

GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Ordering Information

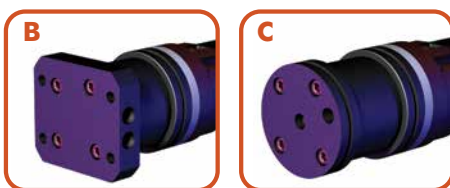
GR1-15 - **BE** - **045** - **DPP** - **MX** - **XXX** - **XXX**

Cylinder Type & Porting

Step 1 - Cylinder Type Choose One

B **E**

- B** Flange Base
- C** Round Cylinder



Step 2 - Cylinder Ports Choose One

B **E**

- E** English (1/8 NPT)
- M** Metric (1/8 G)

Jaw Arrangement Options

Step 1 - Jaw Arrangement Choose One

- 045** 45° Angular
- 45C** 45° Chisel
- FCH** 45° Fixed Chisel
- 9DJ** 90° Drop Jaw
- 90F** 90° Fixed Lower
- 9FS** 90° Fixed Lower Limited Stroke
- 180** 180° Angular



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

GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Ordering Information

Open/Closed Sensor

Sensors Type	Description
T04	Internal Sensor
XXX	No Sensor

Part Present Sensor*

Sensor Type	Description
A04	Turck (4-PIN)
P03	P & F (4-PIN)
XXX	No Sensor



*Part Present Sensor Option is only available on the Double Point Insert Option and not available for the 9DJ, 45C and FCH Jaw Arrangement Options or any of the Block Insert Options. With 90F and 9FS, GR0326 is not necessary for the Part Present Sensor as the sensor is mounted in the lower jaw. See pages SG-TGL-34 to 37 for specifications.

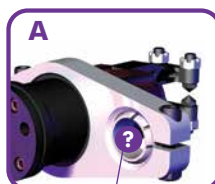
Mount Options

Step 1 - Mount Type Choose One

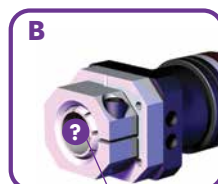
- M** **X** **X**
- A** Parallel Swivel Mount
 - B** Rear Swivel Clamp Mount
 - C** Rear Fixed Welded Style
 - D** Rear Fixed Clamp Mount
 - X** No Mount

Step 2 - Mount Ball/Rod Size Choose One

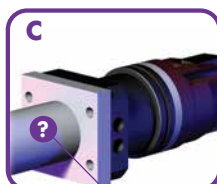
- M** **X** **X**
- 1** 1.00" w/Metric Fasteners
 - 2** 1.25" w/Metric Fasteners
 - 3** 25mm Metric Fasteners
 - 4** 30mm Bodybuilder/Metric
 - 5** 1.50" (Type C Only)
 - 6** 40mm (Type C Only)
 - 7** M1514 (Type D Only)
 - X** No Mount



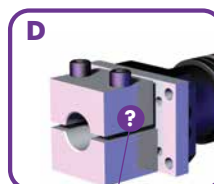
1 2 3 4
Mount Ball Sizes Available



1 2 3 4
Mount Ball Sizes Available



1 3 5 6
Mount Rod Sizes Available

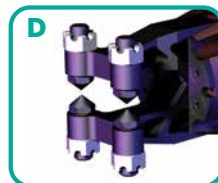


7
Mount Size Available

Points & Tip Insert Options

Step 1 - Point Tip Options Choose One

- D** **P** **P**
- S** Single Point
 - D** Double Point



Step 2 - Upper Tip Insert Options Choose One

- D** **P** **P**
- P** Point
 - C** Cup
 - U** Urethane
 - S** Serrated
 - X** No Tips



Step 3 - Lower Tip Insert Options Choose One Above

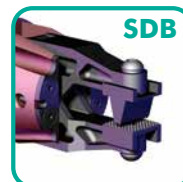
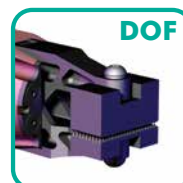
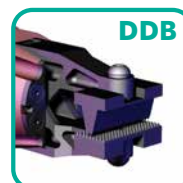
- D** **P** **P**

- or -

Block Insert Options†

- Block Insert** Choose One
- DDB** Double Draw Bead
 - DOF** Double Offset
 - D30** Double 30° Angle
 - SDB** Single Draw Bead
 - SOF** Single Offset
 - S30** Single 30° Angle
 - SED** Single Extended Draw Bead

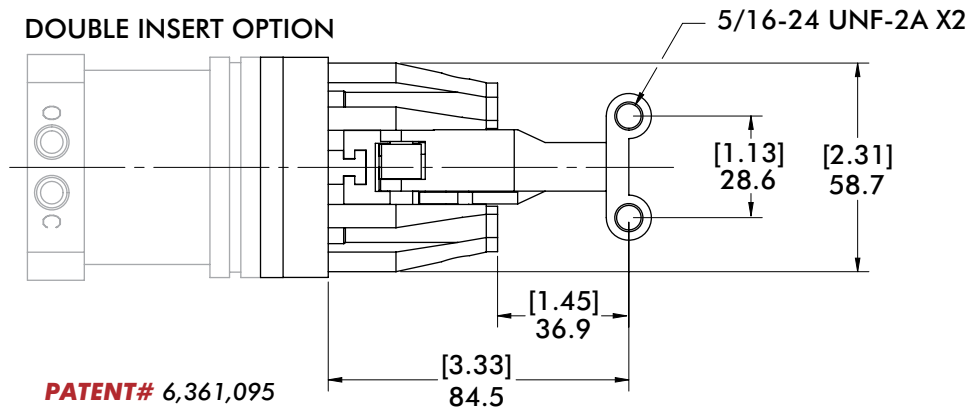
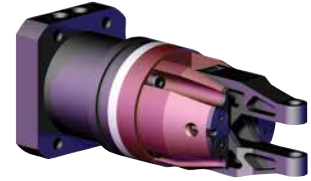
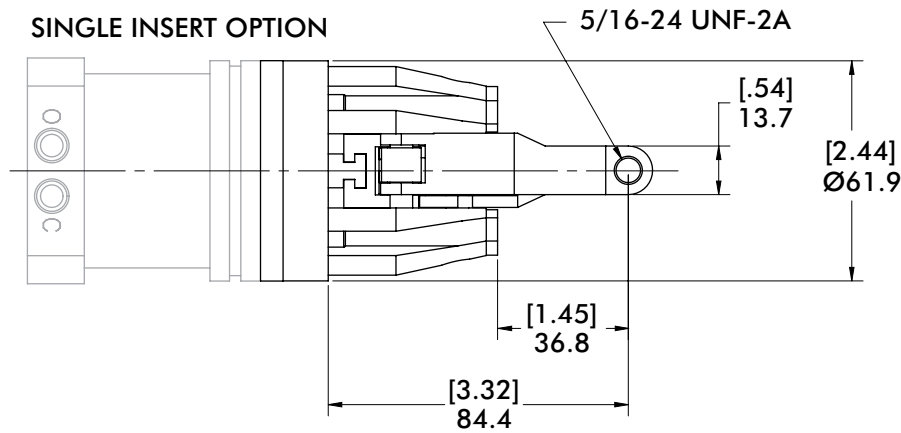
† Only available on the 180 Angular Jaw Arrangement.



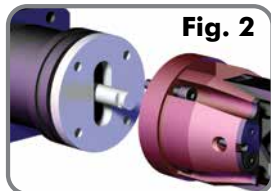
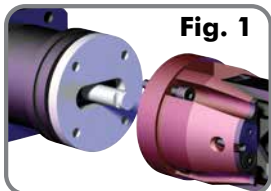
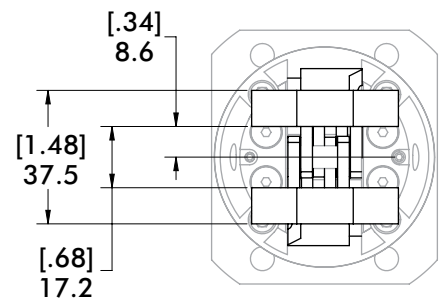
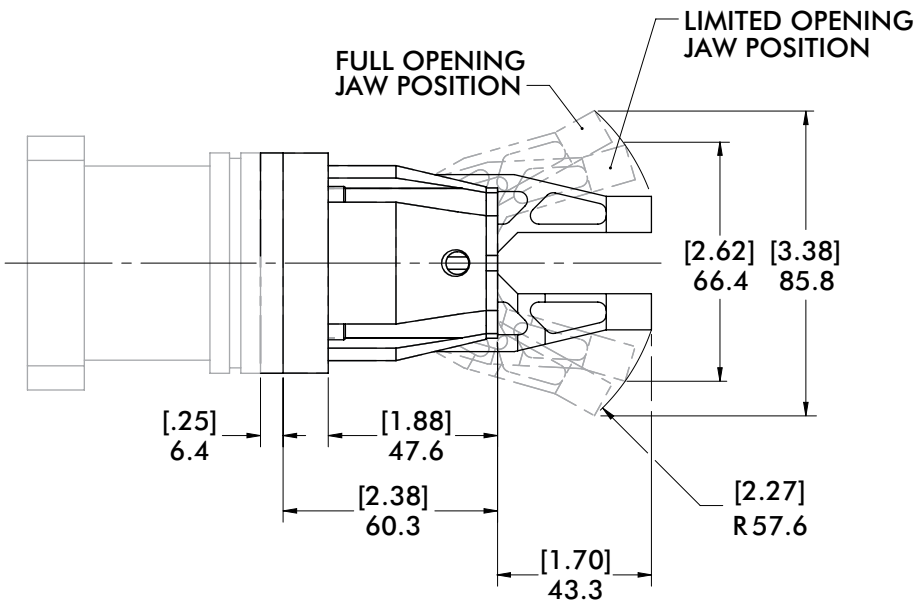
GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Technical Specifications

