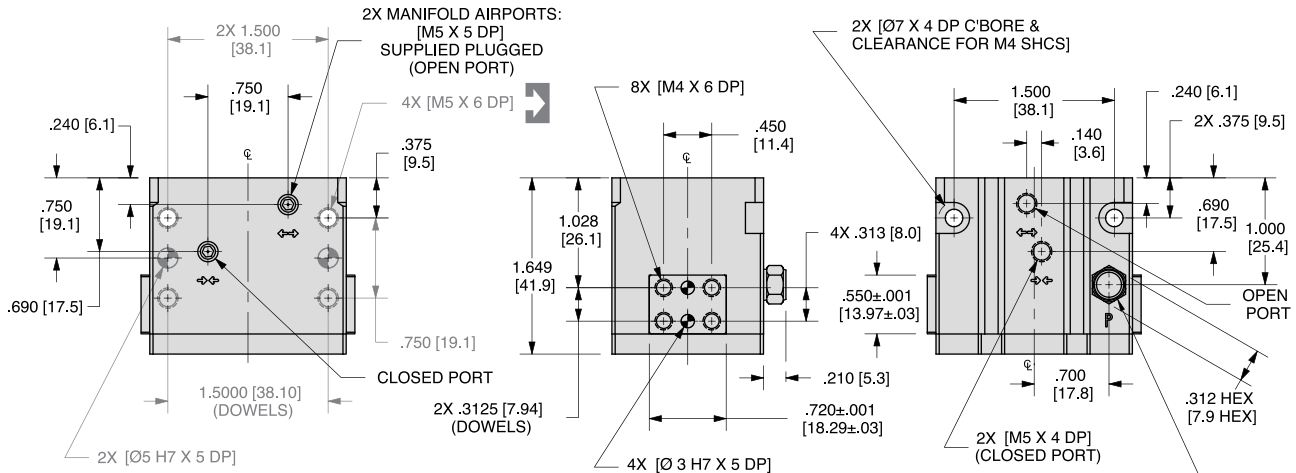
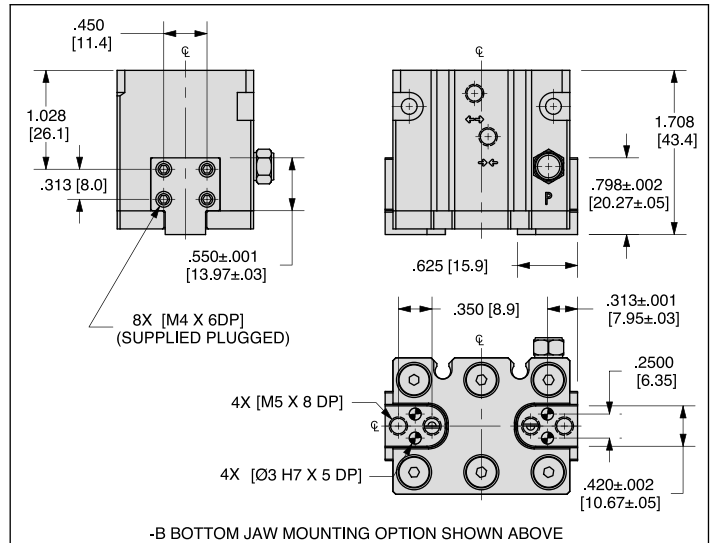
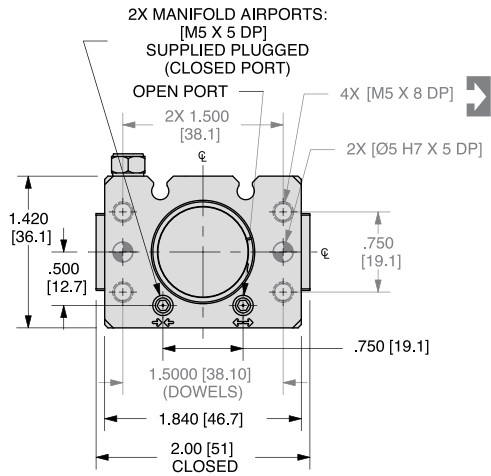
### Manifold O-Ring Seals

- Can be used to seal front, top, or back air ports and front purge/scavenge port
- Seals in Manifold kit are Viton®
- O-Ring C'bores in customer's mounting plate must be:  $\varnothing.215$  [5.5] X  $.060 \pm .002$  [1.52 ± .05] deep
- Kit is supplied with all seals, plugs, & wrenches needed

# PARALLEL GRIPPER DPDS-088M DIRECTCONNECT™ MODULAR SERIES

DPDS SERIES

1.140



**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[.0] = ±.25 [.0] = ±.13 [0.00] = ±.013

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**      **STROKE**      **HARDWARE**

**DPDS-088M** -  - **B** -  - **V**

**JAW MOUNTING**      **VITON® SEALS**

<b>STROKE</b>	<b>025</b> .25" [6.4mm]
	<b>019</b> .19" [4.8mm]
	<b>013</b> .13" [3.2mm]
<b>JAW MOUNTING</b>	<b>B</b> Bottom jaw mounting Leave blank for end jaw mounting (standard)
<b>HARDWARE</b>	<b>S</b> Corrosion resistant <b>CR</b> Corrosion resistant assembled with clean room grade grease Leave blank for alloy hardware (standard)
<b>VITON®</b>	<b>V</b> High Temperature Viton® Seals

<b>SENSOR ACCESSORIES</b>	<b>ORDER #</b>	<b>QTY/UNIT</b>
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSP-011</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSN-011</b>	<b>1 or 2</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1 or 2</b>

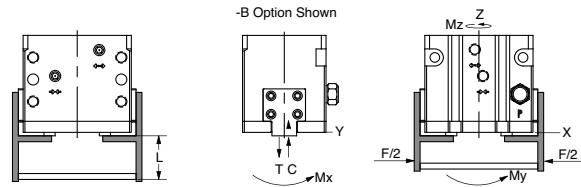
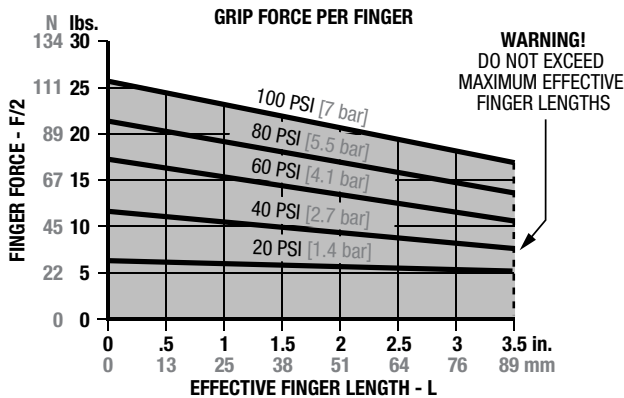
<b>PNEUMATIC ACCESSORIES</b>	<b>ORDER #</b>	<b>QTY/UNIT</b>
Standard Seal Repair Kit	<b>SLKT-187</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-187V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-199V</b>	<b>1</b>
Adjustable Flow Control M5 Elbow - 6mm OD Push-in (Metric)	<b>VLVF-008</b>	<b>1 or 2</b>
Fail Safe Valve M5	<b>OFSV-004</b>	<b>1</b>

\*Sensor and cable sold separately

### SAMPLE ORDER: DPDS-088M-019-B-CR-V

Ex: DPDS-088M Gripper, Metric, 4.8mm Stroke, Bottom Jaw Mounting, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

DIRECTCONNECT™



### Loading Capacity†

	Static	Dynamic
<b>DPDS-088M</b>		
Maximum Tensile <b>T</b>	138 lbs. [614 N]	25 lbs. [111 N]
Maximum Compressive <b>C</b>	275 lbs. [1224 N]	25 lbs. [111 N]
Maximum Moment <b>M<sub>x</sub></b>	120 in.-lbs. [14 Nm]	20 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>y</sub></b>	120 in.-lbs. [14 Nm]	20 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>z</sub></b>	120 in.-lbs. [14 Nm]	20 in.-lbs. [2 Nm]

### DPDS-088M-B (Bottom Jaw Mounting Option)

Maximum Tensile <b>T</b>	110 lbs. [490 N]	20 lbs. [89 N]
Maximum Compressive <b>C</b>	220 lbs. [979 N]	20 lbs. [89 N]
Maximum Moment <b>M<sub>x</sub></b>	96 in.-lbs. [11 Nm]	16 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>y</sub></b>	96 in.-lbs. [11 Nm]	16 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>z</sub></b>	96 in.-lbs. [11 Nm]	16 in.-lbs. [2 Nm]

†Capacities are per set of jaws and are not simultaneous

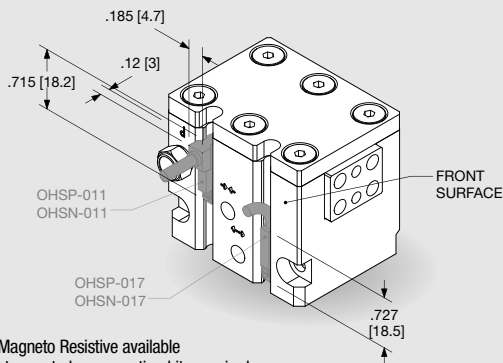
### Specifications DPDS-088M

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	50 lbs. — 222 N
Maximum Stroke	0.25 in. — 6.4 mm
Maximum Operating Pressure Range	20-100 psi 1.5-7 bar
Maximum Vacuum for Scavenge Port	8 in. Hg 200 mm Hg
Maximum Pressure for Purge Port	20 psi 1.4 bar
Cylinder Bore $\varnothing$	0.875 in. 22.2 mm
Displacement	0.090 in <sup>3</sup> 1.5 cm <sup>3</sup>

### Specifications (cont.) DPDS-088M

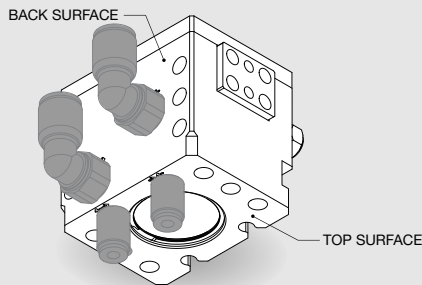
Weight	0.51 lbs.	0.23 Kg
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.20 sec.	0.20 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve Required to Actuate	4-way, 2-position	

## Accessory Mounting Technical Data



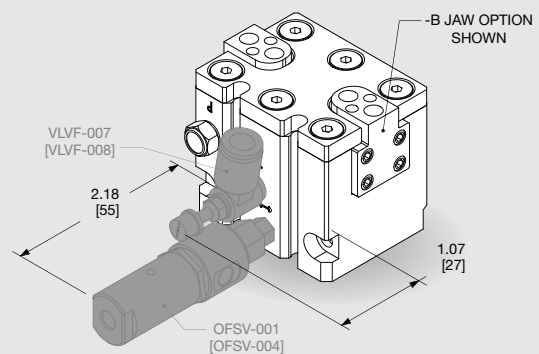
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Low profile underflush sensor version or 90° wire exit sensor version
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



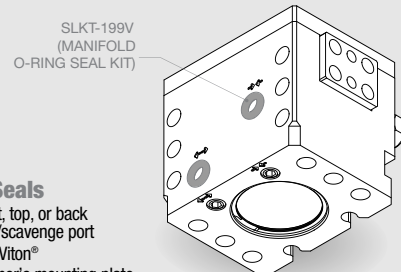
### Multiple Air Port Locations

- 3 standard M5 air port locations (front, top, and back surface)
- Top and Back air ports are plugged as standard



### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time:
  - Available for 6mm O.D. tubing
- Failsafe valve for applications:
  - Where it is critical that the part being gripped not be dropped if air pressure is lost
  - Can mount directly to gripper or in-line with plumbing to gripper
  - M5 air port



### Manifold O-Ring Seals

- Can be used to seal front, top, or back air ports and front purge/scavenge port
- Seals in Manifold kit are Viton®
- O-Ring C'bores in customer's mounting plate must be:  $\varnothing$ .290 [07.4] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs, & wrenches needed

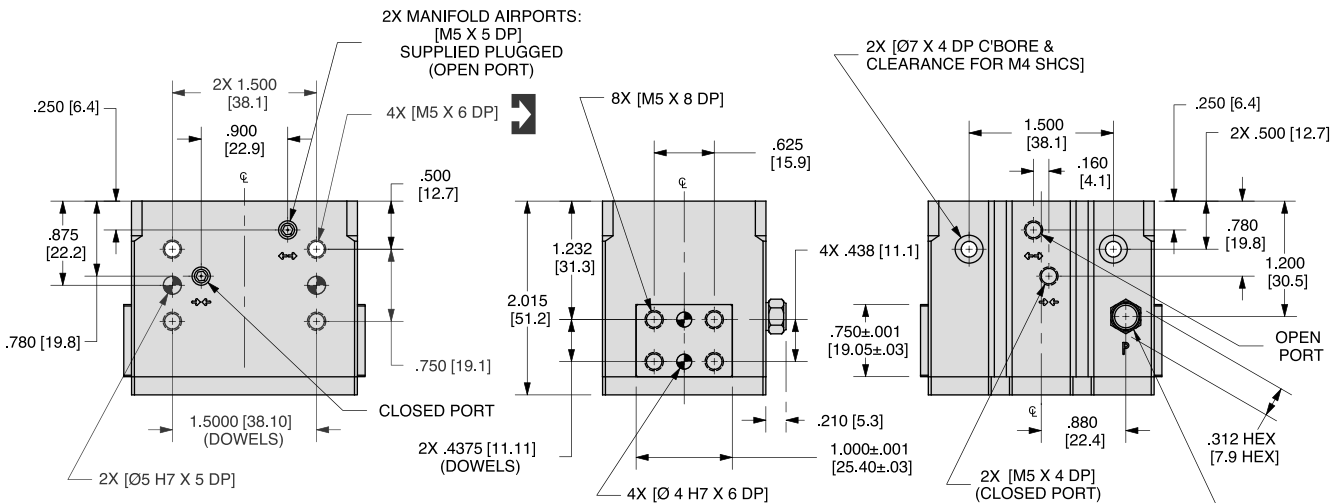
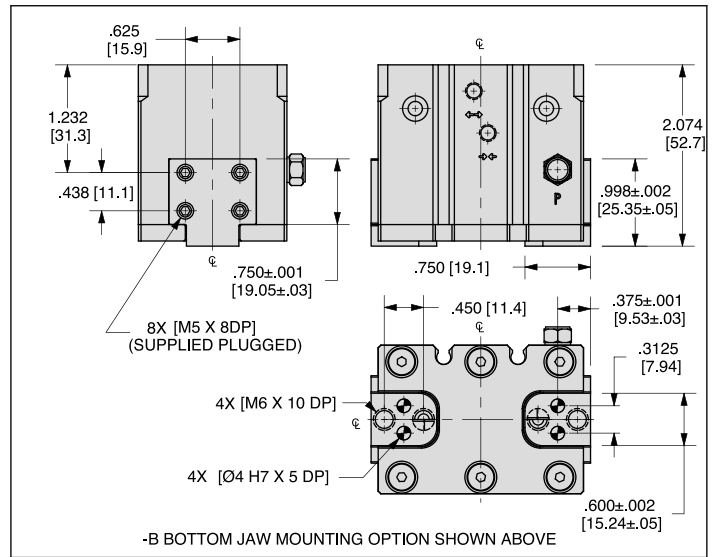
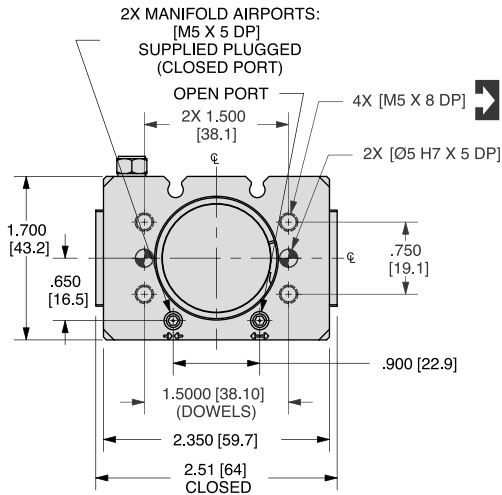




# PARALLEL GRIPPER DPDS-125M DIRECTCONNECT™ MODULAR SERIES

DPDS SERIES

1.142

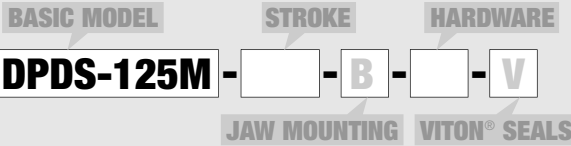


UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				imperial in.	metric [mm]
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	0.00 ± .01 0.000 ± .005 0.0000 ± .0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)



STROKE	038	.38" [9.5mm]
	025	.25" [6.4mm]
	019	.19" [4.8mm]

JAW MOUNTING **B** Bottom jaw mounting  
Leave blank for end jaw mounting (standard)

HARDWARE **S** Corrosion resistant  
**CR** Corrosion resistant assembled with clean room grade grease  
Leave blank for alloy hardware (standard)

VITON® **V** High Temperature Viton® Seals

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	1 or 2
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	1 or 2
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSP-011</b>	1 or 2
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSN-011</b>	1 or 2
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	1 or 2
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	1 or 2

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	<b>SLKT-188</b>	1
Viton® Seal Repair Kit	<b>SLKT-188V</b>	1
Manifold Seal Kit (Viton®)	<b>SLKT-199V</b>	1
Adjustable Flow Control M5 Elbow - 6mm OD Push-in (Metric)	<b>VLVF-008</b>	1 or 2
Fail Safe Valve M5	<b>OFSV-004</b>	1

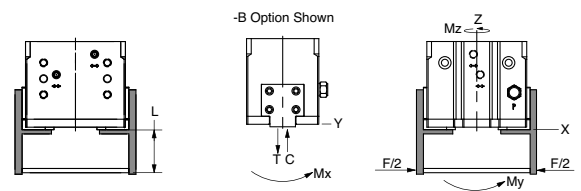
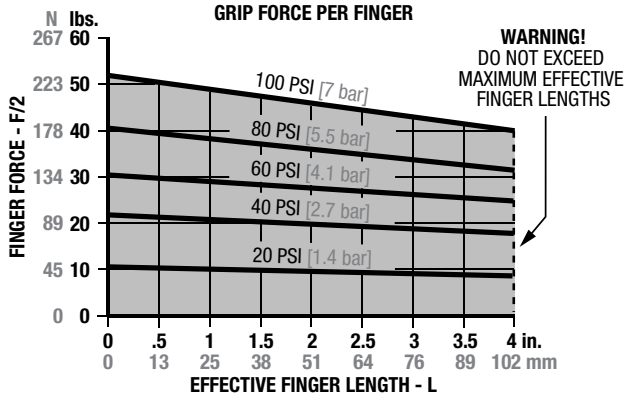
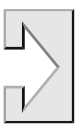
\*Sensor and cable sold separately

## SAMPLE ORDER: DPDS-125M-025-B-CR-V

Ex. DPDS-125M Gripper, Metric, 6.4mm Stroke, Bottom Jaw Mounting, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

DIRECTCONNECT™





### Loading Capacity†

	Static	Dynamic
<b>DPDS-125M</b>		
Maximum Tensile <b>T</b>	500 lbs. [2225 N]	65 lbs. [289 N]
Maximum Compressive <b>C</b>	950 lbs. [4228 N]	65 lbs. [289 N]
Maximum Moment <b>M<sub>x</sub></b>	425 in.-lbs. [48 Nm]	70 in.-lbs. [8 Nm]
Maximum Moment <b>M<sub>y</sub></b>	425 in.-lbs. [48 Nm]	70 in.-lbs. [8 Nm]
Maximum Moment <b>M<sub>z</sub></b>	425 in.-lbs. [48 Nm]	70 in.-lbs. [8 Nm]

### DPDS-125M-B (Bottom Jaw Mounting Option)

Maximum Tensile <b>T</b>	400 lbs. [1780 N]	52 lbs. [231 N]
Maximum Compressive <b>C</b>	760 lbs. [3382 N]	52 lbs. [231 N]
Maximum Moment <b>M<sub>x</sub></b>	340 in.-lbs. [38 Nm]	56 in.-lbs. [6 Nm]
Maximum Moment <b>M<sub>y</sub></b>	340 in.-lbs. [38 Nm]	56 in.-lbs. [6 Nm]
Maximum Moment <b>M<sub>z</sub></b>	340 in.-lbs. [38 Nm]	56 in.-lbs. [6 Nm]

†Capacities are per set of jaws and are not simultaneous

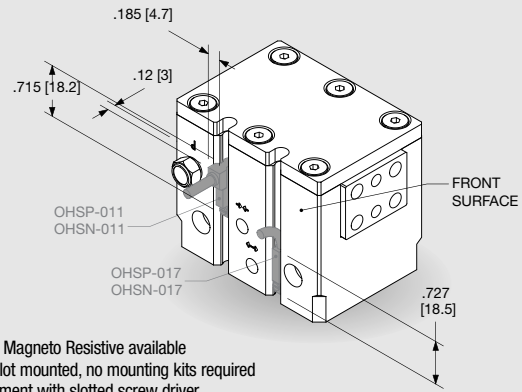
### Specifications DPDS-125M

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	100 lbs. — 445 N
Maximum Stroke	0.38 in. — 9.5 mm
Maximum Operating Pressure Range	20-100 psi 1.5-7 bar
Maximum Vacuum for Scavenge Port	8 in. Hg 200 mm Hg
Maximum Pressure for Purge Port	20 psi 1.4 bar
Cylinder Bore $\varnothing$	1.250 in. 31.8 mm
Displacement	0.274 in <sup>3</sup> 4.5 cm <sup>3</sup>

### Specifications (cont.) DPDS-125M

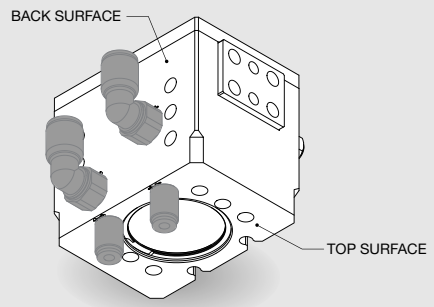
Weight	1.03 lbs. 0.46 Kg
Temperature Range: Standard Seals	-30°~180° F -35°~80° C
Viton® Seals	-20°~300° F -30°~150° C
Actuation	0.30 sec. 0.30 sec.
Accuracy	±0.003 in. ±0.08 mm
Repeatability	±0.001 in. ±0.03 mm
Valve Required to Actuate	4-way, 2-position

## Accessory Mounting Technical Data



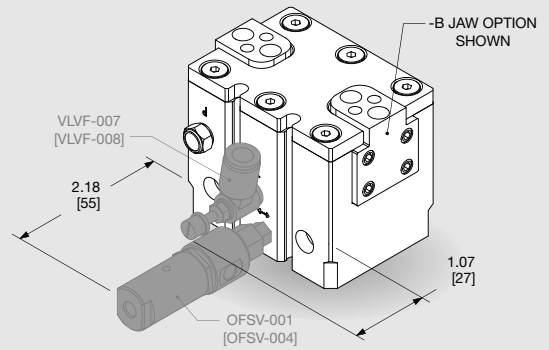
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Low profile underflush sensor version or 90° wire exit sensor version
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



### Multiple Air Port Locations

- 3 standard M5 air port locations (front, top, and back surface)
- Top and Back air ports are plugged as standard



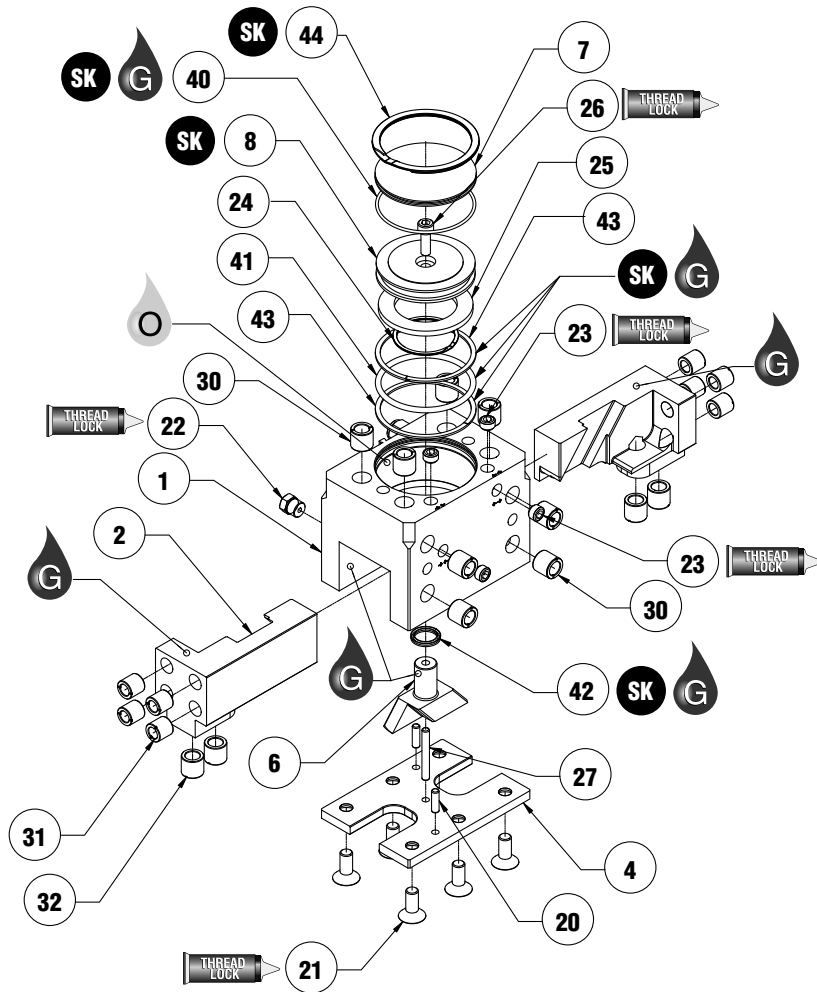
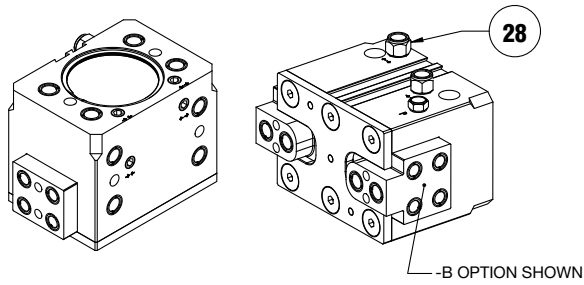
### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm O.D. tubing
- Failsafe valve for applications:
  - Where it is critical that the part being gripped not be dropped if air pressure is lost
  - Can mount directly to gripper or in-line with plumbing to gripper
  - M5 air port
- Consult factory for additional plumbing fittings

### Manifold O-Ring Seals

- Can be used to seal front, top, or back air ports and front purge/scavenge port
- Seals in Manifold kit are Viton®
- O-Ring C'bores in customer's mounting plate must be:  $\varnothing.290$  [07.4] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs, & wrenches needed

# DPDS SERIES EXPLODED VIEW



Item	Qty	Name
01	1	Body
02	2	Jaw
04	1	Bottom Plate
06	1	Shaft Wedge
07	1	Cap
08	1	Piston
20	2	Bottom Plate Locating Dowels
21	6	Bottom Plate Screws
22*	1	Breather Vent Plug (Purge)
23	4	Manifold Port Plugs
24	1	Piston Mag. Ret. Ring
25	1	Piston Magnet
26	1	Piston Mounting Screw
27	1	Shaft guide dowel pin
28*	2	Plumbing Fitting - Adapter - 1/8NPT male to 1/8BSPP female
30*	8	Threaded Inserts (Body)
31*	8	Threaded Inserts (Jaw - End Mount)
32*	4	Threaded Inserts (Jaw - Bottom Mount "B" option only)
40	1	Cap O-ring
41	1	Piston O-ring
42	1	U-cup
43*	2	Piston Teflon Ring
44	1	Cap Ret. Ring

**NOTES:\***

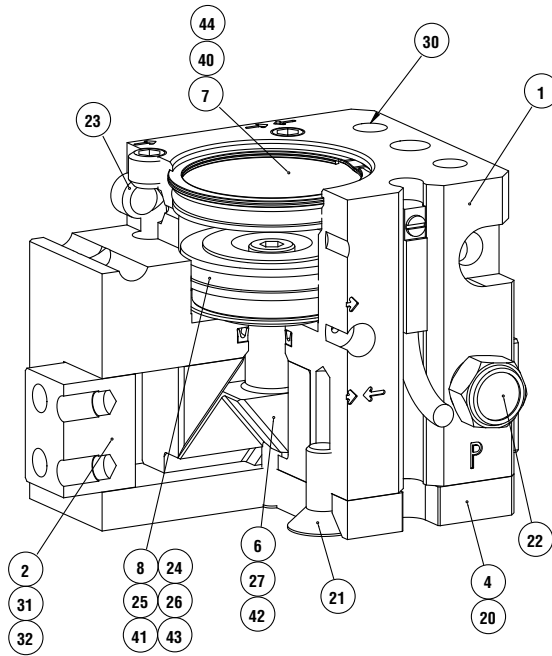
- 1) Contact the Destaco-Robohand Sales Department for a complete spare parts list with order numbers and prices.
- 2) Item #30 is for size -175 and -250 only.
- 3) Item #31 and #32 are for size -250 only.
- 4) Item #22 Breather vent plug is a set screw plug for sizes -047 & -056.
- 5) Item #43 is for size -175 and -250 only.
- 6) Item #28 is for metric size -175M and -250M only.

**SK Seal Repair Kit Order #'s  
See Product Data Sheets**

**Assembly Procedure:**

- 1) Install #23 airport plugs with thread-locker.
- 2) Press pins #20 & #27 Into Plate #4.
- 3) Install threaded inserts #30, #31, & #32.
- 4) Install #22 vent or plug with thread-locker.
- 5) Mount magnet #25 to piston #8 with retainer Ring #24.
- 6) Install #28 metric plumbing fitting adapters.
- 7) Lubricate body #1 (jaw cavity & bores).
- 8) Lubricate & install all seals into body, piston, & cap.
- 9) Sub-assemble the #2 jaws on either side of the #6 shaft wedge with lubrication.
- 10) Insert the jaws and shaft wedge sub-assembly into body.
- 11) Insert piston #8 into the body bore and fasten it to the shaft wedge with Mounting screw # 26 using thread locker.
- 12) Install cap #7 into body with retaining ring #44.
- 13) Insert #4 bottom plate with pressed-in pins onto the body and fasten with #21 screws with thread-locker.

<b>SK</b> Seal Kit Items	<b>THREAD LOCK</b> Thread Locker	<b>KRYTOX</b> Krytox™ Lubricant	<b>O</b> Lightweight Machine Oil	<b>G</b> Teflon™ Based Grease	<b>GLUE</b> Super Bonder	<b>Third Angle Projection</b>
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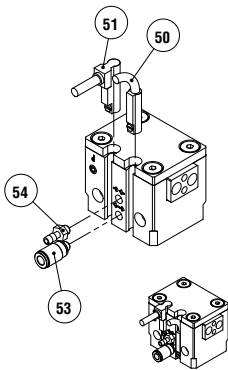
Item	Qty	Name
01	1	Body
02	2	Jaw
04	1	Bottom Plate
06	1	Shaft Wedge
07	1	Cap
08	1	Piston
20	2	Bottom Plate Locating Dowels
21	6	Bottom Plate Screws
22*	1	Breather Vent Plug (Purge)
23	4	Manifold Port Plugs
24	1	Piston Mag. Ret. Ring
25	1	Piston Magnet
26	1	Piston Mounting Screw
27	1	Shaft guide dowel pin
28*	2	Plumbing Fitting - Adapter - 1/8NPT male to 1/8BSPP female
30*	8	Threaded Inserts (Body)
31*	8	Threaded Inserts (Jaw - End Mount)
32*	4	Threaded Inserts (Jaw - Bottom Mount "B" option only)
40	1	Cap O-ring
41	1	Piston O-ring
42	1	U-cup
43*	2	Piston Teflon Ring
44	1	Cap Retainer Ring

**NOTES:\***

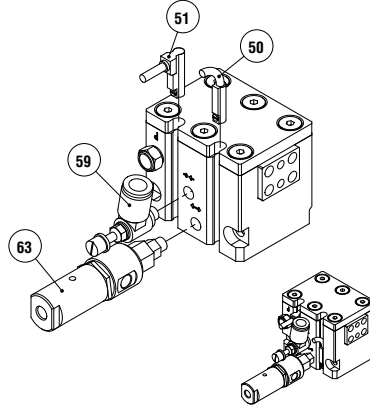
- 1) Contact the Destaco-Robohand Sales Department for a complete spare parts list with order numbers and prices.
- 2) Item #30 is for size -175 and -250 only.
- 3) Item #31 and #32 are for size -250 only.
- 4) Item #22 breather vent plug is a set screw plug for sizes -047 & -056.
- 5) Item #43 is for size -175 and -250 only.
- 6) Item #28 is for metric size -175M and -250M only.

## Accessory Installation & Adjustment Instructions

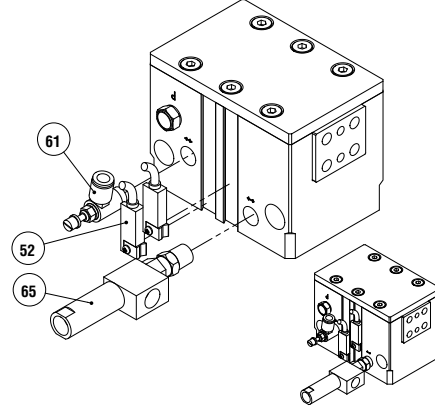
DPDS-047 & DPDS-056



DPDS-088 & DPDS-125



DPDS-175 & DPDS-250



Item	Qty	Name
50	1 or 2	Magneto Resistive Sensor (short barrel) w/Qk. Disconnect
51	1 or 2	Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect
52	1 or 2	Magneto Resistive Sensor (12mm Dovetail) w/Qk. Disconnect
53	1, 2 or 3	Plumbing Fitting - M3 male to 3mm OD Push-in Style
54	1, 2 or 3	Plumbing Fitting - M3 male to 2mm ID Barb Style
59	1 or 2	Adjustable Flow Control (Metric) M5 elbow - 6mm OD Push-in Style
61	1 or 2	Adjustable Flow Control (Metric) G1/8 elbow - 6mm OD Push-in Style
63	1	Fail Safe Valve (Metric) M5
65	1	Fail Safe Valve (Metric) G1/8 (1/8 BSPP)

**NOTE:** Other Plumbing Fittings are available for each size - Consult Factory

**Magneto-Resistive Sensors:**

- 1) Insert sensors #50 or #51 from either end of the profile slots and set the sensor with the integrated screw.
- 2) Insert sensor #52 into the dovetail slot at any point and set the sensor with the integrated screw & locking shoe.

**Plumbing Fittings:**

- 1) M3 plumbing fittings #53 & #54 can be used in any airport or purge/scavenge port.
- 2) Flow controls can be inserted and used in any open or closed airport to help control the stroke actuation.
- 3) Fail-safe valve can be used in either the open or closed airport to help limit the possibility of dropping the part if air pressure is lost.

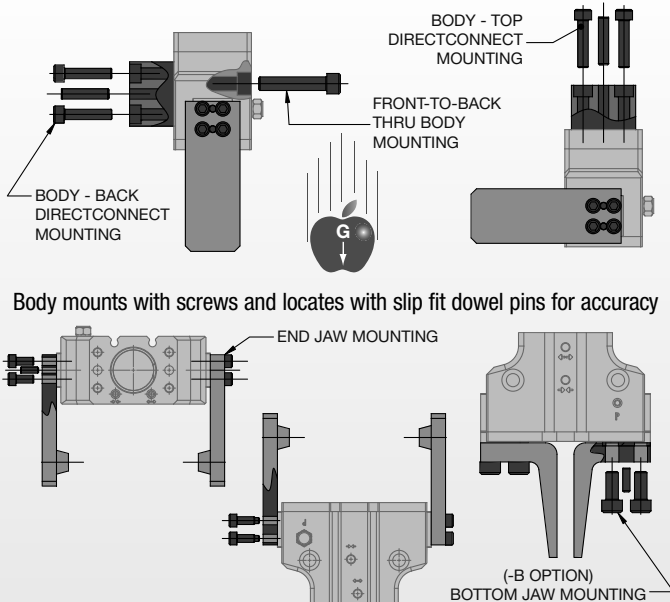
# Parallel Grippers - DPDL DIRECTCONNECT™ Modular Series

**NO  
ADAPTER  
PLATES!**

- **Multiple mounting locations:** DIRECTCONNECT™ tapped and dowel mounting on top and back of body.
- **Thru body mounting:** Front-to-back thru-body mounting.
- **Multiple air port positions:** Tapped air ports on front, top, and back sides are standard.
- **Manifold air porting:** Top and back air ports can be manifold o-ring sealed.
- **Front purge/scavenge port:** Negative pressure used as a scavenge port used for cleanroom applications. Positive pressure used as a purge port to repel contaminants in harsh environment. Port can also be used for lubrication.
- **Sensing:** Full range adjustable magneto resistive sensors.
- **Different strokes:** All gripper sizes are available in 3 different strokes.
- **Multiple jaw styles:** All sizes available with end mounts jaws as standard or bottom mount jaws as an option.
- **True sealed jaw option:** Rugged integral rubber boot seals the unit against harsh environments. Designed to be used in machine coolant and metal chip environment applications.
- **Long finger applications:** Rigid design and full body support of jaws allows for longer finger lengths.

## Mounting Information:

Grippers can be mounted & operated in any orientation



Body mounts with screws and locates with slip fit dowel pins for accuracy

Fingers attach with screws and locate on jaws by keying and/or dowel pins. Fingers can be mounted in any orientation with respect to the jaw.

## Technical Specifications:

Pneumatic Specifications	Imperial	Metric
Pressure Operating Range	20-100 psi	1.5-7 bar
Cylinder Type	Double Acting	
Dynamic Seals	Internally Lubricated Buna-N	
Valve Required to Operate	4-way, 2-position	
<b>Air Quality Requirements</b>	40 Micron or Better	
Air Filtration	Not Necessary*	
Air Lubrication	Low Moisture Content (dry)	
Air Humidity		
<b>Temperature Operating Range</b>		
Buna-N Seals (standard)	-30°~180° F	-35°~80° C
Viton® Seals (optional)	-20°~300° F	-30°~150° C
<b>Maintenance Specifications†</b>		
Expected Life	5 million cycles	
Normal Application	10+ million cycles*	
w/ Preventative Maintenance	Yes	
Field Repairable	Yes	
Seal Repair Kits Available	Yes	
<b>-E Option Seals Jaw Rubber Boot Specifications</b>		
Boot Material	60 Durometer Buna-N (Nitrile)	
Temperature Rating (boot only)	-20°~250° F	-30°~120° C
Compatible Chemicals:	Water, Coolant, Petroleum Oils, Silicone Lubricants, Dilute Acids & Alkalis, Hydraulic Fluid, Transmission Fluid	
Non-Compatible Chemicals:	Ozone, Ketones, Strong Acids, Brake Fluid	
Example Applications:	Grinding Dust, Machine Chip & Coolant, Painting, Paper Dust, Washdown Applications	

### Application Restrictions

Applications where mechanism lubricant could cause contamination (use -E sealed jaw option)

\*Addition of lubrication will greatly increase service life  
†See Maintenance Section



## Product Features

### Hard Coat Anodize

The body and bottom plate have hard-coat anodize 60RC with Teflon® impregnation

### High Temperature

Optional Viton® seals are available for high temperature applications

### Multiple Air Port Locations

3 standard air port locations (front, back, & top)

### Sensor Mounting Slots

Standard mounting slots for magneto resistive (sensors sold separately)

### One Piece Body

One piece lightweight aircraft quality aluminum body

### Manifold Air Ports

Back & top air ports can be O-ring manifold sealed to eliminate air lines

### DIRECTCONNECT™

#### Mounting Patterns

DIRECTCONNECT™ tapped & dowel mounting surfaces on top and back of body

### Extremely Rugged Design

Jaws are supported throughout the length of the body

### Thru-Body Mounting

Front-to-back thru C'bores for socket head cap screw mounting

### Bottom Jaw Mounting (-B) Option

For alternate finger mounting (standard side mount jaws shown)

### Sealed Jaws (-E) Option

Buna-N bellows seal jaws against damaging hazardous environments (machining chips & coolant, grinding dust, paper mill environments, etc.)

### Purge/Scavenge Port

Used with a vacuum for clean room environments or positive pressure with harsh environments

### Corrosion Resistant Hardware (-S) or Clean Room (-CR) Options

Both options have stainless and brass hardware. Clean room option uses clean room grade greases

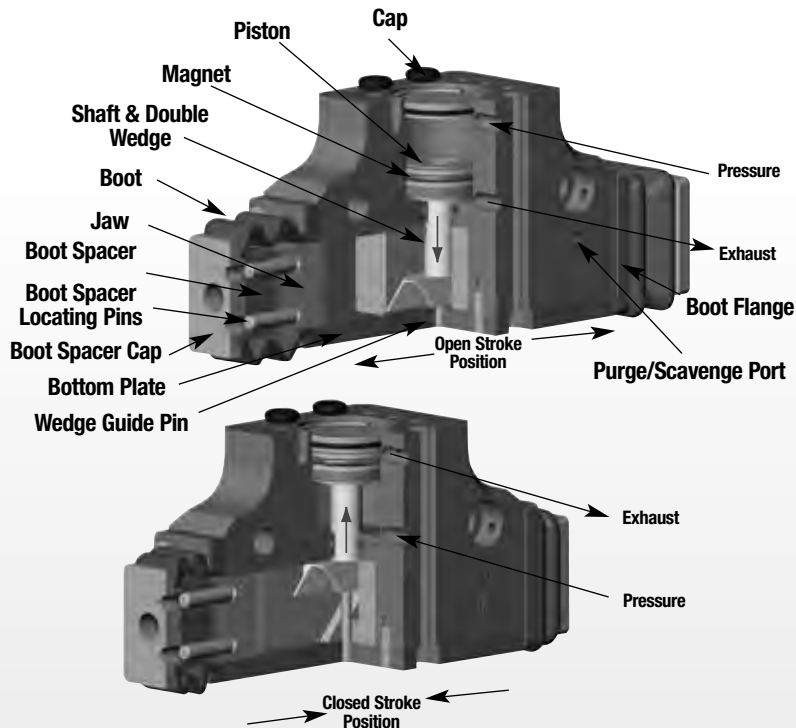
### Dowel Holes

Slip fit dowel pin holes in body and jaws

### Jaw Components

Hardened and precision ground steel for minimum jaw play with hard plating for wear resistance and long life

## Operating Principle



- A double acting piston is connected by a shaft to a double-sided wedge.
- The wedge slides in a slot located in each of the jaws converting vertical motion of the wedge into horizontal synchronous motion of the jaws.
- The large surface area of the wedge minimizes friction wear.
- This gripper is suitable for internal or external gripping and can be mounted in any orientation.

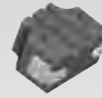
**U.S. Patent # 5,125,708**

**Designed and manufactured in the USA**

## Style -DPDL Parallel Gripper

### Size -047M

Style:	DPDL-047M	
Stroke:	0.38 in.	9.5 mm
Grip Force:	14 lbs.	62 N
Weight:	0.186 lbs.	0.08 Kg



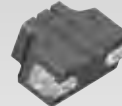
-B Bottom Jaw Mount Shown

See Page **1.148**

## Style -DPDL Parallel Gripper

### Size -056M

Style:	DPDL-056M	
Stroke:	0.50 in.	12.7 mm
Grip Force:	22 lbs.	98 N
Weight:	0.315 lbs.	0.14 Kg



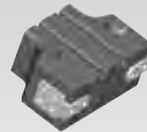
-B Bottom Jaw Mount Shown

See Page **1.150**

## Style -DPDL Parallel Gripper

### Size -088M

Style:	DPDL-088M	
Stroke:	0.75 in.	19.1 mm
Grip Force:	50 lbs.	222 N
Weight:	0.95 lbs.	0.43 Kg



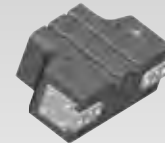
-B Bottom Jaw Mount Shown

See Page **1.152**

## Style -DPDL Parallel Gripper

### Size -125M

Style:	DPDL-125M	
Stroke:	1.00 in.	25.4 mm
Grip Force:	100 lbs.	445 N
Weight:	1.99 lbs.	0.90 Kg



-B Bottom Jaw Mount Shown

See Page **1.154**

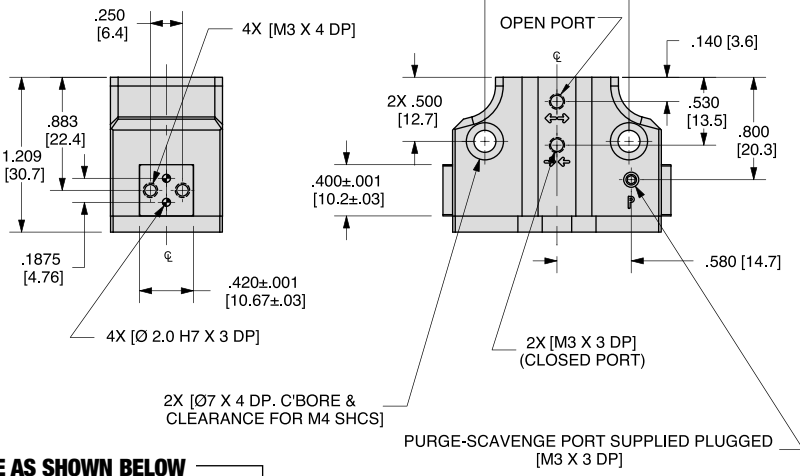
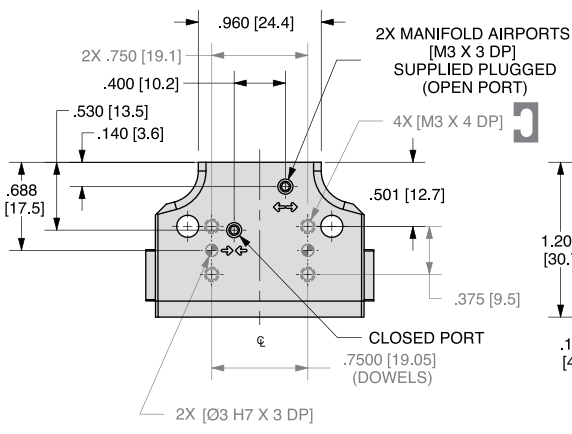
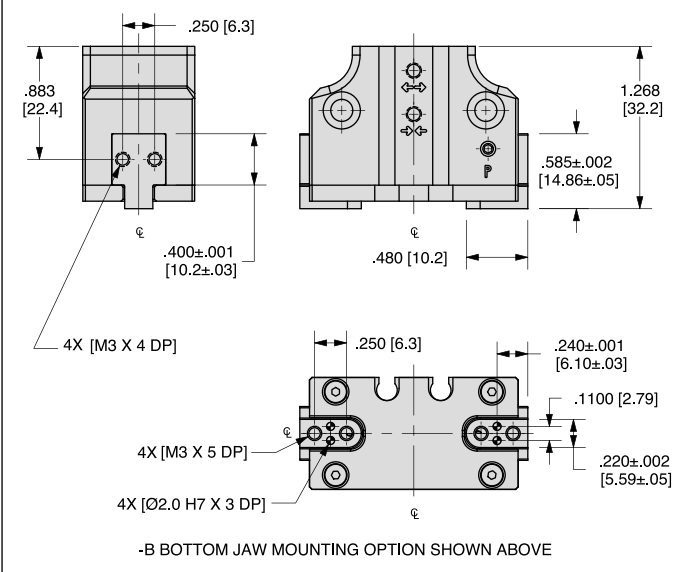
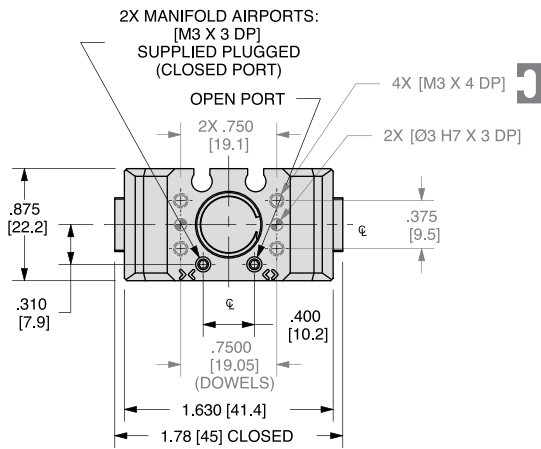




# PARALLEL GRIPPER DPDL-047M DIRECTCONNECT™ MODULAR SERIES

DPDL SERIES

1.148



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**    **STROKE**    **JAW SEAL\***    **HARDWARE**

**DPDL-047M** -  - **B** - **E** -  - **V**

**JAW MOUNTING**    **VITON® SEALS**

<b>STROKE</b>	<b>038</b>	.38" [9.5mm]
	<b>025</b>	.25" [6.4mm]
	<b>019</b>	.19" [4.8mm]
<b>JAW MOUNTING</b>	<b>B</b>	Bottom jaw mounting
	—	Leave blank for end jaw mounting (standard)
<b>JAW BOOT SEAL**</b>	<b>E</b>	Buna-N rubber bellows
<b>HARDWARE</b>	<b>S</b>	Corrosion resistant
	<b>CR</b>	Corrosion resistant assembled with clean room grade grease
	—	Leave blank for alloy hardware (standard)
<b>VITON®†</b>	<b>V</b>	High Temperature Viton® Seals

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disc.*	<b>OHSP-011</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disc.*	<b>OHSN-011</b>	<b>1 or 2</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	<b>SLKT-185</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-185V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-197</b>	<b>1</b>
Sealed Jaw Boot Replacement (1 boot, Buna-N only)	<b>SLKT-191</b>	<b>1 or 2</b>
Plumbing Fitting - M3 male to 3mm OD Tube Push-in Style	<b>PLFT-021</b>	<b>1 or 2</b>
Plumbing Fitting - M3 male to 2mm ID Tube Barb Style	<b>PLFT-022</b>	<b>1 or 2</b>

\* Sensor and cable sold separately  
 \*\* -E Jaw Boot Seal option is not available with -B Bottom Jaw Mounting option. See Accessory Mounting Data Section for -E Seal option dimensions.  
 † -E Rubber Jaw Boot seals are Buna-N (Nitrile) material even if the -V Viton® gripper option is selected. See page 1.66 for more detailed technical specifications on the -E option Jaw Boot material

### SAMPLE ORDER: DPDL-047M-038-E-CR-V

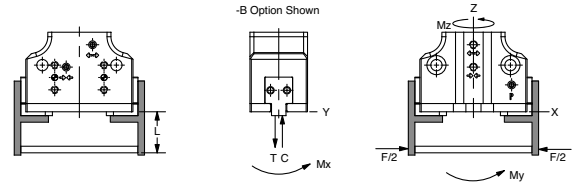
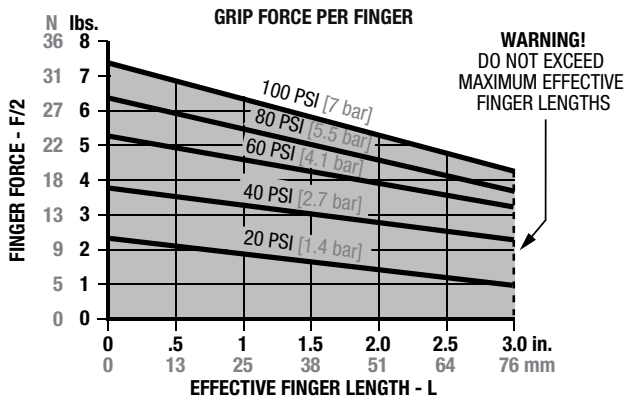
Ex: DPDL-047M Gripper, Metric, 6.4mm Stroke, Jaw Boot Seal, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

DIRECTCONNECT™





## Loading Information



### Loading Capacity<sup>†</sup>

	Static	Dynamic
<b>DPDL-047M</b>		
Maximum Tensile <b>T</b>	100 lbs. [445 N]	15 lbs. [67 N]
Maximum Compressive <b>C</b>	150 lbs. [668 N]	25 lbs. [111 N]
Maximum Moment <b>M<sub>x</sub></b>	90 in.-lbs. [10 Nm]	15 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>y</sub></b>	90 in.-lbs. [10 Nm]	15 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>z</sub></b>	90 in.-lbs. [10 Nm]	15 in.-lbs. [2 Nm]

### DPDL-047M-B (Bottom Jaw Mounting Option)

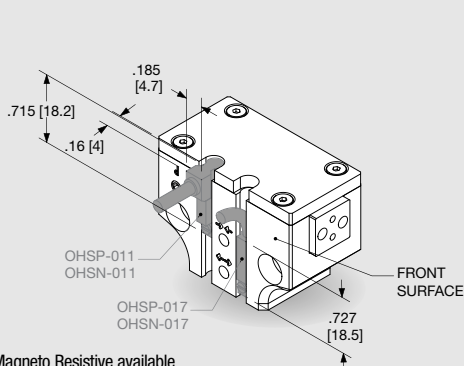
Maximum Tensile <b>T</b>	80 lbs. [356 N]	12 lbs. [53 N]
Maximum Compressive <b>C</b>	120 lbs. [534 N]	20 lbs. [89 N]
Maximum Moment <b>M<sub>x</sub></b>	72 in.-lbs. [8 Nm]	12 in.-lbs. [1 Nm]
Maximum Moment <b>M<sub>y</sub></b>	72 in.-lbs. [8 Nm]	12 in.-lbs. [1 Nm]
Maximum Moment <b>M<sub>z</sub></b>	72 in.-lbs. [8 Nm]	12 in.-lbs. [1 Nm]

<sup>†</sup>Capacities are per set of jaws and are not simultaneous

Specifications	DPDL-047M	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	14 lbs.	62 N
Maximum Stroke	0.38 in.	9.5 mm
Maximum Operating Pressure Range	20-100 psi	1.5-7 bar
Maximum Vacuum for Scavenge Port	8 in. Hg	200 mm Hg
Max Pressure for Purge Port: (Standard)	20 psi	1.4 bar
with <b>-E</b> Jaw Boot	4 psi	0.25 bar
Cylinder Bore $\emptyset$	0.469 in.	11.9 mm
Displacement	0.038 in. <sup>3</sup>	0.6 cm <sup>3</sup>

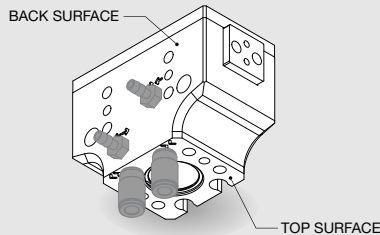
Specifications (cont.)	DPDL-047M	
Weight	0.186 lbs.	0.08 Kg
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.20 sec.	0.20 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve Required to Actuate	4-way, 2-position	

## Accessory Mounting Technical Data



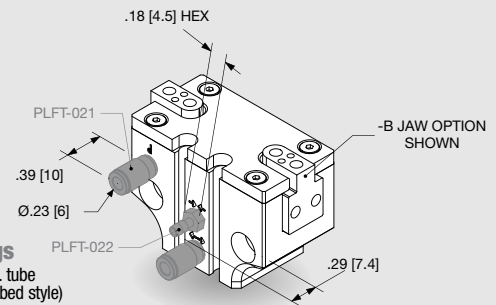
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Low profile underflush sensor version or 90° wire exit sensor version
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



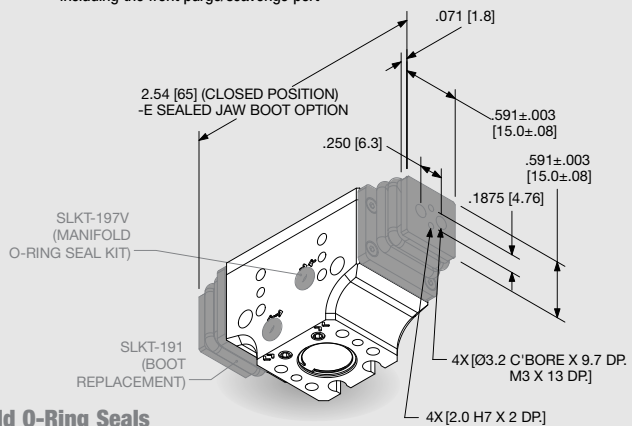
### Multiple Air Port Locations

- 3 standard M3 air port locations (front, top, and back surface)
- Top and Back air ports are plugged as standard



### Plumbing Fittings

- M3 fitting for 2mm I.D. tube (PLFT-022 straight barbed style)
- M3 fitting for 3mm O.D. tube (PLFT-021 straight tube push-in style)
- M3 fittings can be used in any airport including the front purge/scavenge port



### Manifold O-Ring Seals

- Can be used to seal front, top, or back air ports and front purge/scavenge port
- Seals in Manifold kit are Viton®
- O-Ring C'bores in customer's mounting plate must be:  $\emptyset$ .215 [Ø5.5] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs, & wrenches needed

### Sealed Jaw Boot Option

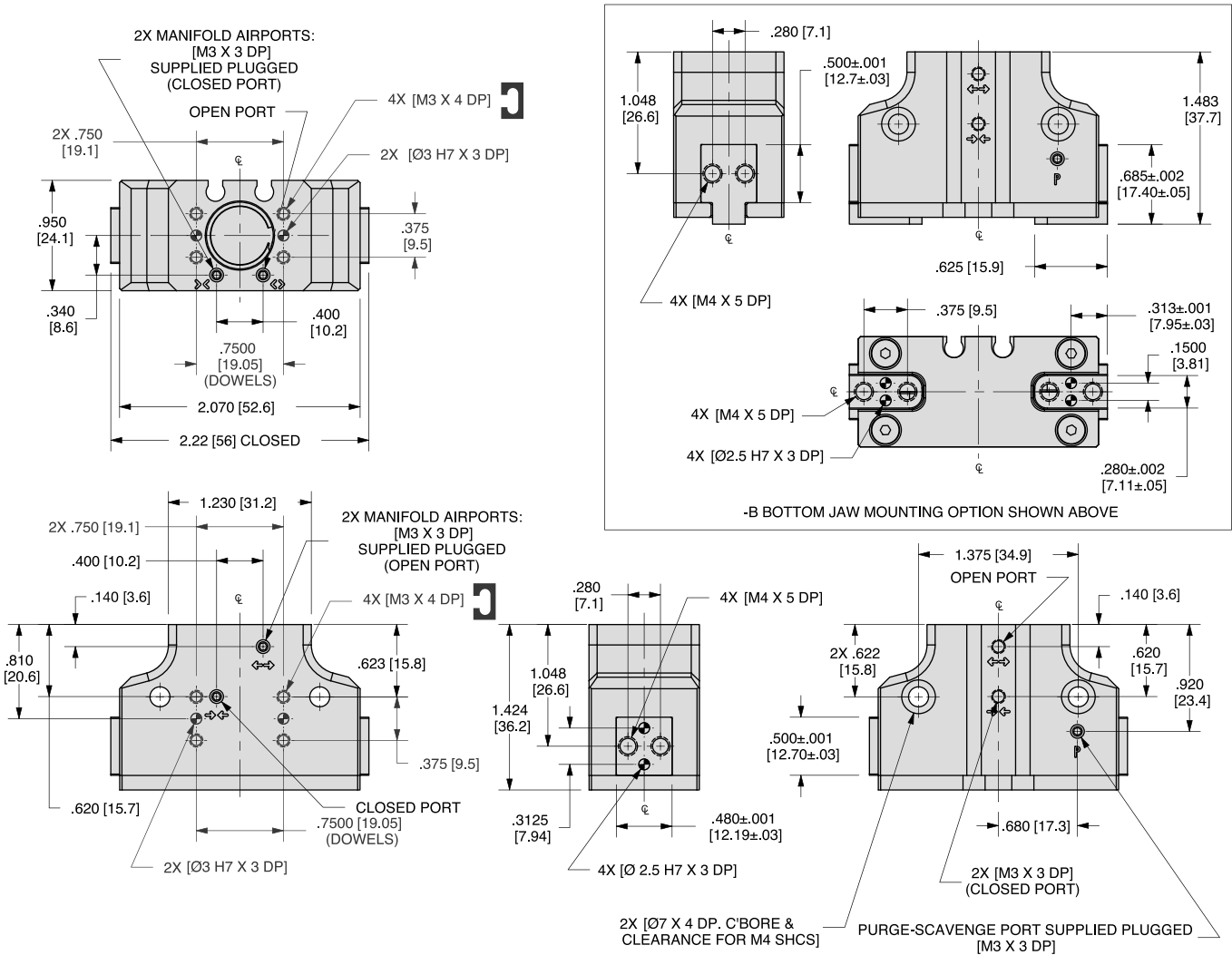
- Can be used to seal jaws in harsh environments
- Boot replacement available as an accessory
- Boot material is Buna-N (Nitrile) only



# PARALLEL GRIPPER DPDL-056M DIRECTCONNECT™ MODULAR SERIES

DPDL SERIES

1.150



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

BASIC MODEL STROKE JAW SEAL\* HARDWARE

**DPDL-056M** -  - **B** - **E** -  - **V**

JAW MOUNTING VITON® SEALS

**STROKE**  
**050** .50" [12.7mm]  
**038** .38" [9.5mm]  
**025** .25" [6.4mm]

**JAW MOUNTING**  
**B** Bottom jaw mounting  
 Leave blank for end jaw mounting (standard)

**JAW BOOT SEAL\*\***  
**E** Buna-N rubber bellows

**HARDWARE**  
**S** Corrosion resistant  
**CR** Corrosion resistant assembled with clean room grade grease  
 Leave blank for alloy hardware (standard)

**VITON®†**  
**V** High Temperature Viton® Seals

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disc.*	<b>OHSP-011</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disc.*	<b>OHSN-011</b>	<b>1 or 2</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	<b>SLKT-186</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-186V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-197V</b>	<b>1</b>
Sealed Jaw Boot Replacement (1 boot, Buna-N only)	<b>SLKT-192</b>	<b>1 or 2</b>
Plumbing Fitting - M3 male to 3mm OD Tube Push-in Style	<b>PLFT-021</b>	<b>1 or 2</b>
Plumbing Fitting - M3 male to 2mm ID Tube Barb Style	<b>PLFT-022</b>	<b>1 or 2</b>

\* Sensor and cable sold separately

\*\* -E Jaw Boot Seal option is not available with -B Bottom Jaw Mounting option.

See Accessory Mounting Data Section for -E Seal option dimensions.

† -E Rubber Jaw Boot seals are Buna-N (Nitrile) material even if the -V Viton® gripper option is selected. See page 1.66 for more detailed technical specifications on the -E option Jaw Boot material

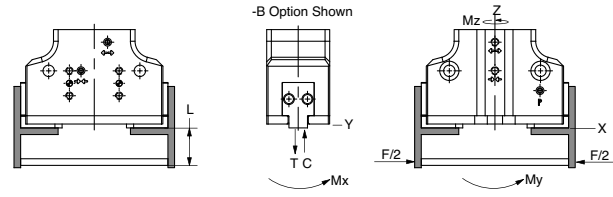
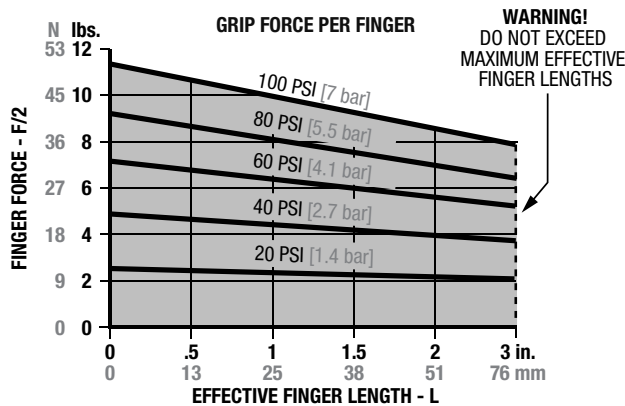
### SAMPLE ORDER: DPDL-056M-038-E-CR-V

Ex: DPDL-056M Gripper, Metric, 12.7mm Stroke, Jaw Boot Seal, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

DIRECTCONNECT™



## Loading Information



### Loading Capacity<sup>†</sup>

	Static	Dynamic
<b>DPDL-056M</b>		
Maximum Tensile <b>T</b>	125 lbs. [556 N]	25 lbs. [111 N]
Maximum Compressive <b>C</b>	250 lbs. [1113 N]	25 lbs. [111 N]
Maximum Moment <b>M<sub>x</sub></b>	115 in.-lbs. [13 Nm]	20 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>y</sub></b>	115 in.-lbs. [13 Nm]	20 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>z</sub></b>	115 in.-lbs. [13 Nm]	20 in.-lbs. [2 Nm]

### DPDL-056M-B (Bottom Jaw Mounting Option)

Maximum Tensile <b>T</b>	100 lbs. [445 N]	20 lbs. [89 N]
Maximum Compressive <b>C</b>	200 lbs. [890 N]	20 lbs. [89 N]
Maximum Moment <b>M<sub>x</sub></b>	92 in.-lbs. [10 Nm]	16 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>y</sub></b>	92 in.-lbs. [10 Nm]	16 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>z</sub></b>	92 in.-lbs. [10 Nm]	16 in.-lbs. [2 Nm]

<sup>†</sup>Capacities are per set of jaws and are not simultaneous

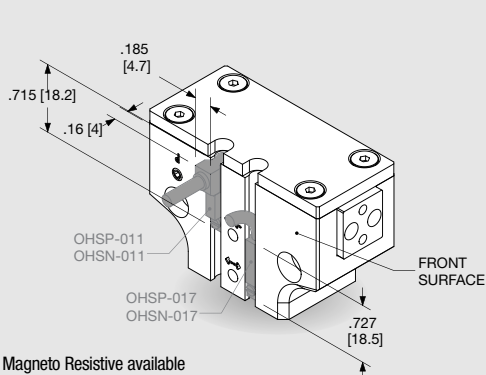
### Specifications DPDL-056M

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	22 lbs. — 98 N
Maximum Stroke	0.50 in. — 12.7 mm
Maximum Operating Pressure Range	20-100 psi 1.5-7 bar
Maximum Vacuum for Scavenge Port	8 in. Hg 200 mm Hg
Max Pressure for Purge Port: (Standard)	20 psi 1.4 bar
with <b>-E</b> Jaw Boot	4 psi 0.25 bar
Cylinder Bore $\emptyset$	0.563 in. 14.3 mm
Displacement	0.074 in. <sup>3</sup> 1.2 cm <sup>3</sup>

### Specifications (cont.) DPDL-056M

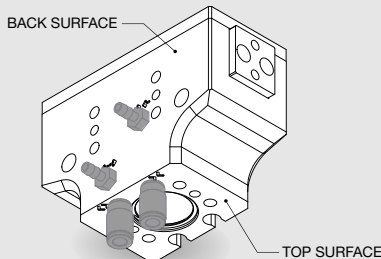
Weight	0.315 lbs.	0.14 Kg
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.25 sec.	0.25 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve Required to Actuate	4-way, 2-position	

## Accessory Mounting Technical Data



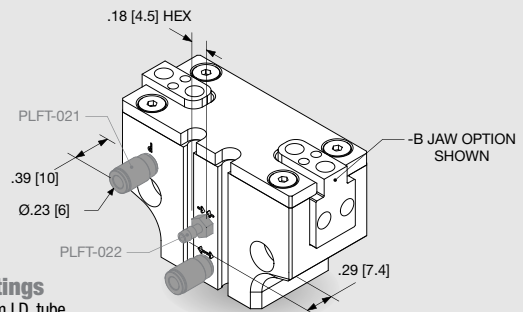
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Low profile underflush sensor version or 90° wire exit sensor version
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



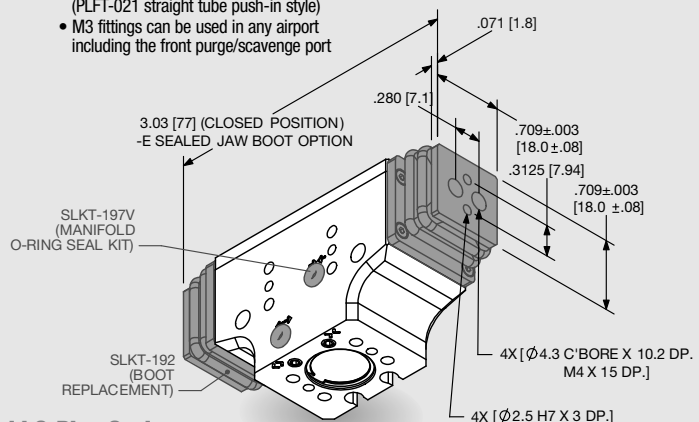
### Multiple Air Port Locations

- 3 standard M3 air port locations (front, top, and back surface)
- Top and Back air ports are plugged as standard



### Plumbing Fittings

- M3 fitting for 2mm I.D. tube (PLFT-022 straight barbed style)
- M3 fitting for 3mm O.D. tube (PLFT-021 straight tube push-in style)
- M3 fittings can be used in any airport including the front purge/scavenge port



### Manifold O-Ring Seals

- Can be used to seal front, top, or back air ports and front purge/scavenge port
- Seals in Manifold kit are Viton®
- O-Ring C'bores in customer's mounting plate must be:  $\emptyset$ .215 [05.5] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs, & wrenches needed

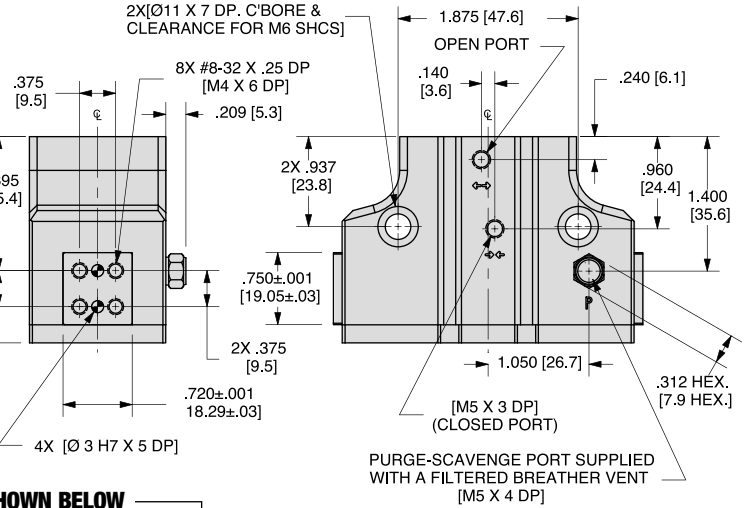
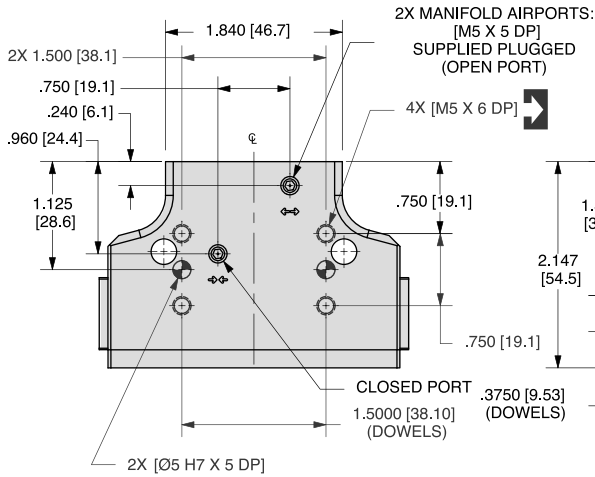
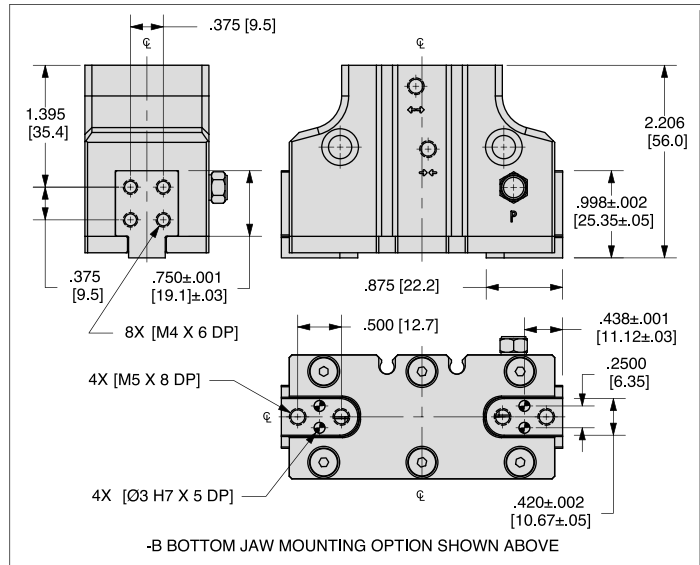
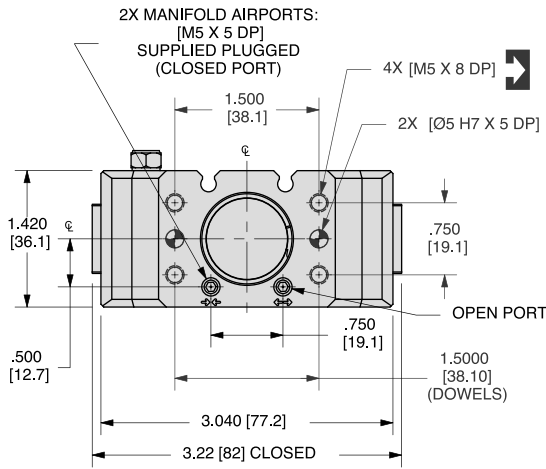
### Sealed Jaw Boot Option

- Can be used to seal jaws in harsh environments
- Boot replacement available as an accessory
- Boot material is Buna-N (Nitrile) only

# PARALLEL GRIPPER DPDL-088M DIRECTCONNECT™ MODULAR SERIES

DPDL SERIES

1.152

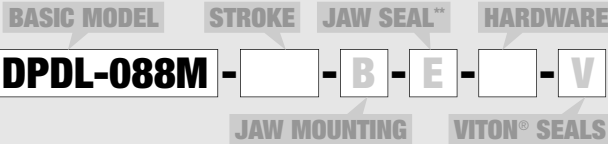


UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 ± .01 0.000 ± .005 0.0000 ± .0005	[0.] ± [.25] [0.0] ± [.13] [0.00] ± [.013]

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)



<b>STROKE</b>	<b>075</b>	.75" [19.1mm]
	<b>050</b>	.50" [12.7mm]
	<b>038</b>	.38" [9.5mm]
<b>JAW MOUNTING</b>	<b>B</b>	Bottom jaw mounting
	—	Leave blank for end jaw mounting (standard)
<b>JAW BOOT SEAL**</b>	—	Buna-N rubber bellows
<b>HARDWARE</b>	<b>S</b>	Corrosion resistant
	<b>CR</b>	Corrosion resistant assembled with clean room grade grease
	—	Leave blank for alloy hardware (standard)
<b>VITON®<sup>1</sup></b>	<b>V</b>	High Temperature Viton® Seals

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disc.*	<b>OHSP-011</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disc.*	<b>OHSN-011</b>	<b>1 or 2</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	<b>SLKT-187</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-187V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-199V</b>	<b>1</b>
Sealed Jaw Boot Replacement (1 boot, Buna-N only)	<b>SLKT-193</b>	<b>1 or 2</b>
Adjustable Flow Control M5 Elbow - 6mm OD Push-in (Metric)	<b>VLVF-008</b>	<b>1 or 2</b>
Fail Safe Valve M5	<b>OFVSU-004</b>	<b>1 or 2</b>

\* Sensor and cable sold separately

\*\* -E Jaw Boot Seal option is not available with -B Bottom Jaw Mounting option.

See Accessory Mounting Data Section for -E Seal option dimensions.

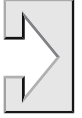
† -E Rubber Jaw Boot seals are Buna-N (Nitrile) material even if the -V Viton® gripper option is selected.

See page 1.66 for more detailed technical specifications on the -E option Jaw Boot material

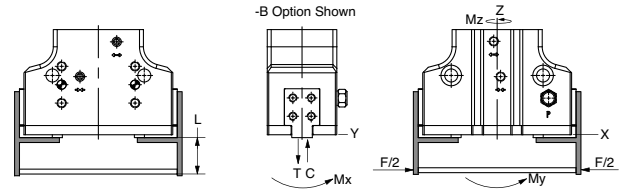
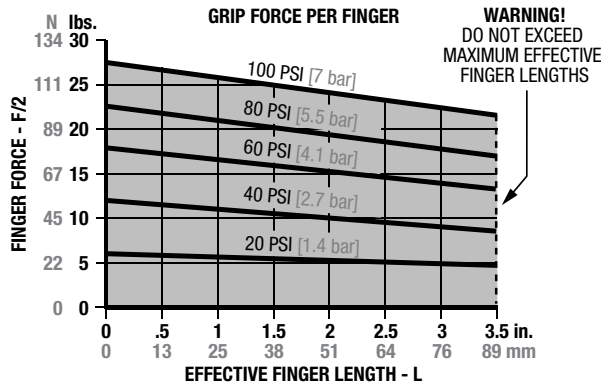
### SAMPLE ORDER: DPDL-088M-050-E-CR-V

Ex: DPDL-088M Gripper, Metric, 12.7mm Stroke, Jaw Boot Seal, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

DIRECTCONNECT™



## Loading Information



### Loading Capacity<sup>†</sup>

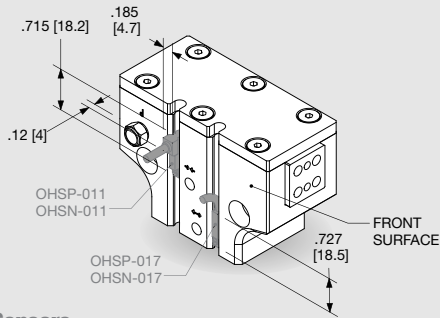
	Static	Dynamic
<b>DPDL-088M</b>		
Maximum Tensile <b>T</b>	350 lbs. [1558 N]	40 lbs. [178 N]
Maximum Compressive <b>C</b>	650 lbs. [2893 N]	40 lbs. [178 N]
Maximum Moment <b>M<sub>x</sub></b>	250 in.-lbs. [28 Nm]	40 in.-lbs. [5 Nm]
Maximum Moment <b>M<sub>y</sub></b>	250 in.-lbs. [28 Nm]	40 in.-lbs. [5 Nm]
Maximum Moment <b>M<sub>z</sub></b>	250 in.-lbs. [28 Nm]	40 in.-lbs. [5 Nm]
<b>DPDL-088M-B (Bottom Jaw Mounting Option)</b>		
Maximum Tensile <b>T</b>	280 lbs. [1246 N]	32 lbs. [142 N]
Maximum Compressive <b>C</b>	520 lbs. [2314 N]	32 lbs. [142 N]
Maximum Moment <b>M<sub>x</sub></b>	200 in.-lbs. [23 Nm]	32 in.-lbs. [4 Nm]
Maximum Moment <b>M<sub>y</sub></b>	200 in.-lbs. [23 Nm]	32 in.-lbs. [4 Nm]
Maximum Moment <b>M<sub>z</sub></b>	200 in.-lbs. [23 Nm]	32 in.-lbs. [4 Nm]

<sup>†</sup>Capacities are per set of jaws and are not simultaneous

Specifications	DPDL-088M	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	50 lbs.	222 N
Maximum Stroke	0.75 in.	19.1 mm
Maximum Operating Pressure Range	20-100 psi	1.5-7 bar
Maximum Vacuum for Scavenge Port	8 in. Hg	200 mm Hg
Max Pressure for Purge Port: (Standard)	20 psi	1.4 bar
with <b>-E</b> Jaw Boot	4 psi	0.25 bar
Cylinder Bore $\emptyset$	0.875 in.	22.2 mm
Displacement	0.269 in. <sup>3</sup>	4.4 cm <sup>3</sup>

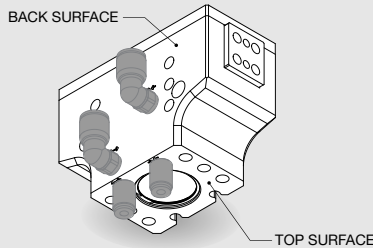
Specifications (cont.)	DPDL-088M	
Weight	0.95 lbs.	0.43 Kg
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.30 sec.	0.30 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve Required to Actuate	4-way, 2-position	

## Accessory Mounting Technical Data



### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Low profile underflush sensor version or 90° wire exit sensor version
- Available with 2M or 5M Quick Disconnect mating cable (order separately)

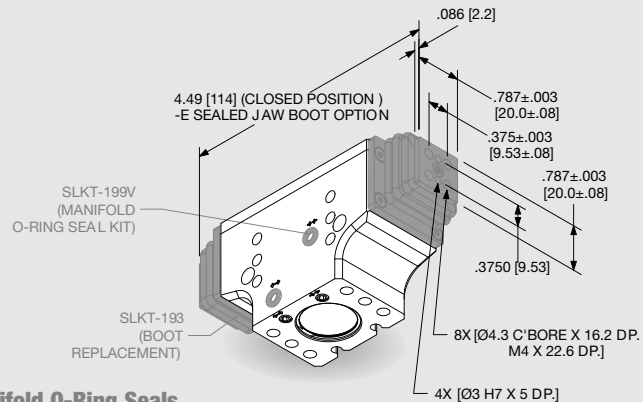
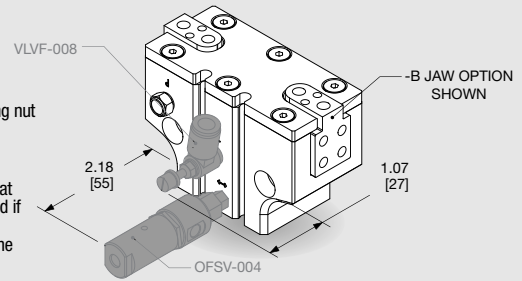


### Multiple Air Port Locations

- 3 standard M5 air port locations (front, top, and back surface)
- Top and Back air ports are plugged as standard

### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time;
  - Available for 6mm O.D. tubing
- Failsafe valve:
  - For applications where it is critical that the part being gripped not be dropped if air pressure is lost;
  - Can mount directly to gripper or in-line with plumbing to gripper
  - M5 air port
- Consult factory for additional plumbing fittings



### Manifold O-Ring Seals

- Can be used to seal front, top, or back air ports and front purge/scavenge port
- Seals in Manifold kit are Viton®
- O-Ring C'bores in customer's mounting plate must be:  $\emptyset$ .290 [Ø7.4] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs, & wrenches needed

### Sealed Jaw Boot Option

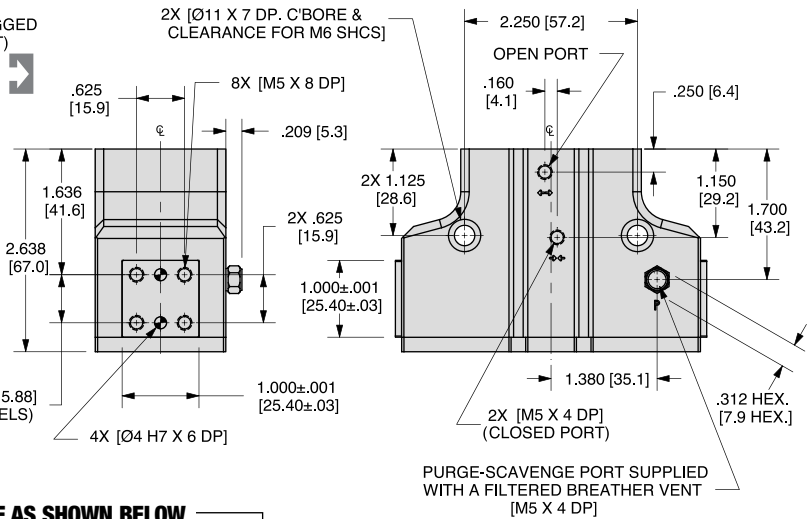
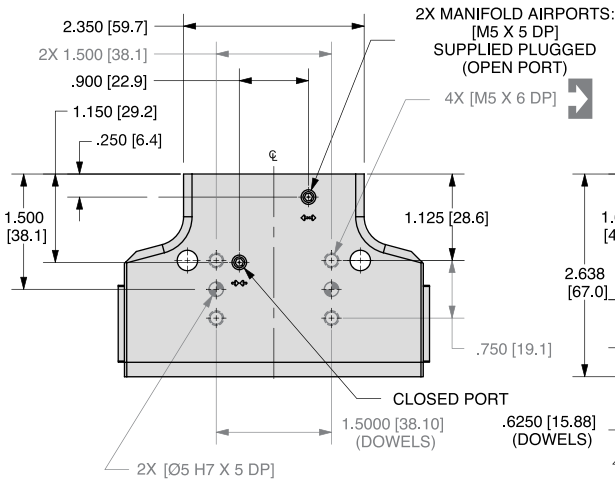
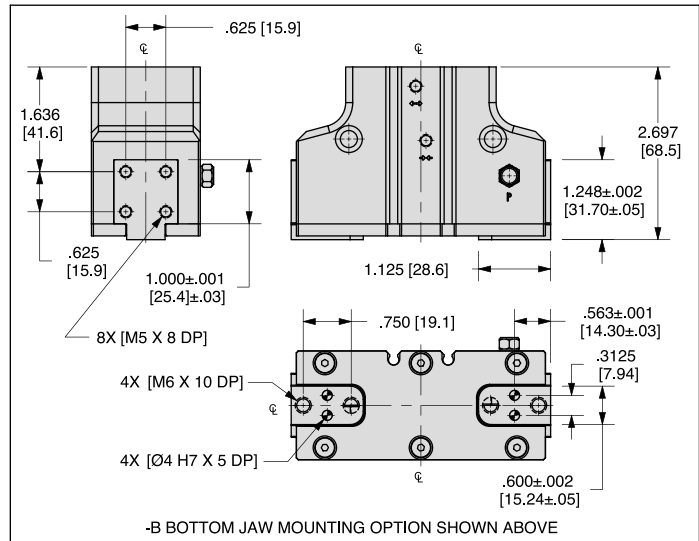
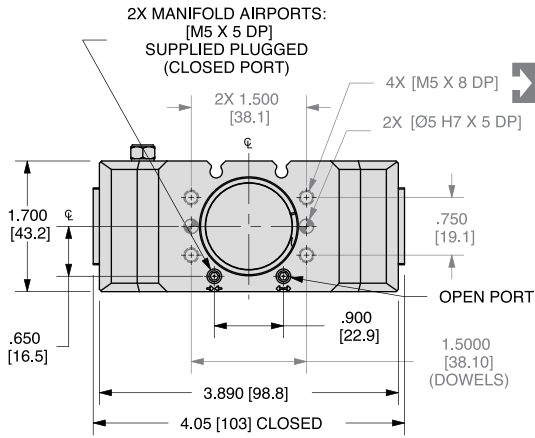
- Can be used to seal jaws in harsh environments
- Boot replacement available as an accessory
- Boot material is Buna-N (Nitrile) only



# PARALLEL GRIPPER DPDL-125M DIRECTCONNECT™ MODULAR SERIES

DPDL SERIES

1.154



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 ± .01 0.000 ± .005 0.0000 ± .0005	[0.] ± [.25] [0.0] ± [.13] [0.00] ± [.013]

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**   **STROKE**   **JAW SEAL\***   **HARDWARE**

**DPDL-125M** - [ ] - **B** - **E** - [ ] - **V**

**JAW MOUNTING**   **VITON® SEALS**

**STROKE**   **100** 1.00" [25.4mm]  
**075** .75" [19.1mm]  
**050** .50" [12.7mm]

**JAW MOUNTING**   **B** Bottom jaw mounting  
Leave blank for end jaw mounting (standard)

**JAW BOOT SEAL\*\***   **—** Buna-N rubber bellows

**HARDWARE**   **S** Corrosion resistant  
**CR** Corrosion resistant assembled with clean room grade grease  
Leave blank for alloy hardware (standard)

**VITON®<sup>1</sup>**   **V** High Temperature Viton® Seals

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disc.*	<b>OHSP-011</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disc.*	<b>OHSN-011</b>	<b>1 or 2</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	<b>SLKT-188</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-188V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-199V</b>	<b>1</b>
Sealed Jaw Boot Replacement (1 boot, Buna-N only)	<b>SLKT-194</b>	<b>1 or 2</b>
Adj. Flow Control M5 Elbow - 6mm OD Push-in (Metric)	<b>VLVF-008</b>	<b>1 or 2</b>
Fail Safe Valve M5	<b>OFSV-004</b>	<b>1 or 2</b>

\* Sensor and cable sold separately

\*\* -E Jaw Boot Seal option is not available with -B Bottom Jaw Mounting option.

