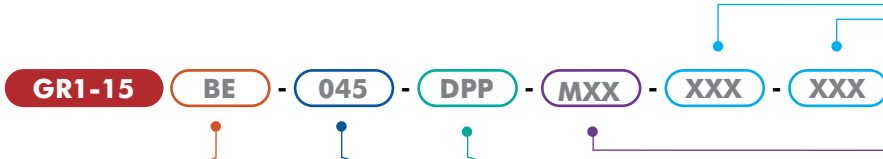


GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Ordering Information

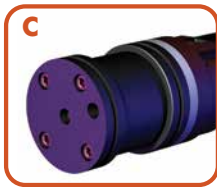
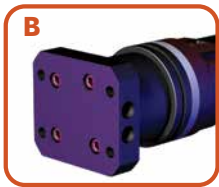


Cylinder Type & Porting

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

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

(See pages SG-TGL-120-123 for sensor specifications)

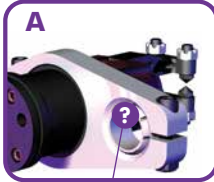
Mount Options

Step 1 - Mount Type Choose One

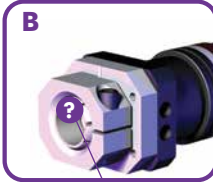
- M**
- A** Parallel Swivel Mount
 - B** Rear Swivel Clamp Mount
 - C** Rear Fixed Welded Style
 - D** Rear Fixed Clamp Mount
 - X** No Mount

Step 2 - Mount Ball/Rod Size Choose One

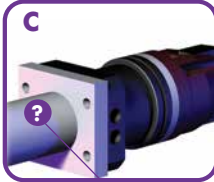
- M**
- | | |
|-----------------------------------|------------------------------|
| 1 1.00" W/Metric Fasteners | 5 1.50" (Type C Only) |
| 2 1.25" W/Metric Fasteners | 6 40Mm (Type C Only) |
| 3 25Mm Metric Fasteners | 7 M1514 (Type D Only) |
| 4 30Mm Bodybuilder/Metric | X No Mount |



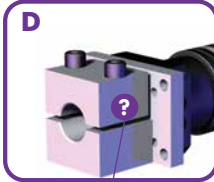
1 2 3 4
Mount Ball Sizes Available



1 2 3 4
Mount Ball Sizes Available



1 3 5 6
Mount Rod Sizes Available

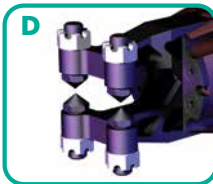
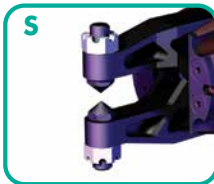


7
Mount Size Available

Points & Tip Insert Options

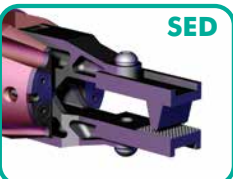
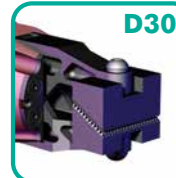
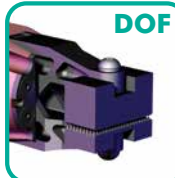
Step 1 - Point Tip Options Choose One

