

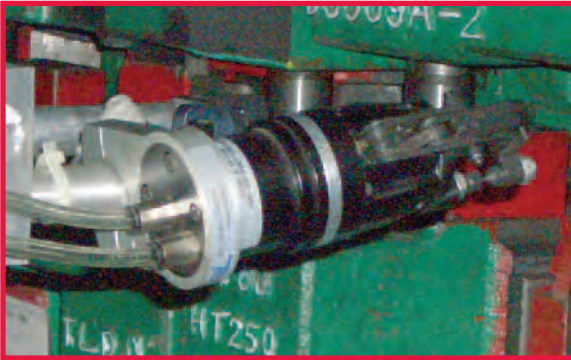
Modular Gripping Products

Introduction



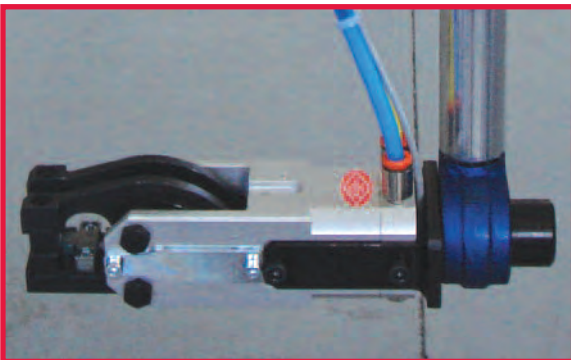
GR84 Enclosed Modular Mini-Clamp

- Offers several different jaw and tip options.
- Can be flange or cylinder mounted.
- High clamping force and fast opening and closing action.
- Locking Mechanism holds the part if air pressure is lost
- Protected from contaminants.



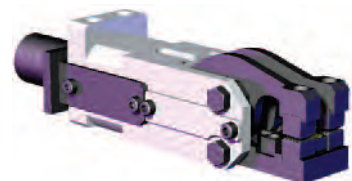
GR1 Modular Gripper

- Can be flange or cylinder mounted.
- Offered in two cylinder sizes, 15 and 20 Series.
- Offered with several different jaw opening and point options.
- High clamping force and fast opening and closing action.
- Locking mechanism holds the part if air pressure is lost.



84A2 Modular CAM Style Gripper

- Offered with several different jaw opening and point options.
- High speed material movement in restricted spaces.
- High clamping force and fast opening and closing action.
- Roller and cam principal, self-locking at end stop position.
- Multiple mounting and jaw opening options.
- Small size, low weight.



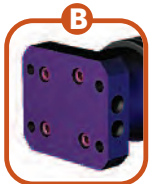
GR1 Series Modular Gripper
Ordering Information

MODEL GR1 — **SERIES** 15 **CYLINDER** BE — **JAW ARRANGEMENT** 045



CYLINDER TYPE & PORTING

STEP 1 **B** **E** **CYLINDER TYPE**



FLANGE BASE



ROUND CYLINDER

STEP 2 **B** **E** **CYLINDER PORTS**

E ENGLISH (1/8 NPT)

M METRIC (1/8 G)

PATENT#S 6,619,182 , 6,988,696 , 6,361,095

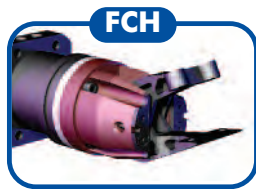
JAW ARRANGEMENT OPTIONS



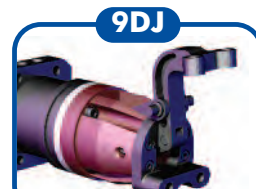
45° ANGULAR



45° CHISEL



45° FIXED CHISEL



90° DROP JAW



90° FIXED LOWER



90° FIXED LOWER LIMITED STROKE



180° ANGULAR

GR1 Series Modular Gripper
Ordering Information

INSERTS

MOUNTS

PART PRESENT

OPEN/CLOSED

DPP

MXX

XXX

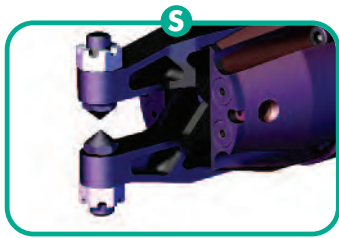
XXX

POINTS & TIP INSERT OPTIONS

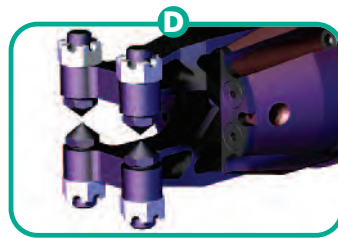
OR

BLOCK INSERT OPTIONS

STEP 1 **D P P** POINT TIP OPTION **X** = OMIT



SINGLE POINT



DOUBLE POINT

STEP 2 **D P P** UPPER TIP INSERT OPTION **X** = OMIT



POINT



CUP



URETHANE

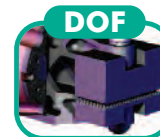


SERRATED

STEP 3 **D P P** LOWER TIP INSERT OPTION **X** = OMIT



DOUBLE DRAW BEAD



DOUBLE OFFSET



DOUBLE 30° ANGLE



SINGLE DRAW BEAD



SINGLE OFFSET



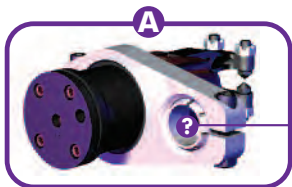
SINGLE 30° ANGLE



SINGLE EXTENDED DRAW BEAD

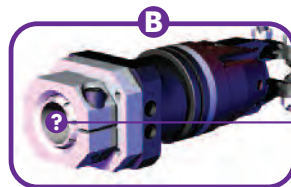
MOUNT OPTIONS

STEP 1 **M X X** MOUNT TYPE **X** = OMIT



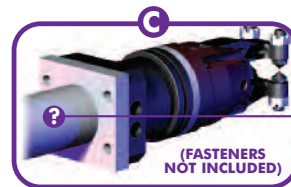
PARALLEL SWIVEL MOUNT

MOUNT BALL SIZES AVAILABLE
1 2 3 4



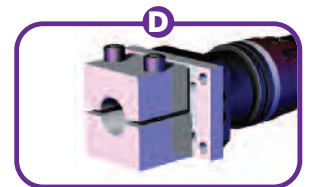
REAR SWIVEL CLAMP MOUNT

MOUNT BALL SIZES AVAILABLE
1 2 3 4



REAR FIXED WELDED STYLE

MOUNT ROD SIZES AVAILABLE
1 3 5 6



REAR FIXED CLAMP MOUNT

MOUNT SIZES AVAILABLE
7

STEP 2 **M X X** MOUNT BALL/ROD SIZE **X** = OMIT

- 1 = 1.00" W/METRIC FASTENERS 2 = 1.25" W/METRIC FASTENERS 3 = 25MM METRIC FASTENERS
- 4 = 30MM BODYBUILDER/METRIC 5 = 1.50" (TYPE C ONLY) 6 = 40MM (TYPE C ONLY)
- 7 = M1514 (TYPE D ONLY)

PART PRESENT

(SEE PAGE 40 FOR SENSOR SPECIFICATIONS)

A04 = TURCK (4-PIN)

P03 = P & F (4-PIN)

XXX = NO SENSOR

OPEN/CLOSED

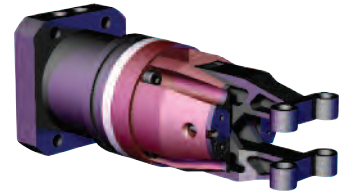
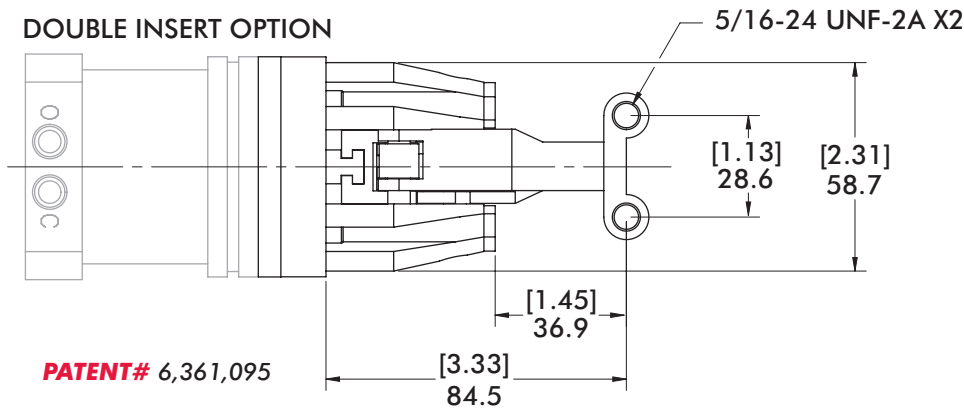
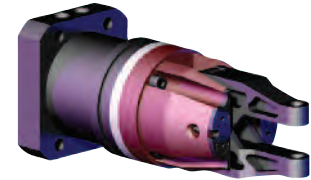
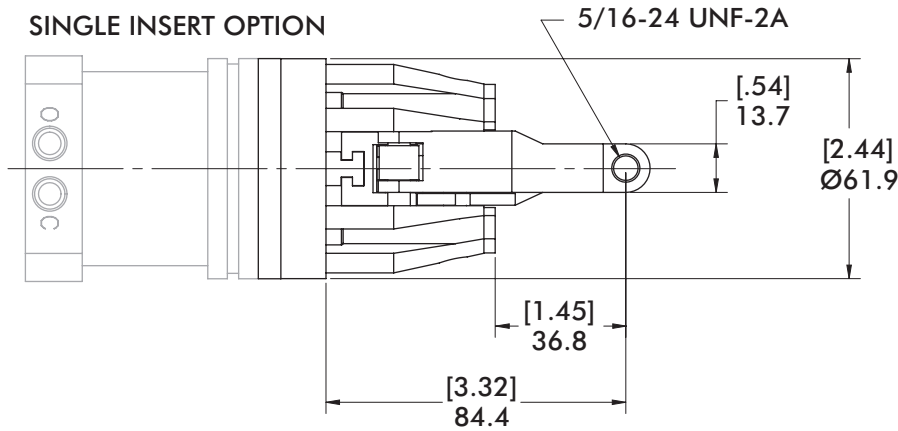
(SEE PAGE 42 FOR SENSOR SPECIFICATIONS)

T04 = INTERNAL SENSOR

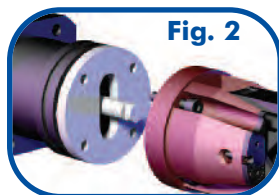
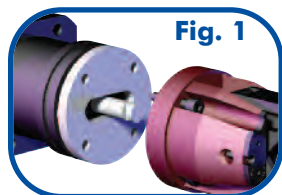
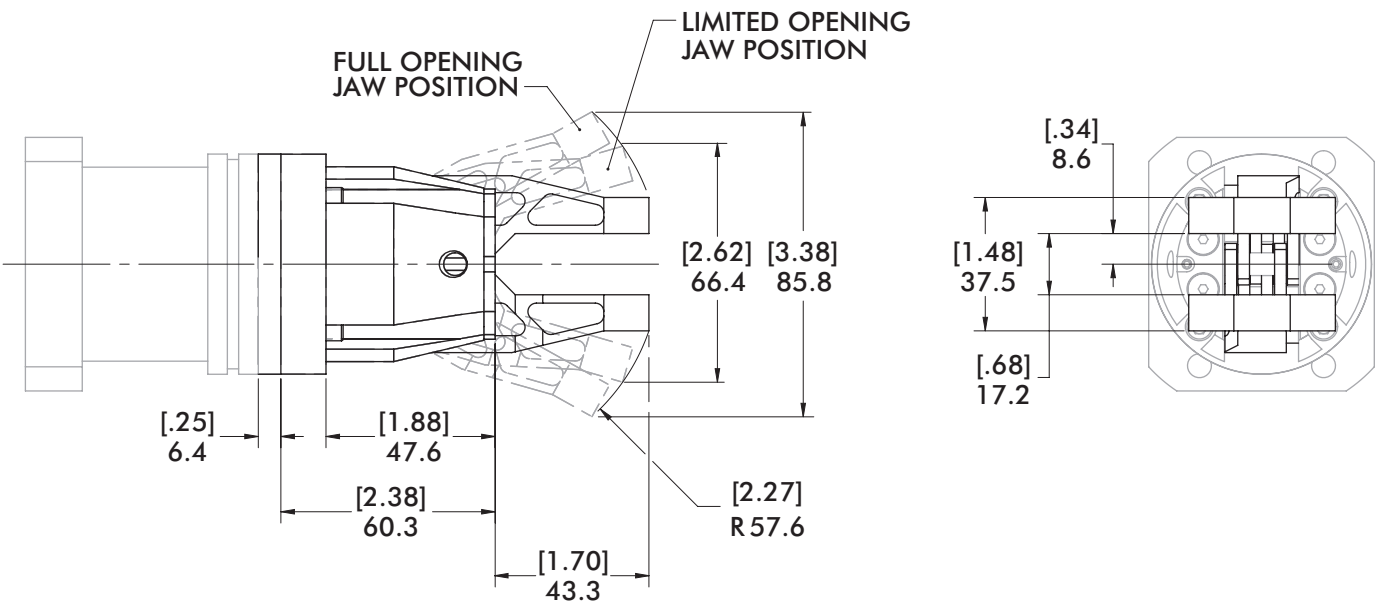
XXX = NO SENSOR