See Accessory Mounting Data Section for -E Seal option dimensions.

† -E Rubber Jaw Boot seals are Buna-N (Nitrile) material even if the -V Viton® gripper option is selected. See page 1.66 for more detailed technical specifications on the -E option Jaw Boot material

### SAMPLE ORDER: DPDL-125M-075-E-CR-V

Ex: DPDL-125M Gripper, Metric, 25.4mm Stroke, Jaw Boot Seal, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

DIRECTCONNECT™

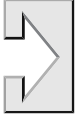




# PARALLEL GRIPPER DPDL-125M DIRECTCONNECT™ MODULAR SERIES

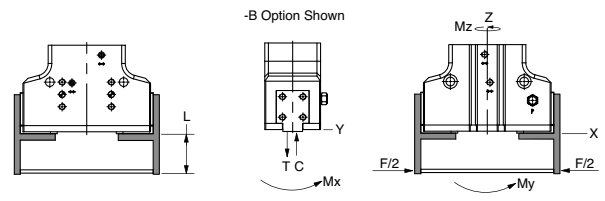
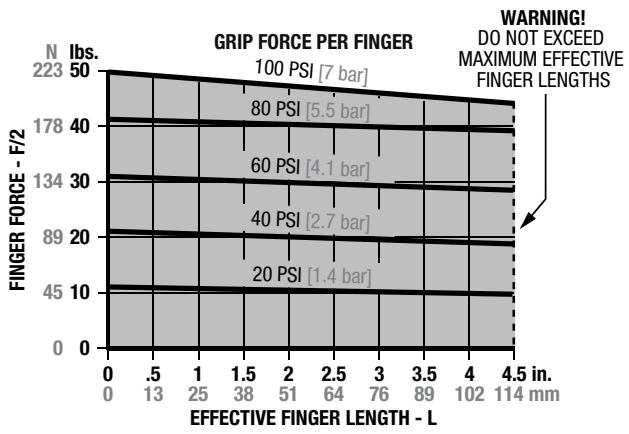
DPDL SERIES

1.155



DIRECTCONNECT™

## Loading Information



### Loading Capacity<sup>†</sup>

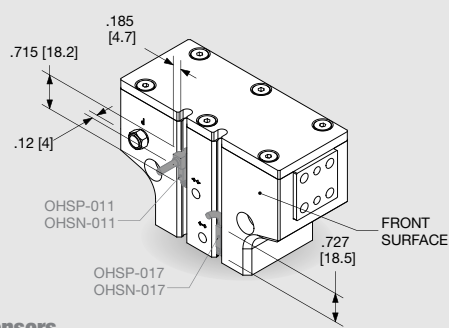
	Static	Dynamic
<b>DPDL-125M</b>		
Maximum Tensile <b>T</b>	675 lbs. [3004 N]	90 lbs. [401 N]
Maximum Compressive <b>C</b>	1300 lbs. [5785 N]	90 lbs. [401 N]
Maximum Moment <b>M<sub>x</sub></b>	650 in.-lbs. [73 Nm]	110 in.-lbs. [12 Nm]
Maximum Moment <b>M<sub>y</sub></b>	650 in.-lbs. [73 Nm]	110 in.-lbs. [12 Nm]
Maximum Moment <b>M<sub>z</sub></b>	650 in.-lbs. [73 Nm]	110 in.-lbs. [12 Nm]
<b>DPDL-125M-B (Bottom Jaw Mounting Option)</b>		
Maximum Tensile <b>T</b>	540 lbs. [2403 N]	72 lbs. [320 N]
Maximum Compressive <b>C</b>	1040 lbs. [4628 N]	72 lbs. [320 N]
Maximum Moment <b>M<sub>x</sub></b>	520 in.-lbs. [59 Nm]	88 in.-lbs. [10 Nm]
Maximum Moment <b>M<sub>y</sub></b>	520 in.-lbs. [59 Nm]	88 in.-lbs. [10 Nm]
Maximum Moment <b>M<sub>z</sub></b>	520 in.-lbs. [59 Nm]	88 in.-lbs. [10 Nm]

<sup>†</sup>Capacities are per set of jaws and are not simultaneous

Specifications	DPDL-125M	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	100 lbs.	445 N
Maximum Stroke	1.00 in.	25.4 mm
Maximum Operating Pressure Range	20-100 psi	1.5-7 bar
Maximum Vacuum for Scavenge Port	8 in. Hg	200 mm Hg
Max Pressure for Purge Port: (Standard)	20 psi	1.4 bar
with <b>-E</b> Jaw Boot	4 psi	0.25 bar
Cylinder Bore $\varnothing$	1.250 in.	31.8 mm
Displacement	0.730 in <sup>3</sup>	12.0 cm <sup>3</sup>

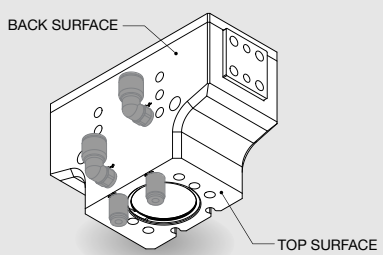
Specifications (cont.)	DPDL-125M	
Weight	1.99 lbs.	0.90 Kg
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.50 sec.	0.50 sec.
Accuracy	±0.003 in.	±0.08 mm
Repeatability	±0.001 in.	±0.03 mm
Valve Required to Actuate	4-way, 2-position	

## Accessory Mounting Technical Data



### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Low profile underflush sensor version or 90° wire exit sensor version
- Available with 2M or 5M Quick Disconnect mating cable (order separately)

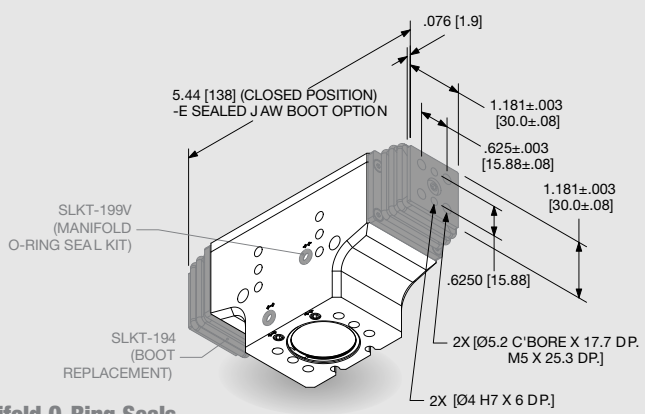
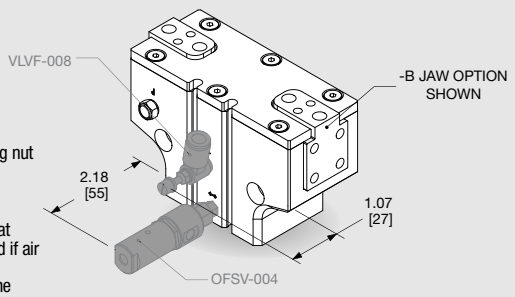


### Multiple Air Port Locations

- 3 standard M5 air port locations (front, top, and back surface)
- Top and Back air ports are plugged as standard

### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time;
  - Available for 6mm O.D. tubing
- Failsafe valve:
  - For applications where it is critical that the part being gripped not be dropped if air pressure is lost
  - Can mount directly to gripper or in-line with plumbing to gripper
  - M5 air port
- Consult factory for additional plumbing fittings



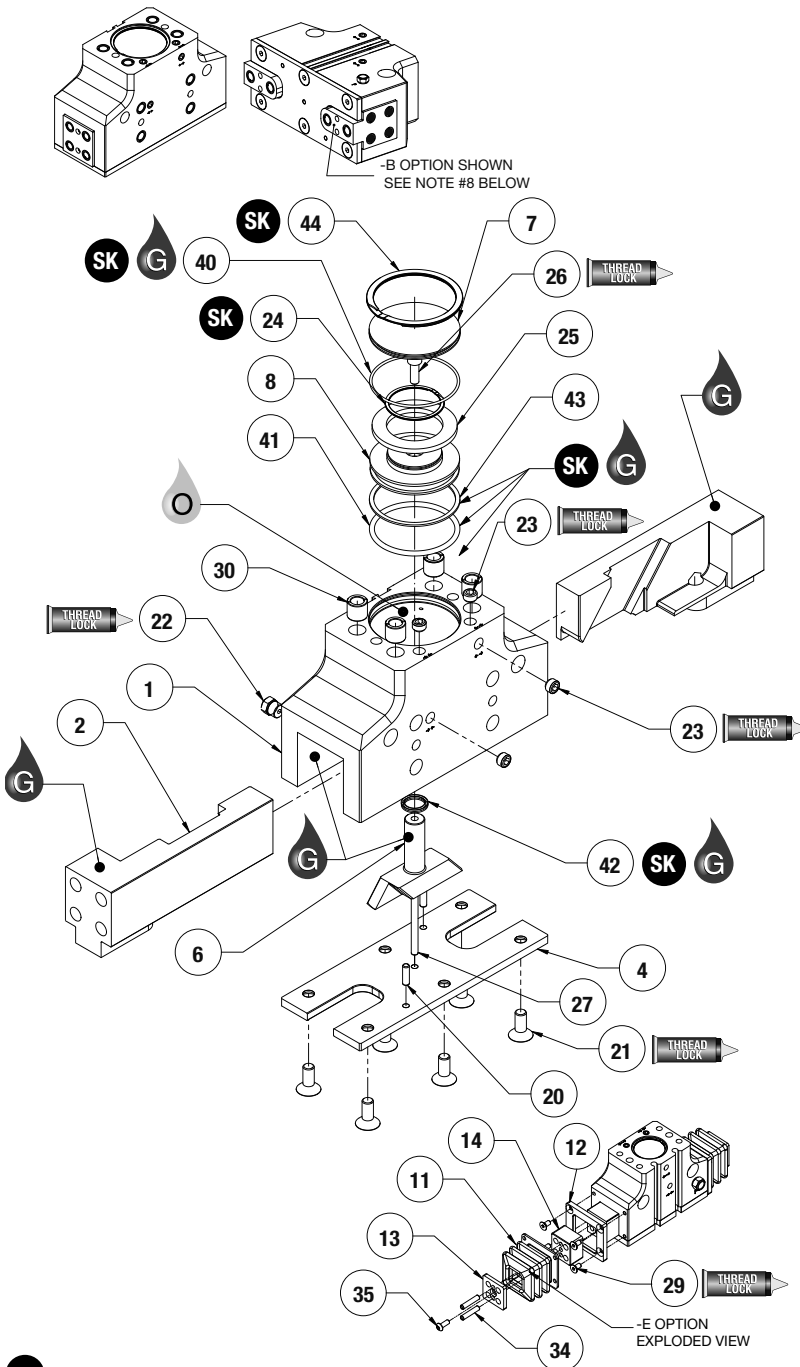
### Manifold O-Ring Seals

- Can be used to seal front, top, or back air ports and front purge/scavenge port
- Seals in Manifold kit are Viton®
- O-Ring C'bores in customer's mounting plate must be:  $\varnothing$ 2.90 [Ø7.4] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs, & wrenches needed

### Sealed Jaw Boot Option

- Can be used to seal jaws in harsh environments
- Boot replacement available as an accessory
- Boot material is Buna-N (Nitrile) only

# DPDL SERIES EXPLODED VIEW



Item	Qty	Name
01	1	Body
02	2	Jaw
04	1	Bottom Plate
06*	1	Shaft Wedge
07	1	Cap
08	1	Piston
11	2	Boot
12	2	Boot Flange
13	2	Boot Spacer Cap
14	2	Boot Spacer
20	2	Bottom Plate Locating Dowels
21	6	Bottom Plate Screws
22*	1	Breather Vent Plug (Purge)
23	4	Manifold Port Plugs
24	1	Piston Mag. Ret. Ring
25	1	Piston Magnet
26	1	Piston Mounting Screw
27	1	Shaft guide dowel pin
29	8	Boot Flange Mounting Screws
34	4	Boot Spacer Dowel Pins
35*	2	Boot Spacer Mtg Screws
40	1	Cap O-ring
41	1	Piston O-ring
42	1	U-cup
44	1	Cap Ret. Ring

- NOTES:\***
- 1) Contact the Destaco-Robohand Sales Department for a complete spare parts list with order numbers and prices.
  - 4) Item #22 Breather vent plug is a set screw plug for sizes -047 & -056.
  - 7) Item #35 is for sizes -088 thru -125 only.
  - 8) End-of-jaw mounting holes on -B option are supplied plugged to prevent debris from entering the gripper. These set screws can be removed for customer finger mounting. It is recommend that all unused holes be plugged for the same reason.

**SK Seal Repair Kit Order #'s  
See Product Data Sheets**

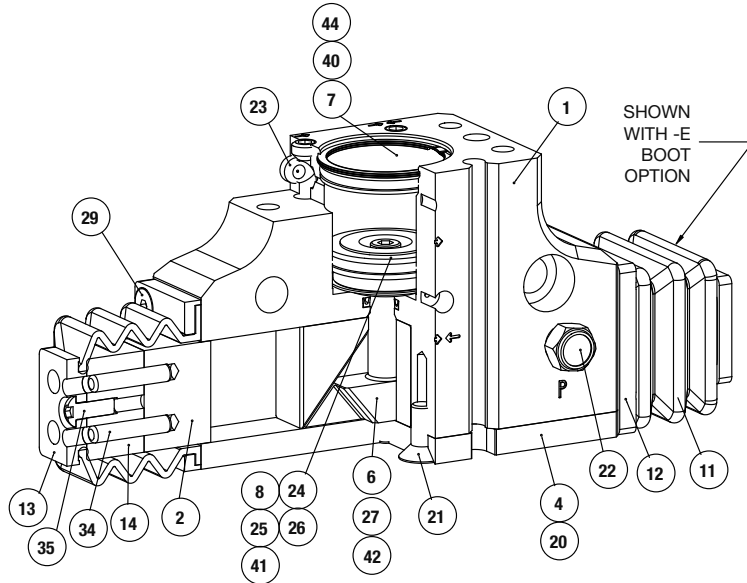
**Assembly Procedure:**

- 1) Install #23 airport plugs with thread-locker.
- 2) Press pins #20 & #27 into plate #4.
- 3) Install #22 vent or plug with thread-locker.
- 4) Mount magnet #25 to piston #8 with retaining ring #24.
- 5) Lubricate body #1 (jaw cavity & bores).
- 6) Lubricate & install all seals into body, piston, & cap.
- 7) Sub-assemble the #2 jaws on either side of the #6 shaft wedge with lubrication.
- 8) Insert the jaws and shaft wedge sub-assembly into body.

- 9) Insert piston #8 into the body bore and fasten it to the shaft wedge with Mounting screw # 26 using thread locker.
- 10) Install cap #7 into body with retaining ring #44.
- 11) Insert #4 bottom plate with pressed-in pins onto the body and fasten with #21 screws with thread-locker.

**-E Option Assembly Procedure:**

- 1) Insert pins #34 into the jaw dowel pin holes.
- 2) Place #14 boot spacer over pins
- 3) Fasten boot #11 and flange #12 to body #1 with #29 screws.
- 4) Fasten the spacer cap #13 to the spacer #14 with #35 screw.

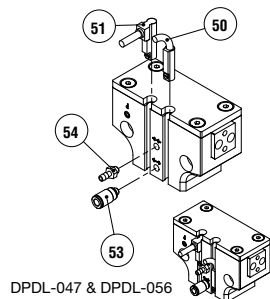


Item	Qty	Name
01	1	Body
02	2	Jaw
04	1	Bottom Plate
06*	1	Shaft Wedge
07	1	Cap
08	1	Piston
11	2	Boot
12	2	Boot Flange
13	2	Boot Spacer Cap
14	2	Boot Spacer
20	2	Bottom Plate Locating Dowels
21	6	Bottom Plate Screws
22*	1	Breather Vent Plug (Purge)
23	4	Manifold Port Plugs
24	1	Piston Mag. Ret. Ring
25	1	Piston Magnet
26	1	Piston Mounting Screw
27	1	Shaft guide dowel pin
29	8	Boot Flange Mounting Screws
34	4	Boot Spacer Dowel Pins
35*	2	Boot Spacer Mtg Screws
40	1	Cap O-ring
41	1	Piston O-ring
42	1	U-cup
44	1	Cap Ret. Ring

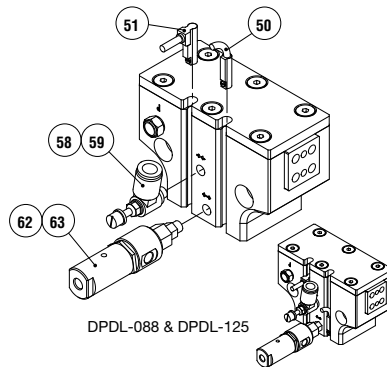
**NOTES:\***

- 1) Contact the Destaco-Robohand Sales Department for a complete spare parts list with order numbers and prices.
- 2) Item #22 breather vent plug is a set screw plug for sizes -047 & -056.

## Accessory Installation & Adjustment Instructions



DPDL-047 & DPDL-056



DPDL-088 & DPDL-125

**Magneto-Resistive Sensors:**

- 1) Insert sensors #50 or #51 from either end of the profile slots and set the sensor with the integrated screw.

**Plumbing Fittings:**

- 1) M3 plumbing fittings #53 & #54 can be used in any airport or purge/scavenge port.
- 2) Flow controls can be inserted and used in any open or closed airport to help control the stroke actuation.
- 3) Fail-safe valve can be used in either the open or closed airport to help limit the possibility of dropping the part if air pressure is lost.

Item	Qty	Name
50	1 or 2	Magneto Resistive Sensor (short barrel) w/Qk. Disconnect
51	1 or 2	Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect
53	1,2, or 3	Plumbing Fitting - M3 male to 3mm OD Push-in Style
54	1,2, or 3	Plumbing Fitting - M3 male to 2mm ID Barb Style
59	1 or 2	Adj. Flow Control (Metric) M5 elbow - 6mm OD Push-in Style
63	1	Fail Safe Valve (Metric) M5

**NOTE:** Other Plumbing Fittings are available for each size - Consult Factory

# Parallel Grippers - Long Stroke Series

- **Compact and robust design**

This gripper is designed for use in confined spaces, combining long strokes with the high gripping force provided by two simultaneously acting pistons.

- **For long finger applications:**

Jaws are supported throughout the length of the body, enabling long fingers.

- **Multipurpose gripper:**

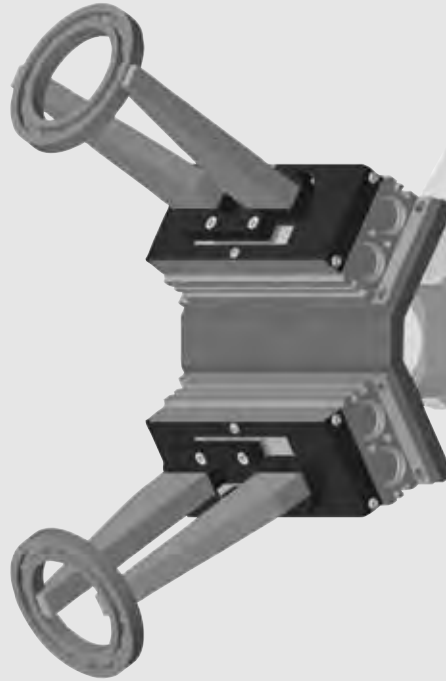
A wide range of options and accessories (safety springs, in-line jaws, magneto resistive or inductive sensors) allow these grippers to be used in a number of applications.

- **Harsh environments:**

Enclosed, shielded design repels chips and other particulate from internal drive mechanism.

- **Spring assist, spring return:**

Can be used as failsafe, single acting spring return, or double acting spring assist.

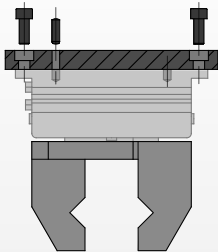


**NO  
ADAPTER  
PLATES!**

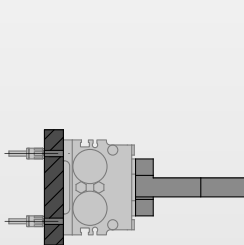
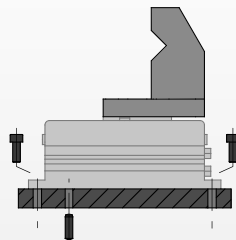
## Mounting Information:

### Grippers can be mounted & operated in any orientation

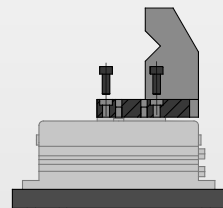
The gripper is protected from falling debris when it is mounted and operated upside down.



Gripper locates from the top with 2 dowel pins and can be assembled with 4 screws from the top or bottom.



Gripper can be operated with rear inlets (manifold).



Fingers are located on jaws with 2 dowel pins and assembled with 2 screws.

## Technical Specifications:

### Pneumatic Specifications

Pressure Operating Range:

Standard  
with **-R** Spring Option

Cylinder Type

Dynamic Seals

Valve Required to Operate

### Imperial

30-100 psi

60-100 psi

Double Acting

Internally Lubricated Buna-N

4-way, 2-position for Double Acting  
or 3-way, 2-position for Single Acting

### Metric

2-7 bar

4-7 bar

### Air Quality Requirements

Air Filtration

Air Lubrication

Air Humidity

40 Micron or Better

Not Necessary\*

Low Moisture Content (dry)

### Temperature Operating Range

Buna-N Seals (Standard)

-4°~180° F

-20°~80° C

### Maintenance Specifications<sup>†</sup>

Expected Life

Normal Application

w/ Preventative Maintenance

Field Repairable

Seal Repair Kits Available

5 million cycles

10+ million cycles\*

Yes

Yes

\*Addition of lubrication will greatly increase service life

<sup>†</sup>See Maintenance Section

## Product Features

### Quality Components

Made of aluminum alloy with Teflon™ impregnated hard coat anodize. The device's main components are made of heat treated steel.

### Shielded Design

Gripper body is shielded to repel chips and other particulate from internal drive mechanism.

### In-Line Jaws

Optional In-Line Jaws for simplified finger design: 2 interfaces can be fixed on to the jaws.

### DIRECTCONNECT™ Mounting Patterns

DIRECTCONNECT™ mounting surface on back of body

### Air Ports

Either lateral on 2 sides (couplings) or at the rear (manifold sealing).

### Spring Assist

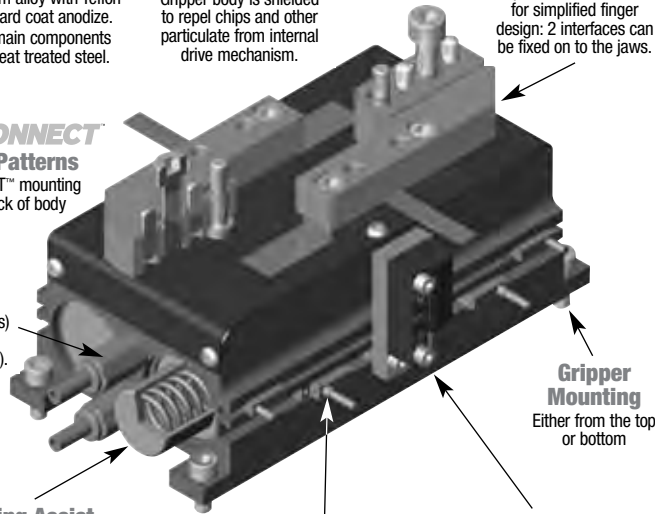
Option (-R) to restrain the component, should the air supply fail or to use the gripper in single acting mode by clamping on the shaft or the bore.

### Magnetic Sensor

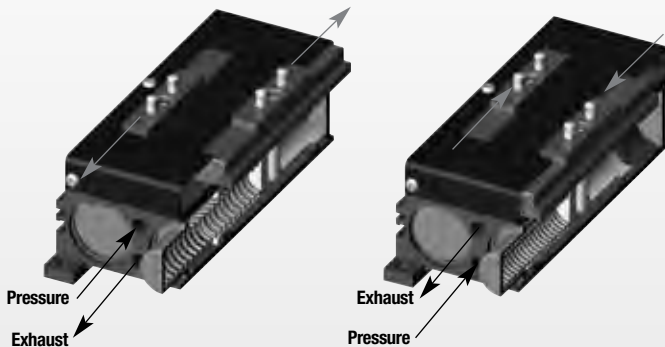
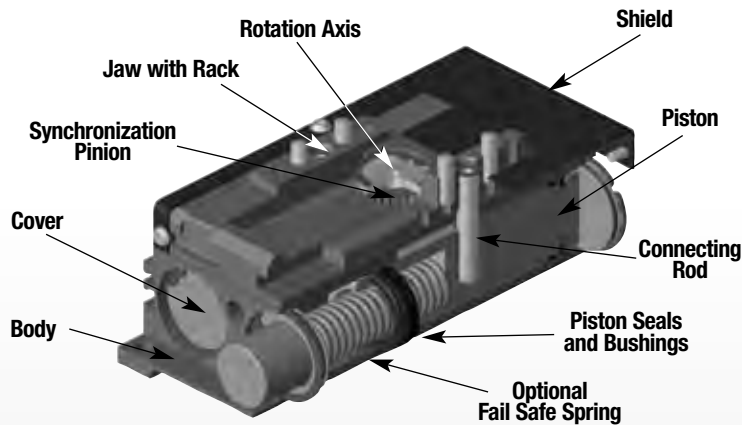
Piston is equipped with the magnet and the body has mounting slots.

### Inductive Sensor Mounting Kit

Mounting kit has 2 flags and 3 adjustable sensor holders.



## Operating Principle

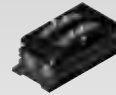


- Dual double acting pistons connected to both jaws and synchronized by the pinion actuate in opposite directions.
- Each jaw is guided by a T-slot in the body.
- Jaw Synchronization is achieved by a rack and pinion system.
- For Non-Synchronous operation, the pinion can be removed.
- Suitable for internal or external gripping.

## Style-DPL Parallel Gripper

Size -2520

Style:	DPL-2520	
Stroke:	1.57 in.	40 mm
Grip Force:	182 lbs.	811 N
Weight:	3.04 lbs.	1.38 Kg



See Page **1.160**

## Style-DPL Parallel Gripper

Size -2535

Style:	DPL-2535	
Stroke:	2.76 in.	70 mm
Grip Force:	173 lbs.	768 N
Weight:	3.97 lbs.	1.80 Kg

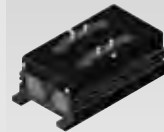


See Page **1.161**

## Style-DPL Parallel Gripper

Size -3230

Style:	DPL-3230	
Stroke:	2.36 in.	60 mm
Grip Force:	306 lbs.	1359 N
Weight:	4.98 lbs.	2.26 Kg

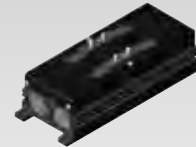


See Page **1.162**

## Style-DPL Parallel Gripper

Size -3250

Style:	DPL-3250	
Stroke:	3.94 in.	100 mm
Grip Force:	294 lbs.	1306 N
Weight:	6.66 lbs.	3.02 Kg

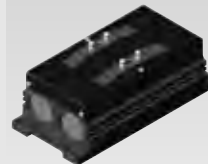


See Page **1.163**

## Style-DPL Parallel Gripper

Size -4040

Style:	DPL-4040	
Stroke:	3.15 in.	80 mm
Grip Force:	457 lbs.	2035 N
Weight:	9.48 lbs.	4.30 Kg

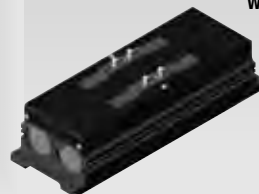


See Page **1.164**

## Style-DPL Parallel Gripper

Size -4070

Style:	DPL-4070	
Stroke:	5.51 in.	140 mm
Grip Force:	456 lbs.	2029 N
Weight:	13.23 lbs.	6.00 Kg



See Page **1.165**

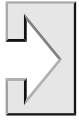




# PARALLEL GRIPPER DPL-2520 TWO JAW LONG STROKE

DPL SERIES

1.160

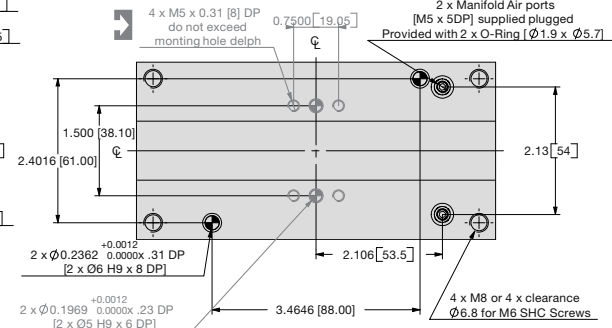
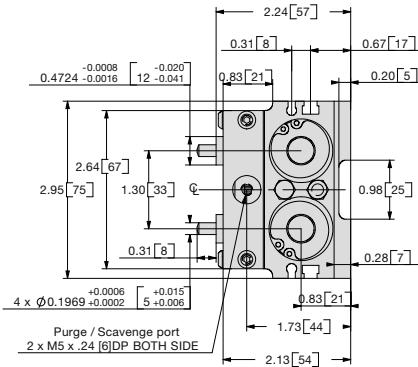
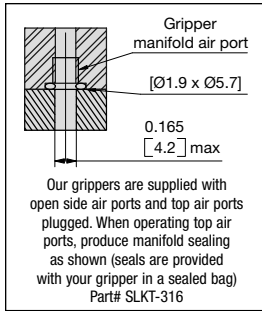
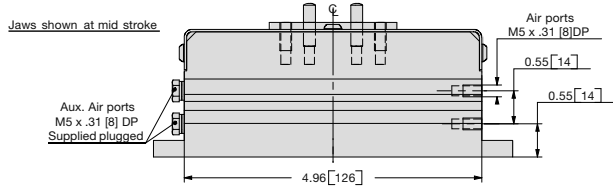
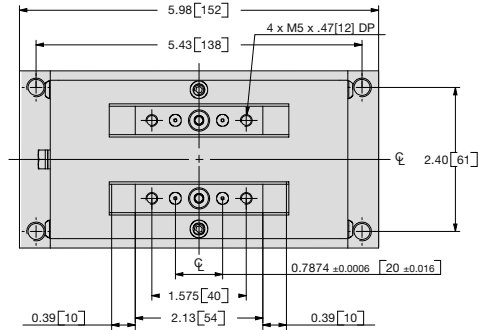


## Specifications

### DPL-2520

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	182 lbs.	811 N
Stroke	1.57 in	40 mm
Weight	3.04 lbs.	1.38 kg
Pressure Range (without springs)	30-100 psi	2-7 bar
Pressure Range (with springs)	60-100 psi	4-7 bar
Cylinder Bore $\emptyset$	0.98 in.	25 mm
Displacement	2.38 in <sup>3</sup>	39 cm <sup>3</sup>
Temperature Range	-4°~180° F	-20°~80° C
Actuation (open/close)	0.3/0.3 sec.	
Accuracy	±0.003 in.	±0.08 mm
Repeatability	±0.0010 in.	±0.025 mm.
Valve required to actuate single acting....	3-way 2-position	
Valve required to actuate double acting....	4-way, 2-position	

\* With springs.

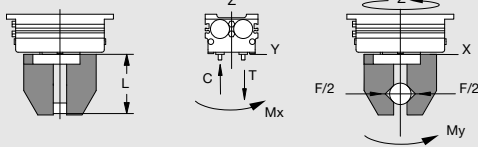
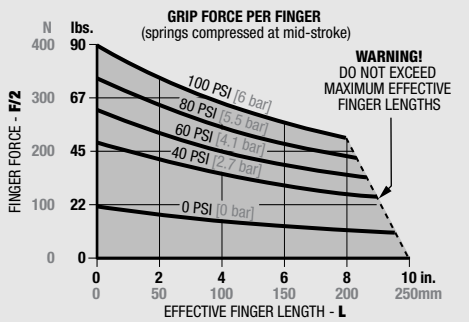


## UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

- Dimensions are symmetrical about centerline
- Third Angle Projection
- All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
- Metric Threads Course Pitch

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## Loading Information



### Loading Capacity†

	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	225 lbs.	1000 N	34 lbs.	150 N
Maximum Compressive <b>C</b>	283 lbs.	1260 N	34 lbs.	150 N
Maximum Moment <b>M<sub>x</sub></b>	372 in.-lbs.	42 Nm	35 in.-lbs.	4 Nm
Maximum Moment <b>M<sub>y</sub></b>	885 in.-lbs.	100 Nm	81 in.-lbs.	9 Nm
Maximum Moment <b>M<sub>z</sub></b>	531 in.-lbs.	60 Nm	81 in.-lbs.	9 Nm

†Capacities are per set of jaws and are not simultaneous

## How to Order: (Order Separately)

BASIC MODEL NON-SYNCHRONOUS  
**DPL-2520 - R - NS**  
SPRING

### SENSOR ACCESSORIES\*

PNP Magneto Resistive Sensor Long Barrel w/Qk Disc*	<b>OHSP-017</b>	<b>1 to 3</b>
NPN Magneto Resistive Sensor Long Barrel w/Qk Disc*	<b>OHSN-017</b>	<b>1 to 3</b>
PNP Magneto Resistive Sensor 90° Barrel w/Qk Disc*	<b>OHSP-011</b>	<b>1 to 3</b>
NPN Magneto Resistive Sensor 90° Barrel w/Qk Disc*	<b>OHSN-011</b>	<b>1 to 3</b>
Inductive Sensor Mounting Kit (3 Holders + 2 Flags)	<b>OSMK-099</b>	<b>1</b>
M8 PNP Inductive Sensor with Quick Disconnect*	<b>OISP-011</b>	<b>1 to 3</b>
M8 NPN Inductive Sensor with Quick Disconnect*	<b>OISN-011</b>	<b>1 to 3</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 to 3</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 to 3</b>

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SLKT-233</b>	<b>1</b>
Rear Inlet Seal Repair Kit	<b>SLKT-316</b>	<b>1</b>
Fitting Push-in Straight M5 - 6mm O.D. Tube	<b>PLFT-037</b>	<b>1 to 2</b>
Fitting Push-in 90° Elbow M5 - 6mm O.D. Tube	<b>PLFT-041</b>	<b>1 to 2</b>

### MOUNTING ACCESSORIES

In-Line Jaw Mounting Kit	<b>ODPL-001</b>	<b>1</b>
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\*Sensor and cable sold separately.

See detailed option and accessory information at the end of this section.

DIRECTCONNECT™





# PARALLEL GRIPPER DPL-2535 TWO JAW LONG STROKE

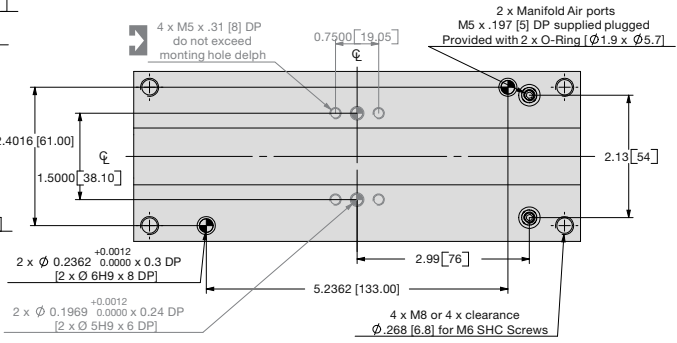
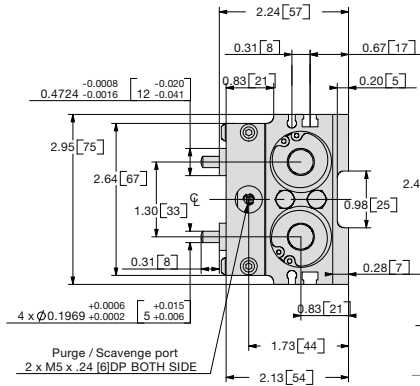
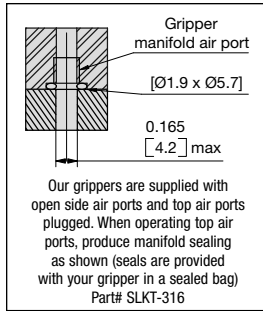
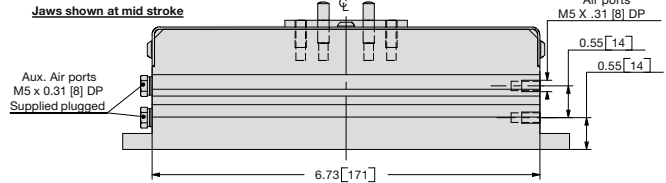
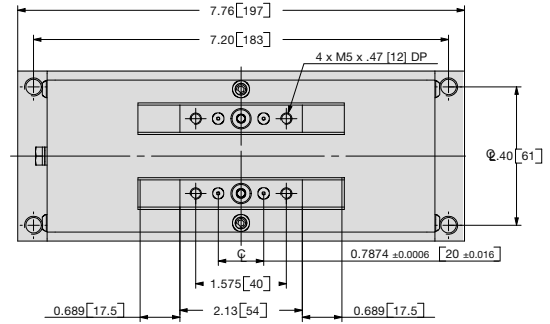
DPL SERIES  
1.161

## Specifications

## DPL-2535

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	173 lbs.	768 N
Stroke	2.76 in	70 mm
Weight	3.97 lbs.	1.80 kg
Pressure Range (without springs)	30-100 psi	2-7 bar
Pressure Range (with springs)	60-100 psi	4-7 bar
Cylinder Bore $\varnothing$	0.98 in.	25 mm
Displacement	4.15 in <sup>3</sup>	68 cm <sup>3</sup>
Temperature Range	-4°~180° F	-20°~80° C
Actuation (open/close)	0.4/0.4 sec.	
Accuracy	±0.003 in.	±0.08 mm
Repeatability	±0.0010 in.	±0.025 mm.
Valve required to actuate single acting....	3-way 2-position	
Valve required to actuate double acting....	4-way, 2-position	

\* With springs.



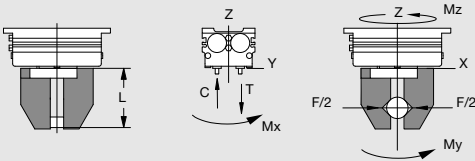
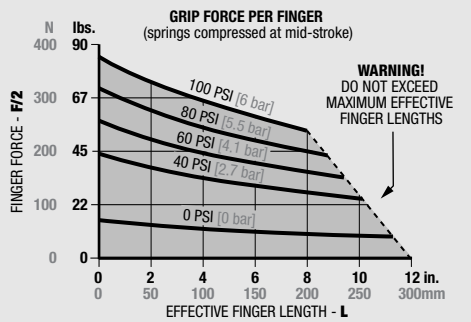
### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

- Dimensions are symmetrical about centerline
- Third Angle Projection
- All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
- Metric Threads Course Pitch

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## Loading Information

## How to Order: (Order Separately)



### Loading Capacity†

	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	324 lbs.	1440 N	34 lbs.	150 N
Maximum Compressive <b>C</b>	411 lbs.	1380 N	34 lbs.	150 N
Maximum Moment <b>M<sub>x</sub></b>	513 in.-lbs.	58 Nm	35 in.-lbs.	4 Nm
Maximum Moment <b>M<sub>y</sub></b>	1947 in.-lbs.	220 Nm	142 in.-lbs.	16 Nm
Maximum Moment <b>M<sub>z</sub></b>	1151 in.-lbs.	130 Nm	142 in.-lbs.	16 Nm

†Capacities are per set of jaws and are not simultaneous

BASIC MODEL NON-SYNCHRONOUS

**DPL-2535 - R - NS**

SPRING

### SENSOR ACCESSORIES\*

PNP Magneto Resistive Sensor Long Barrel w/Qk Disc*	<b>OHSP-017</b>	<b>1 to 3</b>
NPN Magneto Resistive Sensor Long Barrel w/Qk Disc*	<b>OHSN-017</b>	<b>1 to 3</b>
PNP Magneto Resistive Sensor 90° Barrel w/Qk Disc*	<b>OHSP-011</b>	<b>1 to 3</b>
NPN Magneto Resistive Sensor 90° Barrel w/Qk Disc*	<b>OHSN-011</b>	<b>1 to 3</b>
Inductive Sensor Mounting Kit (3 Holders + 2 Flags)	<b>OSMK-099</b>	<b>1</b>
M8 PNP Inductive Sensor with Quick Disconnect*	<b>OISP-011</b>	<b>1 to 3</b>
M8 NPN Inductive Sensor with Quick Disconnect*	<b>OISN-011</b>	<b>1 to 3</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 to 3</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 to 3</b>

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SLKT-233</b>	<b>1</b>
Rear Inlet Seal Repair Kit	<b>SLKT-316</b>	<b>1</b>
Fitting Push-in Straight M5 - 6mm O.D. Tube	<b>PLFT-037</b>	<b>1 to 2</b>
Fitting Push-in 90° Elbow M5 - 6mm O.D. Tube	<b>PLFT-041</b>	<b>1 to 2</b>

### MOUNTING ACCESSORIES

In-Line Jaw Mounting Kit	<b>ODPL-002</b>	<b>1</b>
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\*Sensor and cable sold separately.

See detailed option and accessory information at the end of this section.

DIRECTCONNECT™



# PARALLEL GRIPPER DPL-3230 TWO JAW LONG STROKE

DPL SERIES

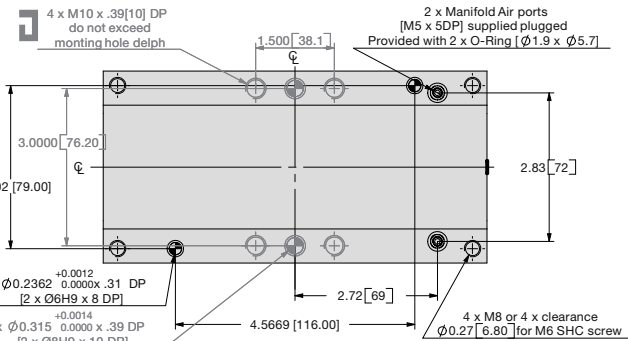
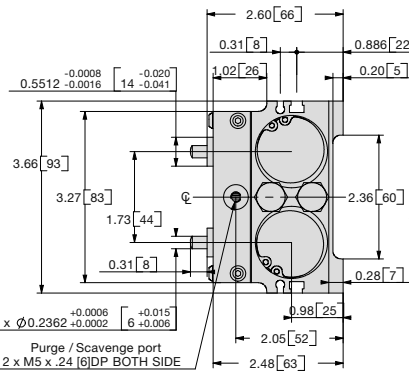
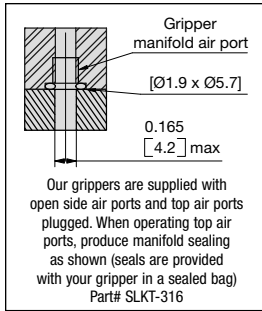
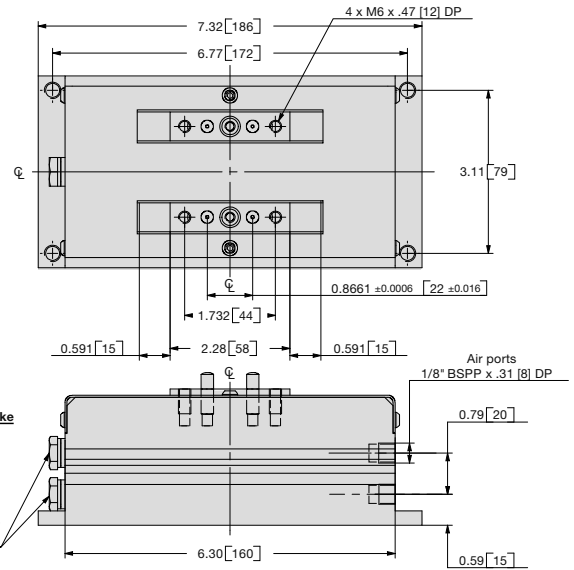
1.162



## Specifications

	DPL-3230	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	306 lbs.	1359 N
Stroke	2.36 in	60 mm
Weight	4.98 lbs.	2.26 kg
Pressure Range (without springs)	30-100 psi	2-7 bar
Pressure Range (with springs)	60-100 psi	4-7 bar
Cylinder Bore $\emptyset$	1.26 in.	32 mm
Displacement	5.86 in <sup>3</sup>	96 cm <sup>3</sup>
Temperature Range	-4°~180° F	-20°~80° C
Actuation (open/close)	0.4/0.4 sec.	
Accuracy	±0.003 in.	±0.08 mm
Repeatability	±0.0010 in.	±0.025 mm.
Valve required to actuate single acting	3-way 2-position	
Valve required to actuate double acting	4-way, 2-position	

\* With springs.

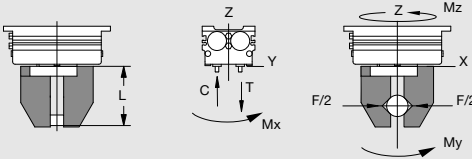
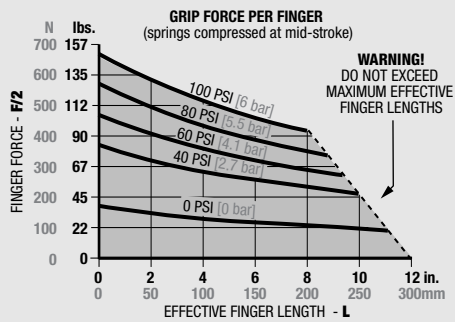


UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

- Dimensions are symmetrical about centerline
- Third Angle Projection
- All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
- Metric Threads Course Pitch

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## Loading Information



Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	343 lbs.	1525 N	61 lbs.	270 N
Maximum Compressive <b>C</b>	427 lbs.	1900 N	61 lbs.	270 N
Maximum Moment <b>M<sub>x</sub></b>	673 in.-lbs.	76 Nm	71 in.-lbs.	8 Nm
Maximum Moment <b>M<sub>y</sub></b>	2009 in.-lbs.	227 Nm	195 in.-lbs.	22 Nm
Maximum Moment <b>M<sub>z</sub></b>	1062 in.-lbs.	120 Nm	195 in.-lbs.	22 Nm

†Capacities are per set of jaws and are not simultaneous

## How to Order: (Order Separately)

BASIC MODEL NON-SYNCHRONOUS  
**DPL-3230 - R - NS**  
 SPRING

### SENSOR ACCESSORIES\*

PNP Magneto Resistive Sensor Long Barrel w/Qk Disc*	<b>OHSP-017</b>	<b>1 to 3</b>
NPN Magneto Resistive Sensor Long Barrel w/Qk Disc*	<b>OHSN-017</b>	<b>1 to 3</b>
PNP Magneto Resistive Sensor 90° Barrel w/Qk Disc*	<b>OHSP-011</b>	<b>1 to 3</b>
NPN Magneto Resistive Sensor 90° Barrel w/Qk Disc*	<b>OHSN-011</b>	<b>1 to 3</b>
Inductive Sensor Mounting Kit (3 Holders + 2 Flags)	<b>OSMK-100</b>	<b>1</b>
M8 PNP Inductive Sensor with Quick Disconnect*	<b>OISP-011</b>	<b>1 to 3</b>
M8 NPN Inductive Sensor with Quick Disconnect*	<b>OISN-011</b>	<b>1 to 3</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 to 3</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 to 3</b>

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SLKT-234</b>	<b>1</b>
Rear Inlet Seal Repair Kit	<b>SLKT-316</b>	<b>1</b>
Fitting Push-in Straight G1/8 - 6mm O.D. Tube	<b>PLFT-038</b>	<b>1 to 2</b>
Fitting Push-in 90° Elbow G1/8 - 6mm O.D. Tube	<b>PLFT-042</b>	<b>1 to 2</b>

### MOUNTING ACCESSORIES

In-Line Jaw Mounting Kit	<b>ODPL-003</b>	<b>1</b>
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\*Sensor and cable sold separately.

See detailed option and accessory information at the end of this section.

DIRECTCONNECT™



# PARALLEL GRIPPER DPL-3250 TWO JAW LONG STROKE

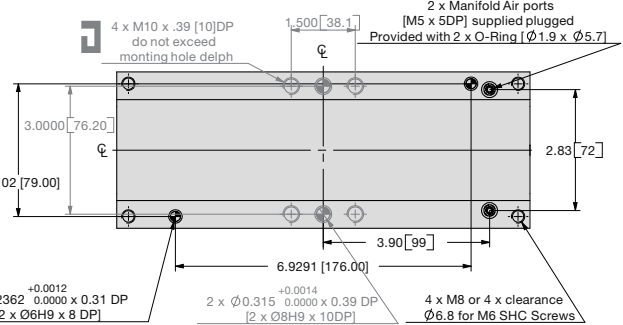
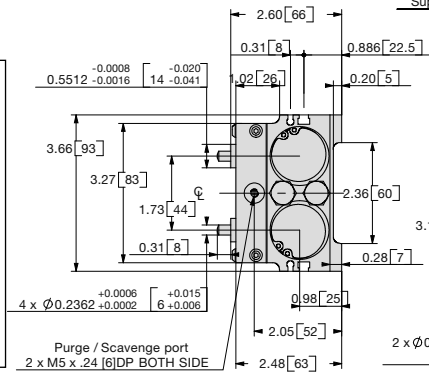
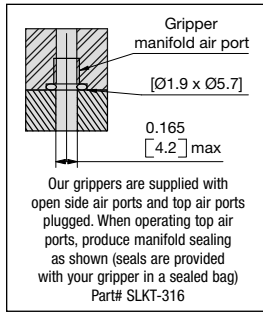
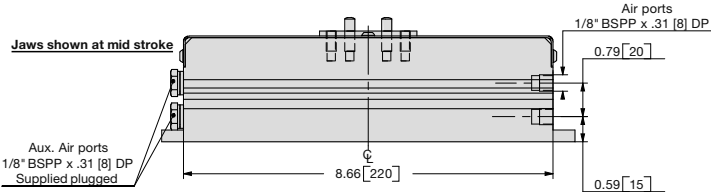
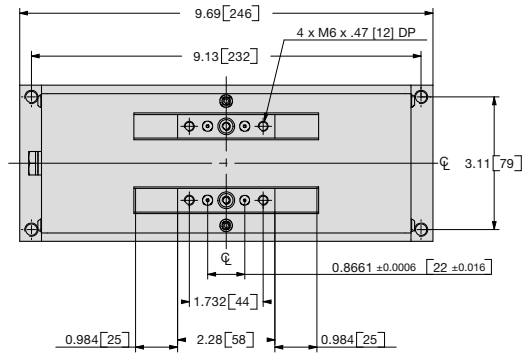
DPL SERIES  
1.163

## Specifications

### DPL-3250

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	294 lbs.	1306 N
Stroke	3.94 in	100 mm
Weight	6.66 lbs.	3.02 kg
Pressure Range (without springs)	30-100 psi	2-7 bar
Pressure Range (with springs)	60-100 psi	4-7 bar
Cylinder Bore $\varnothing$	1.26 in.	32 mm
Displacement	9.96 in <sup>3</sup>	160 cm <sup>3</sup>
Temperature Range	-4°~180° F	-20°~80° C
Actuation (open/close)	0.5/0.5 sec.	
Accuracy	±0.003 in.	±0.08 mm
Repeatability	±0.0010 in.	±0.025 mm.
Valve required to actuate single acting....	3-way 2-position	
Valve required to actuate double acting....	4-way, 2-position	

\* With springs.



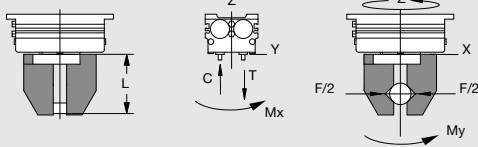
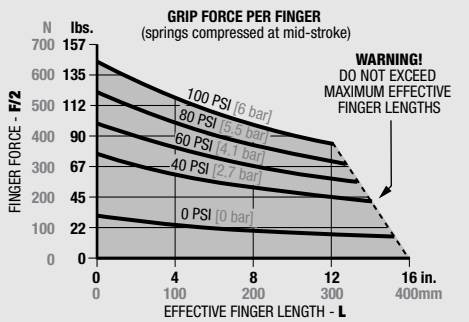
## UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

- Dimensions are symmetrical about centerline
- Third Angle Projection
- All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
- Metric Threads Course Pitch

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## Loading Information

## How to Order: (Order Separately)



### Loading Capacity†

	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	416 lbs.	1850 N	58 lbs.	260 N
Maximum Compressive <b>C</b>	520 lbs.	2315 N	58 lbs.	260 N
Maximum Moment <b>M<sub>x</sub></b>	770 in.-lbs.	87 Nm	71 in.-lbs.	8 Nm
Maximum Moment <b>M<sub>y</sub></b>	3098 in.-lbs.	350 Nm	283 in.-lbs.	32 Nm
Maximum Moment <b>M<sub>z</sub></b>	1682 in.-lbs.	190 Nm	283 in.-lbs.	32 Nm

†Capacities are per set of jaws and are not simultaneous

BASIC MODEL NON-SYNCHRONOUS

**DPL-3250 - R - NS**

SPRING

### SENSOR ACCESSORIES\*

PNP Magneto Resistive Sensor Long Barrel w/Qk Disc*	<b>OHSP-017</b>	<b>1 to 3</b>
NPN Magneto Resistive Sensor Long Barrel w/Qk Disc*	<b>OHSN-017</b>	<b>1 to 3</b>
PNP Magneto Resistive Sensor 90° Barrel w/Qk Disc*	<b>OHSP-011</b>	<b>1 to 3</b>
NPN Magneto Resistive Sensor 90° Barrel w/Qk Disc*	<b>OHSN-011</b>	<b>1 to 3</b>
Inductive Sensor Mounting Kit (3 Holders + 2 Flags)	<b>OSMK-100</b>	<b>1</b>
M8 PNP Inductive Sensor with Quick Disconnect*	<b>OISP-011</b>	<b>1 to 3</b>
M8 NPN Inductive Sensor with Quick Disconnect*	<b>OISN-011</b>	<b>1 to 3</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 to 3</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 to 3</b>

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SLKT-234</b>	<b>1</b>
Rear Inlet Seal Repair Kit	<b>SLKT-316</b>	<b>1</b>
Fitting Push-in Straight G1/8 - 6mm O.D. Tube	<b>PLFT-038</b>	<b>1 to 2</b>
Fitting Push-in 90° Elbow G1/8 - 6mm O.D. Tube	<b>PLFT-042</b>	<b>1 to 2</b>

### MOUNTING ACCESSORIES

In-Line Jaw Mounting Kit	<b>ODPL-004</b>	<b>1</b>
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\*Sensor and cable sold separately.

See detailed option and accessory information at the end of this section.

DIRECTCONNECT™

# PARALLEL GRIPPER DPL-4040 TWO JAW LONG STROKE

DPL SERIES

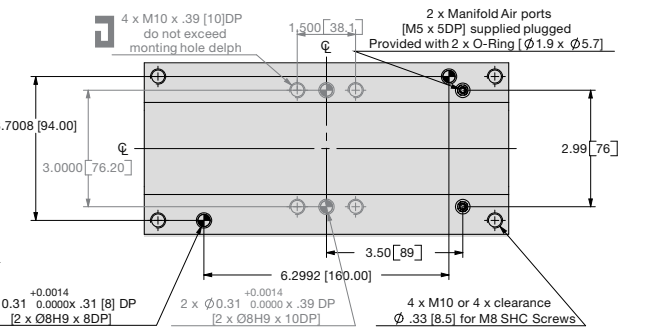
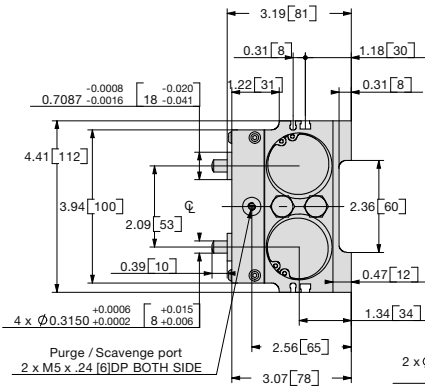
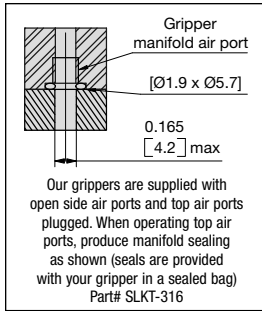
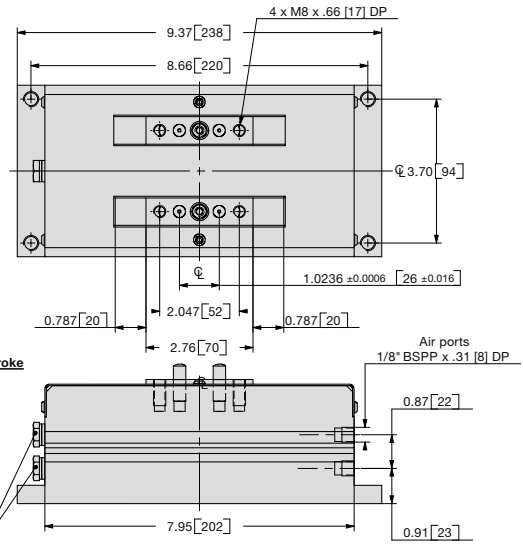
1.164

## Specifications

### DPL-4040

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	457 lbs.	2035 N
Stroke	3.15 in	80 mm
Weight	9.48 lbs.	4.30 kg
Pressure Range (without springs)	30-100 psi	2-7 bar
Pressure Range (with springs)	60-100 psi	4-7 bar
Cylinder Bore $\emptyset$	1.57 in.	40 mm
Displacement	12.20 in <sup>3</sup>	200 cm <sup>3</sup>
Temperature Range	-4°~180° F	-20°~80° C
Actuation (open/close)	0.5/0.5 sec.	
Accuracy	±0.003 in.	±0.08 mm
Repeatability	±0.0010 in.	±0.025 mm.
Valve required to actuate single acting....	3-way 2-position	
Valve required to actuate double acting....	4-way, 2-position	

\* With springs.

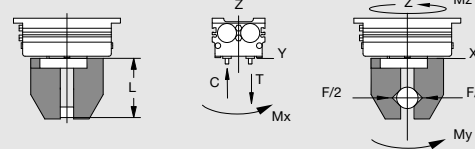
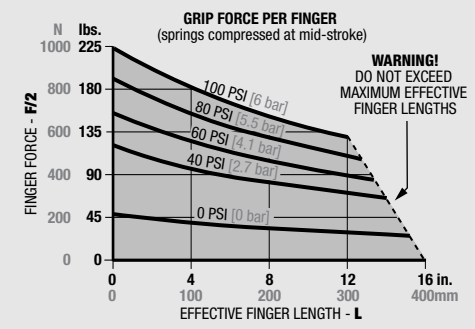


**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline    Third Angle Projection    All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]    Metric Threads Course Pitch

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## Loading Information      How to Order: (Order Separately)



Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	456 lbs.	2030 N	90 lbs.	400 N
Maximum Compressive <b>C</b>	549 lbs.	2440 N	90 lbs.	400 N
Maximum Moment <b>M<sub>x</sub></b>	1195 in.-lbs.	135 Nm	124 in.-lbs.	14 Nm
Maximum Moment <b>M<sub>y</sub></b>	3717 in.-lbs.	420 Nm	381 in.-lbs.	43 Nm
Maximum Moment <b>M<sub>z</sub></b>	1947 in.-lbs.	220 Nm	381 in.-lbs.	43 Nm

†Capacities are per set of jaws and are not simultaneous

BASIC MODEL      NON-SYNCHRONOUS

**DPL-4040 - R - NS**

SPRING

### SENSOR ACCESSORIES\*

M8 PNP Magneto Resistive Sensor Long Barrel w/Qk Disc*	<b>OHSP-017</b>	<b>1 to 3</b>
M8 NPN Magneto Resistive Sensor Long Barrel w/Qk Disc*	<b>OHSN-017</b>	<b>1 to 3</b>
M8 PNP Magneto Resistive Sensor 90° Barrel w/Qk Disc*	<b>OHSP-011</b>	<b>1 to 3</b>
M8 NPN Magneto Resistive Sensor 90° Barrel w/Qk Disc*	<b>OHSN-011</b>	<b>1 to 3</b>
Inductive Sensor Mounting Kit (3 Holders + 2 Flags)	<b>OSMK-101</b>	<b>1</b>
M12 PNP Inductive Sensor with Quick Disconnect*	<b>OISP-017</b>	<b>1 to 3</b>
M12 NPN Inductive Sensor with Quick Disconnect*	<b>OISN-017</b>	<b>1 to 3</b>
M8 Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 to 3</b>
M8 Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 to 3</b>
M12 Quick Disconnect 2 Meter Cable Length*	<b>CABL-014</b>	<b>1 to 3</b>
M12 Quick Disconnect 5 Meter Cable Length*	<b>CABL-018</b>	<b>1 to 3</b>

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SLKT-235</b>	<b>1</b>
Rear Inlet Seal Repair Kit	<b>SLKT-316</b>	<b>1</b>
Fitting Push-in Straight G1/8 - 6mm O.D. Tube	<b>PLFT-038</b>	<b>1 to 2</b>
Fitting Push-in 90° Elbow G1/8 - 6mm O.D. Tube	<b>PLFT-042</b>	<b>1 to 2</b>

### MOUNTING ACCESSORIES

In-Line Jaw Mounting Kit	<b>ODPL-005</b>	<b>1</b>
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\*Sensor and cable sold separately.

See detailed option and accessory information at the end of this section.

DIRECTCONNECT™



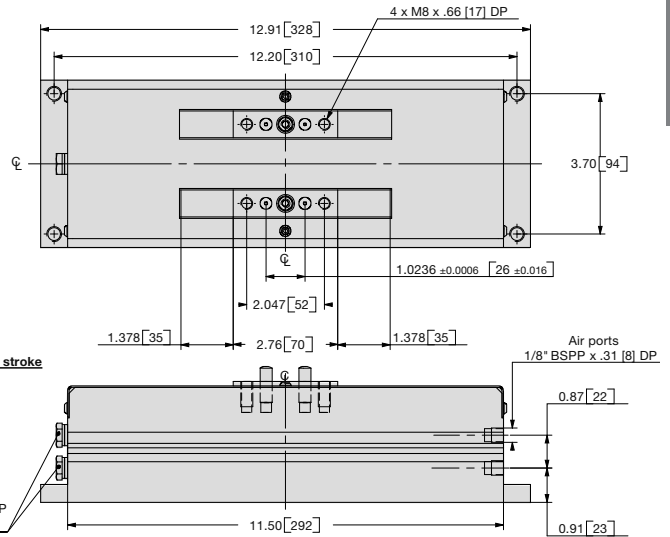
# PARALLEL GRIPPER DPL-4070 TWO JAW LONG STROKE

DPL SERIES  
1.165

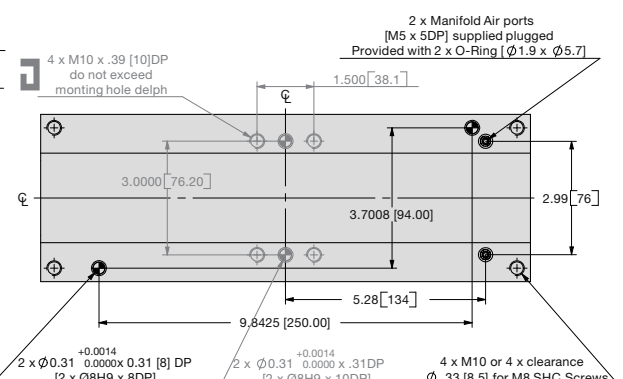
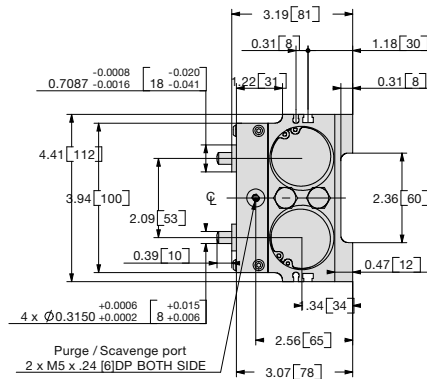
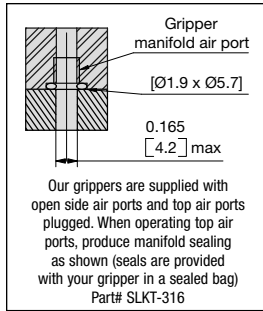
## Specifications

		DPL-4070	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	456 lbs.	2029 N	
Stroke	5.51 in.	140 mm	
Weight	13.23 lbs.	6.00 kg	
Pressure Range (without springs)	30-100 psi	2-7 bar	
Pressure Range (with springs)	60-100 psi	4-7 bar	
Cylinder Bore $\varnothing$	1.57 in.	40 mm	
Displacement	21.36 in <sup>3</sup>	350 cm <sup>3</sup>	
Temperature Range	-4°~180° F	-20°~80° C	
Actuation (open/close)	0.7/0.7 sec.		
Accuracy	±0.003 in.	±0.08 mm	
Repeatability	±0.0010 in.	±0.025 mm.	
Valve required to actuate single acting....	3-way 2-position		
Valve required to actuate double acting....	4-way, 2-position		

\* With springs.



Jaws shown at mid stroke



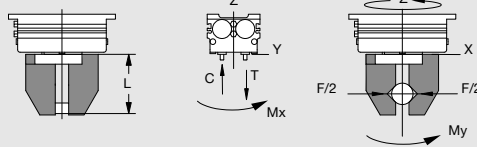
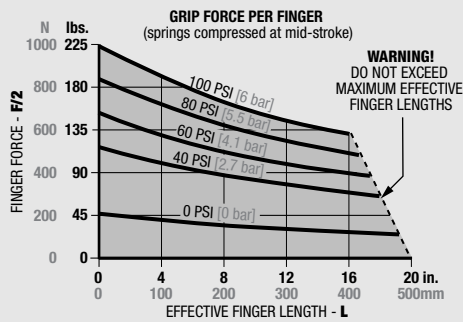
## UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

- Dimensions are symmetrical about centerline
- Third Angle Projection
- All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
- Metric Threads Course Pitch

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## Loading Information

## How to Order: (Order Separately)



### Loading Capacity†

	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	564 lbs.	2510 N	90 lbs.	400 N
Maximum Compressive <b>C</b>	677 lbs.	3010 N	90 lbs.	400 N
Maximum Moment <b>M<sub>x</sub></b>	1416 in.-lbs.	160 Nm	133 in.-lbs.	15 Nm
Maximum Moment <b>M<sub>y</sub></b>	5885 in.-lbs.	665 Nm	566 in.-lbs.	64 Nm
Maximum Moment <b>M<sub>z</sub></b>	3098 in.-lbs.	350 Nm	566 in.-lbs.	64 Nm

†Capacities are per set of jaws and are not simultaneous

BASIC MODEL NON-SYNCHRONOUS

DPL-4070 - R - NS

SPRING

### SENSOR ACCESSORIES\*

M8 PNP Magneto Resistive Sensor Long Barrel w/Qk Disc*	<b>OHSP-017</b>	<b>1 to 3</b>
M8 NPN Magneto Resistive Sensor Long Barrel w/Qk Disc*	<b>OHSN-017</b>	<b>1 to 3</b>
M8 PNP Magneto Resistive Sensor 90° Barrel w/Qk Disc*	<b>OHSP-011</b>	<b>1 to 3</b>
M8 NPN Magneto Resistive Sensor 90° Barrel w/Qk Disc*	<b>OHSN-011</b>	<b>1 to 3</b>
Inductive Sensor Mounting Kit (3 Holders + 2 Flags)	<b>OSMK-101</b>	<b>1</b>
M12 PNP Inductive Sensor with Quick Disconnect*	<b>OISP-017</b>	<b>1 to 3</b>
M12 NPN Inductive Sensor with Quick Disconnect*	<b>OISN-017</b>	<b>1 to 3</b>
M8 Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 to 3</b>
M8 Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 to 3</b>
M12 Quick Disconnect 2 Meter Cable Length*	<b>CABL-014</b>	<b>1 to 3</b>
M12 Quick Disconnect 5 Meter Cable Length*	<b>CABL-018</b>	<b>1 to 3</b>

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SLKT-235</b>	<b>1</b>
Rear Inlet Seal Repair Kit	<b>SLKT-316</b>	<b>1</b>
Fitting Push-in Straight G1/8 - 6mm O.D. Tube	<b>PLFT-038</b>	<b>1 to 2</b>
Fitting Push-in 90° Elbow G1/8 - 6mm O.D. Tube	<b>PLFT-042</b>	<b>1 to 2</b>

### MOUNTING ACCESSORIES

In-Line Jaw Mounting Kit	<b>ODPL-006</b>	<b>1</b>
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\*Sensor and cable sold separately.

See detailed option and accessory information at the end of this section.

DIRECTCONNECT™

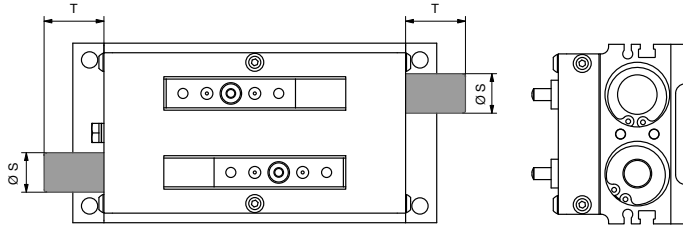




# DPL Series Options & Accessories

## Optional Spring Assist (-R):

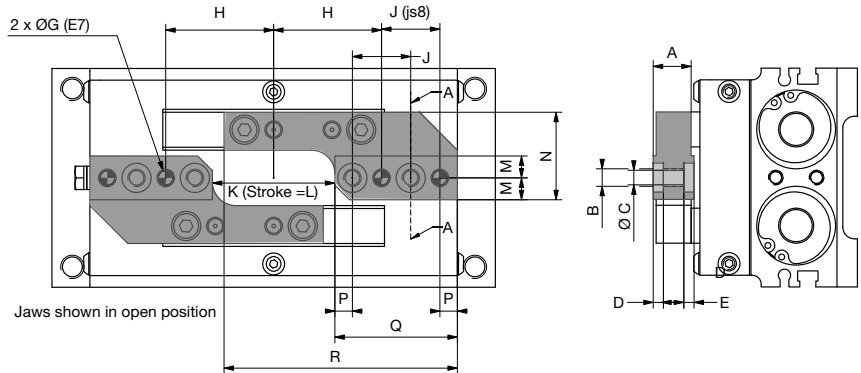
The safety spring allows the gripper to retain the part should the air supply fail or allows the gripper to be used in single acting mode. The **-R** option is ideal for internal (ID) or external gripping (OD). The ID or OD will depend on the finger design. The fingers will face towards center of gripper for OD gripping or will face outward for ID gripping.



Use With	S	T
<b>DPL-2520-R</b>	0.65 [16.5]	0.98 [25]
<b>DPL-2535-R</b>	0.65 [16.5]	1.18 [30]
<b>DPL-3230-R</b>	0.98 [25]	0.76 [19.3]
<b>DPL-3250-R</b>	0.98 [25]	0.96 [24.3]
<b>DPL-4040-R</b>	1.10 [28]	1.69 [42.8]
<b>DPL-4070-R</b>	1.16 [29.5]	0.98 [24.8]

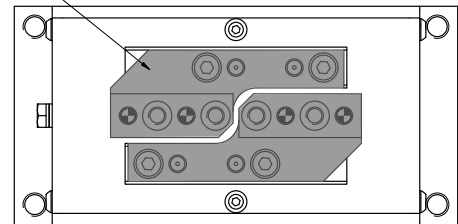
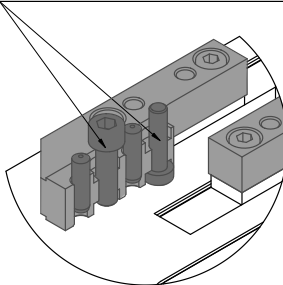
## In-Line Jaw Adapter:

The In-Line Jaw Adapter allows for the simplification of the finger design. It provides for "in-line" alignment of the finger mounting holes. The kit includes 2 interfaces, screws, and dowel kit.



Fingers can be mounted on the accessory from the top (using SHC screws) or from the bottom (using low head SHC screws)

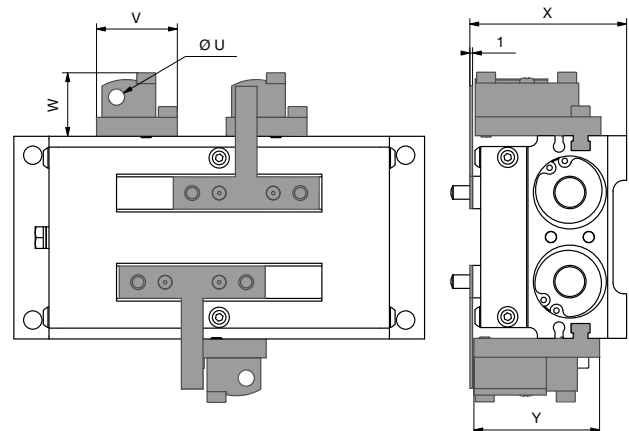
Second direction for mounting the accessory When used with the -R option, it allows to secure for internal or external clamping



Order #	Use With	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
<b>ODPL-001</b>	<b>DPL-2520</b>	0.51 [13]	M6	0.20 [5]	0.14 [3.5]	0.28 [7]	M5	0.20 [5]	1.46 [37]	0.79 [20]	1.65 [42]	1.57 [40]	0.30 [7.5]	1.18 [30]	0.24 [6]	1.65 [42]	3.15 [80]
<b>ODPL-002</b>	<b>DPL-2535</b>	0.51 [13]	M6	0.20 [5]	0.14 [3.5]	0.28 [7]	M5	0.20 [5]	2.05 [52]	0.79 [20]	2.83 [72]	2.76 [70]	0.30 [7.5]	1.18 [30]	0.24 [6]	1.65 [42]	3.44 [87.5]
<b>ODPL-003</b>	<b>DPL-3230</b>	0.59 [15]	M8	0.27 [6.8]	0.12 [3]	0.39 [10]	M6	0.24 [6]	1.97 [50]	0.87 [22]	2.44 [62]	2.36 [60]	0.39 [10]	1.54 [39]	0.31 [8]	1.93 [49]	3.70 [94]
<b>ODPL-004</b>	<b>DPL-3250</b>	0.59 [15]	M8	0.27 [6.8]	0.12 [3]	0.39 [10]	M6	0.24 [6]	2.76 [70]	0.87 [22]	4.02 [102]	3.94 [100]	0.39 [10]	1.54 [39]	0.31 [8]	1.93 [49]	4.09 [104]
<b>ODPL-005</b>	<b>DPL-4040</b>	0.83 [21]	M10	0.33 [8.5]	0.20 [5]	0.47 [12]	M8	0.31 [8]	2.48 [63]	1.02 [26]	3.23 [82]	3.15 [80]	0.47 [12]	1.87 [47.5]	0.35 [9]	2.24 [57]	4.45 [113]
<b>ODPL-006</b>	<b>DPL-4070</b>	0.83 [21]	M10	0.33 [8.5]	0.20 [5]	0.47 [12]	M8	0.31 [8]	3.66 [93]	1.02 [26]	5.59 [142]	5.51 [140]	0.47 [12]	1.87 [47.5]	0.35 [9]	2.24 [57]	5.04 [128]

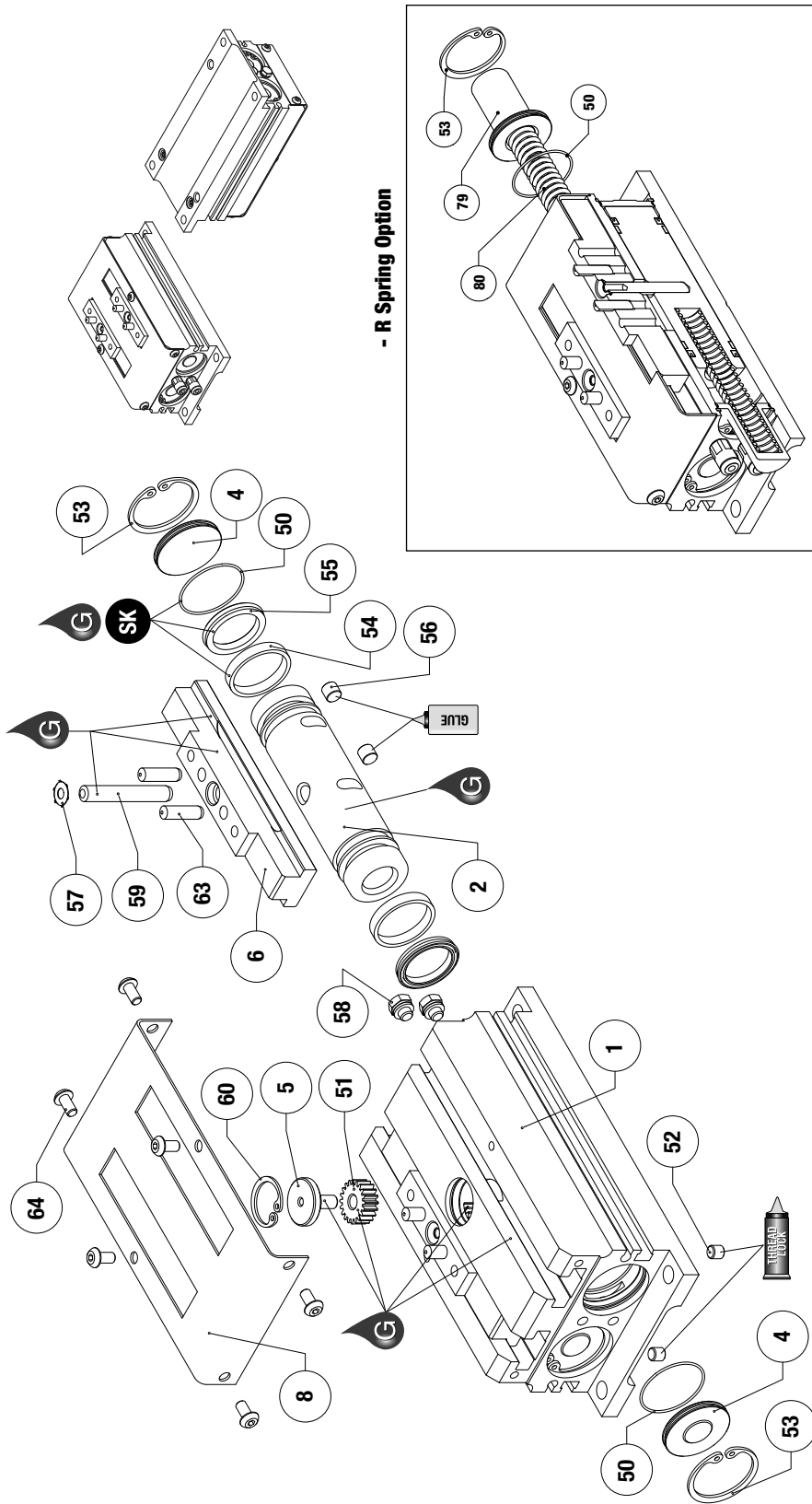
## Inductive Sensors Holder:

Sense up to 3 jaw positions; open jaws, closed jaws, and part present. The kit includes 3 sensor holders and 2 flags. Sensors are not included.



Order #	Use With	U	V	W	X	Y
<b>OSMK-099</b>	<b>DPL-2520</b>	0.31 [8]	1.18 [30]	0.95 [24]	2.28 [58]	1.83 [46.5]
	<b>DPL-2535</b>	0.31 [8]	1.18 [30]	0.95 [24]	2.28 [58]	1.83 [46.5]
<b>OSMK-100</b>	<b>DPL-3230</b>	0.31 [8]	0.87 [22]	0.95 [24]	2.64 [67]	1.97 [50]
	<b>DPL-3250</b>	0.31 [8]	0.87 [22]	0.95 [24]	2.64 [67]	1.97 [50]
<b>OSMK-101</b>	<b>DPL-4040</b>	0.47 [12]	0.87 [22]	1.06 [27]	3.23 [82]	2.26 [57.5]
	<b>DPL-4070</b>	0.47 [12]	0.87 [22]	1.06 [27]	3.23 [82]	2.26 [57.5]





Item	Qty	Name
01	1	Body
02	2	Piston
04	4	Cap
05	1	Gear Cover
06	2	Jaw
08	1	Shielded Case
50	4	Seal, Cap
51	1	Synchronization Pinion
52	2	Set Screw-Manifold Port Plugs
53	4	Retainer Ring, Cap
54	4	Piston Ring Guidance
55	4	Piston U-Cup
56	4	Magnet
57	2	Drive Pin Retainer Ring
58	2	Manifold Port Plugs
59	2	Drive Pin
60	2	Center Retaining Ring
63	4	Jaw Dowel Pin
64	6	Shielded Case Screws
79	2	Spring Cap
80	2	Spring

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

### Assembly Procedure

- 1) Glue magnets #56 into the piston slots #2.
- 2) If top air ports are not used, plug the body #1 with screws #52 using glue.
- 3) Lubricate and install the U-Cup seals #55 and the guidance ring #54 onto the piston #2.
- 4) Lubricate and assemble the piston #2 into the body #1 using the adequate tooling
- 5) Press dowel pins #63 into the jaws #6.
- 6) Lubricate and install the jaws #6 into the slots #1.
- 7) Press the drive pin #59 and the retaining ring #57 through the jaws #6 and the piston #2.
- 8) Lubricate and install the axis #5, the pinion #51, the retaining ring #60 into the body. Beware of the correctly place the jaws to get a synchronous motion.
- 9) Lubricate and install the seal #50 onto the cap #4.
- 10) Install the cap #4 and the retaining ring #53 into the cap #1.
- 11) Install the shielded case #8.
- 12) Screw the plugs #58 into the body #1.

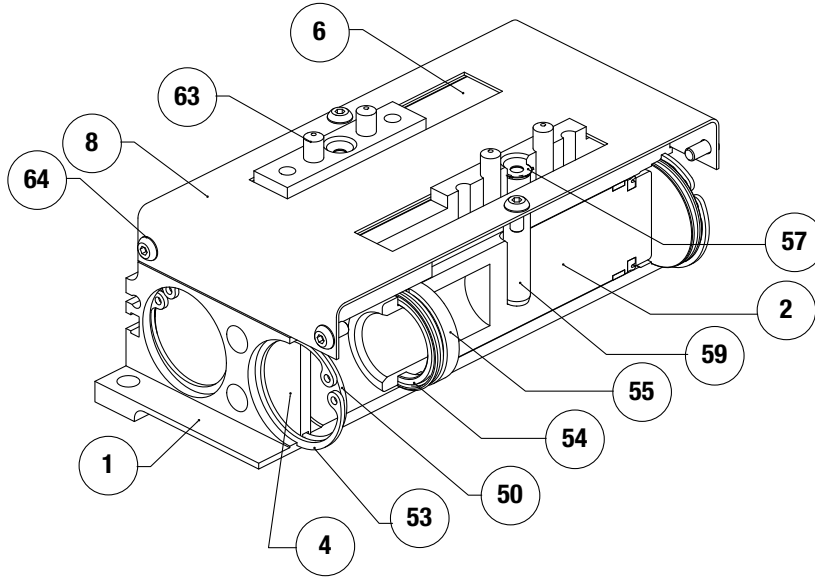
### Assembly - Spring option

- 1) Lubricate and install the seal (#50) onto the cap.
- 2) Install the spring into the piston bore and into the cap bore.
- 3) Compress the spring till the cap reach its correct position on the body.
- 4) Install the retaining ring.

**SK Seal Repair Kit Order #'s See Product Data Sheets**

Seal Kit Items	Thread Locker	Krytox™ Lubricant	Lightweight Machine Oil	Teflon® Based Grease	Super Bonder	Third Angle Projection

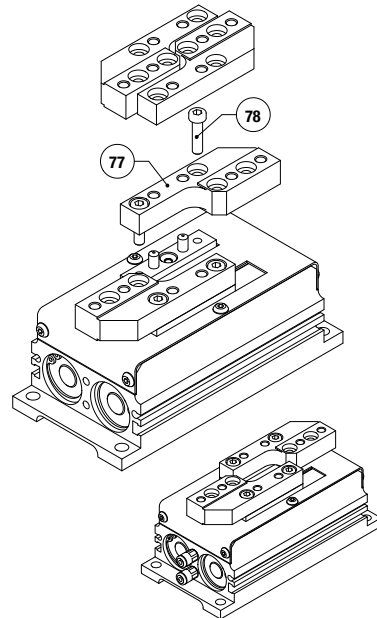
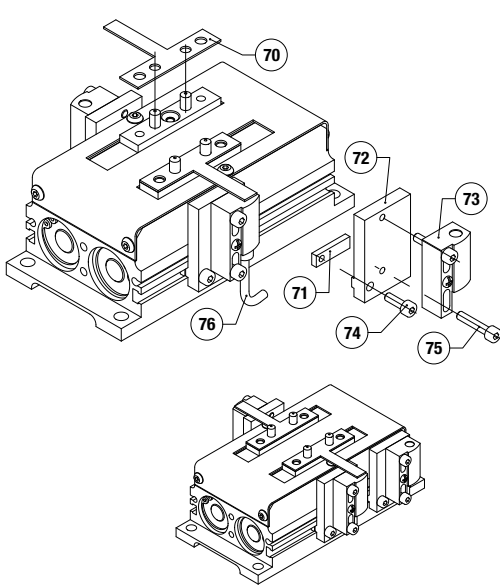
# DPL Series Assembled View



Item	Qty	Name
01	1	Body
02	2	Piston
04	4	Cap
05	1	Axis
06	2	Jaw
08	1	Shielded Case
50	4	Seal, Cap
51	1	Synchronization Pinion
52	2	Set Screw-Manifold Port Plugs
53	4	Retainer Ring, Cap
54	4	Piston Ring Guidance
55	4	Piston U-Cup
56	4	Magnet
57	2	Drive Pin Retainer Ring
58	2	Stopper-Manifold Port Plugs
59	2	Drive Pin
60	2	Center Retaining Ring
63	4	Jaw Dowel Pin
64	6	Shielded Case Screws

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

## Accessory Installation & Adjustment Instructions



### Installation - Inductive Sensors Holder Kit

- 1) Place the flags (#2) on the jaws as shown.
- 2) Install the sensor holder (#72) on the adapter (#73) using the screws (#75)
- 3) Tighten the sensor (not shown) into the sensor holder(#73).
- 4) Install the nut (#71) into the slot of the body and the adapter (#72) on the slot. Install the screw (#74) to fix the adapter on the nut.
- 5) Loosen the screw (#74) and slide the assembly until the light indicates.
- 6) Tighten the screw (#74).