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



- 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



Step 2 - Upper Tip Insert Options Choose One

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



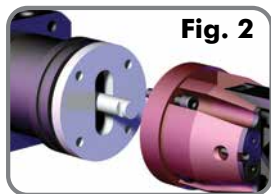
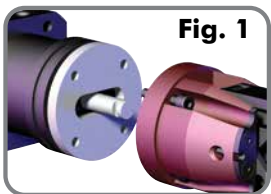
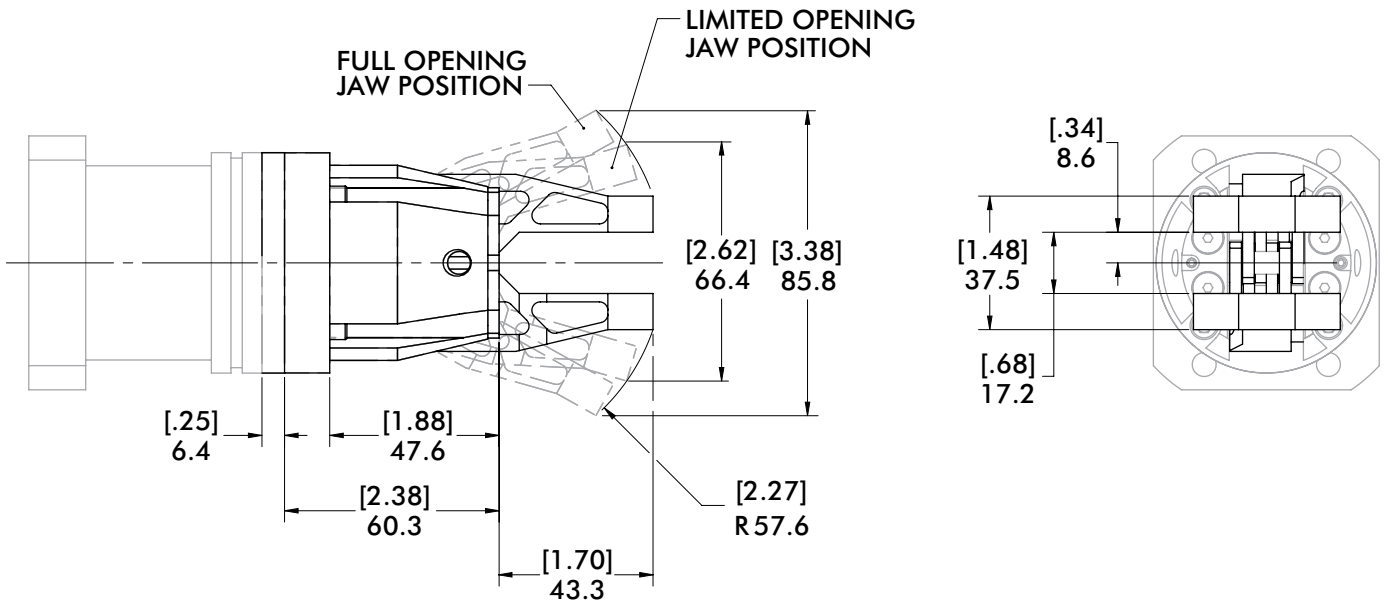
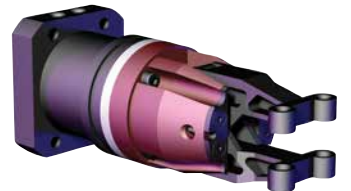
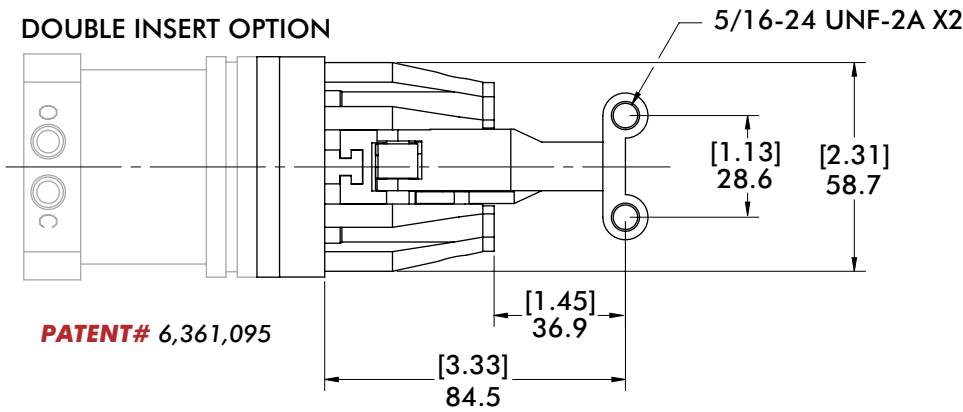
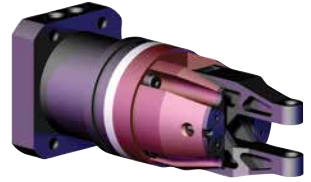
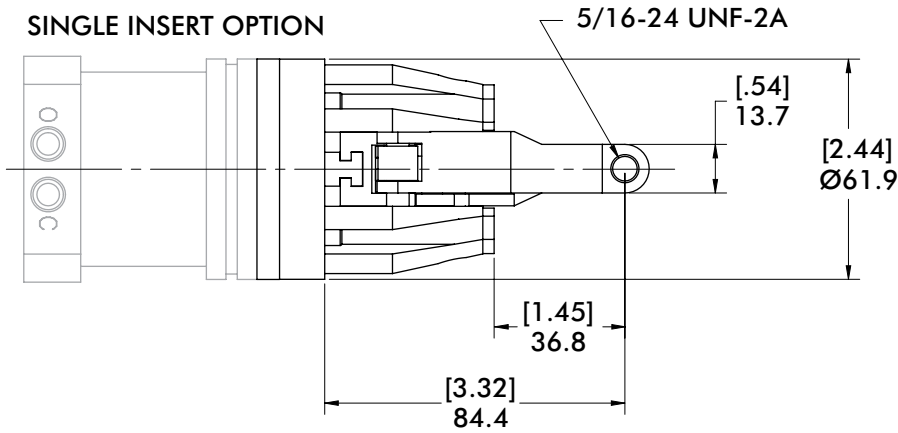
Step 3 - Lower Tip Insert Options Choose One Above