GR1 Series Modular Gripper

"045" 45° Angular Jaw Arrangement - Single and Double Insert



PATENT# 6,361,095

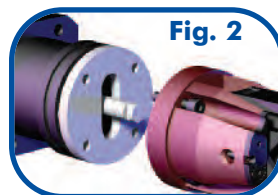
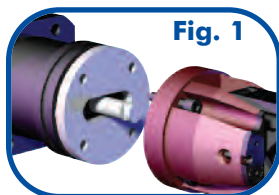
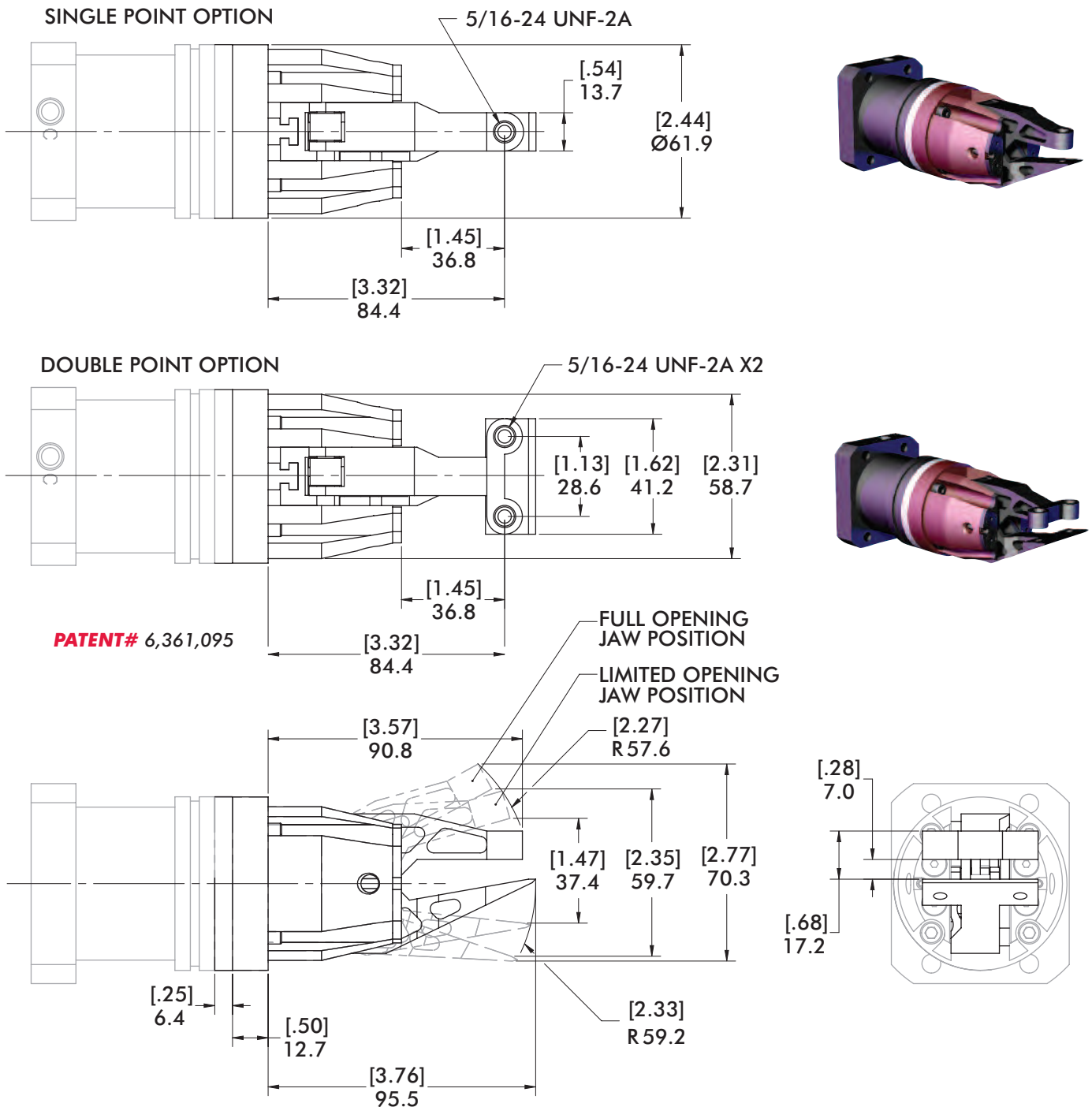


For Limited Stroke Option

1. Loosen fasteners securing gripper body from cylinder.
2. Pull gripper body away so fasteners clear the spacer.
3. Rotate Spacer 90° (Fig. 2).
4. Reattach gripper body to cylinder and tighten fasteners.

GR1 Series Modular Gripper

"45C" 45° Chisel Lower Jaw Arrangement - Single and Double Insert

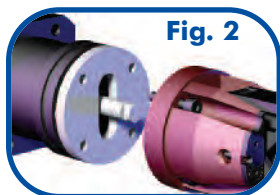
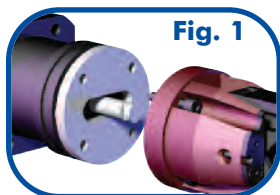
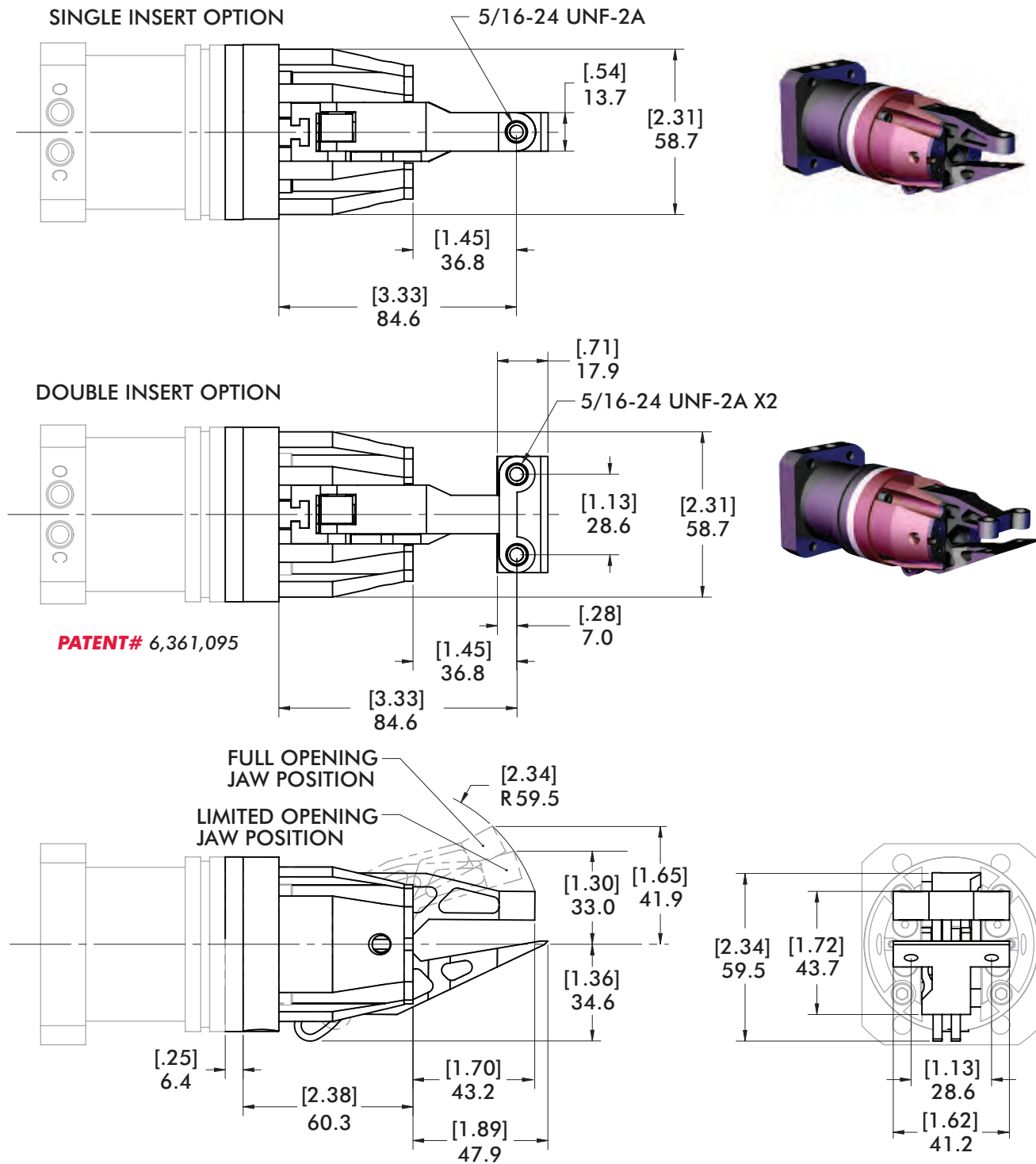


For Limited Stroke Option

1. Loosen fasteners securing gripper body from cylinder.
2. Pull gripper body away so fasteners clear the spacer.
3. Rotate Spacer 90° (Fig. 2).
4. Reattach gripper body to cylinder and tighten fasteners.

GR1 Series Modular Gripper

"FCH" Fixed Chisel Jaw Arrangement - Single and Double Insert

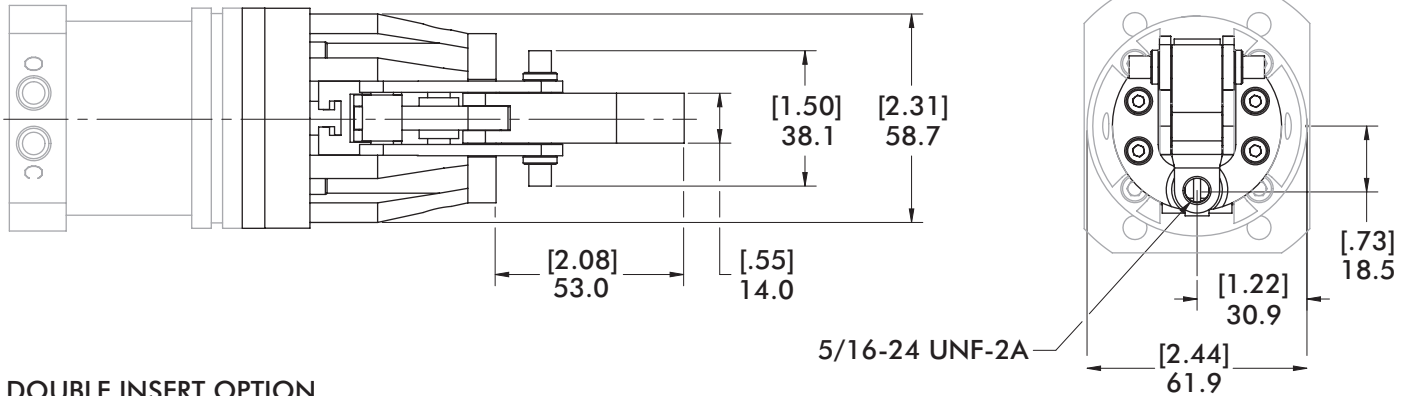


For Limited Stroke Option

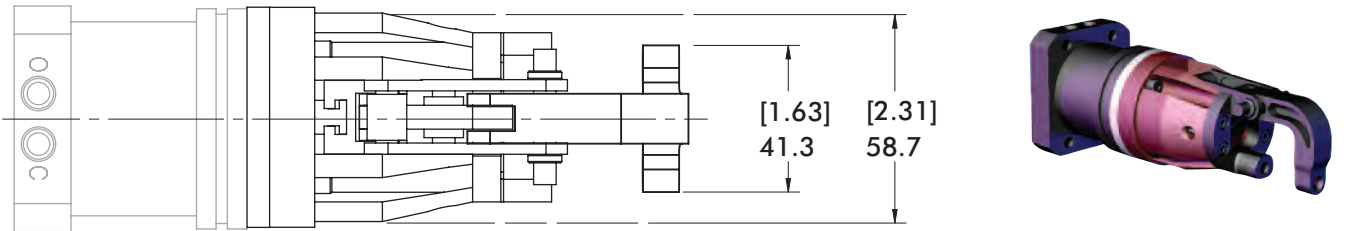
1. Loosen fasteners securing gripper body from cylinder.
2. Pull gripper body away so fasteners clear the spacer.
3. Rotate Spacer 90° (Fig. 2).
4. Reattach gripper body to cylinder and tighten fasteners.

GR1 Series Modular Gripper
"9DJ" 90° Drop Jaw Arrangement - Single and Double Insert

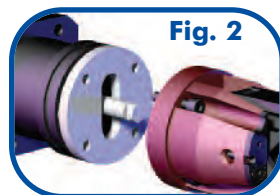
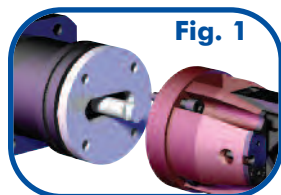
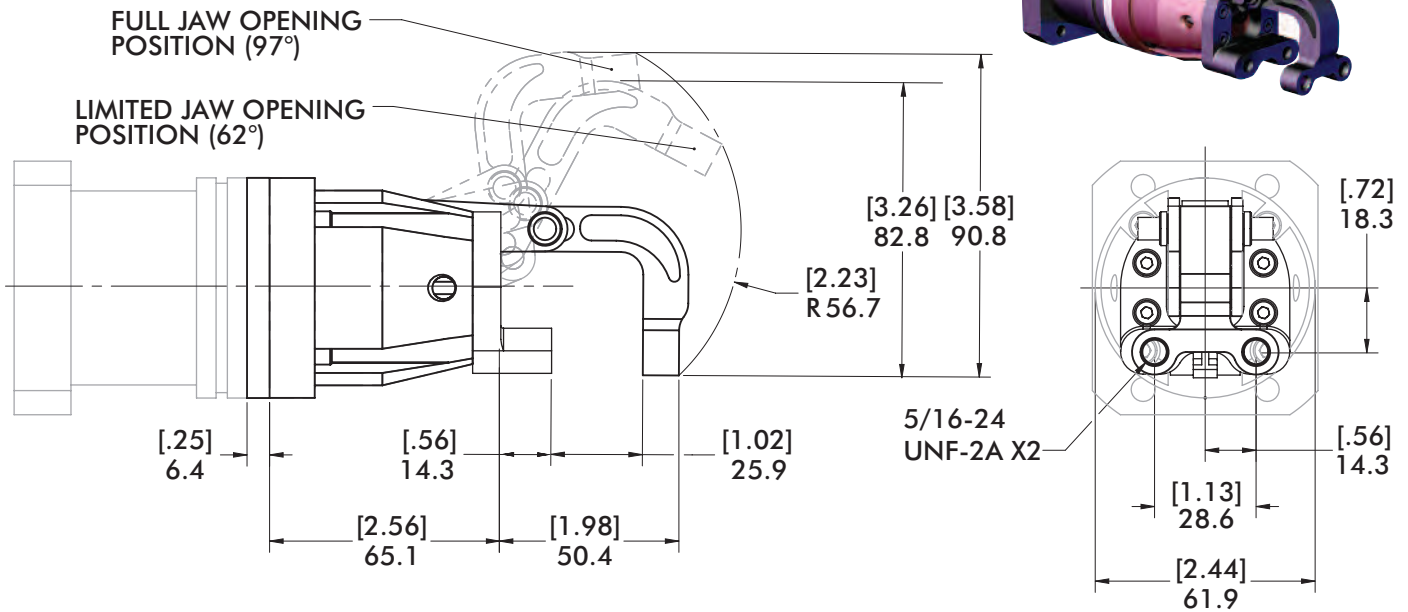
SINGLE INSERT OPTION