### Installation - In-Line Jaws

- 1) Install the interface (#77) onto the jaws. When combined with the -R option and according to the mounting direction, the interface can be used for internal or external clamping.
- 2) Tighten the screw (#78) between the interface (#77) and the jaw.



# QUALITY PRECISION DURABILITY DESIGN NOTES

DPL SERIES  
1.169

A large grid area, approximately 25 columns wide and 35 rows high, intended for technical design notes. The grid is overlaid on a background of repeating words: 'QUALITY', 'PRECISION', and 'DURABILITY'. The word 'PRECISION' is the most prominent in the background pattern.

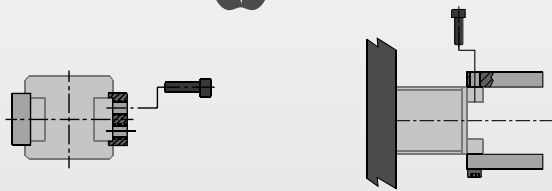
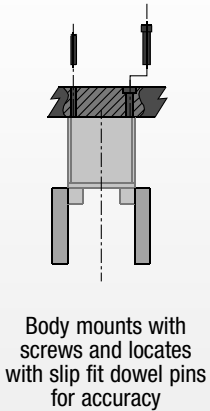
# Parallel Grippers - Miniature Series Double Wedge

- General purpose:**  
 This style gripper is the most widely used in the industry. It is a rugged design and supplies very high grip force.
- Small parts handling:**  
 Compact size, high gripping force, and extended jaw design facilitates finger attachment for smaller parts.
- Robotic applications:**  
 High grip force to weight ratio make these grippers very popular on small robots.
- Miniature Size:**  
 Allows banks of grippers to be mounted in close proximity for multiple part picking and placing.



## Mounting Information:

Grippers can be mounted & operated in any orientation



## Technical Specifications:

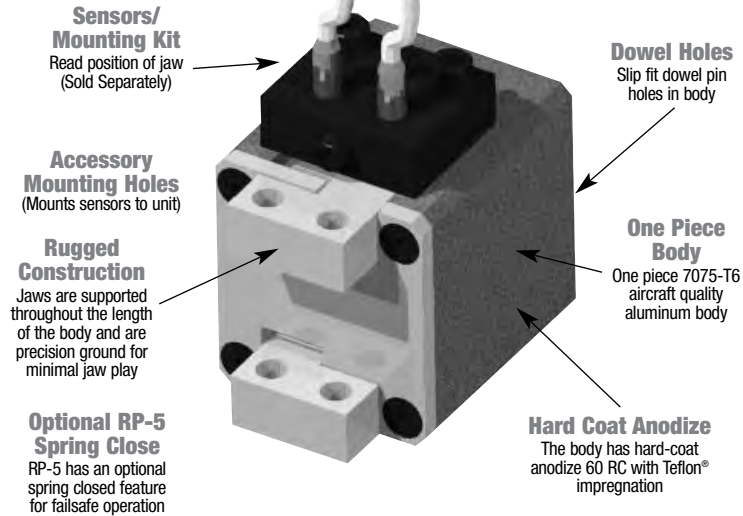
<b>Pneumatic Specifications</b>	<b>Imperial</b>	<b>Metric</b>
Pressure Operating Range	40-100 psi	3-7 bar
Cylinder Type	Double Acting	
Dynamic Seals	Internally Lubricated Buna-N	
Valve Required to Operate	4-way, 2-position	
<b>Air Quality Requirements</b>		
Air Filtration	40 Micron or Better	
Air Lubrication	Not Necessary*	
Air Humidity	Low Moisture Content (dry)	
<b>Temperature Operating Range</b>		
Buna-N Seals (standard)	-30°~180° F	-35°~80° C
Viton® Seals (optional)	-20°~300° F	-30°~150° C
<b>Maintenance Specifications†</b>		
Expected Life		
Normal Application	5 million cycles	
w/ Preventative Maintenance	10+ million cycles*	
Field Repairable	Yes	
Seal Repair Kits Available	Yes	
<b>Application Restrictions</b>		
<ul style="list-style-type: none"> <li>• Dirty or gritty environments</li> <li>• Machining operations generating chips</li> <li>• Environments with loose particulate</li> <li>• Applications where mechanism lubricant could cause contamination</li> </ul>		

\*Addition of lubrication will greatly increase service life  
 †See Maintenance Section

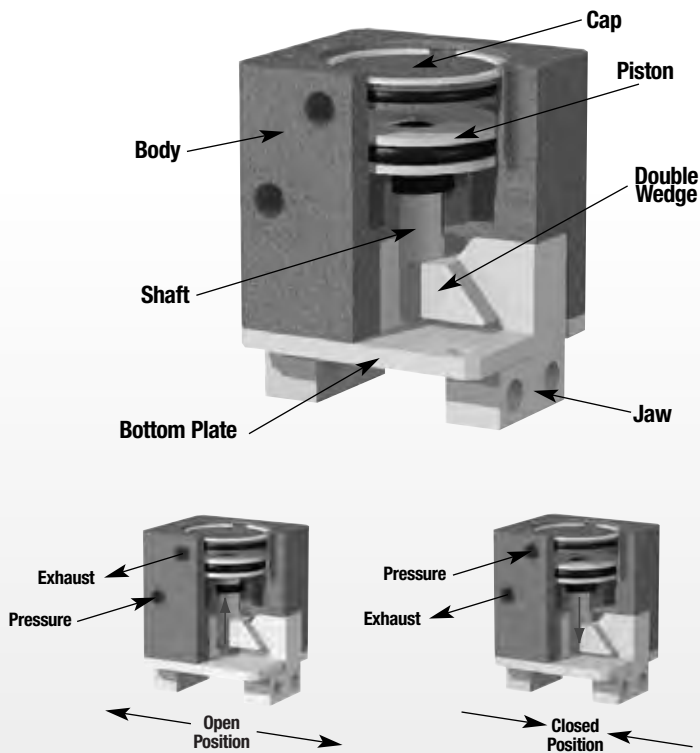
## Product Features

**Self Lubricating Seals**  
Self lubricating dynamic seals  
(Buna-N only)

**Quality Components**  
Dynamic components are  
hardened for wear resistance  
and long life



## Operating Principle



- A double acting piston is connected by a shaft to a double sided wedge.
- The wedge slides in a slot located in each of the jaws converting vertical motion of the wedge into horizontal synchronous motion of the jaws.
- The large surface area of the wedge minimizes frictional wear.
- This gripper is suitable for internal or external gripping.

**U.S. Patent # 5,125,708**  
**Designed and manufactured in the USA**

## Style-RP Parallel Gripper

**Size -5M**

Style:	RP-5	RP-5M
Stroke:	.16 in.	4.1 mm
Grip Force:	35 lb	156 N
Weight:	.18 lb	.08 Kg



See Page **1.172**

## Style-RP Parallel Gripper

**Size -5M-FS**

Style:	RP-5	RP-5M
Stroke:	.16 in.	4.1 mm
Grip Force:*	40 lb	178 N
Weight:	.18 lb	.08 Kg

\*Grip force with spring assist



See Page **1.172**

## Style-RP Parallel Gripper

**Size -10M**

Style:	RP-10	RP-10M
Stroke:	1/4 in.	6.4 mm
Grip Force:	40 lb	175 N
Weight:	.28 lb	.13 Kg

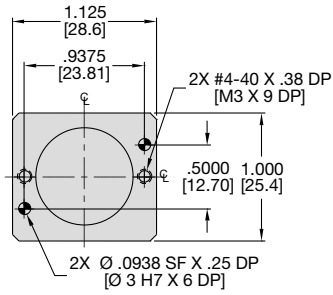


See Page **1.173**

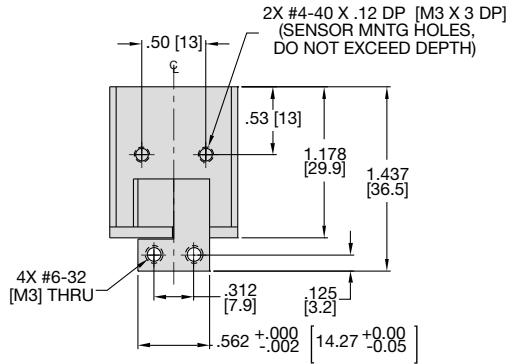
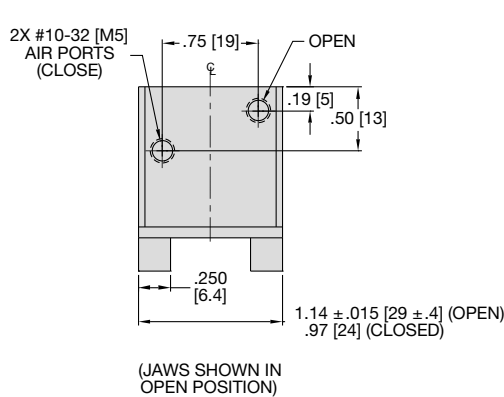
**Note:** Please refer to our new DPDS/DPDL Series grippers found on pages 1.134-1.157. The RP Series is still available for sale and the related information remains available on our website but we encourage you to consider the new DPDS/DPDL Series grippers found on pages 1.134-1.157 for new projects.



# PARALLEL GRIPPER RP-5M-FS MINIATURE DOUBLE WEDGE SERIES



Specifications	RP-5	RP-5M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	35 lb	156 N
Stroke	.16 in.	4.1 mm
Weight	0.18 lb	0.08 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore Ø	0.750 in.	19.1 mm
Displacement	0.042 in <sup>3</sup>	0.7 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.14 sec.	0.14 sec.
Accuracy	±0.001 in.	±0.03 mm
Repeatability	±0.0005 in.	±0.01 mm
Valve required to actuate	4-way, 2-position	

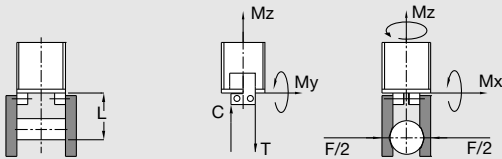
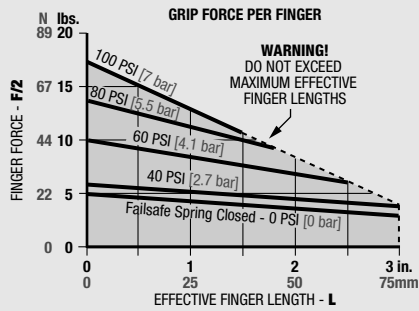


**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Imperial in.	Metric [mm]
0.00 = ±.01	[0.] = [±.25]
0.000 = ±.005	[0.0] = [±.13]
0.0000 = ±.0005	[0.00] = [±.013]

Dimensions are symmetrical about centerline  
 Third Angle Projection  
 All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]  
 Metric Threads Course Pitch

## Loading Information



Loading Capacity <sup>†</sup>	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	50 lbs.	222 N	7 lbs.	31 N
Maximum Compressive <b>C</b>	75 lbs.	334 N	12 lbs.	53 N
Maximum Moment <b>M<sub>x</sub></b>	30 in.-lbs.	3.4 Nm	5 in.-lbs.	0.6 Nm
Maximum Moment <b>M<sub>y</sub></b>	30 in.-lbs.	3.4 Nm	5 in.-lbs.	0.6 Nm
Maximum Moment <b>M<sub>z</sub></b>	30 in.-lbs.	3.4 Nm	5 in.-lbs.	0.6 Nm

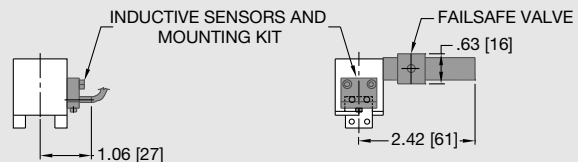
<sup>†</sup>Capacities are per set of jaws and are not simultaneous

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**    **FAIL SAFE CLOSED**    (Refer to Spring Assist Gripper section for more information)  
**RP-5 M-FS-V**  
**METRIC**    **VITON® SEALS**

SENSOR ACCESSORIES	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-001</b>	<b>1</b>
NPN Inductive Sensor with Quick Disconnect*	<b>OISN-019</b>	<b>1 or 2</b>
PNP Inductive Sensor with Quick Disconnect*	<b>OISP-019</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>
PNEUMATIC ACCESSORIES		
Fail Safe Valve (Imperial)	<b>OFSV-001</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-004</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-052</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-052V</b>	<b>1</b>

\*Sensor and cable sold separately.



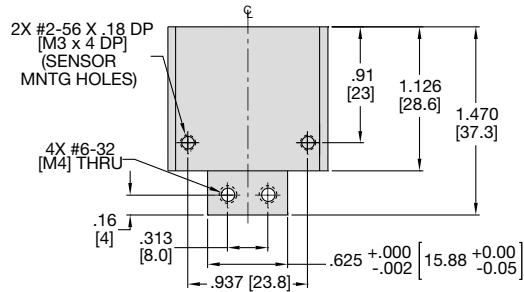
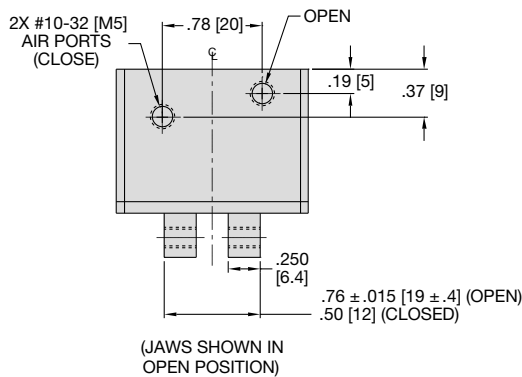
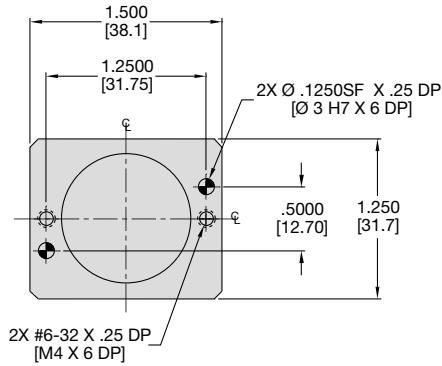




# PARALLEL GRIPPER RP-10M MINIATURE DOUBLE WEDGE SERIES

RP SERIES

1.173



### Specifications

	RP-10	RP-10M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	40 lb	178 N
Stroke	0.25 in.	6.4 mm
Weight	0.28 lb	0.13 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore Ø	1.00 in.	25.4 mm
Displacement	0.098 in <sup>3</sup>	1.6 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.13 sec.	0.13 sec.
Accuracy	±0.001 in.	±0.03 mm
Repeatability	±0.0005 in.	±0.01 mm
Valve required to actuate	4-way, 2-position	

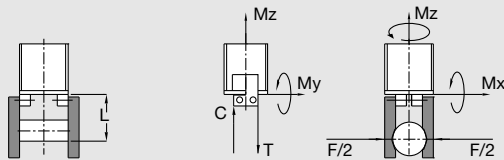
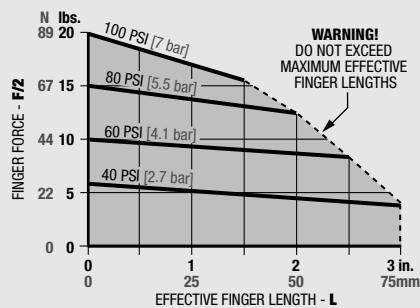
### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	Imperial in. 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	Metric [mm] [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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## Loading Information

## How to Order: (Order Accessories separately from Basic Model)

### GRIP FORCE PER FINGER



### Loading Capacity<sup>†</sup>

	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	100 lbs.	445 N	15 lbs.	67 N
Maximum Compressive <b>C</b>	150 lbs.	667 N	25 lbs.	111 N
Maximum Moment <b>M<sub>x</sub></b>	90 in.-lbs.	10.2 Nm	15 in.-lbs.	1.5 Nm
Maximum Moment <b>M<sub>y</sub></b>	90 in.-lbs.	10.2 Nm	15 in.-lbs.	1.5 Nm
Maximum Moment <b>M<sub>z</sub></b>	90 in.-lbs.	10.2 Nm	15 in.-lbs.	1.5 Nm

<sup>†</sup>Capacities are per set of jaws and are not simultaneous

### BASIC MODEL METRIC

**RP-10 M-V**

### VITON® SEALS

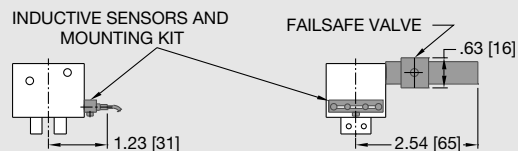
#### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-002</b>	<b>1</b>
NPN Inductive Sensor with Quick Disconnect*	<b>OISN-019</b>	<b>1 or 2</b>
PNP Inductive Sensor with Quick Disconnect*	<b>OISP-019</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>

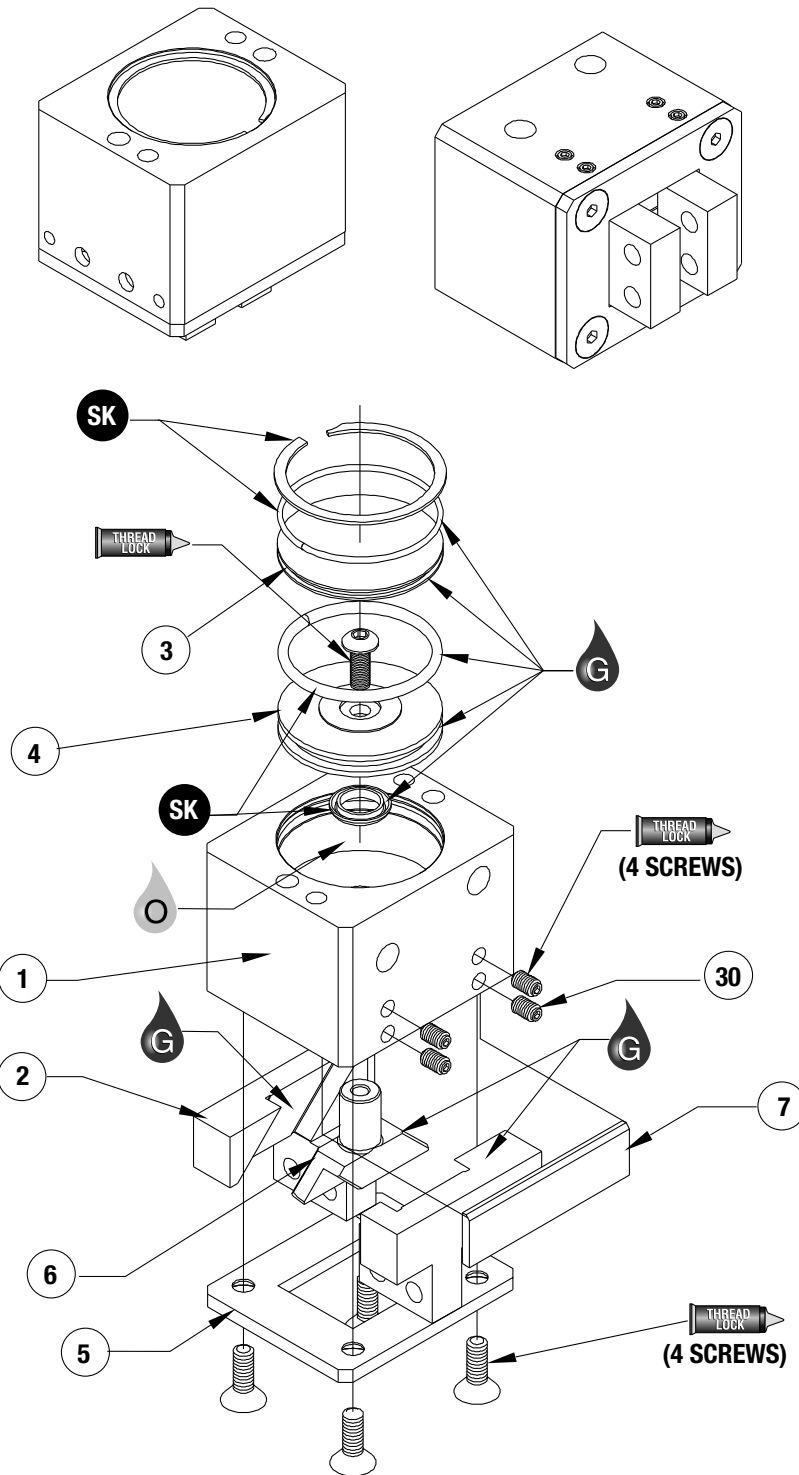
#### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Fail Safe Valve (Imperial)	<b>OFSV-001</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-004</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-036</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-036V</b>	<b>1</b>

\*Sensor and cable sold separately.



# RP-5 &10 Series Exploded View



Item	Qty	Name
01	1	Body
02	2	Jaw
03	1	Cap
04	1	Piston
05	1	Plate,Bottom
06	1	Shaft/Wedge
07*	1	Gib
30*	4	SSS,Cup Point

\* RP-10 Only

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

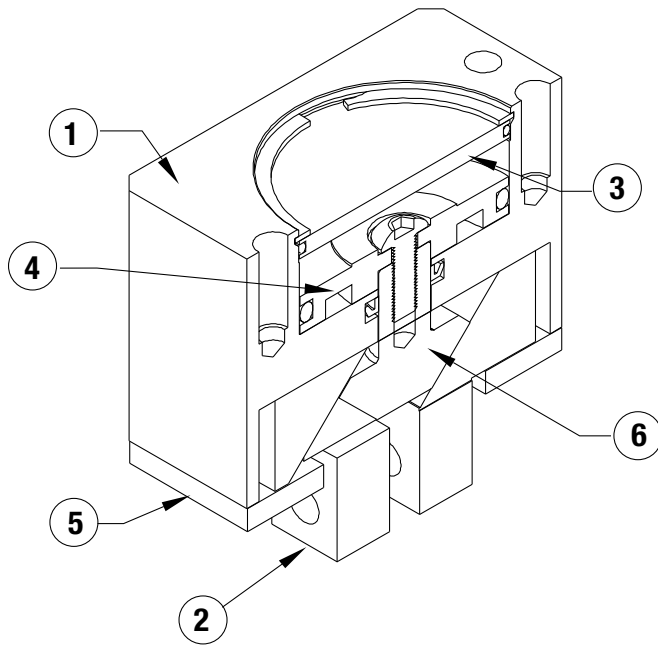
### Assembly Procedures

- 1) Lubricate and install seals.
- 2) Install piston into body.
- 3) Place wedge, jaws, and gib plate into body.
- 4) Attach bottom plate to body.
- 5) Install cap and retaining ring.

### Gib Adjustment Procedure

- 1) Tighten set screws (#30) so that they just touch the gib plate.
- 2) Cycle the gripper.
- 3) Adjust screws so that there is no play in jaws.

**SK Seal Repair Kit Order #'s  
See Product Data Sheets**

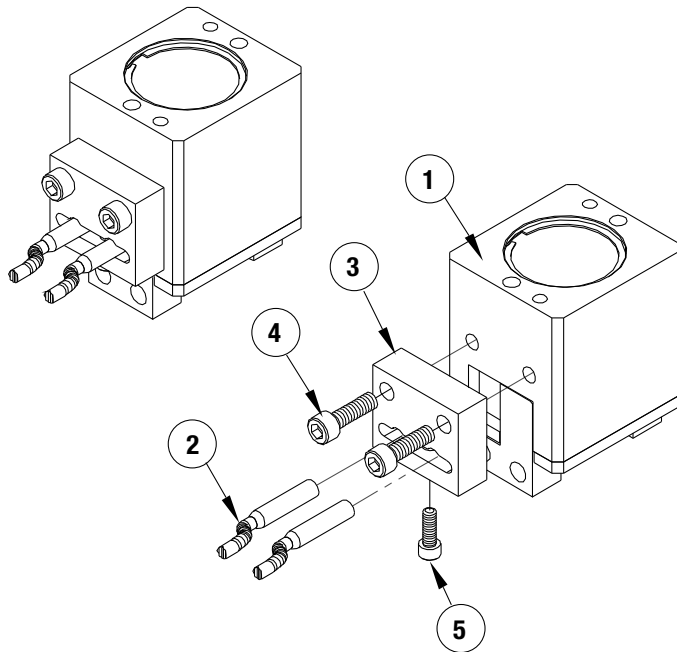


Item	Qty	Name
01	1	Body
02	2	Jaw
03	1	Cap
04	1	Piston
05	1	Plate, Bottom
06	1	Shaft/Wedge
07*	1	Gib
30*	4	SSS,Cup Point

\* RP-10 Only

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

## Accessory Installation & Adjustment Instructions



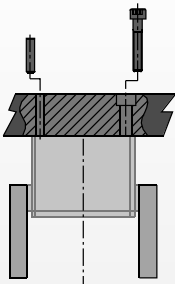
# Parallel Grippers - Double Wedge Series



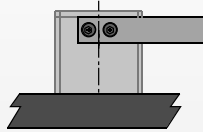
- Machining applications:**  
 Sealed design repels chips and other particulate from internal drive mechanism.
- General purpose:**  
 This style gripper is the most widely used in the industry. It is a rugged design and supplies very high grip forces for its size.
- Part pressing:**  
 Hardened steel bottom plate provides a solid surface for part pressing.

## Mounting Information:

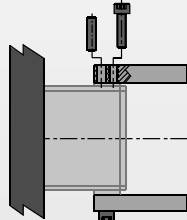
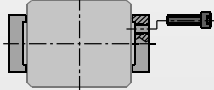
Grippers can be mounted & operated in any orientation



Body mounts with screws and locates with slip fit dowel pins for accuracy



Unit can be mounted and operated upside down



Fingers attach to jaws with screws and locate by keying or dowel pins

## Technical Specifications:

<b>Pneumatic Specifications</b>	<b>Imperial</b>	<b>Metric</b>
Pressure Operating Range	40-100 psi	3-7 bar
Cylinder Type	Double Acting	
Dynamic Seals	Internally Lubricated Buna-N	
Valve Required to Operate	4-way, 2-position	
<b>Air Quality Requirements</b>		
Air Filtration	40 Micron or Better	
Air Lubrication	Not Necessary*	
Air Humidity	Low Moisture Content (dry)	
<b>Temperature Operating Range</b>		
Buna-N Seals (standard)	-30°~180° F	-35°~80° C
Viton® Seals (optional)	-20°~300° F	-30°~150° C
<b>Maintenance Specifications †</b>		
Expected Life		
Normal Application	5 million cycles	
w/ Preventative Maintenance	10+ million cycles*	
Field Repairable	Yes	
Seal Repair Kits Available	Yes	

\*Addition of lubrication will greatly increase service life  
 † See Maintenance Section

## Product Features

**Self Lubricating Seals**  
Self lubricating dynamic seals (Buna-N only)

**Accessory Mounting Holes**  
(Mounts sensors to unit)

**Sensors/ Mounting Kit**  
Read position of jaw (Sold Separately-See "How to Order" Section for more info)

**Rugged Construction**  
Jaws are supported throughout the length of the body and are precision ground for minimal jaw play

**Compact Design**  
Extremely compact and robust package

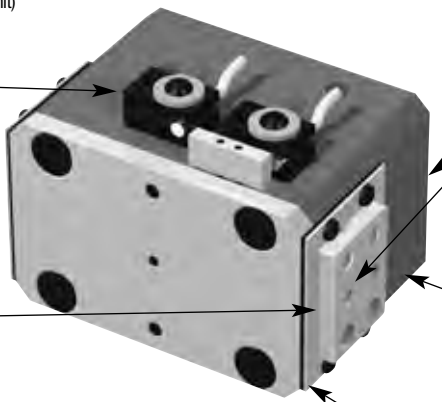
**Quality Components**  
Dynamic components are hardened for wear resistance and long life

**Dowel Holes**  
Slip fit dowel pin holes in body and jaws

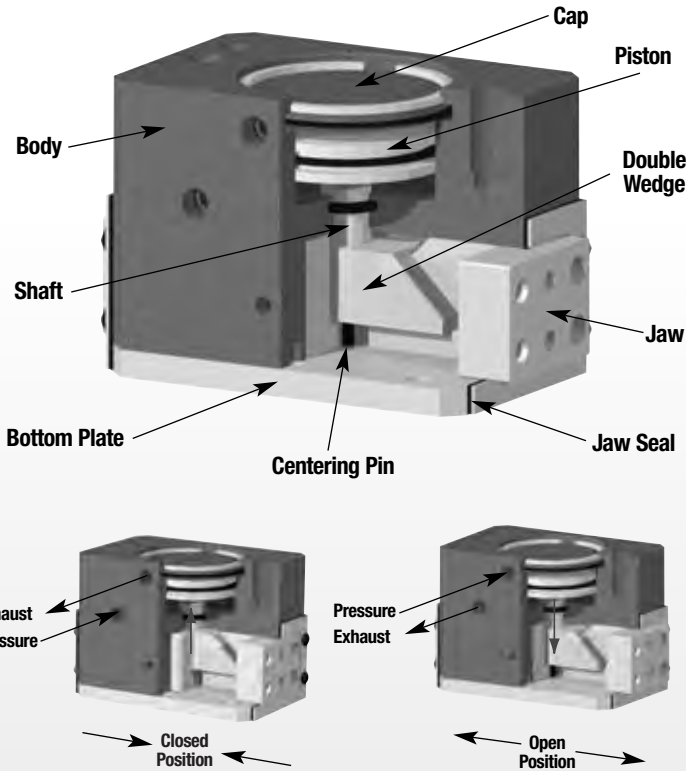
**One Piece Body**  
One piece 7075 -T6 aircraft quality aluminum body

**Sealed Design**  
Unit repels contaminants (not available on RP-11&12)

**Hard Coat Anodize**  
The body has hard-coat anodize 60 RC with Teflon® impregnation



## Operating Principle



Labels in diagram: Cap, Piston, Body, Double Wedge, Shaft, Jaw, Bottom Plate, Centering Pin, Jaw Seal, Exhaust Pressure, Pressure Exhaust, Closed Position, Open Position.

- A double acting piston is connected by a shaft to a double sided wedge.
- The wedge slides in a slot located in each of the jaws converting vertical motion of the wedge into horizontal synchronous motion of the jaws.
- The large surface area of the wedge minimizes frictional wear.
- This gripper is suitable for internal or external gripping.

**U.S. Patent # 5,125,708**  
**Designed and manufactured in the USA**

### Style-RP Parallel Gripper

#### Size-11M



Style:	RP-11	RP-11M
Stroke:	0.25 in.	6.4 mm
Grip Force:	40 lbs.	178 N
Weight:	.25 lbs.	.11 Kg

See Page **1.178**

### Style-RP Parallel Gripper

#### Size-12M



Style:	RP-12	RP-12M
Stroke:	0.38 in.	9.5 mm
Grip Force:	40 lbs.	178 N
Weight:	.56 lbs.	.25 Kg

See Page **1.179**

### Style-RP Parallel Gripper

#### Size-15M



Style:	RP-15	RP-15M
Stroke:	0.50 in.	12.7 mm
Grip Force:	70 lbs.	310 N
Weight:	1.25 lbs.	.57 Kg

See Page **1.180**

### Style-RP Parallel Gripper

#### Size-17M



Style:	RP-17	RP-17M
Stroke:	0.75 in.	19.1 mm
Grip Force:	220 lbs.	979 N
Weight:	2.2 lbs.	1.0 Kg

See Page **1.181**

### Style-RP Parallel Gripper

#### Size-18M



Style:	RP-18	RP-18M
Stroke:	1.25 in.	31.8 mm
Grip Force:	400 lbs.	1779 N
Weight:	7.7 lbs.	3.5 Kg

See Page **1.182**

### Style-RP Parallel Gripper

#### Size-19M

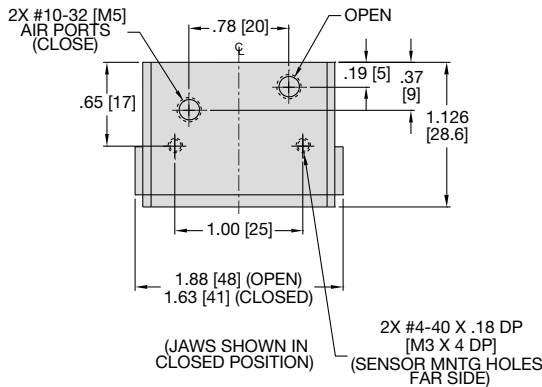
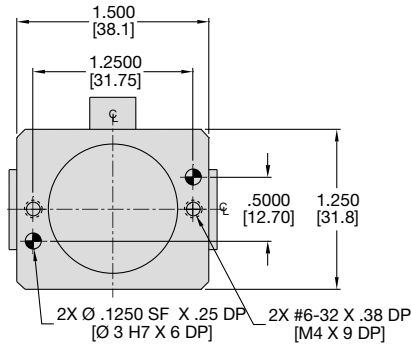


Style:	RP-19	RP-19M
Stroke:	2.00 in.	50.8 mm
Grip Force:	600 lbs.	2669 N
Weight:	21 lbs.	9.5 Kg

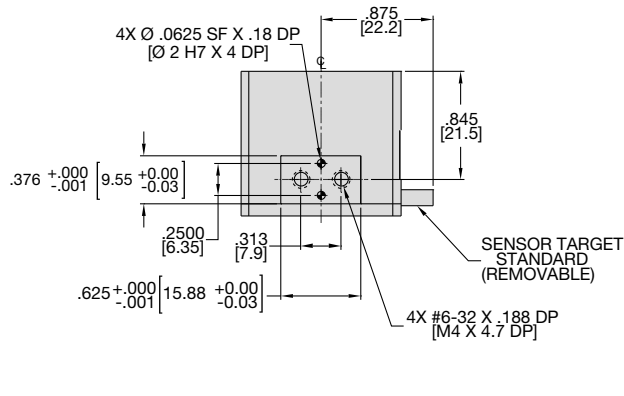
See Page **1.183**

**Note:** Please refer to our new DPDS/DPDL Series grippers found on pages 1.134-1.157. The RP Series is still available for sale and the related information remains available on our website but we encourage you to consider the new DPDS/DPDL Series grippers found on pages 1.134-1.157 for new projects.

# PARALLEL GRIPPER RP-11M DOUBLE WEDGE SERIES



Specifications	RP-11	RP-11M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	40 lbs.	178 N
Stroke	.25 in.	6.4 mm
Weight	0.26 lbs.	0.12 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore Ø	1.000 in.	25.4 mm
Displacement	0.098 in <sup>3</sup>	1.6 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.13 sec.	0.13 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate double acting...	4-way, 2-position	

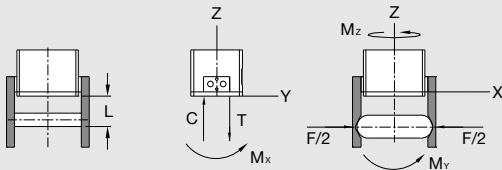
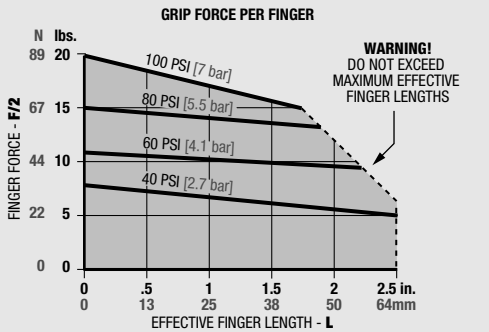


**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Imperial in.	Metric [mm]
0.00 = ±.01	[0] = [±.25]
0.000 = ±.005	[0.0] = [±.13]
0.0000 = ±.0005	[0.00] = [±.013]

## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	100 lbs.	445 N	25 lbs.	111 N
Maximum Compressive <b>C</b>	200 lbs.	890 N	25 lbs.	111 N
Maximum Moment <b>M<sub>x</sub></b>	100 in.-lbs.	11 Nm	17 in.-lbs.	2 Nm
Maximum Moment <b>M<sub>y</sub></b>	100 in.-lbs.	11 Nm	17 in.-lbs.	2 Nm
Maximum Moment <b>M<sub>z</sub></b>	100 in.-lbs.	11 Nm	17 in.-lbs.	2 Nm

†Capacities are per set of jaws and are not simultaneous

**BASIC MODEL**      **VITON® SEALS**

**RP-11 M - V**

**METRIC**

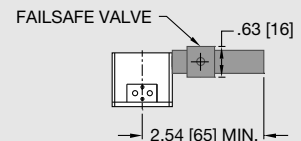
### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-003</b>	<b>1</b>
NPN Inductive Sensor with Quick Disconnect*	<b>OISN-019</b>	<b>1 or 2</b>
PNP Inductive Sensor with Quick Disconnect*	<b>OISP-019</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

Fail Safe Valve (Imperial)	<b>OFSV-001</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-004</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-036</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-036V</b>	<b>1</b>

\*Sensor and cable sold separately.



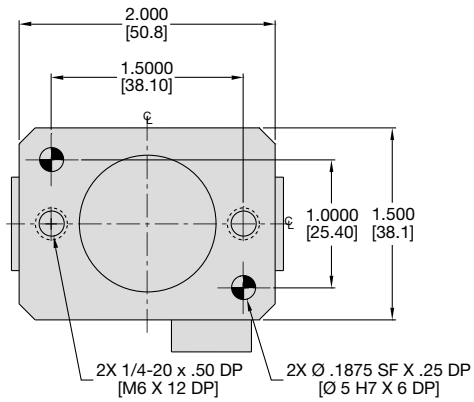




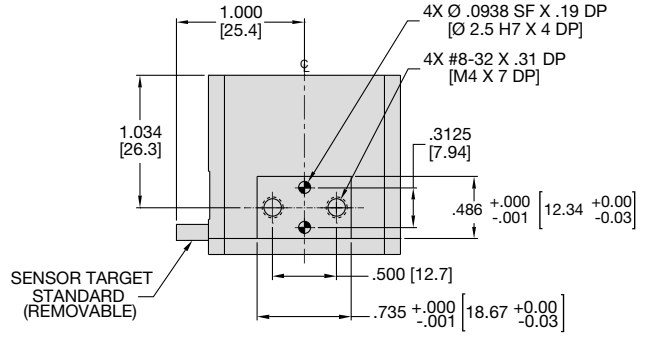
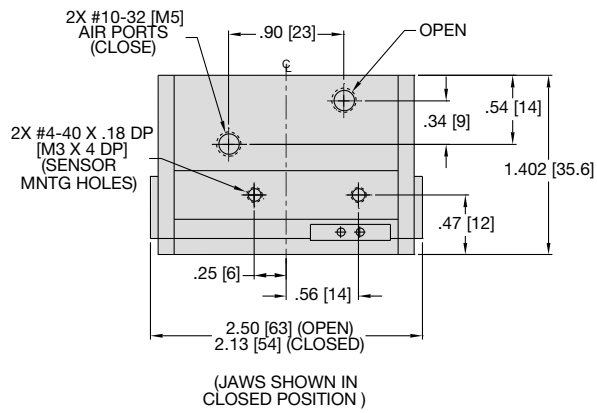
# PARALLEL GRIPPER RP-12M DOUBLE WEDGE SERIES

RP SERIES

1.179



Specifications	RP-12	RP-12M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	40 lbs.	178 N
Stroke	.38 in.	9.5 mm
Weight	0.56 lbs.	0.25 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore Ø	1.000 in.	25.4 mm
Displacement	0.150 in <sup>3</sup>	2.5 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.13 sec.	0.13 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate double acting...	4-way, 2-position	



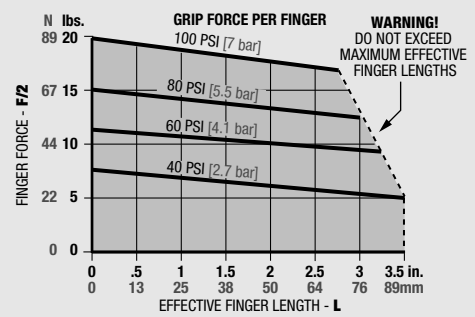
**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Symbol	Imperial in.	Metric [mm]
	0.00 = ±.01	[0.] = [±.25]
	0.000 = ±.005	[0.0] = [±.13]
	0.0000 = ±.0005	[0.00] = [±.013]

Dimensions are symmetrical about centerline  
Third Angle Projection  
All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]  
Metric Threads Course Pitch

## Loading Information

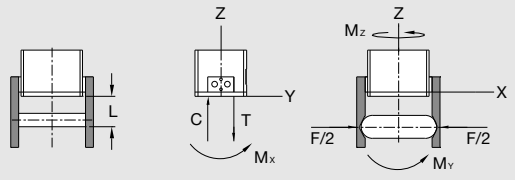
## How to Order: (Order Accessories separately from Basic Model)



**BASIC MODEL**      **VITON® SEALS**

**RP-12 M - V**

**METRIC**



Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	200 lbs.	890 N	25 lbs.	111 N
Maximum Compressive <b>C</b>	400 lbs.	1779 N	25 lbs.	111 N
Maximum Moment <b>Mx</b>	150 in.-lbs.	17 Nm	25 in.-lbs.	3 Nm
Maximum Moment <b>My</b>	150 in.-lbs.	17 Nm	25 in.-lbs.	3 Nm
Maximum Moment <b>Mz</b>	150 in.-lbs.	17 Nm	25 in.-lbs.	3 Nm

†Capacities are per set of jaws and are not simultaneous

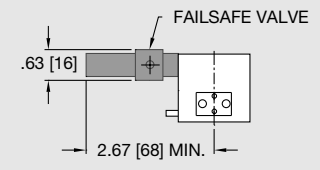
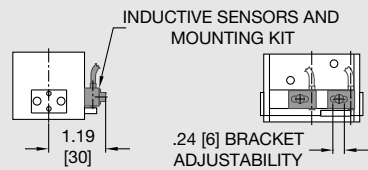
### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-003</b>	<b>1</b>
NPN Inductive Sensor with Quick Disconnect*	<b>OISN-019</b>	<b>1 or 2</b>
PNP Inductive Sensor with Quick Disconnect*	<b>OISP-019</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

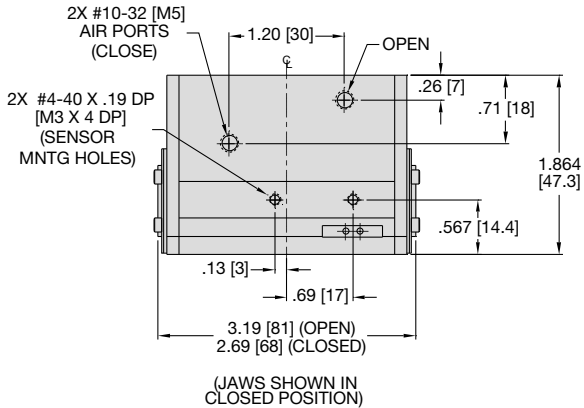
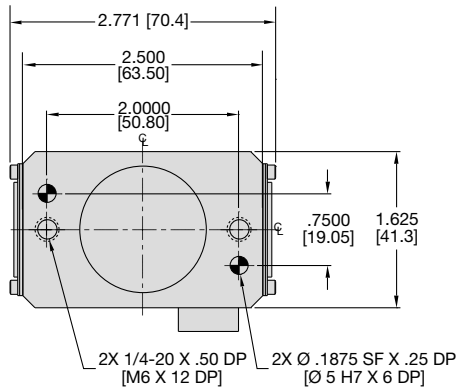
Fail Safe Valve (Imperial)	<b>OFSV-001</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-004</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-040</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-040V</b>	<b>1</b>

\*Sensor and cable sold separately.



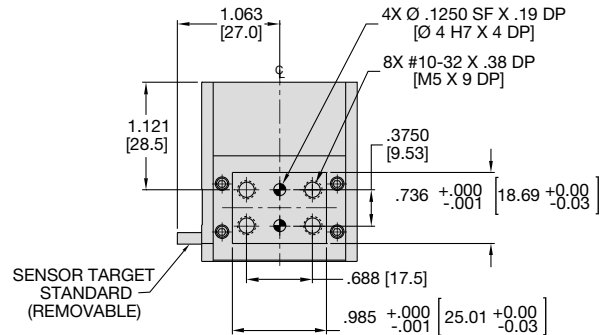


# PARALLEL GRIPPER RP-15M DOUBLE WEDGE SERIES



### Specifications

	RP-15	RP-15M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	70 lbs.	311 N
Stroke	.50 in.	12.7 mm
Weight	1.25 lbs.	0.57 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore Ø	1.25 in.	31.8 mm
Displacement	0.300 in <sup>3</sup>	4.9 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.20 sec.	0.20 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate double acting...	4-way, 2-position	

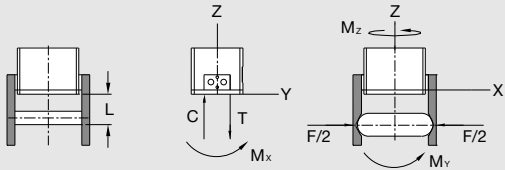
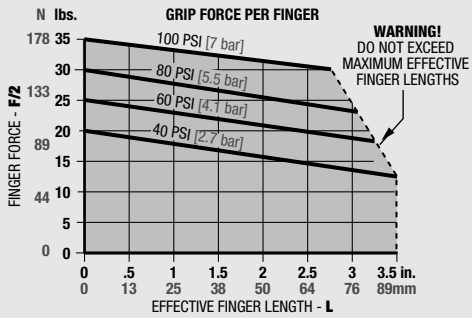


### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Symbol	Imperial in.	Metric [mm]
	0.00 = ±.01	[0.] = [±.25]
	0.000 = ±.005	[0.0] = [±.13]
	0.0000 = ±.0005	[0.00] = [±.013]
	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	
	Metric Threads Course Pitch	
	Third Angle Projection	
	Dimensions are symmetrical about centerline	

## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	400 lbs.	1779 N	50 lbs.	222 N
Maximum Compressive <b>C</b>	750 lbs.	3336 N	50 lbs.	222 N
Maximum Moment <b>M<sub>x</sub></b>	300 in.-lbs.	34 Nm	50 in.-lbs.	6 Nm
Maximum Moment <b>M<sub>y</sub></b>	300 in.-lbs.	34 Nm	50 in.-lbs.	6 Nm
Maximum Moment <b>M<sub>z</sub></b>	300 in.-lbs.	34 Nm	50 in.-lbs.	6 Nm

†Capacities are per set of jaws and are not simultaneous

### BASIC MODEL VITON® SEALS

**RP-15 M - V**

METRIC

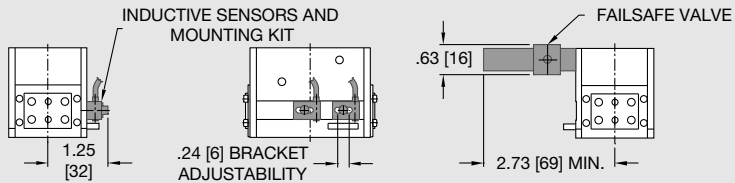
### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-003</b>	<b>1</b>
NPN Inductive Sensor with Quick Disconnect*	<b>OISN-019</b>	<b>1 or 2</b>
PNP Inductive Sensor with Quick Disconnect*	<b>OISP-019</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

Fail Safe Valve (Imperial)	<b>OFSV-001</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-004</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-041</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-041V</b>	<b>1</b>

\*Sensor and cable sold separately.

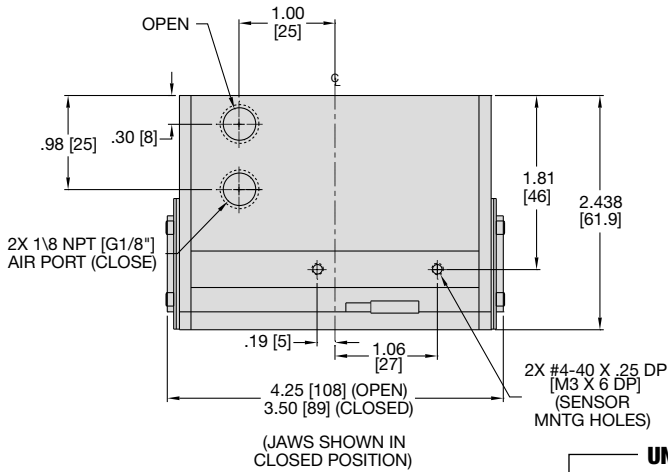
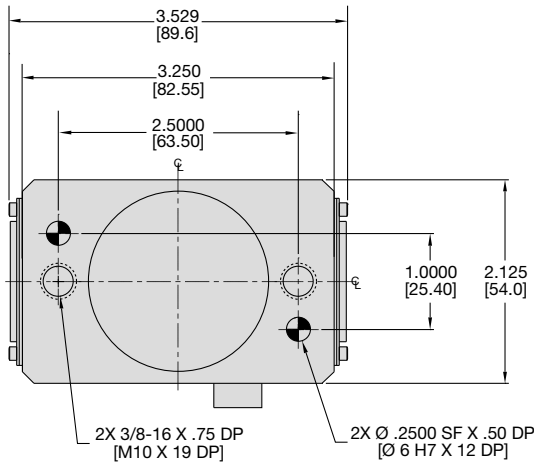




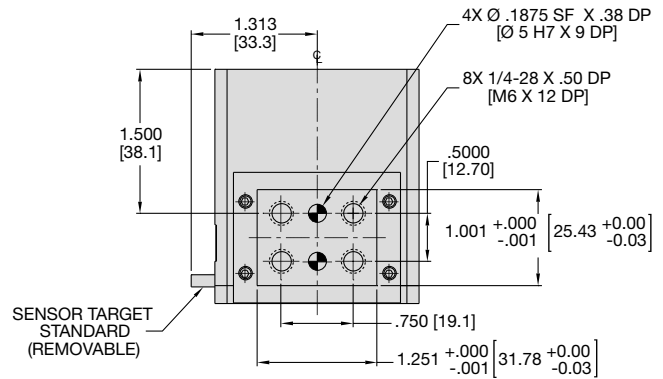
# PARALLEL GRIPPER RP-17M DOUBLE WEDGE SERIES

RP SERIES

1.181



Specifications	RP-17	RP-17M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	220 lbs.	979 N
Stroke	.75 in.	19.1 mm
Weight	2.2 lbs.	1.0 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore Ø	1.813 in.	46.1 mm
Displacement	1.400 in <sup>3</sup>	22.9 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.18 sec.	0.18 sec.
Accuracy	±0.003 in.	±0.08 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate double acting...	4-way, 2-position	

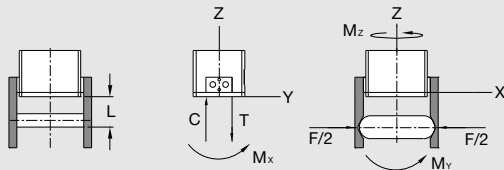
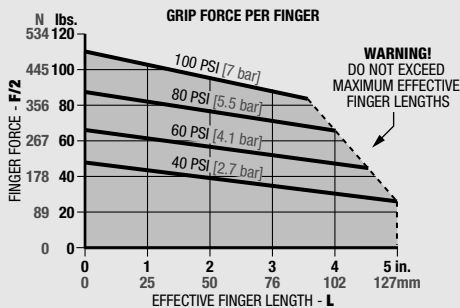


**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

	Imperial in.	Metric [mm]
Dimensions are symmetrical about centerline	0.00 = ±.01	[0] = [±.25]
Third Angle Projection	0.000 = ±.005	[0.0] = [±.13]
All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	0.0000 = ±.0005	[0.00] = [±.013]
Metric Threads		
Course Pitch		

## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	750 lbs.	3336 N	100 lbs.	445 N
Maximum Compressive <b>C</b>	1500 lbs.	6672 N	100 lbs.	445 N
Maximum Moment <b>M<sub>x</sub></b>	750 in.-lbs.	85 Nm	125 in.-lbs.	14 Nm
Maximum Moment <b>M<sub>y</sub></b>	750 in.-lbs.	85 Nm	125 in.-lbs.	14 Nm
Maximum Moment <b>M<sub>z</sub></b>	750 in.-lbs.	85 Nm	125 in.-lbs.	14 Nm

†Capacities are per set of jaws and are not simultaneous

## BASIC MODEL VITON® SEALS

**RP-17 M - V**

METRIC

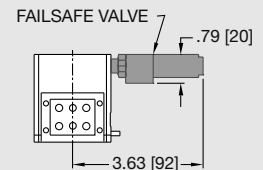
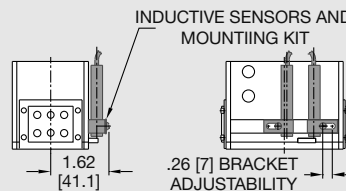
### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-072</b>	<b>1</b>
NPN Inductive Sensor with Quick Disconnect*	<b>OISN-011</b>	<b>1 or 2</b>
PNP Inductive Sensor with Quick Disconnect*	<b>OISP-011</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>

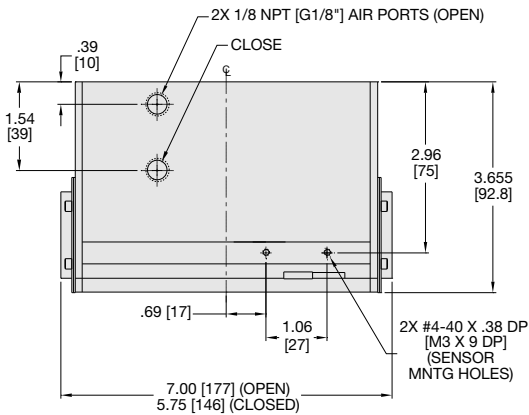
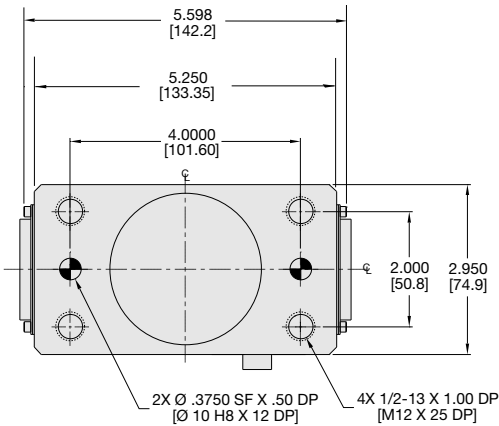
### PNEUMATIC ACCESSORIES

Fail Safe Valve (Imperial)	<b>OFSV-002</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-005</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-042</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-042V</b>	<b>1</b>

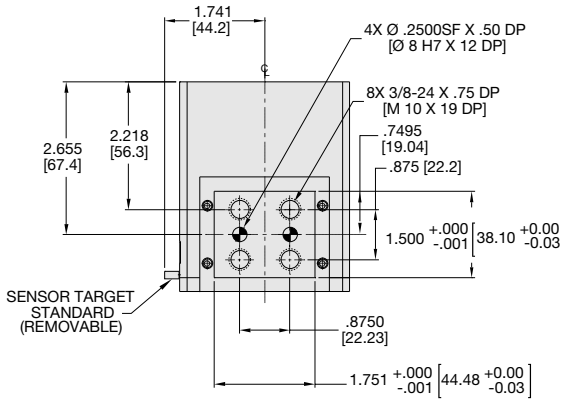
\*Sensor and cable sold separately.



# PARALLEL GRIPPER RP-18M DOUBLE WEDGE SERIES



(JAWS SHOWN IN CLOSED POSITION)



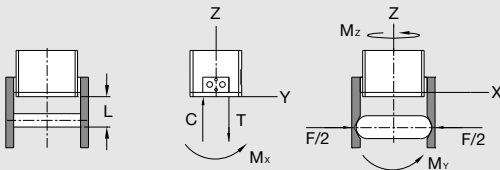
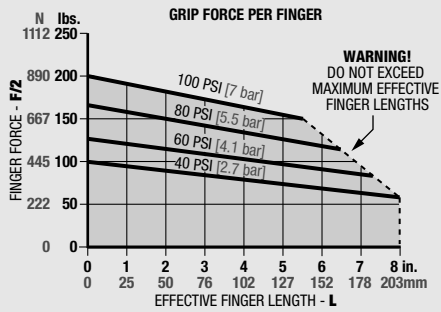
### Specifications

	RP-18	RP-18M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	400 lbs.	1779 N
Stroke	1.25 in.	31.8 mm
Weight	7.7 lbs.	3.5 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore Ø	2.500 in.	63.5 mm
Displacement	4.400 in <sup>3</sup>	72.1 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.22 sec.	0.22 sec.
Accuracy	±0.003 in.	±0.08 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate double acting...	4-way, 2-position	

### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Imperial in.	Metric [mm]
0.00 = ±.01	[0.] = [±.25]
0.000 = ±.005	[0.0] = [±.13]
0.0000 = ±.0005	[0.00] = [±.013]

## Loading Information



Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	1500 lbs.	6672 N	250 lbs.	1112 N
Maximum Compressive <b>C</b>	3000 lbs.	13345 N	250 lbs.	1112 N
Maximum Moment <b>M<sub>x</sub></b>	1500 in.-lbs.	170 Nm	250 in.-lbs.	28 Nm
Maximum Moment <b>M<sub>y</sub></b>	1500 in.-lbs.	170 Nm	250 in.-lbs.	28 Nm
Maximum Moment <b>M<sub>z</sub></b>	1500 in.-lbs.	170 Nm	250 in.-lbs.	28 Nm

†Capacities are per set of jaws and are not simultaneous

## How to Order: (Order Accessories separately from Basic Model)

BASIC MODEL      VITON® SEALS

**RP-18 M - V**

METRIC

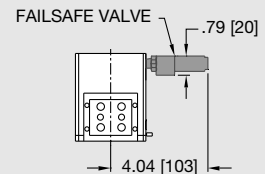
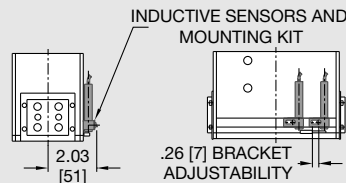
### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-072</b>	<b>1</b>
NPN Inductive Sensor with Quick Disconnect*	<b>OISN-011</b>	<b>1 or 2</b>
PNP Inductive Sensor with Quick Disconnect*	<b>OISP-011</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

Fail Safe Valve (Imperial)	<b>OFSV-002</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-005</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-043</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-043V</b>	<b>1</b>

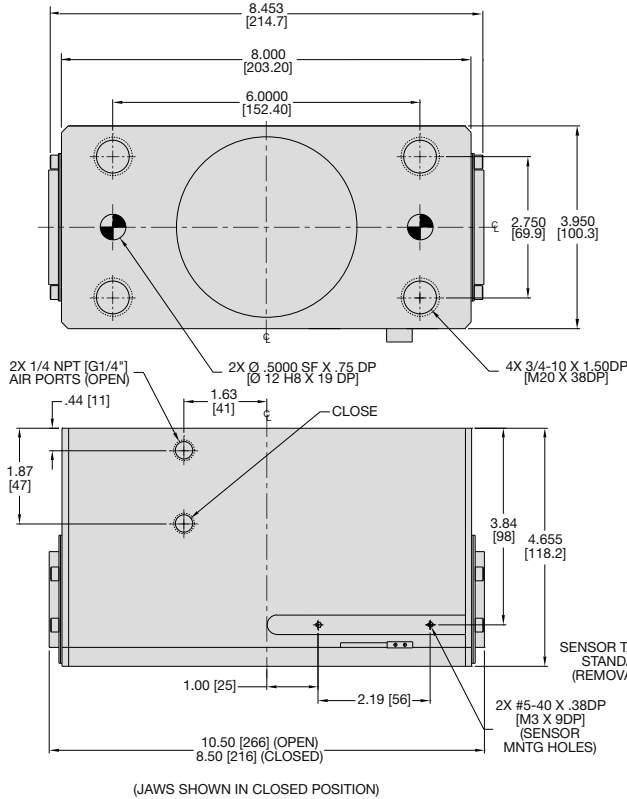
\*Sensor and cable sold separately.





# PARALLEL GRIPPER RP-19M DOUBLE WEDGE SERIES

RP SERIES  
**1.183**



### Specifications

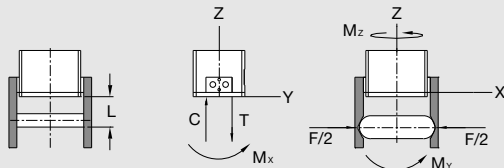
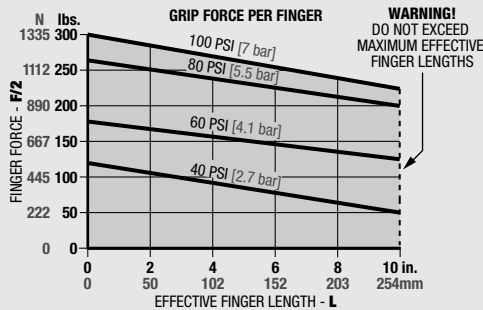
	RP-19	RP-19M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	600 lbs.	2669 N
Stroke	2.00 in.	50.8 mm
Weight	21 lbs.	9.5 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore $\varnothing$	3.500 in.	88.9 mm
Displacement	9.600 in <sup>3</sup>	157.3 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.50 sec.	0.50 sec.
Accuracy	±0.003 in.	±0.08 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate double acting...	4-way, 2-position	

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

	Imperial in.	Metric [mm]
Dimensions are symmetrical about centerline	0.00 ± 0.01	[0.] = [±.25]
Third Angle Projection	0.000 ± 0.005	[0.0] = [±.13]
All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	0.0000 ± 0.0005	[0.00] = [±.013]
Metric Threads Course Pitch		

## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	3000 lbs.	13345 N	300 lbs.	1334 N
Maximum Compressive <b>C</b>	6000 lbs.	26689 N	300 lbs.	1334 N
Maximum Moment <b>M<sub>x</sub></b>	5000 in.-lbs.	565 Nm	500 in.-lbs.	56 Nm
Maximum Moment <b>M<sub>y</sub></b>	5000 in.-lbs.	565 Nm	500 in.-lbs.	56 Nm
Maximum Moment <b>M<sub>z</sub></b>	5000 in.-lbs.	565 Nm	500 in.-lbs.	56 Nm

†Capacities are per set of jaws and are not simultaneous

**BASIC MODEL**      **VITON® SEALS**

**RP-19 M - V**

**METRIC**

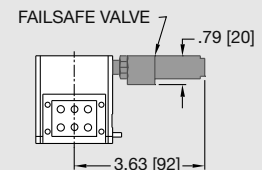
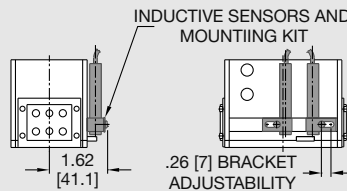
### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-073</b>	<b>1</b>
NPN Inductive Sensor with Quick Disconnect*	<b>OISN-011</b>	<b>1 or 2</b>
PNP Inductive Sensor with Quick Disconnect*	<b>OISP-011</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

Fail Safe Valve (Imperial)	<b>OFSV-003</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-006</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-044</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-044V</b>	<b>1</b>

\*Sensor and cable sold separately.

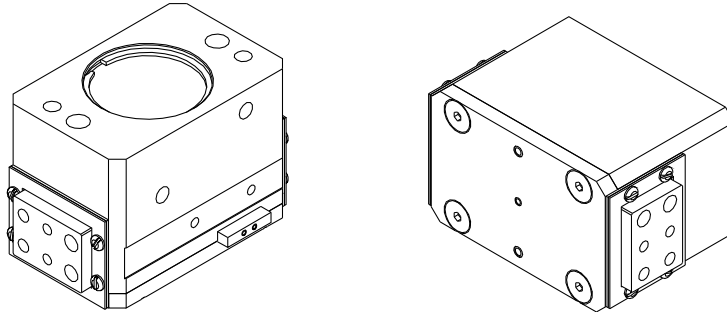


# RP Double Wedge Series Exploded View



Item	Qty	Name
------	-----	------

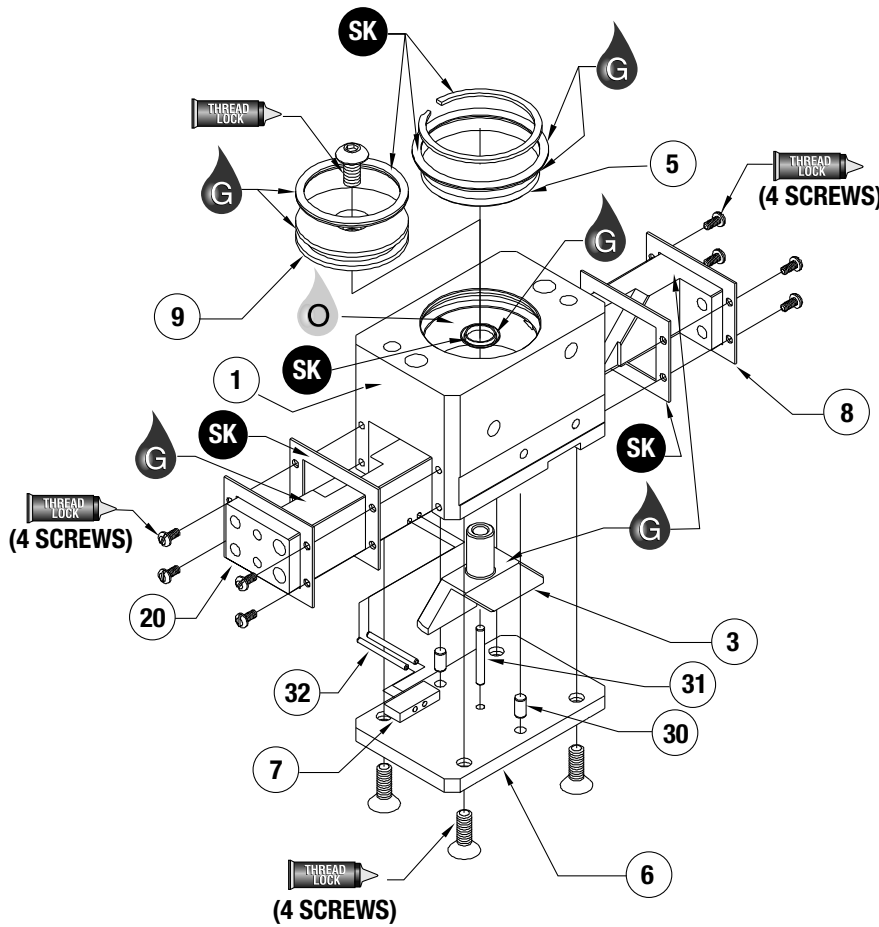
01	1	Body
03	1	Shaft/Wedge
05	1	Cap
06	1	Plate, Bottom
07	1	Target
08	2	Plate, Seal
09	1	Piston
20	2	Jaw, Target Ready
30	2	Dowel Pin
31	1	Dowel Pin
32	2	Roll Pin



**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

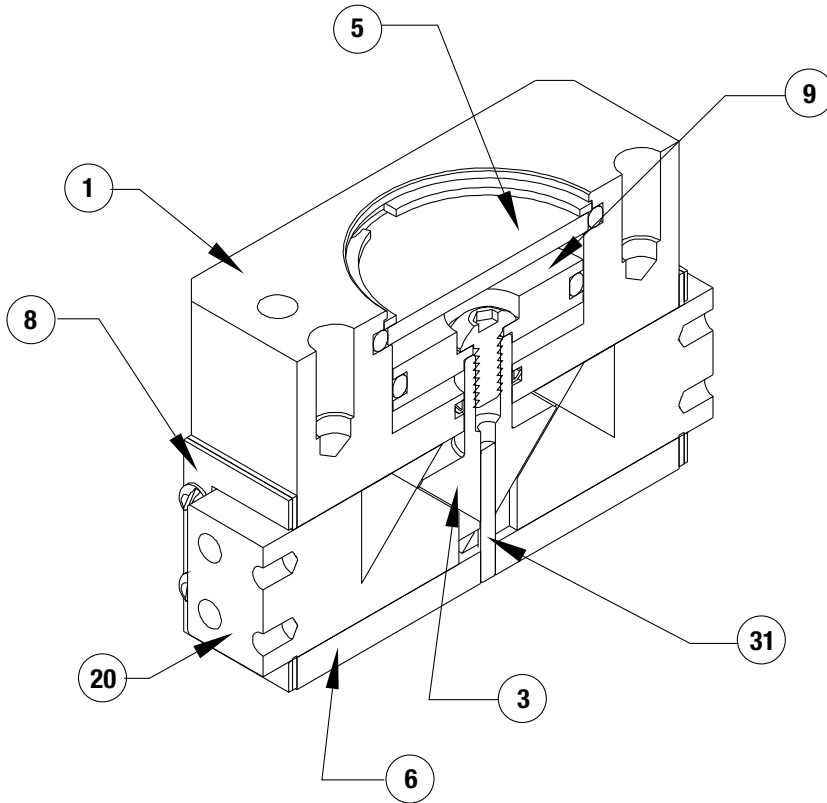
### Assembly Procedure

- 1) Lubricate and install seals.
- 2) Install target on one jaw.
- 3) Place wedge, shaft and jaws into body.
- 4) Install piston into body.
- 5) Install cap and retaining ring.
- 6) Attach bottom plate to body.



**SK Seal Repair Kit Order #'s  
See Product Data Sheets**

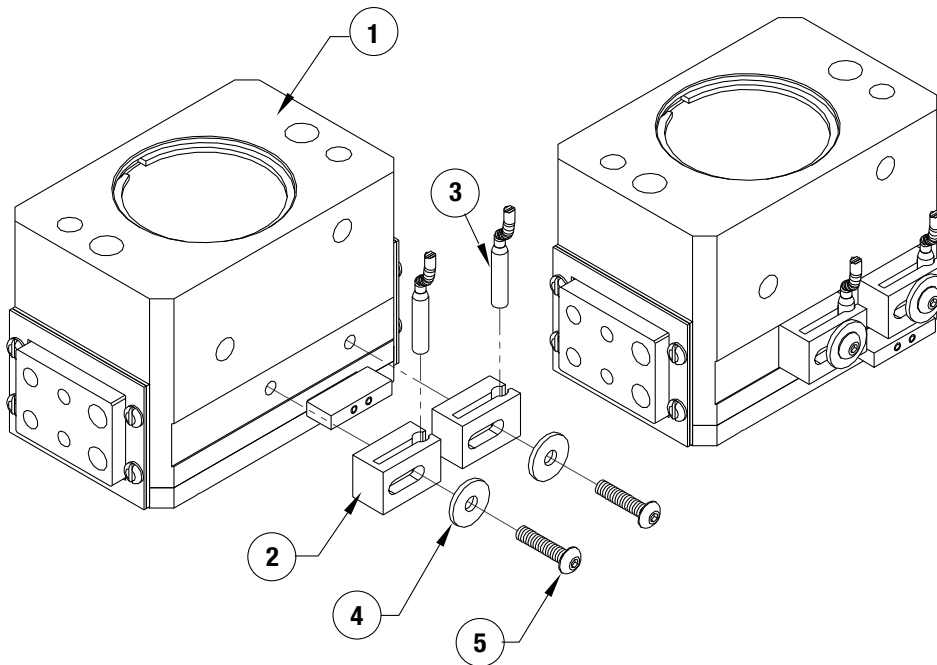




Item	Qty	Name
01	1	Body
03	1	Shaft/Wedge
05	1	Cap
06	1	Plate, Bottom
07	1	Target
08	2	Plate, Seal
09	1	Piston
20	2	Jaw, Target Ready
30	2	Dowel Pin
31	1	Dowel Pin
32	2	Roll Pin

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

## Accessory Installation & Adjustment Instructions

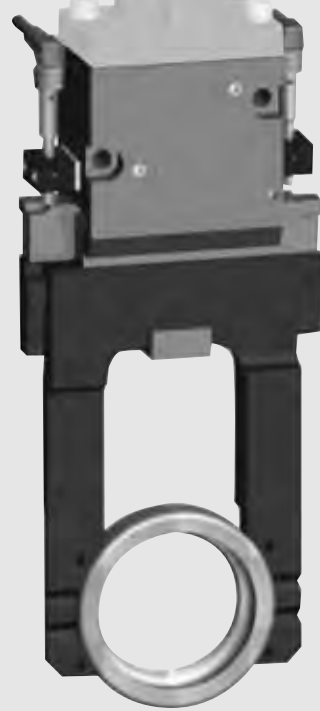


### Installation

- 1) Install sensors as shown.
- 2) Adjust for desired end of stroke detection.



# Parallel Grippers - Two Jaw Precision Spring Series

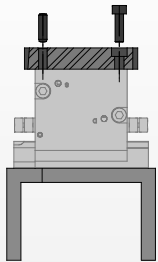


- Compact and shielded gripper:**  
 This gripper is designed for use in confined spaces, combining long strokes with a high grip force. Standard safety springs retain the components should the air supply fail, or during gripping, the spring provides additional gripforce.
- Multipurpose gripper:**  
 The safety springs allow this gripper to be used to clamp on arbor or in bore without the need for any modifications. All the user has to do is to change the jaw position in the jaw holders.
- Harsh environments:**  
 Shielded design repels chips and other particulate from internal drive mechanism.

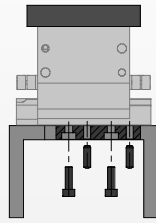
## Mounting Information:

### Grippers can be mounted & operated in any orientation

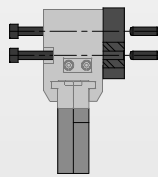
The gripper is protected from falling debris when it is mounted and operated upside down.



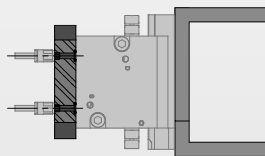
Gripper is located from the top with 2 dowel pins and assembled with 2 screws (by pulling).



Fingers are located on jaws with 2 dowel pins and assembled with 2 screws.



Gripper is located on the side with 2 dowel pins and assembled with 2 through body screws.



Gripper can be operated utilizing top manifold air ports.

## Technical Specifications:

Pneumatic Specifications	Imperial	Metric
Pressure Operating Range	45-100 psi	3-7 bar
Cylinder Type	Double Acting Spring Assist or Single Acting Spring Return	
Dynamic Seals	Internally Lubricated Buna-N	
Valve Required to Operate	4-way, 2-position for Double Acting or 3-way, 2-position for Single Acting	

### Air Quality Requirements

Air Filtration	40 Micron or Better
Air Lubrication	Not Necessary*
Air Humidity	Low Moisture Content (dry)

### Temperature Operating Range

Buna-N Seals (Standard)	-30°~180° F	-35°~80° C
Viton® Seals (Optional)	-20°~300° F	-30°~150° C

### Maintenance Specifications†

Expected Life	5 million cycles
Normal Application w/ Preventative Maintenance	10+ million cycles*
Field Repairable	Yes
Seal Repair Kits Available	Yes

\*Addition of lubrication will greatly increase service life  
 †See Maintenance Section



## Product Features

### Quality Components

Made from Aluminum alloy with hard coat anodized with Teflon™ Impregnation. The gripper's main components are made of heat treated steel.

### Viton® Seals

Viton® seals for high temperatures (-20°F to +300°F) are optional.

### Multiple Air Ports

Side or top manifold air ports.

### Spring Assist

Standard springs allow the gripper to retain the component, should the air supply fail or to use the gripper in single acting mode by clamping on the shaft or the bore.

**DIRECTCONNECT™ Mounting Patterns**  
DIRECTCONNECT™ tapped & dowel mounting surface available on **DDH** version [except -85 & 105]

### Jaws

Jaws are made from heat treated steel

### Gripper Attachment

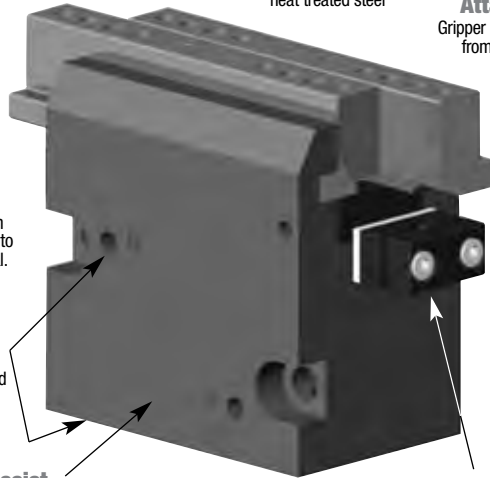
Gripper can be mounted from top or sides

### Jaw Attachment

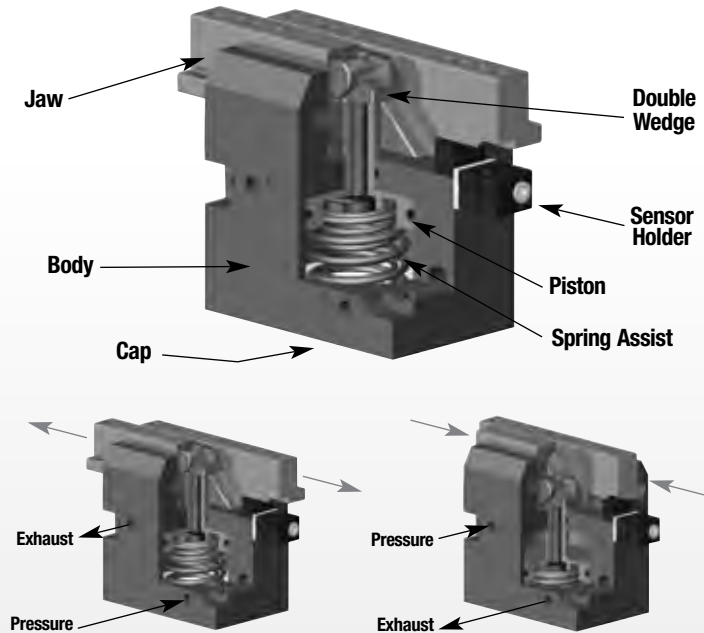
Each jaw allows jaw attachment for gripping on OD or ID

### Cover

Gripper body is shielded to repel chips and other particulate from internal drive mechanism.



## Operating Principle



- Two safety springs apply pressure to a piston. One end of the piston is connected to a double wedge that has two opposing racks that slide in the jaw holder slot.
- It converts vertical motion of the piston into horizontal opposite synchronous motion of the 2 jaws.
- In order to benefit from spring power and from pneumatic control power, the pneumatic inlet must be applied to "S" for gripping and with "D" for release. An arrow etched onto each jaw holder indicates the gripping direction.
- Springs can be used to increase the grip force or to hold part in the event of air loss. It also allows the gripper to be used in single acting mode.

## Style-DGC Parallel Gripper

### Size -25

Style:	GC-25	
Stroke:	0.79 in.	20 mm
Grip Force:	106 lbs.	474 N
Weight:	0.77 lbs.	0.35 Kg



See Page **1.188**

## Style-DGC Parallel Gripper

### Size -45

Style:	GC-45	
Stroke:	1.18 in.	30 mm
Grip Force:	108 lbs.	481 N
Weight:	1.32 lbs.	0.60 Kg



See Page **1.189**

## Style-DGC Parallel Gripper

### Size -65

Style:	GC-65	
Stroke:	1.57 in.	40 mm
Grip Force:	179 lbs.	796 N
Weight:	2.87 lbs.	1.30 Kg



See Page **1.190**

## Style-GC Parallel Gripper

### Size -85

Style:	GC-85	
Stroke:	1.97 in.	50 mm
Grip Force:	333 lbs.	1480 N
Weight:	4.85 lbs.	2.20 Kg



See Page **1.191**

## Style-GC Parallel Gripper

### Size -105

Style:	GC105	
Stroke:	2.36 in.	60 mm
Grip Force:	521 lbs.	2318 N
Weight:	9.50 lbs.	4.31 Kg



See Page **1.192**

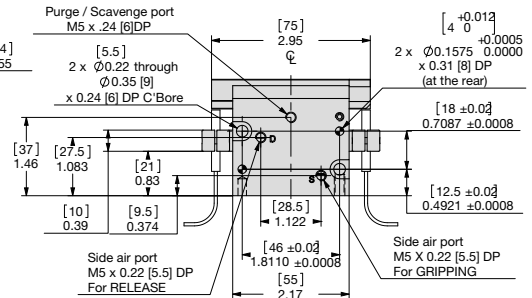
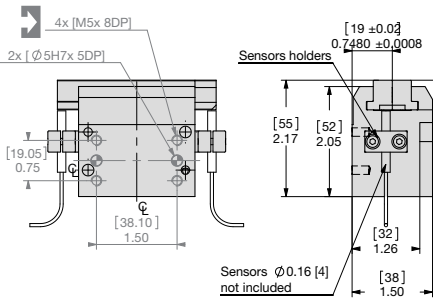
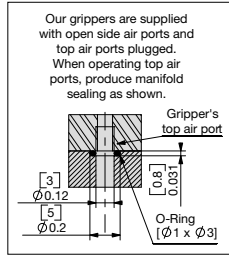
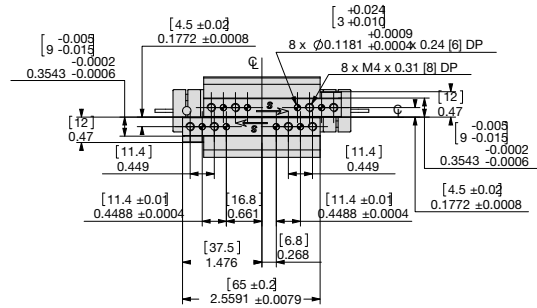
# PARALLEL GRIPPER DGC-25 TWO JAW PRECISION SPRING ASSIST

## Specifications

### DGC-25

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	106 lbs.	474 N
Stroke	0.787 in	20 mm
Weight	0.77 lbs.	0.35 kg
Pressure Range	45-100 psi	3-7 bar
Cylinder Bore $\varnothing$	1.34 in.	34 mm
Displacement	0.98 in <sup>3</sup>	16 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.2 sec.	0.2 sec.
Accuracy	±0.0009 in.	±0.02 mm
Repeatability	±0.0004 in.	±0.01 mm.
Valve required to actuate single acting....	3-way 2-position	
Valve required to actuate double acting....	4-way, 2-position	

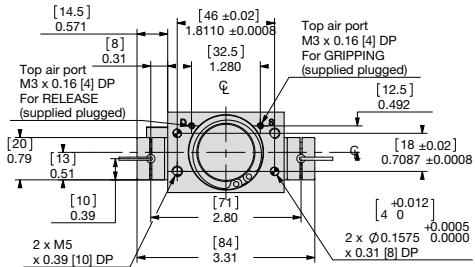
\* With springs.



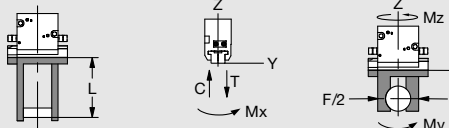
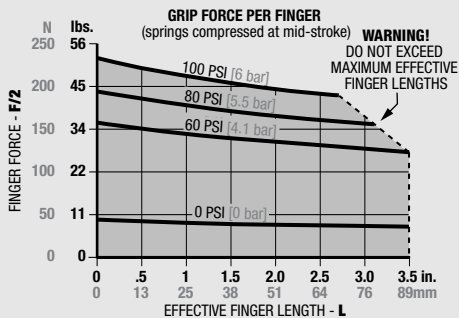
### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
	<b>Imperial in.</b>	<b>Metric [mm]</b>
Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

**NOTE:**  
To benefit from safety springs power, on open or on close, gripper must always be operated with "S" for GRIPPING and with "D" for RELEASE.  
Drawing hereafter shows gripper gripping at the end of stroke (inlet through "S")



## Loading Information



Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	28 lbs.	125 N	6 lbs.	25 N
Maximum Compressive <b>C</b>	33 lbs.	145 N	7 lbs.	29 N
Maximum Moment <b>M<sub>x</sub></b>	18 in.-lbs.	2 Nm	4 in.-lbs.	0.5 Nm
Maximum Moment <b>M<sub>y</sub></b>	35 in.-lbs.	4 Nm	9 in.-lbs.	1 Nm
Maximum Moment <b>M<sub>z</sub></b>	53 in.-lbs.	6 Nm	13 in.-lbs.	1.5 Nm

†Capacities are per set of jaws and are not simultaneous

## How to Order: (Order Separately)

**BASIC MODEL**  
**DGC-25-V**  
**SIZE VITON® SEALS**

### SENSOR ACCESSORIES

- 4mm PNP Inductive Sensor with Qk Disconnect\*
- 4mm NPN Inductive Sensor with Qk Disconnect\*
- Quick Disconnect 2 Meter Cable\*
- Quick Disconnect 5 Meter Cable\*

ORDER #	QTY/UNIT
<b>OISP-014</b>	<b>1 or 2</b>
<b>OISN-014</b>	<b>1 or 2</b>
<b>CABL-010</b>	<b>1 or 2</b>
<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

- Standard Seal Repair Kit
- Viton® Seal Repair Kit

<b>SLKT-319</b>	<b>1</b>
<b>SLKT-319V</b>	<b>1</b>

\*Sensor and cable sold separately.



# PARALLEL GRIPPER DGC-45 TWO JAW PRECISION SPRING ASSIST

GC SERIES

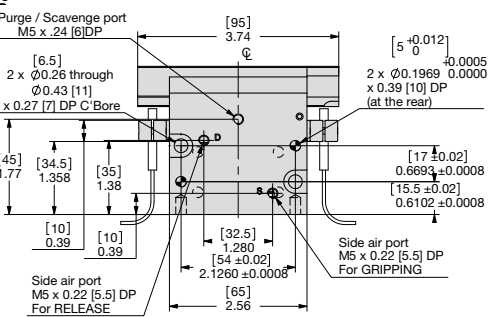
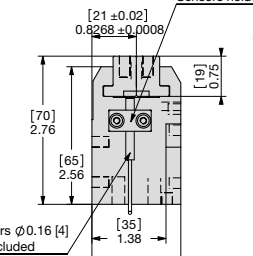
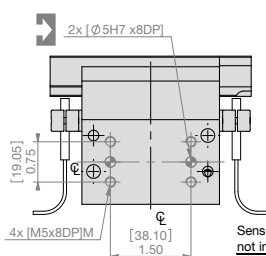
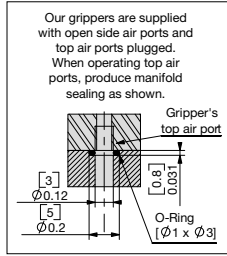
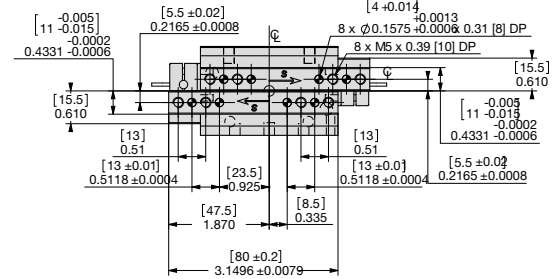
1.189

## Specifications

### DGC-45

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	108 lbs.	481 N
Stroke	1.181 in	30 mm
Weight	1.32 lbs.	0.60 kg
Pressure Range	45-100 psi	3-7 bar
Cylinder Bore $\varnothing$	1.46 in	37 mm
Displacement	1.77 in <sup>3</sup>	29 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.25 sec.	0.25 sec.
Accuracy	±0.0009 in.	±0.02 mm
Repeatability	±0.0004 in.	±0.01 mm.
Valve required to actuate single acting....	3-way 2-position	
Valve required to actuate double acting....	4-way, 2-position	

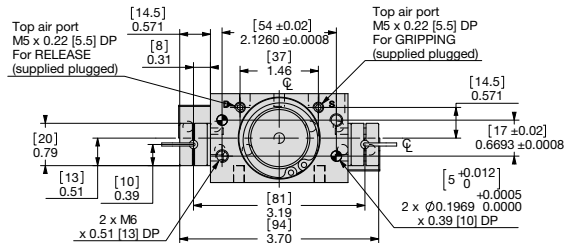
\* With springs.



### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

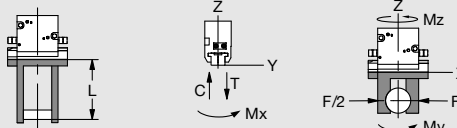
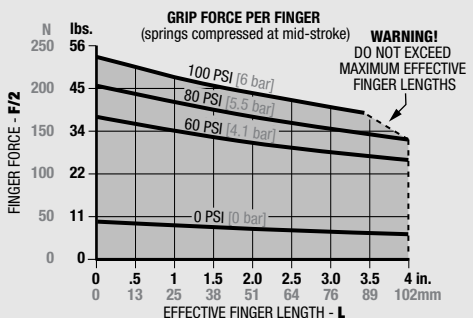
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±0.0005" or [±.013mm]
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

**NOTE:**  
To benefit from safety springs power, on open or on close, gripper must always be operated with "S" for GRIPPING and with "D" for RELEASE.  
Drawing hereafter shows gripper gripping at the end of stroke (inlet through "S")



## Loading Information

## How to Order: (Order Separately)



Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	46 lbs.	205 N	9 lbs.	41 N
Maximum Compressive <b>C</b>	51 lbs.	225 N	10 lbs.	45 N
Maximum Moment <b>M<sub>x</sub></b>	27 in.-lbs.	3 Nm	7 in.-lbs.	0.75 Nm
Maximum Moment <b>M<sub>y</sub></b>	53 in.-lbs.	6 Nm	13 in.-lbs.	1.5 Nm
Maximum Moment <b>M<sub>z</sub></b>	80 in.-lbs.	9 Nm	20 in.-lbs.	2.25 Nm

†Capacities are per set of jaws and are not simultaneous

**BASIC MODEL**  
**DGC - 45 - V**  
**SIZE VITON® SEALS**

SENSOR ACCESSORIES	ORDER #	QTY/UNIT
4mm PNP Inductive Sensor with Qk Disconnect*	<b>OISP-014</b>	<b>1 or 2</b>
4mm NPN Inductive Sensor with Qk Disconnect*	<b>OISN-014</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable*	<b>CABL-013</b>	<b>1 or 2</b>
PNEUMATIC ACCESSORIES		
Standard Seal Repair Kit	<b>SLKT-321</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-321V</b>	<b>1</b>

\*Sensor and cable sold separately.

DIRECTCONNECT™



# PARALLEL GRIPPER DGC-65 TWO JAW PRECISION SPRING ASSIST

GC SERIES

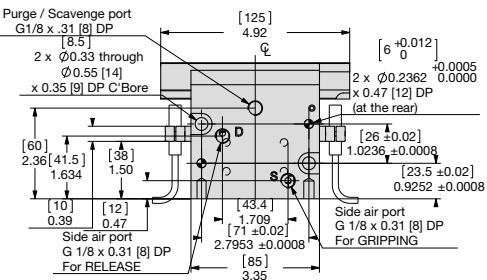
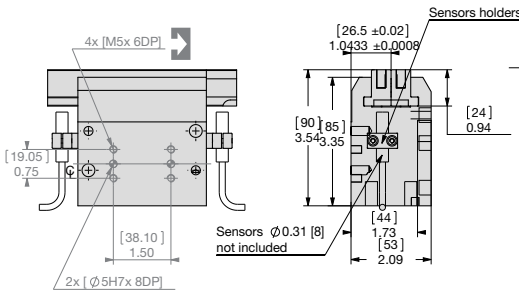
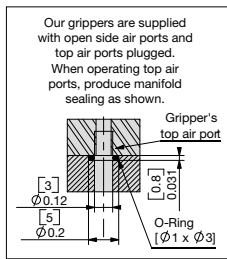
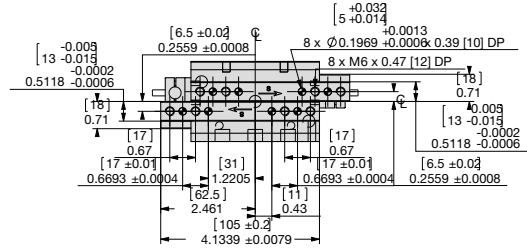
1.190

## Specifications

### DGC-65

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	179 lbs.	796 N
Stroke	1.575 in.	40 mm
Weight	2.87 lbs.	1.30 kg
Pressure Range	45-100 psi	3-7 bar
Cylinder Bore $\varnothing$	1.85 in.	47 mm
Displacement	3.78 in <sup>3</sup>	62 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.35 sec.	0.35 sec.
Accuracy	±0.0009 in.	±0.02 mm
Repeatability	±0.0004 in.	±0.01 mm.
Valve required to actuate single acting....	3-way 2-position	
Valve required to actuate double acting....	4-way, 2-position	

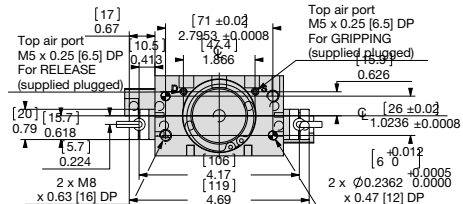
\* With springs.



## UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

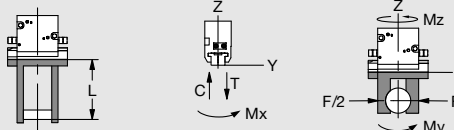
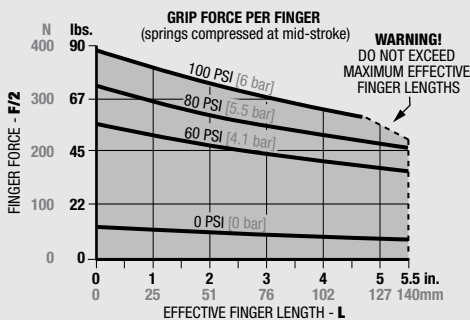
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

**NOTE:**  
To benefit from safety springs power, on open or on close, gripper must always be operated with "S" for GRIPPING and with "D" for RELEASE.  
  
Drawing hereafter shows gripper gripping at the end of stroke (inlet through "S")



## Loading Information

## How to Order: (Order Separately)



### Loading Capacity†

	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	61 lbs.	270 N	12 lbs.	54 N
Maximum Compressive <b>C</b>	69 lbs.	305 N	14 lbs.	61 N
Maximum Moment <b>M<sub>x</sub></b>	35 in.-lbs.	4 Nm	9 in.-lbs.	1 Nm
Maximum Moment <b>M<sub>y</sub></b>	89 in.-lbs.	10 Nm	22 in.-lbs.	2.5 Nm
Maximum Moment <b>M<sub>z</sub></b>	150 in.-lbs.	17 Nm	38 in.-lbs.	4.25 Nm

†Capacities are per set of jaws and are not simultaneous

### BASIC MODEL

**DGC-65-V**

SIZE VITON® SEALS

### SENSOR ACCESSORIES

- 8mm PNP Inductive Sensor with Qk Disconnect\*
- 8mm NPN Inductive Sensor with Qk Disconnect\*
- Quick Disconnect 2 Meter Cable\*
- Quick Disconnect 5 Meter Cable\*

ORDER #	QTY/UNIT
<b>OISP-011</b>	<b>1 or 2</b>
<b>OISN-011</b>	<b>1 or 2</b>
<b>CABL-010</b>	<b>1 or 2</b>
<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

- Standard Seal Repair Kit
- Viton® Seal Repair Kit

ORDER #	QTY
<b>SLKT-323</b>	<b>1</b>
<b>SLKT-323V</b>	<b>1</b>

\*Sensor and cable sold separately.

DIRECTCONNECT™





# PARALLEL GRIPPER GC-85 TWO JAW PRECISION SPRING ASSIST

GC SERIES

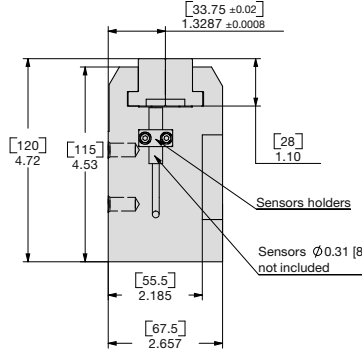
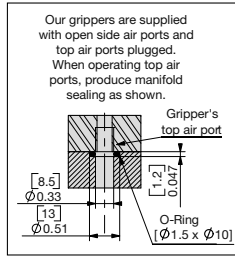
1.191

## Specifications

## GC-85

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	333 lbs.	1480 N
Stroke	1.968 in	50 mm
Weight	4.85 lbs.	2.20 kg
Pressure Range	45-100 psi	3-7 bar
Cylinder Bore $\varnothing$	2.36 in.	60 mm
Displacement	8.30 in <sup>3</sup>	136 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.5 sec.	0.5 sec.
Accuracy	±0.0009 in.	±0.02 mm
Repeatability	±0.0004 in.	±0.01 mm.
Valve required to actuate single acting....	3-way 2-position	
Valve required to actuate double acting....	4-way, 2-position	

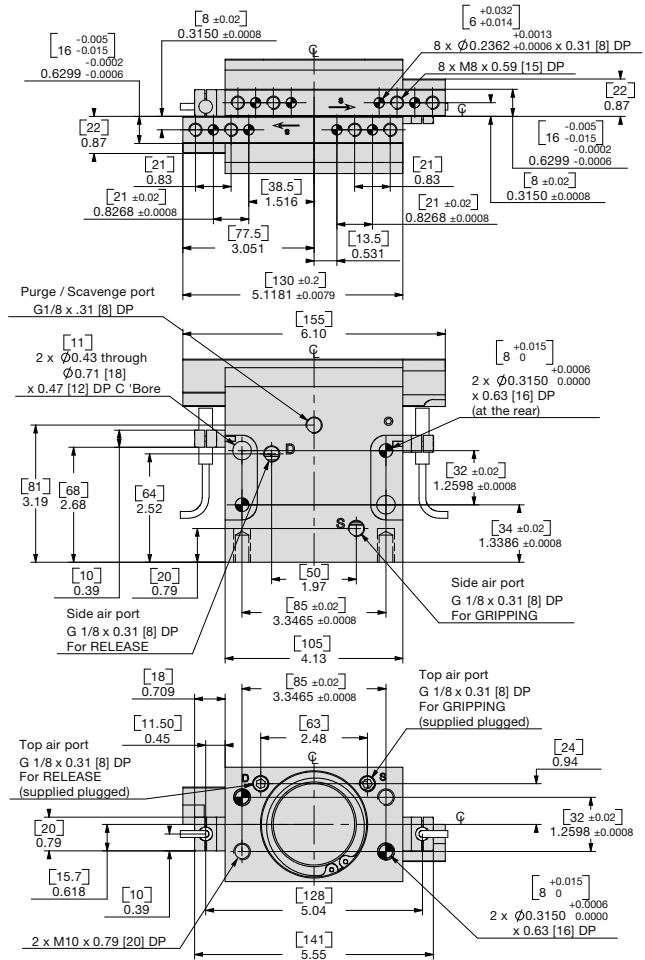
\* With springs.



### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

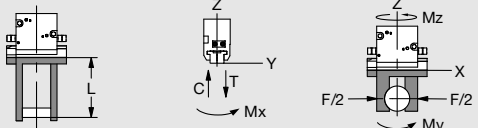
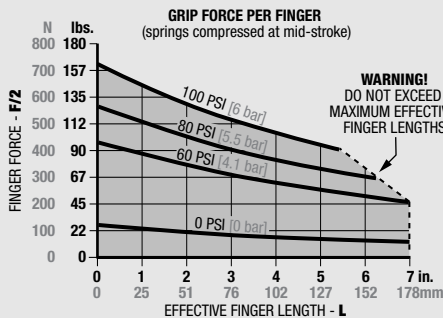
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±0.0005" or [±.013mm]
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

**NOTE:**  
To benefit from safety springs power, on open or on close, gripper must always be operated with "S" for GRIPPING and with "D" for RELEASE.  
Drawing hereafter shows gripper gripping at the end of stroke (inlet through "S")



## Loading Information

## How to Order: (Order Separately)



### Loading Capacity†

	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	83 lbs.	370 N	17 lbs.	74 N
Maximum Compressive <b>C</b>	91 lbs.	405 N	18 lbs.	81 N
Maximum Moment <b>M<sub>x</sub></b>	53 in.-lbs.	6 Nm	13 in.-lbs.	1.5 Nm
Maximum Moment <b>M<sub>y</sub></b>	133 in.-lbs.	15 Nm	33 in.-lbs.	3.75 Nm
Maximum Moment <b>M<sub>z</sub></b>	239 in.-lbs.	27 Nm	60 in.-lbs.	6.75 Nm

†Capacities are per set of jaws and are not simultaneous

### BASIC MODEL

**GC-85-V**

SIZE VITON® SEALS

### SENSOR ACCESSORIES

- 8mm PNP Inductive Sensor with Qk Disconnect\*
- 8mm NPN Inductive Sensor with Qk Disconnect\*
- Quick Disconnect 2 Meter Cable\*
- Quick Disconnect 5 Meter Cable\*

ORDER #	QTY/UNIT
<b>OISP-011</b>	<b>1 or 2</b>
<b>OISN-011</b>	<b>1 or 2</b>
<b>CABL-010</b>	<b>1 or 2</b>
<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

- Standard Seal Repair Kit
  - Viton® Seal Repair Kit
- \*Sensor and cable sold separately.

SLKT-325	1
<b>SLKT-325V</b>	<b>1</b>



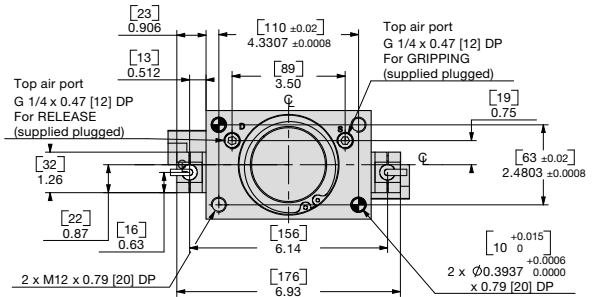
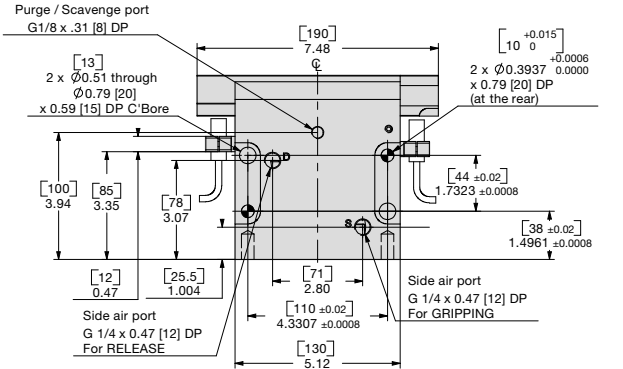
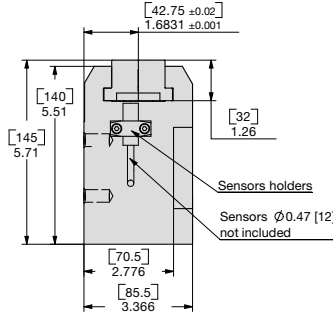
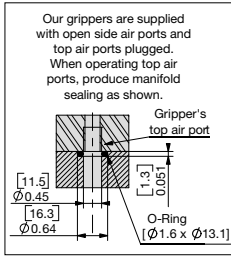
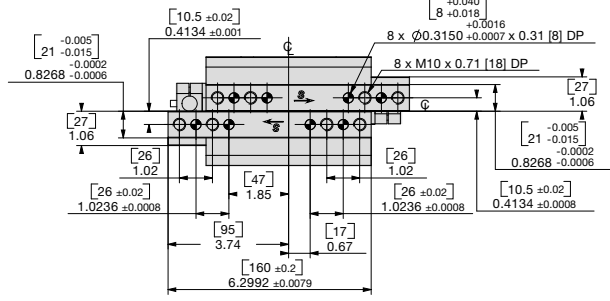
# PARALLEL GRIPPER GC-105 TWO JAW PRECISION SPRING ASSIST

## Specifications

### GC-105

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar*	521 lbs.	2318 N
Stroke.....	2.362 in	60 mm
Weight.....	9.50 lbs.	4.31 kg
Pressure Range.....	45-100 psi	3-7 bar
Cylinder Bore $\varnothing$ .....	2.99 in.	76 mm
Displacement.....	15.93 in <sup>3</sup>	261 cm <sup>3</sup>
Temperature Range		
Standard Seals.....	-30°~180° F	-35°~80° C
Viton® Seals.....	-20°~300° F	-30°~150° C
Actuation.....	0.7 sec.	0.7 sec.
Accuracy.....	±0.0009 in.	±0.02 mm
Repeatability.....	±0.0004 in.	±0.01 mm.
Valve required to actuate single acting....	3-way 2-position	
Valve required to actuate double acting....	4-way, 2-position	

\* With springs.

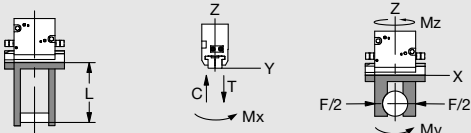
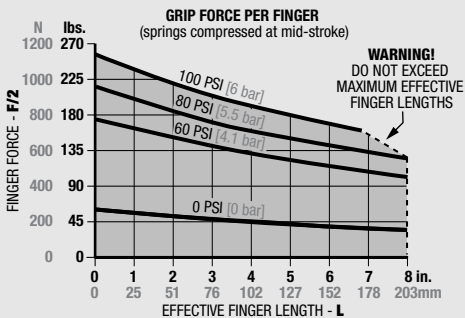


### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
Metric Threads Course Pitch	Imperial in.	Metric [mm]
	0.00 = ±.01	[0.] = [±.25]
	0.000 = ±.005	[0.0] = [±.13]
	0.0000 = ±.0005	[0.00] = [±.013]

**NOTE:**  
To benefit from safety springs power, on open or on close, gripper must always be operated with "S" for GRIPPING and with "D" for RELEASE.  
Drawing hereafter shows gripper gripping at the end of stroke (inlet through "S")

## Loading Information



Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	93 lbs.	415 N	19 lbs.	83 N
Maximum Compressive <b>C</b>	102 lbs.	455 N	20 lbs.	91 N
Maximum Moment <b>M<sub>x</sub></b>	71 in.-lbs.	8 Nm	18 in.-lbs.	2 Nm
Maximum Moment <b>M<sub>y</sub></b>	168 in.-lbs.	19 Nm	42 in.-lbs.	4.75 Nm
Maximum Moment <b>M<sub>z</sub></b>	354 in.-lbs.	40 Nm	89 in.-lbs.	10 Nm

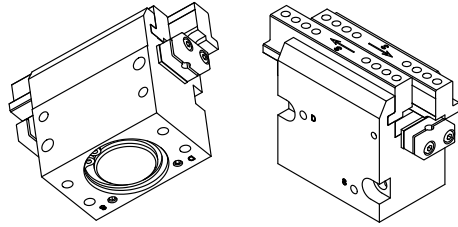
†Capacities are per set of jaws and are not simultaneous

## How to Order: (Order Separately)

**BASIC MODEL**  
**GC-105-V**  
SIZE VITON® SEALS

SENSOR ACCESSORIES	ORDER #	QTY/UNIT
12mm PNP Inductive Sensor with Qk Disconnect*	<b>OISP-017</b>	<b>1 or 2</b>
12mm NPN Inductive Sensor with Qk Disconnect*	<b>OISN-017</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable*	<b>CABL-014</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable*	<b>CABL-018</b>	<b>1 or 2</b>
PNEUMATIC ACCESSORIES		
Standard Seal Repair Kit	<b>SLKT-327</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-327V</b>	<b>1</b>

\*Sensor and cable sold separately.

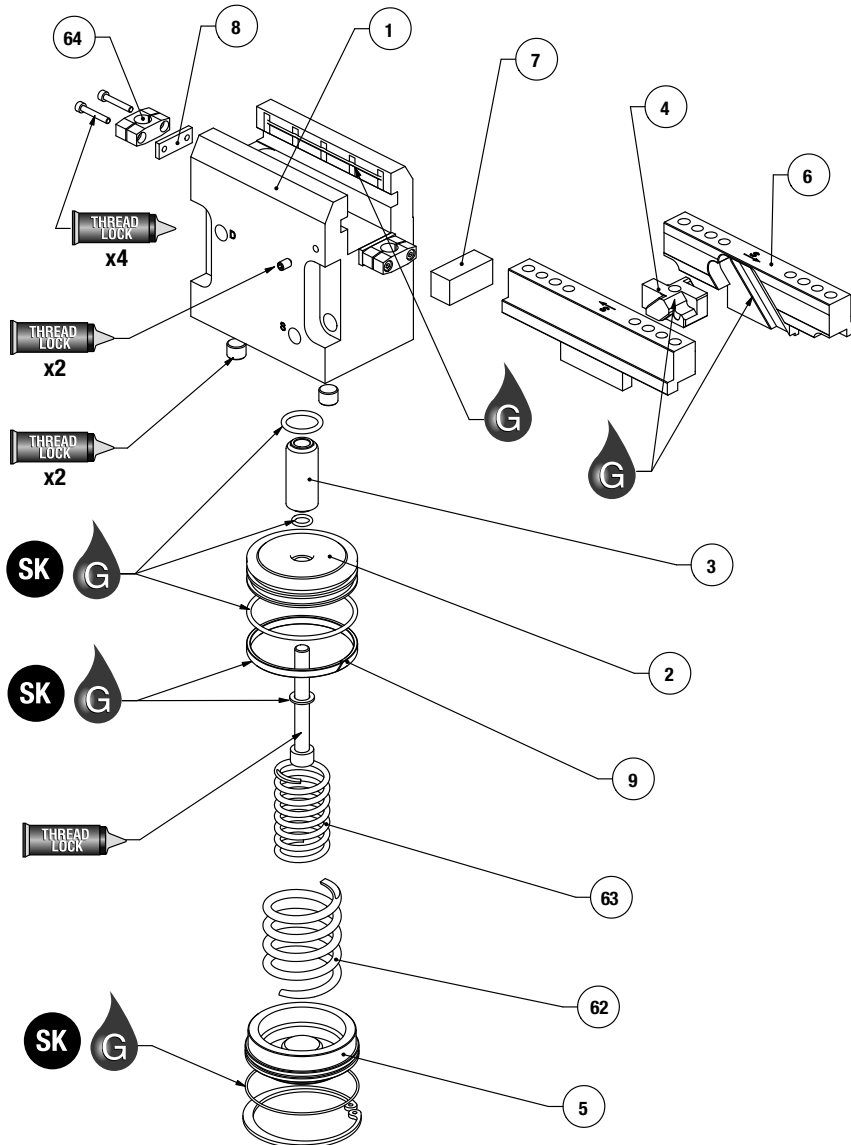


Item	Qty	Name
01	1	Body
02	1	Piston
03	1	Piston Shaft
04	1	Double Wedge
05	1	Cap
06	2	Jaw Holder
07	1	Cover
08	2	Spacer
09	1	Piston Guidance Tape
62	1	Outer Spring
63	1	Inner Spring

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

### Assembly Procedure

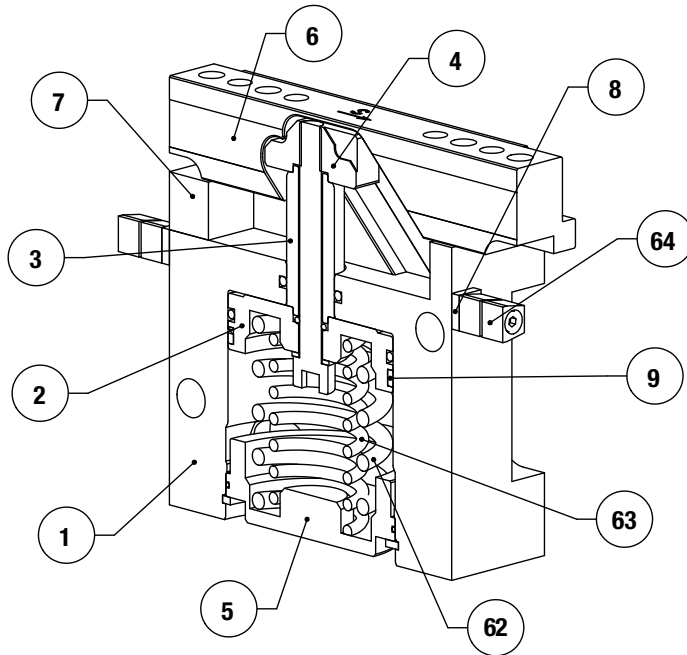
- Lubricate and install the seals into cap (x1) and body (x1)
- If rear inlets are used, clear them and plug the side inlets on the body (#1)
- Lubricate the slot of jaws (#6), the double wedge (#4), and the slot of the body (#1).
- Place the double wedge between the two jaws and then introduce the jaws in the slots of the body.
- Assemble the piston:
  - DGC-25 & DGC-65 (not shown):** lubricate and install the seal onto the one piece piston (#3) Insert the piston into the body, locate it on the double wedge, place the seal ring under the screw cap and screw all the pieces together.
  - GC-85 (not shown):** Insert the shaft (#3) into the body and center it in the double wedge. Lubricate and insert the seals on the piston (#2). Insert the piston into the body while centering on the shaft. Place the seal ring under the screw cap and screw all the pieces together.
  - GC-105:** Insert the shaft (#3) into the body and center it in the double wedge. Lubricate and insert the seals and the guidance ring (#9) on the piston (#2). Insert the piston into the body while centering on the shaft. Place the seal ring under the screw cap and screw all the pieces together.
- Make by hand the piston move into the body
- Insert the two springs (#62 & 63) into the counterbore of the piston
- Install the cap (#5) and fix it with the retaining ring.
- Place and fix the wiper (#7) in the body.
- Mount the sensor holder (#64) and the spacer (#8) on the body sides



**SK Seal Repair Kit Order #'s  
See Product Data Sheets**

Seal Kit Items	Thread Locker	Krytox™ Lubricant	Lightweight Machine Oil	Teflon® Based Grease	Super Bonder	Third Angle Projection

# DGC/GC Series Assembled View



Item	Qty	Name
01	1	Body
02	1	Piston
03	1	Piston Shaft
04	1	Double Wedge
05	1	Cap
06	2	Jaw Holder
07	1	Cover
08	2	Spacer
09	1	Piston Guidance Tape
62	1	Outer Spring
63	1	Inner Spring

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.



Seal Kit Items



Thread Locker



Krytox™ Lubricant



Lightweight Machine Oil



Teflon® Based Grease



Super Bonder



Third Angle Projection



# DESIGN NOTES

GC SERIES

1.195


Please see back cover for DE-STA-CO Global Locations. [www.destaco.com](http://www.destaco.com)

# Parallel Grippers - DPW DIRECTCONNECT™ Wide Body Series

**NO  
ADAPTER  
PLATES!**

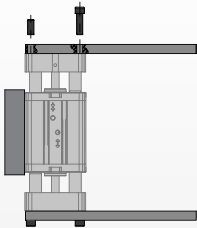


**DIRECTCONNECT™**

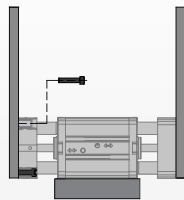
- **DIRECTCONNECT™ Connectivity:** DIRECTCONNECT™ Tapped and Dowel mounting on body.
- **Large or Wide Parts:** Wide body design provides secure gripping of large & wide parts.
- **Multiple air port positions:** Tapped air ports on top and front are standard.
- **Manifold Air Porting:** Top air ports can be manifold o-ring sealed.
- **Inductive Sensor Flexibility:** Mount either 3mm or 4mm Inductive sensors with the same bracket (3mm only on DPW-250).
- **Magneto-resistive Sensing:** Full range adjustable Magneto-resistive Sensors. Magnet supplied standard.
- **Long Finger Applications:** Jaw support thru the length of the body allows for long fingers to be attached to jaws.
- **Thru Jaw Mounting:** Offers a wider variety of mounting applications for jaws.
- **Shaft Wiper Option:** Rugged urethane shaft wipers seal the unit against harsh environments. Designed to be used in machine coolant and metal chip environment applications.
- **Multiple Strokes:** All gripper sizes are available in 2 different strokes.
- **Non-synchronous motion:** The unit can be made non-synchronous providing independent jaw motion allowing the gripper to pick or place at a point other than its center.

## Mounting Information:

Grippers can be mounted & operated in any direction

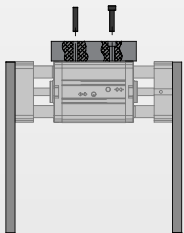


Fingers attach with screws and locate on jaws with dowel pins

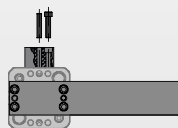


Thru mounting on inside of jaws to allow for alternate finger mounting

Jaw design allows for simplified mounting of fingers



Body mounts on top with screws and locates with slip fit dowel pin holes for accuracy



Symmetrical mounting pattern on jaws allows for multiple finger orientation

## Technical Specifications:

### Pneumatic Specifications

Pressure Operating Range  
Cylinder Type  
Dynamic Seals  
Valve Required to Operate

### Air Quality Requirements

Air Filtration  
Air Lubrication  
Air Humidity

### Temperature Operating Range

Buna-N Seals (standard)  
Viton® Seals (optional)

### Maintenance Specifications

Expected Life  
Normal Application  
w/ Preventative Maintenance  
Field Repairable  
Seal Repair Kits Available

### -W Option Shaft Wiper Specifications

Wiper Material  
Temperature Rating (Wiper Only)  
Compatible Chemicals

Non-Compatible Chemicals

Example Applications

### Application Restrictions

Applications where mechanism lubricant could cause contamination (use -W Shaft Wiper Option in this case)

\*Addition of lubrication will greatly increase service life

**Imperial**  
40-100 psi

**Metric**  
3-7 bar  
Double Acting  
Internally Lubricated Buna-N  
4-way, 2-position

40 Micron or Better  
Not Necessary\*  
Low Moisture Content (dry)

-30°~180° F  
-20°~300° F

5 million cycles  
10+ million cycles\*

Yes  
Yes

90 Durometer Urethane  
-65°~275° F -54°~135° C

water, coolant, petroleum oils,  
silicone, lubricants, dilute acids &  
alkalis, hydraulic fluid, transmission fluid

Ozone, ketones, strong acids,  
brake fluid

Grinding dust, machine chips &  
coolant, paper dust, washdown





# Product Features

**Thru-Jaw Mounting**  
C-bores on inside of jaws for thru mounting to increase range of applications

**Sensor Mounting Slots**  
Standard mounting slots for magneto resistive and inductive sensors (sensors sold separately)

**End of Stroke Cushions**  
Reduce shock of fully open and close strokes

**Square-Faced Jaws**  
Allow for a symmetrical, multi-positional mounting pattern for simplified finger design and increased range of applications

**Quality Components**  
Hardened precision stainless steel shafting for wear resistance and long life

**DIRECTCONNECT Mounting Patterns**  
DIRECTCONNECT™ Tapped & Dowel mounting surface on top of body

**Multiple Air Port Locations**  
2 standard airport location (front & top)

**Sealed Design (-W option)**  
Urethane shaft wipers prevent against dirty environments (machining chips & coolant, grinding dust, paper mill environments, etc.)

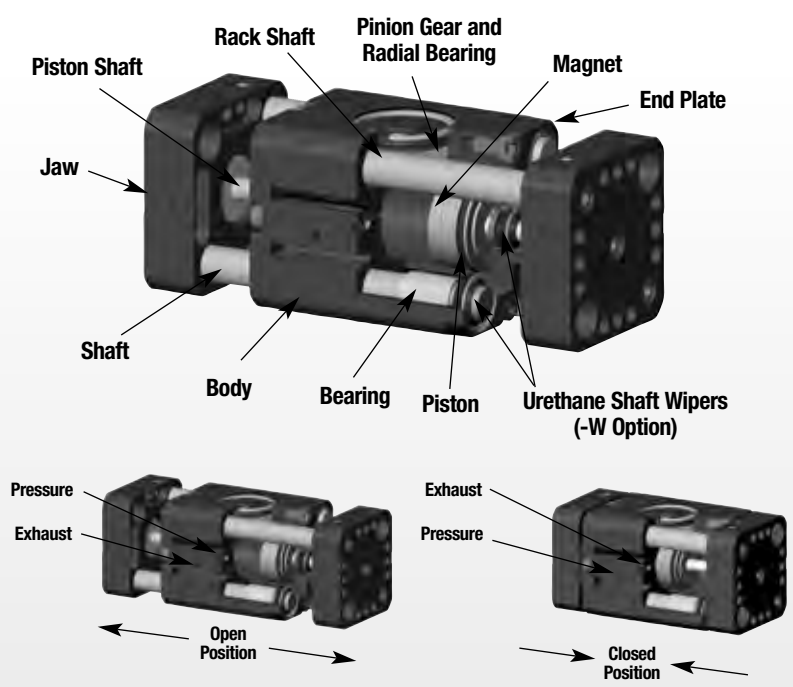
**Manifold Air Ports**  
Top air ports can be O-Ring manifold sealed to eliminate air lines

**Superior Jaw Support**  
Each jaw is supported by 2 shafts that extend the entire length of the body and are guided by 2 oil impregnated bronze bushings per shaft

**Optional Non-Synchronous Operation**

**High Temperature**  
Optional Viton® seals are available for high temperature applications

# Operating Principle



- Two shafts, one with a rack cut into it, are securely fastened to each of the jaws and the body supported through the length of the body.
- Two double acting opposed pistons provide power to the jaws.
- The rack shafts of each jaw slide in opposite directions of one another and are synchronized by a piston gear.
- This gripper is suitable for internal or external gripping and can be mounted in any orientation.

**U.S Patent #5,163,729 Designed, manufactured and assembled in the USA**

Please see back cover for DE-STA-CO Global Locations. [www.destaco.com](http://www.destaco.com)

## Style -DPW Parallel Gripper

<b>Size -250M-1</b>	<b>250M-1</b>
<b>Stroke:</b>	0.75 in. 19.1 mm
<b>Grip Force:</b>	50 lbs. 222 N
<b>Weight:</b>	0.662 lbs. 0.30 Kg



Shown with -W Shaft Wiper Option

See Page **1.198**

## Style -DPW Parallel Gripper

<b>Size -250M-2</b>	<b>250M-2</b>
<b>Style:</b>	250M-2
<b>Stroke:</b>	1.25 in. 31.8 mm
<b>Grip Force:</b>	50 lbs. 222 N
<b>Weight:</b>	0.856 lbs. 0.39 Kg



Shown with -W Shaft Wiper Option

See Page **1.200**

## Style -DPW Parallel Gripper

<b>Size -375M-1</b>	<b>375M-1</b>
<b>Style:</b>	375M-1
<b>Stroke:</b>	1.00 in. 25.4 mm
<b>Grip Force:</b>	100 lbs. 445 N
<b>Weight:</b>	1.80 lbs. 0.81 Kg



Shown with -W Shaft Wiper Option

See Page **1.202**

## Style -DPW Parallel Gripper

<b>Size -375M-2</b>	<b>375M-2</b>
<b>Style:</b>	375M-2
<b>Stroke:</b>	2.00 in. 50.8 mm
<b>Grip Force:</b>	100 lbs. 445 N
<b>Weight:</b>	2.66 lbs. 1.20 Kg



Shown with -W Shaft Wiper Option

See Page **1.204**

## Style -DPW Parallel Gripper

<b>Size -500M-1</b>	<b>500M-1</b>
<b>Style:</b>	500M-1
<b>Stroke:</b>	1.50 in. 38.1 mm
<b>Grip Force:</b>	180 lbs. 800 N
<b>Weight:</b>	3.27 lbs. 1.48 Kg



Shown with -W Shaft Wiper Option

See Page **1.206**

## Style -DPW Parallel Gripper

<b>Size -500M-2</b>	<b>500M-2</b>
<b>Style:</b>	500M-2
<b>Stroke:</b>	2.50 in. 63.5 mm
<b>Grip Force:</b>	180 lbs. 800 N
<b>Weight:</b>	4.39 lbs. 2.0 Kg



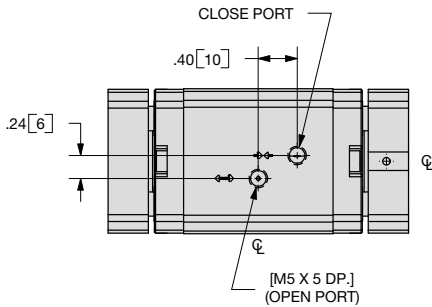
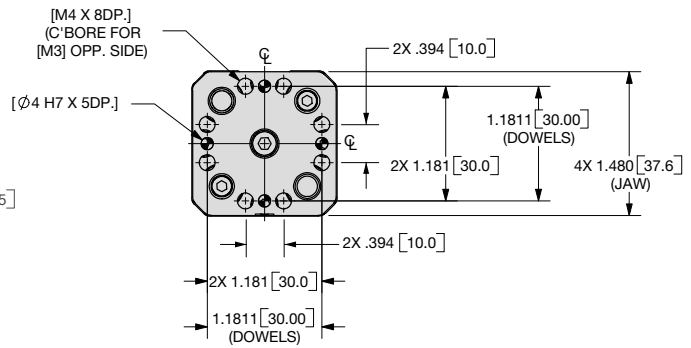
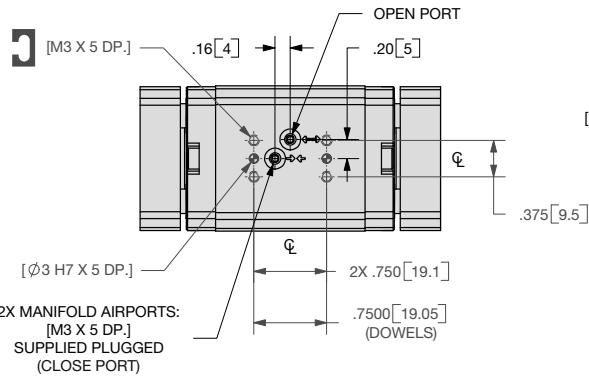
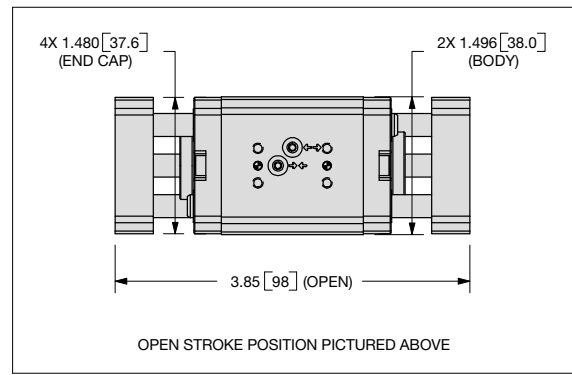
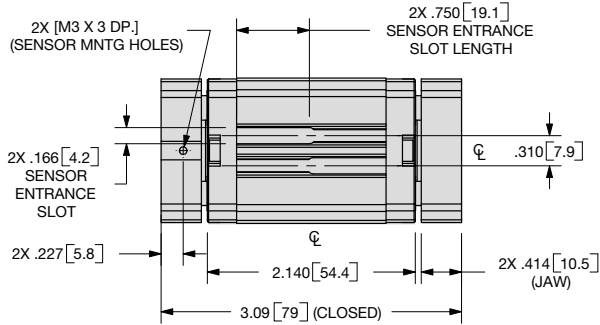
Shown with -W Shaft Wiper Option

See Page **1.208**

# PARALLEL GRIPPERS DPW-250M-1 DIRECTCONNECT WIDE BODY SERIES

DPW SERIES

1.198



NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or (±.013mm)
Metric Threads Course Pitch	Imperial in. 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	Metric [mm] [0] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

DIRECTCONNECT™

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL STROKE WIPERS VITON SEALS**

**DPW-250M - 1 - NS - W - V**

**NON-SYNCHRONOUS**

**JAW SYNCHRONIZATION** NS Non-Synchronous Operation  
Leave Blank for Synchronous (standard)

**WIPERS** W Shaft Wipers  
**VITON® SEALS** V

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Magneto Resistive Sensor Short Barrel (with Qk. Disc.)*	<b>OHSP-017</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor Short Barrel (with Qk. Disc.)*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor 90° Barrel (with Qk. Disc.)*	<b>OHSP-011</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor 90° Barrel (with Qk. Disc.)*	<b>OHSN-011</b>	<b>1 or 2</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1 or 2</b>
PNP Inductive Sensor 3mm (with Qk. Disc.)*	<b>OISP-019</b>	<b>1 or 2</b>
NPN Inductive Sensor 3mm (with Qk. Disc.)*	<b>OISN-019</b>	<b>1 or 2</b>
Sensor Mounting Kit for 3mm Inductive Sensor	<b>OSMK-116</b>	<b>1</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Seal Repair Kit (Standard Buna-N)	<b>SLKT-337</b>	<b>1</b>
Seal Repair Kit (Viton®)	<b>SLKT-337V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-197V</b>	<b>1</b>
Shaft Wiper Seal Kit	<b>SLKT-338</b>	<b>1</b>
Fail Safe Valve M5	<b>OFV-004</b>	<b>1</b>
Adjustable Flow Control	<b>VLV-008</b>	<b>1 or 2</b>

\*Sensor and cable sold separately

### SAMPLE ORDER: DPW-250M-1-W-V

Ex: DPW-250M Gripper, 19.1mm Stroke, Shaft Wipers, Viton Seals



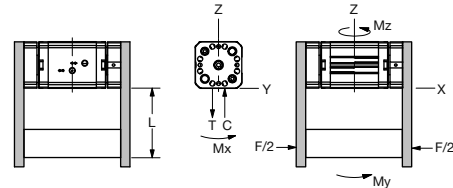
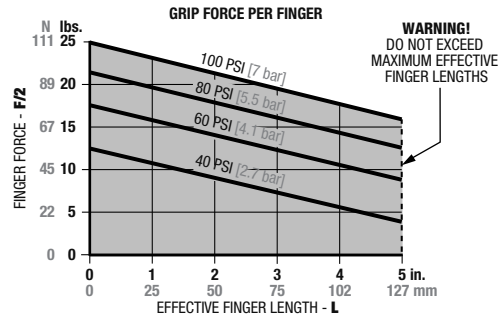
# PARALLEL GRIPPERS DPW-250M-1 DIRECT CONNECT WIDE BODY SERIES

DPW SERIES

1.199



Specifications	DPW-250M-1	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar .....	50 lbs.	222 N
Stroke .....	0.75 in.	19.1 mm
Pressure Range .....	40-100 psi	3-7 bar
Cylinder Bore $\varnothing$ .....	0.625 in.	15.9 mm
Displacement .....	0.023 in <sup>3</sup>	3.8 cm <sup>3</sup>
Weight .....	0.662 lbs.	0.30 Kg
Temperature Range: Standard Seals .....	-30°~180° F	-35°~80° C
Viton® Seals .....	-20°~300° F	-30°~150° C
Actuation .....	0.12 sec.	0.12 sec.
Accuracy .....	±0.003 in.	±0.08 mm
Repeatability .....	±0.001 in.	±0.03 mm
Valve required to actuate .....	4-way, 2-position	

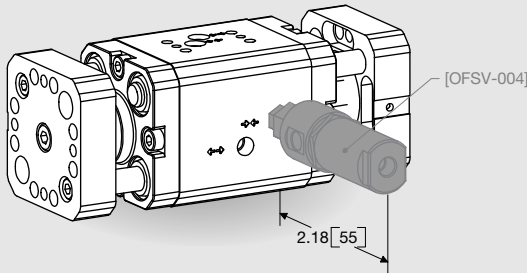


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	60 lbs. [267 N]	12 lbs. [53 N]
Maximum Compressive <b>C</b>	60 lbs. [267 N]	12 lbs. [53 N]
Maximum Moment <b>M<sub>x</sub></b>	120 in.-lbs. [14 Nm]	24 in.-lbs. [3 Nm]
Maximum Moment <b>M<sub>y</sub></b>	180 in.-lbs. [20 Nm]	36 in.-lbs. [4 Nm]
Maximum Moment <b>M<sub>z</sub></b>	120 in.-lbs. [14 Nm]	24 in.-lbs. [3 Nm]

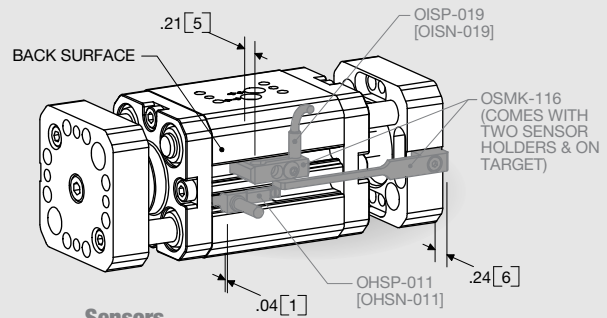
†Capacities are per set of jaws and are not simultaneous

## Accessory Mounting Technical Data



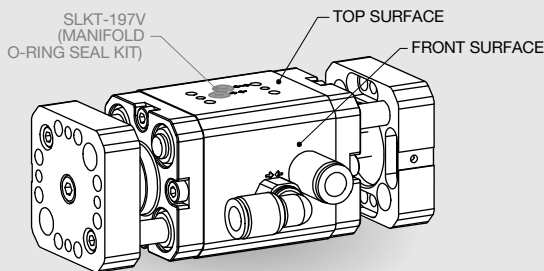
### Failsafe Valves

- Used in applications where it is critical that the part being gripped not be dropped if air pressure is lost
- Mounts directly to gripper
- M5 air port



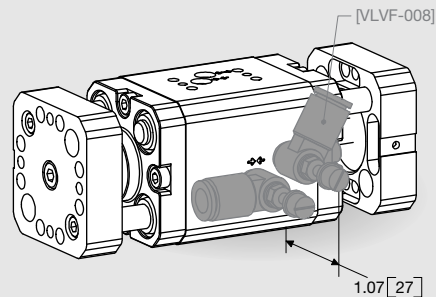
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting Kits required
- Low profile underflush sensor version or 90° wire exit sensor version
- Simple adjustment with slotted screw driver
- PNP and NPN inductive available
- Inductive sensor bracket mounts 3mm sensor
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



### Multiple Air Port Locations

- 2 standard air port locations (top and front surface)
- Top manifold air ports are supplied plugged
- Seals in manifold kit are Viton®
- Front air ports are tapped for M5 fittings



### Flow Controls

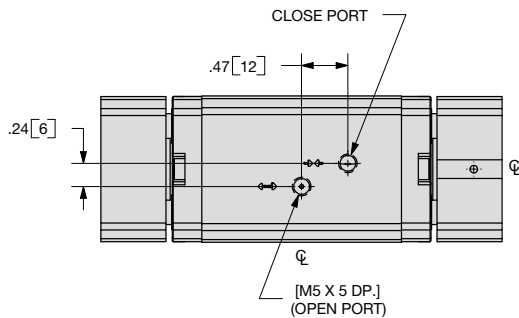
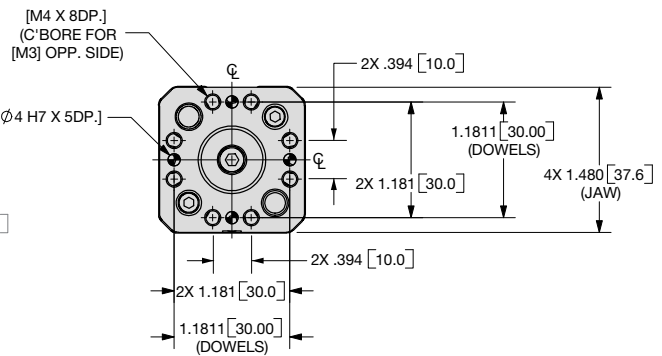
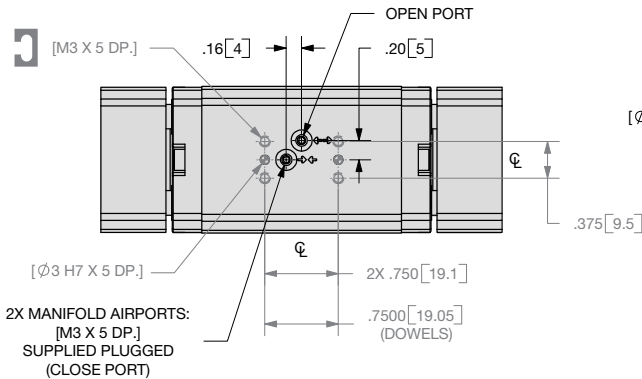
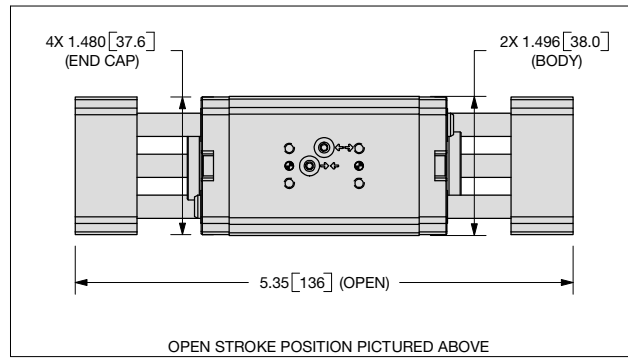
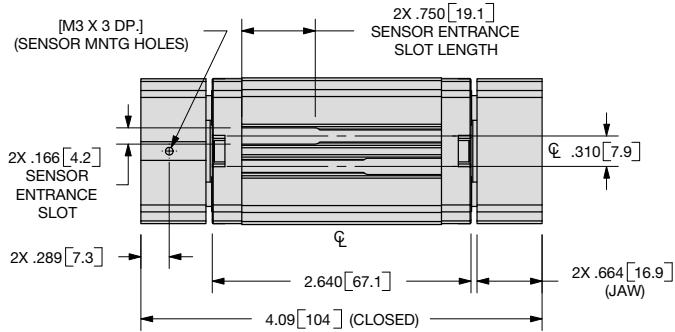
- Thumb screw adjust with locking nut for adjusting actuation time
- Available for 6mm OD tubing

DIRECTCONNECT™

# PARALLEL GRIPPERS DPW-250M-2 DIRECTCONNECT WIDE BODY SERIES

DPW SERIES

1.200



**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or (±.013mm)
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0] = (±.25) [0.0] = (±.13) [0.00] = (±.013)

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**   **STROKE**   **WIPERS**   **VITON SEALS**

**DPW-250M - 2 - NS - W - V**

**NON-SYNCHRONOUS**

**JAW SYNCHRONIZATION**   **NS** Non-Synchronous Operation  
 Leave Blank for Synchronous (standard)

**WIPERS**   **W** Shaft Wipers  
**VITON® SEALS**   **V**

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Magneto Resistive Sensor Short Barrel (with Qk. Disc.)*	<b>OHSP-017</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor Short Barrel (with Qk. Disc.)*	<b>OHNS-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor 90° Barrel (with Qk. Disc.)*	<b>OHSP-011</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor 90° Barrel (with Qk. Disc.)*	<b>OHNS-011</b>	<b>1 or 2</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1 or 2</b>
PNP Inductive Sensor 3mm (with Qk. Disc.)*	<b>OISP-019</b>	<b>1 or 2</b>
NPN Inductive Sensor 3mm (with Qk. Disc.)*	<b>OISN-019</b>	<b>1 or 2</b>
Sensor Mounting Kit for 3mm Inductive Sensor	<b>OSMK-116</b>	<b>1</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Seal Repair Kit (Standard Buna-N)	<b>SLKT-337</b>	<b>1</b>
Seal Repair Kit (Viton®)	<b>SLKT-337V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-197V</b>	<b>1</b>
Shaft Wiper Seal Kit	<b>SLKT-338</b>	<b>1</b>
Fail Safe Valve M5	<b>OFSV-004</b>	<b>1</b>
Adjustable Flow Control	<b>VLVF-008</b>	<b>1 or 2</b>

\*Sensor and cable sold separately

### SAMPLE ORDER: DPW-250M-2-W-V

Ex: DPW-250M Gripper, 31.8mm Stroke, Shaft Wipers, Viton Seals

DIRECTCONNECT™



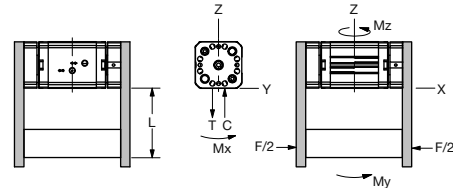
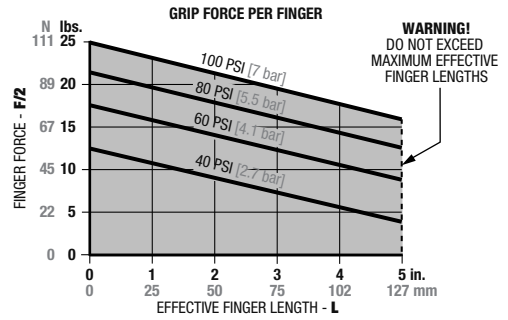
# PARALLEL GRIPPERS DPW-250M-2 DIRECT CONNECT WIDE BODY SERIES

DPW SERIES

1.201



Specifications	DPW-250M-2	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar .....	50 lbs.	222 N
Stroke.....	1.25 in.	31.8 mm
Pressure Range.....	40-100 psi	3-7 bar
Cylinder Bore $\varnothing$ .....	0.625 in.	15.9 mm
Displacement.....	0.383 in <sup>3</sup>	6.3 cm <sup>3</sup>
Weight.....	0.856 lbs.	0.39 Kg
Temperature Range: Standard Seals .....	-30°~180° F	-35°~80° C
Viton® Seals .....	-20°~300° F	-30°~150° C
Actuation .....	0.14 sec.	0.14 sec.
Accuracy .....	±0.003 in.	±0.08 mm
Repeatability.....	±0.001 in.	±0.03 mm
Valve required to actuate.....	4-way, 2-position	

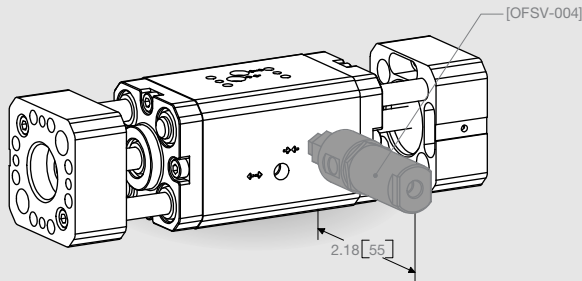


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	60 lbs. [267 N]	12 lbs. [53 N]
Maximum Compressive <b>C</b>	60 lbs. [267 N]	12 lbs. [53 N]
Maximum Moment <b>M<sub>x</sub></b>	120 in.-lbs. [14 Nm]	24 in.-lbs. [3 Nm]
Maximum Moment <b>M<sub>y</sub></b>	180 in.-lbs. [20 Nm]	36 in.-lbs. [4 Nm]
Maximum Moment <b>M<sub>z</sub></b>	120 in.-lbs. [14 Nm]	24 in.-lbs. [3 Nm]

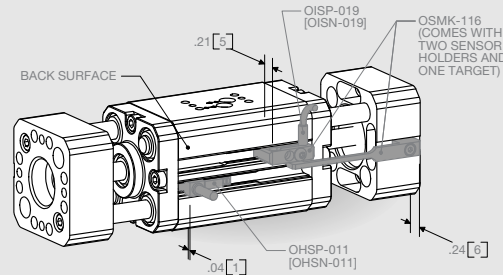
†Capacities are per set of jaws and are not simultaneous

## Accessory Mounting Technical Data



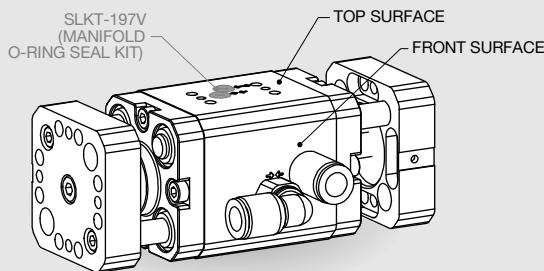
### Failsafe Valves

- Used in applications where it is critical that the part being gripped not be dropped if air pressure is lost
- Mounts directly to gripper
- M5 air port



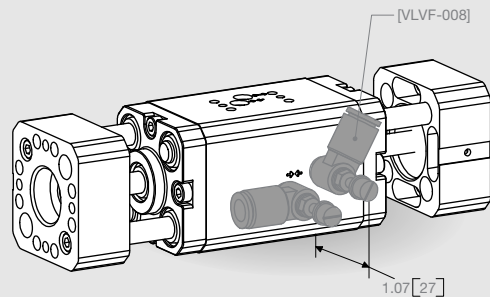
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting Kits required
- Low profile underflush sensor version or 90° wire exit sensor version
- Simple adjustment with slotted screw driver
- PNP and NPN inductive available
- Inductive sensor bracket mounts 3mm sensor
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



### Multiple Air Port Locations

- 2 standard air port locations (top and front surface)
- Top manifold air ports are supplied plugged
- Seals in manifold kit are Viton®
- Front air ports are tapped for M5 fittings



### Flow Controls

- Thumb screw adjust with locking nut for adjusting actuation time
- Available for 6mm OD tubing

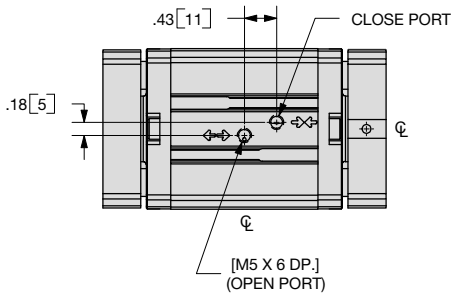
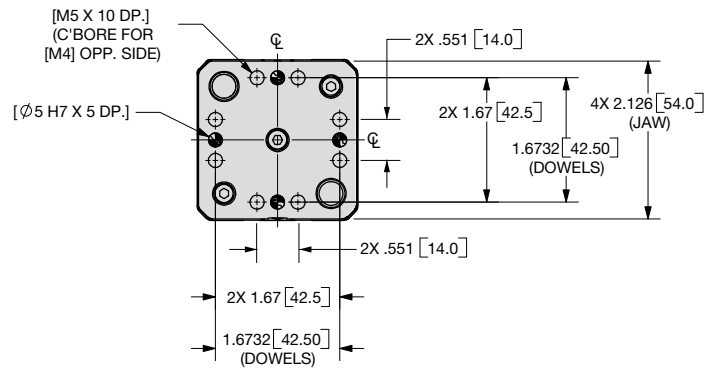
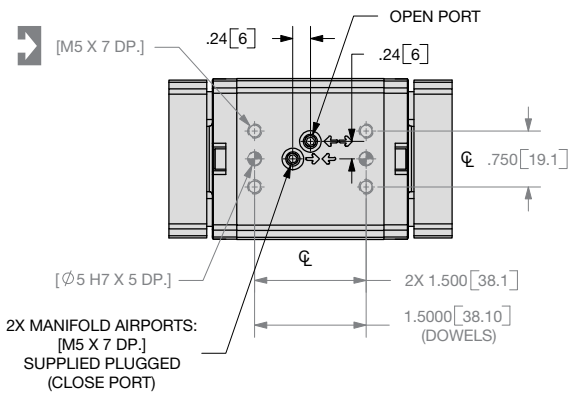
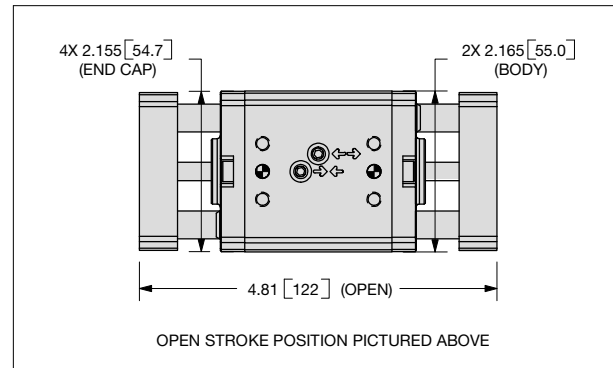
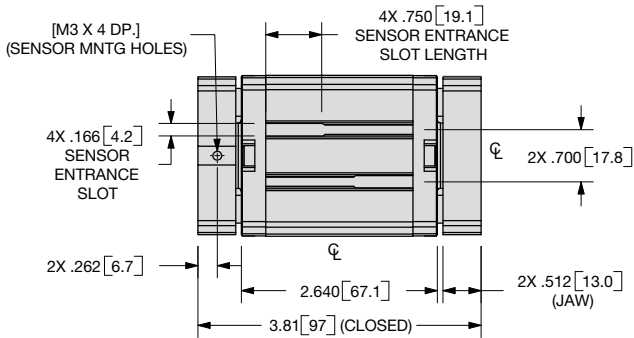
DIRECTCONNECT™



# PARALLEL GRIPPERS DPW-375M-1 DIRECTCONNECT WIDE BODY SERIES

DPW SERIES

1.202



NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or (±.013mm)
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**   **STROKE**   **WIPERS**   **VITON SEALS**

**DPW-375M - 1 - NS - W - V**

**NON-SYNCHRONOUS**

**JAW SYNCHRONIZATION**   **NS** Non-Synchronous Operation  
 Leave Blank for Synchronous (standard)

**WIPERS**   **W** Shaft Wipers

**VITON® SEALS**   **V**

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Magneto Resistive Sensor Short Barrel (with Qk. Disc.)*	<b>OHSP-017</b>	<b>1,2,3 or 4</b>
NPN Magneto Resistive Sensor Short Barrel (with Qk. Disc.)*	<b>OHSN-017</b>	<b>1,2,3 or 4</b>
PNP Magneto Resistive Sensor 90° Barrel (with Qk. Disc.)*	<b>OHSP-011</b>	<b>1,2,3 or 4</b>
NPN Magneto Resistive Sensor 90° Barrel (with Qk. Disc.)*	<b>OHSN-011</b>	<b>1,2,3 or 4</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1,2,3 or 4</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1,2,3 or 4</b>
PNP Inductive Sensor 3mm (with Qk. Disc.)*	<b>OISP-019</b>	<b>1 or 2</b>
NPN Inductive Sensor 3mm (with Qk. Disc.)*	<b>OISN-019</b>	<b>1 or 2</b>
PNP Inductive Sensor 4mm (with Qk. Disc.)*	<b>OISP-014</b>	<b>1 or 2</b>
NPN Inductive Sensor 4mm (with Qk. Disc.)*	<b>OISN-014</b>	<b>1 or 2</b>
Sensor Mounting Kit for 3mm or 4mm Inductive Sensor	<b>OSMK-117</b>	<b>1</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Seal Repair Kit (Standard Buna-N)	<b>SLKT-339</b>	<b>1</b>
Seal Repair Kit (Viton®)	<b>SLKT-339V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-199V</b>	<b>1</b>
Shaft Wiper Seal Kit	<b>SLKT-340</b>	<b>1</b>
Fail Safe Valve M5	<b>OFSV-004</b>	<b>1</b>
Adjustable Flow Control	<b>VLVF-008</b>	<b>1 or 2</b>

\*Sensor and cable sold separately

### SAMPLE ORDER: DPW-375M-1-W-V

Ex: DPW-375M Gripper, 25.4mm Stroke, Shaft Wipers, Viton Seals

DIRECTCONNECT™





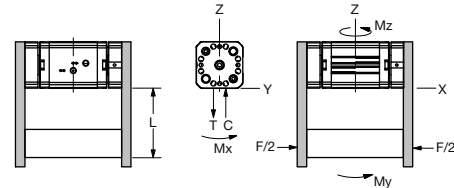
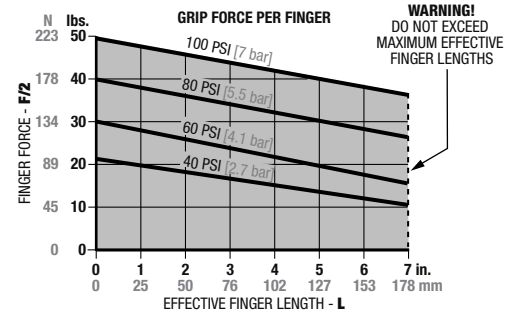
# PARALLEL GRIPPERS DPW-375M-1 DIRECT CONNECT WIDE BODY SERIES

DPW SERIES

1.203



Specifications	DPW-375M-1	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar .....	100 lbs.	445 N
Stroke .....	1.00 in.	25.4 mm
Pressure Range .....	40-100 psi	3-7 bar
Cylinder Bore $\varnothing$ .....	0.938 in.	23.8 mm
Displacement .....	0.690 in <sup>3</sup>	11.3 cm <sup>3</sup>
Weight .....	1.80 lbs.	0.81 Kg
Temperature Range: Standard Seals .....	-30°~180° F	-35°~80° C
Viton® Seals .....	-20°~300° F	-30°~150° C
Actuation .....	0.16 sec.	0.16 sec.
Accuracy .....	±0.003 in.	±0.08 mm
Repeatability .....	±0.001 in.	±0.03 mm
Valve required to actuate .....	4-way, 2-position	

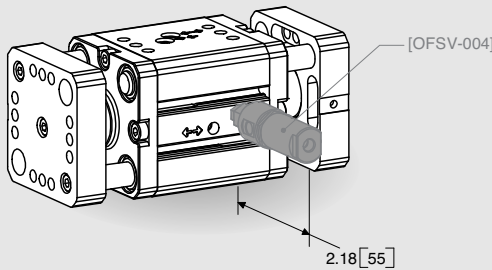


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	120 lbs. [534 N]	24 lbs. [107 N]
Maximum Compressive <b>C</b>	120 lbs. [534 N]	24 lbs. [107 N]
Maximum Moment <b>M<sub>x</sub></b>	210 in.-lbs. [24 Nm]	42 in.-lbs. [5 Nm]
Maximum Moment <b>M<sub>y</sub></b>	300 in.-lbs. [34 Nm]	60 in.-lbs. [7 Nm]
Maximum Moment <b>M<sub>z</sub></b>	210 in.-lbs. [24 Nm]	42 in.-lbs. [5 Nm]

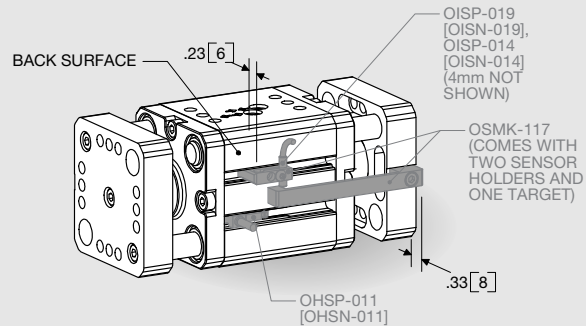
†Capacities are per set of jaws and are not simultaneous

## Accessory Mounting Technical Data



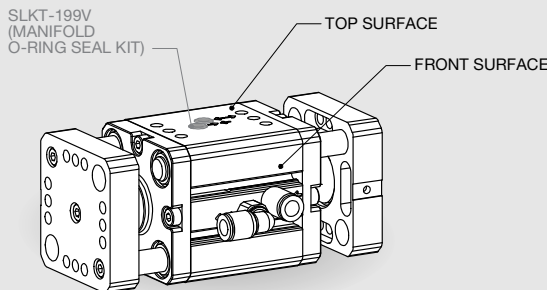
### Failsafe Valves

- Used in applications where it is critical that the part being gripped not be dropped if air pressure is lost
- Mounts directly to gripper
- M5 air port



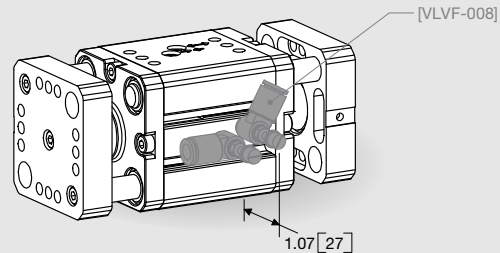
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting Kits required
- Low profile underflush sensor version or 90° wire exit sensor version
- Simple adjustment with slotted screw driver
- PNP and NPN inductive available
- Inductive sensor bracket mounts 3mm sensor
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



### Multiple Air Port Locations

- 2 standard air port locations (top and front surface)
- Top manifold air ports are supplied plugged
- Seals in manifold kit are Viton®
- Front air ports are tapped for M5 fittings



### Flow Controls

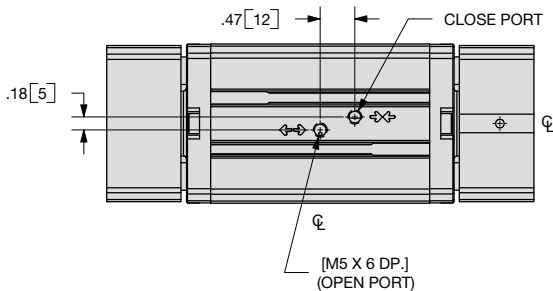
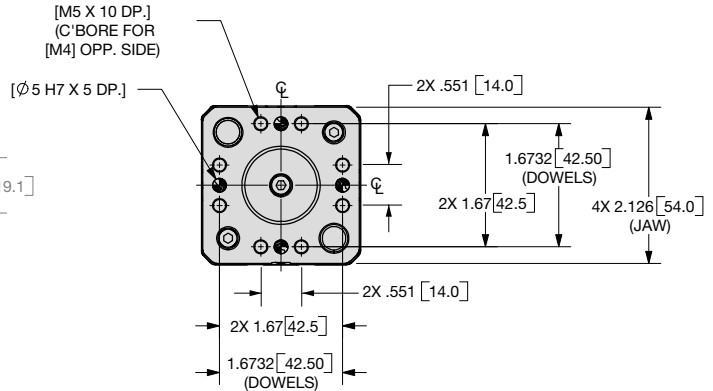
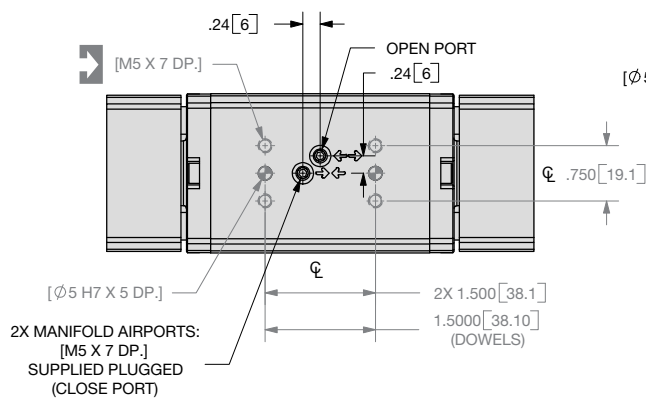
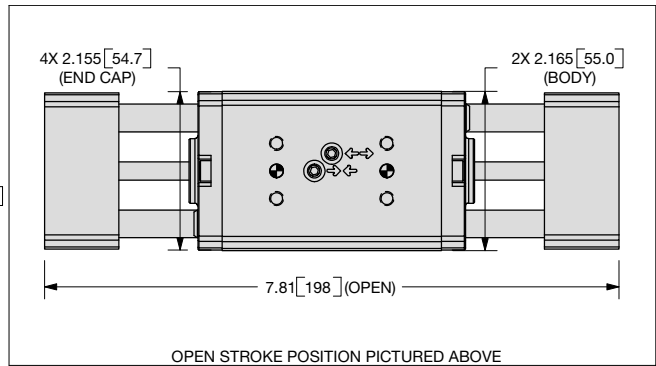
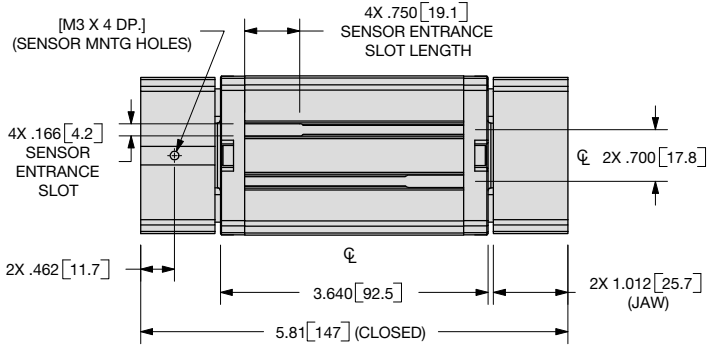
- Thumb screw adjust with locking nut for adjusting actuation time
- Available for 6mm OD tubing

DIRECTCONNECT™

# PARALLEL GRIPPERS DPW-375M-2 DIRECTCONNECT WIDE BODY SERIES

DPW SERIES

1.204



NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or (±.013mm)
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0] = (±.25) [0.0] = (±.13) [0.00] = (±.013)

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**   **STROKE**   **WIPERS**   **VITON SEALS**

**DPW-375M - 2 - NS - W - V**

**NON-SYNCHRONOUS**

**JAW SYNCHRONIZATION**   **NS** Non-Synchronous Operation  
 Leave Blank for Synchronous (standard)  
**WIPERS**   **W** Shaft Wipers  
**VITON® SEALS**   **V**

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Magneto Resistive Sensor Short Barrel (with Qk. Disc.)*	<b>OHSP-017</b>	<b>1,2,3 or 4</b>
NPN Magneto Resistive Sensor Short Barrel (with Qk. Disc.)*	<b>OHSN-017</b>	<b>1,2,3 or 4</b>
PNP Magneto Resistive Sensor 90° Barrel (with Qk. Disc.)*	<b>OHSP-011</b>	<b>1,2,3 or 4</b>
NPN Magneto Resistive Sensor 90° Barrel (with Qk. Disc.)*	<b>OHSN-011</b>	<b>1,2,3 or 4</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1,2,3 or 4</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1,2,3 or 4</b>
PNP Inductive Sensor 3mm (with Qk. Disc.)*	<b>OISP-019</b>	<b>1 or 2</b>
NPN Inductive Sensor 3mm (with Qk. Disc.)*	<b>OISN-019</b>	<b>1 or 2</b>
PNP Inductive Sensor 4mm (with Qk. Disc.)*	<b>OISP-014</b>	<b>1 or 2</b>
NPN Inductive Sensor 4mm (with Qk. Disc.)*	<b>OISN-014</b>	<b>1 or 2</b>
Sensor Mounting Kit for 3mm or 4mm Inductive Sensor	<b>OSMK-117</b>	<b>1</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Seal Repair Kit (Standard Buna-N)	<b>SLKT-339</b>	<b>1</b>
Seal Repair Kit (Viton®)	<b>SLKT-339V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-199V</b>	<b>1</b>
Shaft Wiper Seal Kit	<b>SLKT-340</b>	<b>1</b>
Fail Safe Valve M5	<b>OFSV-004</b>	<b>1</b>
Adjustable Flow Control	<b>VLVF-008</b>	<b>1 or 2</b>

### SAMPLE ORDER: DPW-375M-2-W-V

Ex: DPW-375 M Gripper, 50.8mm Stroke, Shaft Wipers, Viton Seals

\*Sensor and cable sold separately



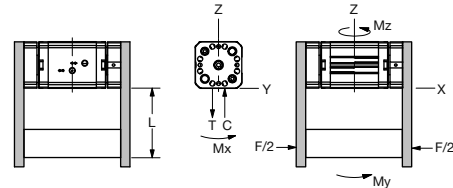
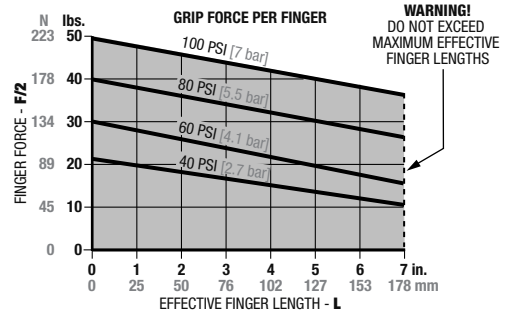
# PARALLEL GRIPPERS DPW-375M-2 DIRECT CONNECT WIDE BODY SERIES

DPW SERIES

1.205



Specifications	DPW-375M-2	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar .....	100 lbs.	445 N
Stroke.....	2.00 in.	50.8mm
Pressure Range.....	40-100 psi	3-7 bar
Cylinder Bore $\varnothing$ .....	0.938 in.	23.8 mm
Displacement.....	1.382 in <sup>3</sup>	22.6 cm <sup>3</sup>
Weight.....	2.66 lbs.	1.20 Kg
Temperature Range: Standard Seals .....	-30°~180° F	-35°~80° C
Viton® Seals .....	-20°~300° F	-30°~150° C
Actuation .....	0.20 sec.	0.20 sec.
Accuracy .....	±0.003 in.	±0.08 mm
Repeatability.....	±0.001 in.	±0.03 mm
Valve required to actuate.....	4-way, 2-position	

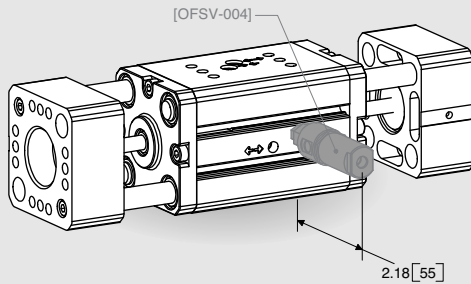


### Loading Capacity<sup>†</sup>

	Static	Dynamic
Maximum Tensile <b>T</b>	120 lbs. [534 N]	24 lbs. [107 N]
Maximum Compressive <b>C</b>	120 lbs. [534 N]	24 lbs. [107 N]
Maximum Moment <b>M<sub>x</sub></b>	210 in.-lbs. [24 Nm]	42 in.-lbs. [5 Nm]
Maximum Moment <b>M<sub>y</sub></b>	300 in.-lbs. [34 Nm]	60 in.-lbs. [7 Nm]
Maximum Moment <b>M<sub>z</sub></b>	210 in.-lbs. [24 Nm]	42 in.-lbs. [5 Nm]

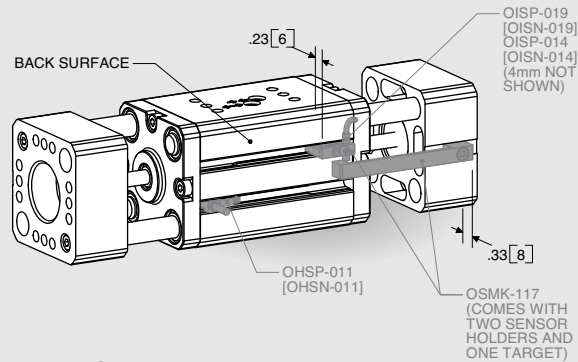
<sup>†</sup>Capacities are per set of jaws and are not simultaneous

## Accessory Mounting Technical Data



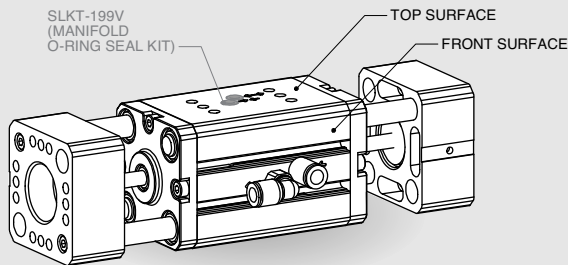
### Failsafe Valves

- Used in applications where it is critical that the part being gripped not be dropped if air pressure is lost
- Mounts directly to gripper
- M5 air port



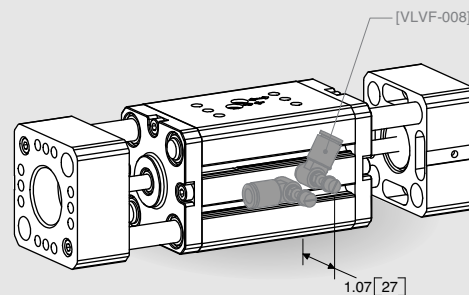
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting Kits required
- Low profile underflush sensor version or 90° wire exit sensor version
- Simple adjustment with slotted screw driver
- PNP and NPN inductive available
- Inductive sensor bracket mounts 3mm sensor
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



### Multiple Air Port Locations

- 2 standard air port locations (top and front surface)
- Top manifold air ports are supplied plugged
- Seals in manifold kit are Viton®
- Front air ports are tapped for M5 fittings



### Flow Controls

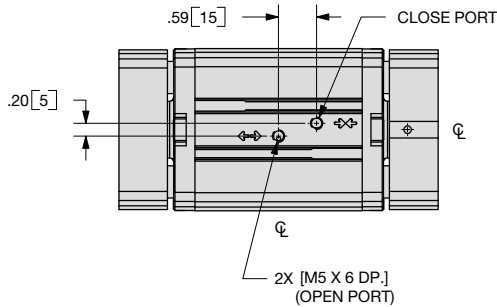
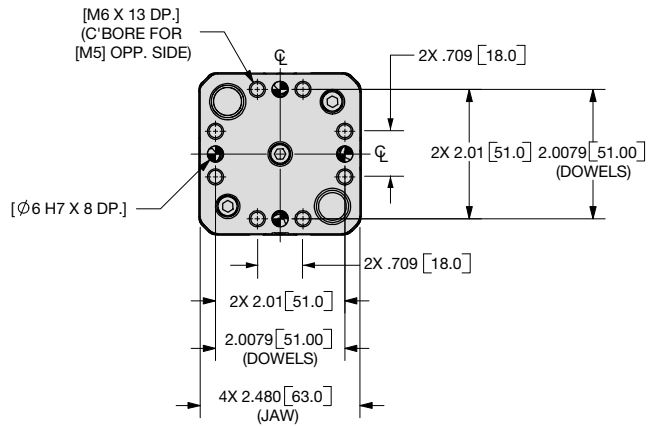
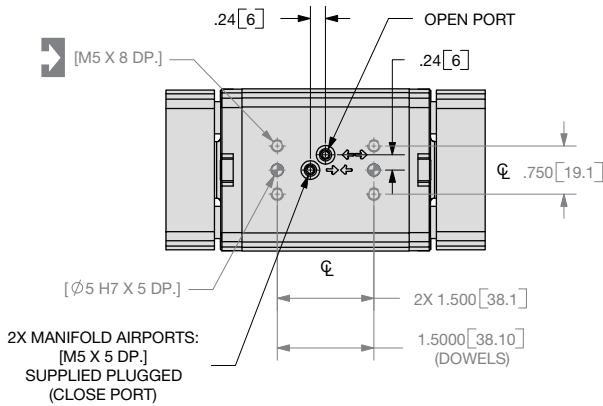
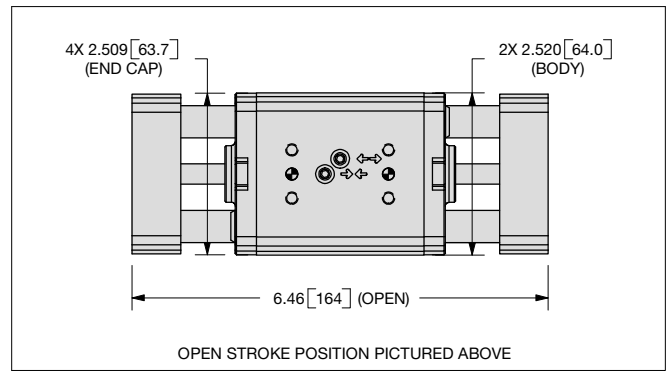
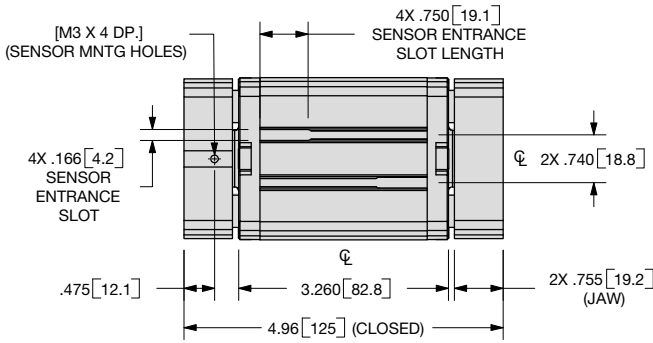
- Thumb screw adjust with locking nut for adjusting actuation time
- Available for 6mm OD tubing

DIRECTCONNECT™

# PARALLEL GRIPPERS DPW-500M-1 DIRECTCONNECT WIDE BODY SERIES

DPW SERIES

1.206



NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or (±.013mm)
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0] = (±.25) [0.0] = (±.13) [0.00] = (±.013)

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**   **STROKE**   **WIPERS**   **VITON SEALS**

**DPW-500M - 1 - NS - W - V**

**NON-SYNCHRONOUS**

**JAW SYNCHRONIZATION**   **NS** Non-Synchronous Operation  
 Leave Blank for Synchronous (standard)  
**WIPERS**   **W** Shaft Wipers  
**VITON® SEALS**   **V**

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Magneto Resistive Sensor Short Barrel (with Qk. Disc.)*	<b>OHSP-017</b>	<b>1,2,3 or 4</b>
NPN Magneto Resistive Sensor Short Barrel (with Qk. Disc.)*	<b>OHSN-017</b>	<b>1,2,3 or 4</b>
PNP Magneto Resistive Sensor 90° Barrel (with Qk. Disc.)*	<b>OHSP-011</b>	<b>1,2,3 or 4</b>
NPN Magneto Resistive Sensor 90° Barrel (with Qk. Disc.)*	<b>OHSN-011</b>	<b>1,2,3 or 4</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1,2,3 or 4</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1,2,3 or 4</b>
PNP Inductive Sensor 3mm (with Qk. Disc.)*	<b>OISP-019</b>	<b>1 or 2</b>
NPN Inductive Sensor 3mm (with Qk. Disc.)*	<b>OISN-019</b>	<b>1 or 2</b>
PNP Inductive Sensor 4mm (with Qk. Disc.)*	<b>OISP-014</b>	<b>1 or 2</b>
NPN Inductive Sensor 4mm (with Qk. Disc.)*	<b>OISN-014</b>	<b>1 or 2</b>
Sensor Mounting Kit for 3mm or 4mm Inductive Sensor	<b>OSMK-118</b>	<b>1</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Seal Repair Kit (Standard Buna-N)	<b>SLKT-341</b>	<b>1</b>
Seal Repair Kit (Viton®)	<b>SLKT-341V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-199V</b>	<b>1</b>
Shaft Wiper Seal Kit	<b>SLKT-342</b>	<b>1</b>
Fail Safe Valve M5	<b>OFSV-004</b>	<b>1</b>
Adjustable Flow Control	<b>VLVF-008</b>	<b>1 or 2</b>

### SAMPLE ORDER: DPW-500M-1-W-V

Ex: DPW-500M Gripper, 38.1mm Stroke, Shaft Wipers, Viton Seals

\*Sensor and cable sold separately

DIRECTCONNECT™



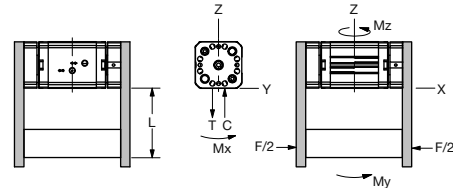
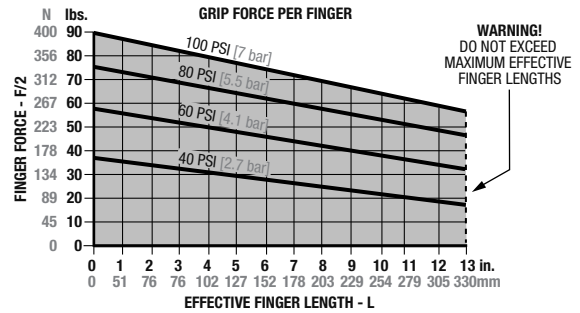
# PARALLEL GRIPPERS DPW-500M-1 DIRECT CONNECT WIDE BODY SERIES