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



PATENT# 6,361,095



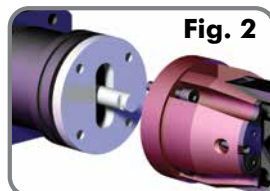
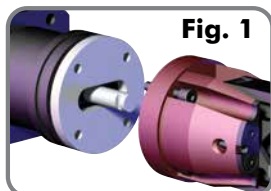
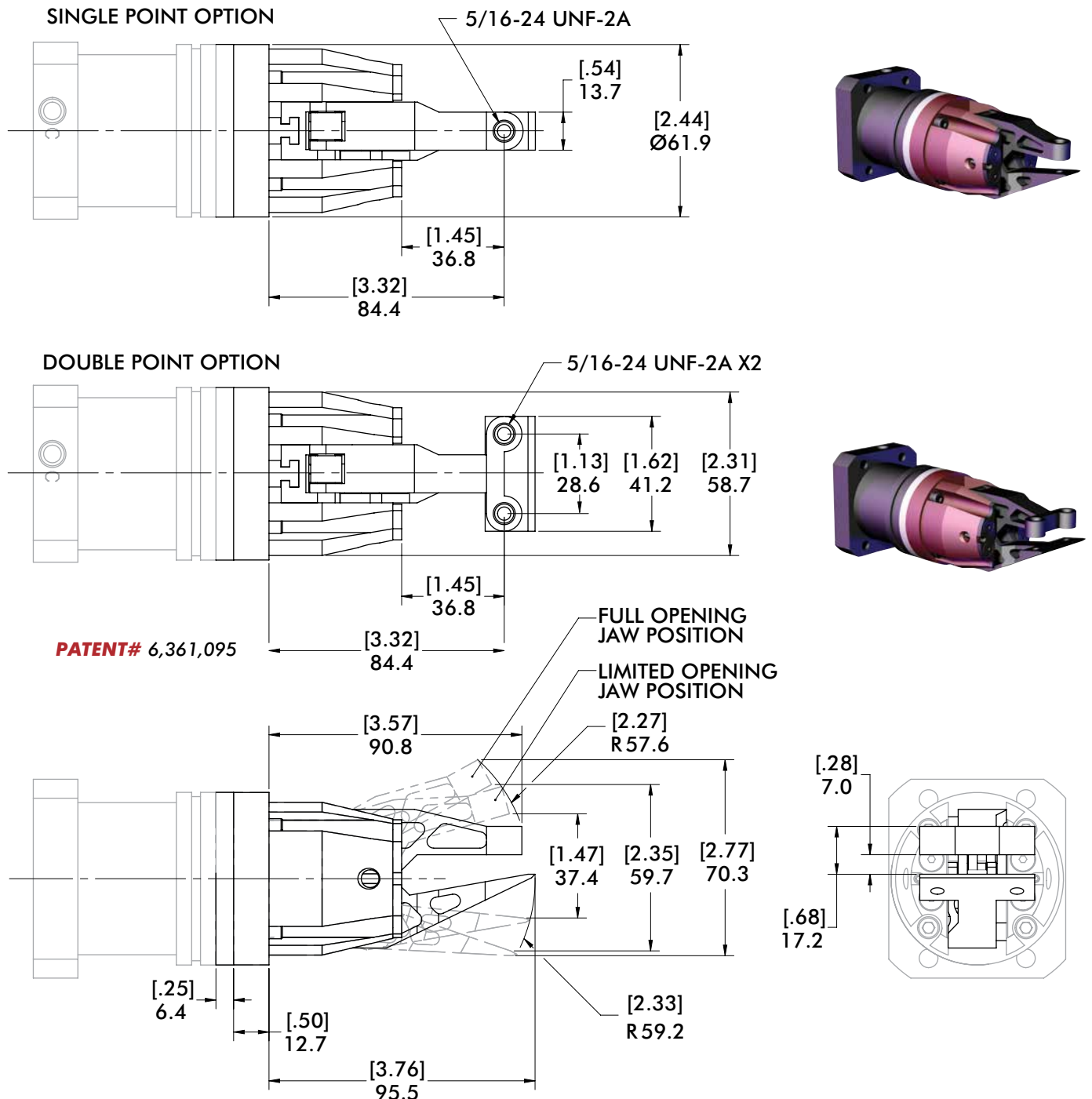
For Limited Stroke Option

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.

GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Technical Specifications

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



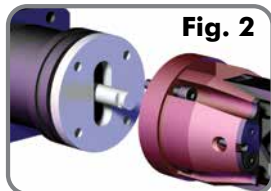
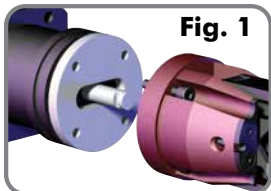
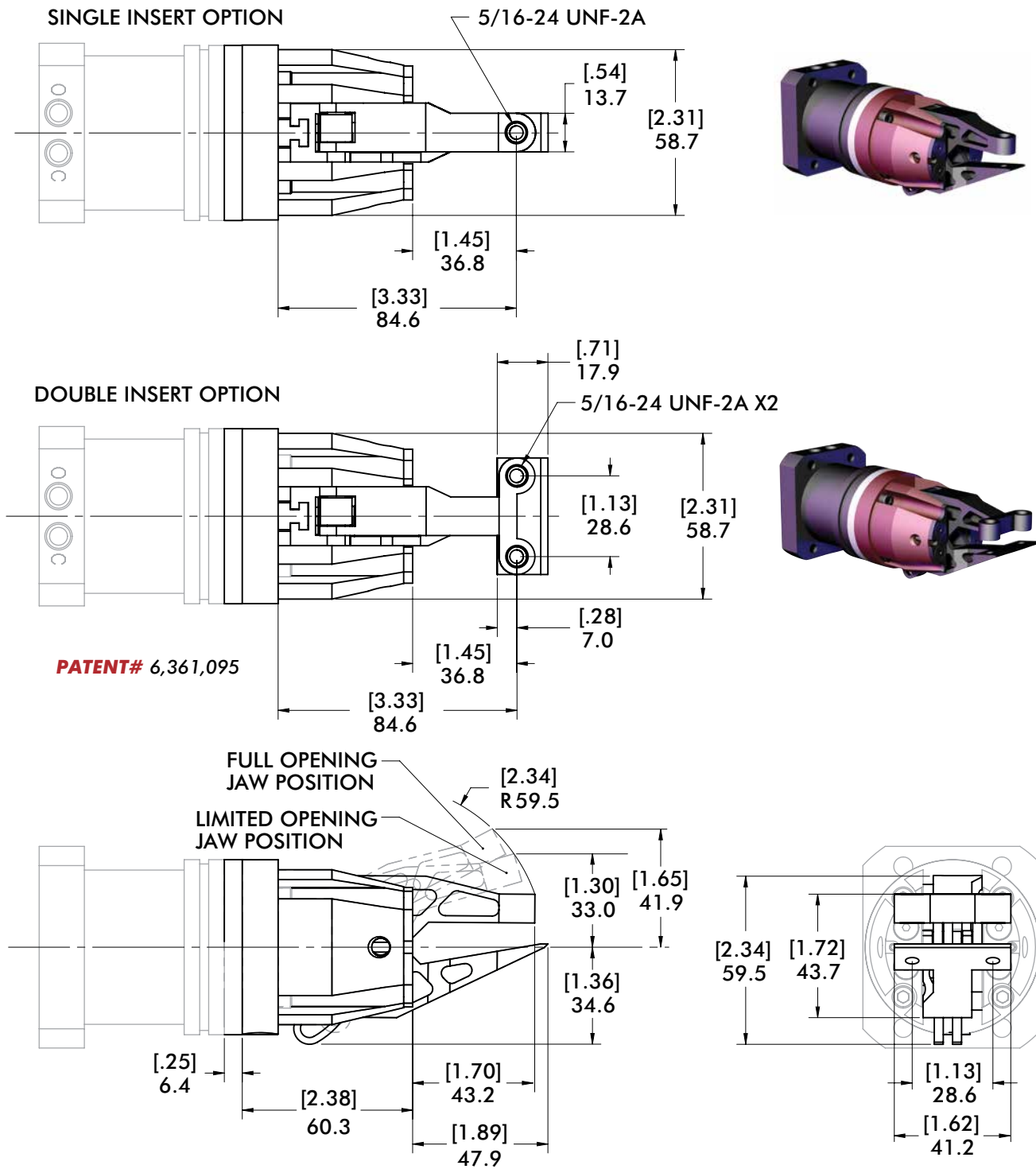
For Limited Stroke Option

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.

GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Technical Specifications

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



For Limited Stroke Option

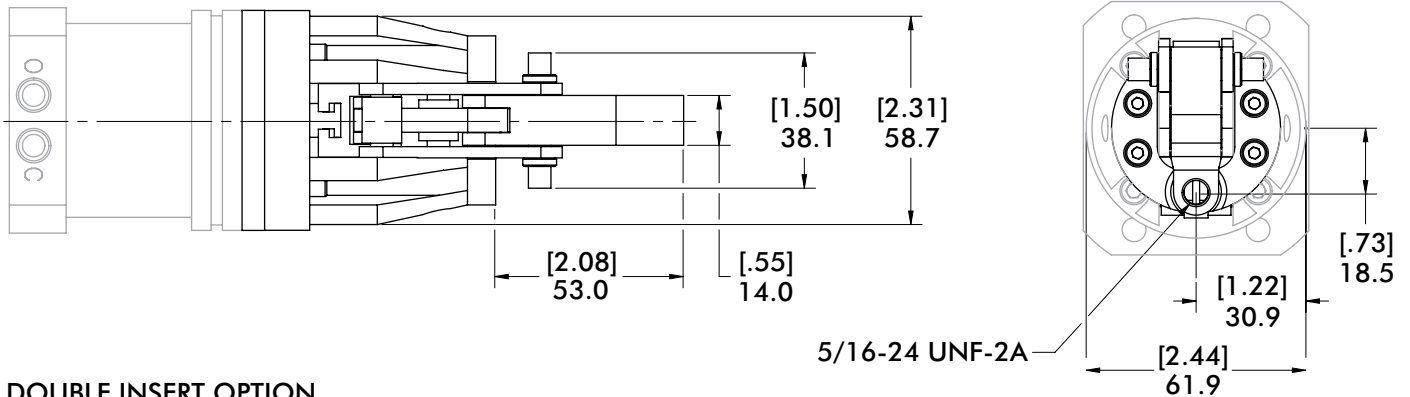
1. Loosen fasteners securing gripper body from cylinder.
2. Pull gripper body away so fasteners clear the spacer.
3. Rotate Spacer 90° (Fig. 2).
4. Reattach gripper body to cylinder and tighten fasteners.