DOUBLE INSERT OPTION



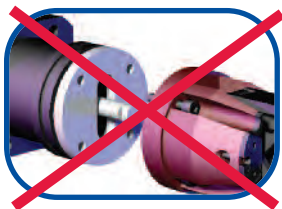
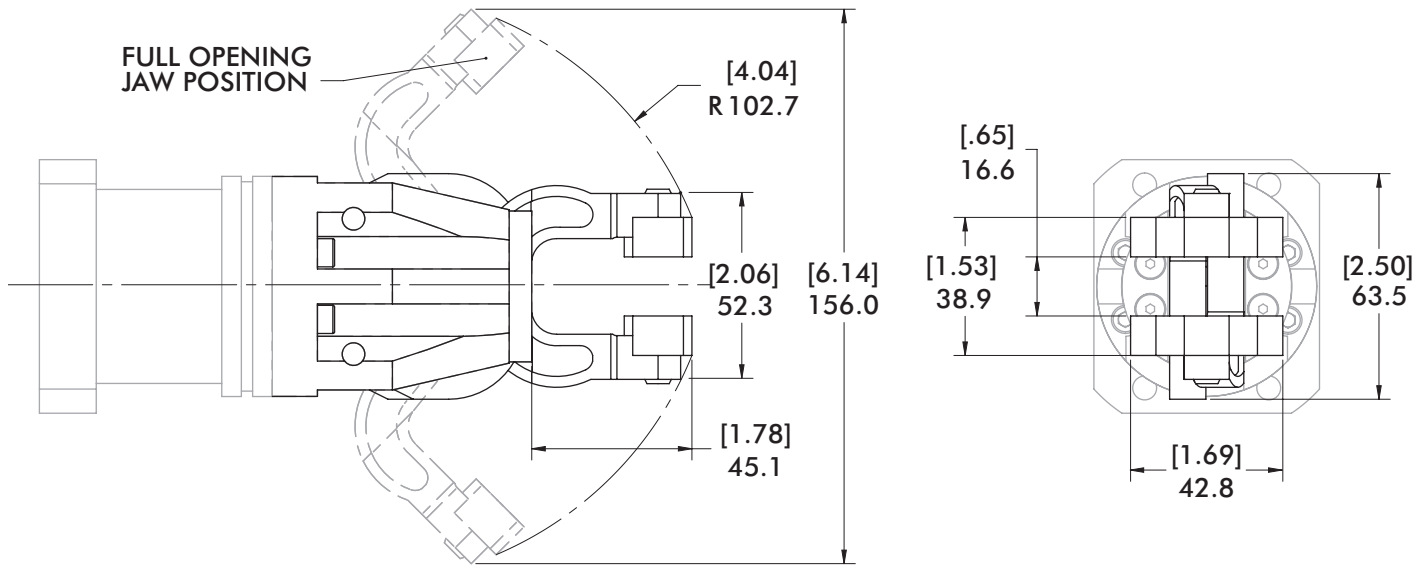
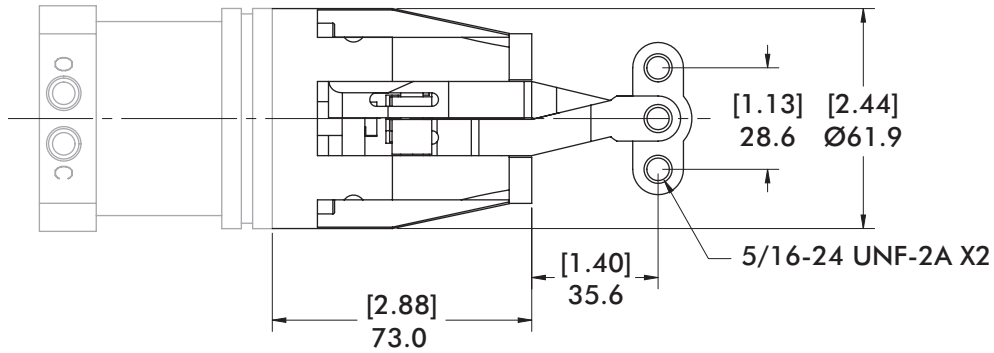
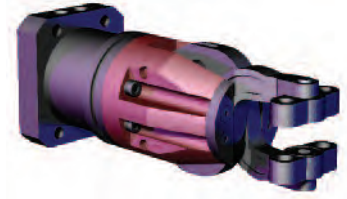
PATENT# 6,361,095



For Limited Stroke Option

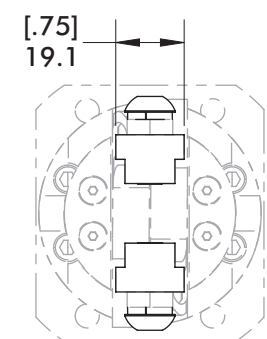
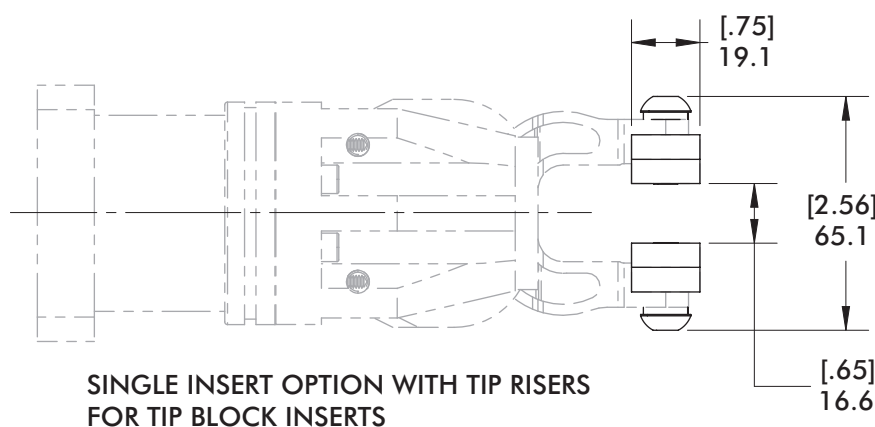
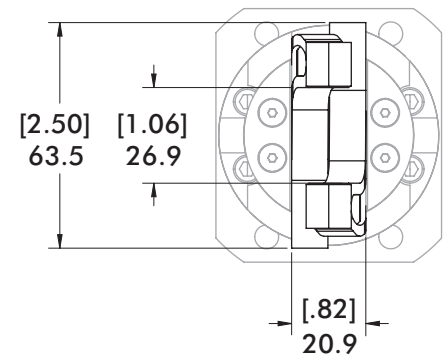
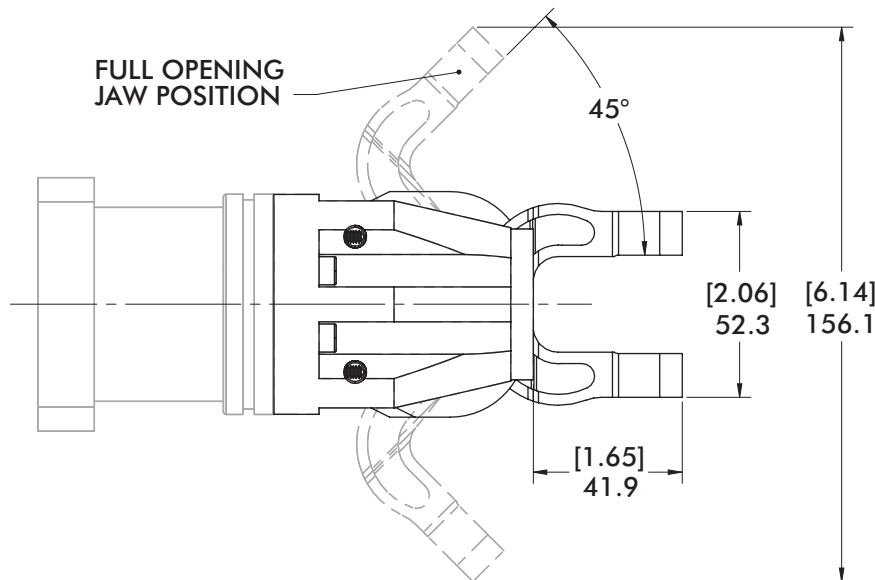
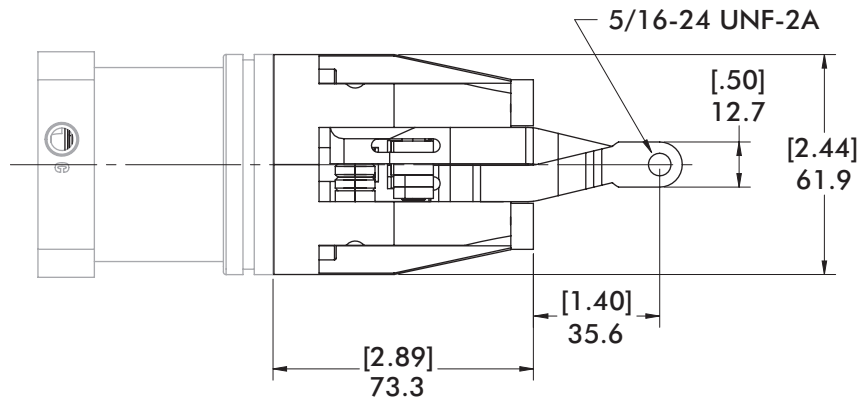
1. Loosen fasteners securing gripper body from cylinder.
2. Pull gripper body away so fasteners clear the spacer.
3. Rotate Spacer 90° (Fig. 2).
4. Reattach gripper body to cylinder and tighten fasteners.

GR1 Series Modular Gripper
"180" 180° Angular Jaw Arrangement - Double Insert



Limited Stroke Ring is **NOT** Available

GR1 Series Modular Gripper
"180" 180° Angular Jaw Arrangement - Single Insert

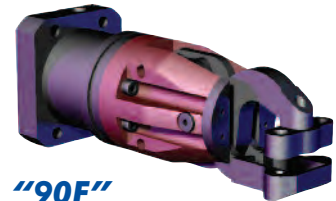
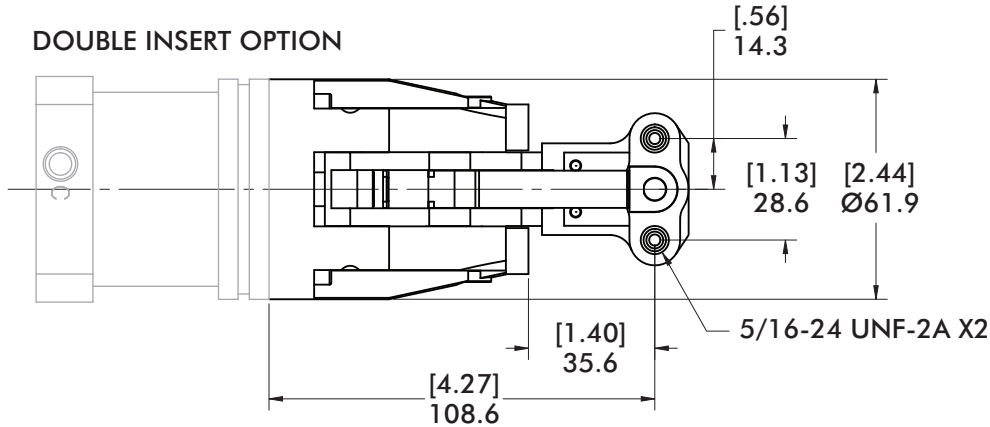


Tip Risers for Block Inserts

Replacement Part #
GR0314-TR

GR1 Series Modular Gripper

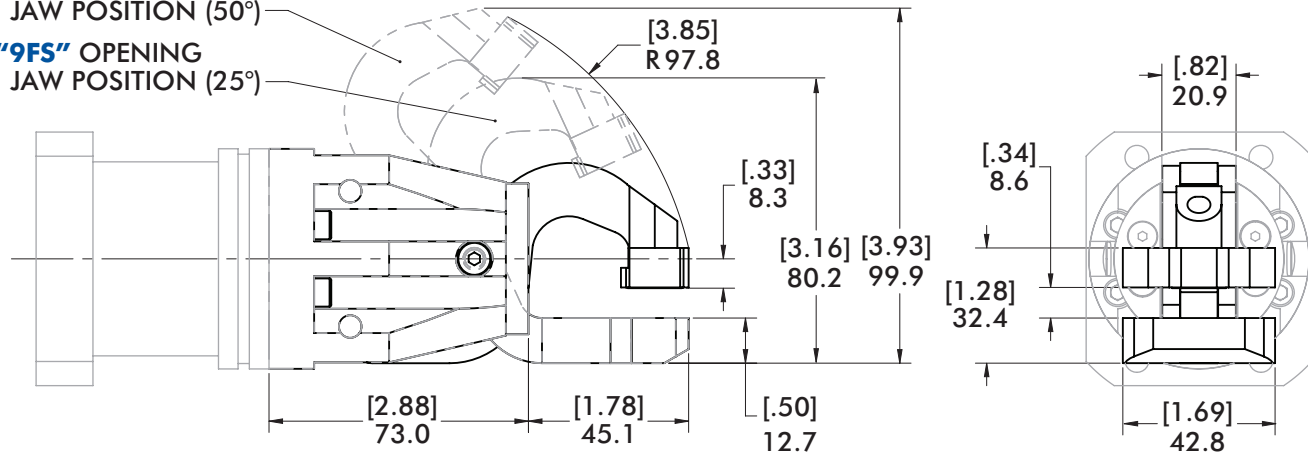
"90F" and "9FS" Fixed Lower Jaw Arrangement - Double Insert



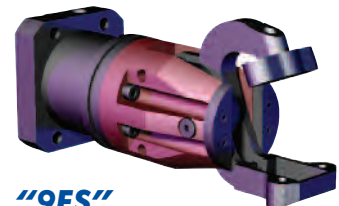
"90F"
Full Arm Opening

"90F" OPENING
JAW POSITION (50°)

"9FS" OPENING
JAW POSITION (25°)



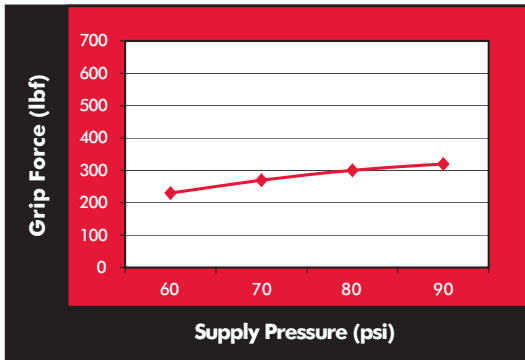
Limited Stroke Ring is **NOT** Available