DPW SERIES

1.207



Specifications	DPW-500M-1	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar .....	180 lbs.	800 N
Stroke .....	1.50 in.	38.1 mm
Pressure Range .....	40-100 psi	3-7 bar
Cylinder Bore $\varnothing$ .....	1.250 in.	31.8 mm
Displacement .....	1.841 in <sup>3</sup>	30.2 cm <sup>3</sup>
Weight .....	3.27 lbs.	1.48 Kg
Temperature Range: Standard Seals .....	-30°~180° F	-35°~80° C
Viton® Seals .....	-20°~300° F	-30°~150° C
Actuation .....	0.20 sec.	0.20 sec.
Accuracy .....	±0.003 in.	±0.08 mm
Repeatability .....	±0.001 in.	±0.03 mm
Valve required to actuate .....	4-way, 2-position	

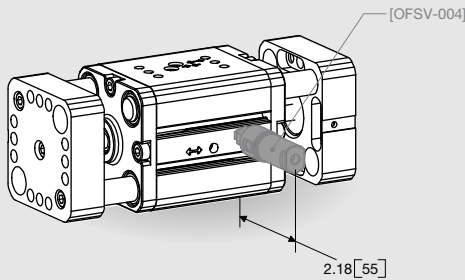


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	600 lbs. [2668 N]	60 lbs. [267 N]
Maximum Compressive <b>C</b>	600 lbs. [2668 N]	60 lbs. [267 N]
Maximum Moment <b>M<sub>x</sub></b>	600 in.-lbs. [68 Nm]	60 in.-lbs. [7 Nm]
Maximum Moment <b>M<sub>y</sub></b>	900 in.-lbs. [102 Nm]	90 in.-lbs. [10 Nm]
Maximum Moment <b>M<sub>z</sub></b>	600 in.-lbs. [68 Nm]	60 in.-lbs. [7 Nm]

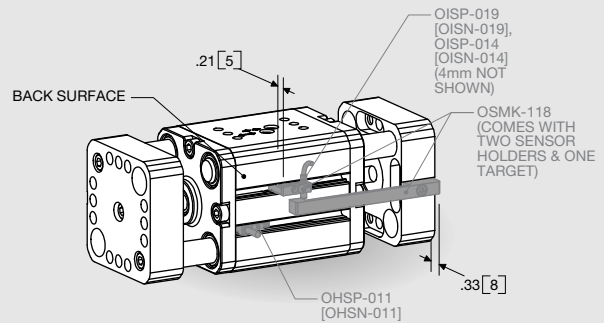
†Capacities are per set of jaws and are not simultaneous

## Accessory Mounting Technical Data



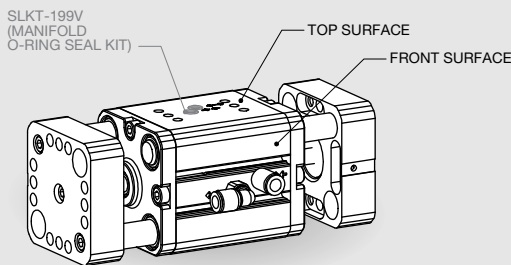
### Failsafe Valves

- Used in applications where it is critical that the part being gripped not be dropped if air pressure is lost
- Mounts directly to gripper
- M5 air port



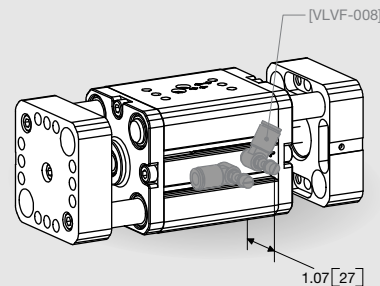
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting Kits required
- Low profile underflush sensor version or 90° wire exit sensor version
- Simple adjustment with slotted screw driver
- PNP and NPN inductive available
- Inductive sensor bracket mounts 3mm sensor
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



### Multiple Air Port Locations

- 2 standard air port locations (top and front surface)
- Top manifold air ports are supplied plugged
- Seals in manifold kit are Viton®
- Front air ports are tapped for M5 fittings



### Flow Controls

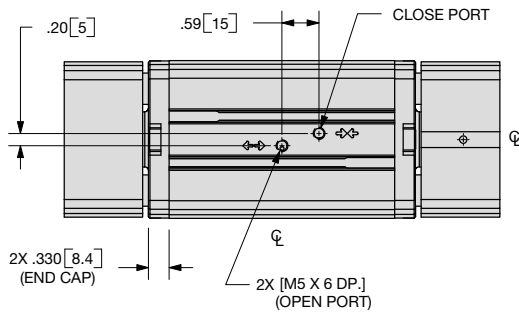
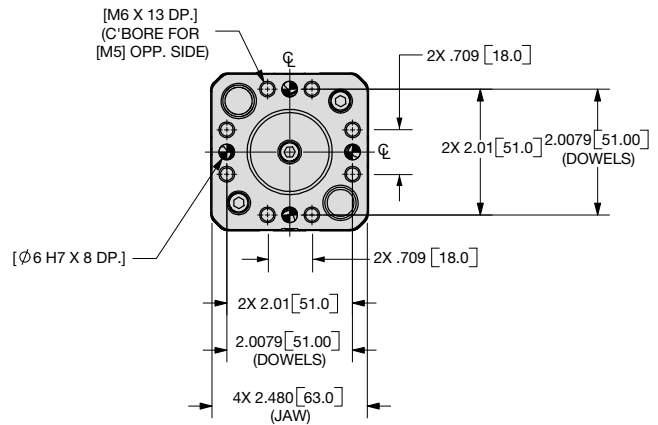
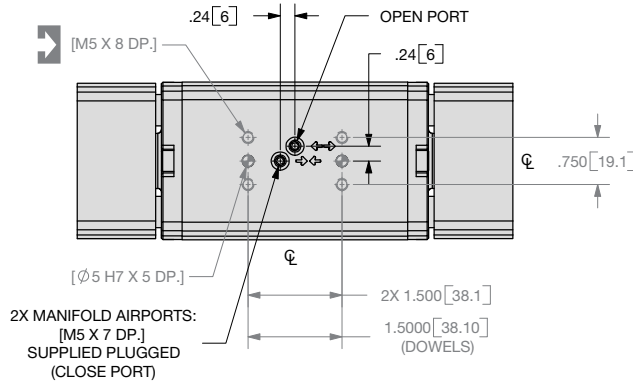
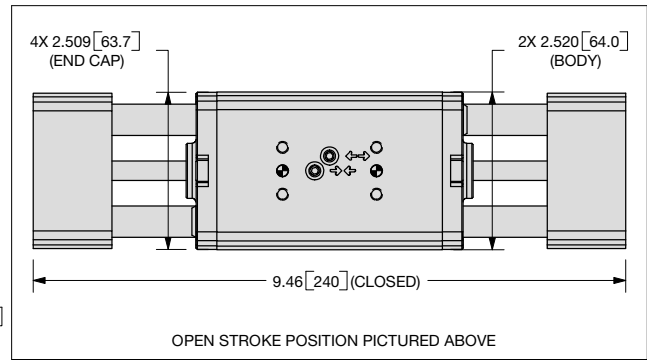
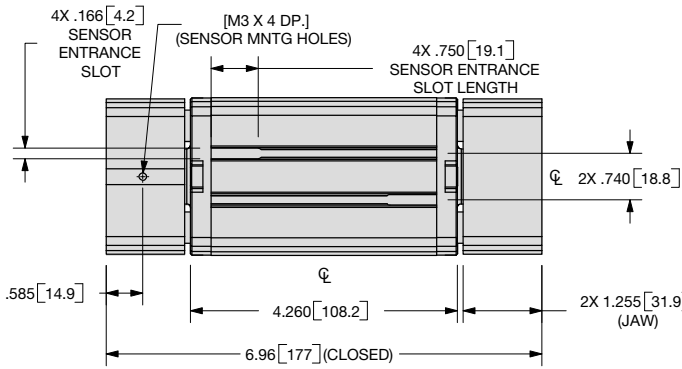
- Thumb screw adjust with locking nut for adjusting actuation time
- Available for 6mm OD tubing

DIRECTCONNECT™

# PARALLEL GRIPPERS DPW-500M-2 DIRECTCONNECT WIDE BODY SERIES

DPW SERIES

1.208



NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or (±.013mm)
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**    **STROKE**    **WIPERS**    **VITON SEALS**

**DPW-500M - 2 - NS - W - V**

**NON-SYNCHRONOUS**

**JAW SYNCHRONIZATION**    **NS** Non-Synchronous Operation  
 — Leave Blank for Synchronous (standard)

**WIPERS**    **W** Shaft Wipers

**VITON® SEALS**    **V**

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Magneto Resistive Sensor Short Barrel (with Qk. Disc.)*	<b>OHSP-017</b>	<b>1,2,3 or 4</b>
NPN Magneto Resistive Sensor Short Barrel (with Qk. Disc.)*	<b>OHSN-017</b>	<b>1,2,3 or 4</b>
PNP Magneto Resistive Sensor 90° Barrel (with Qk. Disc.)*	<b>OHSP-011</b>	<b>1,2,3 or 4</b>
NPN Magneto Resistive Sensor 90° Barrel (with Qk. Disc.)*	<b>OHSN-011</b>	<b>1,2,3 or 4</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1,2,3 or 4</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1,2,3 or 4</b>
PNP Inductive Sensor 3mm (with Qk. Disc.)*	<b>OISP-019</b>	<b>1 or 2</b>
NPN Inductive Sensor 3mm (with Qk. Disc.)*	<b>OISN-019</b>	<b>1 or 2</b>
PNP Inductive Sensor 4mm (with Qk. Disc.)*	<b>OISP-014</b>	<b>1 or 2</b>
NPN Inductive Sensor 4mm (with Qk. Disc.)*	<b>OISN-014</b>	<b>1 or 2</b>
Sensor Mounting Kit for 3mm or 4mm Inductive Sensor	<b>OSMK-118</b>	<b>1</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Seal Repair Kit (Standard Buna-N)	<b>SLKT-341</b>	<b>1</b>
Seal Repair Kit (Viton®)	<b>SLKT-341V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-199V</b>	<b>1</b>
Shaft Wiper Seal Kit	<b>SLKT-342</b>	<b>1</b>
Fail Safe Valve M5	<b>OFSV-004</b>	<b>1</b>
Adjustable Flow Control	<b>VLVF-008</b>	<b>1 or 2</b>

### SAMPLE ORDER: DPW-500M-2-W-V

Ex: DPW-500M Gripper, 63.5mm Stroke, Shaft Wipers, Viton Seals

\*Sensor and cable sold separately

DIRECTCONNECT™





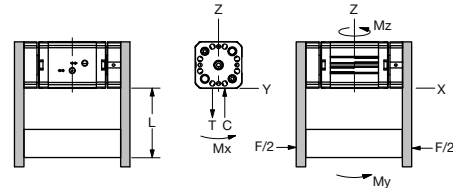
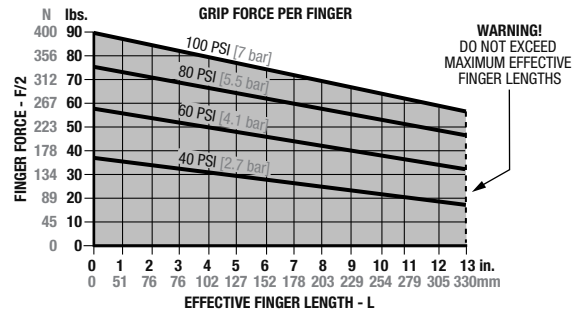
# PARALLEL GRIPPERS DPW-500M-2 DIRECT CONNECT WIDE BODY SERIES

DPW SERIES

1.209



Specifications	DPW-500M-2	
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	180 lbs.	800 N
Stroke	2.50 in.	63.5 mm
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore $\emptyset$	1.250 in.	31.8 mm
Displacement	3.068 in <sup>3</sup>	50.3 cm <sup>3</sup>
Weight	4.39 lbs.	2.0 Kg
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.28 sec.	0.28 sec.
Accuracy	±0.003 in.	±0.08 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate	4-way, 2-position	

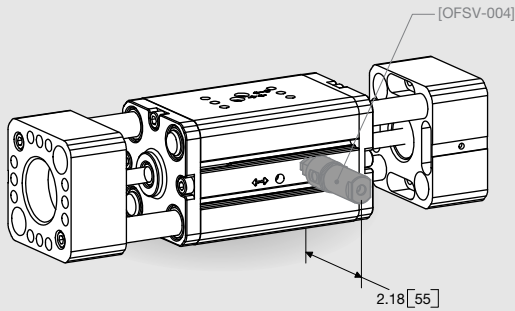


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	600 lbs. [2668 N]	60 lbs. [267 N]
Maximum Compressive <b>C</b>	600 lbs. [2668 N]	60 lbs. [267 N]
Maximum Moment <b>M<sub>x</sub></b>	600 in.-lbs. [68 Nm]	60 in.-lbs. [7 Nm]
Maximum Moment <b>M<sub>y</sub></b>	900 in.-lbs. [102 Nm]	90 in.-lbs. [10 Nm]
Maximum Moment <b>M<sub>z</sub></b>	600 in.-lbs. [68 Nm]	60 in.-lbs. [7 Nm]

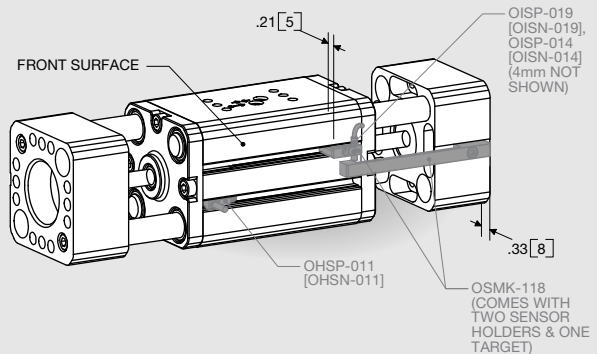
†Capacities are per set of jaws and are not simultaneous

## Accessory Mounting Technical Data



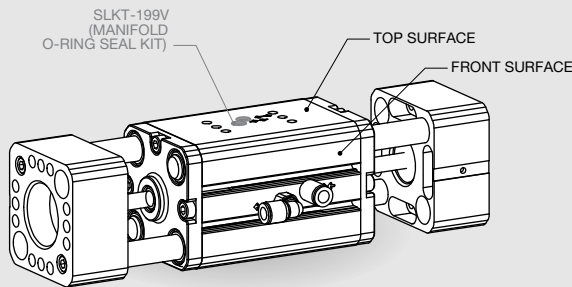
### Failsafe Valves

- Used in applications where it is critical that the part being gripped not be dropped if air pressure is lost
- Mounts directly to gripper
- M5 air port



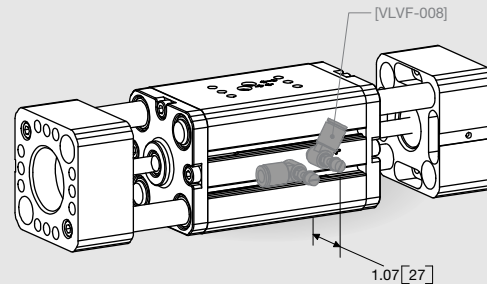
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting Kits required
- Low profile underflush sensor version or 90° wire exit sensor version
- Simple adjustment with slotted screw driver
- PNP and NPN inductive available
- Inductive sensor bracket mounts 3mm sensor
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



### Multiple Air Port Locations

- 2 standard air port locations (top and front surface)
- Top manifold air ports are supplied plugged
- Seals in manifold kit are Viton®
- Front air ports are tapped for M5 fittings

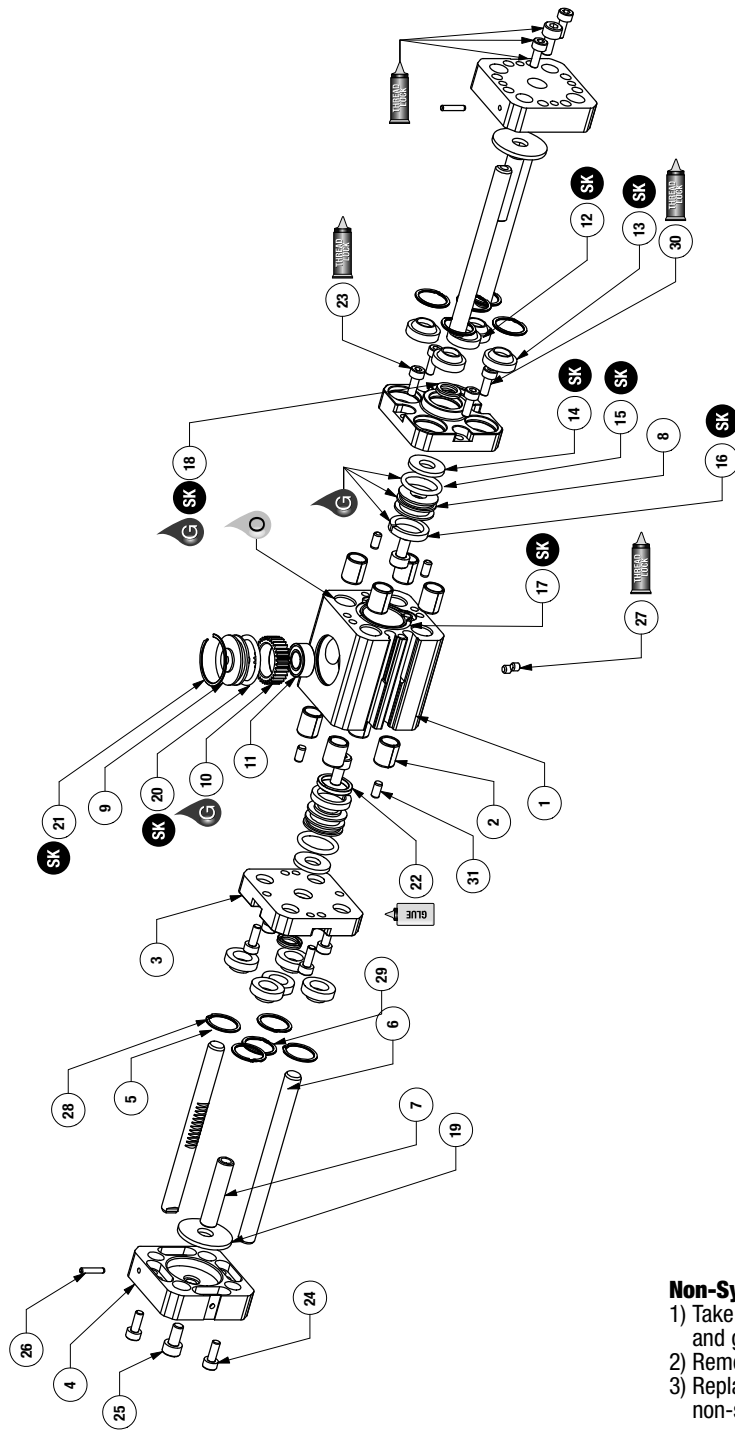


### Flow Controls

- Thumb screw adjust with locking nut for adjusting actuation time
- Available for 6mm OD tubing

DIRECTCONNECT™

# DPW SERIES EXPLODED VIEW



Item	Qty	Name
01	1	Body
02	8	Bushing, Oil Impregnated Bronze
03	2	End Cap
04	2	Jaw
05*	2	Guide Shaft, Rack
06*	2	Guide Shaft (Qty 4 for -NS)
07	2	Piston Rod
08	2	Piston
09	1	Cap, Gear
10*	1	Gear
11*	1	Bearing, Radial
12*	2	Piston Rod Wiper (Shaft Wiper "-W" option only)
13*	8	Shaft Wiper (Shaft Wiper "-W" option only)
14	2	Piston Bumper
15	2	Piston O-ring
16	2	Teflon Ring
17*	2	Body O-ring
18	2	U-cup
19	2	Jaw Bumper
20	1	Gear Cap O-ring
21	1	Retaining Ring
22	1	Magnet
23	8	End Cap Mntg Screw
24	4	Guide Shaft Mntg Screw
25	4	Piston Shaft Mntg Screw
26*	2	Guide Shaft Alignment Dowel
27	2	Manifold Port Plug
28	8	Retainer Ring (Shaft Wiper "-W" Option only)
29	2	Retainer Ring (Shaft Wiper "-W" Option only)
30*	4	End Cap Mntg Screw
31	4	End Cap Dowel Pins

**\*Notes:**

- 1) Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.
- 2) Quantity of #6 is 4 when ordering a Non-synchronous gripper.
- 3) Items #5, #10, #11, and #26 are for synchronous grippers only.
- 4) Items #12 and #13 are for -W option only.
- 5) Item #17 (Body O-ring) shown in body groove.
- 6) Item #23 Quantity is 6 for 375-1 and 375-2 only.
- 7) Item #30 is only used in 375-1 and 375-2.

**Assembly Procedure:**

- 1) Lubricate and install seals on piston.
- 2) Install pistons and shafts.
- 3) Mount end caps to enclose piston assembly.
- 4) Install tooling plates and shafts.
- 5) Place bearing, shaft, and gear into body and install cap and retaining ring for sync version.
  - a) For disassembly, use magnet to pull gear out of body.
  - b) Install 2 gear shafts with teeth facing syncing gear. Use dowel to align gear shafts in correct position.

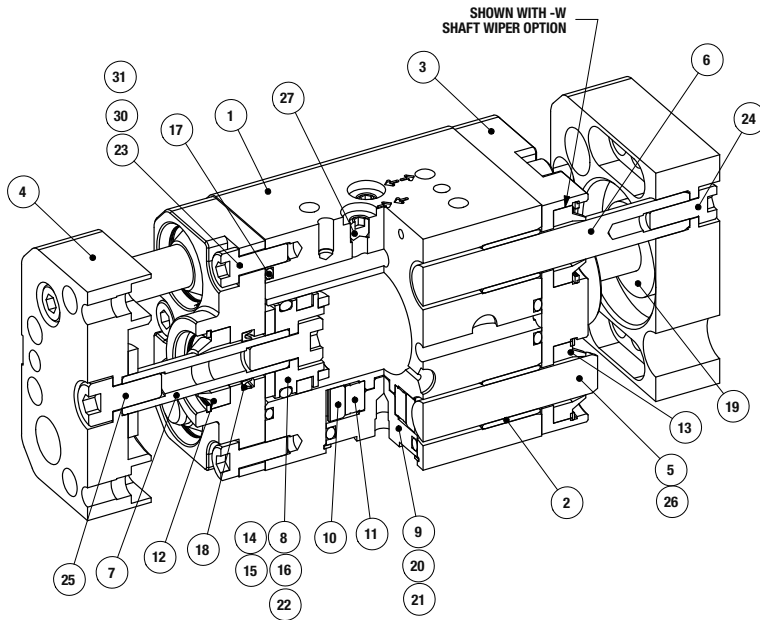
**Non-Synchronous Procedure:**

- 1) Take DPW synchronous gripper and remove the retaining ring and gear cap.
- 2) Remove jaws from gripper.
- 3) Replace gear cap and retaining ring. The gripper is now non-synchronous

**-W Option Assembly Procedure:**

- 1) Take out guide shaft and piston rod mounting screws.
- 2) Remove jaws from guide shafts and piston rods.
- 3) Take out end cap mounting screws and pull off end caps. Take out piston.
- 4) Slide out shafts and press wipers in pockets thru front side. Install retaining rings.
- 5) Replace shafts, pistons, and end caps.
- 6) Be sure to apply thread locker to mounting screws. The gripper now has shaft wipers.

Seal Kit Items	Thread Locker	Krytox™ Lubricant	Lightweight Machine Oil	Teflon™ Based Grease	Super Bonder	Third Angle Projection

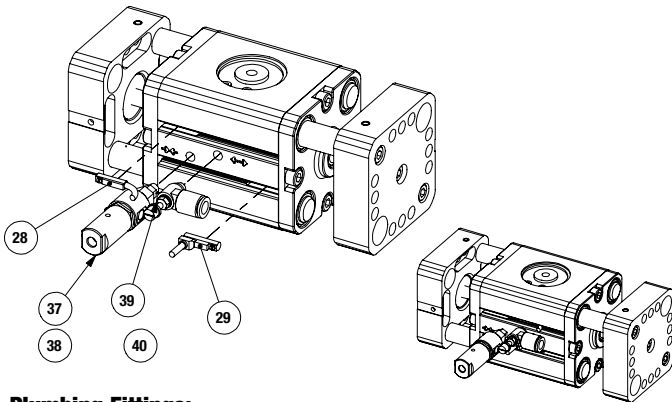


Item	Qty	Name
01	1	Body
02	8	Bushing, Oil Impregnated Bronze
03	2	End Cap
04	2	Jaw
05*	2	Guide Shaft, Rack
06*	2	Guide Shaft (Qty 4 for NS)
07	2	Piston Rod
08	2	Piston
09	1	Cap, Gear
10*	1	Gear
11*	1	Bearing, Radial
12*	2	Piston Rod Wiper (Shaft Wiper "-W" option only)
13*	8	Shaft Wiper (Shaft Wiper "-W" option only)
14	2	Piston Bumper
15	2	Piston O-Ring
16	2	Teflon Ring
17*	2	Body O-Ring
18	2	U-cup
19	2	Jaw Bumper
20	1	Gear Cap O-ring
21	1	Retaining ring
22	1	Magnet
23	8	End Cap Mntg Screw
24	4	Guide Shaft Mntg Screw
25	4	Piston Shaft Mntg Screw
26*	2	Guide Shaft Alignment Dowel
27	2	Manifold Port Plug
28	8	Retainer Ring (Shaft Wiper "-W" Option only)
29	2	Retainer Ring (Shaft Wiper "-W" Option only)
30*	4	End Cap Mntg Screw
31	4	End Cap Dowel Pins

**\*Notes:**

- 1) Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.
- 2) Quantity of #6 is 4 when ordering a Non-synchronous gripper.
- 3) Items #5, #10, #11, and #26 are for synchronous grippers only.
- 4) Items #12 and #13 are for -W option only.
- 5) Item #17 (Body O-ring) shown in body groove.
- 6) Item #23 Quantity is 6 for 375-1 and 375-2 only.
- 7) Item #30 is only used in 375-1 and 375-2.

## Accessory Installation & Adjustment Instructions



**Plumbing Fittings:**

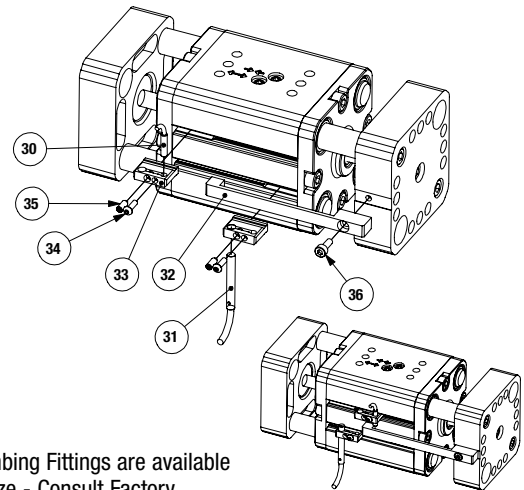
- 1) Flow Controls #39 or #40 can be inserted and used in any open or closed airport to help control the stroke actuation.
- 2) Fail-Safe Valve #37 or #38 can be used in either the open or closed airport to help limit the possibility of dropping the part if air pressure is lost.

**Magneto-Resistive Sensors:**

- 1) Insert sensors #28 or #29 into the opening at the end of the profile and lock the sensor into position with the integrated screw.

**Inductive Sensors:**

- 1) Mount inductive sensor target (#32) to jaw using mounting screw (#36).
- 2) Insert sensor bracket (#33) into slot of body.
- 3) Insert sensor (#30 or #31) into appropriate 3mm or 4mm opening in bracket and adjust sensor depth so that sensor light indicates target (#32).
- 4) Tighten sensor locking screw (#34).
- 5) Position sensor bracket for desired stroke detection.
- 6) Tighten sensor bracket with set screw (#35) to lock stroke detection position.



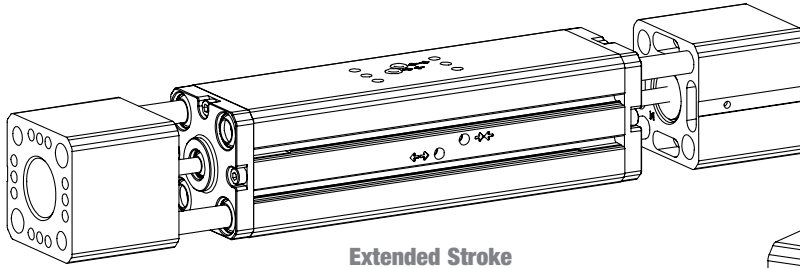
Other Plumbing Fittings are available for each size - Consult Factory

Item	Qty	Name
28	1,2	Magneto Resistive Sensor (short barrel) w/Qk. Disconnect
29	1,2	Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect
30	1,2	Inductive Sensor (3mm) w/Qk. Disconnect
31	1,2	Inductive Sensor (4mm) w/Qk. Disconnect (DPW-375 & 500 only)
39	1,2	Adjustable Flow Control (Imperial) #10-32 elbow - 1/4" OD Push-in Style
40	1,2	Adjustable Flow Control (Metric) M5 elbow - 6mm OD Push-in Style
37	1	Fail Safe Valve (Imperial) #10-32
38	1	Fail Safe Valve (Metric) M5

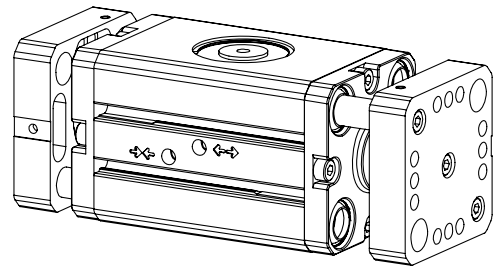
# DPW SERIES SPECIALS

**Smaller or Larger Bores**  
**Metallic Rod Scrapers**  
**Extended Strokes**  
**Alternate Materials**  
**and more...**

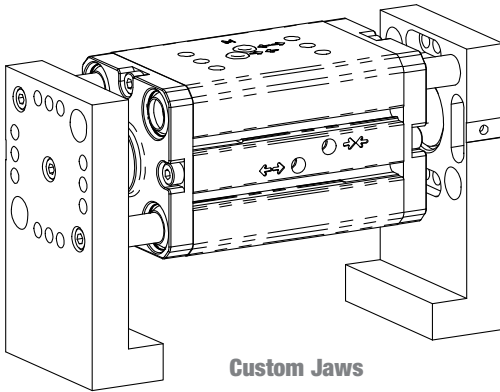
Drawings are for concept only.  
 Contact Robohand Tech Support  
 with project requirements.



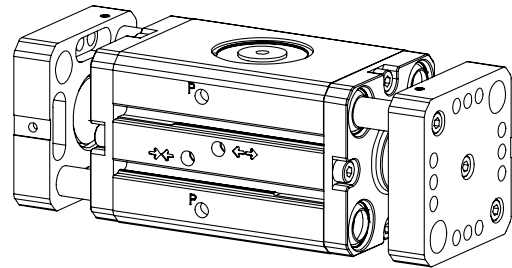
**Extended Stroke**



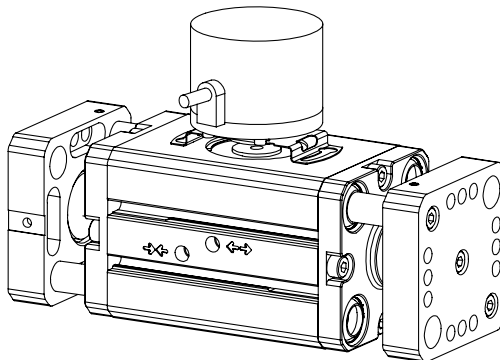
**Fixed Jaw**



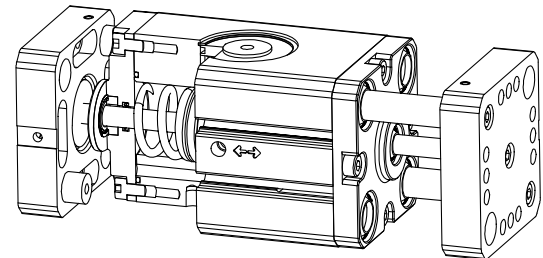
**Custom Jaws**



**Purge Port**



**Multi-Positioning Sensing**



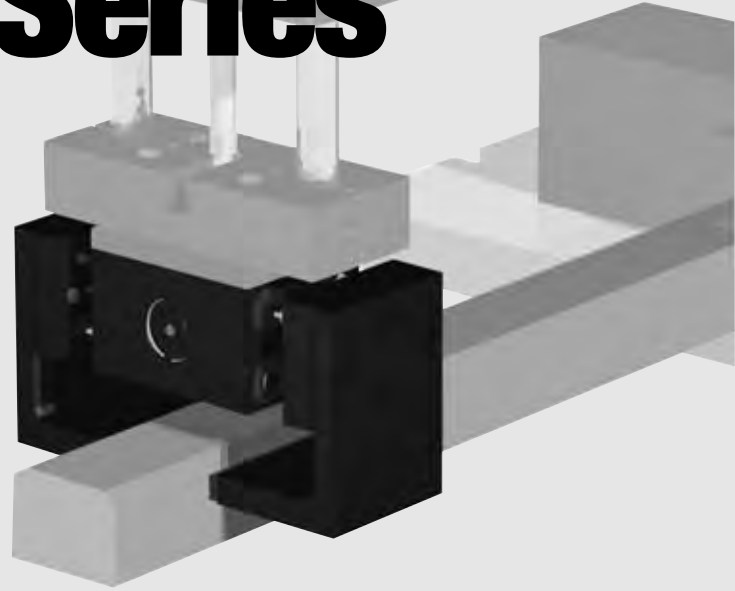
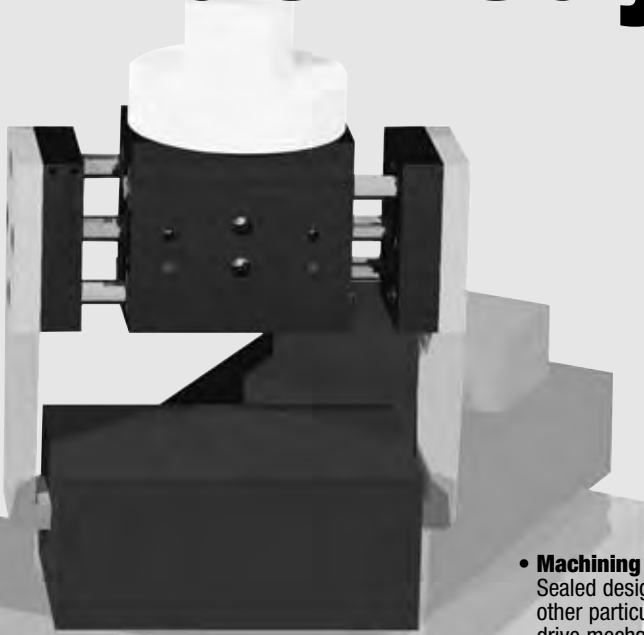
**Spring Assist**



Please describe your application. Include a sketch or attach additional sheets if necessary.

A large grid area for describing the application. In the top right corner of the grid, there is a 3D coordinate system diagram with three axes labeled X, Y, and Z. The Z-axis points upwards, the X-axis points to the left, and the Y-axis points to the right.

# Parallel Grippers - Wide Body Series



**• Machining applications:**

Sealed design repels chips and other particulate from the internal drive mechanism.

**• Long gripper fingers:**

Jaw support thru the length of the body allows for long fingers to be attached to the jaws.

**• Large or wide parts:**

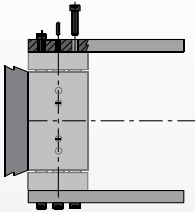
Wide body design provides secure gripping of large & wide parts.

**• Non synchronous motion:**

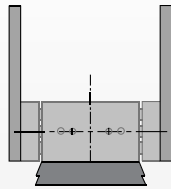
The unit can be made non-synchronous providing independent jaw motion allowing the gripper to pick or place at a point other than it's center.

## Mounting Information:

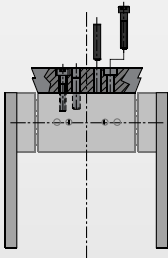
Grippers can be mounted & operated in any orientation



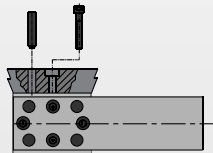
Fingers attach with screws and locate on jaws with dowel pins



Jaw design allows for simplified mounting of fingers



Body mounts on top or on side with screws and locates with slip fit dowel pin holes for accuracy



## Technical Specifications:

**Pneumatic Specifications**

Pressure Operating Range  
Cylinder Type  
Dynamic Seals  
Valve Required

**Imperial**  
40-100 psi  
**Dual Double Acting**  
**Internally Lubricated Buna-N**  
4-way, 2-position

**Air Quality Requirements**

Air Filtration  
Air Lubrication  
Air Humidity

40 Micron or Better  
Not Necessary\*  
Low Moisture Content (dry)

**Temperature Operating Range**

Buna-N Seals (standard)    -30°~180° F    -35°~80° C  
Viton® Seals (optional)    -20°~300° F    -30°~150° C

**Maintenance Specifications†**

Expected Life  
Normal Application  
w/ Preventative Maintenance  
Field Repairable  
Seal Repair Kits Available

5 million cycles  
10+ million cycles\*  
Yes  
Yes

\*Addition of lubrication will greatly increase service life  
† See Maintenance Section



## Product Features

**Sensors/  
Mounting Kit**  
Read position of jaw  
(Sold Separately-See  
"How to Order" Section  
for more info)

**Accessory  
Mounting Holes**  
(Mounts sensors to unit)

**Dowel Holes**  
Slip fit dowel pin  
holes in body

**Sealed Design**  
Unit repels contaminants

**One  
Piece  
Body**  
One piece  
anodized  
aluminum body  
and jaws

**Simplified  
Finger  
Mounting**  
Large jaw  
configuration  
allows for  
simplified  
finger  
mounting

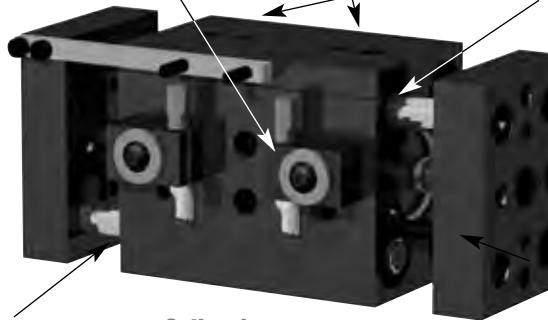
**Superior Jaw  
Support**  
Each jaw is supported  
by 2 shafts that  
extend the entire  
length of the  
body and are guided  
by 2 bronze bushings  
per shaft

**Optional  
Non-Synchronous  
Operation**

**Double Rod Seals**  
Double rod seals for  
longer life

**Self Lubricating**  
Self lubricating oil  
impregnated  
bronze bushing for  
low friction  
and wear resistance  
Self lubricating  
dynamic seals  
(Buna-N only)

**Quality Components**  
Hardened precision stainless steel shafting  
for wear resistance and long life



### Style-RPW Parallel Gripper

**Size -625M-1**

<b>Stroke:</b>	625-1 2.00 in.	625M-1 50.8 mm
<b>Grip Force:</b>	240 lb	1068 N
<b>Weight:</b>	6.5 lb	2.95 Kg



See Page **1.216**

### Style-RPW Parallel Gripper

**Size -625M-2**

<b>Stroke:</b>	625-2 3.50 in.	625M-2 88.9 mm
<b>Grip Force:</b>	240 lb	1068 N
<b>Weight:</b>	7.8 lb	3.55 Kg



See Page **1.217**

### Style-RPW Parallel Gripper

**Size -750M**

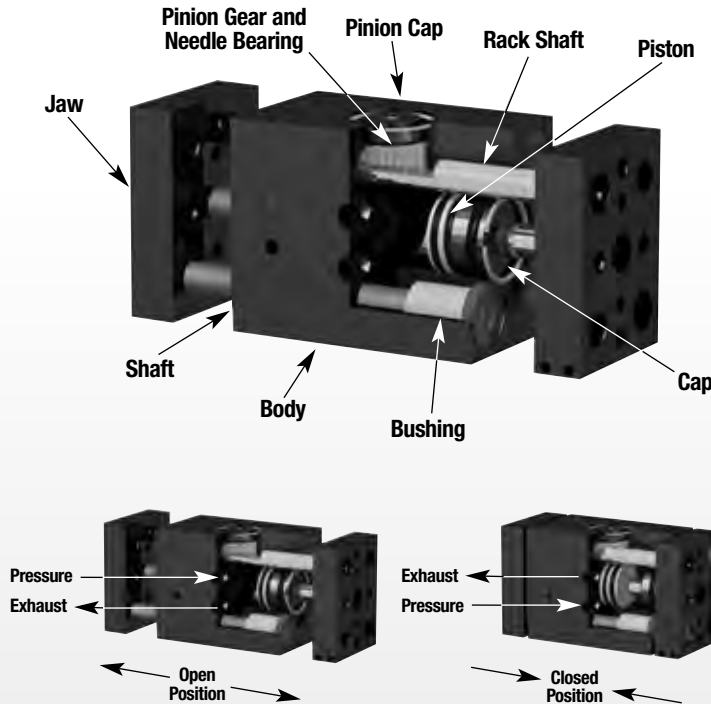
<b>Stroke:</b>	750 4.50 in.	750M 114.3 mm
<b>Grip Force:</b>	470 lb	2091 N
<b>Weight:</b>	14 lb	6.36 Kg



See Page **1.218**

**Note:** Please refer to the New DPW series for sizes of RPW-250 through RPW-500-2 on pages 1.196 to 1.209. The RPW series information on these sizes is still available on our website and are available for sale. We encourage you to consider the new DPW design for new projects.

## Operating Principle

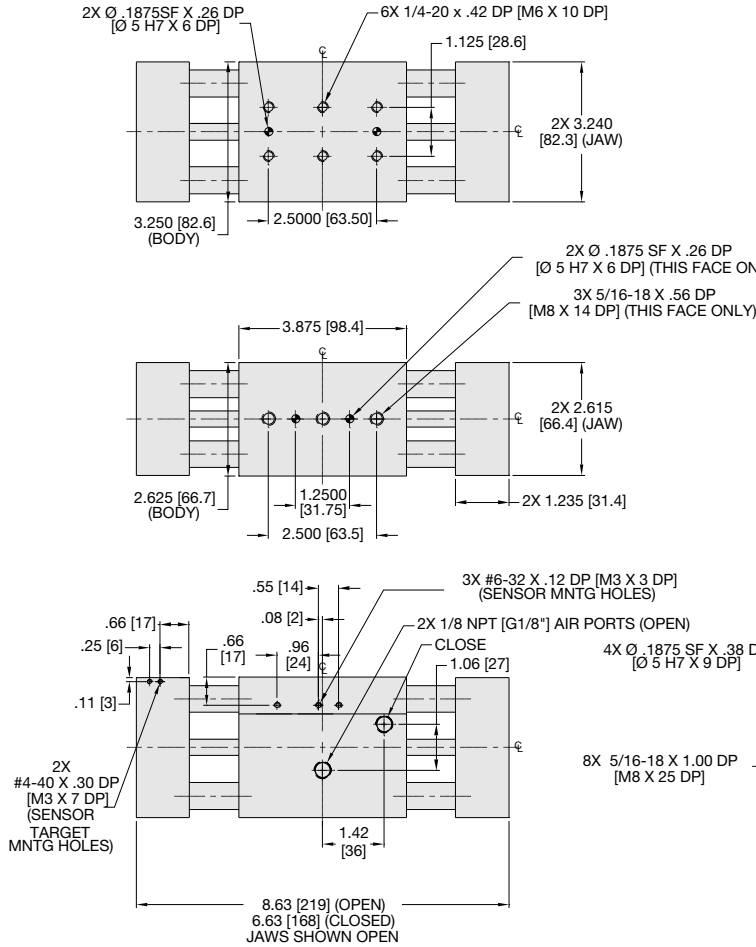


- Two shafts, one with a rack cut into it, are securely fastened to each of the jaws and are supported through the length of the body.
- Two double acting opposed pistons provide power to the jaws.
- The rack shafts of each jaw slide in opposite directions of one another and are synchronized by a pinion gear.
- This gripper is suitable for internal or external gripping.

**U.S. Patent # 5,163,729**  
**Designed and manufactured in the USA**

# PARALLEL GRIPPER RPW-625M-1 WIDE BODY SERIES

1.216



Specifications	RPW-625-1	RPW-625M-1
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	240 lb	1068 N
Stroke	2.00 in.	50.8 mm
Weight	6.5 lb	3.0 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore Ø	1.625 in.	41.3 mm
Displacement	1.320 in <sup>3</sup>	21.6 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.52 sec.	0.52 sec.
Accuracy	±0.003 in.	±0.08 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate double acting...	4-way, 2-position	

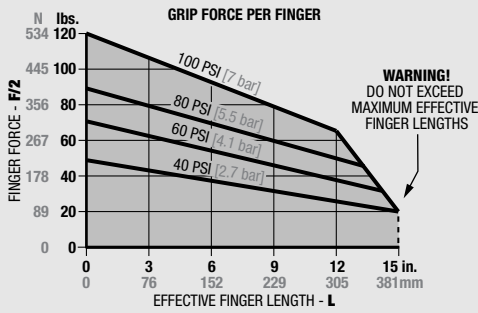
**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline  
 Third Angle Projection  
 All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm

**Imperial in.**  
 0.00 ± .01  
 0.000 ± .005  
 0.0000 ± .0005

**Metric [mm]**  
 [0.] = ±.25  
 [0.0] = ±.13  
 [0.00] = ±.013

## Loading Information



## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**      **NON-SYNCHRONOUS**

**RPW-625 M-1-NS-V**

**METRIC**      **VITON® SEALS**

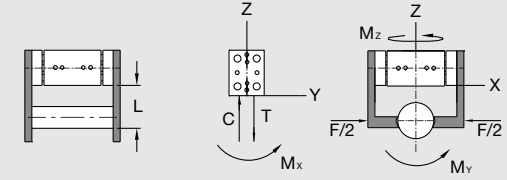
### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	<b>OSMK-074</b>	<b>1</b>
NPN Inductive Sensor with Quick Disconnect*	<b>OISN-011</b>	<b>1 or 2</b>
PNP Inductive Sensor with Quick Disconnect*	<b>OISP-011</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

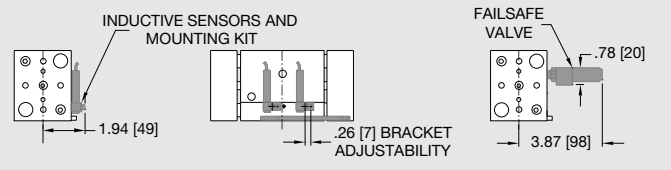
Fail Safe Valve (Imperial)	<b>OFSV-002</b>	<b>1</b>
Fail Safe Valve (Metric)	<b>OFSV-005</b>	<b>1</b>
Standard Seal Repair Kit	<b>SLKT-071</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-071V</b>	<b>1</b>

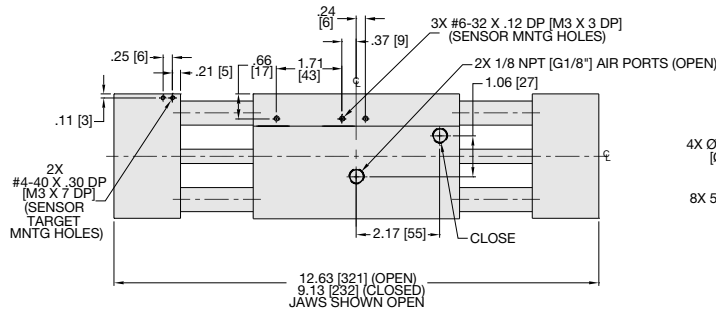
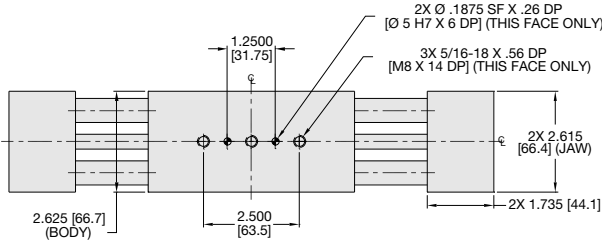
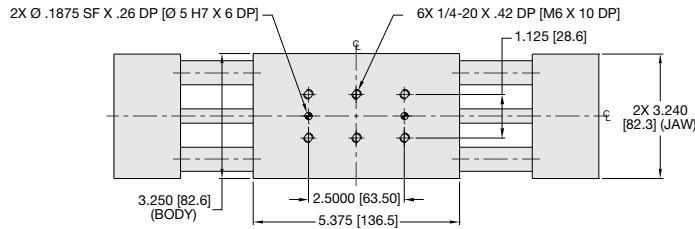
\*Sensor and cable sold separately.



Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	1200 lbs.	5338 N	125 lbs.	556 N
Maximum Compressive <b>C</b>	1200 lbs.	5338 N	125 lbs.	556 N
Maximum Moment <b>M<sub>x</sub></b>	1000 in.-lbs.	113 Nm	100 in.-lbs.	11 Nm
Maximum Moment <b>M<sub>y</sub></b>	1500 in.-lbs.	170 Nm	125 in.-lbs.	14 Nm
Maximum Moment <b>M<sub>z</sub></b>	1000 in.-lbs.	113 Nm	100 in.-lbs.	11 Nm

†Capacities are per set of jaws and are not simultaneous

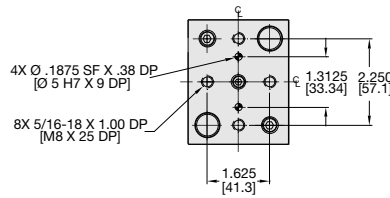




**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

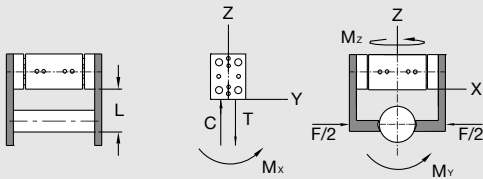
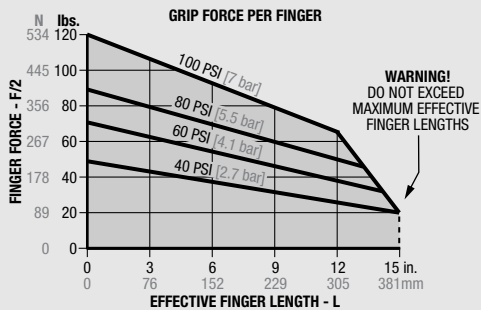
Dimensions are symmetrical about centerline  
 Third Angle Projection  
 All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]

	Imperial in.	Metric [mm]
Metric Threads	0.00 = ±.01	[0.] = [±.25]
Course Pitch	0.000 = ±.005	[0.0] = [±.13]
	0.0000 = ±.0005	[0.00] = [±.013]



## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



Loading Capacity <sup>†</sup>	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	1200 lb	5338 N	125 lb	556 N
Maximum Compressive <b>C</b>	1200 lb	5338 N	125 lb	556 N
Maximum Moment <b>M<sub>x</sub></b>	1000 in.-lb	113 Nm	100 in.-lb	11 Nm
Maximum Moment <b>M<sub>y</sub></b>	1500 in.-lb	170 Nm	125 in.-lb	14 Nm
Maximum Moment <b>M<sub>z</sub></b>	1000 in.-lb	113 Nm	100 in.-lb	11 Nm

<sup>†</sup>Capacities are per set of jaws and are not simultaneous

### BASIC MODEL

### NON-SYNCHRONOUS

**RPW-625 M-2-NS-V**

### METRIC

### VITON® SEALS

#### SENSOR ACCESSORIES

- Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)
- NPN Inductive Sensor with Quick Disconnect\*
- PNP Inductive Sensor with Quick Disconnect\*
- Quick Disconnect 2 Meter Cable Length\*
- Quick Disconnect 5 Meter Cable Length\*

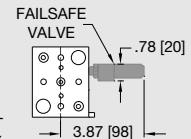
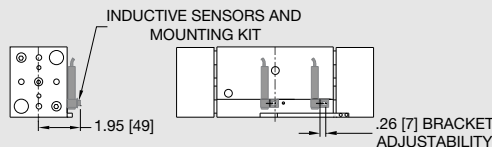
#### PNEUMATIC ACCESSORIES

- Fail Safe Valve (Imperial)
- Fail Safe Valve (Metric)
- Standard Seal Repair Kit
- Viton® Seal Repair Kit

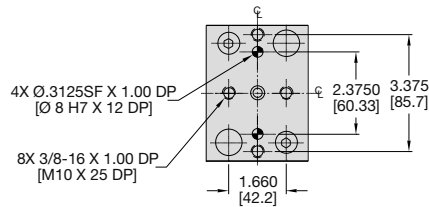
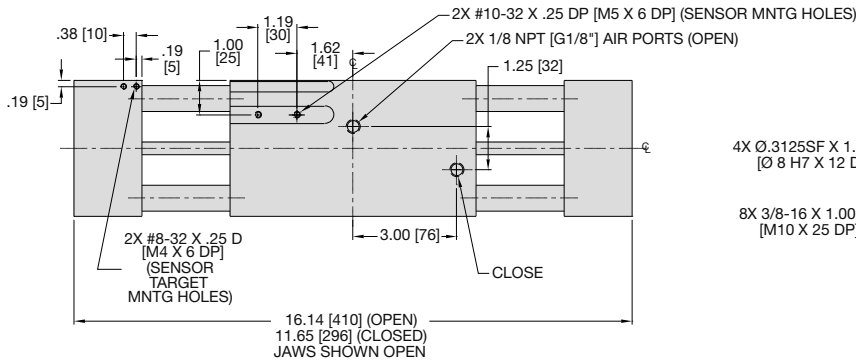
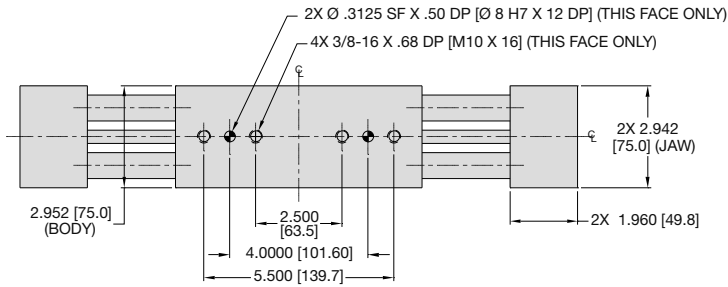
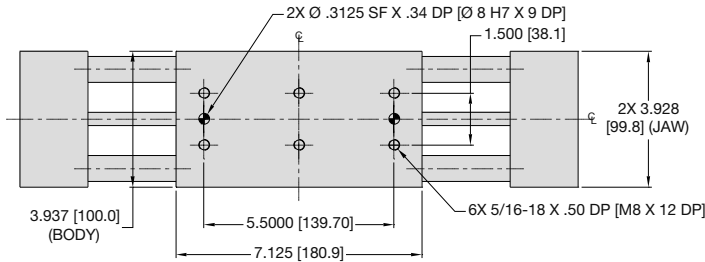
\*Sensor and cable sold separately.

#### ORDER # QTY/UNIT

<b>OSMK-074</b>	<b>1</b>
<b>OISN-011</b>	<b>1 or 2</b>
<b>OISP-011</b>	<b>1 or 2</b>
<b>CABL-010</b>	<b>1 or 2</b>
<b>CABL-013</b>	<b>1 or 2</b>
<b>OFSV-002</b>	<b>1</b>
<b>OFSV-005</b>	<b>1</b>
<b>SLKT-071</b>	<b>1</b>
<b>SLKT-071V</b>	<b>1</b>



# PARALLEL GRIPPER RPW-750M WIDE BODY SERIES



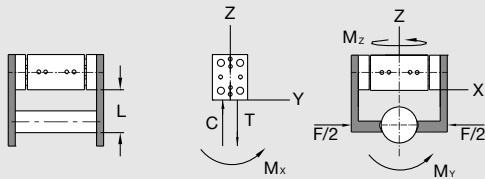
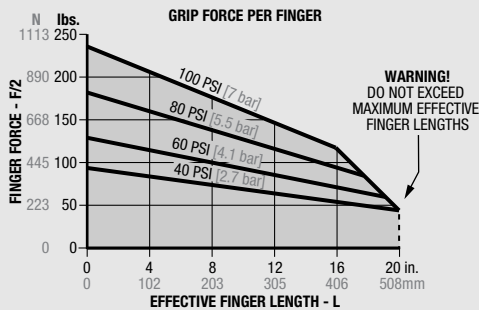
Specifications	RPW-750	RPW-750M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	470 lb	2091 N
Stroke	4.50 in.	114.3 mm
Weight	14 lb	6.4 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore Ø	2.000 in.	50.8 mm
Displacement	14.200 in <sup>3</sup>	232.7 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	1.00 sec.	1.00 sec.
Accuracy	±0.003 in.	±0.08 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate double acting...	4-way, 2-position	

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile <b>T</b>	2500 lb	11121 N	250 lb	1112 N
Maximum Compressive <b>C</b>	2500 lb	11121 N	250 lb	1112 N
Maximum Moment <b>M<sub>x</sub></b>	2000 in.-lb	226 Nm	200 in.-lb	22 Nm
Maximum Moment <b>M<sub>y</sub></b>	3000 in.-lb	339 Nm	250 in.-lb	28 Nm
Maximum Moment <b>M<sub>z</sub></b>	2000 in.-lb	226 Nm	200 in.-lb	22 Nm

†Capacities are per set of jaws and are not simultaneous

### BASIC MODEL

### NON-SYNCHRONOUS

**RPW-750 M - NS - V**

### METRIC

### VITON® SEALS

#### SENSOR ACCESSORIES

- Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)
- NPN Inductive Sensor with Quick Disconnect\*
- PNP Inductive Sensor with Quick Disconnect\*
- Quick Disconnect 2 Meter Cable Length\*
- Quick Disconnect 5 Meter Cable Length\*

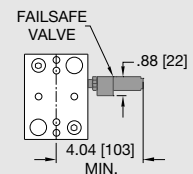
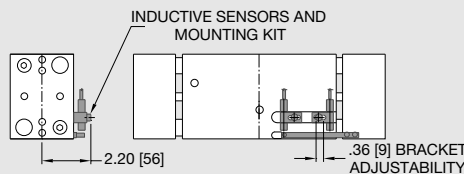
#### PNEUMATIC ACCESSORIES

- Fail Safe Valve (Imperial)
- Fail Safe Valve (Metric)
- Standard Seal Repair Kit
- Viton® Seal Repair Kit

\*Sensor and cable sold separately.

#### ORDER # QTY/UNIT

<b>OSMK-014</b>	<b>1</b>
<b>OISN-011</b>	<b>1 or 2</b>
<b>OISP-011</b>	<b>1 or 2</b>
<b>CABL-010</b>	<b>1 or 2</b>
<b>CABL-013</b>	<b>1 or 2</b>
<b>OFSV-002</b>	<b>1</b>
<b>OFSV-005</b>	<b>1</b>
<b>SLKT-060</b>	<b>1</b>
<b>SLKT-060V</b>	<b>1</b>



Item	Qty	Name
01	1	Body
03	2	Piston
04	2	Cap
05	2	Shaft
06	1	Gear Cover
07	1	Gear
09	2	Shaft, Piston
10	2	Shaft, Gear
20	2	Block, End W/ Target Holes
21	1	Bearing, Needle
22	1	Dowel Pin
23	1	Ball

NOTE: Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

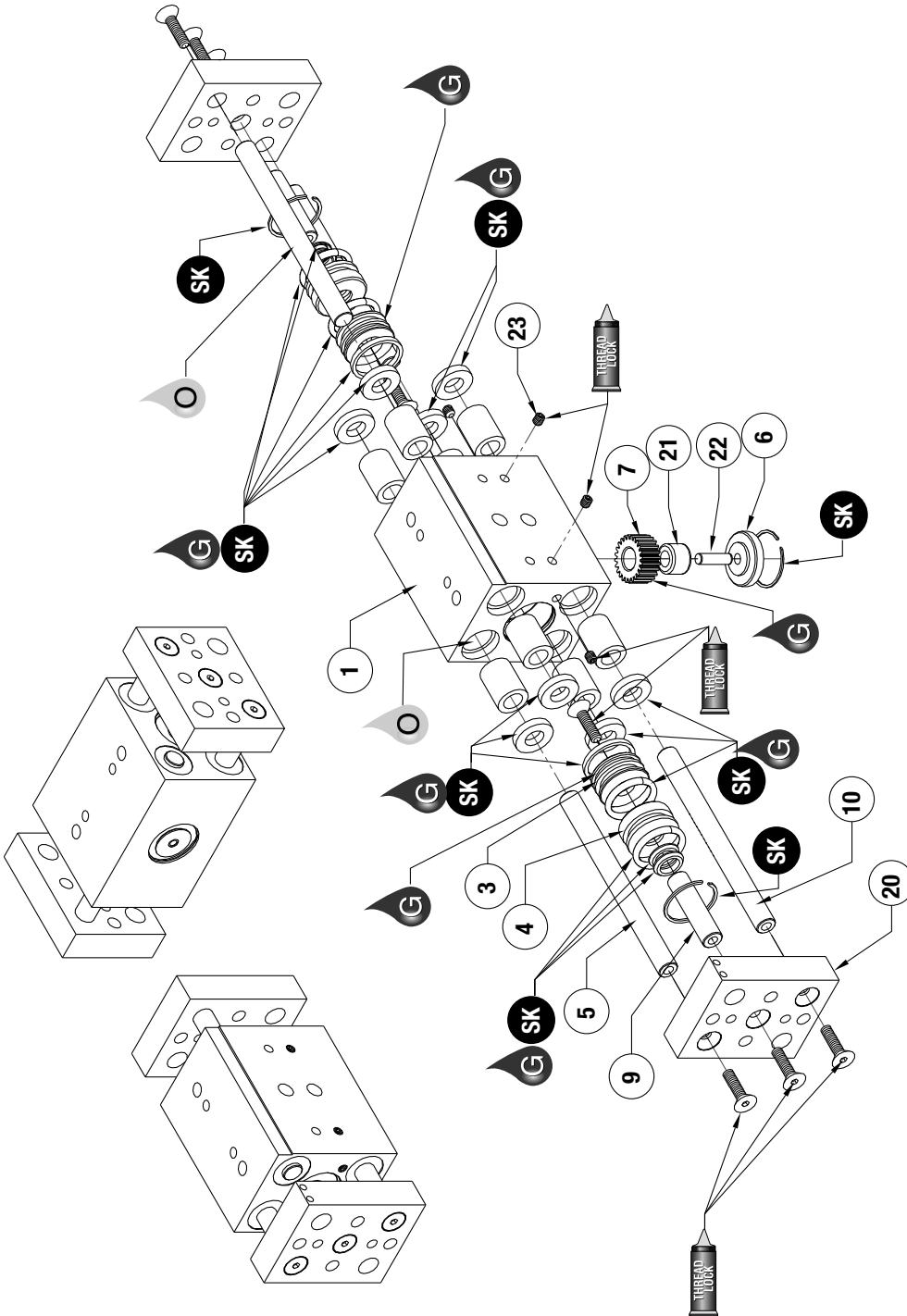
### Assembly Procedure

- 1) Lubricate and install seals.
- 2) Install pistons and shafts.\*
- 3) Place piston caps and retaining rings into body
- 4) Install tooling plates and shafts
- 5) Place bearing, shaft, and gear\*\* into body and install cap and retaining ring for sync. version:
  - a) For disassembly, use magnet to pull gear out of body.
  - b) Install 2 rack shafts with teeth facing syncing gear.

### Non-Synchronous Procedure

- 1) Take RPW synchronous gripper and remove the retainer ring and gear cover.
- 2) Slide out dowel pin and bearing.
- 3) Remove gear from gripper. (a magnet is often very helpful in removing the gear.)
- 4) Replace the dowel pin, gear cover, and retainer ring. The gripper is now non-synchronous.

**SK Seal Repair Kit Order #'s See Product Data Sheets**



Seal Kit Items



Thread Locker



Krytox™ Lubricant



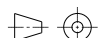
Lightweight Machine Oil



Teflon® Based Grease

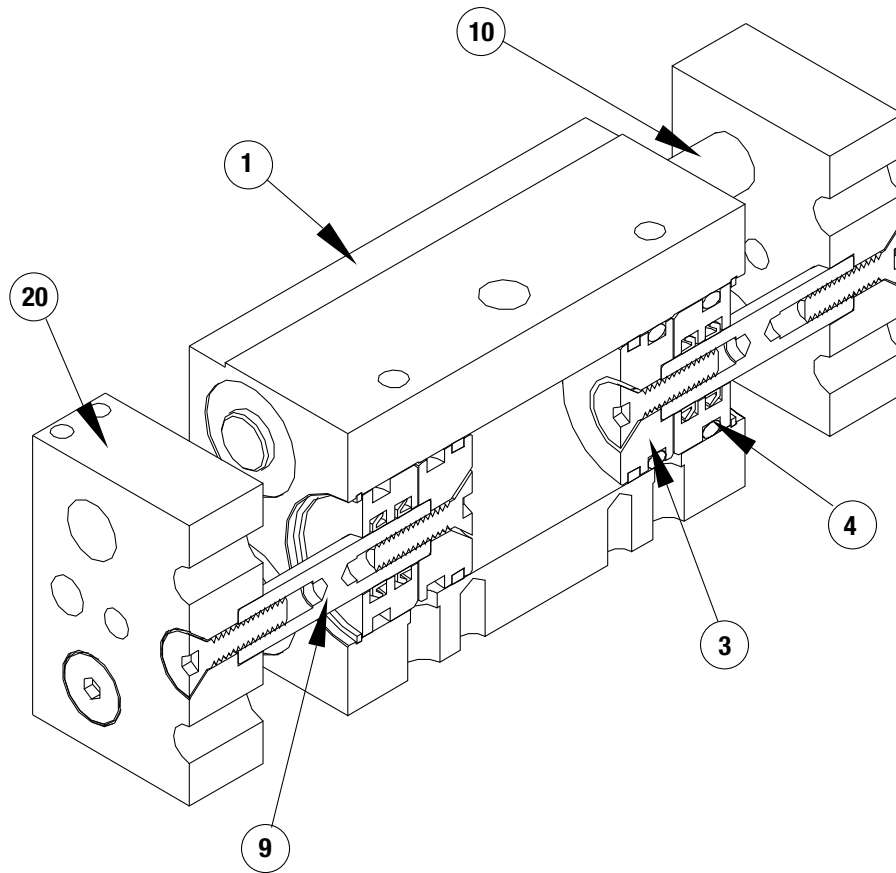


Super Bonder



Third Angle Projection

# RPW Series Assembled View

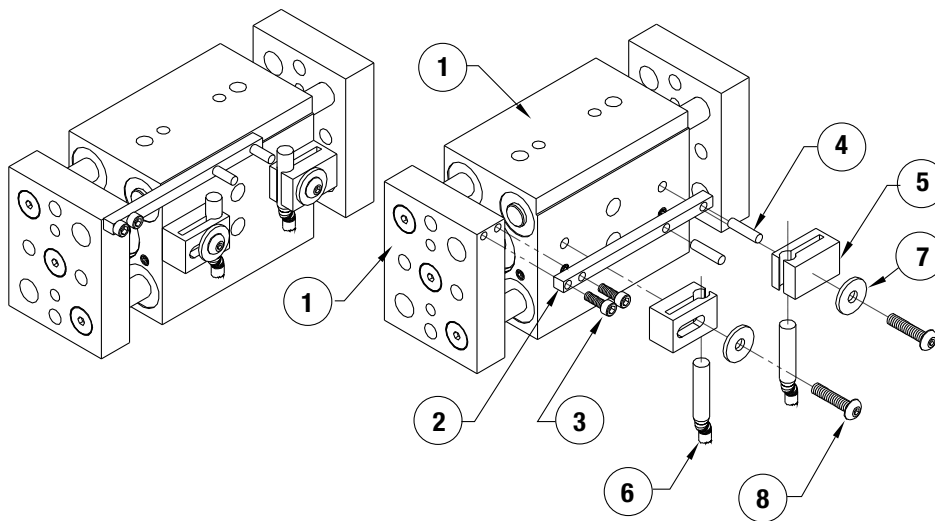


Item	Qty	Name
01	1	Body
03	2	Piston
04	2	Cap
05	2	Shaft
06	1	Gear Cover
07	1	Gear
09	2	Shaft, Piston
10	2	Shaft, Gear
20	2	Block, End W/ Target Holes
21	1	Bearing, Needle
22	1	Dowel Pin
23	1	Ball

NOTE: Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

## Accessory Installation & Adjustment Instructions

Install target as shown, install sensors as shown, adjust for proper end of stroke sensing.



Seal Kit Items



Thread Locker



Krytox™ Lubricant



Lightweight Machine Oil



Teflon® Based Grease



Super Bonder



Third Angle Projection



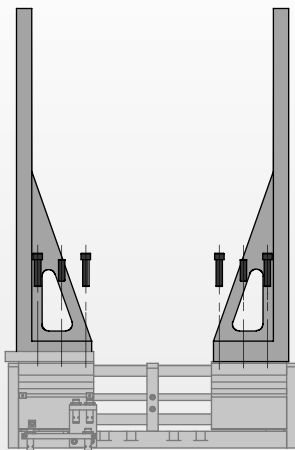


# Parallel Grippers - RPR Gladiator Series

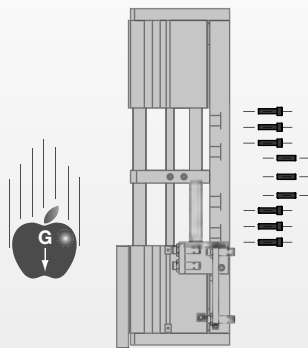
- Large, heavy or wide parts:**  
Wide body & long stroke design provide secure gripping of large heavy parts.
- Machining & foundry applications:**  
Rod wipers repel chips and other particulate.
- Gripper Interchangeability:**  
Bolt in replacement for PHD's GRR series gripper
- Multiple Sensing Options:**  
Choose between inductive proximity sensors or a linear encoder.
- Maximum rigidity:**  
Jaws are supported by 3 shafts, shafts are supported at 3 points.
- Long Finger Applications:**  
Rigid design and full body support of jaws allows for longer finger lengths.
- Non-synchronous motion:**  
The unit can be made non-synchronous providing independent jaw motion allowing the gripper to pick and place at a point other than it's center.

## Mounting Information:

Grippers can be mounted & operated in any orientation



Fingers mount on the bottom of the jaws with screws and dowel pins.



Body mounts with screws from behind and slip fit dowel pin holes for accuracy.

## Technical Specifications:

Pneumatic Specifications	Imperial	Metric
Pressure Operating Range	40-100 psi	3-7 bar
Cylinder Type	Double Acting	
Dynamic Seals	Internally Lubricated Buna-N	
Valve Required to Operate	4-way, 2-position	
<b>Air Quality Requirements</b>		
Air Filtration	40 Micron or Better	
Air Lubrication	Not Necessary*	
Air Humidity	Low Moisture Content (dry)	
<b>Temperature Operating Range</b>		
Buna-N Seals (standard)	-30°~180° F	-35°~80° C
Viton® Seals (optional)	-20°~300° F	-30°~150° C

## Maintenance Specifications

Expected Life	5 million cycles
Normal Application w/ Preventative Maintenance	10+ million cycles*
Field Repairable	Yes
Seal Repair Kits Available	Yes

\*Addition of lubrication will greatly increase service life

## Product Features

### Rack & Pinion Synchronizer

Rack and Pinion Synchronizer built inside the back plate for protection against contaminants and harsh environment. Optional non-synchronized gripper available.

### Rigid, Jaw bearing support

Four, Fluoropolymer composite bushings provide enhanced support to the jaws, protect against contaminants and corrosive environment

### Gripper Actuation Ports

Easy access to gripper open and close ports



### Low Friction Seals and Wipers

Pressure energized seals inside jaws offer minimum breakaway friction and enhanced cycle time. Other optional seals available for higher temperature and specific chemical compatibility

### Bearing and Shaft Protection

Four shaft wipers provide continuous protection to the bearings inside the jaws

### Optional - Gripper Open and Gripper Close Inductive Sensors

Optional Inductive sensors available to detect gripper open and close positions

### Stroke

Available with 200mm stroke. Consult factory for different strokes

### Optional - Rod Lock

Optional Rod Lock valves available to lock jaws in position in case of air loss

### Pented

Rod lock design integral inside the jaw provide protection against contaminants.

### Enhanced Piston Tube

Ground, stainless steel piston tube for superior wear and corrosion resistance

### Superior Jaw Support

Three, One piece, Case hardened, Precision ground linear guides provide higher stiffness and precision guide to the Jaws

### Optional - Jaw Position Analog sensors

Optional Analog sensors available to continuously detect jaw positions along the stroke

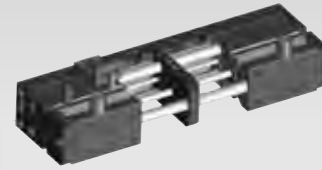
### Simplified Finger Mounting

Large jaw configuration to accept heavy loads and equipped with dowel holes for precision assembly with fingers. The jaws are supplied with coated steel inserts for superior clamping force and corrosion resistance.

## Style -RPR-63M Parallel Gripper

### Size -63M-200

	RPR-63M-200	200 mm
Stroke:	7.87 in.	200 mm
Grip Force:	800 lbs.	3520 N
Weight:	35 lbs.	15.8 Kg



See Page **1.224**

**Note:** Additional strokes available upon request. Contact DE-STA-CO for more information.

## Operating Principle

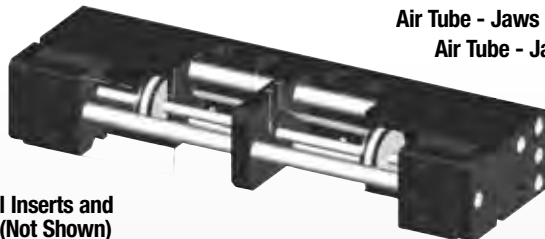
Back Plate with Rack & Pinion  
(Jaw Synchronizer)

Gripper Open Port

Gripper Close Port

Air Tube - Jaws Closed

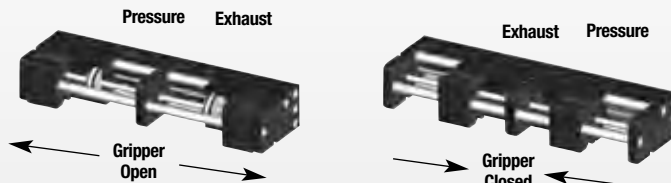
Air Tube - Jaws Open



Coated Steel Inserts and Dowel Pins (Not Shown) For Pay Finger Mount (4 Per Jaw)

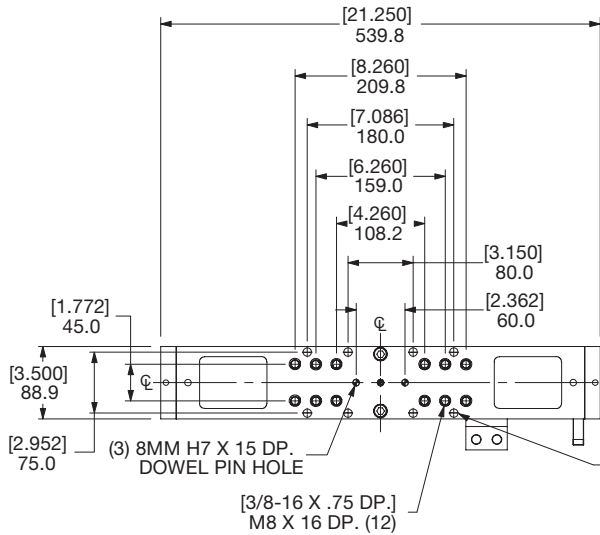
Air Piston - Fixed (2) with Pressure Energized Seals and O-Rings

Shaft Wipers (4 per Jaw)



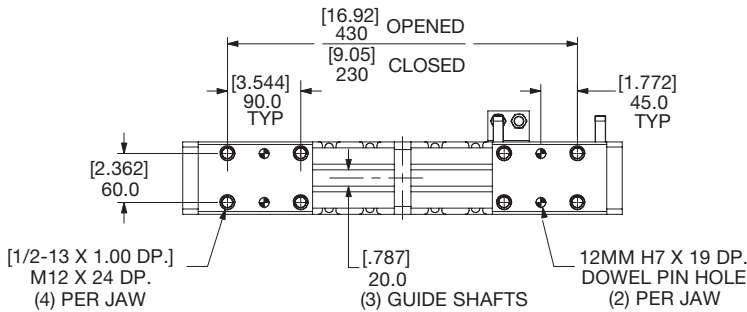
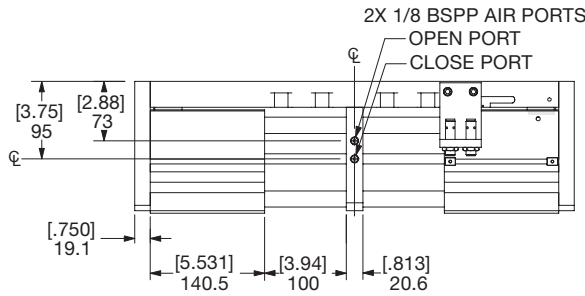
- Two jaws are equipped with linear bearings and supported on three precision ground shafts.
- Each of the jaws are also engaged with stationary piston assembly inside them.
- Each of the piston assemblies receive pressurized air via any one of the two air tubes. Depending upon the gripper port used, the corresponding air tube will direct the pressurized air to open or close the jaws.
- The jaws are mechanically synchronized with two racks and a pinion located in the back plate.
- The gripper is also available without rack and pinion in non-synchronous configuration.
- This gripper is available with inductive sensors to detect jaw open and jaw closed positions.
- This gripper is also available with analog sensor to detect jaw positions any where along the gripper stroke.
- This gripper is suitable for internal or external gripping and can be mounted in any orientation.

# PARALLEL GRIPPER RPR GLADIATOR SERIES



### Specifications

	RPR-63	RPR-63M
Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	800 lbs.	3520 N
Stroke	7.87 in.	200 mm
Weight	35 lbs.	15.8 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore Ø	2.48 in.	63 mm
Displacement	38.2 in <sup>3</sup>	623 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation Time	1.3 sec.	1.3 sec.
Accuracy	±0.005 in.	±0.13 mm
Repeatability	±0.002 in.	±0.05 mm
Valve required to actuate double acting...	4-way, 2-position	



### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or (±.013mm)
Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0] = (±.25) [0.0] = (±.13) [0.00] = (±.013)

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**   **STROKE**   **VITON SEALS**   **ROD LOCK**

**RPR-63** **M** - **200** - **NS** - **V** - **S** - **R2**

**METRIC**   **SYNCHRONIZATION**   **HARDWARE**

<b>BASIC MODEL</b>	<b>RPR-63</b>
<b>METRIC</b>	<b>M</b>
<b>STROKE</b>	<b>200</b> (consult factory for additional strokes)
<b>SYNCHRONIZATION</b>	— Leave Blank for Synchronous (standard)
<b>VITON® SEALS</b>	<b>NS</b> Non-Synchronized
	— Leave Blank for Buna (standard)
	<b>V</b> High Temperature Viton® Seals
<b>HARDWARE</b>	— Leave Blank for Steel (standard)
	<b>S</b> Stainless Steel
<b>ROD LOCK</b>	— Leave Blank for No Rod Lock (standard)
	<b>R1-RS</b> One Rod Lock (Right Side)
	<b>R1-LS</b> One Rod Lock (Left Side)
	<b>R2</b> Two Rod Locks

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
12 mm Sensor Mounting Kit (Mounts 2 Inductive sensors)	<b>OSMK-131</b>	<b>1</b>
12 mm Inductive NPN Sensor with Quick Disconnect	<b>OISN-017</b>	<b>1 or 2</b>
12 mm Inductive PNP Sensor with Quick Disconnect	<b>OISP-017</b>	<b>1 or 2</b>
Straight Quick Disconnect Cable (2M cable length)**	<b>CABL-014</b>	<b>1 or 2</b>
Straight Quick Disconnect Cable (5M cable length)**	<b>CABL-018</b>	<b>1 or 2</b>
Analog Sensor	<b>OISA-001</b>	<b>1</b>
Analog Sensor cable with Quick Disconnect (5M cable length)	<b>CABL-045</b>	<b>1</b>
Analog sensor Mounting Kit	<b>OSMK-132</b>	<b>1</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Fail Safe Valve 1/4 NPT (Imperial)	<b>OFSV-003</b>	<b>1</b>
Fail Safe Valve 1/4 BSPP (Metric)	<b>OFSV-006</b>	<b>1</b>
Plumbing Adapter 1/4 BSPP Male to 1/4 NPT Female	<b>PLFT-024</b>	<b>1 or 2</b>
Buna-N Seal Repair Kit	<b>SLKT-452</b>	<b>1</b>
Viton Seal Repair Kit	<b>SLKT-453</b>	<b>1</b>

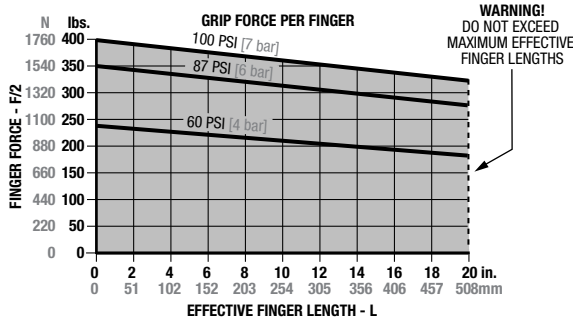
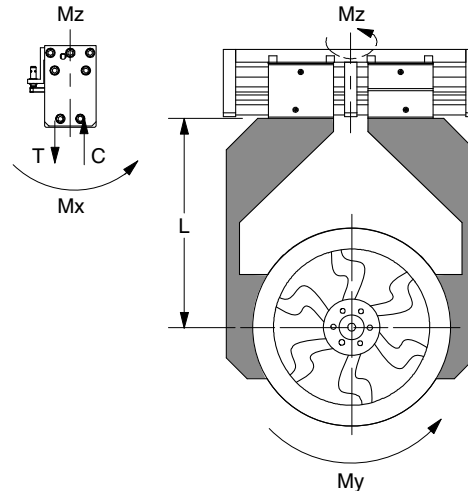
\*\*Sensor and cable sold separately

### SAMPLE ORDER: RPR-63M-150-NS-V-S-R2

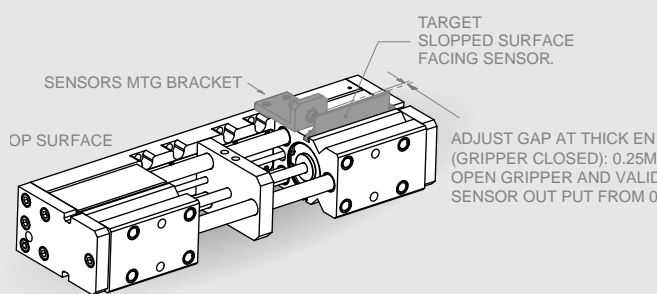
Ex: RPR-63M, Metric Gripper, 150 Stroke, Non Synchronized, Viton® Seals, Stainless Steel, 2 Rod Locks

### Loading Capacity:

Maximum Tensile <b>T</b>	3500 lbs. [15570 N]
Maximum Compressive <b>C</b>	3500 lbs. [15570 N]
Maximum Moment <b>M<sub>x</sub></b>	7500 in.-lbs. [825 Nm]
Maximum Moment <b>M<sub>y</sub></b>	9000 lbs. [990 N]
Maximum Moment <b>M<sub>z</sub></b>	7500 in.-lbs. [825 Nm]
Maximum Effective Finger Length <b>L</b>	20 in. [500mm]

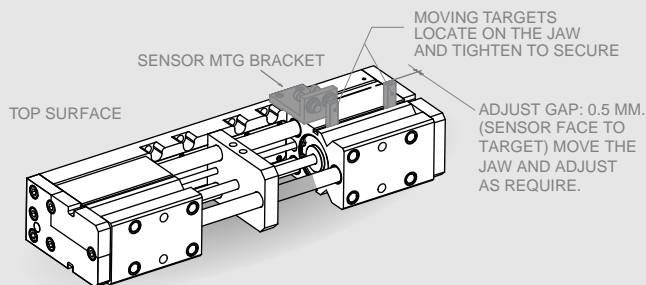


## Accessory Mounting Technical Data



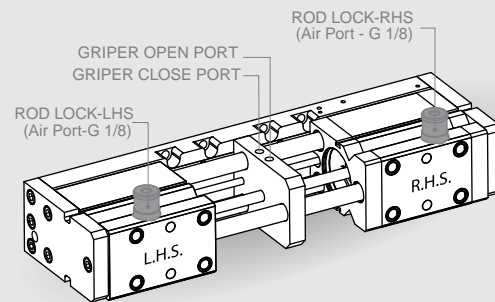
### Analog Sensor

- Used in applications where jaw position information is required along the stroke
- Sensor is mounted on a stationary bracket and the target is mounted on the moving jaw. The target has 'sloped' surface facing the sensor. Thus when the target moves with the Jaw, it creates varying air gap between the slopped surface and the sensor
- The sensor is supplied with 24 vdc and generates 0~10 vdc signal as a function of the air gap, as described earlier. Thus the sensor outputs 0~10 vdc signal as a function of jaw position



### Inductive Sensor: Gripper Open/Close

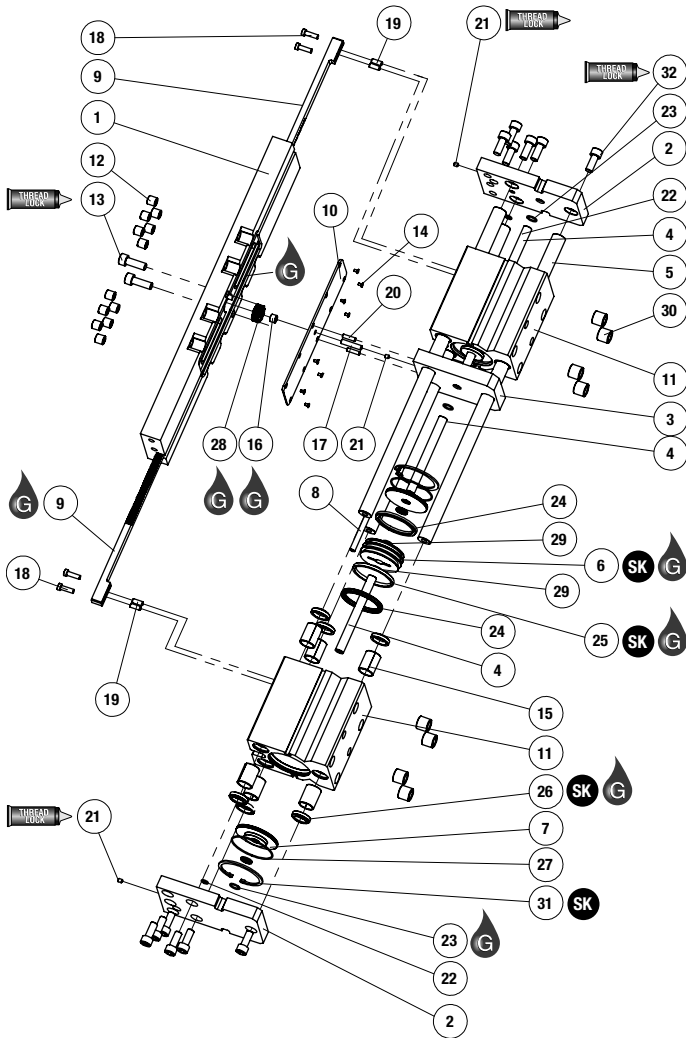
- Used in applications where jaw open and closed positions must be detected as process requirements
- PNP and NPN inductive sensors are available
- The two inductive sensors are stationary and mounted with a bracket directly to the back plate
- The target is mounted on the moving jaw
- The sensor cable has quick disconnect connector at the sensor end and open pig tail wires at the otherend. Cable available in two lengths - 2M & 5M
- Adjustments required after assembly:
- Air gap between sensor face and moving target to 0.5 mm and fine adjust as required. Tighten the lock nuts on the sensors to avoid loosening under application.
- Location of the moving target on the jaw to suit stroke



### Rod Lock (Fail Safe Valve)

- Used in applications where the part being gripped not be dropped if the air pressure is lost
- Mounts directly to the jaw. (Must use Jaw with Rod lock option)
- Available options:
  - LHS Rod Lock
  - RHS Rod Lock
  - Two Rod locks. (As shown)
- Holding force: 1400 N (318 Lbf) max per rod lok.
  - Note:** If holding forces are exceeded, slippage may occur.
- Rod lock 'clamp time' when air loss:
  - 250 ms..... ref
  - Will greatly depend upon flow coefficient of air exhaust line. (Line I.D., Length, Qty & Type of bends, other air circuit elements like valve, mufflers ... , and as apply)
- Air port: G 1/8
  - Note:** Must be connected to fully exhausted line when air pressure is lost
- Air specifications:
  - Air Supply pressure: 10 bar (147 psig) max.
  - Minimum release pressure: 3 bars (44.1 psig)
- Air quality:
  - Filteration: 40 micron, min.
  - Non Lubricated, dry air.