GR1-15 SERIES

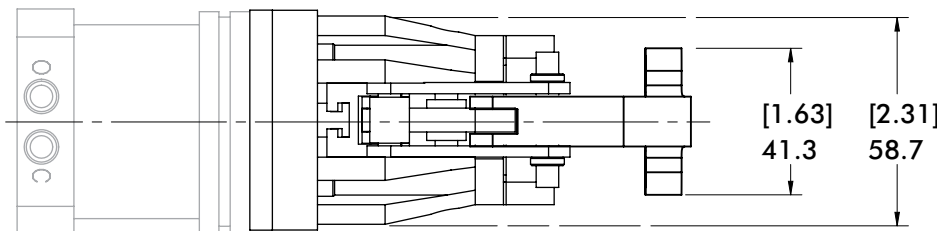
Toggle Lock Sheet Metal Grippers | Dimensions and Technical Specifications

"9DJ" 90° Drop Jaw Arrangement - Single and Double Insert

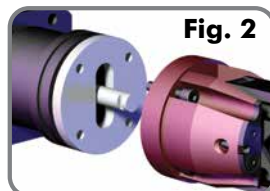
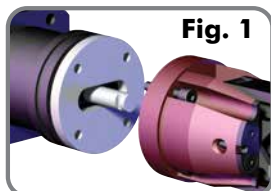
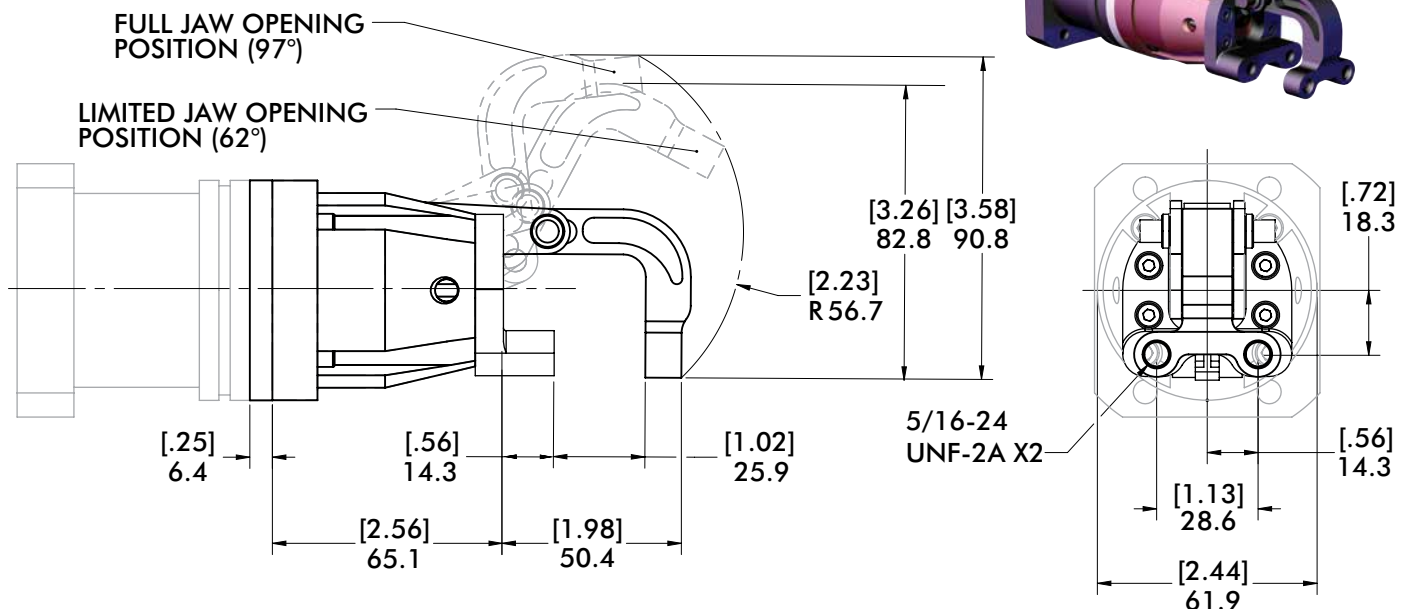
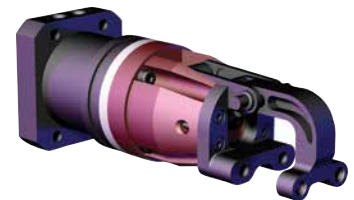
SINGLE INSERT OPTION



DOUBLE INSERT OPTION



PATENT# 6,361,095



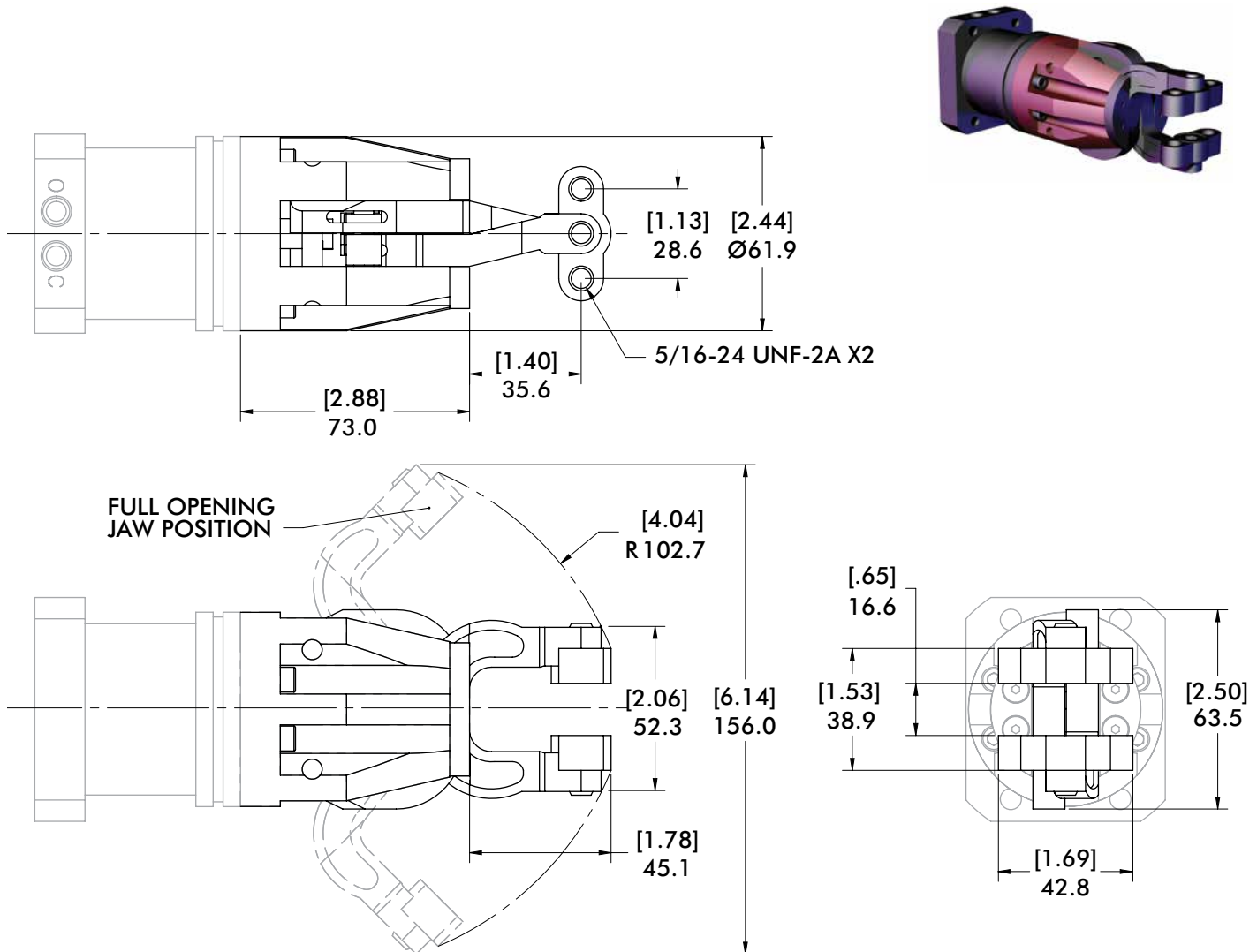
For Limited Stroke Option

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.

GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Technical Specifications

"180" 180° Angular Jaw Arrangement - Double Insert

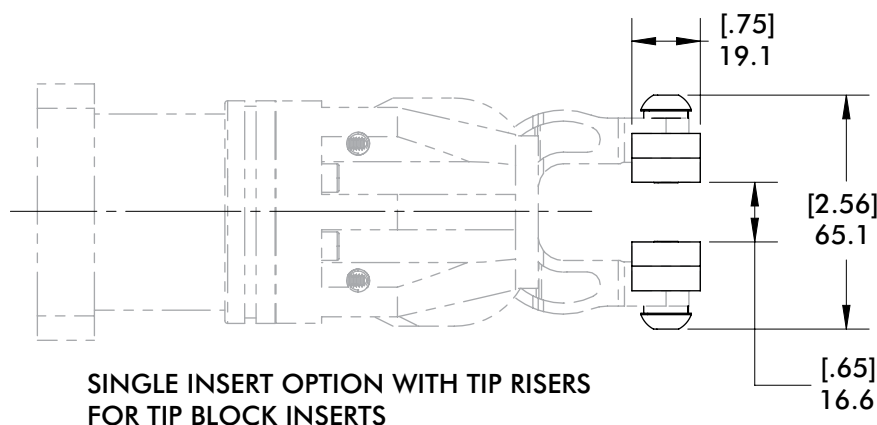
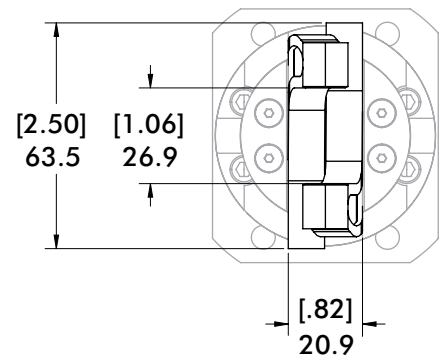
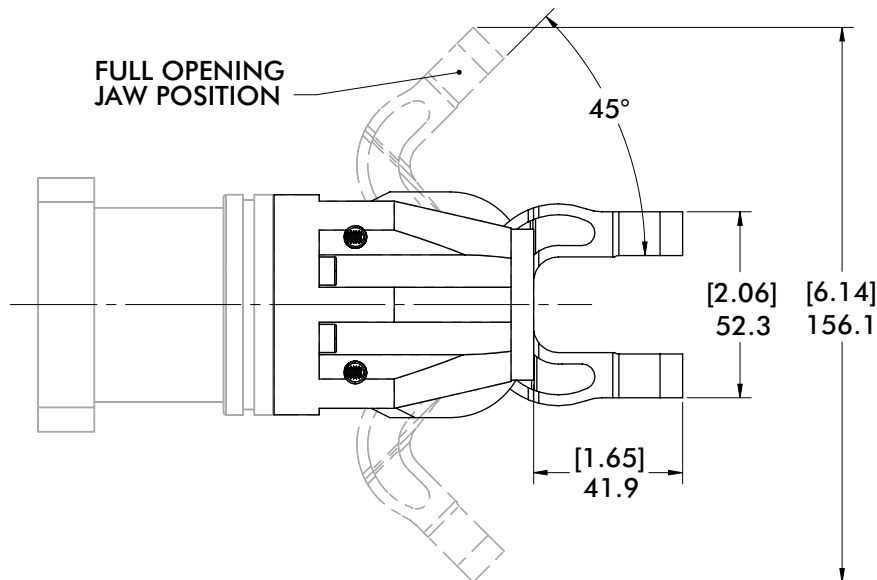
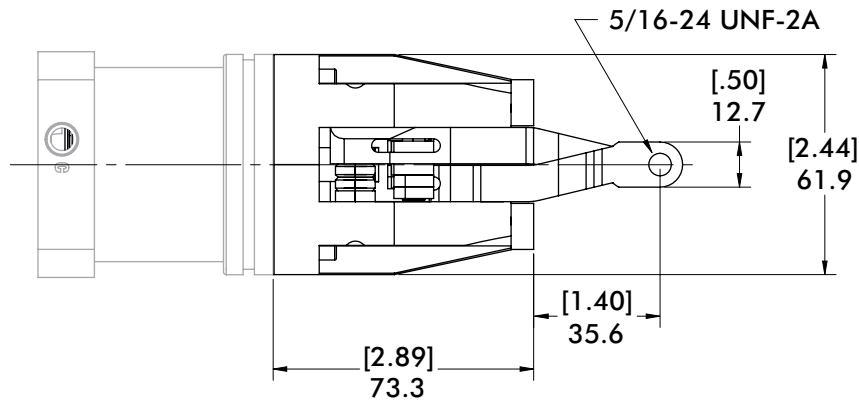