"9FS"
Limited Arm Opening
(Stroke Limiter Installed)

GR1 Series Modular Gripper
Grip Force and Technical Information

045/45C/FCH



"045" 45° Angular



Weight:
1 kg [2.2 lb]
Grip Range:
0" - 0.125" [0 - 3mm]

"45C" 45° Chisel



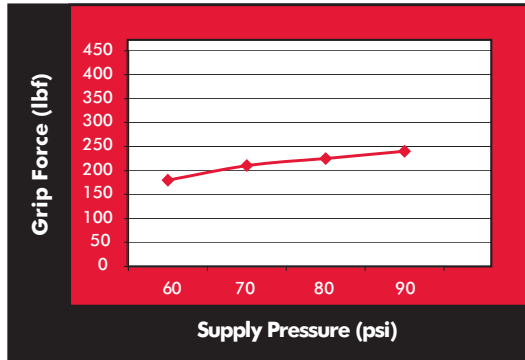
Weight:
1 kg [2.2 lb]
Grip Range:
0" - 0.063" [0 - 1mm]

"FCH" 45° Fixed Chisel

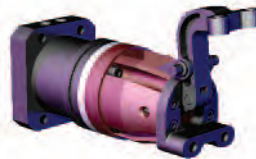


Weight:
1 kg [2.2 lb]
Grip Range:
0" - 0.063" [0 - 1mm]

9DJ

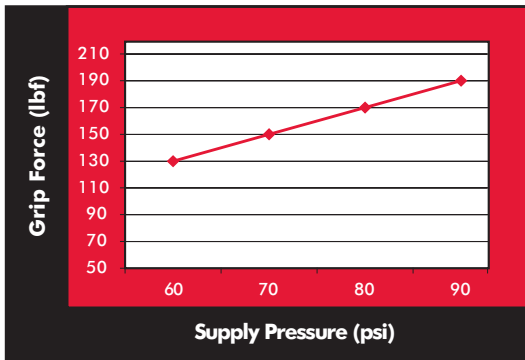


"9DJ" 90° Drop Jaw



Weight:
1 kg [2.2 lb]
Grip Range:
0" - 0.125" [0 - 3mm]

90F/9FS



"90F" 90° Fixed Lower



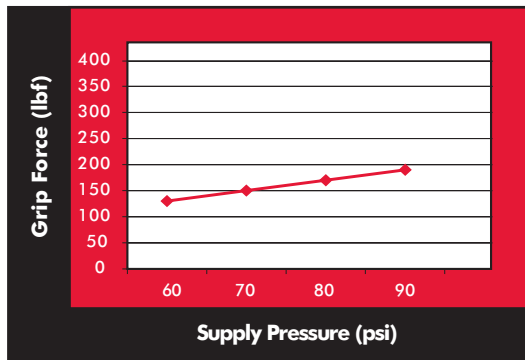
Weight:
1.1 kg [2.6 lb]
Grip Range:
0" - 0.125" [0 - 3mm]

"9FS" 90° Fixed Lower with Limited Stroke



Weight:
1.1 kg [2.6 lb]
Grip Range:
0" - 0.125" [0 - 3mm]

180



"180" 180° Angular



Weight:
1.2 kg [2.7 lb]
Grip Range:
0" - 0.125" [0 - 3mm]

Technical Information

(for all GR1 Gripper Jaw Styles)

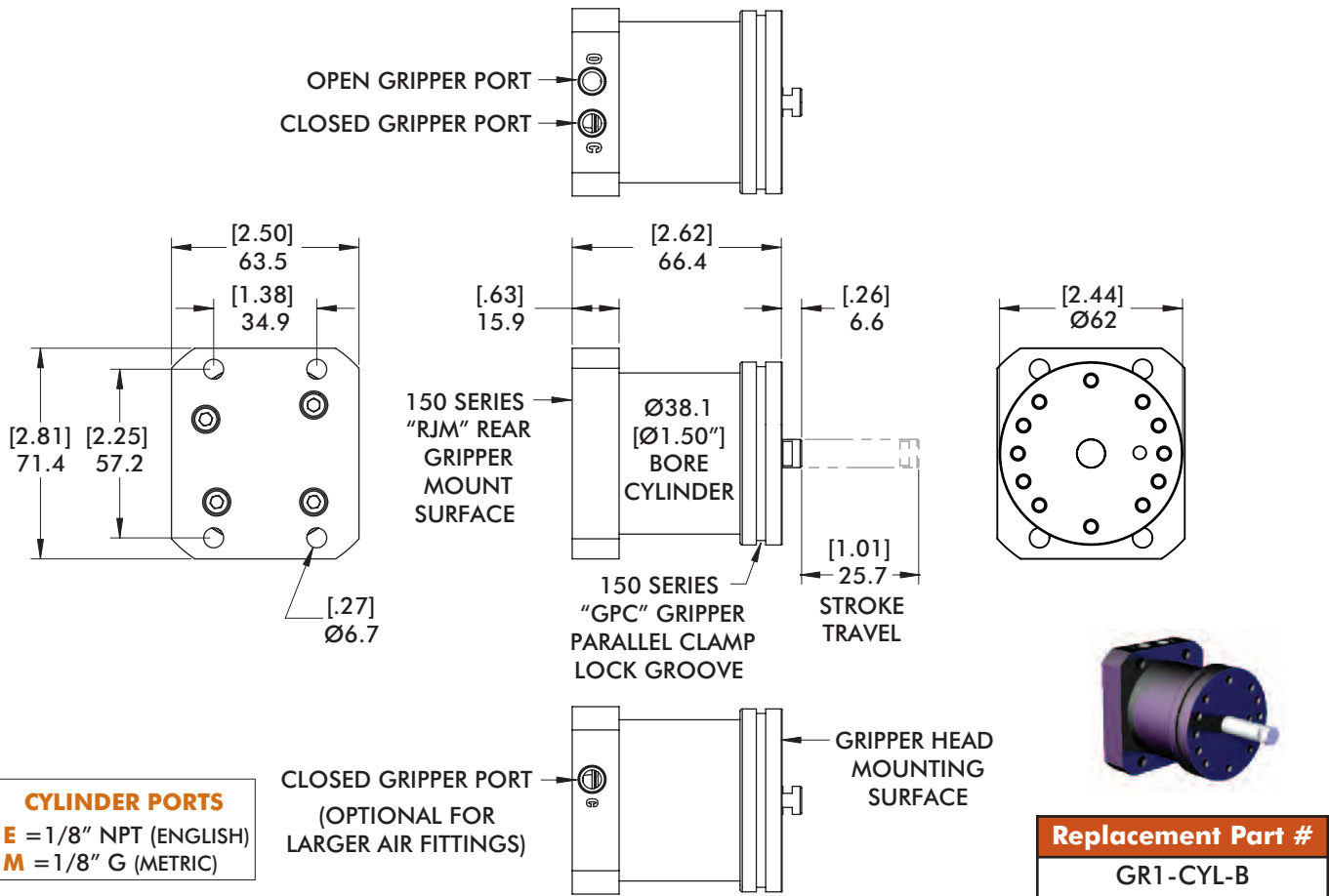
Air Requirements:

Recommended operating Pressure:
2-6 bar [30-90 psi]
Ports: 1/8" BSPP [1/8" NPT]
Air flow controls recommended for maximum life

Operating Temperature:

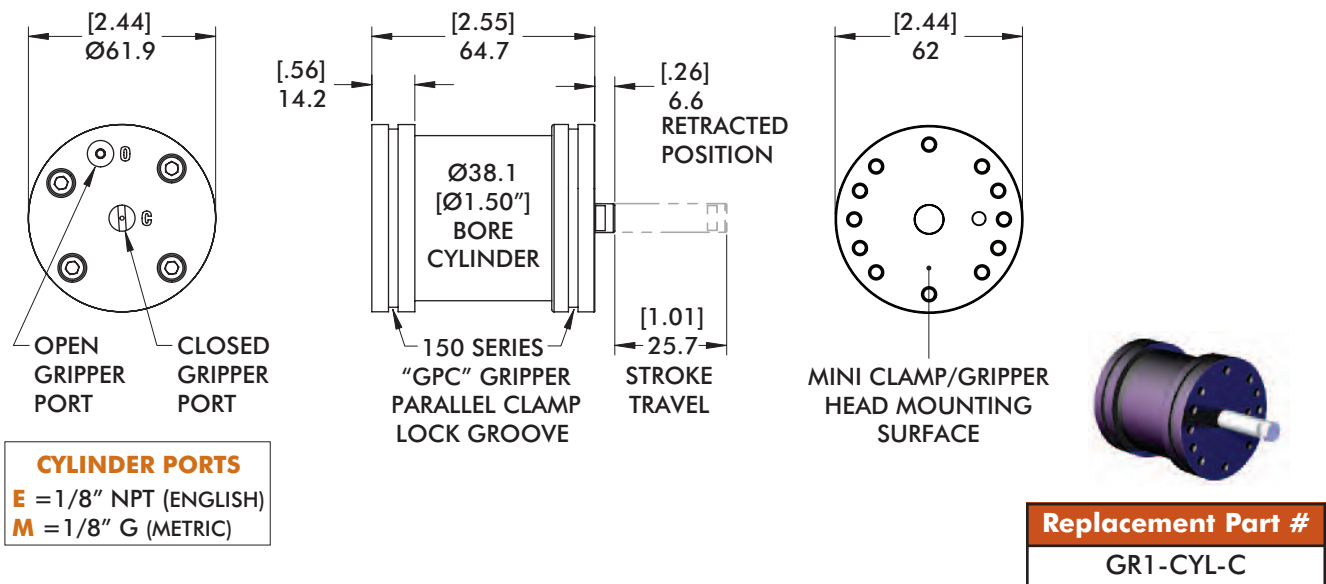
0° - 93°C [32° - 200°F]

GR1 Series Modular Gripper "Bx" Flange Base Cylinder



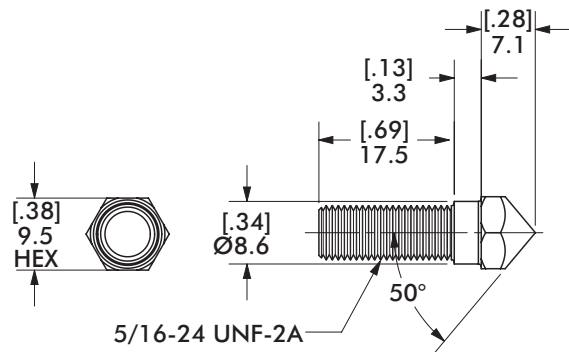
PATENT# 6,619,182

"Cx" Round Base Cylinder

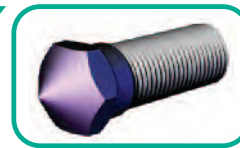


PATENT# 6,619,182

GR1 Series Modular Gripper
 "P", "C", "S", "U" Jaw Inserts

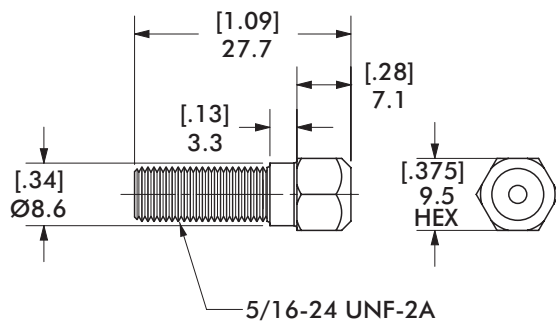


"P"

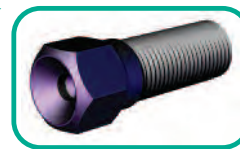


Point Jaw Inserts

Replacement Part #
GR0304

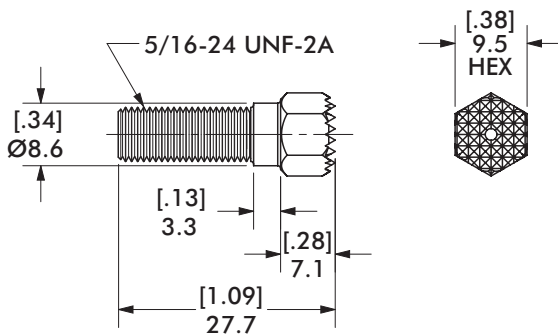


"C"



Cup Jaw Inserts

Replacement Part #
GR0305

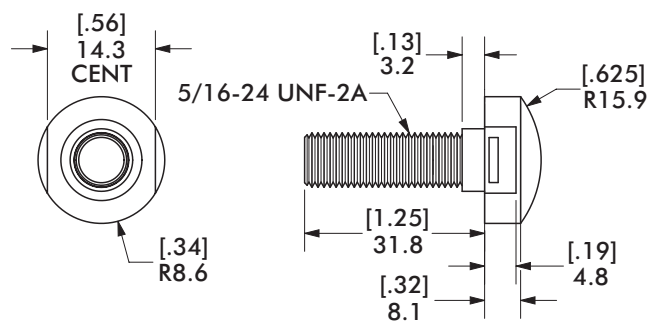


"S"

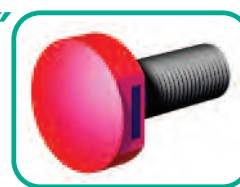


Serrated Jaw Inserts

Replacement Part #
GR0341



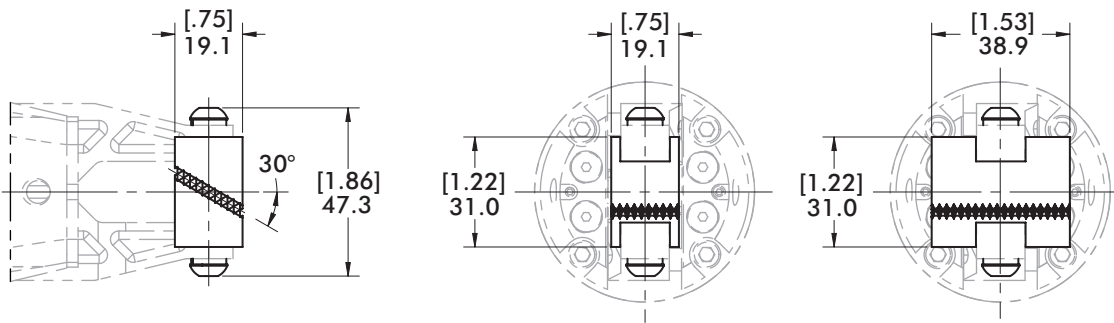
"U"