# RPR SERIES EXPLODED VIEW



Item	Qty	Name
01	1	Base Plate
21	2	End Block
03	1	Mid Block
04	4	Piston Tube
05	3	Guide Shaft
06	2	Piston
07	4	Cap
08	2	Cross Tube
09*	2	Rack
10	1	Cover
11*	2	Jaw
12	12	EZ-Lock Insert- Back Plate
13	2	Base Plate MTG Screws
14	8	Cover MTG Screws
15	12	Composite Bushings
16*	1	Needle Bearing
17*	1	Needle Bearing MTG Dowel
18	4	Rack MTG Screw
19*	4	Rack MTG Dowel
20	2	Cover MTG Dowel
21	3	Air Passage Plug - Set Screw
22	4	Cross Tube O-Ring
23	4	Piston Tube O-Ring
24	4	U-Cup Piston
25	2	Wear Band
26	12	Shaft Wiper
27	4	Cap O-Ring
28*	1	Pinion
29	4	Piston Tube O-Ring- Inner
30	8	EZ-Lock Insert- Jaws
31*	4	Cap Retaining Ring
32	12	End Block MTG Screw

**\*Notes:**

- 1) Contact De-Sta-Co Sales Department for complete spare parts list with order number and process.
- 2) Item # 31 will be different between Imperial and Metric grippers. All other features will remain same.
- 3) Item numbers #9, #16, #17, #19, and #28, are for Synchronous gripper only.
- 4) Item # 11 will be different for gripper with Rod lock options.
- 5) For High Temperature option, all O-rings will be of viton material.
- 6) For Corrosion resistant option, all fasteners will be stainless steel.

**Note:** Customer to plumb the rod lock valves to his safety circuit.

- 8) Assembly validation and torque the fastener
  - A) Torque all the fasteners to their specification.
  - B) Connect 40 psig air to the gripper ports. Cycle the gripper open/close and verify that the jaw motions are smooth, free of binding, noise and without air leak.
  - C) Increase air pressure to 100 psig. Cycle the gripper open/close and verify that the jaw motions are smooth, free of binding, noise and without air leak.

**B. Standard - Non Synchronous Gripper**

For Non-Synchronous gripper, DO NOT install items #9, #16, #17, #19 and #28.

**C. Gripper with ROD LOCK option**

**Note:** Gripper with Rod Lock option will use different item #11 and will use Rod lock valve.

- A) Assemble the jaws to the guide shafts with Rod Lock.
- B) All other steps, as above.

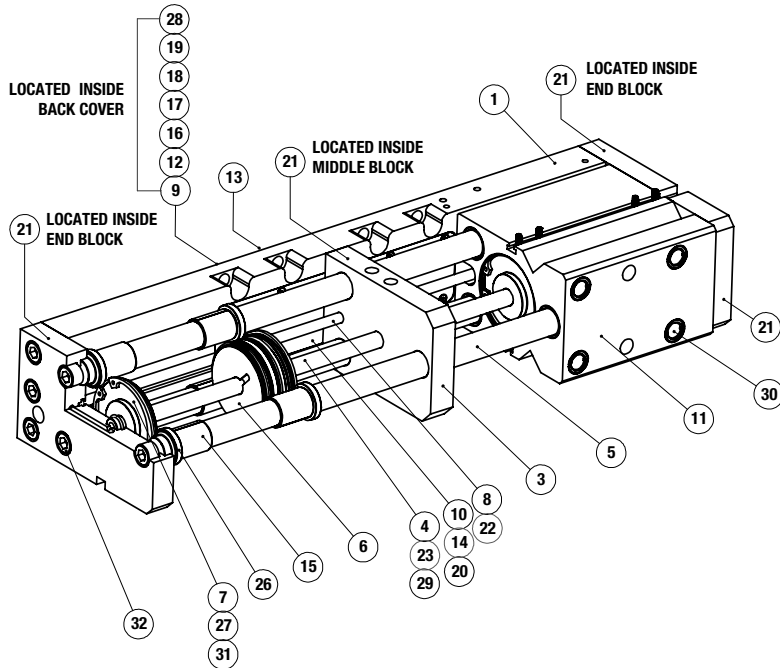
**Assembly Procedure:**

**A. Standard - Synchronous Gripper**

- 1) Lubricate and install O-rings in the two end blocks and in the middle block. Install set screws (air plug, Item 21) into the two end blocks and the middle block.
- 2) Assemble RHS and LHS Jaws E-Z locks, bushings, o-rings and piston assembly
- 3) Assemble RHS jaw assembly to the three guide shafts. Assemble RHS end block to the guide shafts.
- 4) Assemble the mid block and assemble RHS piston tubes and RHS cross tubes.
- 5) Assemble the LHS jaw to the three guide shafts. Install the piston tubes and the Cross tubes as described earlier. Install LHS end block and install it's fasteners, 'snug tight' to the three guide rods. Verify that the two jaws can traverse along the guide bars without any binding.
- 6) Install the cover to the middle block by locating it with the dowel pins above. Install the racks to the jaws by first locating with the dowel pins and then with fasteners. Lubricate the needle bearing, install it into the pinion and install this assembly to the middle dowel pin.
- 7) Lubricate the racks, the pinion and inside of the grooves of the back plate. Locate the back plate between the two end blocks and carefully engage it to the three dowel pin, protruding out of the middle block. Install the fasteners and snug tight to secure the back plate to the middle plate and to the end blocks. Install fasteners for the cover and tighten them.

Seal Kit Items	Thread Locker	Krytox™ Lubricant	Lightweight Machine Oil	Teflon™ Based Grease	Super Bonder	Third Angle Projection





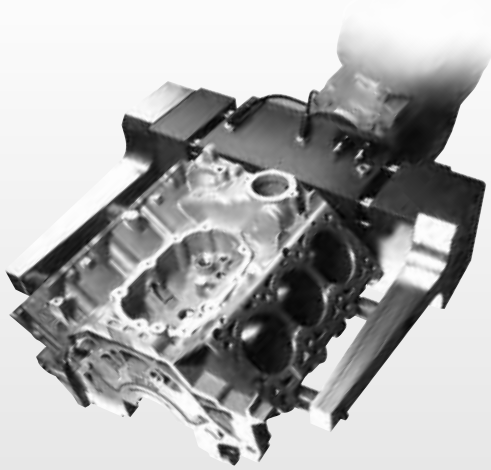
Item	Qty	Name
01	1	Base Plate
21	2	End Block
03	1	Mid Block
04	4	Piston Tube
05	3	Guide Shaft
06	2	Piston
07	4	Cap
08	2	Cross Tube
09*	2	Rack
10	1	Cover
11*	2	Jaw
12	12	EZ-Lock Insert- Back Plate
13	2	Base Plate MTG Screws
14	8	Cover MTG Screws
15	12	Composite Bushings
16*	1	Needle Bearing
17*	1	Needle Bearing MTG Dowel
18	4	Rack MTG Screw
19*	4	Rack MTG Dowel
20	2	Cover MTG Dowel
21	3	Air Passage Plug - Set Screw
22	4	Cross Tube O-Ring
23	4	Piston Tube O-Ring
24	4	U-Cup Piston
25	2	Wear Band
26	12	Shaft Wiper
27	4	Cap O-Ring
28*	1	Pinion
29	4	Piston Tube O-Ring- Inner
30*	8	EZ-Lock Insert- Jaws
31	4	Cap Retaining Ring
32	12	End Block MTG Screw

**\*Notes:**

- 1) Contact De-Sta-Co Sales Department for complete spare parts list with order number and prices.
- 2) For Synchronous gripper Items #9, #16, #17, #19 & #28 are installed in back plate.
- 3) For Metric gripper, item# 30 will be with metric threads. Other features remain same as in Imperial version.
- 4) For High Temperature option all O-rings will be of Viton material.
- 5) For Corrosion environment, all fasteners will be of stainless steel material.
- 6) For Rod-lock option item # 11 will be integrated with Rod-lock unit.

**Note:** Customer to provide and plumb their pneumatic safety circuitry to vent Rod-lock unit in case of air loss.

# “B-Series” Industrial Parallel



## BPW - WIDE BODY SERIES

The BPW Parallel Gripper feature a wide body design ideal for handling large and wide parts using long fingers. The jaws are supported through the full length of the body for high moment carrying capacity and are sealed against chips or particles, which makes it ideal for use in machining or foundry applications.

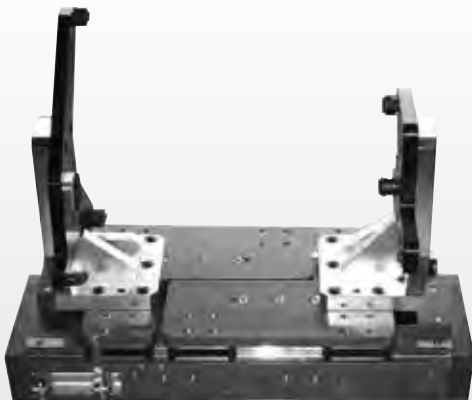
- **For Large and Wide Parts**
- **High Grip Forces and Moment Loads**
- **Support for Long Fingers**
- **Non-synchronous Option**
- **Optional Spring Close** (BPW-1600 only)



## BRP - HEAVY DUTY SERIES

The BRP Parallel Gripper are heavy duty and rugged for reliable operation in real life industrial operations. Sealed jaws protect the internal mechanism from chips and coolant in machining applications. Hardened tool steel jaws and supports allow for long tooling fingers and high moments and forces.

- **Rugged Design**
- **High Grip Forces and Moment Loads**
- **Support for Long Fingers**
- **Optional Spring Open or Close**

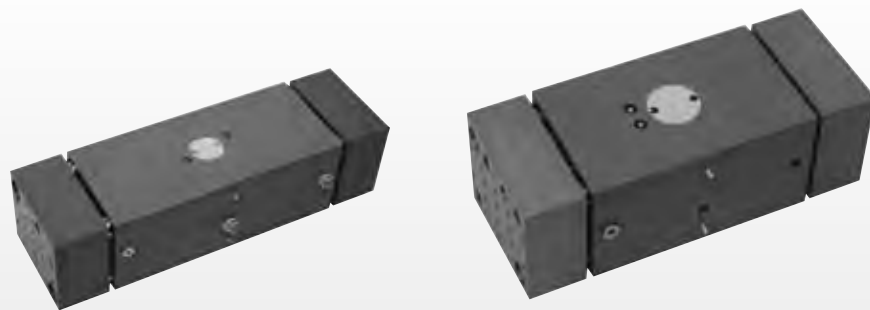


## BPG - LONG STROKE SERIES

The BPG Parallel Gripper feature a long stroke and low profile and they are often used to handle different size parts with the same fingers. The jaws and supports are made of hardened tool steel and the body is made of lightweight, hard anodized aluminum.

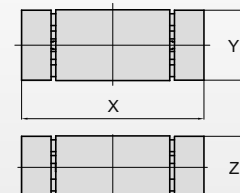
- **Accommodate Multiple Part Sizes with same Fingers**
- **Long Strokes**
- **Optional Spring Open or Close**
- **Low Profile Design**

# Grippers



**BPW-1600**

**BPW-2000**

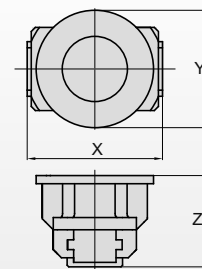


Model #	Stroke	Grip Force	Weight	X	Y	Z
<b>BPW-1600</b>	6.3 in [160 mm]	970 lbs [3868 N]	88 lbs [40 kg]	17.9 in [454 mm]	7.1 in [180 mm]	5.9 in [150 mm]
<b>BPW-2000</b>	7.8 in [200 mm]	1920 lbs [8536 N]	154 lbs [70 kg]	27 in [694 mm]	8.0 in [203 mm]	6.9 in [174 mm]

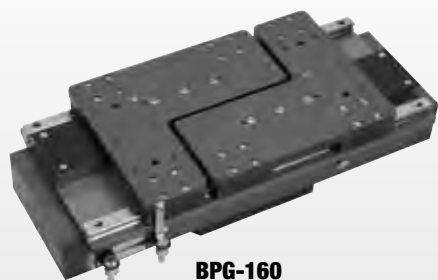


**BRP-20**

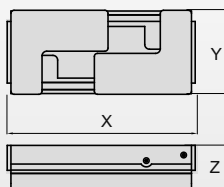
**BRP-21**



Model #	Stroke	Grip Force	Weight	X	Y	Z
<b>BRP-20</b>	1.5 in [38 mm]	1618 lbs [7200 N]	40.3 lbs [18.3 kg]	8.19 in [208 mm]	7.87 in [200 mm]	6.16 in [157 mm]
<b>BRP-21</b>	1.5 in [38 mm]	3462 lbs [15400 N]	81.6 lbs [37 kg]	12.13 in [308 mm]	10.63 in [270 mm]	6.69 in [170 mm]
<b>BRP-21-D</b>	2.5 in [64 mm]	2001 lbs [8900 N]	81.6 lbs [37 kg]	12.13 in [308 mm]	10.63 in [270 mm]	6.69 in [170 mm]



**BPG-160**



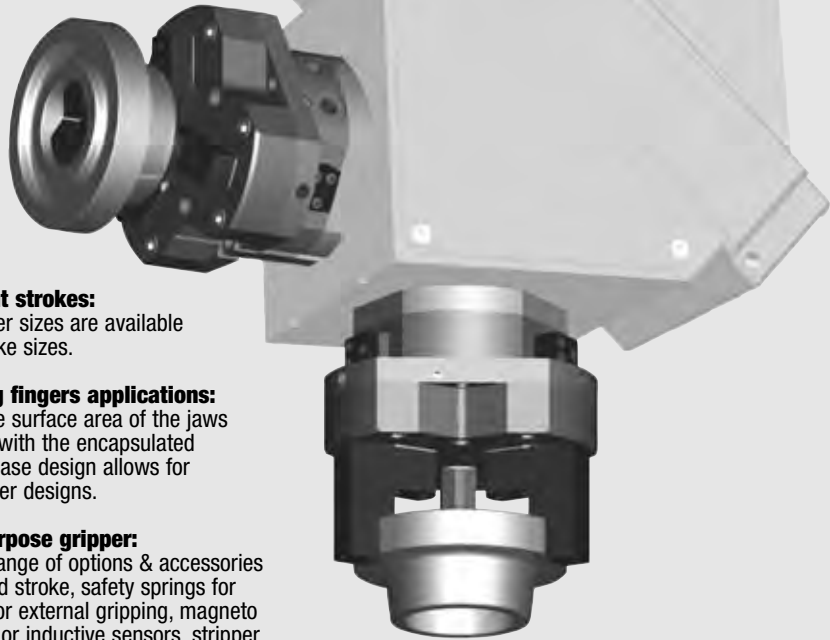
Model #	Stroke	Grip Force	Weight	X	Y	Z
<b>BPG-160</b>	4.06 in [160 mm]	1787lbs [7950 N]	126 lbs [57 kg]	23.78 in [604 mm]	10.63 in [270 mm]	5.51 in [140 mm]

**For Applications Support or More Info**

Contact Us at:  
[cs-automation@destaco.com](mailto:cs-automation@destaco.com)

or Call Us at:  
**1.888.DESTACO**

# Parallel Grippers - 3-Jaw Centering Series



- **Machining applications:**

The 3 concentric jaws and excellent repeatability make it easier to accurately load and unload round parts.

- **Harsh environments:**

Shielded design repels chips and other particulate from internal drive mechanism. Viton® seals are standard.

- **Compact, robust and powerful gripper**

This gripper is designed for use in confined spaces, combining long strokes with a high grip force. Optional safety springs retain the components, should the air supply fail or to increase grip force.

- **Different strokes:**

All gripper sizes are available in 2 stroke sizes.

- **For long fingers applications:**

The large surface area of the jaws coupled with the encapsulated bottom case design allows for long finger designs.

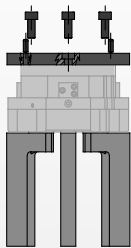
- **Multipurpose gripper:**

A wide range of options & accessories (extended stroke, safety springs for internal or external gripping, magneto resistive or inductive sensors, stripper plate) allow these grippers to be used in a wide number of applications.

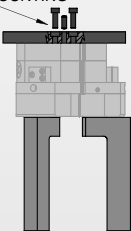
## Mounting Information:

### Grippers can be mounted & operated in any orientation

Gripper is located using two dowel pins and assembled from the top with 3 screws.

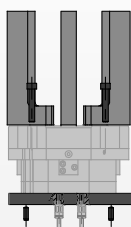


-DTH DIRECTCONNECT MOUNTING



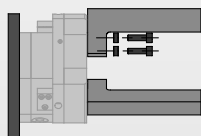
Body mounts with 4 screws and locates with 2 slip fit dowel pins for accuracy

The gripper can also be assembled from the bottom with 3 through body screws.



Gripper is protected from debris when operated upside down.

Gripper can be operated utilizing top manifold air ports.



Fingers are located on jaws with 2 dowel sleeves (provided) and assembled with 2 screws.

## Technical Specifications:

### Pneumatic Specifications

Pressure Operating Range without Springs  
Cylinder Type

### Imperial

30-100 psi

### Metric

2-7 bar

Double Acting  
or Double Acting Spring Assist  
or Single Acting Spring Return  
Internally Lubricated Viton®

### Dynamic Seals

Valve Required to Operate:

Double Acting  
Single Acting (-C or -O Option)

4-way, 2-position  
3-way, 2-position

### Air Quality Requirements

Air Filtration  
Air Lubrication  
Air Humidity

40 Micron or Better  
Not Necessary\*  
Low Moisture Content (dry)

### Temperature Operating Range

Buna-N Seals (Standard)  
Viton® Seals (Optional)

-30°~180° F  
-20°~300° F

-35°~80° C  
-30°~150° C

### Maintenance Specifications†

Expected Life  
Normal Application  
w/ Preventative Maintenance  
Field Repairable  
Seal Repair Kits Available

5 million cycles  
10+ million cycles\*  
Yes  
Yes

\*Addition of lubrication will greatly increase service life  
† See Maintenance Section

# Product Features

## Viton® Seals (-V) Option

Optional Viton® seals for high temperatures (-20°F to +300°F / -30°~150° C)

## Standard and Extended Stroke (-L)

Each model of gripper is available in two stroke lengths

## Finger Locating Sleeves

For precise finger mounting (standard)

## Jaw Components

Hardened and precision ground steel for minimum jaw play with hard plating for wear resistance and long life

## Multiple Air Ports

Side or top air ports (top ports require O-ring)

## Optional Spring Assist

Optional spring assist retains the component should the air supply fail, to assist the gripper for internal (-D) or external (-C) gripping, or in single acting or spring assist mode

## DIRECTCONNECT™ Mounting Patterns

DIRECTCONNECT™ tapped & dowel mounting surface available on DTH version [except -6M, 7M, 8M]

## Multiple Mounting Locations

Gripper can be mounted from the top or bottom

## Shielded Design

Gripper body is shielded to repel chips and other particulate from internal drive mechanism

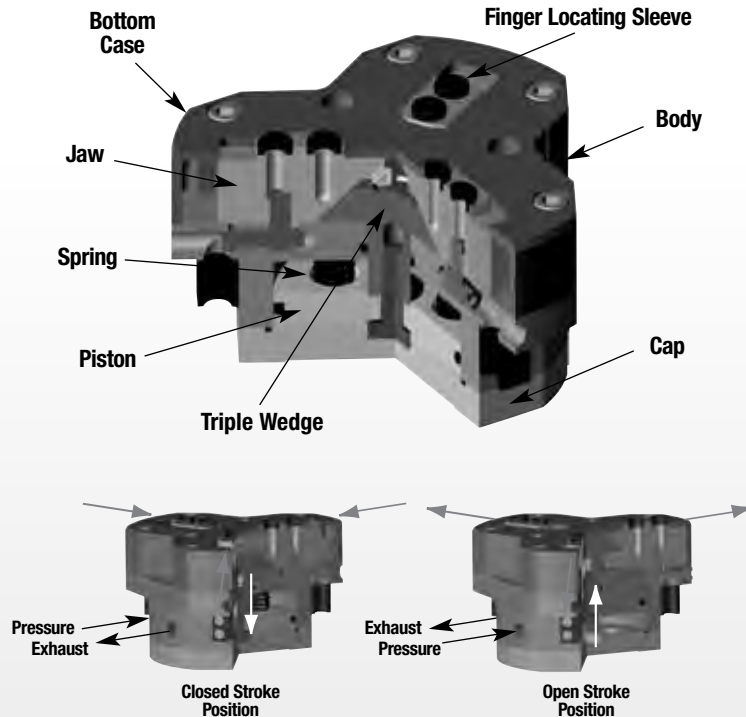
## Multiple Sensing Capabilities

Up to 3 magneto resistive sensors (magnets built-in) or inductive sensors available [except -1M, -2M, -3M]

## Standard Purge/Scavenge Port

Used with a vacuum for clean room environments or positive pressure for harsh environments

# Operating Principle



- A double acting piston is connected to a triple sided wedge.
- The triple wedge slides in a slot in each of the jaws converting the vertical motion of the wedge into a horizontal motion of the jaws.
- Each jaw moves within the slots. The design of the bottom case increases the rigidity and permits longer fingers. The large surface area of the guiding system permits higher moment loads.
- This gripper is suitable for internal or external gripping using single or double acting mode.

## Style -RTH/DTH Parallel Gripper

### Size -1M

	RTH/DTH-1M	RTH/DTH-1M-L
Total Stroke:	0.16 in. 4 mm	0.32 in. 8 mm
Grip Force:	200 lbs 889 N	130 lbs 579 N
Weight:	0.6 lbs 0.25 Kg	0.6 lbs 0.25 Kg



See Page **1.232**

## Style -RTH/DTH Parallel Gripper

### Size -2M

	RTH/DTH-2M	RTH/DTH-2M-L
Total Stroke:	0.24 in. 6 mm	0.47 in. 12 mm
Grip Force:	335 lbs 1490 N	220 lbs 979 N
Weight:	1.2 lbs 0.53 Kg	1.2 lbs 0.53 Kg



See Page **1.234**

## Style -RTH/DTH Parallel Gripper

### Size -3M

	RTH/DTH-3M	RTH/DTH-3M-L
Total Stroke:	0.31 in. 8 mm	0.63 in. 16 mm
Grip Force:	591 lbs 2627 N	384 lbs 1708 N
Weight:	2.4 lbs 1.08 Kg	2.4 lbs 1.08 Kg



See Page **1.236**

## Style -RTH/DTH Parallel Gripper

### Size -4M

	RTH/DTH-4M	RTH/DTH-4M-L
Total Stroke:	0.39 in. 10 mm	0.79 in. 20 mm
Grip Force:	1026 lbs 4562 N	667 lbs 667 N
Weight:	4.3 lbs 1.95 Kg	4.3 lbs 1.95 Kg



See Page **1.238**

## Style -RTH/DTH Parallel Gripper

### Size -5M

	RTH/DTH-5M	RTH/DTH-5M-L
Total Stroke:	0.51 in. 13 mm	1.02 in. 26 mm
Grip Force:	1771 lbs 7877 N	1152 lbs 5124 N
Weight:	8.6 lbs 3.9 Kg	8.6 lbs 3.9 Kg



See Page **1.240**

## Style -RTH Parallel Gripper

### Size -6M

	RTH-6M	RTH-6M-L
Total Stroke:	0.63 in. 16 mm	1.26 in. 32 mm
Grip Force:	3099 lbs 13786 N	2017 lbs 8971 N
Weight:	17.4 lbs 7.9 Kg	17.4 lbs 7.9 Kg



See Page **1.242**

## Style -RTH Parallel Gripper

### Size -7M

	RTH-7M	RTH-M-L
Total Stroke:	0.98 in. 25 mm	1.97 in. 50 mm
Grip Force:	4967 lbs 22093 N	3222 lbs 14322 N
Weight:	34.6 lbs 15.7 Kg	34.6 lbs 15.7 Kg



See Page **1.244**

## Style -RTH Parallel Gripper

### Size -8M

	RTH-8M	RTH-8M-L
Total Stroke:	1.38 in. 35 mm	2.76 in. 70 mm
Grip Force:	9971 lbs 44354 N	6450 lbs 28690 N
Weight:	96.8 lbs 43.9 Kg	96.8 lbs 43.9 Kg

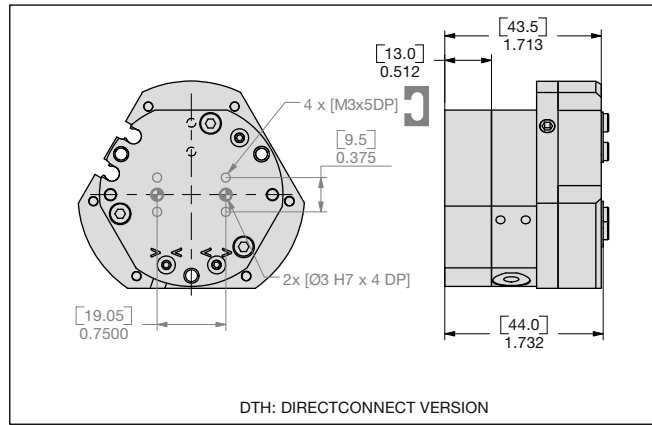
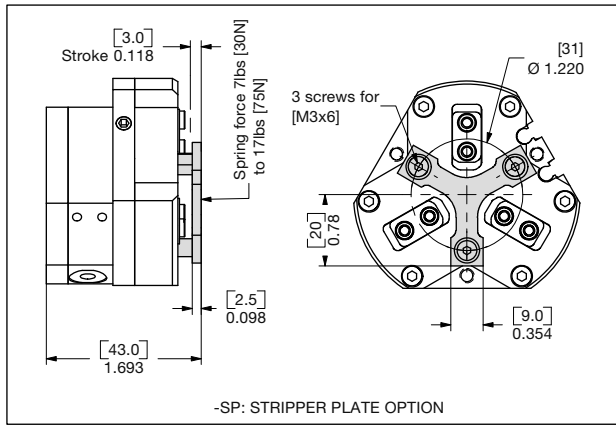
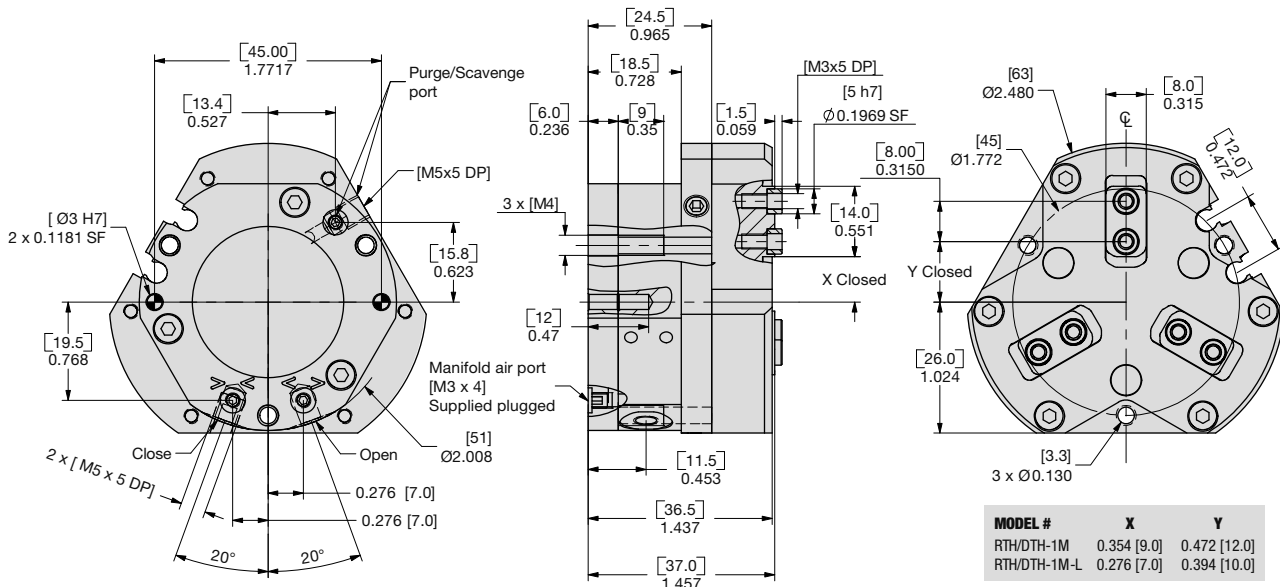


See Page **1.246**



# PARALLEL GRIPPER RTH/DTH-1M 3-JAW CENTERING SERIES

1.232



**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL** **SIZE** **METRIC** **SPRING ASSIST**



**EXTENDED STROKE** **STRIPPER PLATE**

**BASIC MODEL** **RTH** Without DIRECTCONNECT Mounting Pattern  
**DTH** With DIRECTCONNECT Mounting Pattern

**SIZE** **1**

**METRIC** **M**

**EXTENDED STROKE** **L** 0.16" [4mm] Leave Blank (standard)  
**L** 0.32" [8mm]

**SPRING** **C** Spring Closed  
**O** Spring Open  
— Leave Blank. No Spring Option (standard)

**STRIPPER PLATE** **SP**

**VITON® SEALS** **V** High Temperature Viton® Seals

**SAMPLE ORDER: DTH-1M-L-C-SP-V**

Ex: DTH-1M DIRECTCONNECT Gripper, Metric, 8mm Extended Stroke, Spring Closed, Stripper Plate, Viton® Seals

**SENSOR ACCESSORIES\***

PNP Magneto Resistive Sensor Short Barrel w/Qk Disc*	<b>OHSP-017</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor Short Barrel w/Qk Disc*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disc*	<b>OHSP-011</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disc*	<b>OHSN-011</b>	<b>1 or 2</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1 or 2</b>

**PNEUMATIC ACCESSORIES**

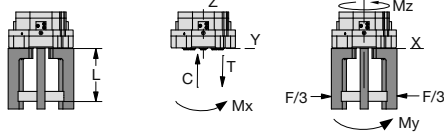
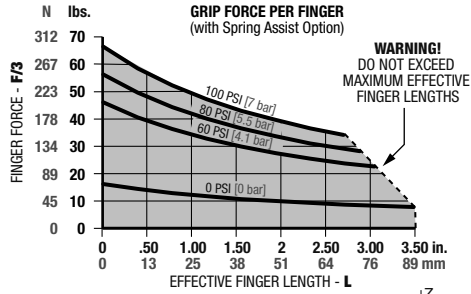
Buna-N Seal Repair Kit	<b>SLKT-347</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-363</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-347V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-363V</b>	<b>1</b>
M5 Adjustable Flow Control	<b>VLVF-008</b>	<b>1 or 2</b>

\*Sensor and cable sold separately.





## RTH/DTH-1M Loading Information

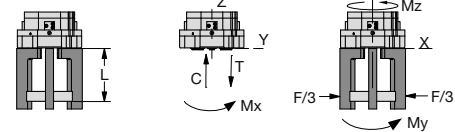
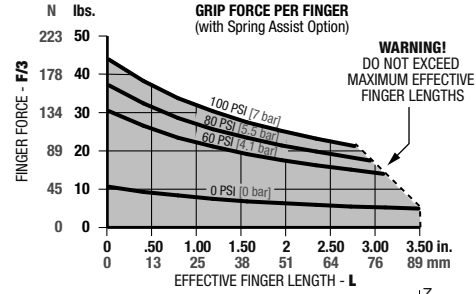


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	182 lbs. [810 N]	20 lbs. [89 N]
Maximum Compressive <b>C</b>	238 lbs. [1060 N]	20 lbs. [89 N]
Maximum Moment <b>M<sub>x</sub></b>	195 in.-lbs. [22 Nm]	18 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>y</sub></b>	248 in.-lbs. [28 Nm]	27 in.-lbs. [3 Nm]
Maximum Moment <b>M<sub>z</sub></b>	159 in.-lbs. [18 Nm]	27 in.-lbs. [3 Nm]

†Capacities are per set of jaws and are not simultaneous

## RTH/DTH-1M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	164 lbs. [730 N]	13 lbs. [57 N]
Maximum Compressive <b>C</b>	216 lbs. [960 N]	13 lbs. [57 N]
Maximum Moment <b>M<sub>x</sub></b>	177 in.-lbs. [20 Nm]	9 in.-lbs. [1 Nm]
Maximum Moment <b>M<sub>y</sub></b>	204 in.-lbs. [23 Nm]	9 in.-lbs. [1 Nm]
Maximum Moment <b>M<sub>z</sub></b>	133 in.-lbs. [15 Nm]	9 in.-lbs. [1 Nm]

†Capacities are per set of jaws and are not simultaneous

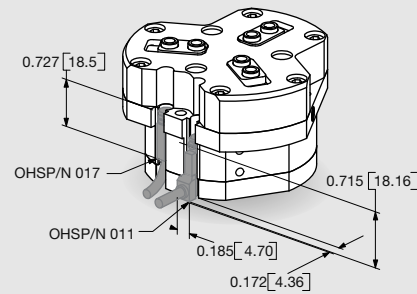
### Specifications

Total Rated Grip Force, <b>F</b> @ 100 psi [7 bar]:		
Without Spring Assist	153 lbs.	682 N
Without Spring Assist <b>-L</b>	100 lbs.	443 N
With Spring Assist	200 lbs.	889 N
With Spring Assist <b>-L</b>	130 lbs.	579 N
Total Stroke:		
Standard	0.16 in.	4 mm
Extended <b>-L</b>	0.32 in.	8 mm
Weight	0.6 lbs.	0.25 kg
Pressure Range without Spring	30-100 psi	2-7 Bar
Pressure Range with Spring	60-100 psi	4-7 Bar

### Specifications (cont.)

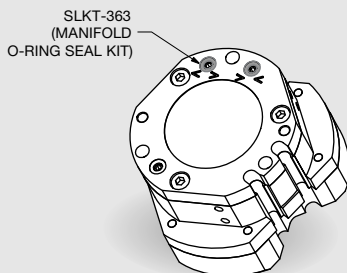
Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Bore $\emptyset$	1.62 in.	32 mm
Displacement	0.40 in <sup>3</sup>	6.5 cm <sup>3</sup>
Temperature Range	-20°~300° F	-30°~150° C
Actuation (open/close)	0.06 sec./0.06 sec.	
Accuracy	±0.002 in.	±0.04 mm
Repeatability	±0.001 in.	±0.02 mm
Valve required to actuate single acting		3-way, 2-position
Valve required to actuate double acting		4-way, 2-position

## Accessory Mounting Technical Data



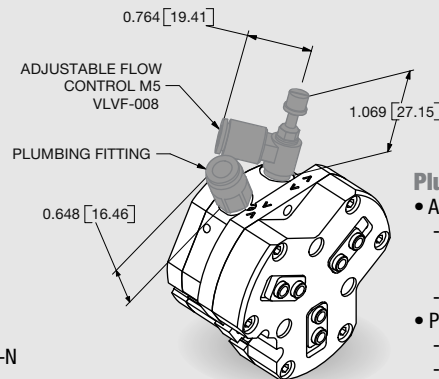
### Magneto Resistive Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



### Manifold O-Ring seals

- Used to seal top air ports and purge/scavenge port
- No C'bore holes in customer's mounting plate required (C'bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-363V)

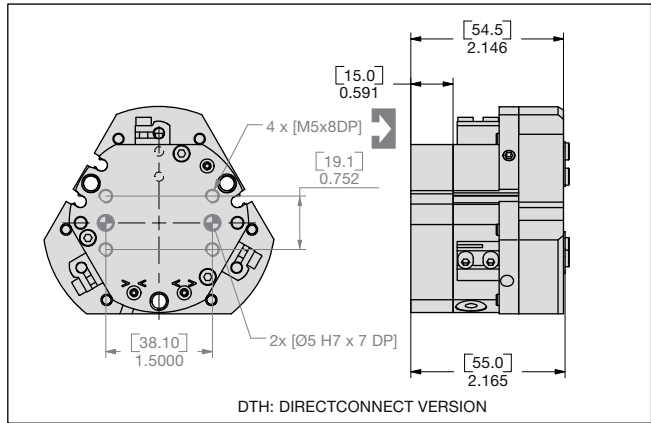
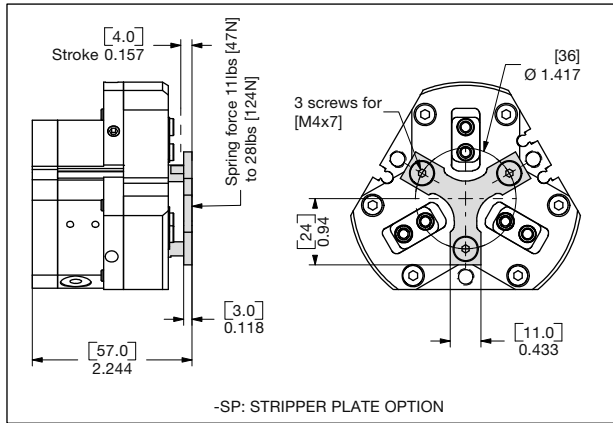
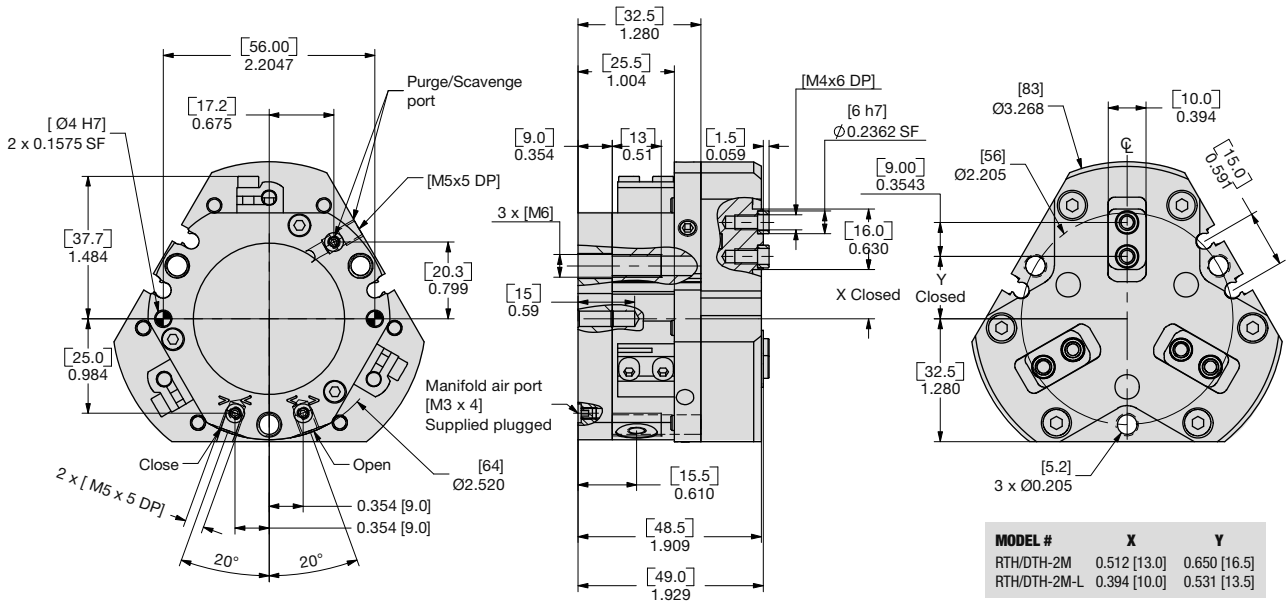


### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard

# PARALLEL GRIPPER RTH/DTH-2M 3-JAW CENTERING SERIES

1.234



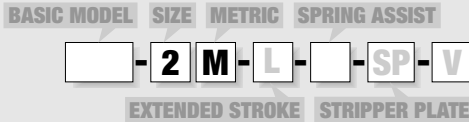
UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Symbol	Imperial in.	Metric [mm]
⌀	0.00 = ±.01	[0.] = [±.25]
±	0.000 = ±.005	[0.0] = [±.13]
Ⓜ	0.0000 = ±.0005	[0.00] = [±.013]

Dimensions are symmetrical about centerline  
 Third Angle Projection  
 All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]  
 Metric Threads Course Pitch

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)



<b>BASIC MODEL</b>	<b>RTH</b>	Without DIRECTCONNECT Mounting Pattern
	<b>DTH</b>	With DIRECTCONNECT Mounting Pattern
<b>SIZE</b>	<b>2</b>	
<b>METRIC</b>	<b>M</b>	
<b>EXTENDED STROKE</b>	<b>L</b>	0.24" [6mm] Leave Blank (standard) 0.47" [12mm]
<b>SPRING</b>	<b>C</b>	Spring Closed
	<b>O</b>	Spring Open
	<b> </b>	Leave Blank. No Spring Option (standard)
<b>STRIPPER PLATE</b>	<b>SP</b>	
<b>VITON® SEALS</b>	<b>V</b>	High Temperature Viton® Seals

### SAMPLE ORDER: DTH-2M-L-C-SP-V

Ex: DTH-2M DIRECTCONNECT Gripper, Metric, 12mm Extended Stroke, Spring Closed, Stripper Plate, Viton® Seals

### SENSOR ACCESSORIES\*

PNP Magneto Resistive Sensor Short Barrel w/Qk Disc*	<b>OHSP-017</b>	<b>1, 2 or 3</b>
NPN Magneto Resistive Sensor Short Barrel w/Qk Disc*	<b>OHSN-017</b>	<b>1, 2 or 3</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disc*	<b>OHSP-011</b>	<b>1, 2 or 3</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disc*	<b>OHSN-011</b>	<b>1, 2 or 3</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1, 2 or 3</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1, 2 or 3</b>

### PNEUMATIC ACCESSORIES

Buna-N Seal Repair Kit	<b>SLKT-348</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-363</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-348V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-363V</b>	<b>1</b>
M5 Adjustable Flow Control	<b>VLVF-008</b>	<b>1 or 2</b>

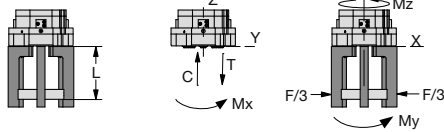
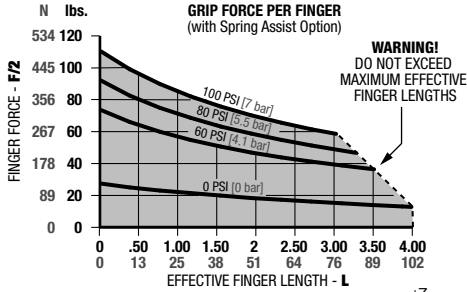
\*Sensor and cable sold separately.



# PARALLEL GRIPPER RTH/DTH-2M 3-JAW CENTERING SERIES

RTH/DTH SERIES  
1.235

## RTH/DTH-2M Loading Information

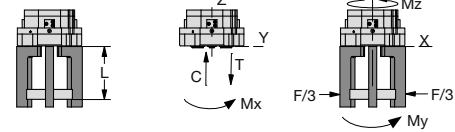
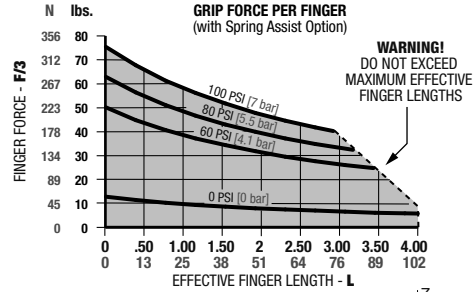


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	270 lbs. [1200 N]	29 lbs. [129 N]
Maximum Compressive <b>C</b>	351 lbs. [1560 N]	29 lbs. [129 N]
Maximum Moment <b>M<sub>x</sub></b>	398 in.-lbs. [45 Nm]	35 in.-lbs. [4 Nm]
Maximum Moment <b>M<sub>y</sub></b>	566 in.-lbs. [64 Nm]	53 in.-lbs. [6 Nm]
Maximum Moment <b>M<sub>z</sub></b>	363 in.-lbs. [41 Nm]	53 in.-lbs. [6 Nm]

†Capacities are per set of jaws and are not simultaneous

## RTH/DTH-2M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	243 lbs. [1080 N]	19 lbs. [84 N]
Maximum Compressive <b>C</b>	315 lbs. [1400 N]	19 lbs. [84 N]
Maximum Moment <b>M<sub>x</sub></b>	354 in.-lbs. [40 Nm]	27 in.-lbs. [3 Nm]
Maximum Moment <b>M<sub>y</sub></b>	460 in.-lbs. [52 Nm]	35 in.-lbs. [4 Nm]
Maximum Moment <b>M<sub>z</sub></b>	292 in.-lbs. [33 Nm]	35 in.-lbs. [4 Nm]

†Capacities are per set of jaws and are not simultaneous

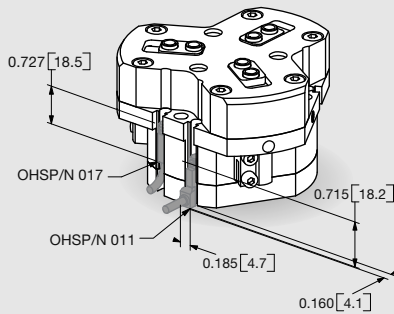
### Specifications

Total Rated Grip Force, <b>F</b> @ 100 psi [7 bar]:		
Without Spring Assist	278 lbs.	1238 N
Without Spring Assist <b>-L</b>	183 lbs.	812 N
With Spring Assist	335 lbs.	1490 N
With Spring Assist <b>-L</b>	220 lbs.	979 N
Total Stroke:		
Standard	0.24 in.	6 mm
Extended <b>-L</b>	0.47 in.	12 mm
Weight	1.2 lbs.	0.53 Kg
Pressure Range without Spring	30-100 psi	2-7 Bar
Pressure Range with Spring	60-100 psi	4-7 Bar

### Specifications (cont.)

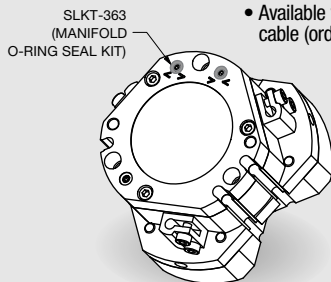
Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Bore Ø	1.70 in.	43 mm
Displacement	1.05 in <sup>3</sup>	17 cm <sup>3</sup>
Temperature Range	-20°~300° F	-30°~150° C
Actuation (open/close)	0.07 sec./0.07 sec.	
Accuracy	±0.002 in.	±0.04 mm
Repeatability	±0.001 in.	±0.02 mm
Valve required to actuate single acting	3-way, 2-position	
Valve required to actuate double acting	4-way, 2-position	

## Accessory Mounting Technical Data



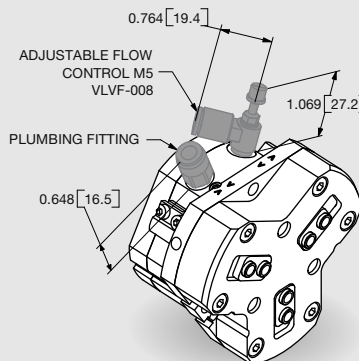
### Magneto Resistive Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



### Manifold O-Ring seals

- Used to seal top air ports and purge/scavenge port
- No C' bore holes in customer's mounting plate required (C' bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-363V)



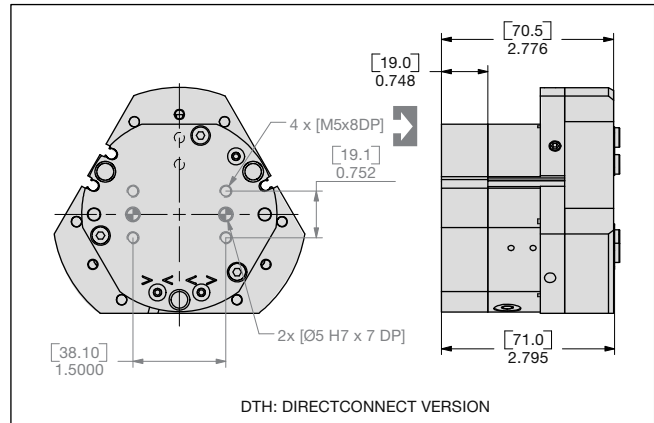
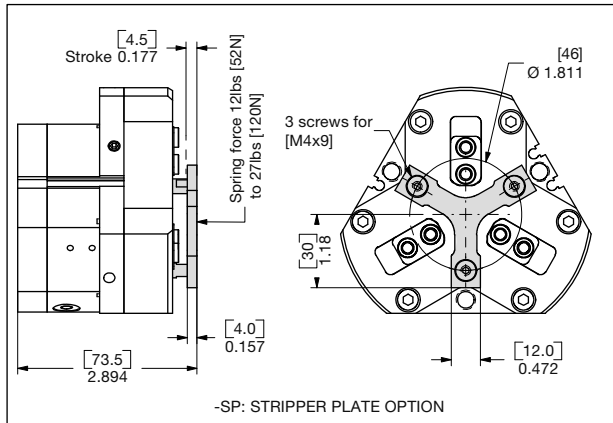
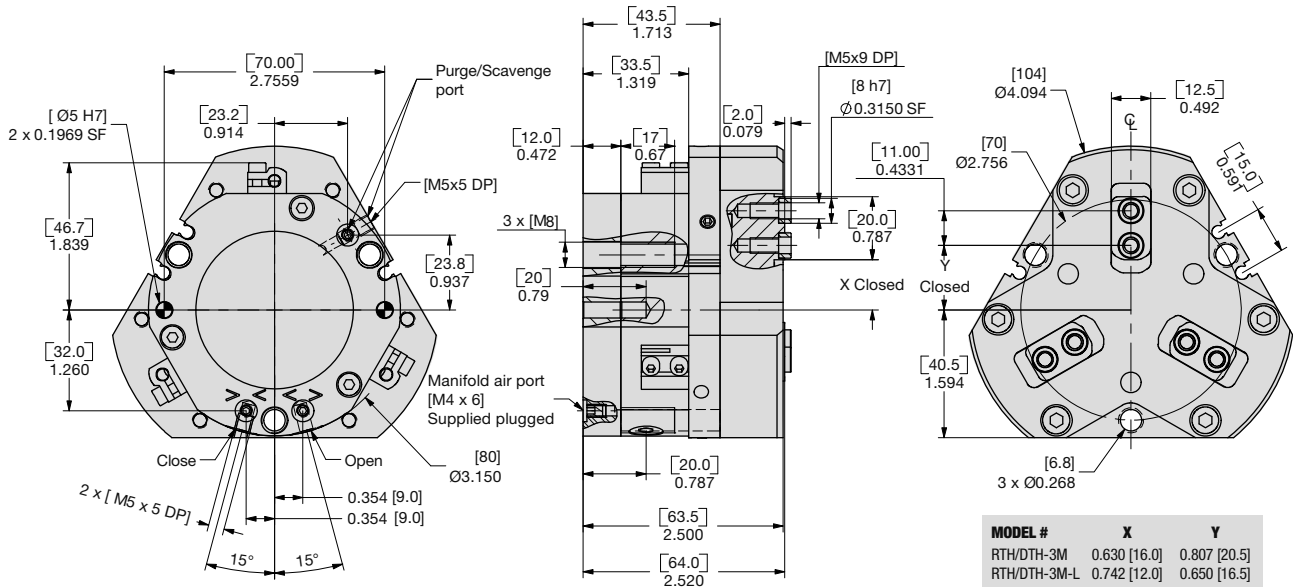
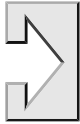
### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard

DIRECTCONNECT™

# PARALLEL GRIPPER RTH/DTH-3M 3-JAW CENTERING SERIES

1.236



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Symbol	Imperial in.	Metric [mm]
	0.00 = ±.01	[0.] = [±.25]
	0.000 = ±.005	[0.0] = [±.13]
	0.0000 = ±.0005	[0.00] = [±.013]

Dimensions are symmetrical about centerline  
Third Angle Projection  
All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]  
Metric Threads Course Pitch

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

BASIC MODEL SIZE METRIC SPRING ASSIST



EXTENDED STROKE STRIPPER PLATE

**BASIC MODEL** RTH Without DIRECTCONNECT Mounting Pattern  
DTH With DIRECTCONNECT Mounting Pattern

**SIZE** 3

**METRIC** M

**EXTENDED STROKE** L 0.31" [8mm] Leave Blank (standard)  
0.63" [16mm]

**SPRING** C Spring Closed  
O Spring Open  
Leave Blank. No Spring Option (standard)

**STRIPPER PLATE** SP

**VITON® SEALS** V High Temperature Viton® Seals

### SAMPLE ORDER: DTH-3M-L-C-SP-V

Ex: DTH-3M DIRECTCONNECT Gripper, Metric, 16mm Extended Stroke, Spring Closed, Stripper Plate, Viton® Seals

### SENSOR ACCESSORIES\*

PNP Magneto Resistive Sensor Short Barrel w/Qk Disc*	<b>OHSP-017</b>	<b>1, 2 or 3</b>
NPN Magneto Resistive Sensor Short Barrel w/Qk Disc*	<b>OHSN-017</b>	<b>1, 2 or 3</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disc*	<b>OHSP-011</b>	<b>1, 2 or 3</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disc*	<b>OHSN-011</b>	<b>1, 2 or 3</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1, 2 or 3</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1, 2 or 3</b>

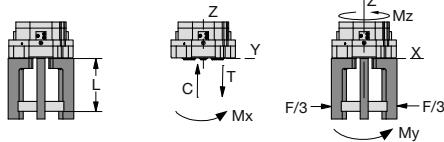
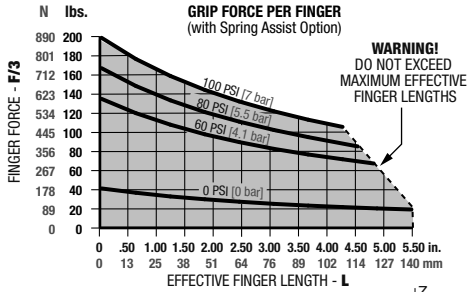
### PNEUMATIC ACCESSORIES

Buna-N Seal Repair Kit	<b>SLKT-349</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-364</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-349V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-364V</b>	<b>1</b>
M5 Adjustable Flow Control	<b>VLVF-008</b>	<b>1 or 2</b>

\*Sensor and cable sold separately.



## RTH/DTH-3M Loading Information

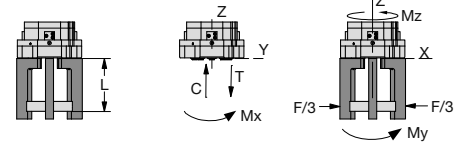
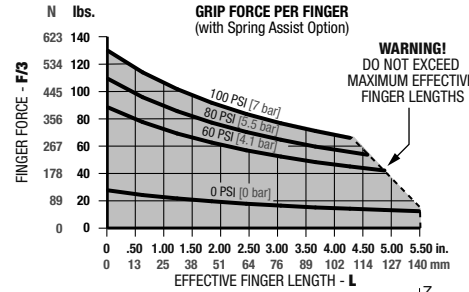


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	378 lbs. [1680 N]	68 lbs. [302 N]
Maximum Compressive <b>C</b>	490 lbs. [2180 N]	68 lbs. [302 N]
Maximum Moment <b>M<sub>x</sub></b>	637 in.-lbs. [72 Nm]	97 in.-lbs. [11 Nm]
Maximum Moment <b>M<sub>y</sub></b>	903 in.-lbs. [102 Nm]	142 in.-lbs. [16 Nm]
Maximum Moment <b>M<sub>z</sub></b>	584 in.-lbs. [66 Nm]	142 in.-lbs. [16 Nm]

†Capacities are per set of jaws and are not simultaneous

## RTH/DTH-3M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	337 lbs. [1500 N]	44 lbs. [197 N]
Maximum Compressive <b>C</b>	436 lbs. [1940 N]	44 lbs. [197 N]
Maximum Moment <b>M<sub>x</sub></b>	566 in.-lbs. [64 Nm]	62 in.-lbs. [7 Nm]
Maximum Moment <b>M<sub>y</sub></b>	717 in.-lbs. [81 Nm]	80 in.-lbs. [9 Nm]
Maximum Moment <b>M<sub>z</sub></b>	469 in.-lbs. [53 Nm]	80 in.-lbs. [9 Nm]

†Capacities are per set of jaws and are not simultaneous

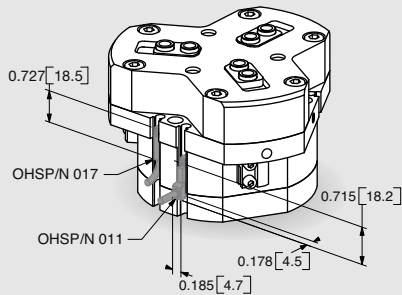
### Specifications

Total Rated Grip Force, <b>F</b> @ 100 psi [7 bar]:		
Without Spring Assist	467 lbs.	2078 N
Without Spring Assist <b>-L</b>	303 lbs.	1349 N
With Spring Assist	591 lbs.	2627 N
With Spring Assist <b>-L</b>	384 lbs.	1708 N
Total Stroke:		
Standard	0.31 in.	8 mm
Extended <b>-L</b>	0.63 in.	16 mm
Weight	2.4 lbs.	1.08 Kg
Pressure Range without Spring	30-100 psi	2-7 Bar
Pressure Range with Spring	50-100 psi	3.5-7 Bar

### Specifications (cont.)

Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Bore $\emptyset$	2.17 in.	55 mm
Displacement	2.30 in <sup>3</sup>	37 cm <sup>3</sup>
Temperature Range	-20°~300° F	-30°~150° C
Actuation (open/close)	0.08 sec./0.08 sec.	
Accuracy	±0.002 in.	±0.04 mm
Repeatability	±0.001 in.	±0.02 mm
Valve required to actuate single acting		3-way, 2-position
Valve required to actuate double acting		4-way, 2-position

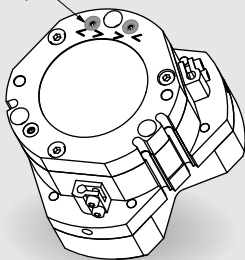
## Accessory Mounting Technical Data



### Magneto Resistive Sensors

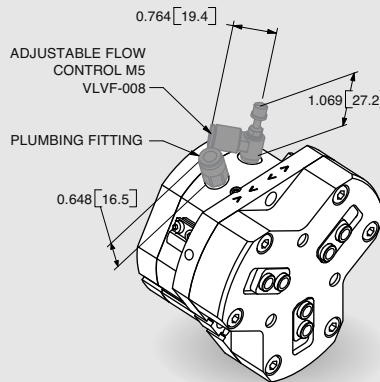
- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M or 5M Quick Disconnect mating cable (order separately)

SLKT-364  
(MANIFOLD  
O-RING SEAL KIT)



### Manifold O-Ring seals

- Used to seal top air ports and purge/scavenge port
- No C bore holes in customer's mounting plate required (C bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-364V)



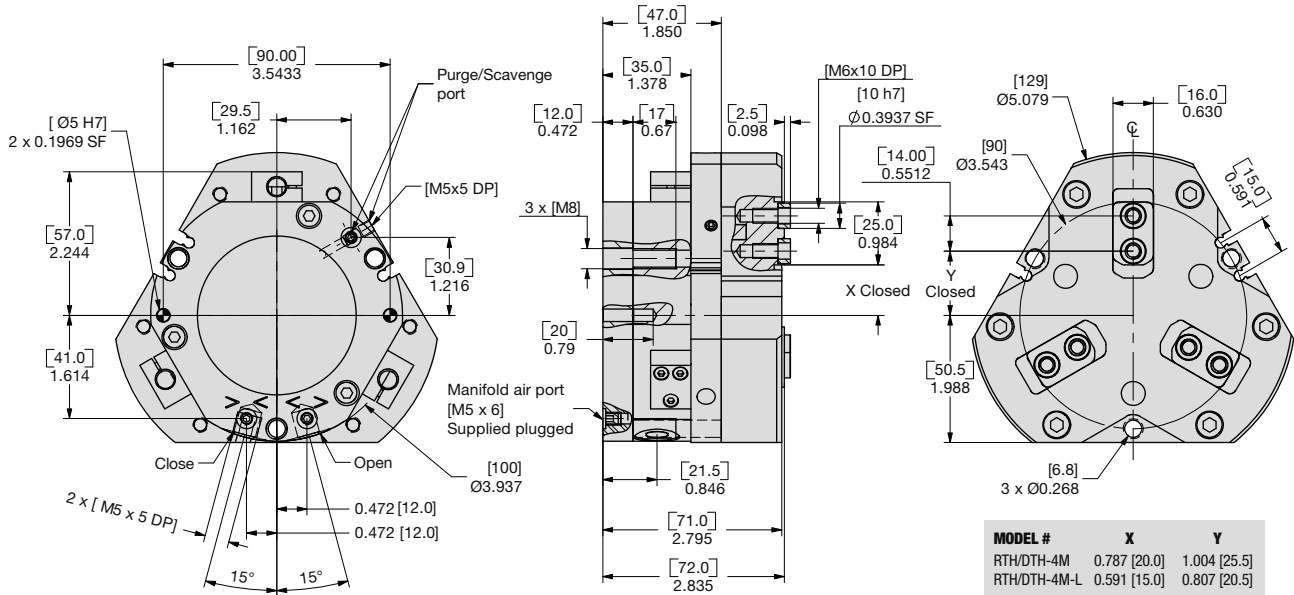
### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard

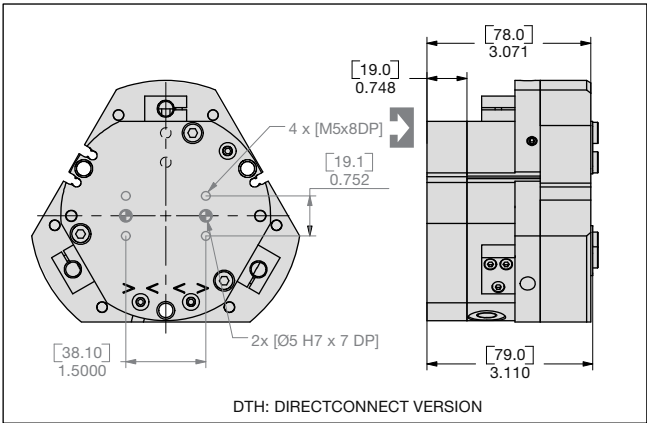
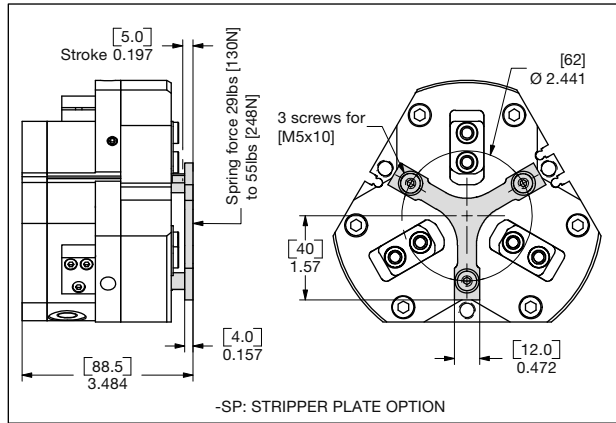


# PARALLEL GRIPPER RTH/DTH-4M 3-JAW CENTERING SERIES

1.238



MODEL #	X	Y
RTH/DTH-4M	0.787 [20.0]	1.004 [25.5]
RTH/DTH-4M-L	0.591 [15.0]	0.807 [20.5]



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Symbol	Imperial in.	Metric [mm]
⌀	0.00 = ±.01	[0.] = [±.25]
⊕	0.000 = ±.005	[0.0] = [±.13]
⊖	0.0000 = ±.0005	[0.00] = [±.013]

Dimensions are symmetrical about centerline  
 Third Angle Projection  
 All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]  
 Metric Threads Course Pitch

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

BASIC MODEL SIZE METRIC SPRING ASSIST



EXTENDED STROKE STRIPPER PLATE

**BASIC MODEL** RTH Without DIRECTCONNECT Mounting Pattern  
DTH With DIRECTCONNECT Mounting Pattern

**SIZE** 4

**METRIC** M

**EXTENDED STROKE** L 0.39" [10mm] Leave Blank (standard)  
L 0.79" [20mm]

**SPRING** C Spring Closed  
O Spring Open  
Leave Blank. No Spring Option (standard)

**STRIPPER PLATE** SP

**VITON® SEALS** V High Temperature Viton® Seals

### SAMPLE ORDER: DTH-4M-L-C-SP-V

Ex: DTH-4M DIRECTCONNECT Gripper, Metric, 20mm Extended Stroke, Spring Closed, Stripper Plate, Viton® Seals

### SENSOR ACCESSORIES\*

8mm NPN Inductive Sensor w/Quick Disconnect*	<b>OISN-011</b>	<b>1, 2 or 3</b>
8mm PNP Inductive Sensor w/Quick Disconnect*	<b>OISP-011</b>	<b>1, 2 or 3</b>
PNP Magneto Resistive Sensor Short Barrel w/Qk Disc*	<b>OHSP-017</b>	<b>1, 2 or 3</b>
NPN Magneto Resistive Sensor Short Barrel w/Qk Disc*	<b>OHSN-017</b>	<b>1, 2 or 3</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disc*	<b>OHSP-011</b>	<b>1, 2 or 3</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disc*	<b>OHSN-011</b>	<b>1, 2 or 3</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1, 2 or 3</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1, 2 or 3</b>

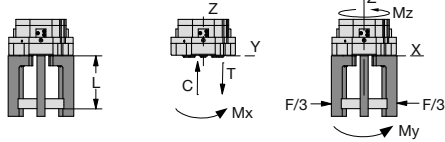
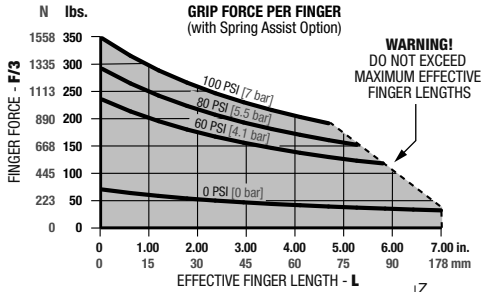
### PNEUMATIC ACCESSORIES

Buna-N Seal Repair Kit	<b>SLKT-350</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-365</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-350V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-365V</b>	<b>1</b>
G 1/8" Adjustable Flow Control	<b>VLVF-005</b>	<b>1 or 2</b>
Adapter G 1/8 Male to 1/8 NPT Female	<b>PLFT-025</b>	<b>1 or 2</b>

\*Sensor and cable sold separately.



## RTH/DTH-4M Loading Information

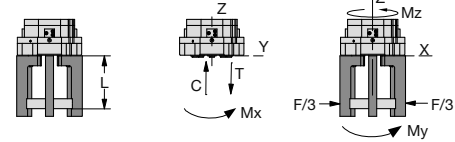
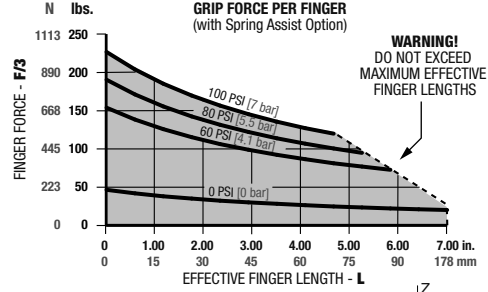


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	474 lbs. [2110 N]	96 lbs. [425 N]
Maximum Compressive <b>C</b>	627 lbs. [2790 N]	96 lbs. [425 N]
Maximum Moment <b>M<sub>x</sub></b>	814 in.-lbs. [92 Nm]	142 in.-lbs. [16 Nm]
Maximum Moment <b>M<sub>y</sub></b>	1133 in.-lbs. [182 Nm]	195 in.-lbs. [22 Nm]
Maximum Moment <b>M<sub>z</sub></b>	734 in.-lbs. [84 Nm]	195 in.-lbs. [22 Nm]

†Capacities are per set of jaws and are not simultaneous

## RTH/DTH-4M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	423 lbs. [1880 N]	62 lbs. [275 N]
Maximum Compressive <b>C</b>	560 lbs. [2490 N]	62 lbs. [275 N]
Maximum Moment <b>M<sub>x</sub></b>	726 in.-lbs. [82 Nm]	89 in.-lbs. [10 Nm]
Maximum Moment <b>M<sub>y</sub></b>	903 in.-lbs. [102 Nm]	115 in.-lbs. [13 Nm]
Maximum Moment <b>M<sub>z</sub></b>	593 in.-lbs. [67 Nm]	115 in.-lbs. [13 Nm]

†Capacities are per set of jaws and are not simultaneous

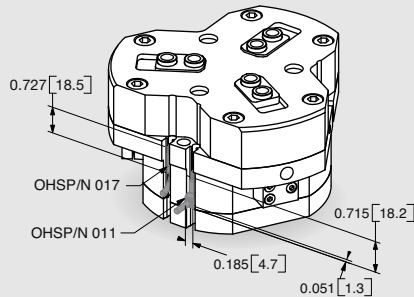
### Specifications

Total Rated Grip Force, <b>F</b> @ 100 psi [7 bar]:		
Without Spring Assist	819 lbs.	3644 N
Without Spring Assist <b>-L</b>	532 lbs.	2366 N
With Spring Assist	1026 lbs.	4562 N
With Spring Assist <b>-L</b>	667 lbs.	2967 N
Total Stroke:		
Standard	0.39 in.	10 mm
Extended <b>-L</b>	0.79 in.	20 mm
Weight	4.3 lbs.	1.95 Kg
Pressure Range without Spring	30-100 psi	2-7 Bar
Pressure Range with Spring	45-100 psi	3-7 Bar

### Specifications (cont.)

Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Bore $\emptyset$	2.85 in.	72 mm
Displacement	4.90 in <sup>3</sup>	80 cm <sup>3</sup>
Temperature Range	-20°~300° F	-30°~150° C
Actuation (open/close)	0.1 sec./0.1 sec.	
Accuracy	±0.0024 in.	±0.06 mm
Repeatability	±0.0012 in.	±0.03 mm
Valve required to actuate single acting	3-way, 2-position	
Valve required to actuate double acting	4-way, 2-position	

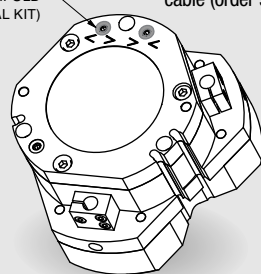
## Accessory Mounting Technical Data



### Magneto Resistive Sensors

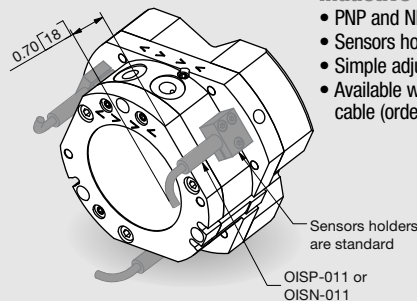
- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M or 5M Quick Disconnect mating cable (order separately)

SLKT-365  
(MANIFOLD  
O-RING SEAL KIT)



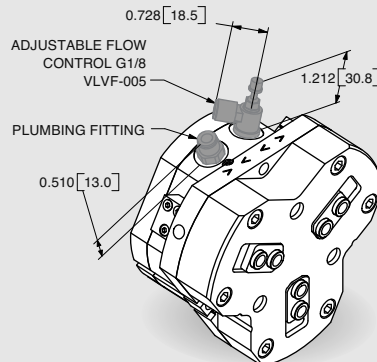
### Manifold O-Ring seals

- Used to seal top air ports and purge/scavenge port
- No C'bore holes in customer's mounting plate required (C'bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-365V)



### Inductive Sensors

- PNP and NPN Magneto Resistive available
- Sensors holders and targets are standard mounted
- Simple adjustment of the target with screw driver
- Available with 2M or 5M Quick Disconnect mating cable (order separately)

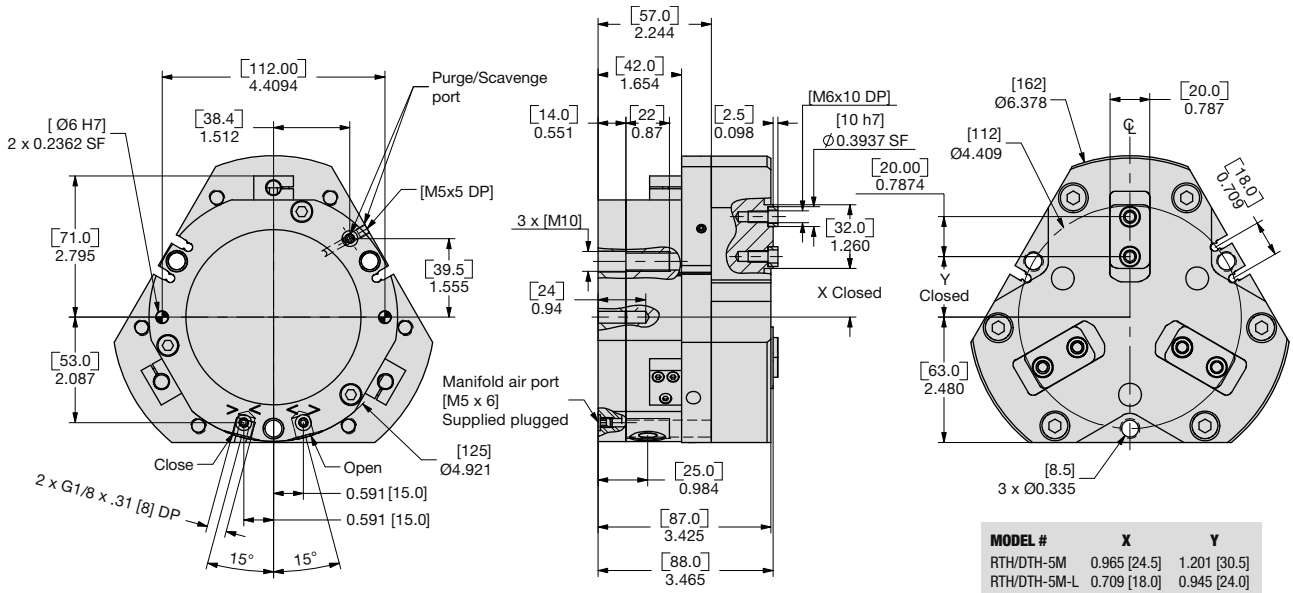


### Plumbing Fittings

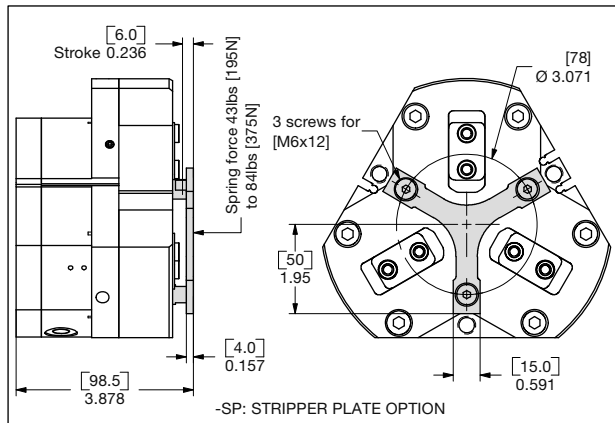
- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard

# PARALLEL GRIPPER RTH/DTH-5M 3-JAW CENTERING SERIES

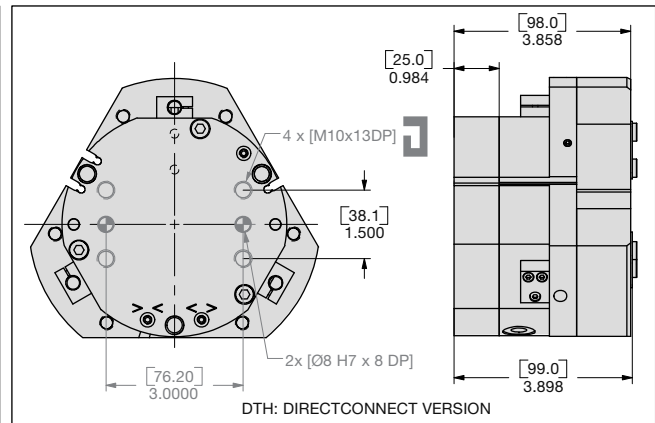
1.240



MODEL #	X	Y
RTH/DTH-5M	0.965 [24.5]	1.201 [30.5]
RTH/DTH-5M-L	0.709 [18.0]	0.945 [24.0]



-SP: STRIPPER PLATE OPTION



DTH: DIRECTCONNECT VERSION

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Symbol	Imperial in.	Metric [mm]
	0.00 = ±.01	[0.] = [±.25]
	0.000 = ±.005	[0.0] = [±.13]
	0.0000 = ±.0005	[0.00] = [±.013]

Dimensions are symmetrical about centerline. Third Angle Projection. All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]. Metric Threads Course Pitch.

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL** **SIZE** **METRIC** **SPRING ASSIST**



**EXTENDED STROKE** **STRIPPER PLATE**

<b>BASIC MODEL</b>	<b>RTH</b> Without DIRECTCONNECT Mounting Pattern
	<b>DTH</b> With DIRECTCONNECT Mounting Pattern
<b>SIZE</b>	<b>5</b>
<b>METRIC</b>	<b>M</b>
<b>EXTENDED STROKE</b>	<b>L</b> 0.51" [13mm] Leave Blank (standard) 1.02" [26mm]
<b>SPRING</b>	<b>C</b> Spring Closed <b>O</b> Spring Open — Leave Blank. No Spring Option (standard)
<b>STRIPPER PLATE</b>	<b>SP</b>
<b>VITON® SEALS</b>	<b>V</b> High Temperature Viton® Seals

**SAMPLE ORDER: DTH-5M-L-C-SP-V**

Ex: DTH-5M DIRECTCONNECT Gripper, Metric, 26mm Extended Stroke, Spring Closed, Stripper Plate, Viton® Seals

**SENSOR ACCESSORIES\***

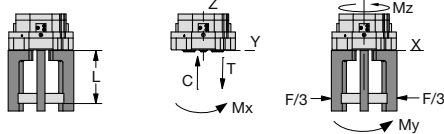
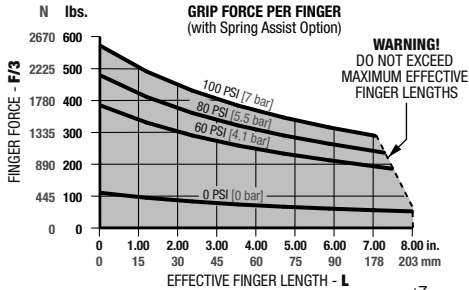
8mm NPN Inductive Sensor w/Quick Disconnect*	<b>OISN-011</b>	<b>1, 2 or 3</b>
8mm PNP Inductive Sensor w/Quick Disconnect*	<b>OISP-011</b>	<b>1, 2 or 3</b>
PNP Magneto Resistive Sensor Short Barrel w/Qk Disc*	<b>OHSP-017</b>	<b>1, 2 or 3</b>
NPN Magneto Resistive Sensor Short Barrel w/Qk Disc*	<b>OHSN-017</b>	<b>1, 2 or 3</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disc*	<b>OHSP-011</b>	<b>1, 2 or 3</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disc*	<b>OHSN-011</b>	<b>1, 2 or 3</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1, 2 or 3</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1, 2 or 3</b>

**PNEUMATIC ACCESSORIES**

Buna-N Seal Repair Kit	<b>SLKT-351</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-365</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-351V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-365V</b>	<b>1</b>
G 1/8" Adjustable Flow Control	<b>VLVF-005</b>	<b>1 or 2</b>
Adapter G 1/8 Male to 1/8 NPT Female	<b>PLFT-025</b>	<b>1 or 2</b>

\*Sensor and cable sold separately.

## RTH/DTH-5M Loading Information

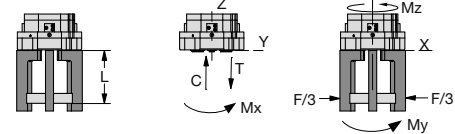
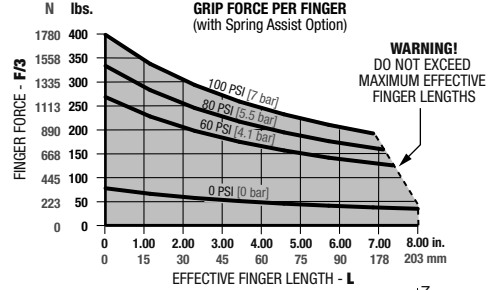


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	672 lbs. [2990 N]	152 lbs. [674 N]
Maximum Compressive <b>C</b>	895 lbs. [3980 N]	152 lbs. [674 N]
Maximum Moment <b>M<sub>x</sub></b>	1124 in.-lbs. [127 Nm]	221 in.-lbs. [25 Nm]
Maximum Moment <b>M<sub>y</sub></b>	1584 in.-lbs. [179 Nm]	310 in.-lbs. [35 Nm]
Maximum Moment <b>M<sub>z</sub></b>	1036 in.-lbs. [117 Nm]	310 in.-lbs. [35 Nm]

†Capacities are per set of jaws and are not simultaneous

## RTH/DTH-5M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	602 lbs. [2680 N]	97 lbs. [432 N]
Maximum Compressive <b>C</b>	803 lbs. [3570 N]	97 lbs. [432 N]
Maximum Moment <b>M<sub>x</sub></b>	1009 in.-lbs. [114 Nm]	142 in.-lbs. [16 Nm]
Maximum Moment <b>M<sub>y</sub></b>	1275 in.-lbs. [144 Nm]	177 in.-lbs. [20 Nm]
Maximum Moment <b>M<sub>z</sub></b>	832 in.-lbs. [94 Nm]	177 in.-lbs. [20 Nm]

†Capacities are per set of jaws and are not simultaneous

## Specifications

Total Rated Grip Force, **F @ 100 psi [7 bar]**:

Without Spring Assist	1428 lbs.	6353 N
Without Spring Assist <b>-L</b>	927 lbs.	4125 N
With Spring Assist	1771 lbs.	7877 N
With Spring Assist <b>-L</b>	1152 lbs.	5124 N

Total Stroke:

Standard	0.51 in.	13 mm
Extended <b>-L</b>	1.02 in.	26 mm

Weight

	8.6 lbs.	3.9 Kg
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Pressure Range without Spring

	30-100 psi	2-7 Bar
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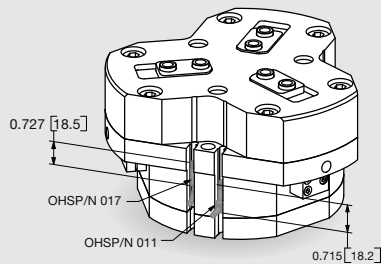
Pressure Range with Spring

	45-100 psi	3-7 Bar
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## Specifications (cont.)