- D** **P**

GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Technical Specifications

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



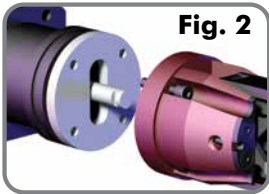
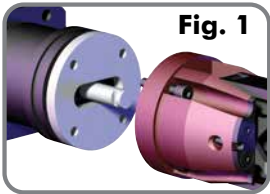
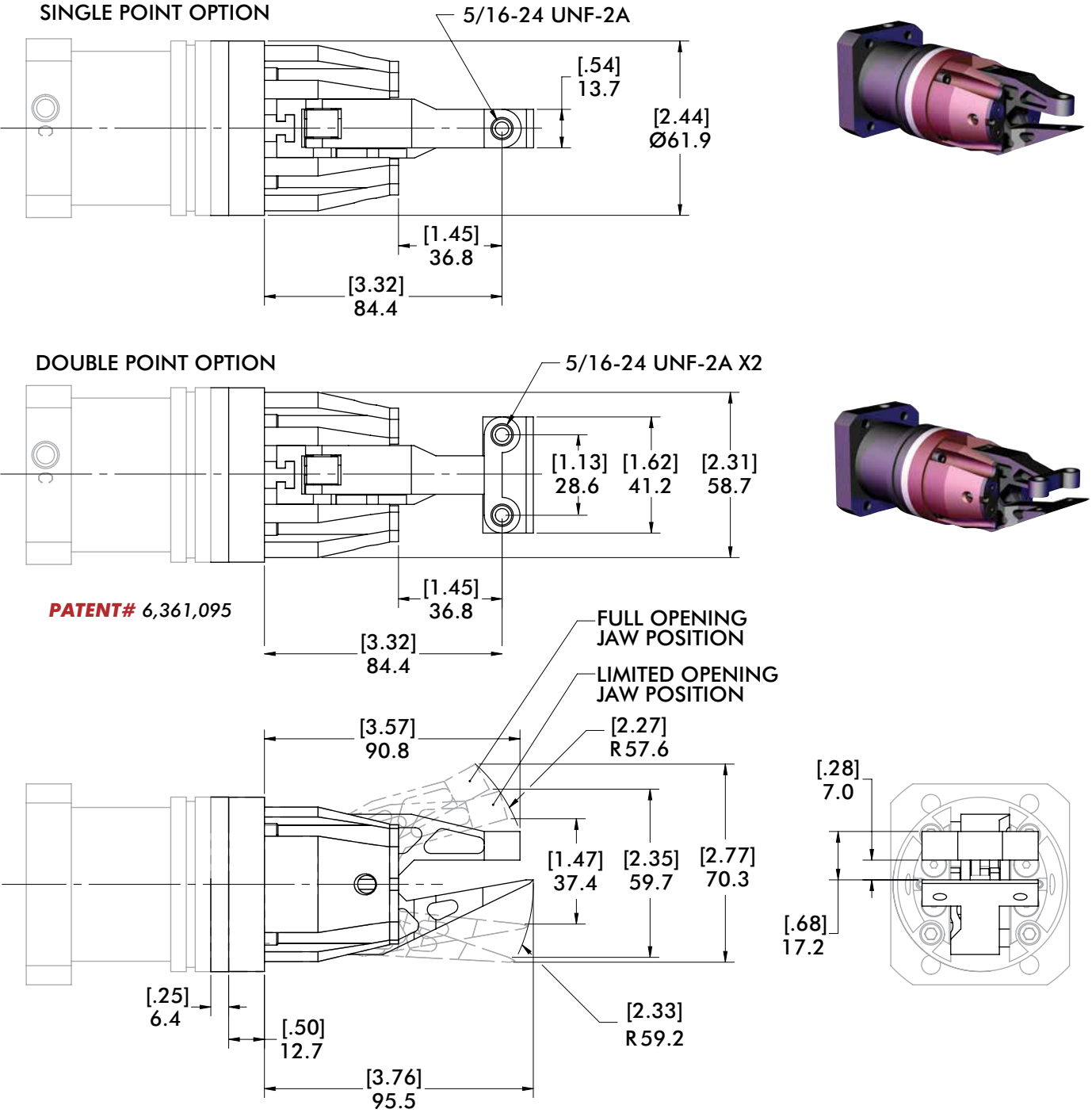
For Limited Stroke Option