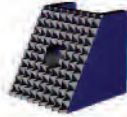
Urethane Jaw Inserts

Replacement Part #
GR0338

GR1 Series Modular Gripper
"S30" and **"D30"** 30° Angle Serrated Block Inserts



"S30"



Single Upper/Lower
30° Angle Insert Block

Replacement Part #

GR1-INS-SD30S

"D30"

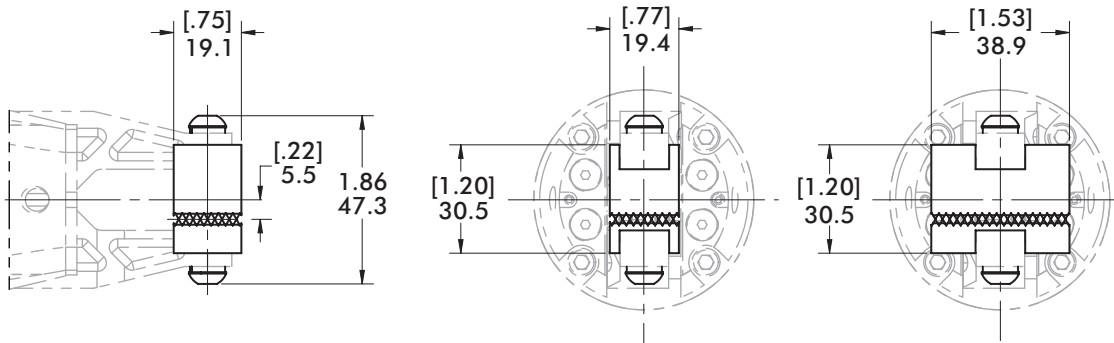


Double Upper/Lower
30° Angle Insert Block

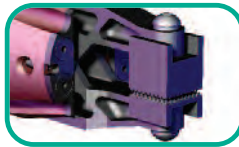
Replacement Part #

GR1-INS-D30S

"SOF" and **"DOF"** Offset Serrated Block Inserts



"SOF"



Single Upper
Offset Insert Block

Replacement Part #

GR1-INS-SDUOS

Single Lower
Offset Insert Block

Replacement Part #

GR1-INS-SDLOS

"DOF"



Double Upper
Offset Insert Block

Replacement Part #

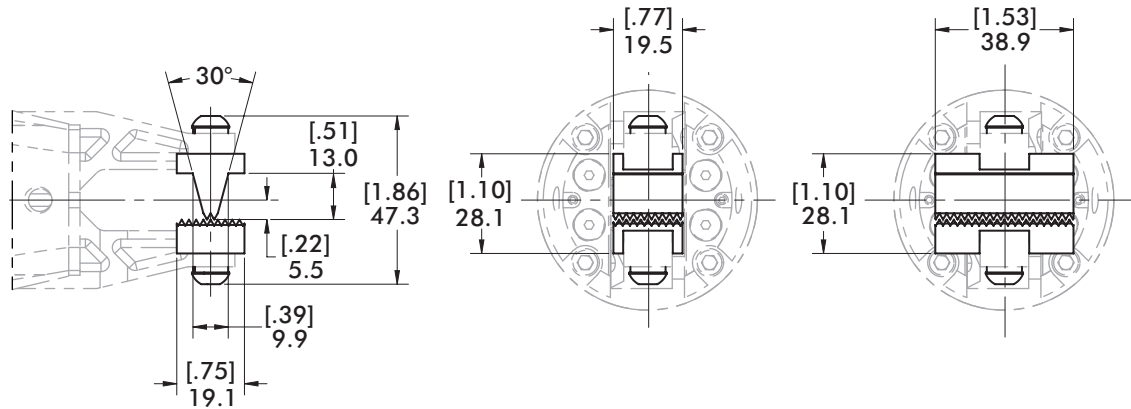
GR1-INS-DUOS

Double Lower
Offset Insert Block

Replacement Part #

GR1-INS-DLOS

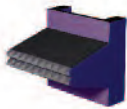
GR1 Series Modular Gripper
"SDB" and "DDB" Draw Bead Serrated Block Inserts



"SDB"

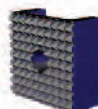


"DDB"



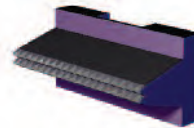
Single Upper Draw Bead Insert Block

Replacement Part #
 GR1-INS-SDDB



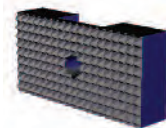
Single Lower Draw Bead Insert Block

Replacement Part #
 GR1-INS-SDLOS



Double Upper Draw Bead Insert Block

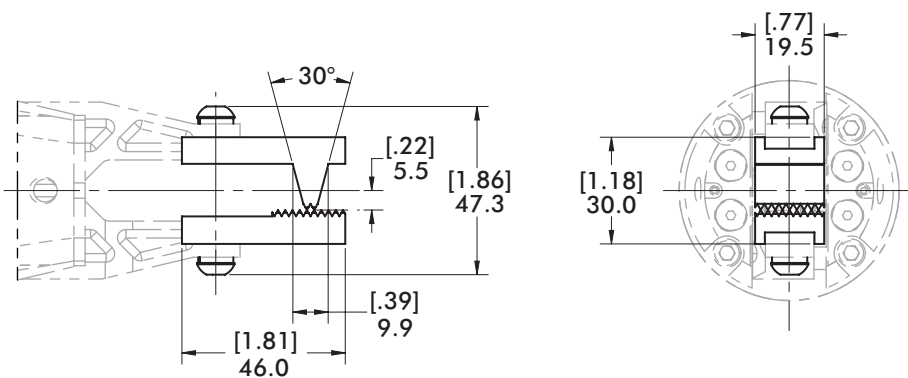
Replacement Part #
 GR1-INS-DDB



Double Lower Draw Bead Insert Block

Replacement Part #
 GR1-INS-DLOS

"SED" Extended Draw Bead Serrated Block Inserts



"SED"



Upper Extended Draw Bead Insert Block

Replacement Part #
 GR1-INS-SDDB-3

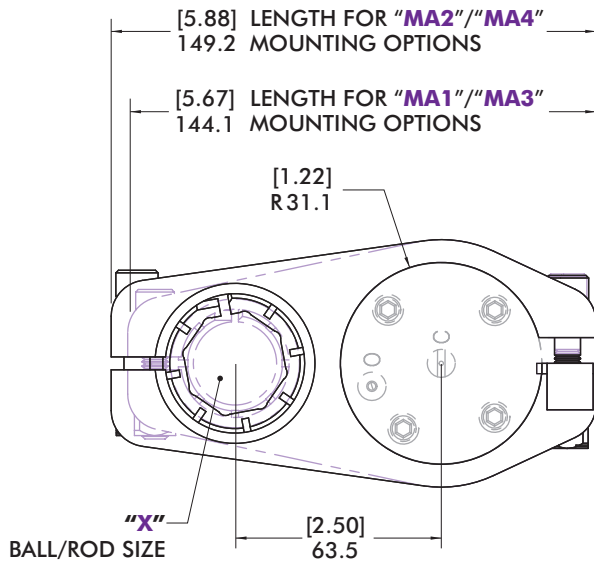
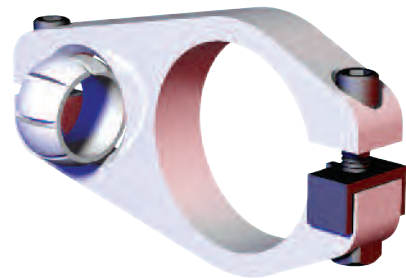
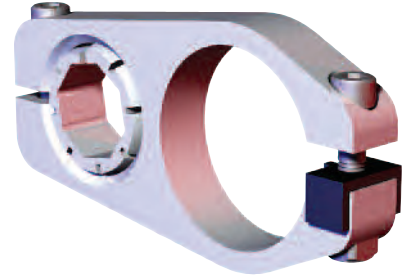
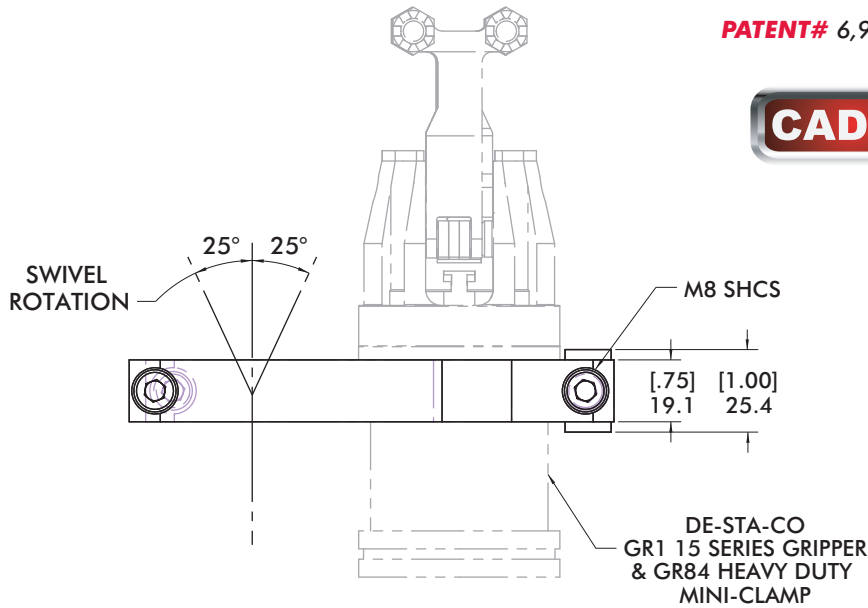


Lower Extended Draw Bead Insert Block

Replacement Part #
 GR1-INS-SDLOS-3

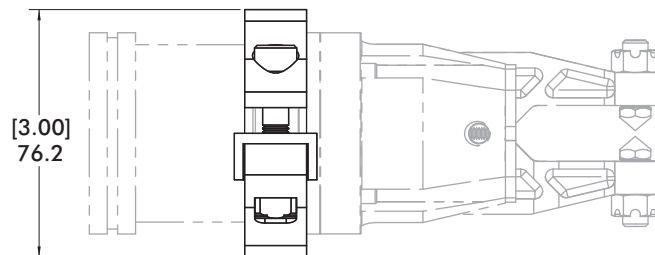
GR1 Series Modular Gripper "MAx" Swivel Parallel Gripper Mounts

PATENT# 6,988,696



Snap-In Ball

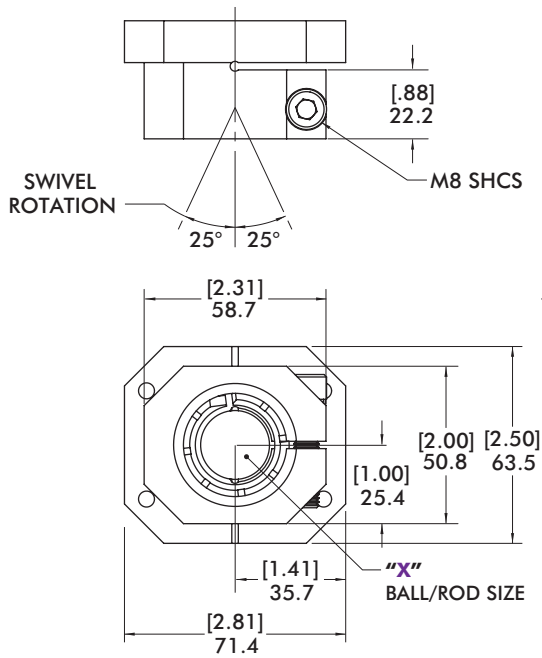
Special patented design allows user to replace ball without disassembly



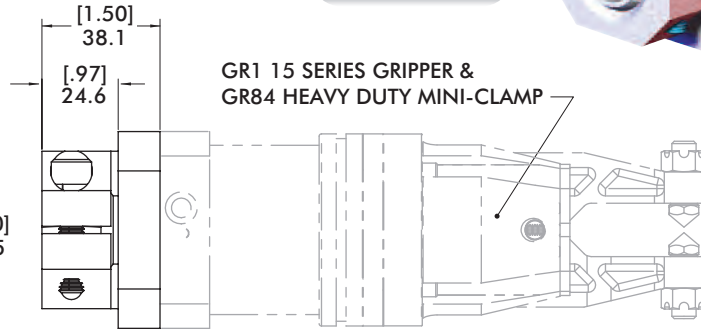
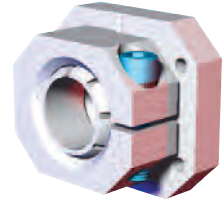
Mounting Option	Rod/Ball "X"	Replacement Part#
MA1	Ø1.00"	CPI-GPC-150-100S-DC
MA2	Ø1.25"	CPI-GPC-150-125S-DC
MA3	Ø25mm	CPI-GPC-150-25MS-DC
MA4*	30mm BB	CPI-GPC-150-30BBS-DC

*"MA4" and "MB4" Mounts to the 30mm BodyBuilder™ octagonal extruded aluminum boom. For more information on this octagonal boom, please refer to the BodyBuilder™ Robotic End Effector Systems Catalog.