Limited Stroke Ring is **NOT** Available

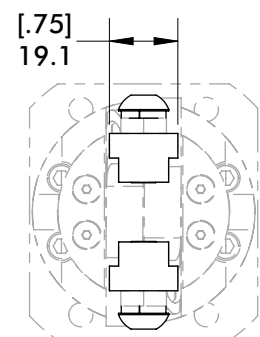
GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Technical Specifications

"180" 180° Angular Jaw Arrangement - Single Insert



SINGLE INSERT OPTION WITH TIP RISERS
FOR TIP BLOCK INSERTS



Tip Risers for Block Inserts

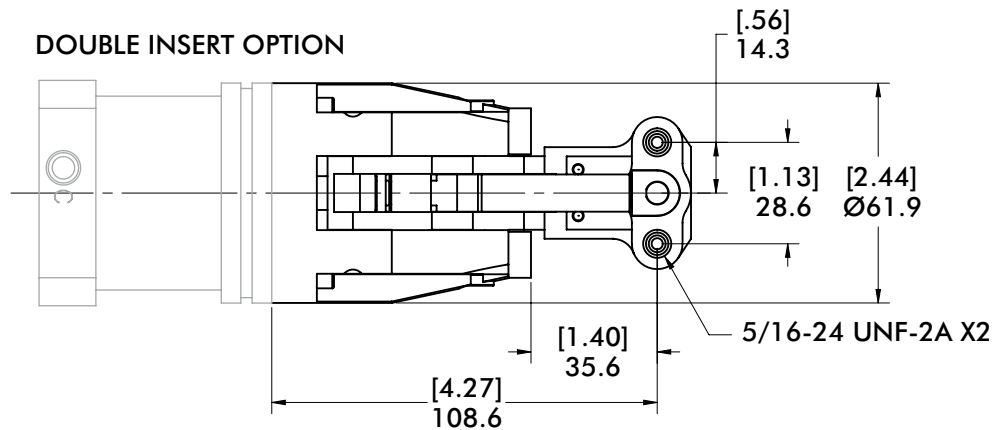
Replacement Part #

GR0314-TR

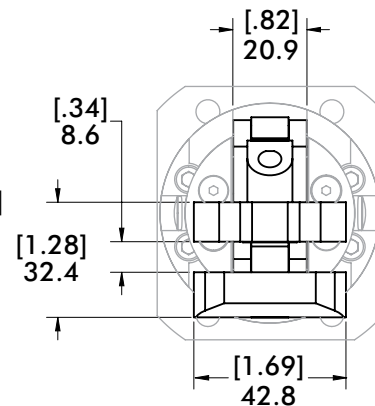
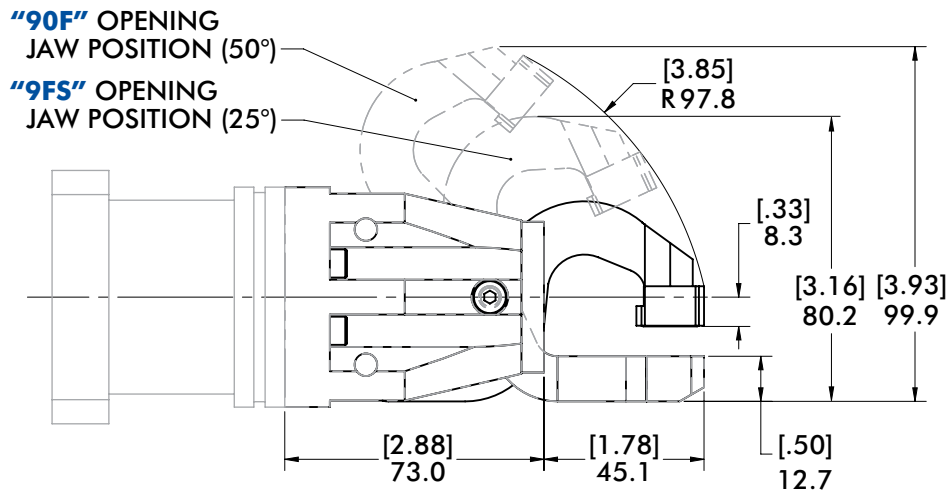
GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Technical Specifications

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



"90F"
Full Arm Opening



Limited Stroke Ring is **NOT** Available

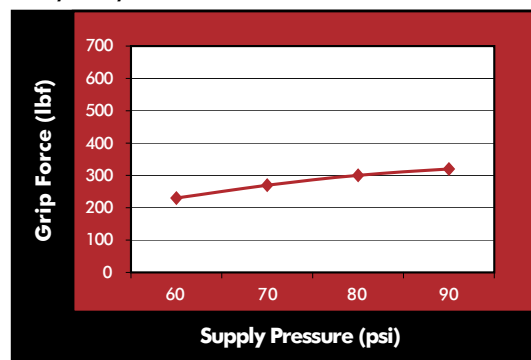


"9FS"
Limited Arm Opening
(Stroke Limiter Installed)

GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Grip Force and Technical Specifications

045/45C/FCH

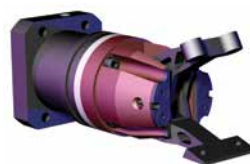


"045" 45° Angular



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

"45C" 45° Chisel



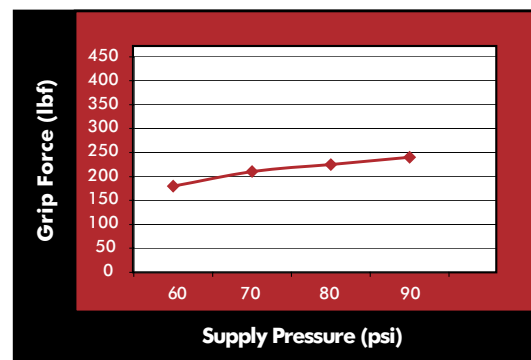
Weight:
1 kg [2.2 lb]
Grip Range:
0"- 0.063" [0 - 1mm]

"FCH" 45° Fixed Chisel



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

9DJ

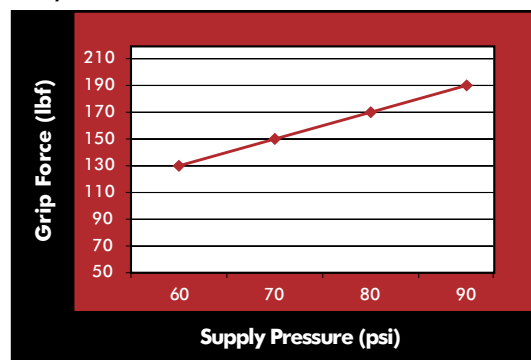


"9DJ" 90° Drop Jaw



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

90F/9FS



"90F" 90° Fixed Lower



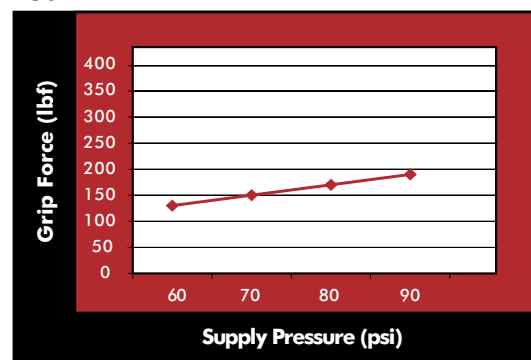
Weight:
1.1 kg [2.6 lb]
Grip Range:
0"- 0.125" [0 - 3mm]

"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]

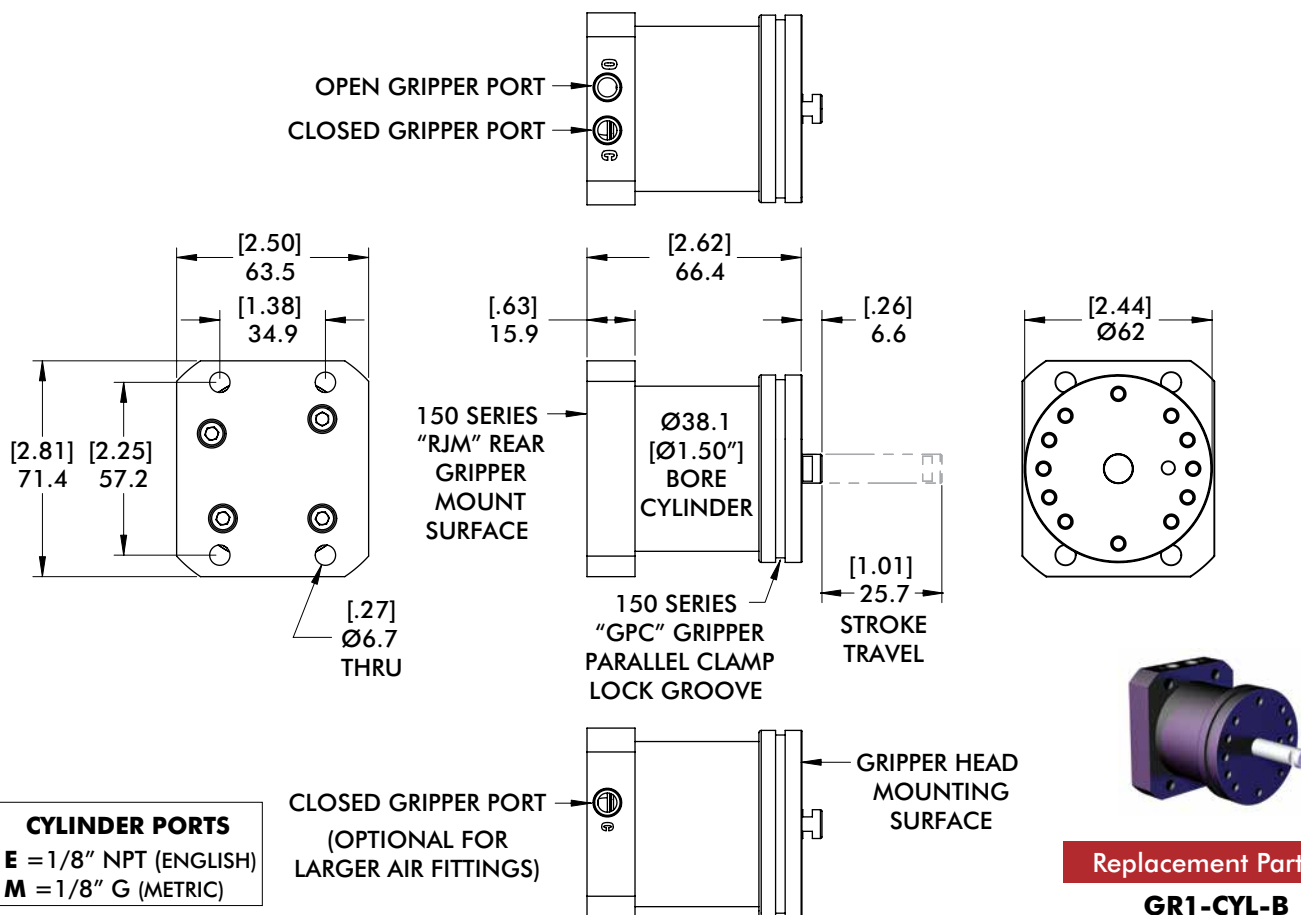
Technical Information (for all GR1 Gripper Jaw Styles)