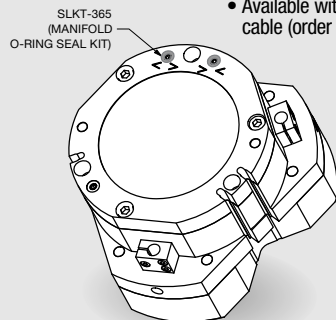
Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Bore $\emptyset$	3.75 in.	95 mm
Displacement	11.0 in <sup>3</sup>	180 cm <sup>3</sup>
Temperature Range	-20°~300° F	-30°~150° C
Actuation (open/close)	0.19 sec./0.19 sec.	
Accuracy	±0.0024 in.	±0.06 mm
Repeatability	±0.0012 in.	±0.03 mm
Valve required to actuate single acting		3-way, 2-position
Valve required to actuate double acting		4-way, 2-position

## Accessory Mounting Technical Data



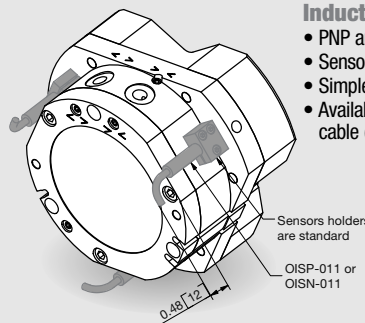
### Magneto Resistive Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



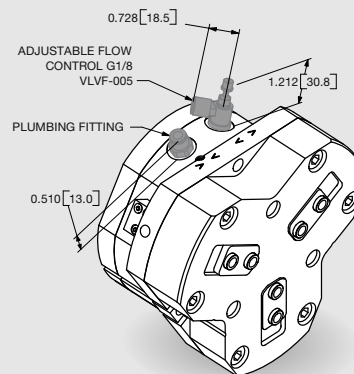
### Manifold O-Ring seals

- Used to seal top air ports and purge/scavenge port
- No C' bore holes in customer's mounting plate required (C' bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-365V)



### Inductive Sensors

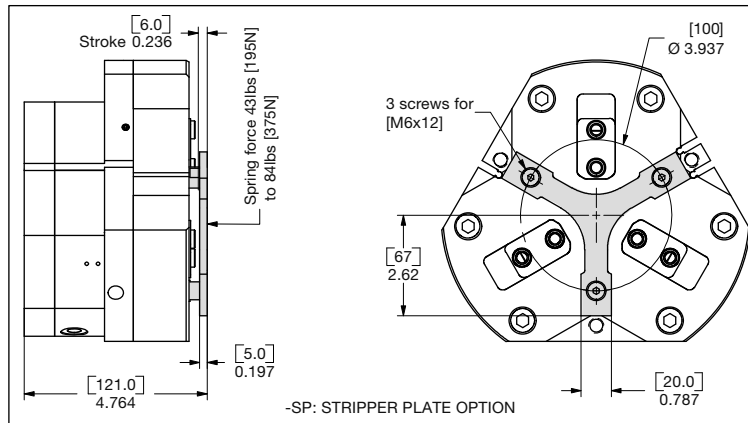
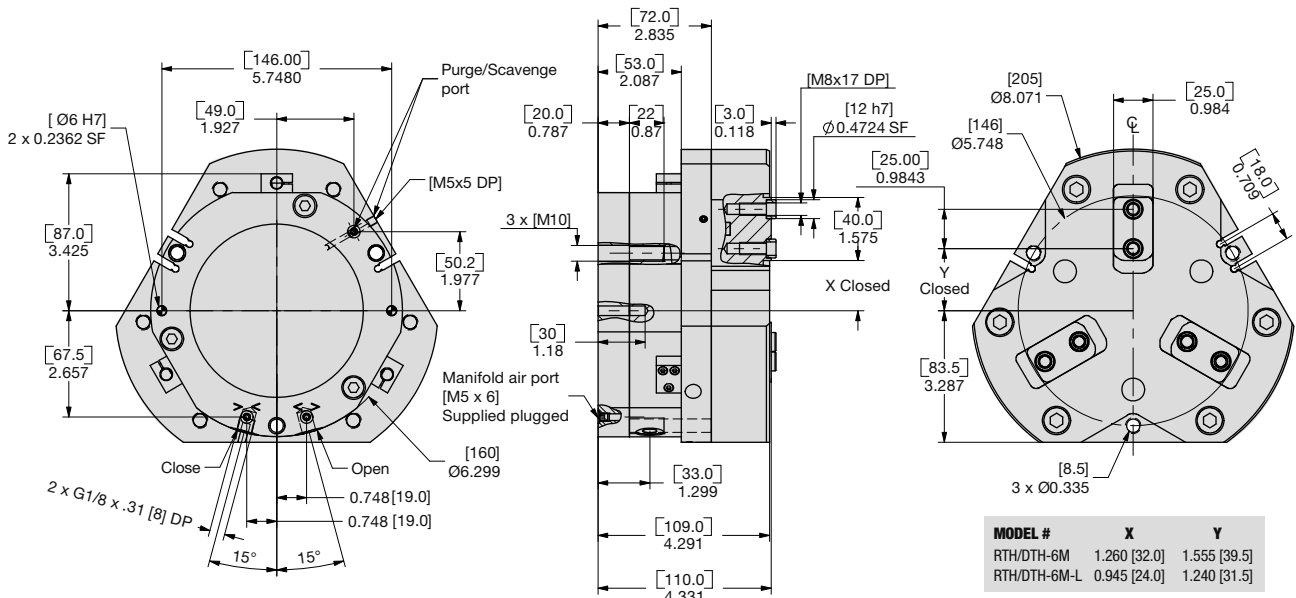
- PNP and NPN Magneto Resistive available
- Sensors holders and targets are standard mounted
- Simple adjustment of the target with screw driver
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard

# PARALLEL GRIPPER RTH-6M 3-JAW CENTERING SERIES



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Symbol	Imperial in.	Metric [mm]
	0.00 = ±.01	[0.] = [±.25]
	0.000 = ±.005	[0.0] = [±.13]
	0.0000 = ±.0005	[0.00] = [±.013]

Dimensions are symmetrical about centerline  
 Third Angle Projection  
 All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]  
 Metric Threads Course Pitch

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

BASIC MODEL SIZE METRIC SPRING ASSIST

**RTH-6M-L-SP-V**

EXTENDED STROKE STRIPPER PLATE

**BASIC MODEL** RTH Without DIRECTCONNECT Mounting Pattern

**SIZE** 6

**METRIC** M

**EXTENDED STROKE** L 0.63" [16mm] Leave Blank (standard)  
 L 1.26" [32mm]

**SPRING** C Spring Closed  
 O Spring Open  
 — Leave Blank. No Spring Option (standard)

**STRIPPER PLATE** SP

**VITON® SEALS** V High Temperature Viton® Seals

### SENSOR ACCESSORIES\*

8mm NPN Inductive Sensor w/Quick Disconnect*	<b>OISN-011</b>	<b>1, 2 or 3</b>
8mm PNP Inductive Sensor w/Quick Disconnect*	<b>OISP-011</b>	<b>1, 2 or 3</b>
PNP Magneto Resistive Sensor Short Barrel w/Qk Disc*	<b>OHSP-017</b>	<b>1, 2 or 3</b>
NPN Magneto Resistive Sensor Short Barrel w/Qk Disc*	<b>OHSN-017</b>	<b>1, 2 or 3</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disc*	<b>OHSP-011</b>	<b>1, 2 or 3</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disc*	<b>OHSN-011</b>	<b>1, 2 or 3</b>
Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1, 2 or 3</b>
Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1, 2 or 3</b>

### PNEUMATIC ACCESSORIES

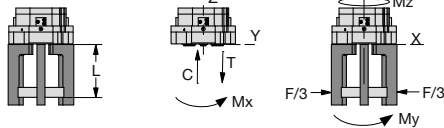
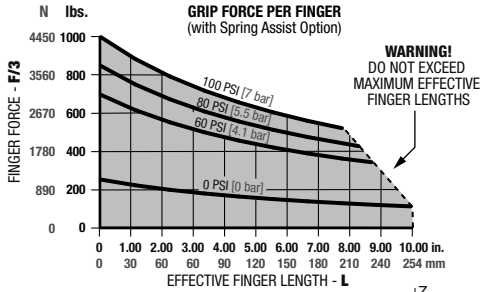
Buna-N Seal Repair Kit	<b>SLKT-352</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-365</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-352V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-365V</b>	<b>1</b>
G 1/8" Adjustable Flow Control	<b>VLVF-005</b>	<b>1 or 2</b>
Adapter G 1/8 Male to 1/8 NPT Female	<b>PLFT-025</b>	<b>1 or 2</b>

\*Sensor and cable sold separately.

### SAMPLE ORDER: RTH-6M-L-C-SP-V

Ex: RTH-6M Parallel Gripper, Metric, 32mm Extended Stroke, Spring Closed, Stripper Plate, Viton® Seals

## RTH/DTH-6M Loading Information

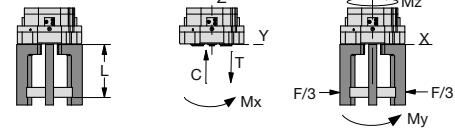
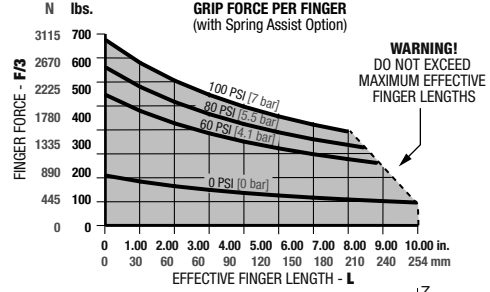


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	971 lbs. [4320 N]	296 lbs. [1315 N]
Maximum Compressive <b>C</b>	1306 lbs. [5810 N]	296 lbs. [1315 N]
Maximum Moment <b>M<sub>x</sub></b>	1522 in.-lbs. [172 Nm]	398 in.-lbs. [45 Nm]
Maximum Moment <b>M<sub>y</sub></b>	2213 in.-lbs. [250 Nm]	575 in.-lbs. [65 Nm]
Maximum Moment <b>M<sub>z</sub></b>	1452 in.-lbs. [164 Nm]	575 in.-lbs. [65 Nm]

†Capacities are per set of jaws and are not simultaneous

## RTH/DTH-6M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	868 lbs. [3860 N]	192 lbs. [852 N]
Maximum Compressive <b>C</b>	1165 lbs. [5180 N]	192 lbs. [852 N]
Maximum Moment <b>M<sub>x</sub></b>	1363 in.-lbs. [154 Nm]	257 in.-lbs. [29 Nm]
Maximum Moment <b>M<sub>y</sub></b>	1761 in.-lbs. [199 Nm]	327 in.-lbs. [37 Nm]
Maximum Moment <b>M<sub>z</sub></b>	1159 in.-lbs. [131 Nm]	327 in.-lbs. [37 Nm]

†Capacities are per set of jaws and are not simultaneous

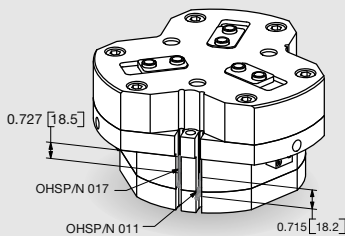
## Specifications

Total Rated Grip Force, <b>F</b> @ 100 psi [7 bar]:		
Without Spring Assist	2294 lbs.	10202 N
Without Spring Assist <b>-L</b>	1490 lbs.	6629 N
With Spring Assist	3099 lbs.	13786 N
With Spring Assist <b>-L</b>	2017 lbs.	8971 N
Total Stroke:		
Standard	0.63 in.	16 mm
Extended <b>-L</b>	1.26 in.	32 mm
Weight	17.4 lbs.	7.89 Kg
Pressure Range without Spring	30-100 psi	2-7 Bar
Pressure Range with Spring	55-100 psi	4-7 Bar

## Specifications (cont.)

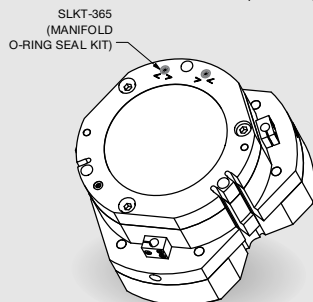
Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Bore $\emptyset$	4.72 in.	120 mm
Displacement	22 in <sup>3</sup>	355 cm <sup>3</sup>
Temperature Range	-20°~300° F	-30°~150° C
Actuation (open/close)	0.36 sec./0.36 sec.	
Accuracy	±0.0032 in.	±0.08 mm
Repeatability	±0.002 in.	±0.04 mm
Valve required to actuate single acting		3-way, 2-position
Valve required to actuate double acting		4-way, 2-position

## Accessory Mounting Technical Data



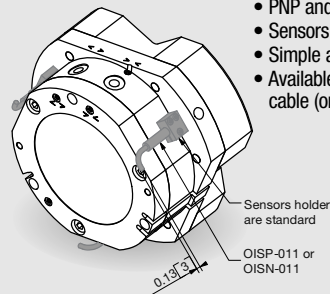
### Magneto Resistive Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



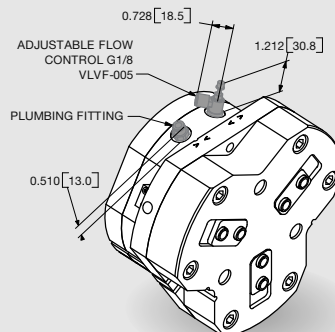
### Manifold O-Ring seals

- Used to seal top air ports and purge/scavenge port
- No C'bore holes in customer's mounting plate required (C'bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-365V)



### Inductive Sensors

- PNP and NPN Magneto Resistive available
- Sensors holders and targets are standard mounted
- Simple adjustment of the target with screw driver
- Available with 2M or 5M Quick Disconnect mating cable (order separately)

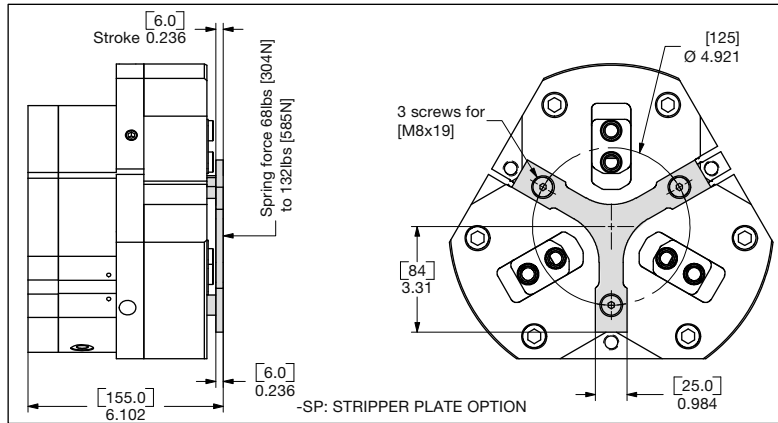
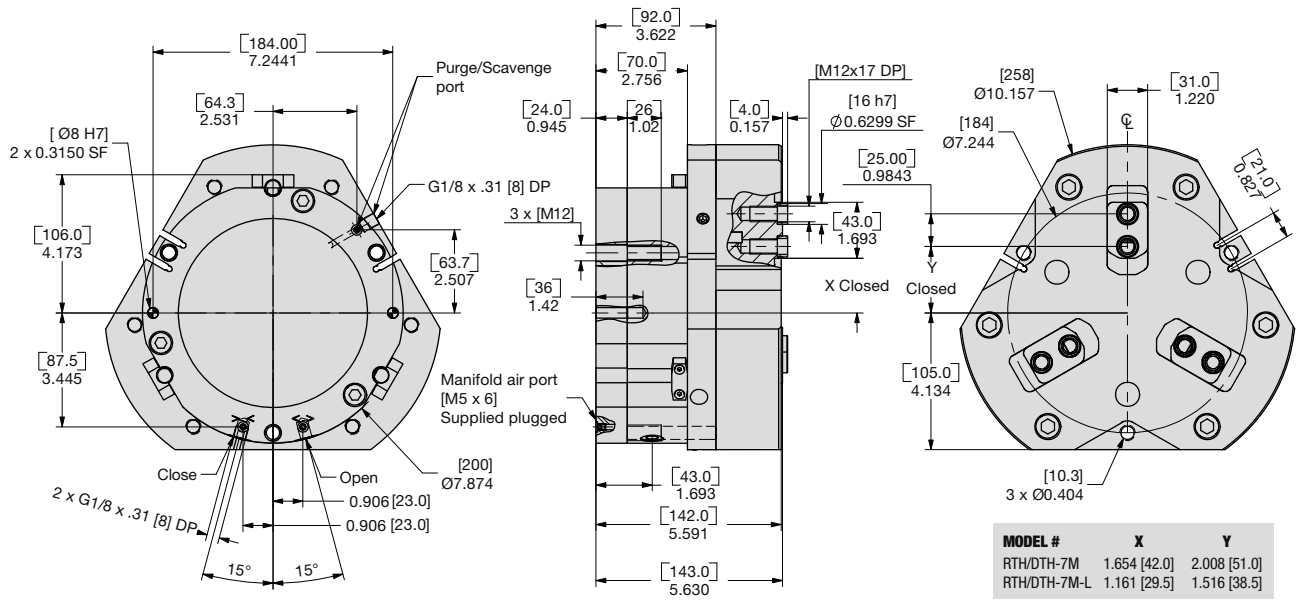


### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard



# PARALLEL GRIPPER RTH-7M 3-JAW CENTERING SERIES



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Symbol	Imperial in.	Metric [mm]
	0.00 = ±.01	[0.] = [±.25]
	0.000 = ±.005	[0.0] = [±.13]
	0.0000 = ±.0005	[0.00] = [±.013]

Dimensions are symmetrical about centerline  
 Third Angle Projection  
 All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm  
 Metric Threads Course Pitch

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

BASIC MODEL SIZE METRIC SPRING ASSIST

**RTH - 7 M - L - SP - V**

EXTENDED STROKE STRIPPER PLATE

<b>BASIC MODEL</b>	<b>RTH</b>	Without DIRECTCONNECT Mounting Pattern
<b>SIZE</b>	<b>7</b>	
<b>METRIC</b>	<b>M</b>	
<b>EXTENDED STROKE</b>	<b>L</b>	0.98" [25mm] Leave Blank (standard) 1.97" [50mm]
<b>SPRING</b>	<b>C</b>	Spring Closed
	<b>O</b>	Spring Open
		Leave Blank. No Spring Option (standard)
<b>STRIPPER PLATE</b>	<b>SP</b>	
<b>VITON® SEALS</b>	<b>V</b>	High Temperature Viton® Seals

### SENSOR ACCESSORIES\*

12mm NPN Inductive Sensor M12 w/Quick Disconnect*	<b>OISN-017</b>	<b>1, 2 or 3</b>
12mm PNP Inductive Sensor M12 w/Quick Disconnect*	<b>OISP-017</b>	<b>1, 2 or 3</b>
PNP Magneto Resistive Sensor M8 w/Qk Disc*	<b>OHSP-017</b>	<b>1, 2 or 3</b>
NPN Magneto Resistive Sensor M8 w/Qk Disc*	<b>OHSN-017</b>	<b>1, 2 or 3</b>
PNP Magneto Resistive Sensor (90° barrel) M8 w/Qk. Disc*	<b>OHSP-011</b>	<b>1, 2 or 3</b>
NPN Magneto Resistive Sensor (90° barrel) M8 w/Qk. Disc*	<b>OHSN-011</b>	<b>1, 2 or 3</b>
M8 Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1, 2 or 3</b>
M8 Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1, 2 or 3</b>
M12 Quick Disconnect 2 Meter Cable Length*	<b>CABL-014</b>	<b>1, 2 or 3</b>
M12 Quick Disconnect 5 Meter Cable Length*	<b>CABL-018</b>	<b>1, 2 or 3</b>

### PNEUMATIC ACCESSORIES

Buna-N Seal Repair Kit	<b>SLKT-353</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-365</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-353V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-365V</b>	<b>1</b>
G 1/8" Adjustable Flow Control	<b>VLVF-005</b>	<b>1 or 2</b>

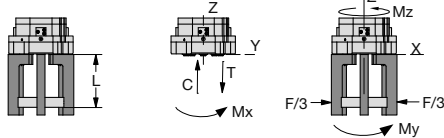
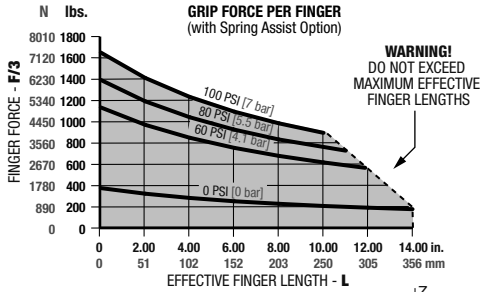
\*Sensor and cable sold separately.

### SAMPLE ORDER: RTH-7M-L-C-SP-V

Ex: RTH-7M Parallel Gripper, Metric, 50mm Extended Stroke, Spring Closed, Stripper Plate, Viton® Seals



## RTH/DTH-7M Loading Information

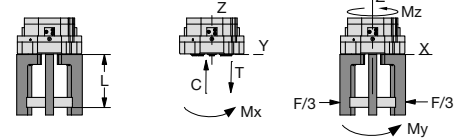
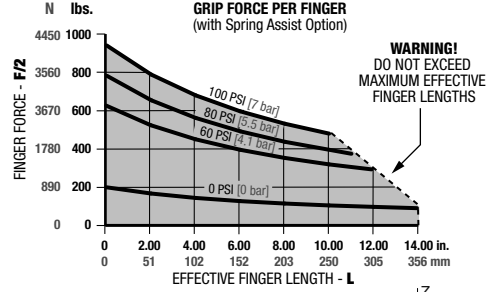


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	1214 lbs. [5400 N]	396 lbs. [1763 N]
Maximum Compressive <b>C</b>	1601 lbs. [7120 N]	396 lbs. [1763 N]
Maximum Moment <b>M<sub>x</sub></b>	1903 in.-lbs. [215 Nm]	531 in.-lbs. [60 Nm]
Maximum Moment <b>M<sub>y</sub></b>	2699 in.-lbs. [305 Nm]	761 in.-lbs. [86 Nm]
Maximum Moment <b>M<sub>z</sub></b>	1841 in.-lbs. [208 Nm]	761 in.-lbs. [86 Nm]

†Capacities are per set of jaws and are not simultaneous

## RTH/DTH-7M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	1054 lbs. [4690 N]	257 lbs. [1141 N]
Maximum Compressive <b>C</b>	1389 lbs. [6180 N]	257 lbs. [1141 N]
Maximum Moment <b>M<sub>x</sub></b>	1646 in.-lbs. [186 Nm]	345 in.-lbs. [39 Nm]
Maximum Moment <b>M<sub>y</sub></b>	2036 in.-lbs. [230 Nm]	425 in.-lbs. [48 Nm]
Maximum Moment <b>M<sub>z</sub></b>	1381 in.-lbs. [156 Nm]	425 in.-lbs. [48 Nm]

†Capacities are per set of jaws and are not simultaneous

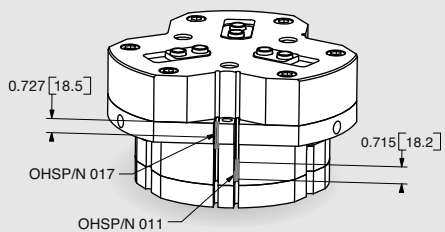
## Specifications

Total Rated Grip Force, <b>F</b> @ 100 psi [7 bar]:		
Without Spring Assist	3859 lbs.	17165 N
Without Spring Assist <b>-L</b>	2496 lbs.	11102 N
With Spring Assist	4967 lbs.	22093 N
With Spring Assist <b>-L</b>	3222 lbs.	14322 N
Total Stroke:		
Standard	0.98 in.	25 mm
Extended <b>-L</b>	1.97 in.	50 mm
Weight	34.6 lbs.	15.7 Kg
Pressure Range without Spring	30-100 psi	2-7 Bar
Pressure Range with Spring	55-100 psi	4-7 Bar

## Specifications (cont.)

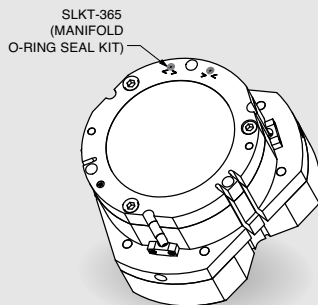
Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Bore Ø	6.15 in.	156 mm
Displacement	37 in <sup>3</sup>	940 cm <sup>3</sup>
Temperature Range	-20°~300° F	-30°~150° C
Actuation (open/close)	0.85 sec./0.85 sec.	
Accuracy	±0.004 in.	±0.1 mm
Repeatability	±0.002 in.	±0.05 mm
Valve required to actuate single acting		3-way, 2-position
Valve required to actuate double acting		4-way, 2-position

## Accessory Mounting Technical Data



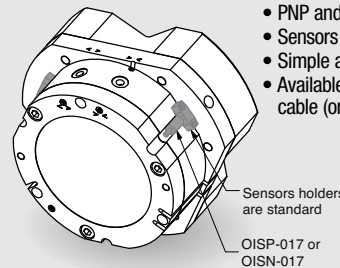
### Magneto Resistive Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



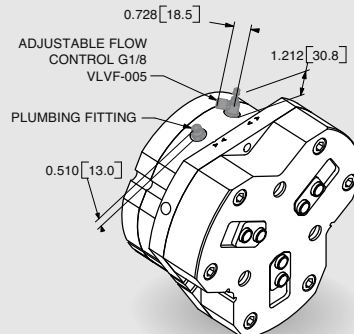
### Manifold O-Ring seals

- Used to seal top air ports and purge/scavenge port
- No C'bore holes in customer's mounting plate required (C'bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-365V)



### Inductive Sensors

- PNP and NPN Magneto Resistive available
- Sensors holders and targets are standard mounted
- Simple adjustment of the target with screw driver
- Available with 2M or 5M Quick Disconnect mating cable (order separately)

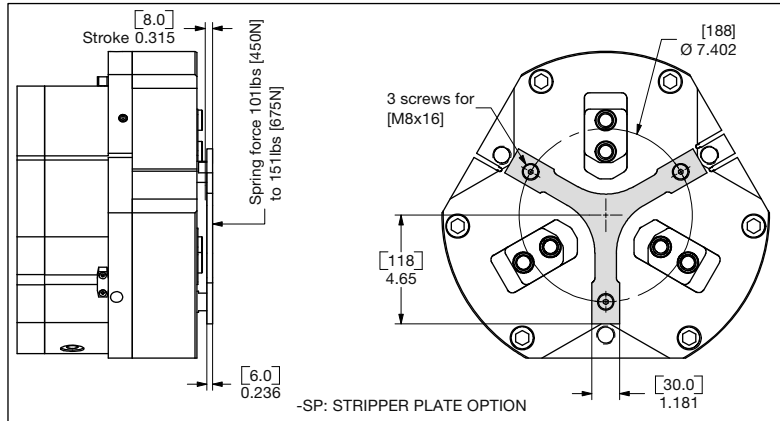
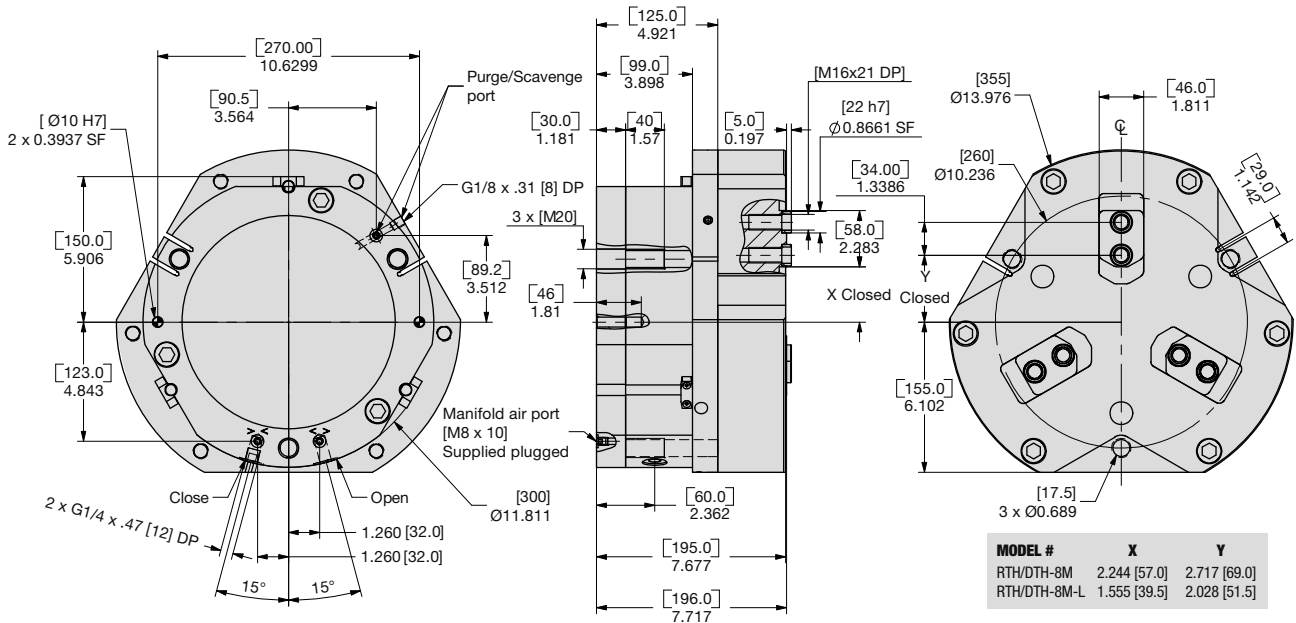


### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard

# PARALLEL GRIPPER RTH-8M 3-JAW CENTERING SERIES

1.246



**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL** **SIZE** **METRIC** **SPRING ASSIST**

**RTH - 8 M - L - SP - V**

**EXTENDED STROKE** **STRIPPER PLATE**

<b>BASIC MODEL</b>	<b>RTH</b>	Without DIRECTCONNECT Mounting Pattern
<b>SIZE</b>	<b>8</b>	
<b>METRIC</b>	<b>M</b>	
<b>EXTENDED STROKE</b>	<b>L</b>	1.38" [35mm] Leave Blank (standard) 2.76" [70mm]
<b>SPRING</b>	<b>C</b>	Spring Closed
	<b>O</b>	Spring Open
		Leave Blank. No Spring Option (standard)
<b>STRIPPER PLATE</b>	<b>SP</b>	
<b>VITON® SEALS</b>	<b>V</b>	High Temperature Viton® Seals

### SENSOR ACCESSORIES\*

12mm NPN Inductive Sensor M12 w/Quick Disconnect*	<b>OISN-017</b>	<b>1, 2 or 3</b>
12mm PNP Inductive Sensor M12 w/Quick Disconnect*	<b>OISP-017</b>	<b>1, 2 or 3</b>
PNP Magneto Resistive Sensor M8 w/Qk Disc*	<b>OHSN-017</b>	<b>1, 2 or 3</b>
NPN Magneto Resistive Sensor M8 w/Qk Disc*	<b>OHSN-017</b>	<b>1, 2 or 3</b>
PNP Magneto Resistive Sensor (90° barrel) M8 w/Qk. Disc*	<b>OHSN-011</b>	<b>1, 2 or 3</b>
NPN Magneto Resistive Sensor (90° barrel) M8 w/Qk. Disc*	<b>OHSN-011</b>	<b>1, 2 or 3</b>
M8 Quick Disconnect 2 Meter Cable Length*	<b>CABL-010</b>	<b>1, 2 or 3</b>
M8 Quick Disconnect 5 Meter Cable Length*	<b>CABL-013</b>	<b>1, 2 or 3</b>
M12 Quick Disconnect 2 Meter Cable Length*	<b>CABL-014</b>	<b>1, 2 or 3</b>
M12 Quick Disconnect 5 Meter Cable Length*	<b>CABL-018</b>	<b>1, 2 or 3</b>

### PNEUMATIC ACCESSORIES

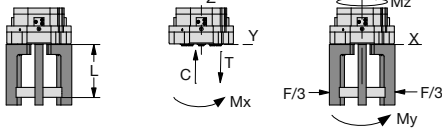
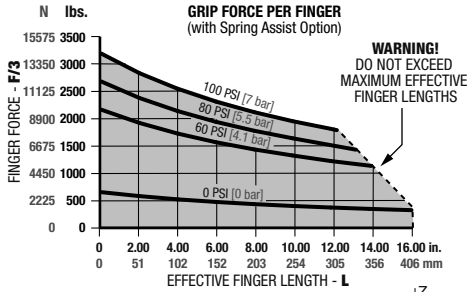
Buna-N Seal Repair Kit	<b>SLKT-354</b>	<b>1</b>
Buna-N Rear Inlet Seal Repair Kit	<b>SLKT-366</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-354V</b>	<b>1</b>
Viton® Rear Inlet Seal Repair Kit	<b>SLKT-366V</b>	<b>1</b>
G 1/4" Adjustable Flow Control	<b>VLVF-010</b>	<b>1 or 2</b>
Adapter G 1/4 Male to 1/4 NPT Female	<b>PLFT-024</b>	<b>1 or 2</b>

\*Sensor and cable sold separately.

### SAMPLE ORDER: RTH-8M-L-C-SP-V

Ex: RTH-8M Parallel Gripper, Metric, 70mm Extended Stroke, Spring Closed, Stripper Plate, Viton® Seals

## RTH/DTH-8M Loading Information

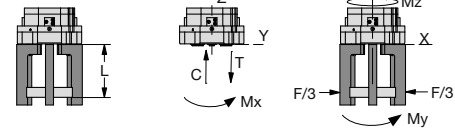
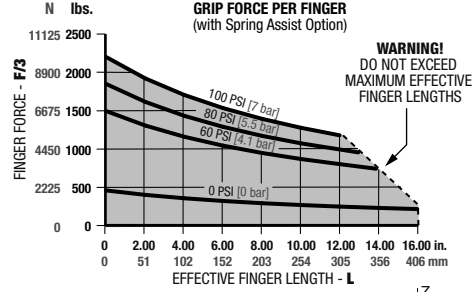


### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	1850 lbs. [8230 N]	614 lbs. [2733 N]
Maximum Compressive <b>C</b>	2405 lbs. [10700 N]	614 lbs. [2733 N]
Maximum Moment <b>M<sub>x</sub></b>	4027 in.-lbs. [455 Nm]	1159 in.-lbs. [131 Nm]
Maximum Moment <b>M<sub>y</sub></b>	5116 in.-lbs. [578 Nm]	1478 in.-lbs. [167 Nm]
Maximum Moment <b>M<sub>z</sub></b>	3204 in.-lbs. [362 Nm]	1478 in.-lbs. [167 Nm]

†Capacities are per set of jaws and are not simultaneous

## RTH/DTH-8M-L Loading Information



### Loading Capacity†

	Static	Dynamic
Maximum Tensile <b>T</b>	1592 lbs. [7080 N]	398 lbs. [1772 N]
Maximum Compressive <b>C</b>	2070 lbs. [9210 N]	398 lbs. [1772 N]
Maximum Moment <b>M<sub>x</sub></b>	3461 in.-lbs. [391 Nm]	752 in.-lbs. [85 Nm]
Maximum Moment <b>M<sub>y</sub></b>	3788 in.-lbs. [428 Nm]	823 in.-lbs. [93 Nm]
Maximum Moment <b>M<sub>z</sub></b>	2372 in.-lbs. [268 Nm]	823 in.-lbs. [93 Nm]

†Capacities are per set of jaws and are not simultaneous

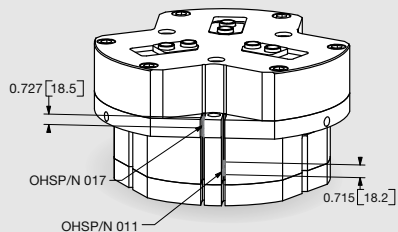
## Specifications

Total Rated Grip Force, <b>F</b> @ 100 psi [7 bar]:		
Without Spring Assist	7933 lbs.	35288 N
Without Spring Assist <b>-L</b>	5122 lbs.	22784 N
With Spring Assist	9971 lbs.	44354 N
With Spring Assist <b>-L</b>	6450 lbs.	28690 N
Total Stroke:		
Standard	1.38 in.	35 mm
Extended <b>-L</b>	2.76 in.	70 mm
Weight	96.8 lbs.	43.9 Kg
Pressure Range without Spring	30-100 psi	2-7 Bar
Pressure Range with Spring	50-100 psi	3.5-7 Bar

## Specifications (cont.)

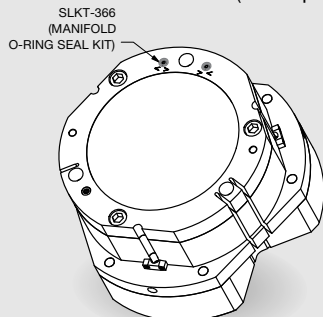
Max. Vacuum for Scavenge Port	8 in. Hg	20 mm Hg
Max. Pressure for Purge Port	30 psi	2.1 Bar
Cylinder Bore Ø	8.86 in.	225 mm
Displacement	166 in. <sup>3</sup>	2720 cm <sup>3</sup>
Temperature Range	-20°~300° F	-30°~150° C
Actuation (open/close)	1.7 sec./1.7 sec.	
Accuracy	±0.004 in.	±0.01 mm
Repeatability	±0.002 in.	±0.05 mm
Valve required to actuate single acting	3-way, 2-position	
Valve required to actuate double acting	4-way, 2-position	

## Accessory Mounting Technical Data



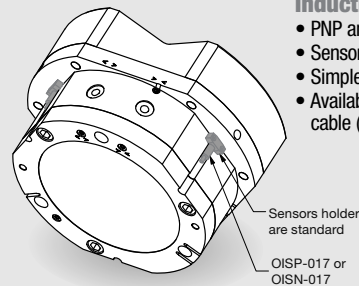
### Magneto Resistive Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



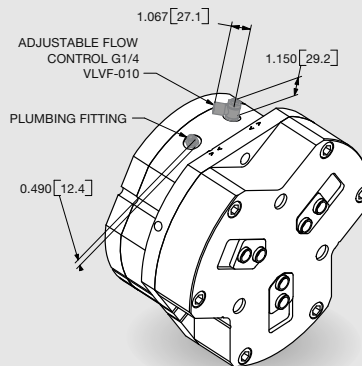
### Manifold O-Ring seals

- Used to seal top air ports and purge/scavenge port
- No C'bore holes in customer's mounting plate required (C'bore are machined in the gripper's body)
- Seals in manifold kit are Buna-N (Viton® seal kit SLKT-366V)



### Inductive Sensors

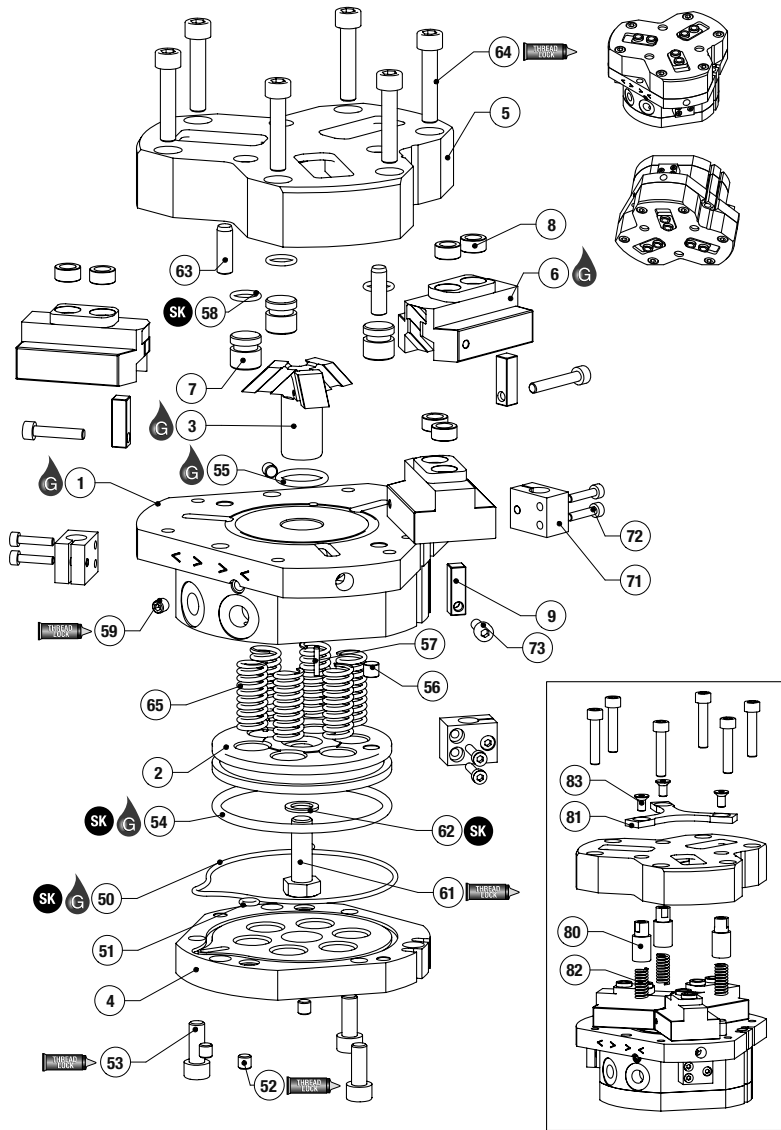
- PNP and NPN Magneto Resistive available
- Sensors holders and targets are standard mounted
- Simple adjustment of the target with screw driver
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm OD tubing
- Plumbing fittings:
  - For side air port location
  - Top air port are plugged as standard

# RTM/DTH Series Exploded View



## Item Qty Name

01	1	Body
02	1	Piston
03	1	Triple wedge
04	1	Cap
05	1	Bottom Case
06	3	Jaws
07	3	Plug
08	6	Locating sleeve
09	3	Sensing nut
50	1	Cap, O-ring
51	2	Cap, O-ring
52	3	Cap, SS screw
53	3	Cap, SHC screw
54	1	Piston, O-ring
55	1	Body, O-ring
56	1	Piston, Magnet
57	1	Piston, Pin
58	3	Plug, O-Ring
59	2	Body, SS screw
61	1	Triple wedge, HH screw
62	1	Triple wedge, Seal
63	2	Slide, Pin
64	6	Slide, SHC Screw
65	6	Spring
71	3	Sensor holder
72	6	Sensor holder, SHC screw
73	3	Sensing nut, SHC screw
80	3	Stud
81	1	Pressure plate
82	3	Springs
83	3	Stud, screw

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

**SK Seal Repair Kit Order #'s See Product Data Sheets**

### Assembly Procedure

- Lubricate and install seals #55 into the body #1
- Install #59 SS screws with thread locker into the body #1
- Sub assemble the sensing nuts #9 into the jaws #6
- Sub assemble the jaws #6 on either side of the triple wedge #3 with lubrication
- Insert the jaws and triple wedge sub assembly into the body. To ensure a good positioning of the magnet, the dowel hole of the triple wedge (on tapped hole side) has to be positioned on the opposite side of the air ports (except size 1). For size 1, it has to be positioned between the sensor slots of the body.
- Install seals #58 into the plugs #7
- Insert the plugs #7 into the bottom case #5
- Install bottom case #5 with pressed-in pins

- #63 onto the body and fasten with #64 screws with thread locker
- Mount magnet #56 to piston #2 with thread locker
- For **-C** option, insert the spring #65 into the body counterbore holes
- Insert the piston #2 with pressed-in pin #57 onto the triple wedge #3 and fasten with screw #61 and washer #62. Face mount the piston counterbore holes to the body counterbore holes for **-C** option. Opposite mount for **-O** option. For **-O** option, insert the spring #65 into the piston counterbore holes
- Install #52 air ports plugs with thread locker onto the cap #4
- Install seals #50 and #51 into the cap #4
- Insert the cap into the body and locate it using cap dowel pin holes.
- Lubricate and install seals #54 into the piston #2
- Mount magnet #56 to piston #2 with thread locker
- For **-C** option, insert the spring #65 into the body counterbore holes
- Insert the piston #2 with pressed-in pin #57 onto the triple wedge #3 and fasten with screw #61 and washer #62. Face mount the piston counterbore holes to the body counterbore holes for **-C** option. Opposite mount for **-O** option. For **-O** option, insert the spring #65 into the piston counterbore holes
- Install #52 air ports plugs with thread locker onto the cap #4
- Install seals #50 and #51 into the cap #4
- Insert the cap into the body and locate it using cap dowel pin holes.

- Fasten the cap with #53 screws with thread locker
- Install the sensor holder #71 onto the body and fasten with screw #72
- Insert screw #73 into the sensing nuts #9 from the body holes
- Insert locating sleeves #8 into the jaws

### -SP Assembly Procedure

- Disassemble bottom case #5 unfastening #64 screws
- Sub assemble springs #82 into the stud #70
- Insert the spring and stud sub assembly into the bottom case
- Install bottom case #5 onto the body and fasten with #64 screws with thread locker
- Install pressure plate #8 onto the studs and fasten with #83 screws



Seal Kit Items



Thread Locker



Krytox™ Lubricant



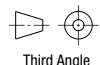
Lightweight Machine Oil



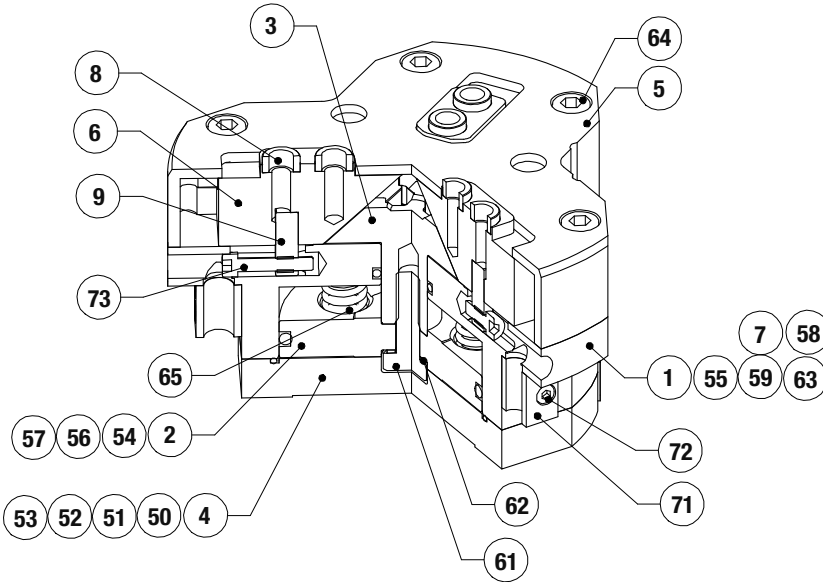
Teflon® Based Grease



Super Bonder



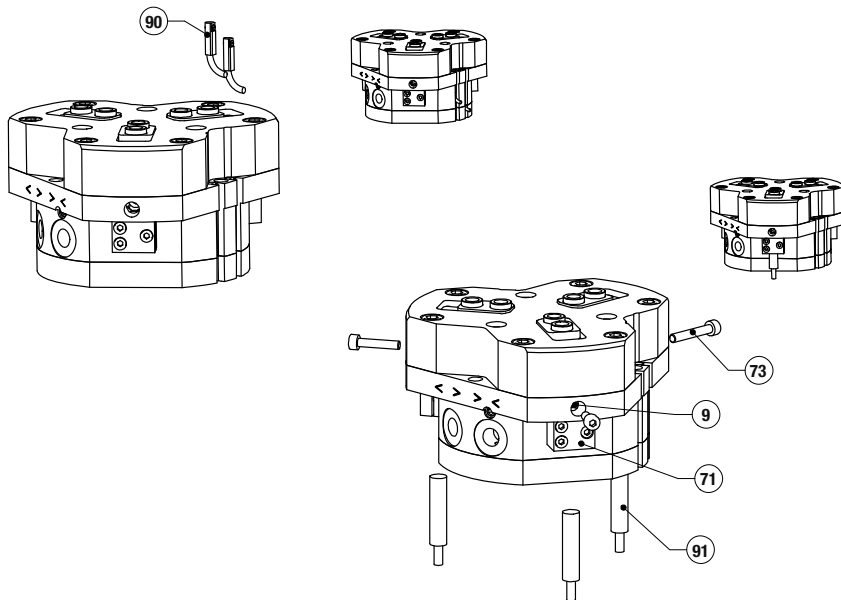
Third Angle Projection



Item	Qty	Name
01	1	Body
02	1	Piston
03	1	Triple wedge
04	1	Cap
05	1	Bottom Case
06	3	Jaws
07	3	Plug
08	6	Locating sleeve
09	3	Sensing nut
50	1	Cap, O-ring
51	2	Cap, O-ring
52	3	Cap, SS screw
53	3	Cap, SHC screw
54	1	Piston, O-ring
55	1	Body, O-ring
56	1	Piston, Magnet
57	1	Piston, Pin
58	3	Plug, O-Ring
59	2	Body, SS screw
61	1	Triple wedge, HH screw
62	1	Triple wedge, Seal
63	2	Slide, Pin
64	6	Slide, SHC Screw
65	6	Spring
71	3	Sensor holder
72	6	Sensor holder, SHC screw
73	3	Sensing nut, SHC screw

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

## Accessory Installation & Adjustment Instructions



### Magneto Resistive Sensor

- 1) Insert sensors #90 from either end of the profile slots
- 2) Set the sensor with the integrated screw

### Inductive Sensor

- 1) Insert sensors #91 into the sensor holder #72
- 2) Tighten the sensor using the SHC screw onto the sensor holder #72
- 3) Insert the SHC screw #73 into the sensing nuts #9. The SHC screws are the targets to be adjusted in front of the sensor. Depending on the position to sense, use different length for the SHC screw #73 (shortest screw for open position, longest screw for close position). The sensing nut #9 has a thread insert that prevents the target from loosening. This may make the target harder to tighten into the nut.



Seal Kit Items



Thread Locker



Krytox™ Lubricant



Lightweight Machine Oil



Teflon® Based Grease



Super Bonder



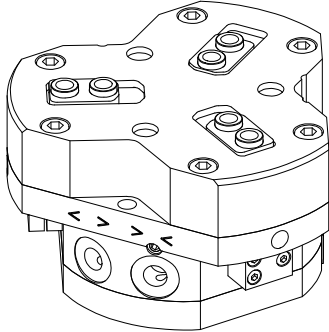
Third Angle Projection



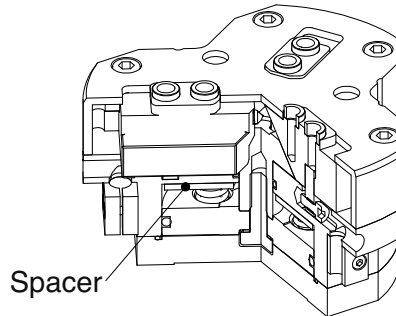
# RTH/DTH SERIES SPECIALS

**Fixed Jaws, Food-Grade Grease, Stroke Limiters, Custom Fingers and Jaws, Stainless Steel Components and more...**

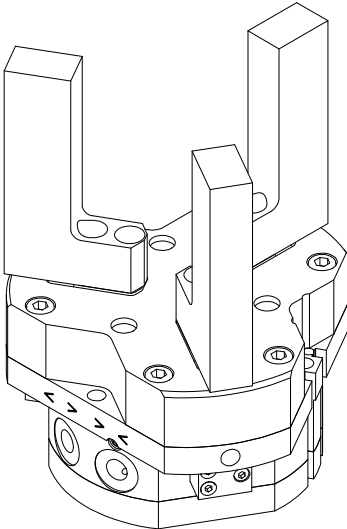
Drawings are for concept only. Contact Robohand Tech Support with project requirements.



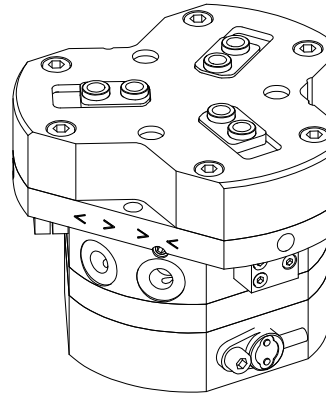
**Fixed Jaws**



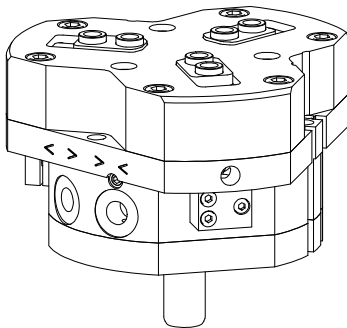
**Stroke Limiter**



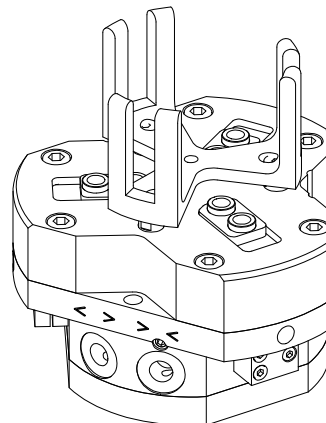
**Custom Fingers and Jaws**



**Built-in Sensor with 2 Sensing Faces  
2 or 3 Wire Technology**



**Shaft Output**



**Custom Stripper Plate**





Please describe your application. Include a sketch or attach additional sheets if necessary.

A large grid area for describing the application. In the top right corner of the grid, there is a 3D coordinate system diagram with three axes labeled X, Y, and Z. The Z-axis points upwards, the X-axis points to the left, and the Y-axis points to the right.

# 3P Parallel Gripper- 3-Jaw Precision Series

## Precision Gripper

The 3 concentric jaws and very good repeatability [0.02mm] allows loading and unloading accurate cylindrical parts.

## Harsh Environments

Shielded design (-E) repels chips and other particulate from internal drive mechanism depending on the chosen material of the shield.

## Compact and Powerful

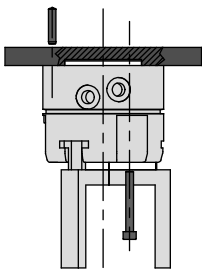
This gripper is designed for use in confined spaces, combining long strokes with a high grip force. Optional safety springs retain the components, should the air supply fail or to increase grip force.

## Multipurpose Gripper

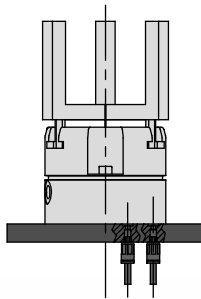
A wide range of options and accessories (extended stroke, hydraulic power, safety springs for internal or external gripping, inductive sensors, tandem cylinder, Viton® seals, and protective boot) allow these grippers to be used in a number of applications.

## Mounting Information:

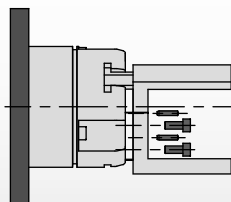
### Gripper can be mounted and operated in any orientation.



Gripper is located using pilot boss and a dowel pin and assembled with 4 or 6 through body screws.



Gripper can be operated utilizing top manifold air ports.



Fingers are located on jaw with 2 dowel pins and assembled with 1 or 2 screws.

## Technical Specifications:

### Pneumatic Specifications

Pressure Operating Range

**Imperial**  
30-100 psi

**Metric**  
2-7 bar

Cylinder Type

**Double or double acting  
spring-assisted or single  
acting with spring**

Dynamic Seals

**Buna-N**

Valve Required to Operate:

Double Acting  
Single acting (Option RE or RI)

**4-way, 2-position  
3-way, 2-position**

### Air Quality Requirements

Filtration

**40 Micron or Better  
Not Necessary\***

Lubrication

### Temperature Operating Range

Buna-N Seals (standard)

**-30°~180° F -35°~80° C**

Viton® Seals (optional)

**-20°~300° F -30°~150° C**

### Application Restrictions

Expected Life

Normal Application  
w/ Preventative Maintenance

**5 million cycles  
10+ million cycles\***

Field Repairable

**Yes**

Seal Repair Kits Available

**Yes**

\*Addition of lubrication will greatly increase service life

## Product Specifications

### Quality Components

Body made from aluminum alloy with Teflon™ impregnated hardcoat anodize. Other essential parts of the gripper are made of hardened and precision ground steel

### Standard and Extended Stroke (-C)

Each model of gripper is available in two stroke lengths

### Versatile Finger Mounting

2 finger mounting surfaces on each jaw

### Viton® Seals

Optional Viton® seals for high temperatures



### Protective Gripper Boot

Optional Gripper Boot (-E) to protect the mechanism of the clamp are liquid and large external impurities.

### Spring Assist

Spring assist retains the component should the air supply fail, to assist the gripper for internal (-RE) or external (-RI) gripping, or in single acting mode

### Tandem Cylinder

Option (-M) doubles the grip force

### Sensor Target

Option (-T) to control the jaw position at the rear of the clamp

### Sensor Unit

Option (-K) to benefit from integrated detection

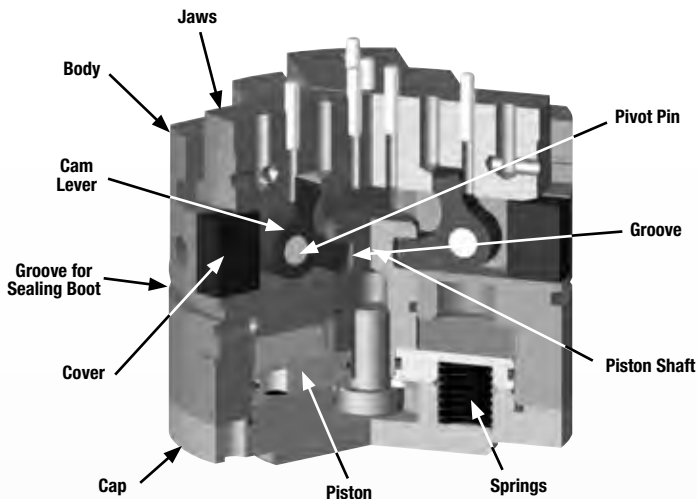
### Pneumatic Power

Side or top ports (sealing face / face)

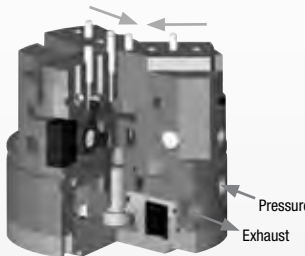
### Hydraulic Power

Option (-H) up to 20 bar max, (-H80) up to 80 bar max.

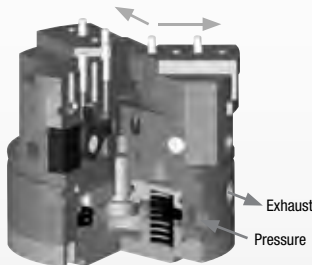
## Operating Principle



Closed Stroke Position



Open Stroke Position



- A large double-acting piston is connected to the piston shaft at its end with a driving groove.
- Levers pivot in the body about an axis of articulation. Their two heads agree precisely on one side in the groove of the small piston, the other in a groove cut in each jaw holder.
- The rotation of the levers converts the vertical movement of the piston in a horizontal motion and synchronized two-bit gates, which are guided in grooves in «T» fitting body.
- This gripper is suitable for internal or external gripping and can be mounted in any orientation
- Optional failsafe spring can be used to maintain gripping force if gripper loses air pressure or as a single acting return gripper.

### Style: 3P Precision Parallel Gripper



	6003P	6003P-C
Total Stroke:	10 mm	16 mm
Force at 6bar: <sup>1</sup>	678 N	422 N
Force w/o air: <sup>2</sup>	172 N	107 N
Weight:	0.60 kg	0.60 kg

See Page **1.254 & 1.255**

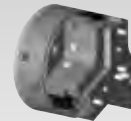
### Style: 3P Precision Parallel Gripper



	8003P	8003P-C
Total Stroke:	13 mm	20 mm
Force at 6bar: <sup>1</sup>	1888 N	1219 N
Force w/o air: <sup>2</sup>	617 N	398 N
Weight:	0.97 kg	0.97 kg

See Page **1.256 & 1.257**

### Style: 3P Precision Parallel Gripper



	11003P	11003P-C
Total Stroke:	20 mm	30 mm
Force at 6bar: <sup>1</sup>	2967 N	1979 N
Force w/o air: <sup>2</sup>	941 N	628 N
Weight:	2.35 kg	2.35 kg

See Page **1.258 & 1.259**

### Style: 3P Precision Parallel Gripper



	14003P	14003P-C
Total Stroke:	26 mm	40 mm
Force at 6bar: <sup>1</sup>	6077 N	3930 N
Force w/o air: <sup>2</sup>	2248 N	1453 N
Weight:	4.70 kg	4.70 kg

See Page **1.260 & 1.261**

### Style: 3P Precision Parallel Gripper



	16503P	16503P-C
Total Stroke:	30 mm	50 mm
Force at 6bar: <sup>1</sup>	11190 N	6707 N
Force w/o air: <sup>2</sup>	3730 N	2235 N
Weight:	9.04 kg	9.04 kg

See Page **1.262 & 1.263**

## OPTIONS & ACCESSORIES

See Page **1.264 & 1.267**

1. Force with spring and air at 6bar
2. Force with spring without air

# PARALLEL GRIPPER 6003P PRECISION 3P GRIPPER SERIES

1.254

### Specifications

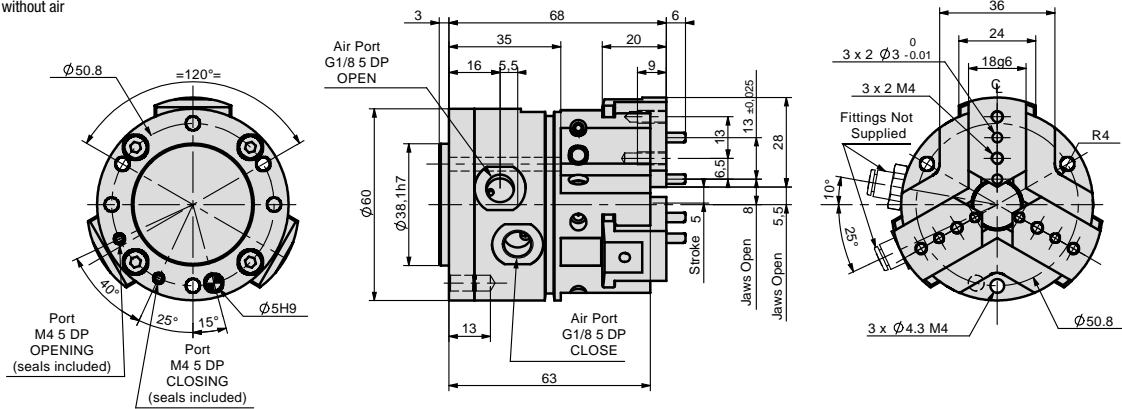
Grip Force (F <sub>6+R</sub> ) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	<b>6003P</b> 678 N
Grip Force (F <sub>0+R</sub> ) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	172 N
Total Stroke	10 mm
Weight	0.60 kg
Pressure Range	2 - 7 bar
Pressure Range with Springs	3 - 7 bar
Ø Cylinder Bore	40 mm
Displacement	12 cm <sup>3</sup>
Actuation (open / close)	0.07 s / 0.07 s
Repeatability	± 0.02 mm

- Force with spring and air at 6bar
- Force with spring without air

### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

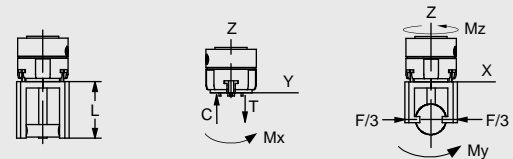
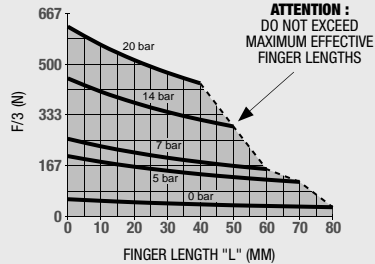
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
---	------------------------	--	-----------------------------	--	---

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)

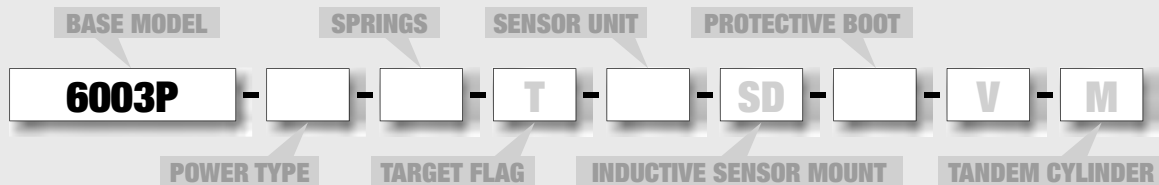


### Loading Capacity\*

	Statique	Dynamique
Maximum Tensile <b>T</b>	819 N	175 N
Maximum Compressive <b>C</b>	1556 N	175 N
Maximum Moment <b>Mx</b>	42 Nm	5 Nm
Maximum Moment <b>My</b>	49 Nm	6 Nm
Maximum Moment <b>Mz</b>	54 Nm	6 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:



POWER TYPE	
P	Pneumatic
H	Hydraulic (page 1.264)
(One of two options is mandatory P or H)	
SPRINGS	
RE	External Gripping
RI	Internal Gripping
SENSOR UNIT	
• KT1	• KT2
• KX1	• KX2
PROTECTIVE BOOT	
• E	• E3

### PROTECTIVE BOOT ACCESSORIES

	Model Code	Order #	Qty/Unit
PVC Protective Boot, Brown or Black	<b>E</b>	<b>ER63P</b>	1
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>E3R63P</b>	1

### SENSOR ACCESSORIES

	Model Code	Order #	Qty/Unit
Inductive Sensor Kit (1 holder, 1 flag)	<b>SD</b>	<b>SD60-80P</b>	1 or 2
M8 Inductive Sensor PNP with M8 connector		<b>OISP-011-C</b>	1 to 4
M8 Inductive Sensor NPN with M8 connector		<b>OISN-011-C</b>	1 to 4
Cable (2 meters) with M8 screw right gold		<b>CABL-010</b>	1 to 4

### PNEUMATIC ACCESSORIES

	Model Code	Order #	Qty/Unit
Standard Seal Repair Kit		<b>SLKT-156</b>	1
Viton® Seal Repair Kit		<b>SLKT-156V</b>	1
Hydraulic Seal Repair Kit		<b>SLKT-330</b>	1

Options and Accessories:  
See Page 1.264



# PARALLEL GRIPPER 6003P-C PRECISION 3P GRIPPER SERIES

PRECISION 3P  
1.255

## Specifications

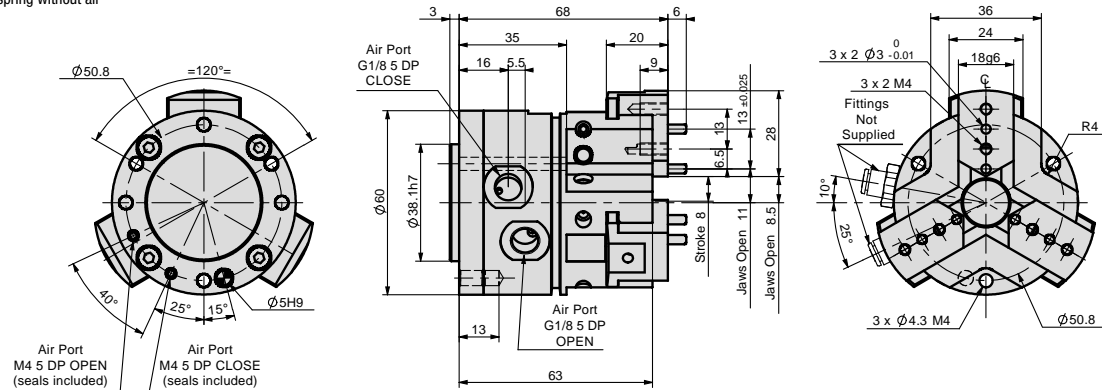
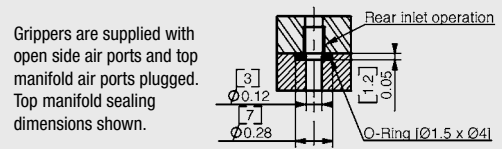
Grip Force (F<sub>6+R</sub>)<sup>1</sup>, 6 bars, Springs Mid-Way, L=0  
 Grip Force (F<sub>0+R</sub>)<sup>2</sup>, 0 bars, Springs Mid-Way, L=0  
 Total Stroke  
 Weight  
 Pressure Range  
 Pressure Range with Springs  
 Ø Cylinder Bore  
 Displacement  
 Actuation (open / close)  
 Repeatability  
 1. Force with spring and air at 6bar  
 2. Force with spring without air

## 6003P-C

422 N  
 107 N  
 16 mm  
 0.60 kg  
 2 -7 bar  
 3 -7 bar  
 40 mm  
 12 cm<sup>3</sup>  
 0.07 s / 0.07 s  
 ± 0.02 mm

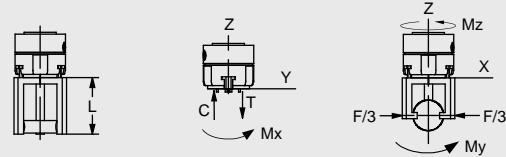
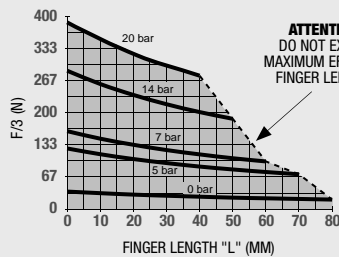
**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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## Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
 (Springs compressed at 50% stroke)

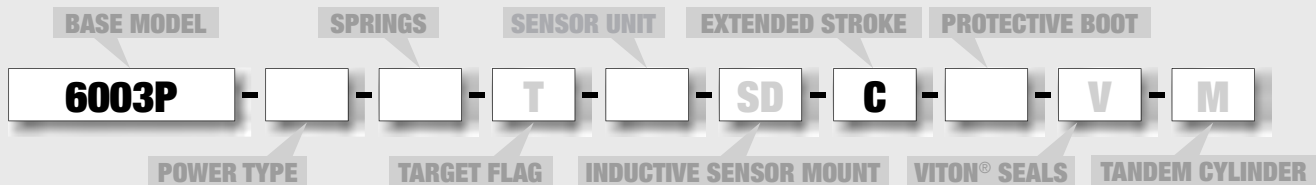


### Loading Capacity\*

	Statique	Dynamique
Maximum Tensile <b>T</b>	745 N	108 N
Maximum Compressive <b>C</b>	1415 N	108 N
Maximum Moment <b>M<sub>x</sub></b>	34 Nm	3 Nm
Maximum Moment <b>M<sub>y</sub></b>	39 Nm	4 Nm
Maximum Moment <b>M<sub>z</sub></b>	49 Nm	4 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:



POWER TYPE			
P	Pneumatic		
H	Hydraulic (page 1.264)		
(One of two options is mandatory P or H)			
SPRINGS			
RE	External Gripping		
RI	Internal Gripping		
SENSOR UNIT			
• KT1	• KT2	• KX1	• KX2
PROTECTIVE BOOT			
• E	• E3		

### PROTECTIVE BOOT ACCESSORIES

	Model Code	Order #	Qty/Unit
PVC Protective Boot, Brown or Black	<b>E</b>	<b>ER63P</b>	1
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>E3R63P</b>	1
SENSOR ACCESSORIES			
Inductive Sensor Kit (1 holder, 1 flag)	<b>SD</b>	<b>SD60-80P</b>	1 or 2
M8 Inductive Sensor PNP with M8 connector		<b>OISP-011-C</b>	1 to 4
M8 Inductive Sensor NPN with M8 connector		<b>OISN-011-C</b>	1 to 4
Cable (2 meters) with M8 screw right gold		<b>CABL-010</b>	1 to 4
PNEUMATIC ACCESSORIES			
Standard Seal Repair Kit		<b>SLKT-156</b>	1
Viton® Seal Repair Kit		<b>SLKT-156V</b>	1
Hydraulic Seal Repair Kit		<b>SLKT-330</b>	1

Options and Accessories:  
 See Page 1.264

# PARALLEL GRIPPER 8003P PRECISION 3P GRIPPER SERIES

### Specifications

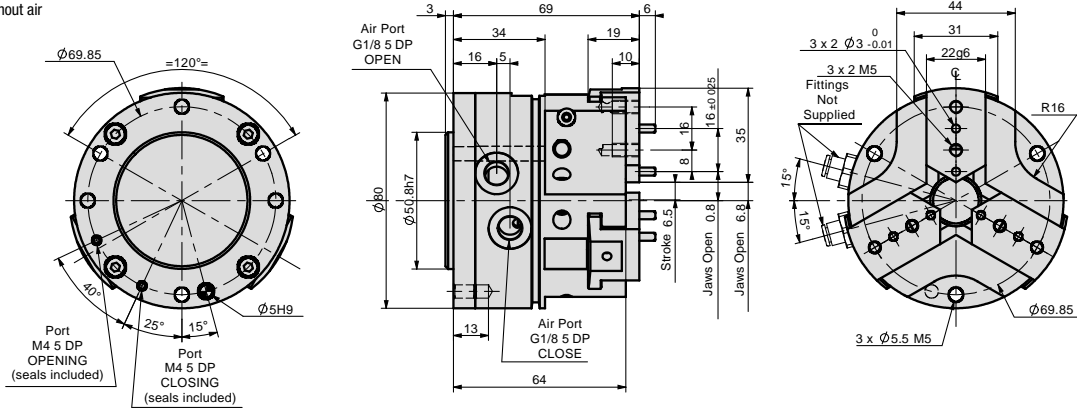
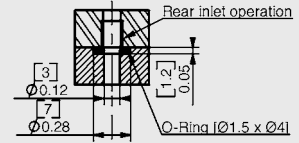
	8003P
Grip Force (F6+R) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	1888 N
Grip Force (F0+R) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	617 N
Total Stroke	13 mm
Weight	0.97 kg
Pressure Range	2 - 7 bar
Pressure Range with Springs	4 - 7 bar
Ø Cylinder Bore	60 mm
Displacement	35 cm <sup>3</sup>
Actuation (open / close)	0.08 s / 0.08 s
Repeatability	± 0.02 mm

- Force with spring and air at 6bar
- Force with spring without air

### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

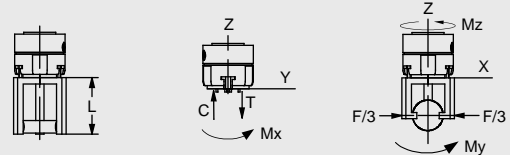
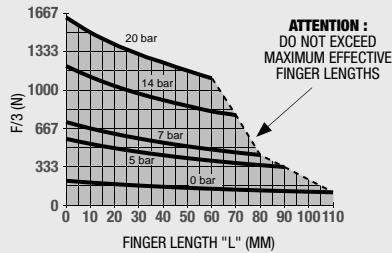
Imperial in.	Metric [mm]
0.00 = ± .01	[0.] = [± .25]
0.000 = ± .005	[0.0] = [± .13]
0.0000 = ± .0005	[0.00] = [± .013]

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)

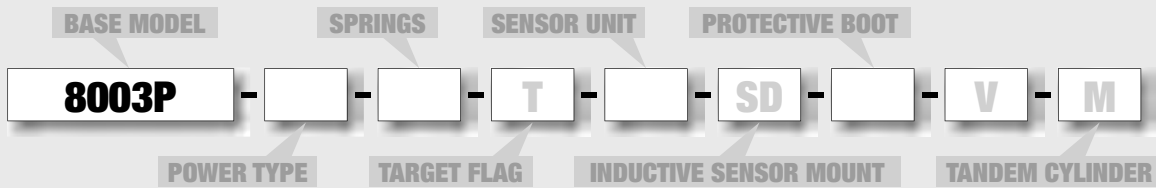


### Loading Capacity\*

	Statique	Dynamique
Maximum Tensile <b>T</b>	1229 N	436 N
Maximum Compressive <b>C</b>	2075 N	436 N
Maximum Moment <b>Mx</b>	60 Nm	16 Nm
Maximum Moment <b>My</b>	68 Nm	19 Nm
Maximum Moment <b>Mz</b>	37 Nm	19 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:



POWER TYPE	
P Pneumatic	
H Hydraulic (page 1.264)	
(One of two options is mandatory P or H)	
SPRINGS	
RE External Gripping	
RI Internal Gripping	
SENSOR UNIT	
• KT1 • KT2 • KX1 • KX2	
PROTECTIVE BOOT	
• E • E3	

### PROTECTIVE BOOT ACCESSORIES

Model Code	Order #	Qty/Unit	
PVC Protective Boot, Brown or Black	<b>E</b>	<b>ER83P</b>	1
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>E3R83P</b>	1

### SENSOR ACCESSORIES

Model Code	Order #	Qty/Unit	
Inductive Sensor Kit (1 holder, 1 flag)	<b>SD</b>	<b>SD60-80P</b>	1 or 2
M8 Inductive Sensor PNP with M8 connector		<b>OISP-011-C</b>	1 to 4
M8 Inductive Sensor NPN with M8 connector		<b>OISN-011-C</b>	1 to 4
Cable (2 meters) with M8 screw right gold		<b>CABL-010</b>	1 to 4

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>S80</b>	1
Viton® Seal Repair Kit	<b>S80V</b>	1
Hydraulic Seal Repair Kit	<b>S80H</b>	1

Options and Accessories:  
See Page 1.264





# PARALLEL GRIPPER 8003P-C PRECISION 3P GRIPPER SERIES

PRECISION 3P  
**1.257**

### Specifications

Grip Force (F<sub>G+R</sub>)<sup>1</sup>, 6 bars, Springs Mid-Way, L=0  
 Grip Force (F<sub>O+R</sub>)<sup>2</sup>, 0 bars, Springs Mid-Way, L=0  
 Total Stoke  
 Weight  
 Pressure Range  
 Pressure Range with Springs  
 Ø Cylinder Bore  
 Displacement  
 Actuation (open / close)  
 Repeatability

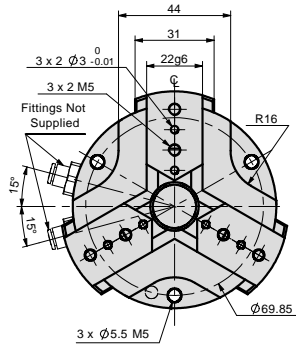
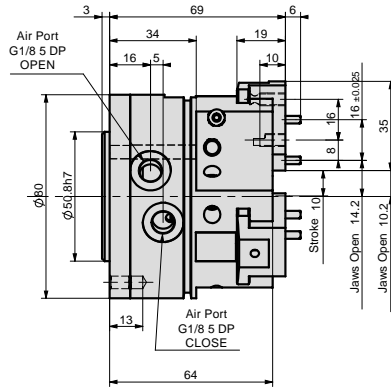
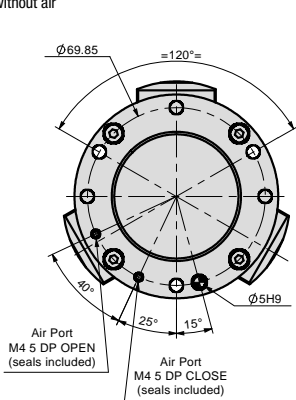
### 8003P-C

1219 N  
 398 N  
 20 mm  
 0.97 kg  
 2 -7 bar  
 4 -7 bar  
 60 mm  
 35 cm<sup>3</sup>  
 0.08 s / 0.08 s  
 ± 0.02 mm

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

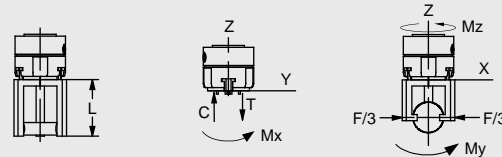
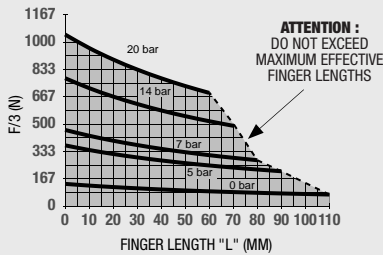
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information:

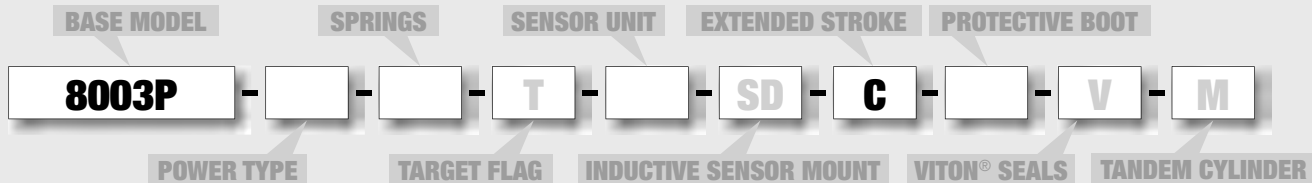
Sum of forces transmitted by the jaws on the workpiece  
 (Springs compressed at 50% stroke)



Loading Capacity*	Statique	Dynamique
Maximum Tensile <b>T</b>	1097 N	281 N
Maximum Compressive <b>C</b>	1853 N	281 N
Maximum Moment <b>Mx</b>	39 Nm	12 Nm
Maximum Moment <b>My</b>	44 Nm	13 Nm
Maximum Moment <b>Mz</b>	34 Nm	13 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:



POWER TYPE	
P	Pneumatic
H	Hydraulic (page 1.264)
(One of two options is mandatory P or H)	
SPRINGS	
RE	External Gripping
RI	Internal Gripping
SENSOR UNIT	
• KT1	• KT2
• KX1	• KX2
PROTECTIVE BOOT	
• E	• E3

### PROTECTIVE BOOT ACCESSORIES

PVC Protective Boot, Brown or Black  
 Fireproof KEVLAR Protective Boot, Red

Model Code	Order #	Qty/Unit
<b>E</b>	<b>ER83P</b>	1
<b>E3</b>	<b>E3R83P</b>	1

### SENSOR ACCESSORIES

Inductive Sensor Kit (1 holder, 1 flag)  
 M8 Inductive Sensor PNP with M8 connector  
 M8 Inductive Sensor NPN with M8 connector  
 Cable (2 meters) with M8 screw right gold

Model Code	Order #	Qty/Unit
<b>SD</b>	<b>SD60-80P</b>	1 or 2
	<b>OISP-011-C</b>	1 to 4
	<b>OISN-011-C</b>	1 to 4
	<b>CABL-010</b>	1 to 4

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit  
 Viton® Seal Repair Kit  
 Hydraulic Seal Repair Kit

Model Code	Order #	Qty/Unit
	<b>S80</b>	1
	<b>S80V</b>	1
	<b>S80H</b>	1

Options and Accessories:  
 See Page 1.264





# PARALLEL GRIPPER 11003P-C PRECISION 3P GRIPPER SERIES

PRECISION 3P  
1.259

## Specifications

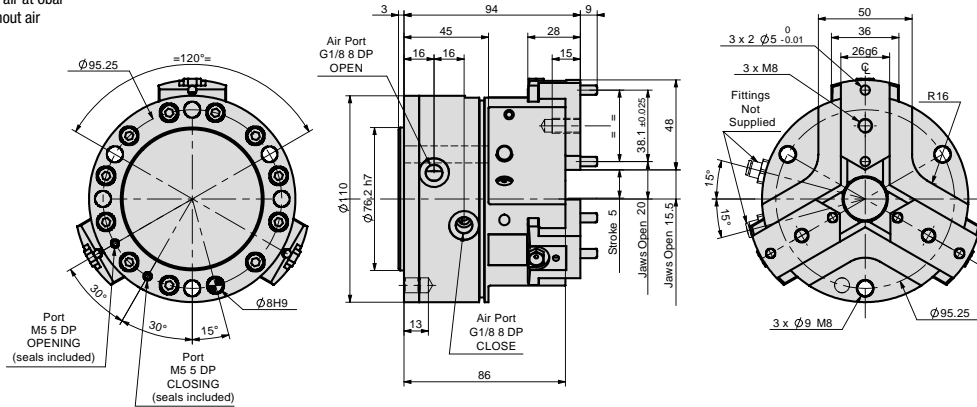
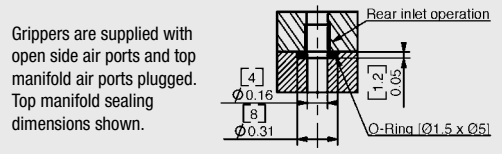
Grip Force (F <sub>6+R</sub> ) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	1979 N
Grip Force (F <sub>0+R</sub> ) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	628 N
Total Stroke	30 mm
Weight	2,35 kg
Pressure Range	2 - 7 bar
Pressure Range with Springs	4 - 7 bar
Ø Cylinder Bore	76 mm
Displacement	87 cm <sup>3</sup>
Actuation (open / close)	0,10 s / 0,10 s
Repeatability	± 0,02 mm

1. Force with spring and air at 6bar  
2. Force with spring without air

## 11003P-C

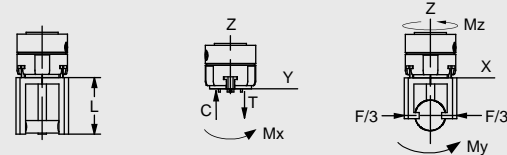
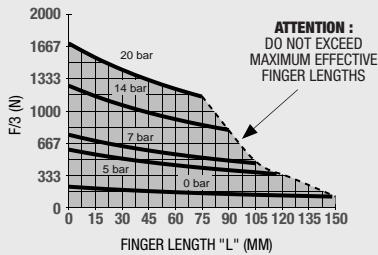
UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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## Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)

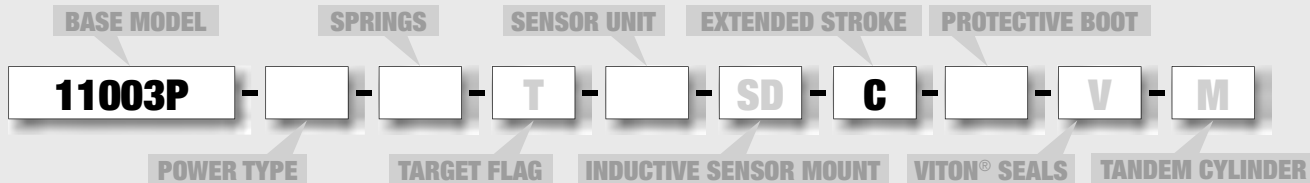


### Capacités de chargement\*

	Statique	Dynamique
Traction maximale <b>T</b>	1418 N	463 N
Compression maximale <b>C</b>	2411 N	463 N
Moment maximum <b>Mx</b>	50 Nm	22 Nm
Moment maximum <b>My</b>	66 Nm	30 Nm
Moment maximum <b>Mz</b>	84 Nm	30 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:



POWER TYPE	
P	Pneumatic
H	Hydraulic (page 1.264)
(One of two options is mandatory P or H)	
SPRINGS	
RE	External Gripping
RI	Internal Gripping
SENSOR UNIT	
• KT1	• KT2
• KX1	• KX2
PROTECTIVE BOOT	
• E	• E3

### PROTECTIVE BOOT ACCESSORIES

	Model Code	Order #	Qty/Unit
PVC Protective Boot, Brown or Black	<b>E</b>	<b>ER113P</b>	1
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>E3R113P</b>	1

### SENSOR ACCESSORIES

	Model Code	Order #	Qty/Unit
Inductive Sensor Kit (1 holder, 1 flag)	<b>SD</b>	<b>SD110P</b>	1 or 2
M8 Inductive Sensor PNP with M8 connector		<b>OISP-011-C</b>	1 to 4
M8 Inductive Sensor NPN with M8 connector		<b>OISN-011-C</b>	1 to 4
Cable (2 meters) with M8 screw right gold		<b>CABL-010</b>	1 to 4

### PNEUMATIC ACCESSORIES

	Model Code	Order #	Qty/Unit
Standard Seal Repair Kit		<b>S110</b>	1
Viton® Seal Repair Kit		<b>S110V</b>	1
Hydraulic Seal Repair Kit		<b>S110H</b>	1

Options and Accessories:  
See Page 1.264

# PARALLEL GRIPPER 14003P PRECISION 3P GRIPPER SERIES

1.260

### Specifications

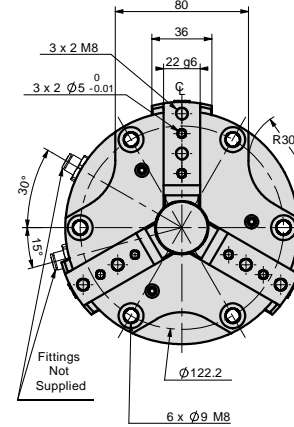
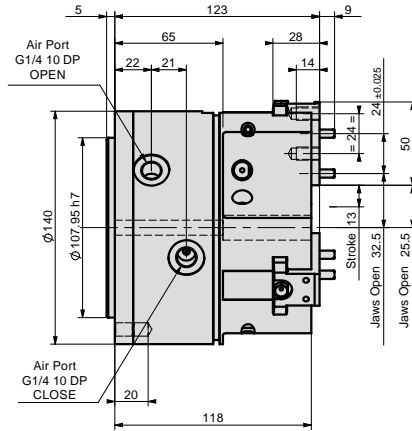
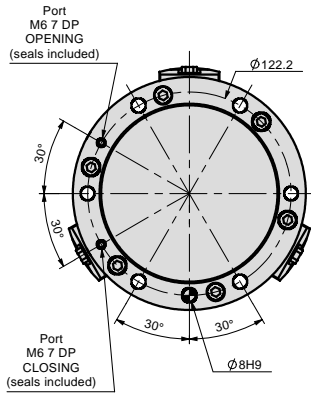
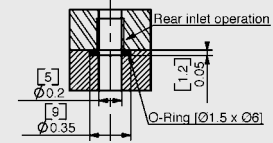
Grip Force (F <sub>6+R</sub> ) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	<b>14003P</b> 6077 N
Grip Force (F <sub>0+R</sub> ) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	2248 N
Total Stroke	26 mm
Weight	4.70 kg
Pressure Range	2 - 7 bar
Pressure Range with Springs	4.5 - 7 bar
Ø Cylinder Bore	105 mm
Displacement	220 cm <sup>3</sup>
Actuation (open / close)	0.16 s / 0.16 s
Repeatability	± 0.02 mm