GR1 Series Modular Gripper
"MB1" and "MB3" Rear Swivel Gripper Mount

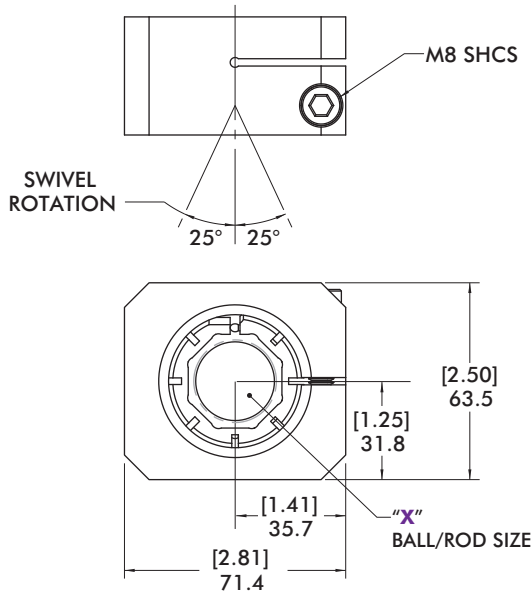


PATENT# 6,988,696

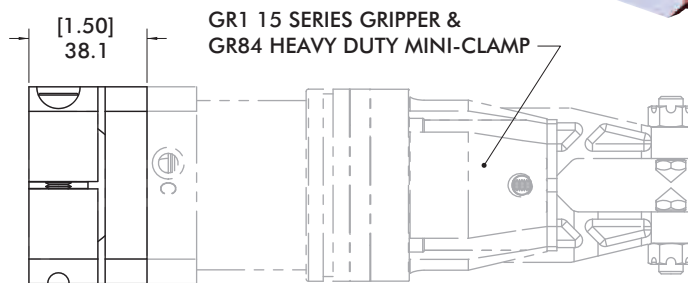
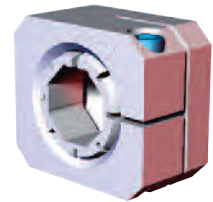


Mounting Option	Rod/Ball "X"	Replacement Part#
MB1	Ø1.00"	CPI-RJM-150-100S
MB3	Ø25mm	CPI-RJM-150-25S

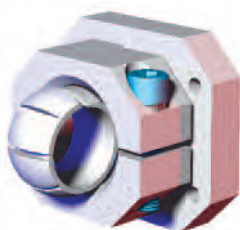
"MB2" and "MB4" Rear Swivel Gripper Mount



PATENT# 6,988,696



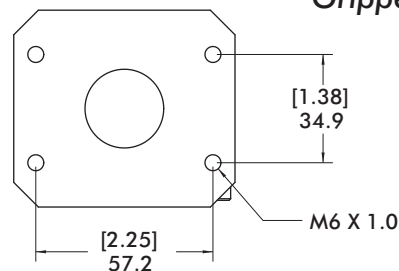
Mounting Option	Rod/Ball "X"	Replacement Part#
MB2	Ø1.25"	CPI-RJM-150-125S
MB4*	30mm BB	CPI-RJM-150-30BBS



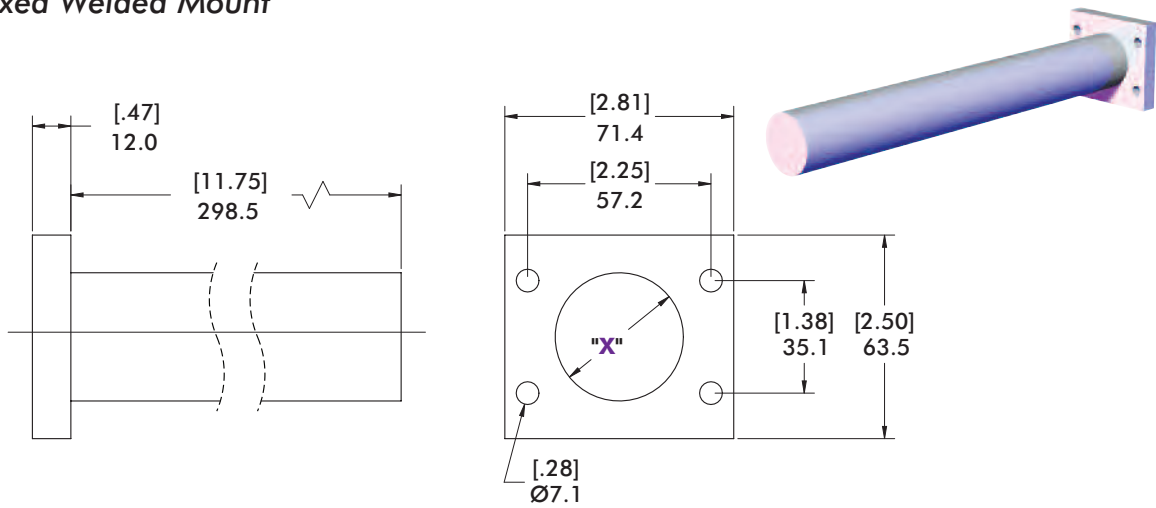
PATENT# 6,988,696

Snap-In Ball
 Special patented design allows user to replace ball without disassembly

"MBx" Rear Swivel Gripper Mount Gripper Mounting Pattern



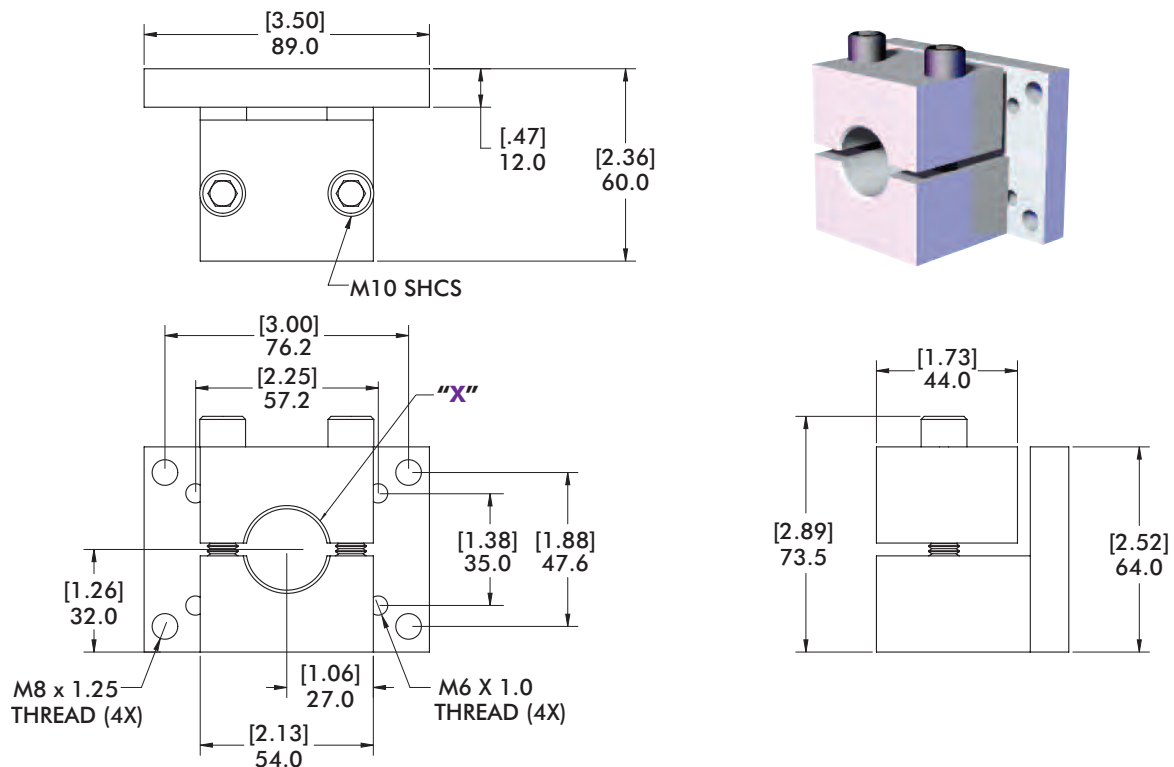
GR1 Series Modular Gripper "MCx" Rear Fixed Welded Mount



Mounting Option	Rod "X"	Replacement Part#
MC1	Ø1.00"	CPI-RJM-150-100
MC3	Ø25mm	CPI-RJM-150-25
MC5	Ø1.50"	CPI-RJM-150-150
MC6	Ø40mm	CPI-RJM-150-40



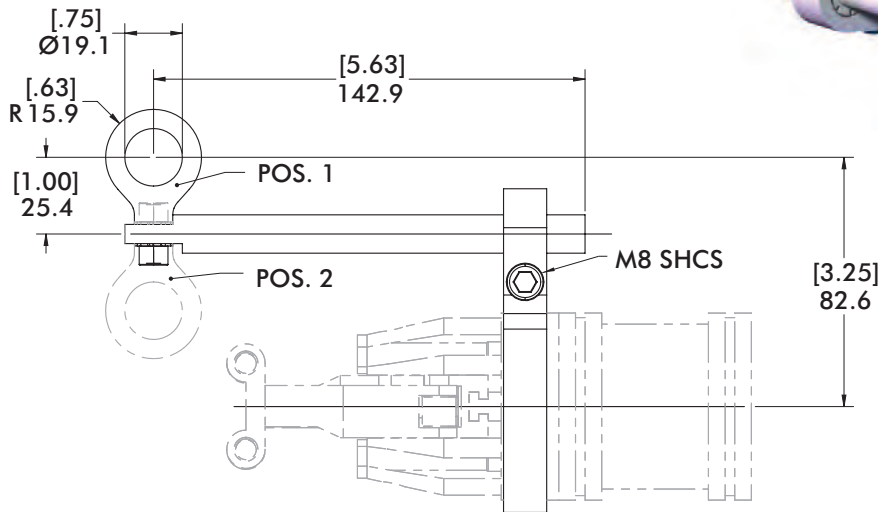
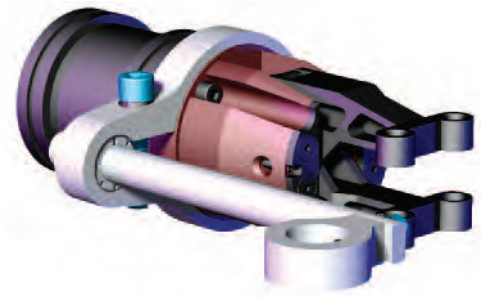
"MD7" Rear Fixed Clamp Mount



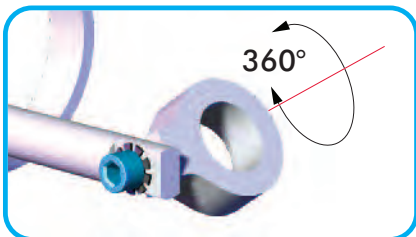
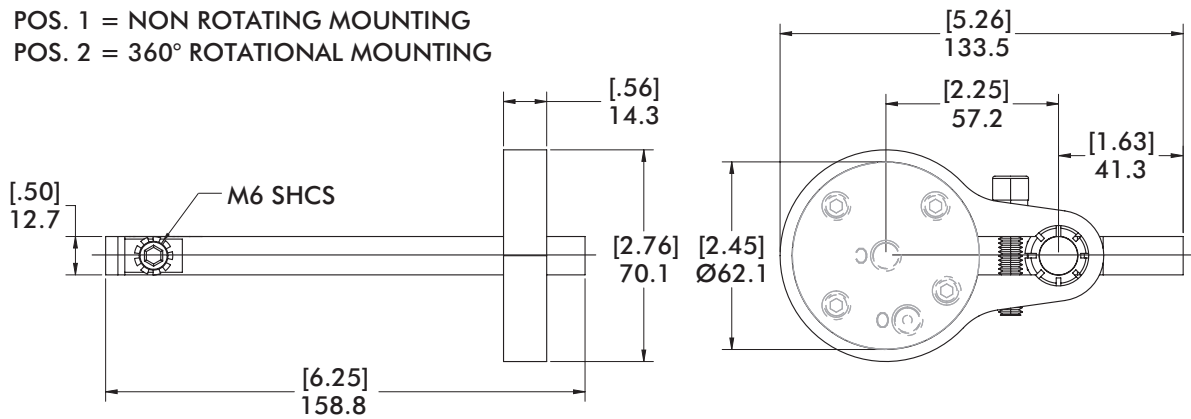
Mounting Option	Rod/Ball "X"	Replacement Part#
MD7	Ø1.00"	M1514



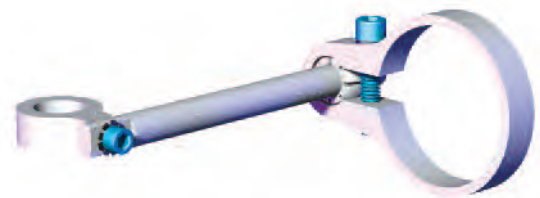
GR1 Series Modular Gripper
18mm Swivel Proximity Sensor Mount



POS. 1 = NON ROTATING MOUNTING
POS. 2 = 360° ROTATIONAL MOUNTING



POS. 2: 360° ROTATION OPTION
ALONG ONE AXIS

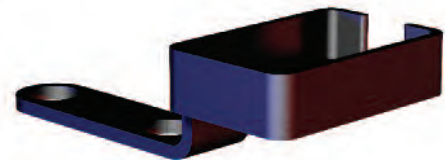


Replacement Part#
CPI-GPM-15-18

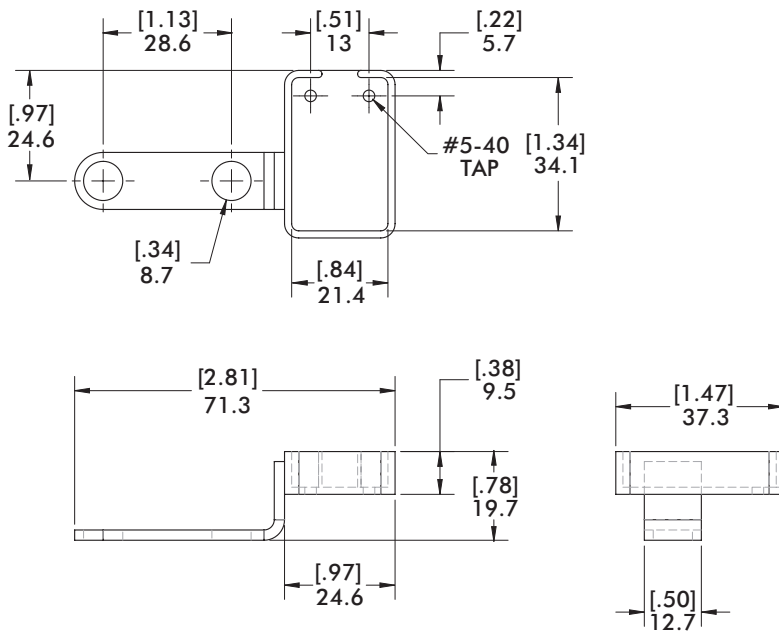
GR1 Series Modular Gripper "A04" and "P03" Sensor Options

"A04" (Turck) Replacement Part# "Bi 5-Q08-VP6X2-0.2M-RS4.4T"10...30 VDC 150mA, PNP, 4-Pin, M12, Eurofast
 "P03" (P & F) Replacement Part# "NBB5-F104M-E2-C-200MM-V1" ...10...30 VDC 150mA, PNP, 4-Pin, M12, Eurofast
 (Sensors include "GR0326" Proximity Switch Mount when ordered with GR1-15 Series.)