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]

GR1-15 SERIES

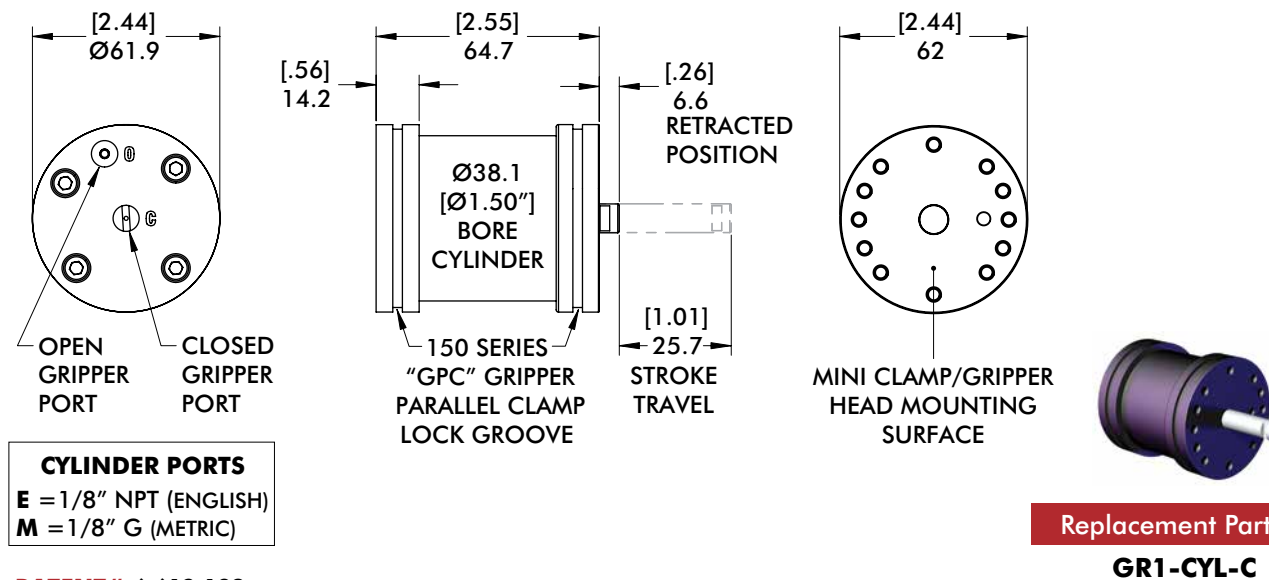
Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

"Bx" Flange Base Cylinder



PATENT# 6,619,182

"Cx" Round Base Cylinder

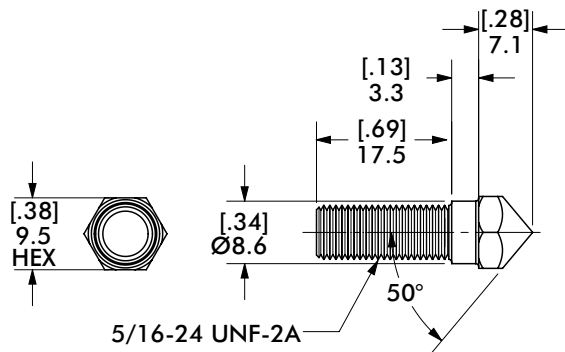


PATENT# 6,619,182

GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

"P", "C", "S", "U" Jaw Inserts



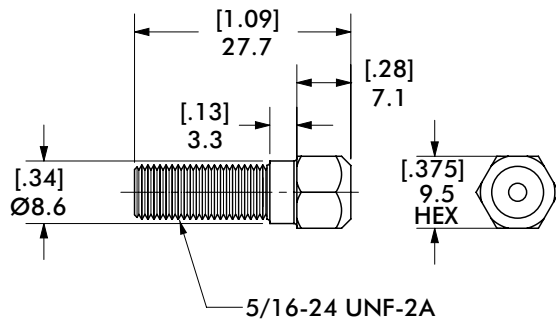
"P"



Point Jaw Inserts

Replacement Part #

GR0304



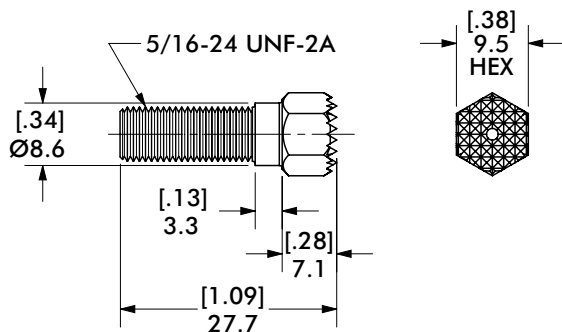
"C"



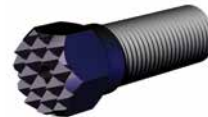
Cup Jaw Inserts

Replacement Part #

GR0305



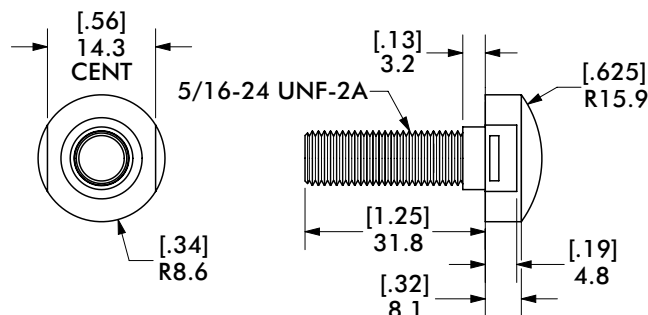
"S"



Serrated Jaw Inserts

Replacement Part #

GR0341



"U"



Urethane Jaw Inserts

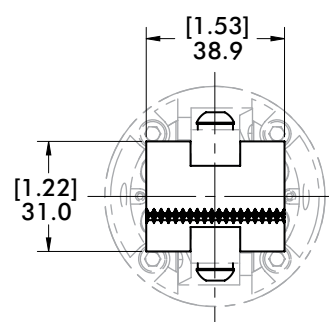
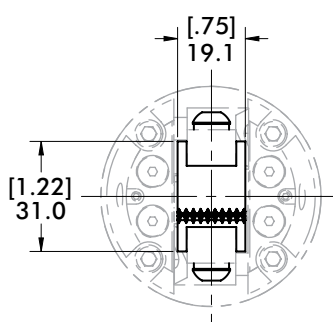
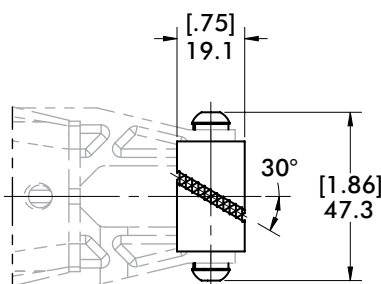
Replacement Part #

GR0338

GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

"S30" and "D30" 30° Angle Serrated Block Inserts



"S30"



Single Upper/Lower
30° Angle Insert Block

Replacement Part #

GR1-INS-SD30S

"D30"

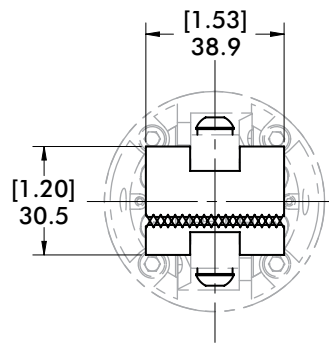
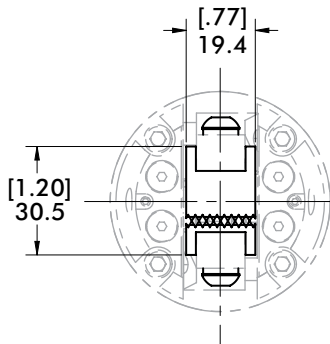
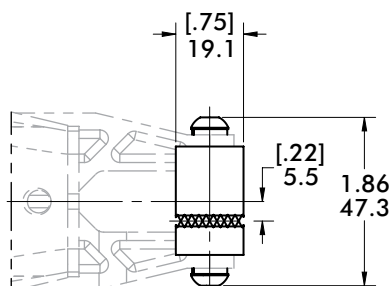


Double Upper/Lower
30° Angle Insert Block

Replacement Part #

GR1-INS-D30S

"SOF" and "DOF" Offset Serrated Block Inserts



"SOF"



"DOF"