1. Force with spring and air at 6bar  
2. Force with spring without air

### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

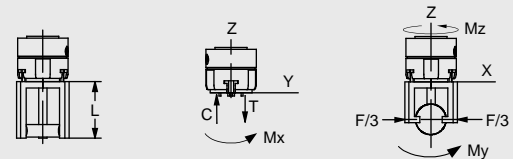
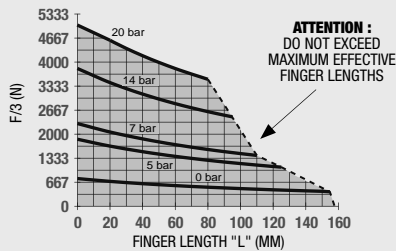
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)

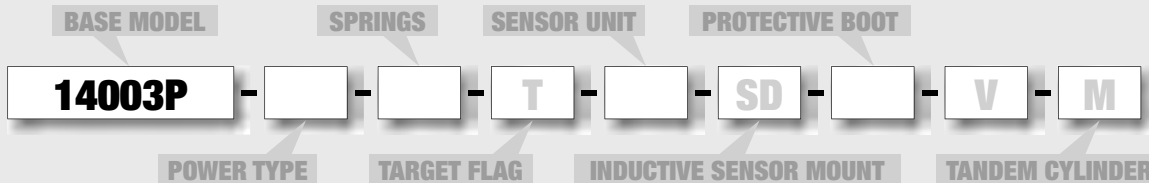


### Loading Capacity\*

	Statique	Dynamique
Maximum Tensile <b>T</b>	2390 N	850 N
Maximum Compressive <b>C</b>	2700 N	850 N
Maximum Moment <b>Mx</b>	85 Nm	25 Nm
Maximum Moment <b>My</b>	130 Nm	40 Nm
Maximum Moment <b>Mz</b>	100 Nm	40 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:



<b>POWER TYPE</b>
P Pneumatic
H Hydraulic (page 1.264)
(One of two options is mandatory P or H)
<b>SPRINGS</b>
RE External Gripping
RI Internal Gripping
<b>SENSOR UNIT</b>
• KT1   • KT2   • KX1   • KX2
<b>PROTECTIVE BOOT</b>
• E   • E3

### PROTECTIVE BOOT ACCESSORIES

Model Code	Order #	Qty/Unit	
PVC Protective Boot, Brown or Black	<b>E</b>	<b>KP-317</b>	1
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>KP-319</b>	1

### SENSOR ACCESSORIES

Model Code	Order #	Qty/Unit	
Inductive Sensor Kit (1 holder, 1 flag)	<b>SD</b>	<b>OSMK-114</b>	1 or 2
M8 Inductive Sensor PNP with M8 connector		<b>OISP-017-C</b>	1 to 4
M8 Inductive Sensor NPN with M8 connector		<b>OISN-017-C</b>	1 to 4
Cable (2 meters) with M8 screw right gold		<b>CABL-014</b>	1 to 4

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SLKT-333</b>	1
Viton® Seal Repair Kit	<b>SLKT-333V</b>	1
Hydraulic Seal Repair Kit	<b>SLKT-334</b>	1

Options and Accessories:  
See Page 1.264



# PARALLEL GRIPPER 14003P-C PRECISION 3P GRIPPER SERIES

PRECISION 3P  
**1.264**

## Specifications

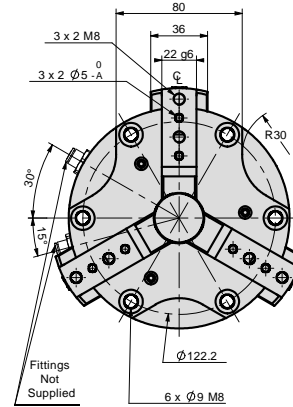
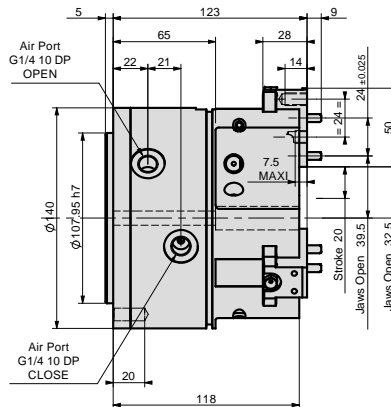
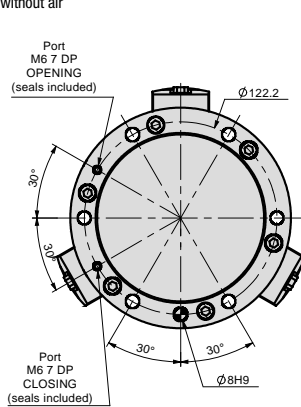
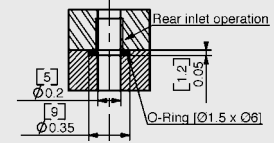
Grip Force (F <sub>6+R</sub> ) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	3930 N
Grip Force (F <sub>0+R</sub> ) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	1453 N
Total Stroke	40 mm
Weight	4.70 kg
Pressure Range	2 - 7 bar
Pressure Range with Springs	4.5 - 7 bar
Ø Cylinder Bore	105 mm
Displacement	220 cm <sup>3</sup>
Actuation (open / close)	0.16 s / 0.16 s
Repeatability	± 0.02 mm
1. Force with spring and air at 6bar	
2. Force with spring without air	

## 14003P-C

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

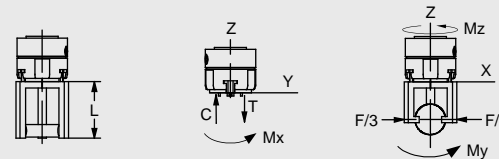
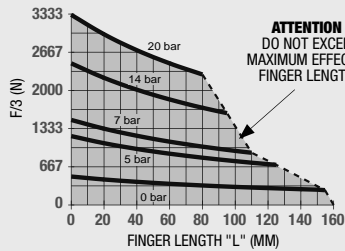
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information:

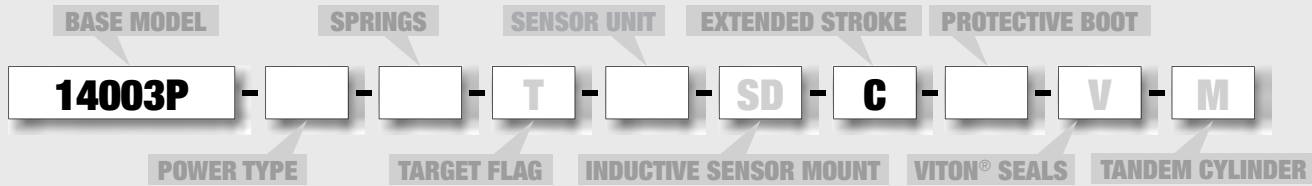
Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)



Loading Capacity*	Statique	Dynamique
Maximum Tensile <b>T</b>	2180 N	590 N
Maximum Compressive <b>C</b>	2500 N	590 N
Maximum Moment <b>Mx</b>	75 Nm	20 Nm
Maximum Moment <b>My</b>	110 Nm	32 Nm
Maximum Moment <b>Mz</b>	90 Nm	32 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:



POWER TYPE	
P	Pneumatic
H	Hydraulic (page 1.264)
(One of two options is mandatory P or H)	
SPRINGS	
RE	External Gripping
RI	Internal Gripping
SENSOR UNIT	
• KT1	• KT2
• KX1	• KX2
PROTECTIVE BOOT	
• E	• E3

### PROTECTIVE BOOT ACCESSORIES

PVC Protective Boot, Brown or Black	<b>E</b>	<b>KP-317</b>	1
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>KP-319</b>	1

### SENSOR ACCESSORIES

Inductive Sensor Kit (1 holder, 1 flag)	<b>SD</b>	<b>OSMK-114</b>	1 or 2
M8 Inductive Sensor PNP with M8 connector		<b>OISP-017-C</b>	1 to 4
M8 Inductive Sensor NPN with M8 connector		<b>OISN-017-C</b>	1 to 4
Cable (2 meters) with M8 screw right gold		<b>CABL-014</b>	1 to 4

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit		<b>SLKT-333</b>	1
Viton® Seal Repair Kit		<b>SLKT-333V</b>	1
Hydraulic Seal Repair Kit		<b>SLKT-334</b>	1

Options and Accessories:  
See Page 1.264

# PARALLEL GRIPPER 16503P PRECISION 3P GRIPPER SERIES

### Specifications

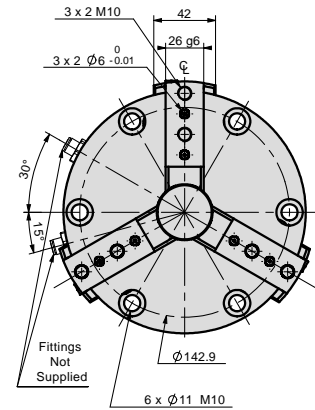
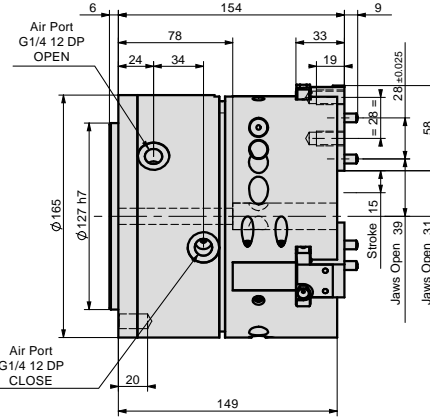
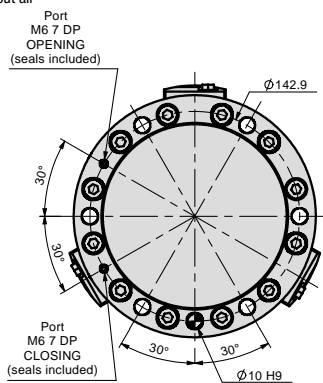
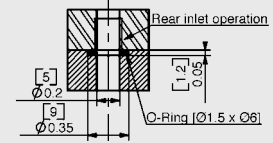
	16503P
Grip Force (F6+R) <sup>1</sup> , 6 bars, Springs Mid-Way, L=0	11190 N
Grip Force (F0+R) <sup>2</sup> , 0 bars, Springs Mid-Way, L=0	3730 N
Total Stoke	30 mm
Weight	9.04 kg
Pressure Range	2 - 7 bar
Pressure Range with Springs	4.5 - 7 bar
Ø Cylinder Bore	120 mm
Displacement	494 cm <sup>3</sup>
Actuation (open / close)	0.29 s / 0.29 s
Repeatability	± 0.02 mm

- Force with spring and air at 6bar
- Force with spring without air

### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

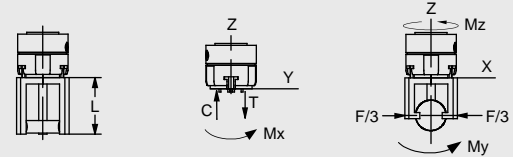
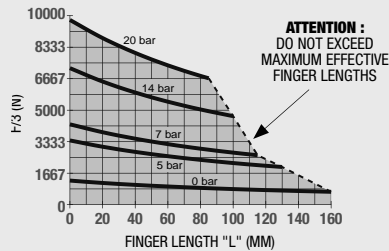
Imperial in.	Metric [mm]
0.00 = ± .01	[0.] = [±.25]
0.000 = ± .005	[0.0] = [±.13]
0.0000 = ± .0005	[0.00] = [±.013]

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information:

Sum of forces transmitted by the jaws on the workpiece  
(Springs compressed at 50% stroke)

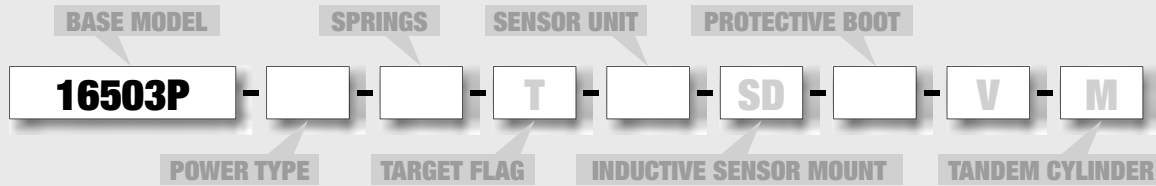


### Loading Capacity\*

	Statique	Dynamic
Maximum Tensile <b>T</b>	2580 N	980 N
Maximum Compressive <b>C</b>	3200 N	980 N
Maximum Moment <b>Mx</b>	100 Nm	32 Nm
Maximum Moment <b>My</b>	150 Nm	50 Nm
Maximum Moment <b>Mz</b>	140 Nm	50 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:



### POWER TYPE

- P Pneumatic
  - H Hydraulic (page 1.264)
- (One of two options is mandatory P or H)

### SPRINGS

- RE External Gripping
- RI Internal Gripping

### SENSOR UNIT

- KT1    KT2    KX1    KX2

### PROTECTIVE BOOT

- E    E3

### PROTECTIVE BOOT ACCESSORIES

Model Code	Order #	Qty/Unit	
PVC Protective Boot, Brown or Black	<b>E</b>	<b>KP-320</b>	1
Fireproof KEVLAR Protective Boot, Red	<b>E3</b>	<b>KP-322</b>	1

### SENSOR ACCESSORIES

Model Code	Order #	Qty/Unit	
Inductive Sensor Kit (1 holder, 1 flag)	<b>SD</b>	<b>OSMK-115</b>	1 or 2
M8 Inductive Sensor PNP with M8 connector		<b>OISP-017-C</b>	1 to 4
M8 Inductive Sensor NPN with M8 connector		<b>OISN-017-C</b>	1 to 4
Cable (2 meters) with M8 screw right gold		<b>CABL-014</b>	1 to 4

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SLKT-335</b>	1
Viton® Seal Repair Kit	<b>SLKT-335V</b>	1
Hydraulic Seal Repair Kit	<b>SLKT-336</b>	1

Options and Accessories:  
See Page 1.264





# PARALLEL GRIPPER 16503P-C PRECISION 3P GRIPPER SERIES

PRECISION 3P  
**1.263**

### Specifications

Grip Force (F<sub>6+R</sub>)<sup>1</sup>, 6 bars, Springs Mid-Way, L=0  
 Grip Force (F<sub>0+R</sub>)<sup>2</sup>, 0 bars, Springs Mid-Way, L=0  
 Total Stoke  
 Weight  
 Pressure Range  
 Pressure Range with Springs  
 Ø Cylinder Bore  
 Displacement  
 Actuation (open / close)  
 Repeatability  
 1. Force with spring and air at 6bar  
 2. Force with spring without air

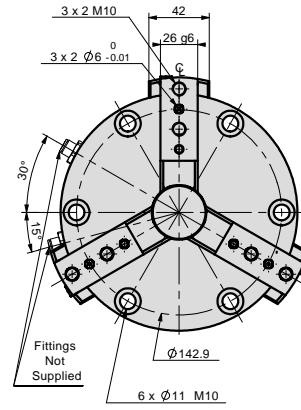
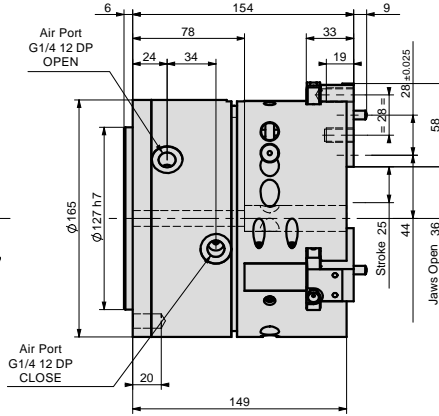
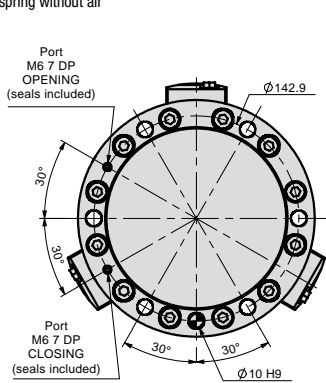
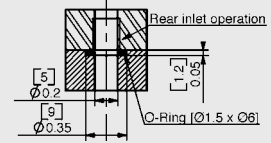
### 16503P-C

6707 N  
 2235 N  
 50 mm  
 9.04 kg  
 2 -7 bar  
 4.5 -7 bar  
 120 mm  
 494 cm<sup>3</sup>  
 0.29 s / 0.29 s  
 ± 0.02 mm

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

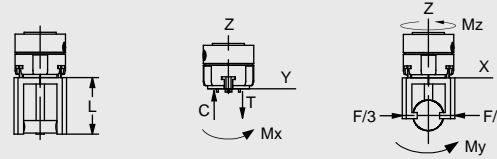
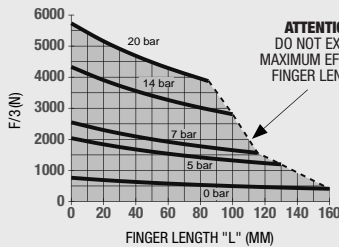
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



## Loading Information:

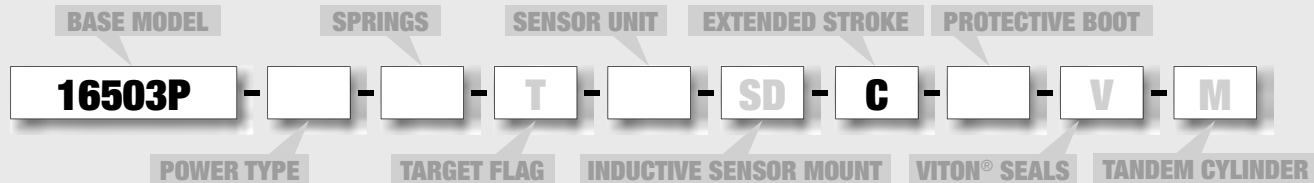
Sum of forces transmitted by the jaws on the workpiece  
 (Springs compressed at 50% stroke)



Loading Capacity*	Statique	Dynamique
Maximum Tensile <b>T</b>	2250 N	810 N
Maximum Compressive <b>C</b>	2800 N	810 N
Maximum Moment <b>Mx</b>	90 Nm	28 Nm
Maximum Moment <b>My</b>	140 Nm	40 Nm
Maximum Moment <b>Mz</b>	130 Nm	40 Nm

\* The Capacities are per set of jaws and are not simultaneous.

## How To Order:



POWER TYPE	
P	Pneumatic
H	Hydraulic (page 1.264)
(One of two options is mandatory P or H)	
SPRINGS	
RE	External Gripping
RI	Internal Gripping
SENSOR UNIT	
• KT1	• KT2
• KX1	• KX2
PROTECTIVE BOOT	
• E	• E3

### PROTECTIVE BOOT ACCESSORIES

PVC Protective Boot, Brown or Black  
 Fireproof KEVLAR Protective Boot, Red

### SENSOR ACCESSORIES

Inductive Sensor Kit (1 holder, 1 flag)  
 M8 Inductive Sensor PNP with M8 connector  
 M8 Inductive Sensor NPN with M8 connector  
 Cable (2 meters) with M8 screw right gold

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit  
 Viton® Seal Repair Kit  
 Hydraulic Seal Repair Kit

Model Code	Order #	Qty/Unit
<b>E</b>	<b>KP-320</b>	1
<b>E3</b>	<b>KP-322</b>	1
<b>SD</b>	<b>OSMK-115</b>	1 or 2
	<b>OISP-017-C</b>	1 to 4
	<b>OISN-017-C</b>	1 to 4
	<b>CABL-014</b>	1 to 4
	<b>SLKT-335</b>	1
	<b>SLKT-335V</b>	1
	<b>SLKT-336</b>	1

Options and Accessories:  
 See Page 1.264

### SUPPLY: (P) Pneumatic (H) (H80) Hydraulic

As standard, the clamp is supplied with air to a pressure of 7 bar. The clamp is fitted with Viton O-ring seals for high temperatures.

On request (contact us) the gripper can be supplied with hydraulic fluid. The clamp is fitted with seals Viton Quad-Ring.

- Choice **(H)** allows a hydraulic power to a pressure of 20 bar max. In this case the overall dimensions do not change. For better security the gripper must be fixed on their support before being fired. **CAUTION: Hydraulic cycle times are longer.**
- Choice **(H80)** allows a hydraulic power to a pressure of 80 bar max. In this case the total height of the gripper is increased (contact us).

**The hydraulic power is incompatible with the option tandem (M).**

### Option (RE) or (RI): Spring Assist

The internal springs of the gripper ensures failsafe operation by retaining the component during pressure loss, to increase the gripforce, or allows the usage of the gripper in single acting operation.

Option **(RE)** for external gripping. Option **(RI)** for internal gripping.

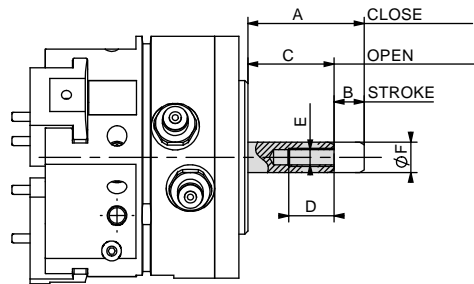
**The (RE) is incompatible with the option (RI).**

### Option (T): Sensor Rod

Option **(T)** is a steel rod which comes out on the rear side of the gripper. The rod is fixed with the piston and has the same stroke movement. The open end of the rod allows for mounting a cam which allows to control the position of the jaws by using inductive sensors, micro switches, etc

**WARNING:** when screwing on cam rod, make sure the sensor rod does not rotate to prevent twisting of the springs of options **(RE)** or **(RI)**.

**Option (T) is incompatible with option (K).**



Model	A	B	C	D	E	F
6003P & 6003P-C	35	5	30	15	M6	10
8003P & 8003P-C	35	6.5	28.5	15	M6	10
11003P & 11003P-C	35	10	25	15	M6	15
14003P & 14003P-C	55	13	42	20	M8	15
16503P & 16503P-C	53	23	30	20	M8	15

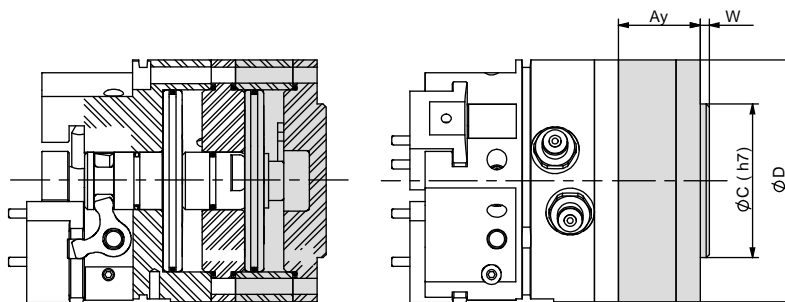
### Option (M): Tandem Cylinder

The **(M)** is a cylinder light-alloy that fits behind the bottom plate. This actuator's integral action allows to double the gripforce by using the same pressure.

The combination of tandem option tandem **(M)** and Option **(RE)** or **(RI)** can double the clamping forces of the spring assist option. For cycle times of the tandem option, apply a factor of 3 to the actuation time.

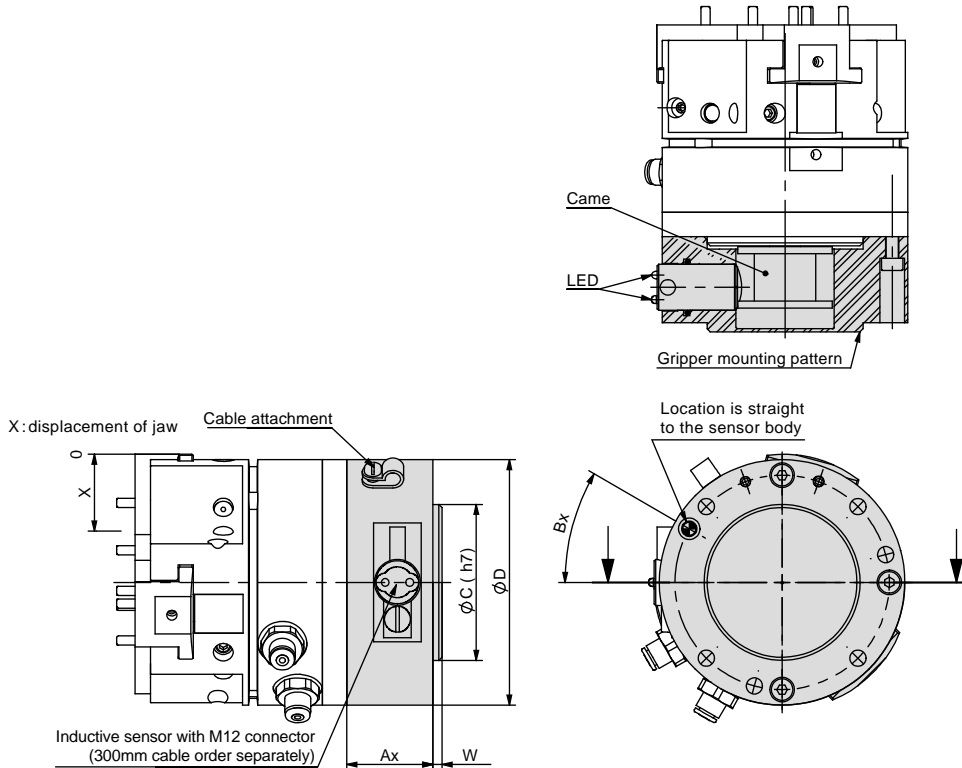
**The (M) is incompatible with the option (H).**

Model	Ay	ØC	ØD	W	Weight (kg)
6003P & 6003P-C	28.5	38.1	60	3	0.200
8003P & 8003P-C	27	50.8	80	3	0.300
11003P & 11003P-C	34	76.2	110	3	0.750
14003P & 14003P-C	49	107.95	140	5	2.100
16503P & 16503P-C	65	127	165	6	3.600



## Option (KT1), (KX1), (KT2), (KX2): Sensor Unit

The **(K)** is a lightweight alloy housing that fits on the back of the gripper. An integrated shaft follows the movement of the piston to provide information to the sensor attached to the side of the unit. It can control two positions of the grippers jaws. 2 types of inductive sensors (**KT**, **KX**) and 2 detection zones (**1**, **2**) are possible to allow for the combination of 2 to 4 possible positions (**KT1**, **KX1**, **KT2**, **KX2**). For **KT**, **KX** sensor specifications.



Model #	Ax	Bx	ØC	ØD	W	Weight (kg)	No. of Sensing Positions (please specify when ordering)	Information area from the open grip position (green LED)	Area information relative to the closed grip position (yellow LED)
								X (mm)	X (mm)
<b>6003P</b>	23	30°	38.1	60	3	0.180	1	0 - 1 <sup>+0,5</sup> / <sub>-0</sub>	4 <sup>+0</sup> / <sub>-0,5</sub> to 5
							2	0 - 2 <sup>+0,5</sup> / <sub>-0</sub>	3 <sup>+0</sup> / <sub>-0,5</sub> to 5
<b>6003P-C</b>	23	30°	38.1	60	3	0.180	1	0 - 1.6 <sup>+0,8</sup> / <sub>-0</sub>	7 <sup>+0</sup> / <sub>-0,8</sub> to 8
							2	0 - 3.2 <sup>+0,8</sup> / <sub>-0</sub>	4.8 <sup>+0</sup> / <sub>-0,8</sub> to 8
<b>8003P</b>	28	30°	50.8	80	3	0.400	1	0 - 1 <sup>+0,5</sup> / <sub>-0</sub>	5.5 <sup>+0</sup> / <sub>-0,5</sub> to 6,5
							2	0 - 2 <sup>+0,5</sup> / <sub>-0</sub>	4.5 <sup>+0</sup> / <sub>-0,5</sub> to 6,5
<b>8003P-C</b>	28	30°	50.8	80	3	0.400	1	0 - 1.5 <sup>+0,8</sup> / <sub>-0</sub>	8.5 <sup>+0</sup> / <sub>-0,8</sub> to 10
							2	0 - 3.1 <sup>+0,8</sup> / <sub>-0</sub>	6.9 <sup>+0</sup> / <sub>-0,8</sub> to 10
<b>11003P</b>	36	30°	76.2	110	3	0.900	1	0 - 1 <sup>+0,5</sup> / <sub>-0</sub>	9 <sup>+0</sup> / <sub>-0,5</sub> to 10
							2	0 - 3 <sup>+0,5</sup> / <sub>-0</sub>	7 <sup>+0</sup> / <sub>-0,5</sub> to 10
<b>10003P-C</b>	36	30°	76.2	110	3	0.900	1	0 - 1.5 <sup>+0,8</sup> / <sub>-0</sub>	13.5 <sup>+0</sup> / <sub>-0,8</sub> to 15
							2	0 - 4.5 <sup>+0,8</sup> / <sub>-0</sub>	10.5 <sup>+0</sup> / <sub>-0,8</sub> to 15
<b>14003P</b>	45.5	165°	107.95	140	5	1.670	1	0 - 2 <sup>+0,5</sup> / <sub>-0</sub>	11 <sup>+0</sup> / <sub>-0,5</sub> to 13
							2	0 - 4 <sup>+0,5</sup> / <sub>-0</sub>	9 <sup>+0</sup> / <sub>-0,5</sub> to 13
<b>14003P-C</b>	45.5	165°	107.95	140	5	1.670	1	0 - 3 <sup>+0,8</sup> / <sub>-0</sub>	17 <sup>+0</sup> / <sub>-0,8</sub> to 20
							2	0 - 6.2 <sup>+0,8</sup> / <sub>-0</sub>	13.8 <sup>+0</sup> / <sub>-0,8</sub> to 20
<b>16503P</b>	65.5	165°	127	165	6	2.670	1	0 - 2 <sup>+0,5</sup> / <sub>-0</sub>	13 <sup>+0</sup> / <sub>-0,5</sub> to 15
							2	0 - 4 <sup>+0,5</sup> / <sub>-0</sub>	11 <sup>+0</sup> / <sub>-0,5</sub> to 15
<b>16503P-C</b>	65.5	165°	127	165	6	2.670	1	0 - 3.3 <sup>+0,8</sup> / <sub>-0</sub>	21.7 <sup>+0</sup> / <sub>-0,8</sub> to 25
							2	0 - 7 <sup>+0,8</sup> / <sub>-0</sub>	18 <sup>+0</sup> / <sub>-0,8</sub> to 25

### Option (V): Viton® Seals

1.266

Gripper with Viton® seals allows for use in high temperature environments [-30 ° C or 150 ° C].

### Accessory (E): Protective Boot

The accessory (E) is a protective boot that fits over the gripper. It protects the mechanism and thus improves the life of the gripper in hostile environments. The accessory (E) causes a different location of the fingers on the jaws as compared to the standard installation. Before attaching the boot, perform the following steps:

1. Mount gripper to machine.
2. Slip boot over gripper and secure in place.
3. Attached fingers to jaws using finger adapter.

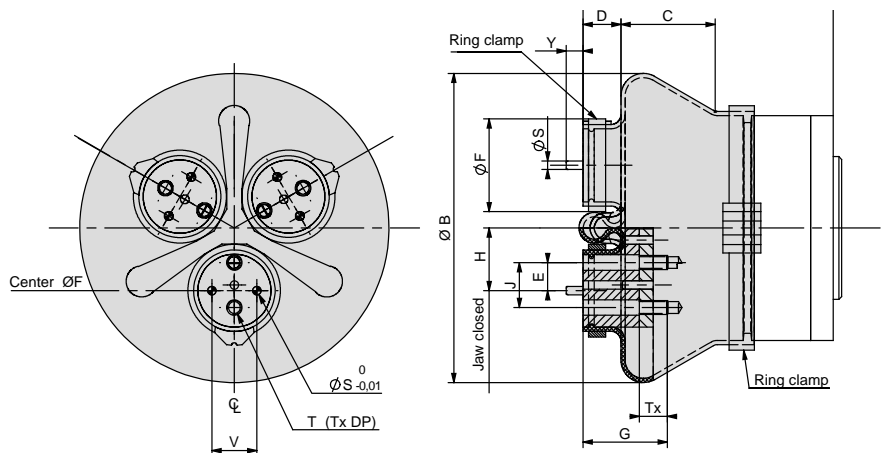
Depending on the environment 2 types of envelopes are available:

- (E) Envelope of black or brown PVC for environmental grinding with emery presence.
- (E3) red envelope containing KEVLAR fireproof silicone environment for hot chips and weld spatter.

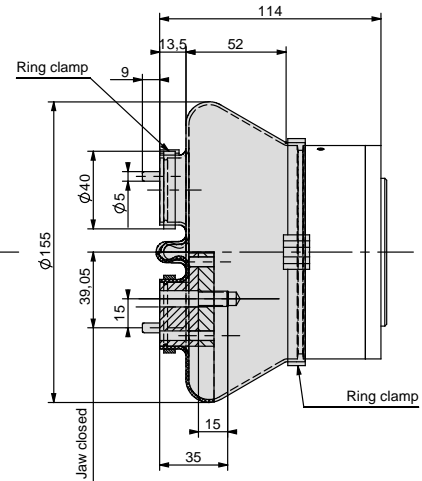
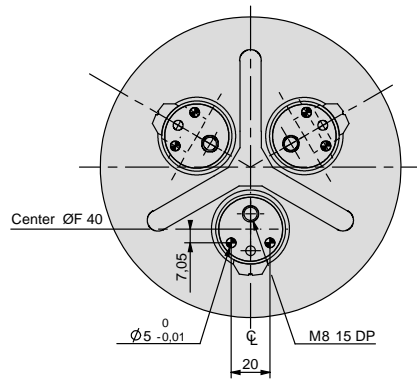
The accessory (E) is incompatible with the accessory (SD)

Model Code	Order #	Model	A	B	C	D	E	F	G	H	J	K	S	T	TX	V	Y
E	ER62P	6003P &	88	98	35	13.5	8	29	29	17.5	13	-	3	M4	9	13	6
E3	E3R62P	6003P-C															
E	ER82P	8003P &	89	110	34	13.5	10	33	30	22.3	16	-	3	M5	10	16	6
E3	E3R82P	8003P-C															
E	ER112P	11003P &	See drawing														
E3	E3R112P	11003P-C															
E	KP-311	14003P &	143	185	50	18	12	55	34	19.5	24	18	5	M8	14	-	8
E3	KP-313	14003P-C															
E	KP-314	16503P &	172	220	70	16	14	67	37	24 19	28	23	6	M10	19	-	8
E3	KP-316	16503P-C															

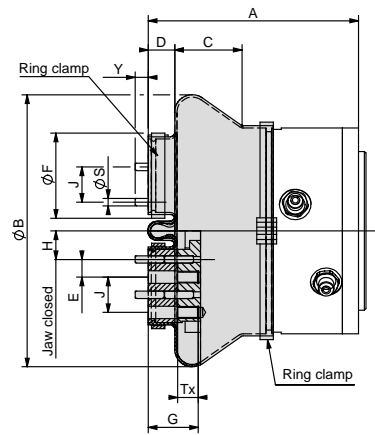
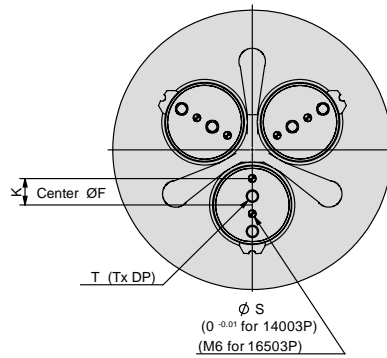
6003P  
8003P



11003P



14003P  
16503P



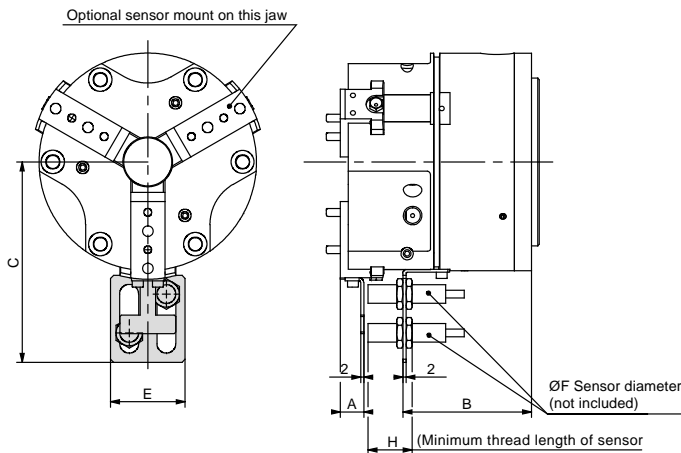
**Accessory (SD): Inductive Sensor Mounting Kit**

Allows for sensing of two positions: open and closed jaw. The accessory kit (SD) includes: 1 sensor bracket, 1 flag and screws.  
**Sensors are not provided.**

**NOTES:**

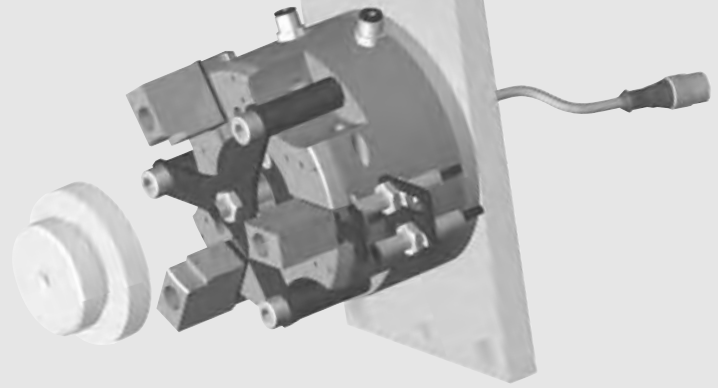
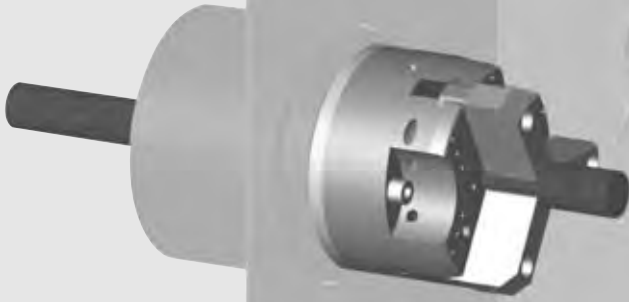
To be usable, the cylindrical inductive sensors selected by the customer must have tapped their bodies to a minimum depth H (see table below).

Depending on their length, the cylindrical inductive sensors can extend below the clamp, requiring provision of suitable housing in the surrounding parts. It is possible to control more than 2 positions using a second attachment (SD).



Order #	Model	A	B	C	E	F	H
<b>SD60-80P</b>	6003P & 6003P-C	20	35	67	32	8	35
<b>SD60-80P</b>	8003P & 8003P-C	19	34	77	32	8	35
<b>SD110P</b>	11003P & 11003P-C	19.5	45	97	32	8	35
<b>OSMK-114</b>	14003P & 14003P-C	15	83	129	48	12	28.5
<b>OSMK-115</b>	16503P & 16503P-C	29	96	147	48	12	33

# Through Hole Parallel Gripper PPC Series



**Through Hole Gripper:**

Designed for unique applications where a component ejector is needed after un-gripping the part or to blow air for cleaning the part center. The through hole design allows for the mounting of sensors to detect part presence, and for feeding parts to machining centers.

**Machining applications:**

The 3 concentric jaws and the excellent repeatability make it easier to accurately load and unload round parts.

**Compact, robust and powerful gripper:**

This gripper is designed for use in confined spaces, combining long strokes with a high grip force. Optional safety springs retain the components, should the air supply fail or to increase grip force.

**Harsh environments:**

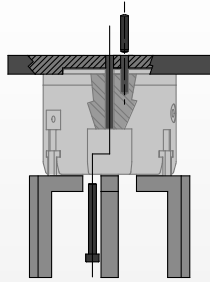
Shielded design repels chips and other particulate from internal drive mechanism.

**Multipurpose gripper:**

A wide range of options and accessories (extended stroke, safety springs for internal or external gripping, inductive sensors, Viton® seals) allow these grippers to be used in a number of applications.

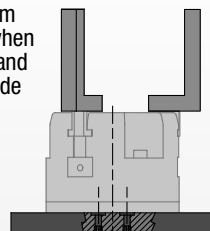
**Mounting Information:**

**Grippers can be mounted and operated in any direction**

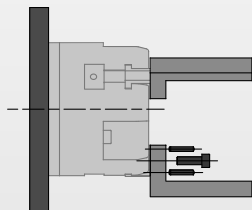


Gripper is located using pilot boss and a dowel pin and assembled with 3 through body screws

The gripper is protected from falling debris when it is mounted and operated upside down



Gripper can be operated utilizing top manifold air ports



Fingers are located on jaws with 2 dowel pins and assembled with 1 screw

**Technical Specifications:**

**Pneumatic Specifications**

Pressure Operating Range without springs  
 Pressure Operating Range with springs  
 Cylinder Type

**Imperial**

30-100 psi  
 45-100 psi

**Metric**

2-7 bar  
 3-7 bar

**Double Acting or Double Acting Spring Assist or Single Acting Spring Return Internally Lubricated Buna-N**

Dynamic Seals  
 Valve Required to Operate  
 Double Acting  
 Single Acting

4-way, 2-position  
 3-way, 2-position

**Air Quality Requirements**

Air Filtration  
 Air Lubrication  
 Air Humidity

40 Micron or Better  
 Not Necessary\*  
 Low Moisture Content (dry)

**Temperature Operating Range**

Buna-N Seals (standard)    -30°~180° F    -35°~80° C  
 Viton® Seals (optional)    -20°~300° F    -30°~150° C

**Maintenance Specifications<sup>†</sup>**

Expected Life  
 Normal Application  
 w/ Preventative Maintenance  
 Field Repairable  
 Seal Repair Kits Available

5 million cycles  
 10+ million cycles\*  
 Yes  
 Yes

\*Addition of lubrication will greatly increase service life  
<sup>†</sup> See Maintenance Section



## Product Features

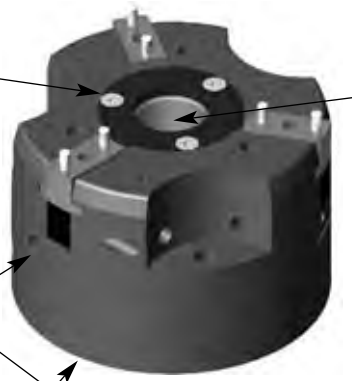
**Viton® Seals**  
Optional for high temperature applications

**Quality Components**  
Made from Aluminum alloy, hard coat anodized with Teflon® Impregnation. The gripper's main components are made of heat treated steel

**Standard Stroke and Extended Stroke**  
Each model of gripper is available in 2 stroke lengths

**Shield and Covers**  
Gripper body is shielded to repel chips and other particulate from internal drive mechanism

**Multiple Ports**  
Side or top manifold ports

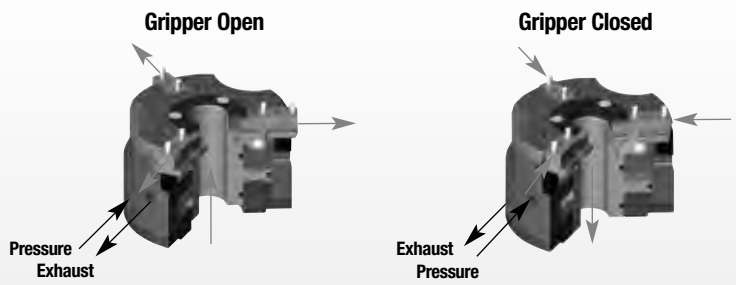
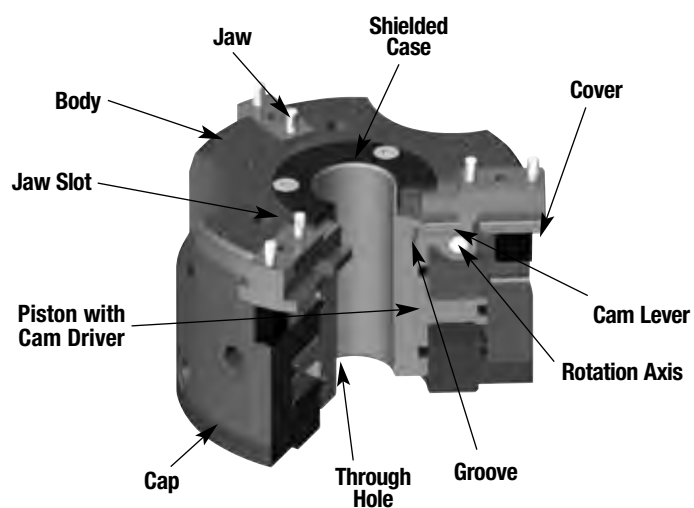


**Through Hole Design**  
The standard hole diameter can be customized with optional sleeves

**Inductive Sensing**  
Inductive sensor kits available. Capable of sensing 4 positions

**Safety Springs**  
Optional Springs for internal gripping (-RI) or external gripping (-RE) in single acting mode or spring assist

## Operating Principle



- A double acting piston with a through hole drives the three cams.
- The piston's motion makes the cam lever rotate and moves the jaws.
- The three cams synchronize the jaw motion.
- Optional springs can be used to increase the grip force or to hold part in the event of loss of air.
- This gripper is suitable for internal or external gripping.

## Style-PPC-12 & PPC-12-C

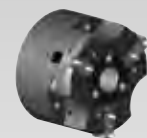


**Style:** PPC-12  
**Total Stroke:** 0.394 in. 10 mm  
**Grip Force:** 331 lb 1474 N  
**Weight:** 2.2 lb 1.00 Kg

**Style:** PPC-12-C  
**Total Stroke:** 0.630 in. 16 mm  
**Grip Force:** 201 lb 896 N  
**Weight:** 2.4 lb 1.10 Kg

See Page **1.270-1.271**

## Style-PPC-25 & PPC-25-C



**Style:** PPC-25  
**Total Stroke:** 0.512 in. 13 mm  
**Grip Force:** 589 lb 2620 N  
**Weight:** 4.9 lb 2.20 Kg

**Style:** PPC-25-C  
**Total Stroke:** 0.787 in. 20 mm  
**Grip Force:** 369 lb 1642 N  
**Weight:** 5.1 lb 2.30 Kg

See Page **1.272-1.273**

## Style-PPC-34 & PPC-34-C



**Style:** PPC-34  
**Total Stroke:** 0.787 in. 20 mm  
**Grip Force:** 974 lb 4332 N  
**Weight:** 11.2 lb 5.10 Kg

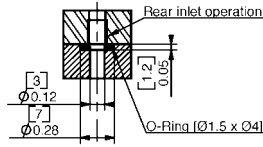
**Style:** PPC-34-C  
**Total Stroke:** 1.181 in. 30 mm  
**Grip Force:** 638 lb 2838 N  
**Weight:** 11.7 lb 5.3 Kg

See Page **1.274-1.275**

# PARALLEL GRIPPERS PPC-12 THROUGH HOLE SERIES

1.270

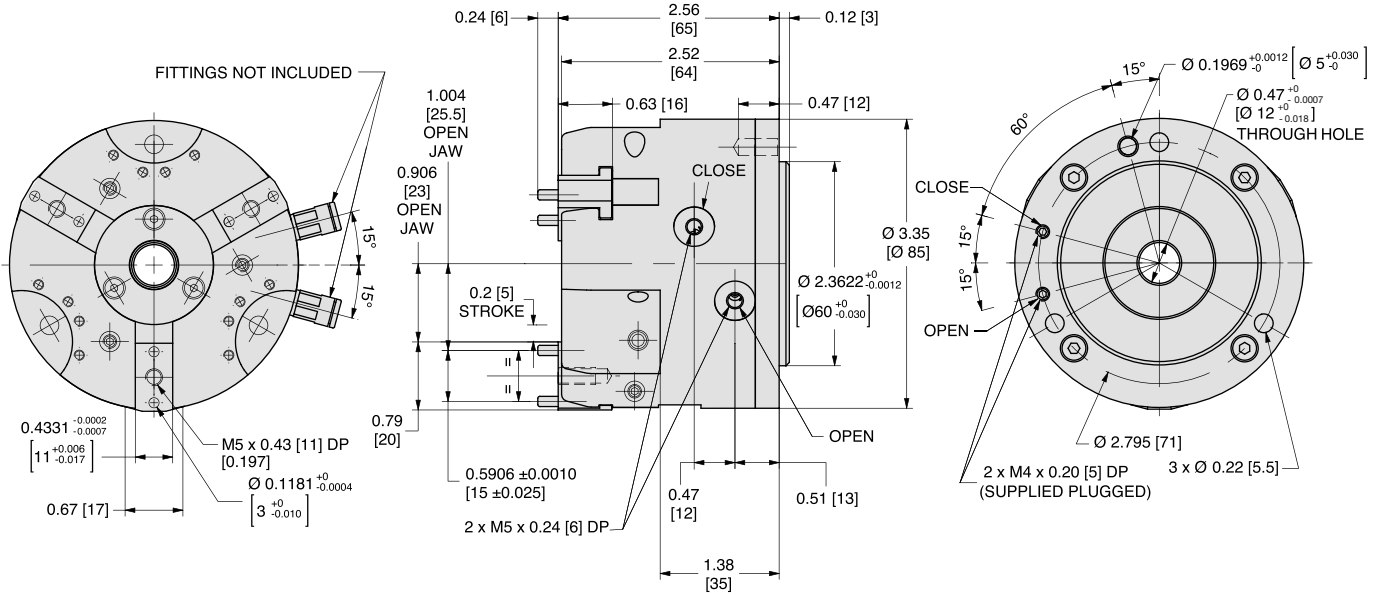
Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



### Specifications

	PPC-12	
Total Rated Grip Force @ 100 psi, 7 bar	331 lbs.*	1474 N*
Total Stroke	0.394 in.	10 mm
Weight	2.2 lbs.	1.0 Kg
Pressure Range without Springs	30-100 psi	2-7 bar
Pressure Range with Springs	45-100 psi	3-7 bar
Cylinder Bore Ø	2.48 in.	63 mm
Displacement	1.40 in <sup>3</sup>	23 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.03 sec.	0.03 sec.
Repeatability	±0.0008 in.	±0.02 mm

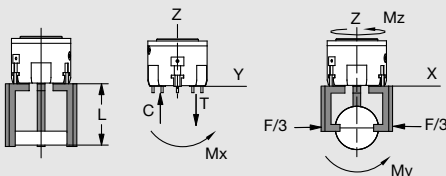
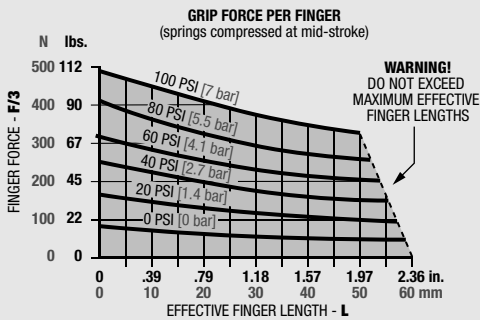
\*With Option RE or RI



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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## Loading Information



Loading Capacity <sup>†</sup>	Static		Dynamic	
	Value	[N]	Value	[N]
Maximum Tensile <b>T</b>	191 lbs.	[850 N]	49 lbs.	[220 N]
Maximum Compressive <b>C</b>	259 lbs.	[1150 N]	49 lbs.	[220 N]
Maximum Moment <b>Mx</b>	177 in.-lbs.	[20 Nm]	53 in.-lbs.	[6 Nm]
Maximum Moment <b>My</b>	177 in.-lbs.	[20 Nm]	53 in.-lbs.	[6 Nm]
Maximum Moment <b>Mz</b>	443 in.-lbs.	[50 Nm]	89 in.-lbs.	[10 Nm]

<sup>†</sup>Capacities are per set of jaws and are not simultaneous

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**

**VITON® SEALS**

**PPC-12** - [ ] - **V**

**SAFETY SPRINGS** (See below)

**SAFETY SPRINGS** **RE** External Clamping  
**RI** Internal Clamping  
\_ Leave Blank. No Spring Option (standard)

### SENSOR ACCESSORIES

	Order #	QTY/UNIT
Inductive Sensor Holder Kit (1 Holder, 1 Flag, 2 Spacers)	<b>OSMK-105</b>	<b>1 to 2</b>
Inductive NPN Sensor M8 with Quick Disconnect	<b>OISN-011</b>	<b>1 to 4</b>
Inductive PNP Sensor M8 with Quick Disconnect	<b>OISP-011</b>	<b>1 to 4</b>
Quick Disconnect 2 Meter Cable Length	<b>CABL-010</b>	<b>1 to 6</b>
Quick Disconnect 5 Meter Cable Length	<b>CABL-013</b>	<b>1 to 6</b>

### PNEUMATIC ACCESSORIES

	Order #	QTY/UNIT
Standard Seal Repair Kit	<b>SLKT-207</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-207V</b>	<b>1</b>

**Detailed sensor information at the end of this section.**

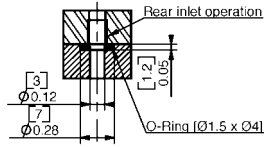


# PARALLEL GRIPPERS PPC-12-C THROUGH HOLE SERIES

PPC SERIES

1.271

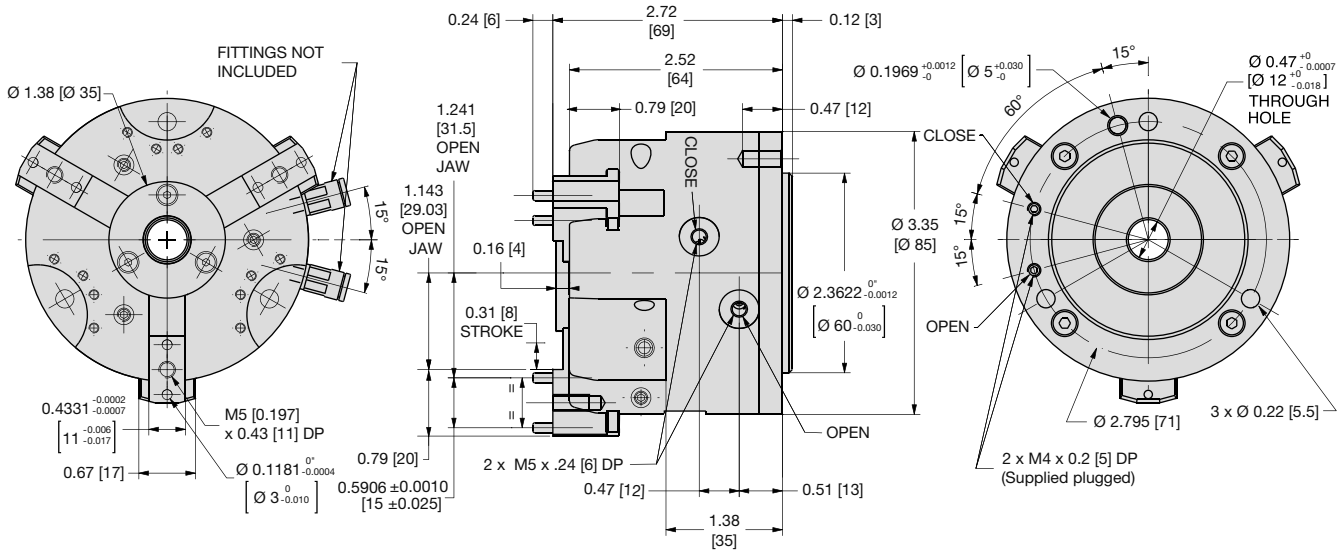
Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



### Specifications

	PPC-12-C	
Total Rated Grip Force @ 100 psi, 7 bar	201 lbs.*	896 N*
Total Stroke	0.630 in.	16 mm
Weight	2.4 lbs.	1.1 Kg
Pressure Range without Springs	30-100 psi	2-7 bar
Pressure Range with Springs	45-100 psi	3-7 bar
Cylinder Bore Ø	2.48 in.	63 mm
Displacement	1.40 in <sup>3</sup>	23 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.03 sec.	0.03 sec.
Repeatability	±0.0008 in.	±0.02 mm

\*with Option RE or RI



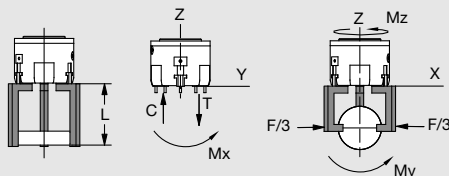
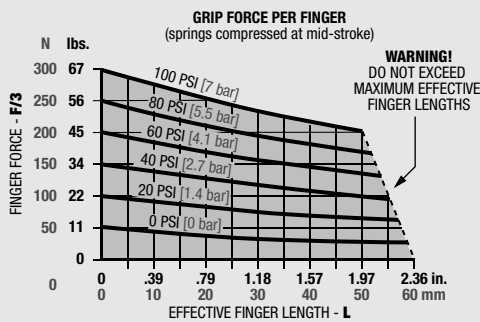
UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Imperial in.	Metric [mm]
0.00 ± .01	[0.] = [±.25]
0.000 ± .005	[0.0] = [±.13]
0.0000 ± .0005	[0.00] = [±.013]

Dimensions are symmetrical about centerline  
 Third Angle Projection  
 All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]  
 Metric Threads Course Pitch

## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



Loading Capacity*	Static	Dynamic
Maximum Tensile <b>T</b>	214 lbs. [950 N]	49 lbs. [220 N]
Maximum Compressive <b>C</b>	281 in.-lbs. [1250 N]	49 lbs. [220 N]
Maximum Moment <b>Mx</b>	177 in.-lbs. [20 Nm]	53 in.-lbs. [6 Nm]
Maximum Moment <b>My</b>	177 in.-lbs. [20 Nm]	53 in.-lbs. [6 Nm]
Maximum Moment <b>Mz</b>	531 in.-lbs. [60 Nm]	89 in.-lbs. [10 Nm]

\*Capacities are per set of jaws and are not simultaneous

### BASIC MODEL

### EXTENDED STROKE

PPC-12 - [ ] - C - V

### SAFETY SPRINGS (See below)

### VITON® SEALS

**SAFETY SPRINGS** **RE** External Clamping  
**RI** Internal Clamping  
 \_ Leave Blank. No Spring Option (standard)

### SENSOR ACCESSORIES

	Order #	QTY/UNIT
Inductive Sensor Holder Kit (1 Holder, 1 Flag, 2 Spacers)	<b>OSMK-105</b>	<b>1 to 2</b>
Inductive NPN Sensor M8 with Quick Disconnect	<b>OISN-011</b>	<b>1 to 4</b>
Inductive PNP Sensor M8 with Quick Disconnect	<b>OISP-011</b>	<b>1 to 4</b>
Quick Disconnect 2 Meter Cable Length	<b>CABL-010</b>	<b>1 to 6</b>
Quick Disconnect 5 Meter Cable Length	<b>CABL-013</b>	<b>1 to 6</b>

### PNEUMATIC ACCESSORIES

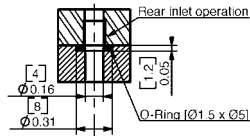
Standard Seal Repair Kit	<b>SLKT-207</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-207V</b>	<b>1</b>

Detailed sensor information at the end of this section.

# PARALLEL GRIPPERS PPC-25 THROUGH HOLE SERIES

1.272

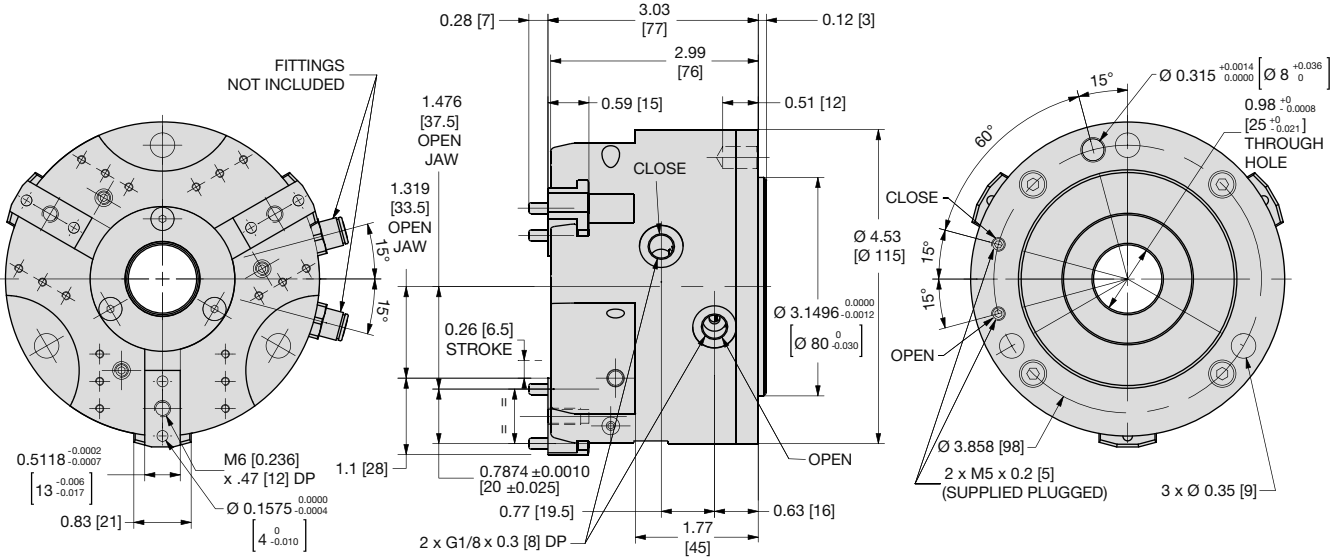
Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



### Specifications

	PPC-25	
Total Rated Grip Force @ 100 psi, 7 bar	589 lbs.*	2620 N*
Total Stroke	0.512 in.	13 mm
Weight	4.9 lbs.	2.2 Kg
Pressure Range without Springs	30-100 psi	2-7 bar
Pressure Range with Springs	45-100 psi	3-7 bar
Cylinder Bore Ø	3.35 in.	85 mm
Displacement	3.11 in <sup>3</sup>	51 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.04 sec.	0.04 sec.
Repeatability	±0.0008 in.	±0.02 mm

\*With Option RE or RI



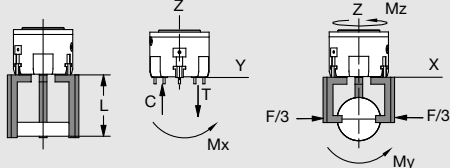
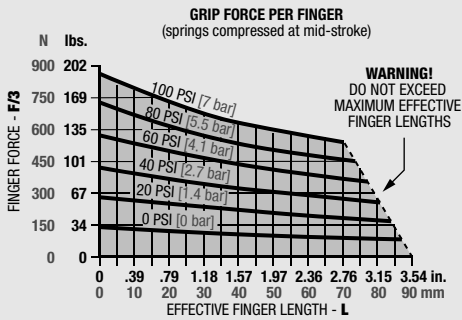
UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Imperial in.	Metric [mm]
0.00 = ±.01	[0.] = [±.25]
0.000 = ±.005	[0.0] = [±.13]
0.0000 = ±.0005	[0.00] = [±.013]

Dimensions are symmetrical about centerline  
 Third Angle Projection  
 All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]  
 Metric Threads Course Pitch

## Loading Information

## How to Order: (Order Accessories separately from Basic Model)



Loading Capacity*	Static	Dynamic
Maximum Tensile <b>T</b>	292 lbs. [1300 N]	88 lbs. [390 N]
Maximum Compressive <b>C</b>	337 lbs. [1500 N]	88 lbs. [390 N]
Maximum Moment <b>Mx</b>	266 in.-lbs. [30 Nm]	115 in.-lbs. [13 Nm]
Maximum Moment <b>My</b>	266 in.-lbs. [30 Nm]	115 in.-lbs. [13 Nm]
Maximum Moment <b>Mz</b>	575 in.-lbs. [65 Nm]	221 in.-lbs. [25 Nm]

\*Capacities are per set of jaws and are not simultaneous

BASIC MODEL

VITON® SEALS

**PPC-25** - [ ] - **V**

SAFETY SPRINGS (See below)

SAFETY SPRINGS **RE** External Clamping  
**RI** Internal Clamping  
 \_ Leave Blank. No Spring Option (standard)

### SENSOR ACCESSORIES

	Order #	QTY/UNIT
Inductive Sensor Holder Kit (1 Holder, 1 Flag, 2 Spacers)	<b>OSMK-106</b>	<b>1 to 2</b>
Inductive NPN Sensor M8 with Quick Disconnect	<b>OISN-011</b>	<b>1 to 4</b>
Inductive PNP Sensor M8 with Quick Disconnect	<b>OISP-011</b>	<b>1 to 4</b>
Quick Disconnect 2 Meter Cable Length	<b>CABL-010</b>	<b>1 to 6</b>
Quick Disconnect 5 Meter Cable Length	<b>CABL-013</b>	<b>1 to 6</b>

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SLKT-208</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-208V</b>	<b>1</b>

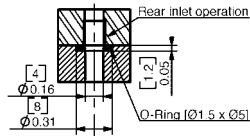
Detailed sensor information at the end of this section.



# PARALLEL GRIPPERS PPC-25-C THROUGH HOLE SERIES

PPC SERIES  
1.273

Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.

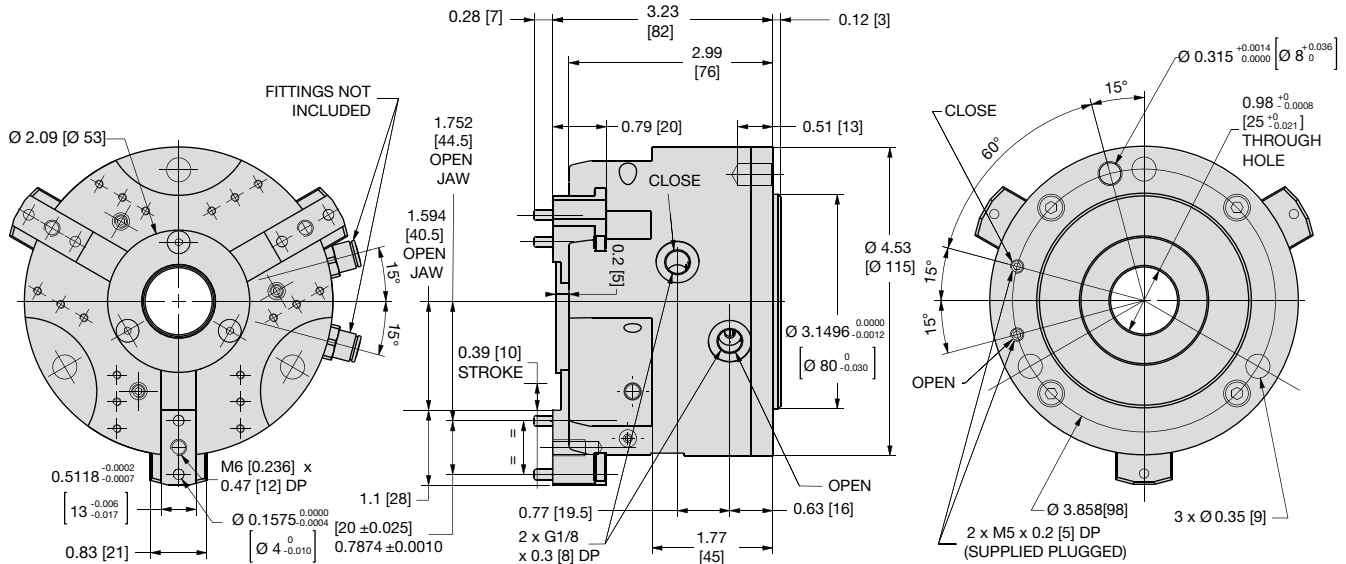


### Specifications

### PPC-25-C

Total Rated Grip Force @ 100 psi, 7 bar	369 lbs.*	1642 N*
Total Stroke	0.787 in.	20 mm
Weight	5.1 lbs.	2.3 Kg
Pressure Range without Springs	30-100 psi	2-7 bar
Pressure Range with Springs	45-100 psi	3-7 bar
Cylinder Bore Ø	3.35 in.	85 mm
Displacement	3.11 in <sup>3</sup>	51 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.04 sec.	0.04 sec.
Repeatability	±0.0008 in.	±0.02 mm

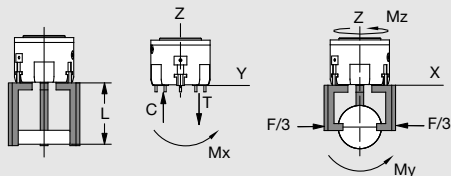
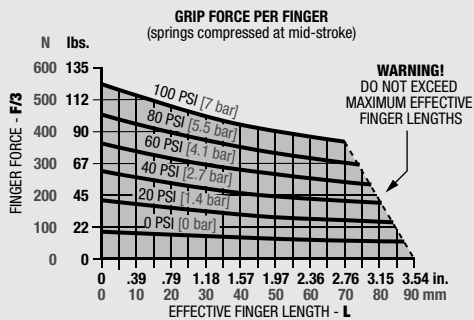
\*With Option RE or RI



### UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
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## Loading Information



Loading Capacity*	Static	Dynamic
Maximum Tensile <b>T</b>	292 lbs. [1300 N]	88 lbs. [390 N]
Maximum Compressive <b>C</b>	337 lbs. [1500 N]	88 lbs. [390 N]
Maximum Moment <b>Mx</b>	266 in.-lbs. [30 Nm]	115 in.-lbs. [13 Nm]
Maximum Moment <b>My</b>	266 in.-lbs. [30 Nm]	115 in.-lbs. [13 Nm]
Maximum Moment <b>Mz</b>	620 in.-lbs. [70 Nm]	221 in.-lbs. [25 Nm]

\*Capacities are per set of jaws and are not simultaneous

## How to Order: (Order Accessories separately from Basic Model)

BASIC MODEL

EXTENDED STROKE

PPC-25 - [ ] - C - V

SAFETY SPRINGS (See below)

VITON® SEALS

**SAFETY SPRINGS** **RE** External Clamping  
**RI** Internal Clamping  
\_ Leave Blank. No Spring Option (standard)

### SENSOR ACCESSORIES

	Order #	QTY/UNIT
Inductive Sensor Holder Kit (1 Holder, 1 Flag, 2 Spacers)	<b>OSMK-106</b>	<b>1 to 2</b>
Inductive NPN Sensor M8 with Quick Disconnect	<b>OISN-011</b>	<b>1 to 4</b>
Inductive PNP Sensor M8 with Quick Disconnect	<b>OISP-011</b>	<b>1 to 4</b>
Quick Disconnect 2 Meter Cable Length	<b>CABL-010</b>	<b>1 to 6</b>
Quick Disconnect 5 Meter Cable Length	<b>CABL-013</b>	<b>1 to 6</b>

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SLKT-208</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-208V</b>	<b>1</b>

Detailed sensor information at the end of this section.

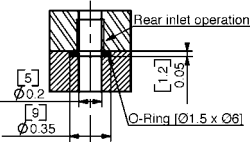




# PARALLEL GRIPPERS PPC-34 THROUGH HOLE SERIES

1.274

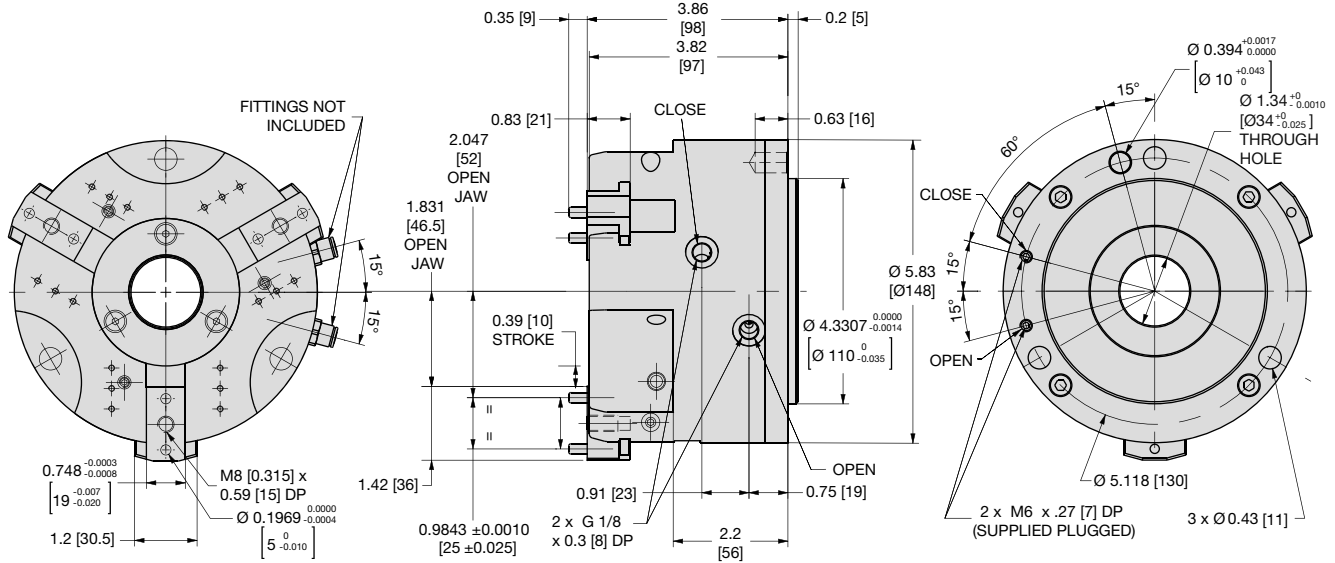
Grippers are supplied with open side air ports and top manifold air ports plugged. Top manifold sealing dimensions shown.



### Specifications

	PPC-34	
Total Rated Grip Force @ 100 psi, 7 bar	974 lbs.*	4332 N*
Total Stroke	0.787 in.	20 mm
Weight	11.2 lbs.	5.1 Kg
Pressure Range without Springs	30-100 psi	2-7 bar
Pressure Range with Springs	45-100 psi	3-7 bar
Cylinder Bore Ø	4.33 in.	110 mm
Displacement	7.81 in <sup>3</sup>	128 cm <sup>3</sup>
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.06 sec.	0.06 sec.
Repeatability	±0.0008 in.	±0.02 mm

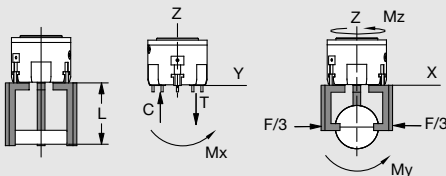
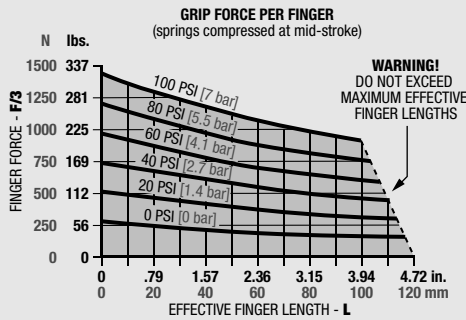
\*With Option RE or RI



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Symbol	Imperial in.	Metric [mm]
	0.00 = ±.01	[0.] = [±.25]
	0.000 = ±.005	[0.0] = [±.13]
	0.0000 = ±.0005	[0.00] = [±.013]

## Loading Information



Loading Capacity*	Static	Dynamic
Maximum Tensile <b>T</b>	438 lbs. [1950 N]	146 lbs. [650 N]
Maximum Compressive <b>C</b>	483 lbs. [2150 N]	146 lbs. [650 N]
Maximum Moment <b>Mx</b>	575 in.-lbs. [65 Nm]	283 in.-lbs. [32 Nm]
Maximum Moment <b>My</b>	575 in.-lbs. [65 Nm]	283 in.-lbs. [32 Nm]
Maximum Moment <b>Mz</b>	885 in.-lbs. [100 Nm]	487 in.-lbs. [55 Nm]

\*Capacities are per set of jaws and are not simultaneous

## How to Order: (Order Accessories separately from Basic Model)

BASIC MODEL

VITON® SEALS

**PPC-34** - [ ] - **V**

SAFETY SPRINGS (See below)

**SAFETY SPRINGS** **RE** External Clamping  
**RI** Internal Clamping  
 \_\_\_ Leave Blank. No Spring Option (standard)

### SENSOR ACCESSORIES

	Order #	QTY/UNIT
Inductive Sensor Holder Kit (1 Holder, 1 Flag, 2 Spacers)	<b>OSMK-107</b>	<b>1 to 2</b>
Inductive NPN Sensor M8 with Quick Disconnect	<b>OISN-011</b>	<b>1 to 4</b>
Inductive PNP Sensor M8 with Quick Disconnect	<b>OISP-011</b>	<b>1 to 4</b>
Quick Disconnect 2 Meter Cable Length	<b>CABL-010</b>	<b>1 to 6</b>
Quick Disconnect 5 Meter Cable Length	<b>CABL-013</b>	<b>1 to 6</b>

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SLKT-209</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-209V</b>	<b>1</b>

Detailed sensor information at the end of this section.

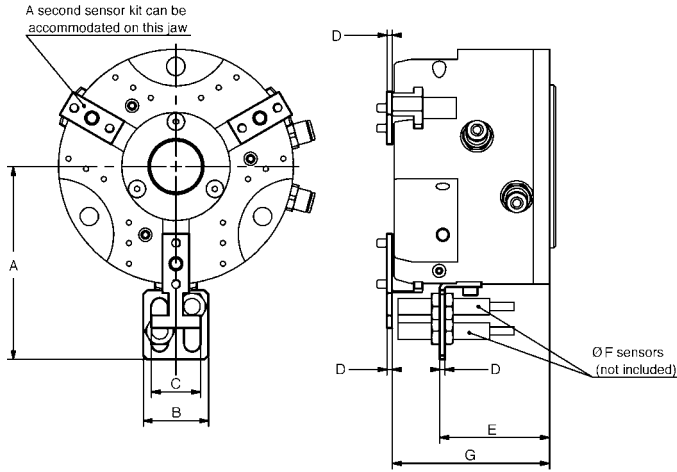




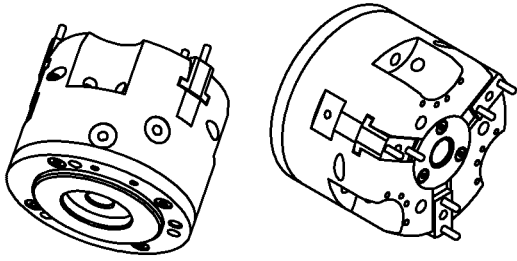
# SENSOR ACCESSORIES

## Accessory (OSMK): Inductive Sensor Holders

Each kit allows sensing up to 2 jaw positions: open jaws, closed jaws, or part present. Two kits can be used on each gripper allowing sensing up to 4 positions. The accessory (OSMK) comes with 1 sensor holder, 1 flag, 2 spacers and screws for mounting. The sensors are not included.



	A	B	C	D	E	F	G
<b>PPC-12</b>	3.13 [79.5]	1.26 [32]	0.95 [24]	0.1 [2.5]	1.72 [43.75]	M8	2.56 [65]
<b>PPC-12-C</b>	3.13 [79.5]	1.26 [32]	0.95 [24]	0.1 [2.5]	1.72 [43.75]	M8	2.72 [69]
<b>PPC-25</b>	3.72 [94.5]	1.26 [32]	0.95 [24]	0.1 [2.5]	2.12 [53.75]	M8	3.03 [77]
<b>PPC-25-C</b>	3.72 [94.5]	1.26 [32]	0.95 [24]	0.1 [2.5]	2.12 [53.75]	M8	3.23 [82]
<b>PPC-34</b>	4.69 [119]	1.26 [32]	0.95 [24]	0.1 [2.5]	2.84 [72.05]	M8	3.86 [98]
<b>PPC-34-C</b>	4.69 [119]	1.26 [32]	0.95 [24]	0.1 [2.5]	2.84 [72.05]	M8	4.06 [103]

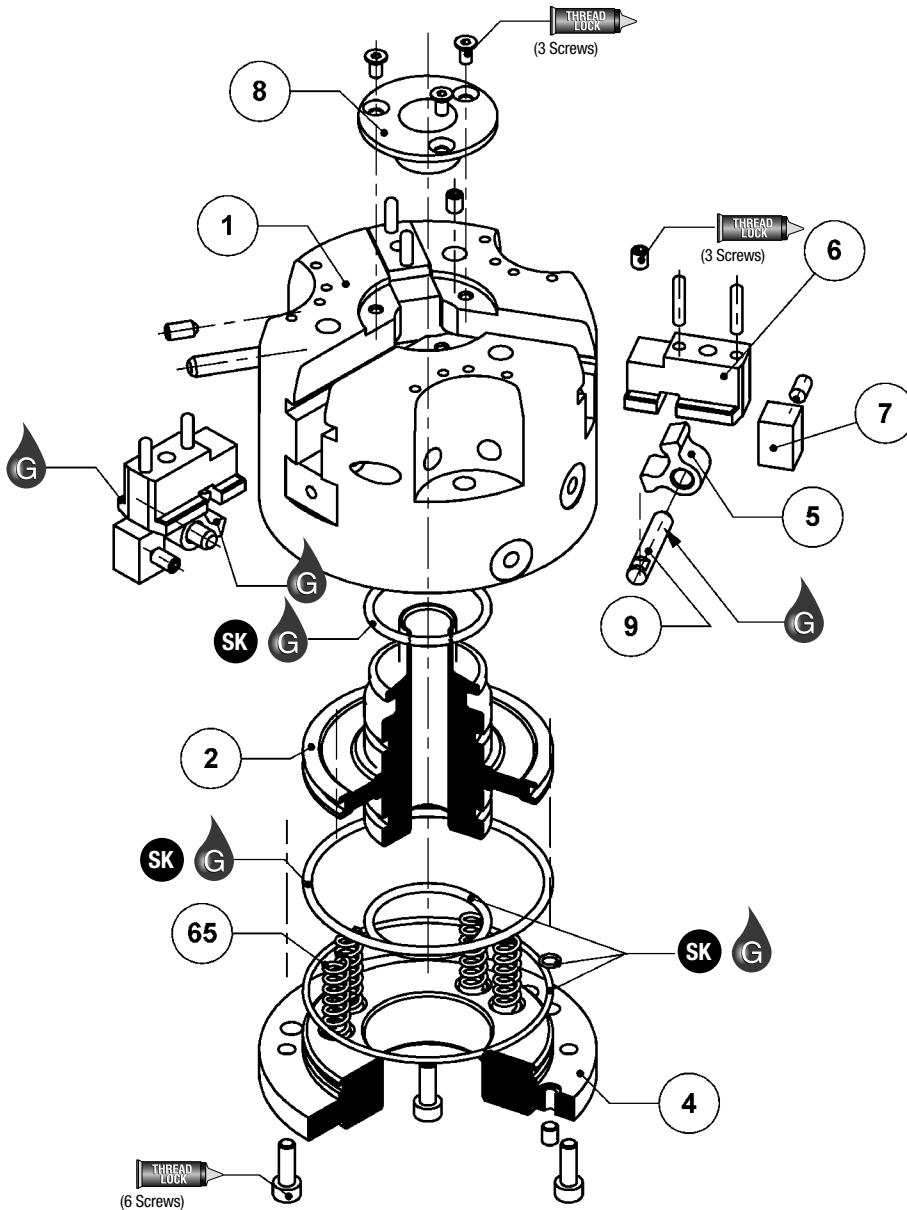


Item	Qty	Name
01	1	Body
02	1	Cam Driver Piston
04	1	Cap
05	3	Cam Lever
06	3	Jaw
07	3	Cover
08	1	Shielded Case
09	3	Pivot Pin
65	6	Springs

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

### Assembly Procedure

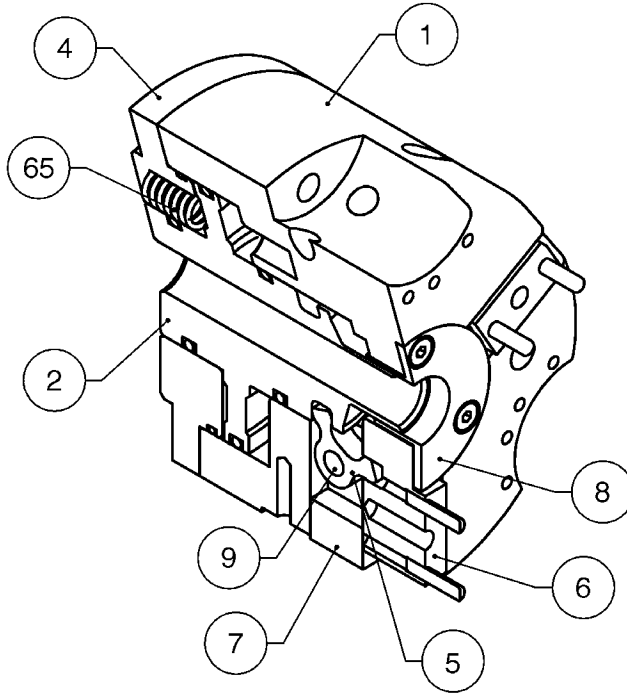
- 1) Lubricate and install the seals onto the cam driver piston
- 2) Lubricate and install the seals into the cap
- 3) Plug rear ports in the cap if rear inlets are not used. If rear inlets are used, plug body ports.
- 4) Insert the piston into body. Place springs into counterbore holes between the body and the piston for **-RE** option or between the piston and the cap for **-RI** option
- 5) Assemble the cap
- 6) Insert together the jaw and the cam lever into the body
- 7) Insert the pivot pin aligning cam lever hole. Screw SS Screw into the body for preventing pivot pin from moving
- 8) Assemble the cover
- 9) Assemble the shielded case



**SK Seal Repair Kit Order #'s  
See Product Data Sheets**

Seal Kit Items	Thread Locker	Krytox™ Lubricant	Lightweight Machine Oil	Teflon™ Based Grease	Super Bonder	Third Angle Projection

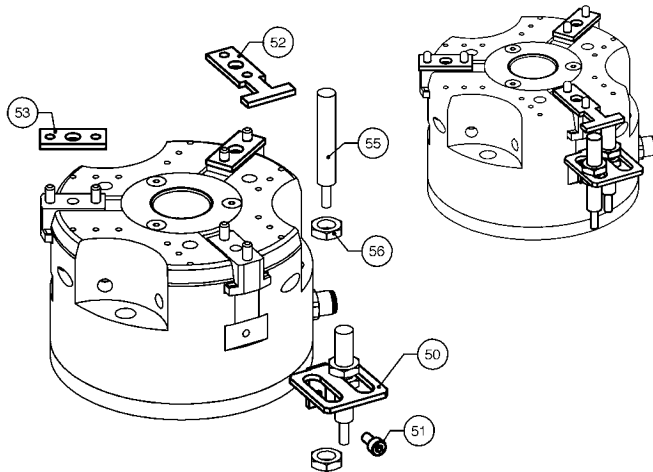
## PPC SERIES ASSEMBLED VIEW



Item	Qty	Name
01	1	Body
02	1	Cam Driver Piston
04	1	Cap
05	3	Cam Lever
06	3	Jaw
07	3	Cover
08	1	Shielded Case
09	3	Pivot Pin
65	6	Springs

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

## Accessory Installation & Adjustment Instructions



### Installation-Inductive Sensor

- 1) Assemble the sensor holder (#50) onto the gripper
- 2) Place the flag (#52) on one of the jaws above the sensor holder
- 3) Place the spacer (#53) on the other jaws
- 4) Position sensor for desired stroke position
- 5) Tighten sensor locking nuts (#56) to hold sensor depth
- 6) Repeat these operations in case of the use of two sensors holders