Proximity Switch Mount for "A04" and "P03" Sensor Options



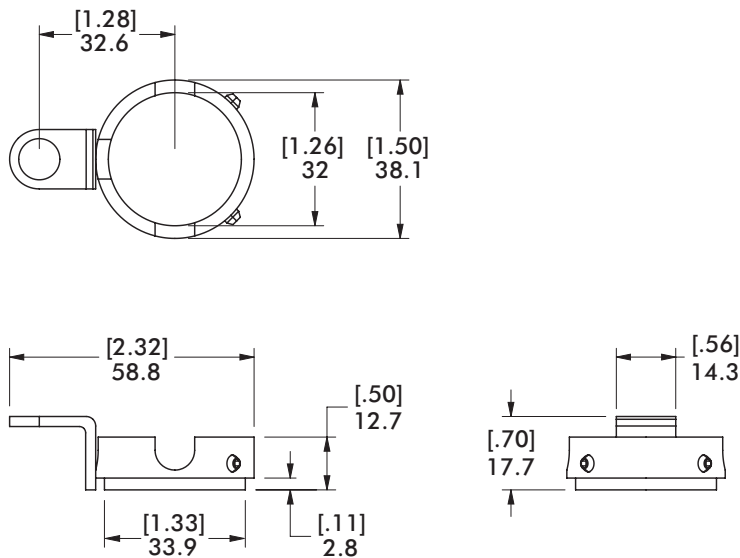
Replacement Part#
GR0326



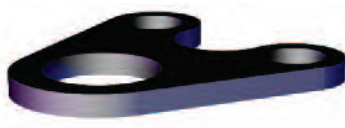
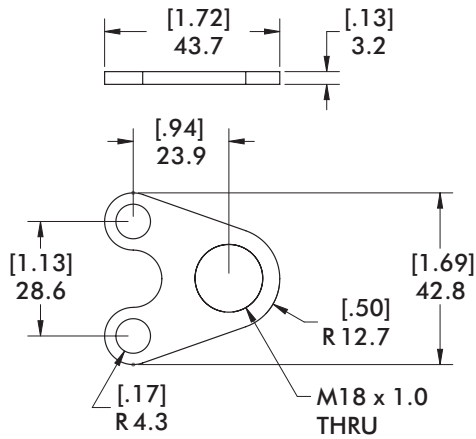
Barrel Style Proximity Switch Mount



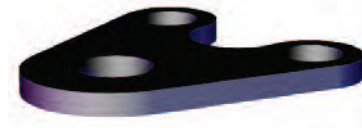
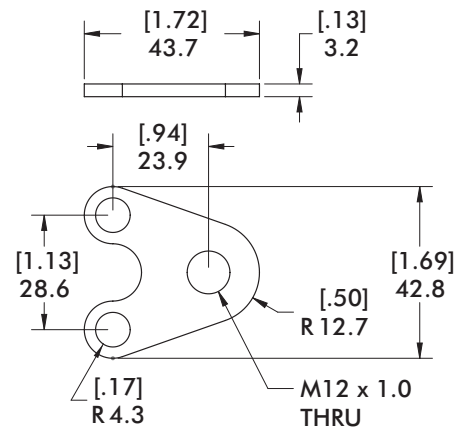
Replacement Part#
GR1-15-PM-31



GR1 Series Modular Gripper
 Ø18mm and Ø12mm Inline Proximity Switch Mount

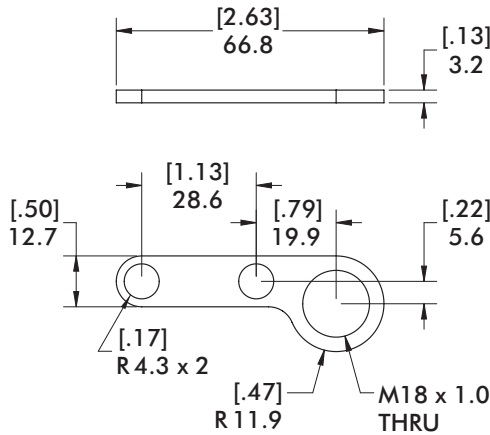


Replacement Part#
 CPI-PM-15D-18

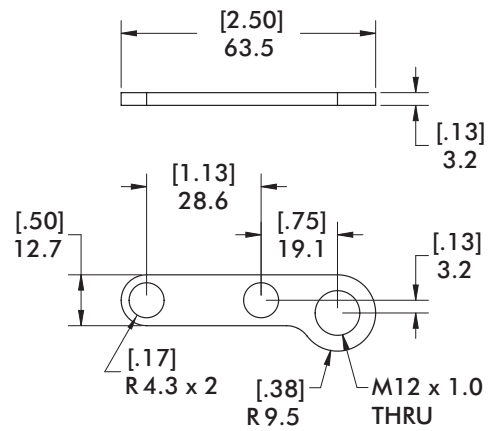


Replacement Part#
 CPI-PM-15D-12

Ø18mm and Ø12mm Offset Proximity Switch Mount



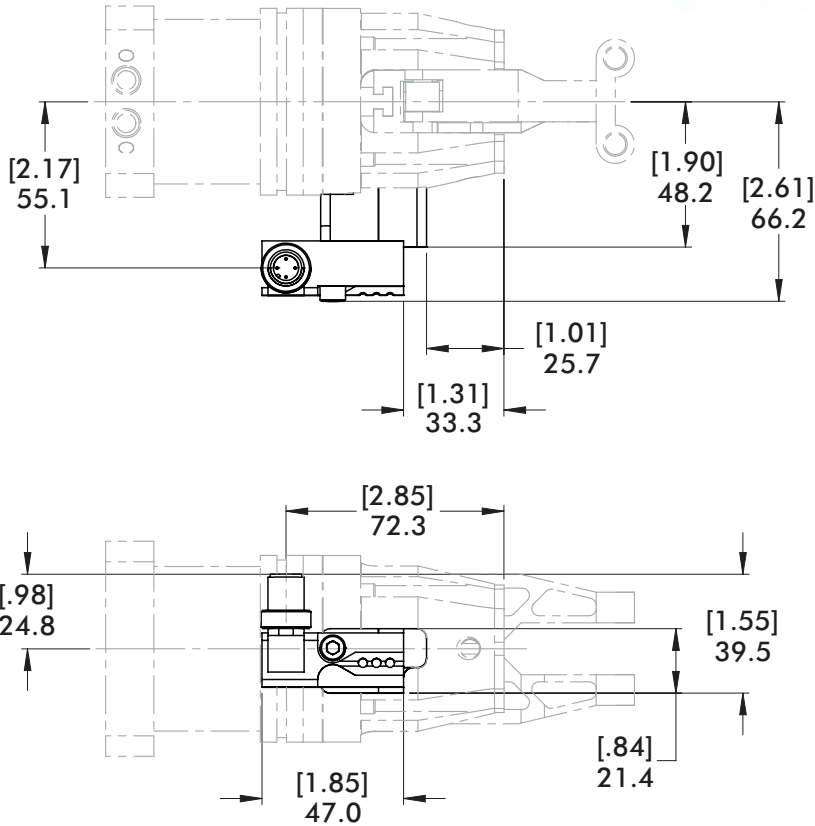
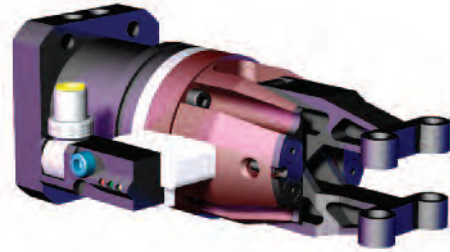
Replacement Part#
 CPI-PM-15S-18



Replacement Part#
 CPI-PM-15S-12

GR1 Series Modular Gripper "T04" Open/Closed Sensor Option

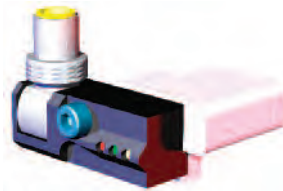
This sensor option can only be used at full stroke.



Replacement Part#
CPI-GR1-15-TK-DC-T04

This Sensor Part Number is used on the following GR1 Gripper Styles

"T04"



This sensor option is used in conjunction with a special gripper body used in place of the standard gripper body in order for the sensor to function properly.

"T04" Proximity Switch Wiring

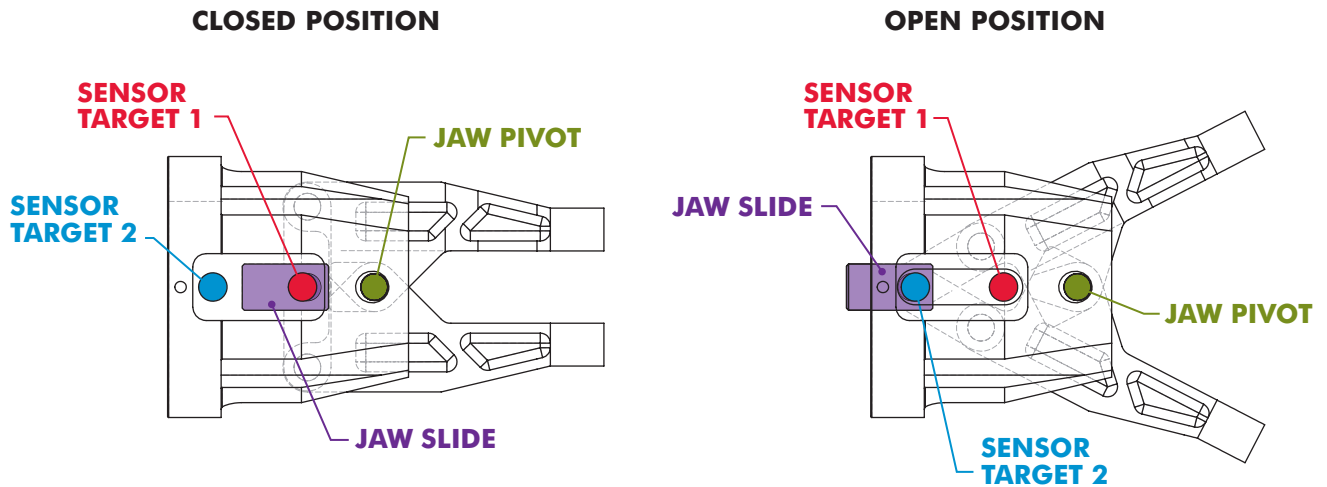


- PIN 1) BROWN: POSITIVE POWER
- PIN 2) BLACK: SIGNAL FOR GRIPPER CLOSED
- PIN 3) BLUE: NEGATIVE POWER
- PIN 4) BLACK: SIGNAL FOR GRIPPER OPEN

3 amps, 250 volts, VDC
4-Pin Euro Micro Connector



GR1 Series Modular Gripper
"T04" Sensor Open/Closed Target Position



"045" 45° Angular



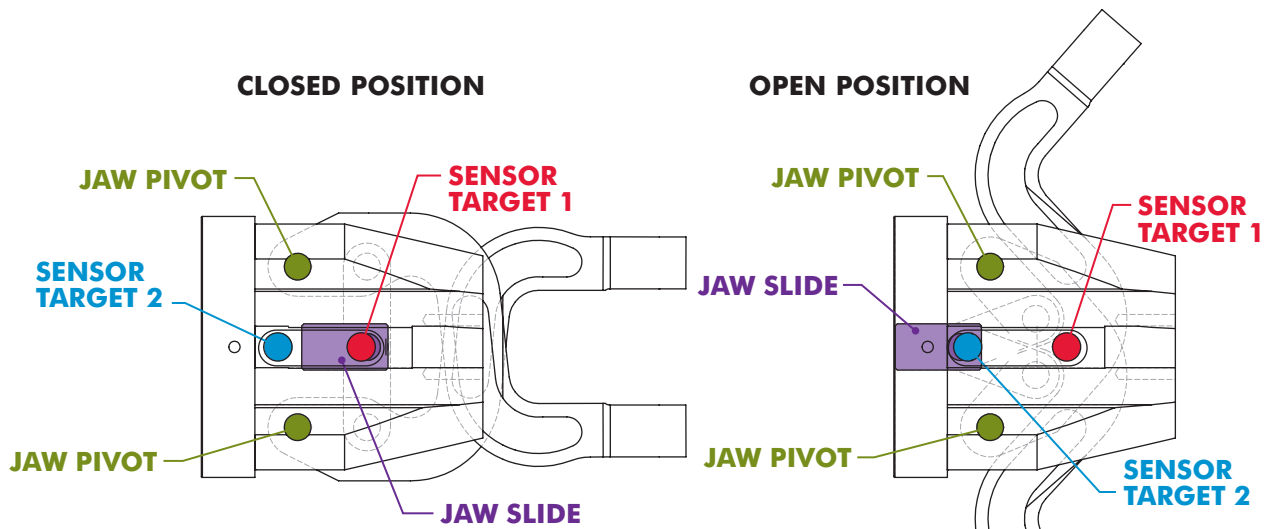
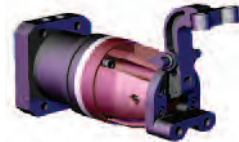
"45C" 45° Chisel



"FCH" 45° Fixed Chisel



"9DJ" 90° Drop Jaw



"90F" 90° Fixed Lower



"9FS" 90° Fixed Lower with Limited Stroke



"180" 180° Angular



GR1-20 Series Modular Gripper
Ordering Information

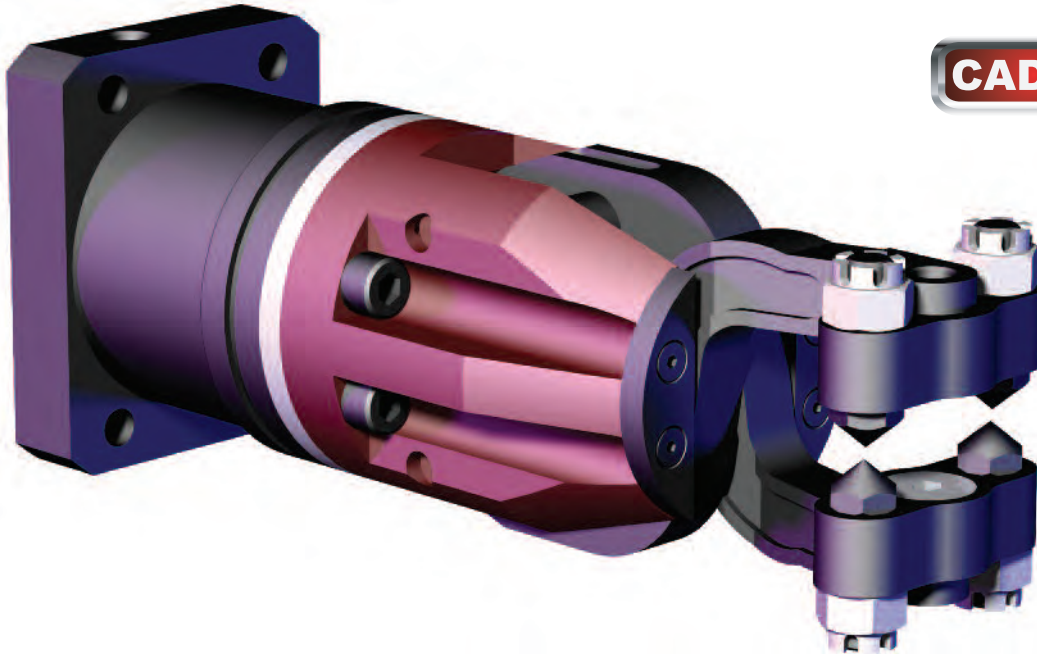
CYLINDER

INSERTS

MOUNTS

OPEN/CLOSED

GR1 - 20 - BE - 180 - Dxx - Mxx - (BLANK)



CYLINDER TYPE & PORTING

STEP 1 **B E** CYLINDER PORTING

- E** ENGLISH (1/8 NPT)
- M** METRIC (1/8 G)

OPEN/CLOSED SENSING

(SEE PAGE 42 FOR SENSOR SPECIFICATIONS)

B04 = INTERNAL SENSOR
(LEAVE BLANK TO OMIT)

POINTS & TIP INSERT OPTIONS

STEP 2 **D P P** UPPER TIP INSERT OPTION **X** = OMIT



STEP 3 **D P P** LOWER TIP INSERT OPTION **X** = OMIT

FOR TIP INSERT DIMENSIONS AND REPLACEMENT PART#S,
PLEASE REFER TO **GR84 MINI CLAMP TIP INSERT OPTIONS**.