Single Upper
Offset Insert Block

Replacement Part #

GR1-INS-SDUOS

Single Lower
Offset Insert Block

Replacement Part #

GR1-INS-SDLOS

Double Upper
Offset Insert Block

Replacement Part #

GR1-INS-DUOS

Double Lower
Offset Insert Block

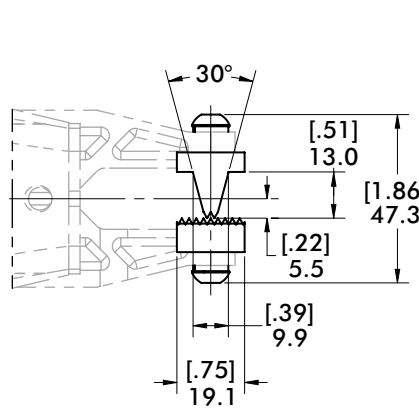
Replacement Part #

GR1-INS-DLOS

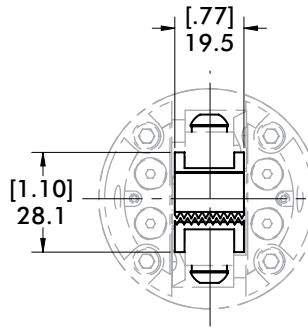
GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

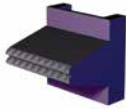
"SDB" and "DDB" Draw Bead Serrated Block Inserts



"SDB"



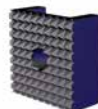
"DDB"



Single Upper
Draw Bead Insert Block

Replacement Part #

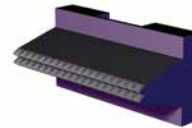
GR1-INS-Sddb



Single Lower
Draw Bead Insert Block

Replacement Part #

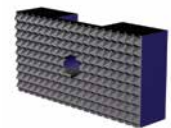
GR1-INS-SdLoS



Double Upper
Draw Bead Insert Block

Replacement Part #

GR1-INS-DDB

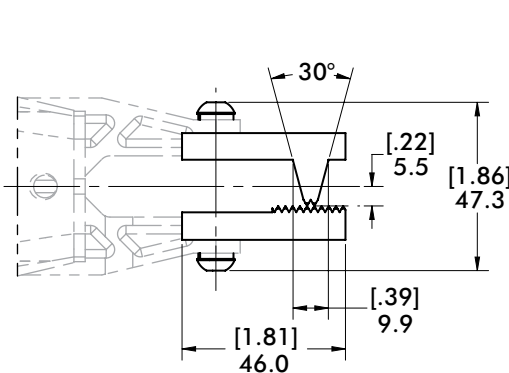


Double Lower
Draw Bead Insert Block

Replacement Part #

GR1-INS-DLoS

"SED" Extended Draw Bead Serrated Block Inserts



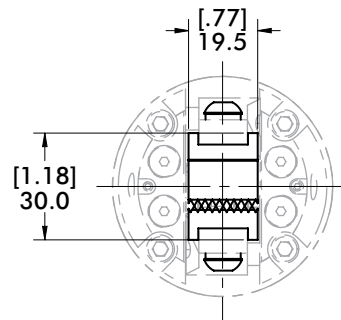
"SED"



Upper Extended
Draw Bead Insert Block

Replacement Part #

GR1-INS-Sddb-3



Lower Extended
Draw Bead Insert Block

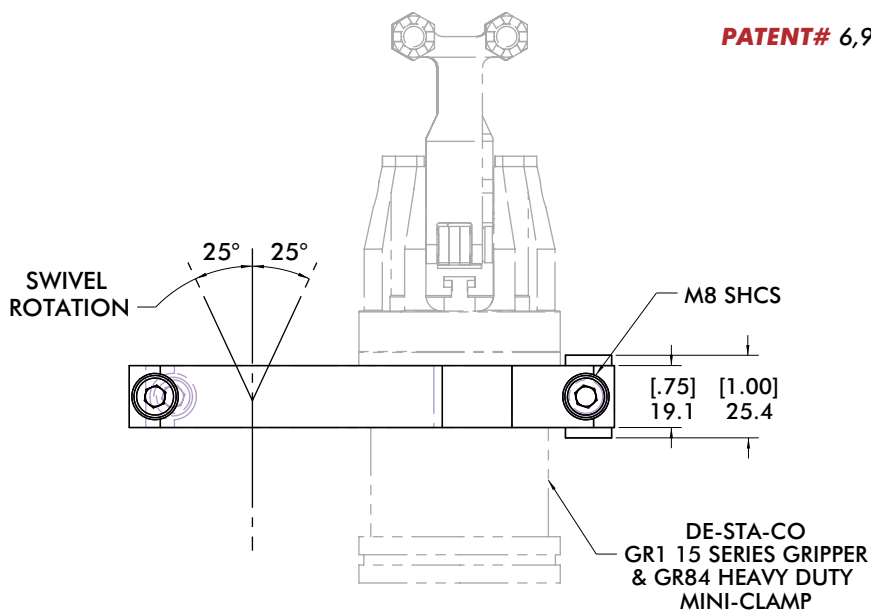
Replacement Part #

GR1-INS-SdLoS-3

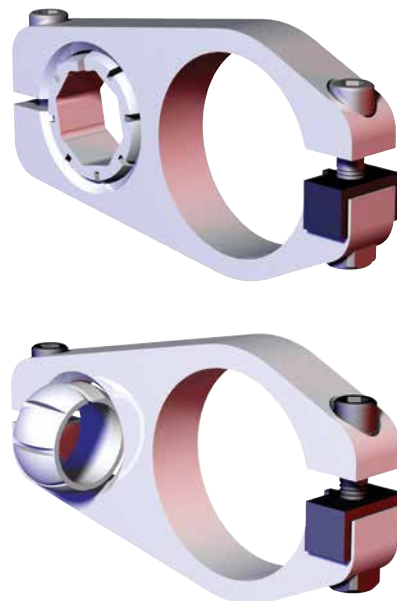
GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

"MAx" Swivel Parallel Gripper Mounts

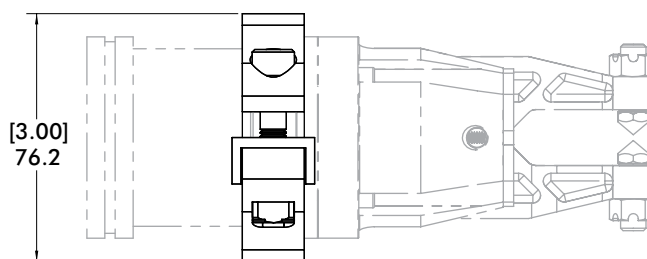
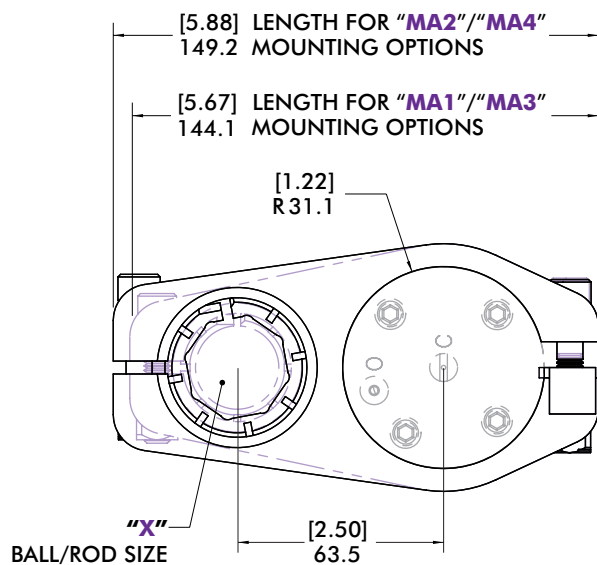


PATENT# 6,988,696



Snap-In Ball

Special patented design allows user to replace ball without disassembly



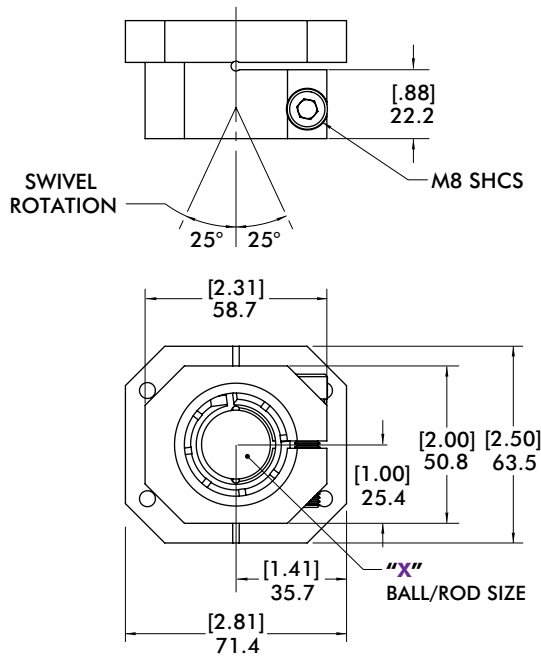
Mounting Option	Rod/Ball "X"	Replacement Part#
MA1	Ø1.00"	CPI-GPC-150-100S-DC
MA2	Ø1.25"	CPI-GPC-150-125S-DC
MA3	Ø25mm	CPI-GPC-150-25MS-DC
MA4*	30mm BB	CPI-GPC-150-30BBS-DC

*"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.

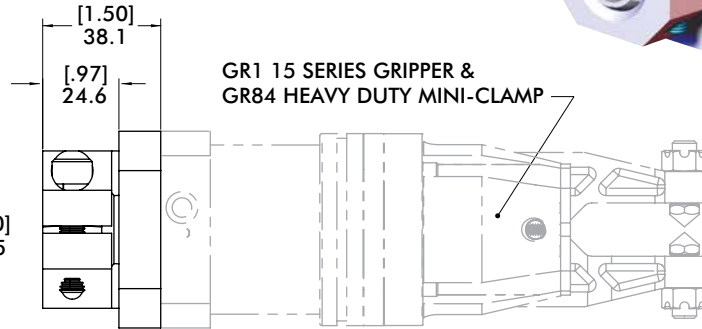
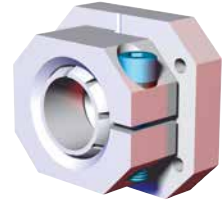
GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