MOUNT OPTIONS

STEP 1 **M X X**

MOUNT TYPE

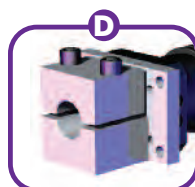
X = OMIT



PARALLEL SWIVEL MOUNT



REAR FIXED WELDED STYLE



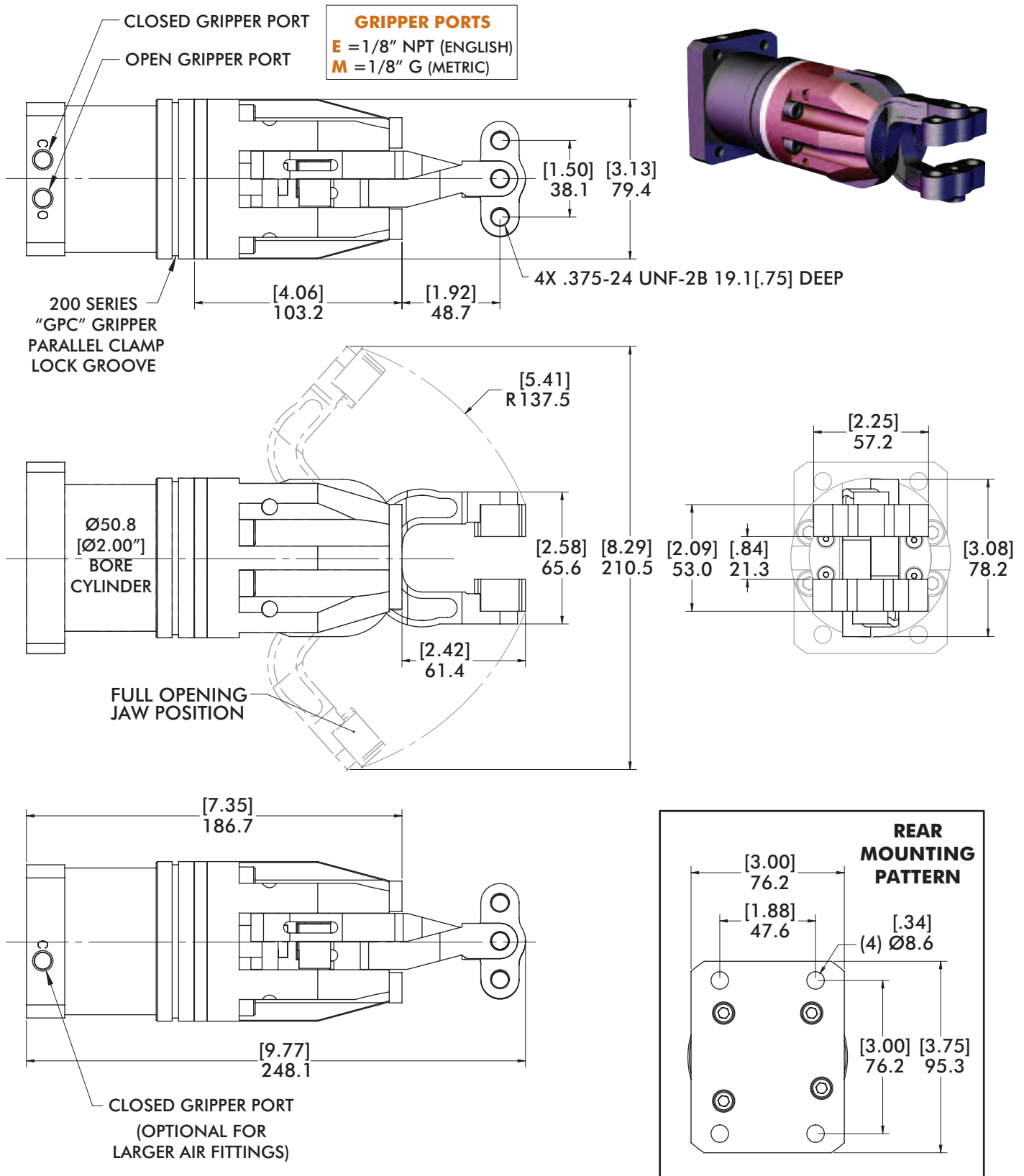
REAR FIXED CLAMP MOUNT

STEP 2 **M X X**

MOUNT BALL/ROD SIZE

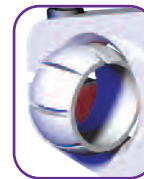
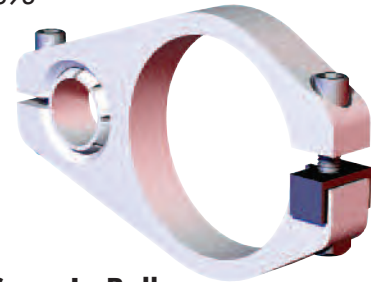
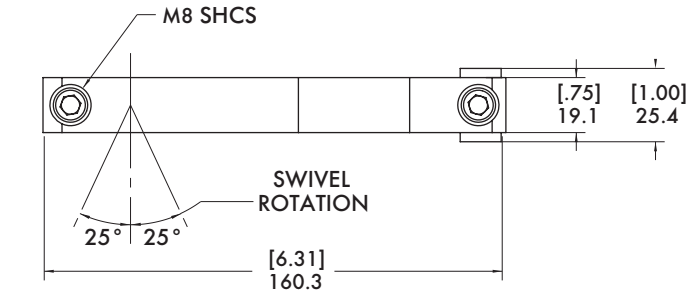
- 1** = 1.00" ROD/BALL MOUNT (A & C ONLY)
- 3** = 25MM ROD/BALL MOUNT (A & C ONLY)
- 7** = M-1514 (D OPTION ONLY)
- X** = OMIT

GR1-20 Series Modular Gripper
"180" 180° Angular Jaw Arrangement - Double Insert

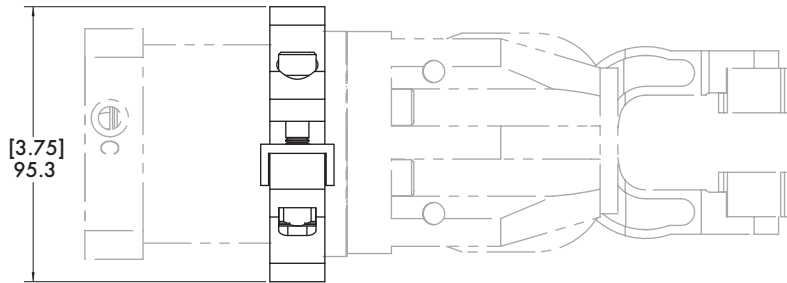
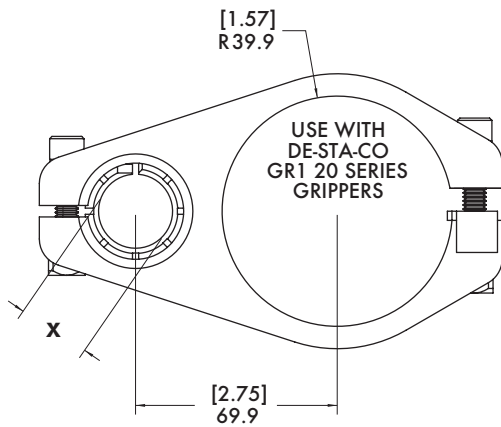


GR1-20 Series Modular Gripper
"MAX" Swivel Parallel Gripper Mounts

PATENT# 6,988,696

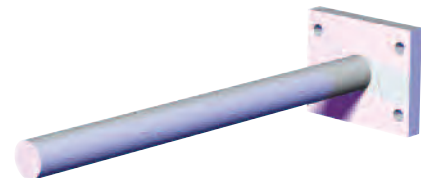
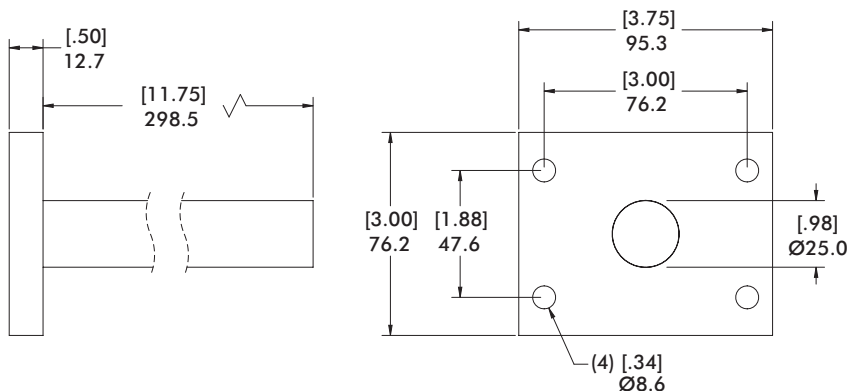


Snap-In Ball
 Special patented design allows user to replace ball without disassembly



Mounting Option	Rod/Ball "X"	Replacement Part#
MA1	Ø1.00"	CPI-GPC-200-100S-DC
MA3	Ø25mm	CPI-GPC-200-25MS-DC

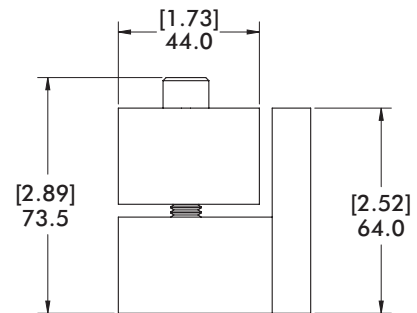
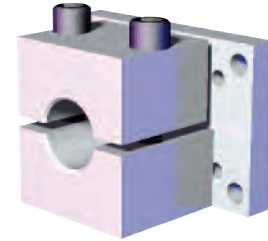
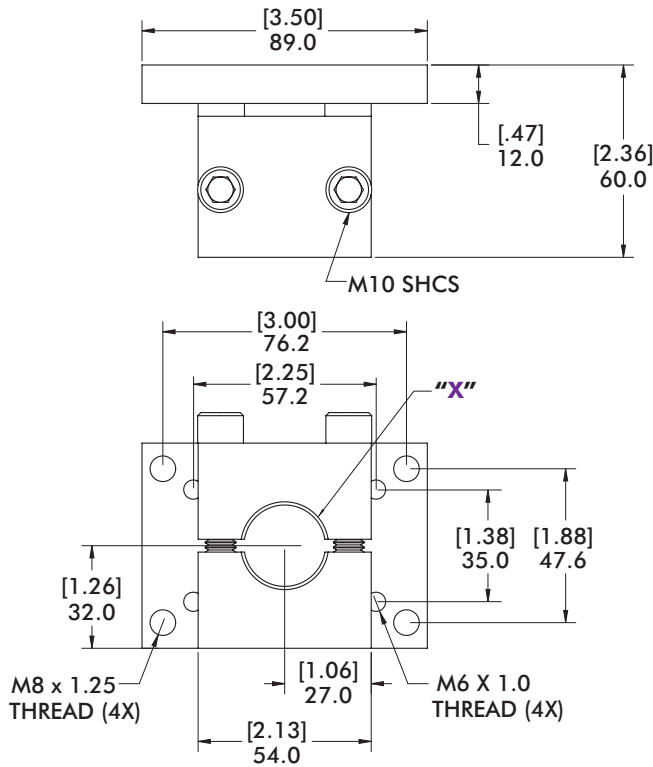
"MCx" Rear Fixed Welded Mount



Mounting Option	Rod/Ball "X"	Replacement Part#
MC1	Ø1.00"	CPI-RJM-200-100
MC3	Ø25mm	CPI-RJM-200-25



GRI-20 Series Modular Gripper
"MD7" Rear Fixed Clamp Mount

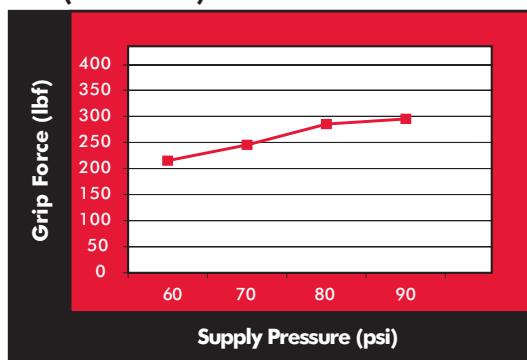


Mounting Option	Rod/Ball "X"	Replacement Part#
MD7	Ø1.00"	M1514



Technical Information

180 (20 SERIES)



"180" 180° Angular



Weight:
 2.4 kg [5.4 lb]
Grip Range:
 0" - 0.125" [0 - 3mm]

Technical Information

Air Requirements:
 Recommended operating Pressure:
 2-6 bar [30-90 psi]
 Ports: 1/8" BSPP [1/8" NPT]
 Air flow controls recommended for maximum life
Operating Temperature:
 0° - 93°C [32° - 200°F]