"MB1" and "MB3" Rear Swivel Gripper Mount

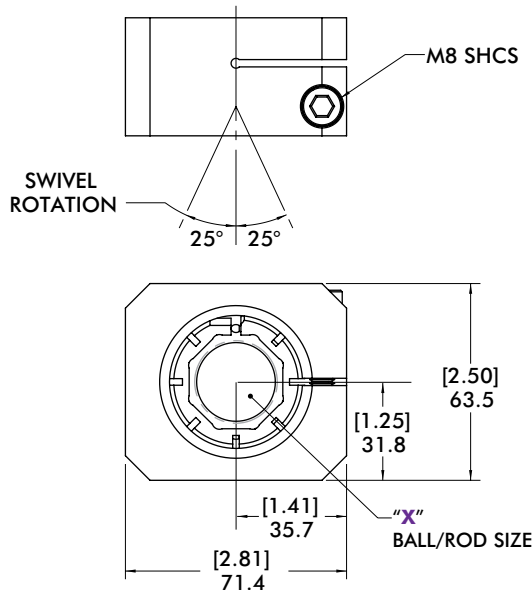


PATENT# 6,988,696

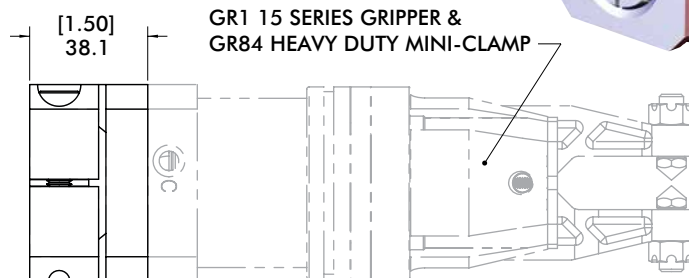
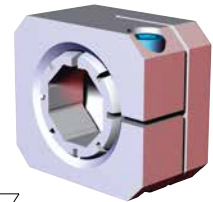


Mounting Option	Rod/Ball "X"	Replacement Part#
MB1	Ø1.00"	CPI-RJM-150-100S
MB3	Ø25mm	CPI-RJM-150-25S

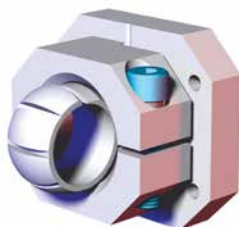
"MB2" and "MB4" Rear Swivel Gripper Mount



PATENT# 6,988,696



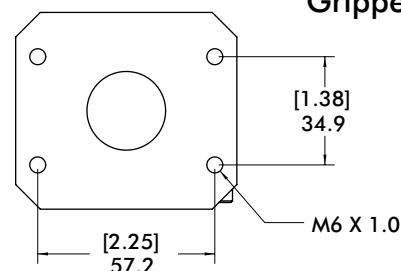
Mounting Option	Rod/Ball "X"	Replacement Part#
MB2	Ø1.25"	CPI-RJM-150-125S
MB4*	30mm BB	CPI-RJM-150-30BBS



PATENT# 6,988,696

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

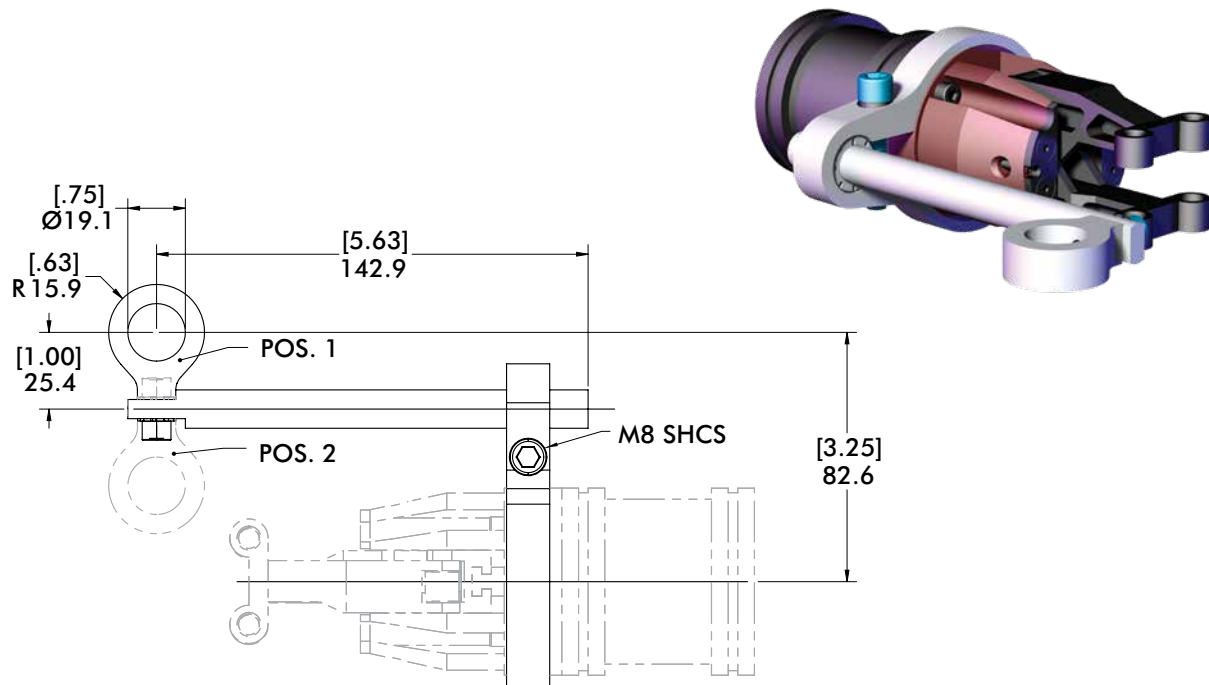
"MBx" Rear Swivel Gripper Mount Gripper Mounting Pattern



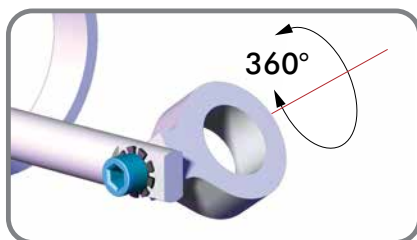
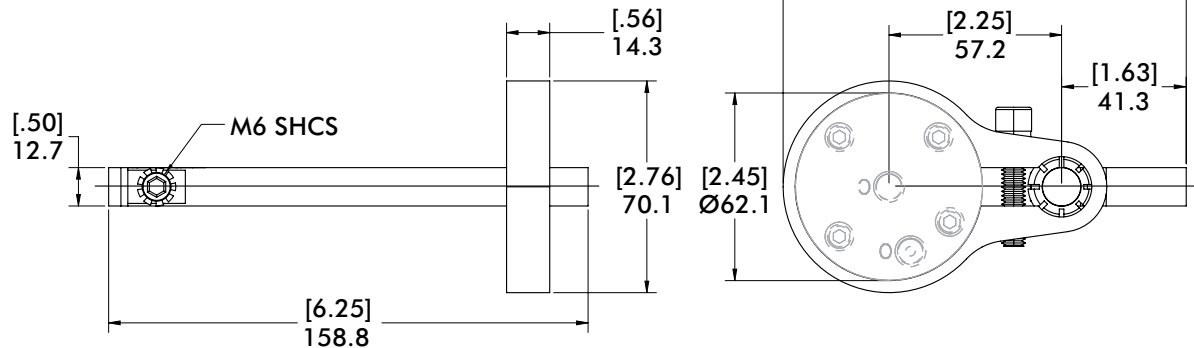
GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

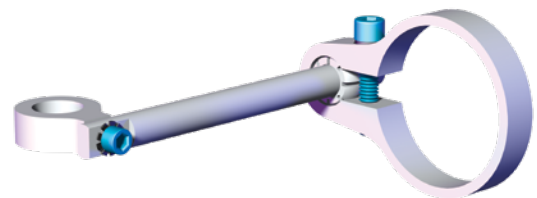
18mm Swivel Proximity Sensor Mount



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



**POS. 2: 360° ROTATION OPTION
ALONG ONE AXIS**



Replacement Part #

CPI-GPM-15-18

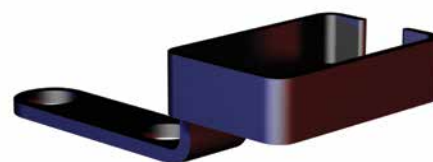
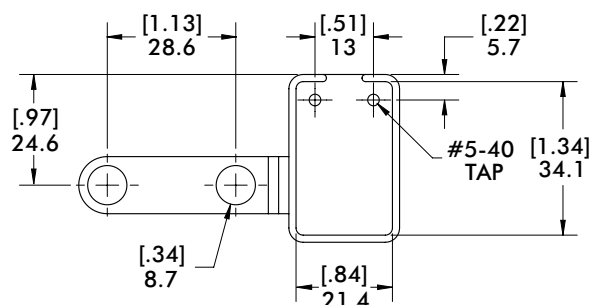
GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions, Technical and Ordering Information

"A04" and "P03" Sensor Options

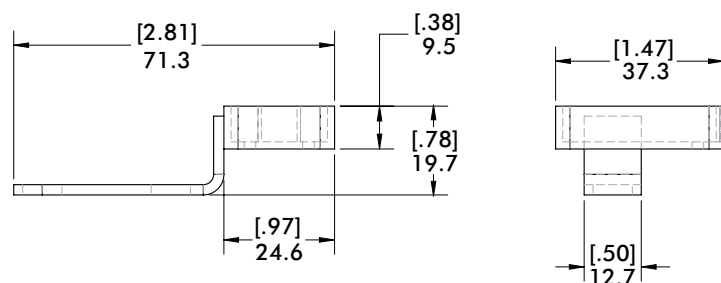
"A04" (Turck) Replacement Part# **"Bi 5-Q08-VP6X2-0.2M-RS4.4T"** ..10...30 VDC 150mA, PNP, 4-Pin, M12, Eurofast
"P03" (P & F) Replacement Part# **"NBB5-F104M-E2-C-200MM-V1"** ..10...30 VDC 150mA, PNP, 4-Pin, M12, Eurofast
(Sensors include "GR0326" Proximity Switch Mount when ordered with GR1-15 Series.)

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

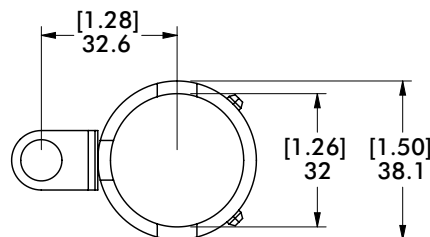


Replacement Part #

GR0326

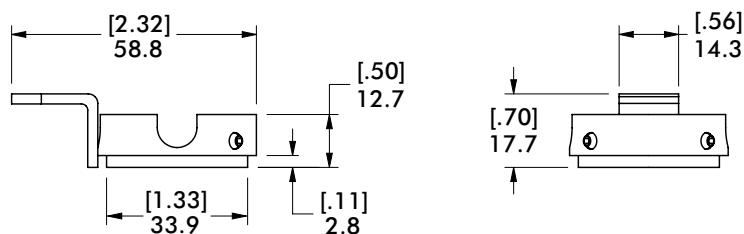


Barrel Style Proximity Switch Mount



Replacement Part #

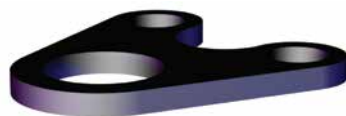
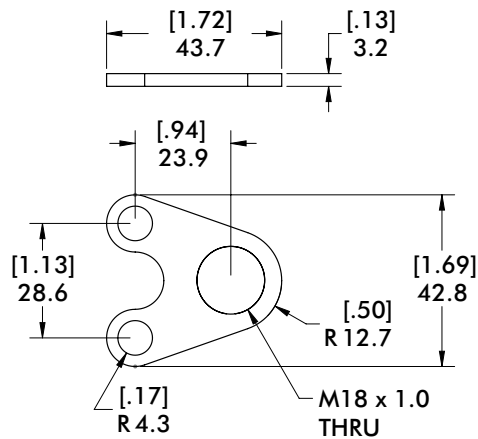
GR1-15-PM-31



GR1-15 SERIES

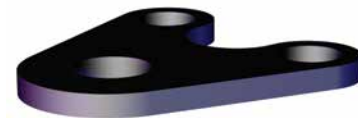
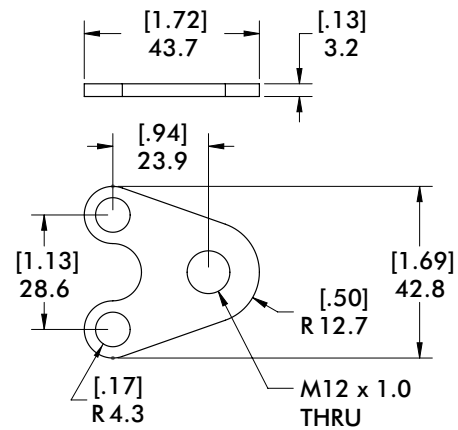
Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

Ø18mm and Ø12mm Inline Proximity Switch Mount



Replacement Part #

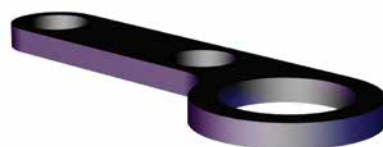
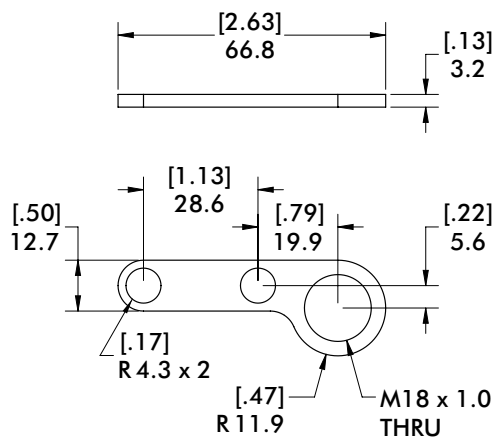
CPI-PM-15D-18



Replacement Part #

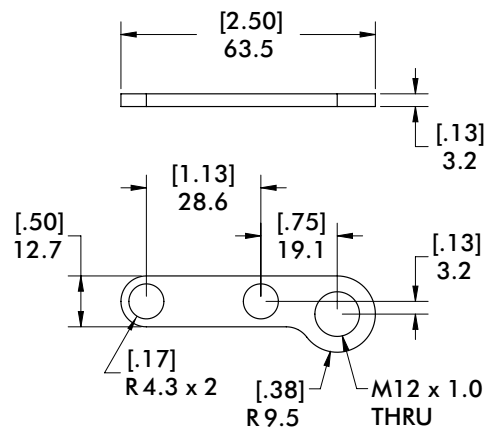
CPI-PM-15D-12

Ø18mm and Ø12mm Offset Proximity Switch Mount



Replacement Part #

CPI-PM-15S-18



Replacement Part #

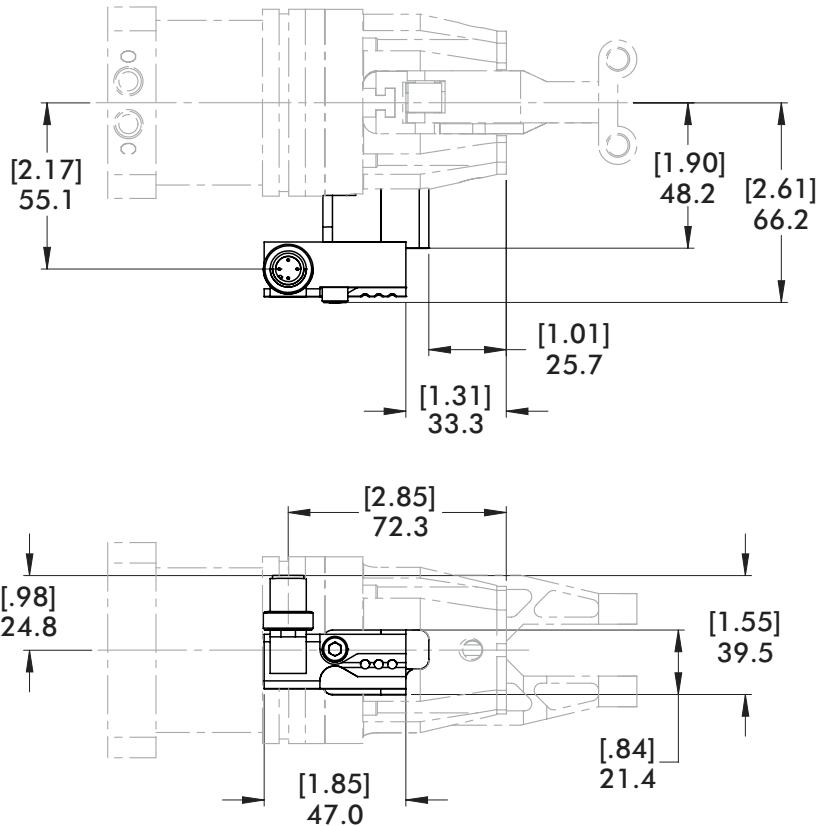
CPI-PM-15S-12

GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions, Technical and Ordering Information

"T04" Open/Closed Sensor Option

This sensor option can only be used at full stroke.

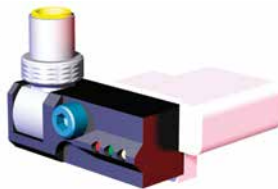


Replacement Part

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



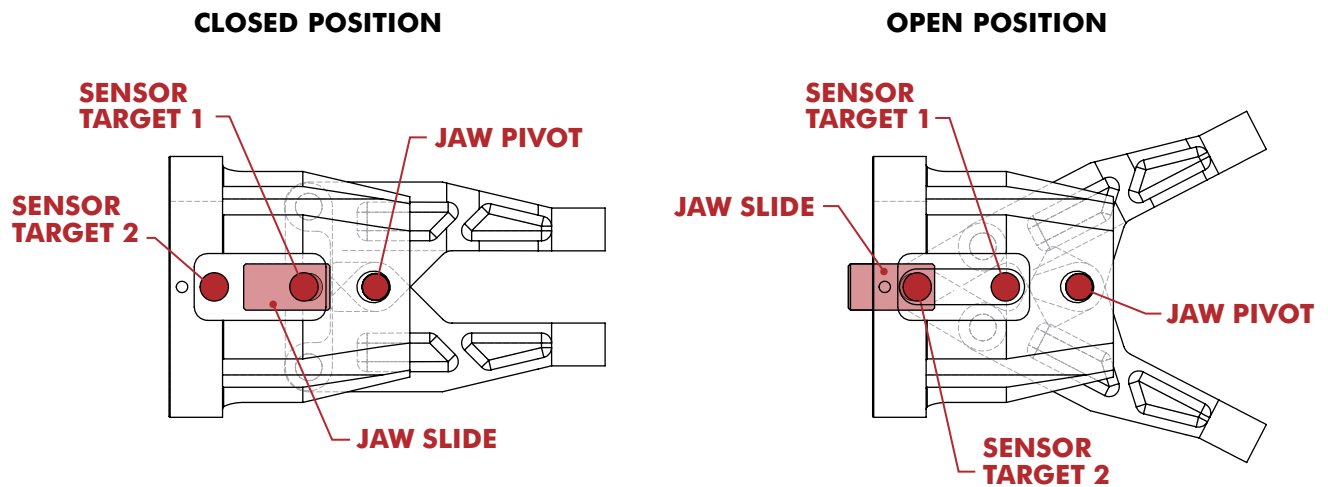
PIN 1) BROWN: POSITIVE POWER
PIN 2) BLACK: SIGNAL FOR GRIPPER CLOSED
PIN 3) BLUE: NEGATIVE POWER
PIN 4) BLACK: SIGNAL FOR GRIPPER OPEN

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

GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Technical Information

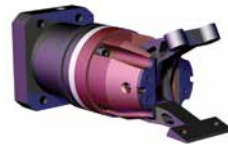
"T04" Open/Closed Target Position



"045" 45° Angular



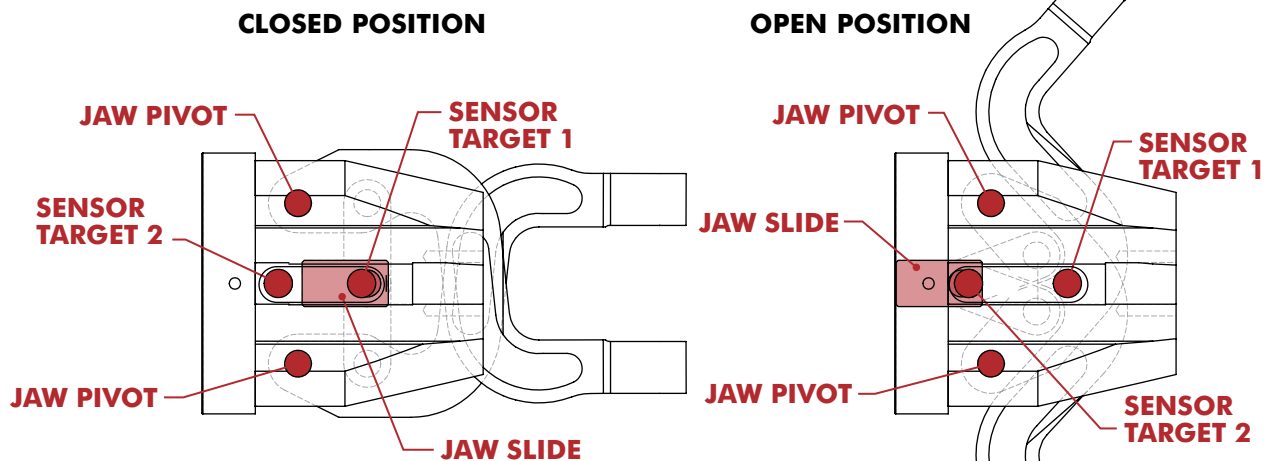
"45C" 45° Chisel



"FCH" 45° Fixed Chisel



"9DJ" 90° Drop Jaw



"90F" 90° Fixed Lower



"9FS" 90° Fixed Lower with Limited Stroke



"180" 180° Angular