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

"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

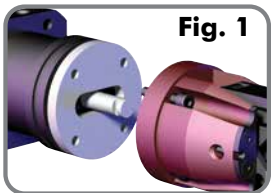
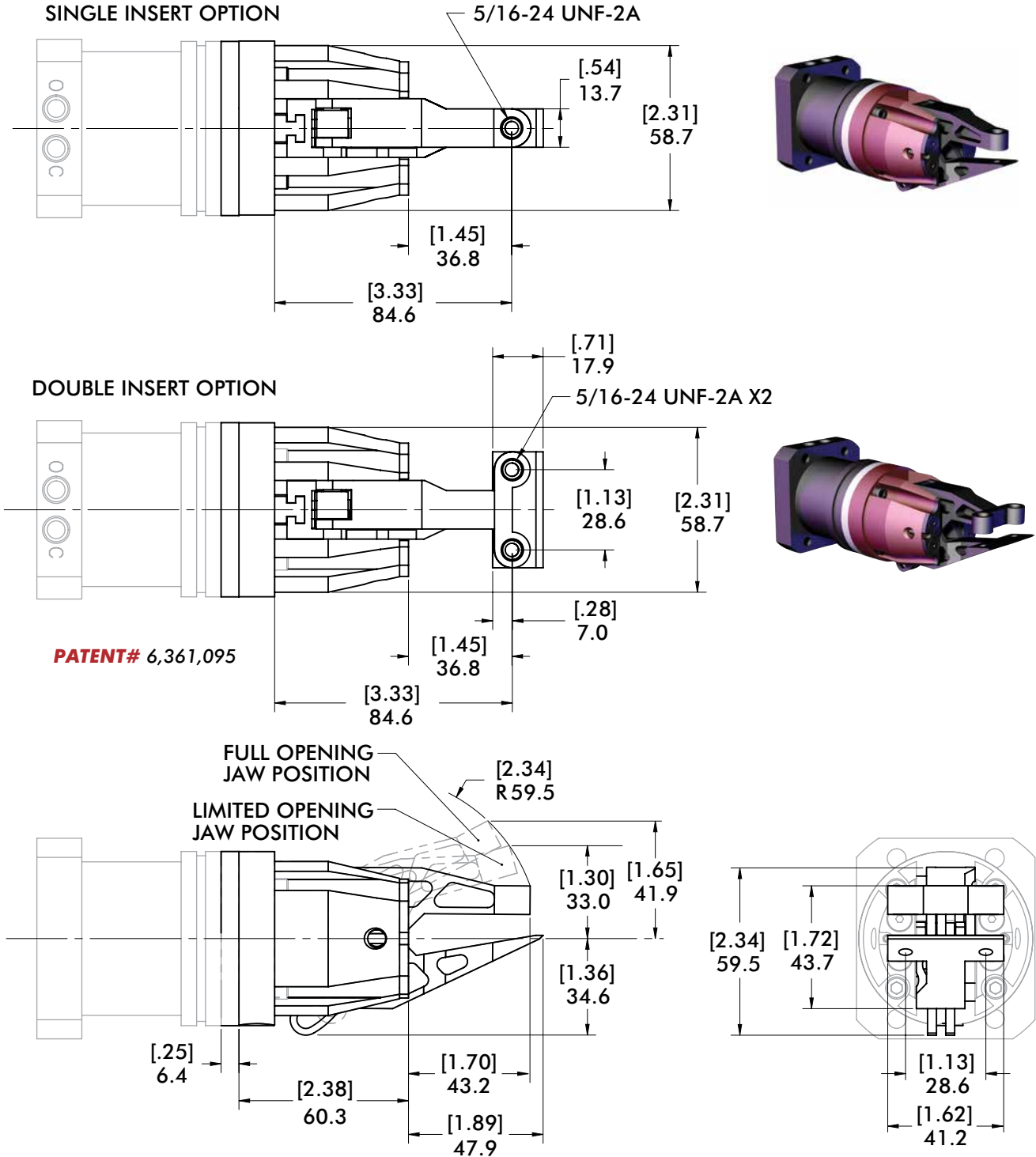


Fig. 1

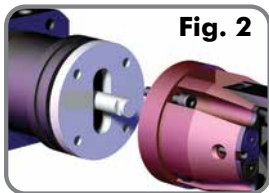


Fig. 2

For Limited Stroke Option

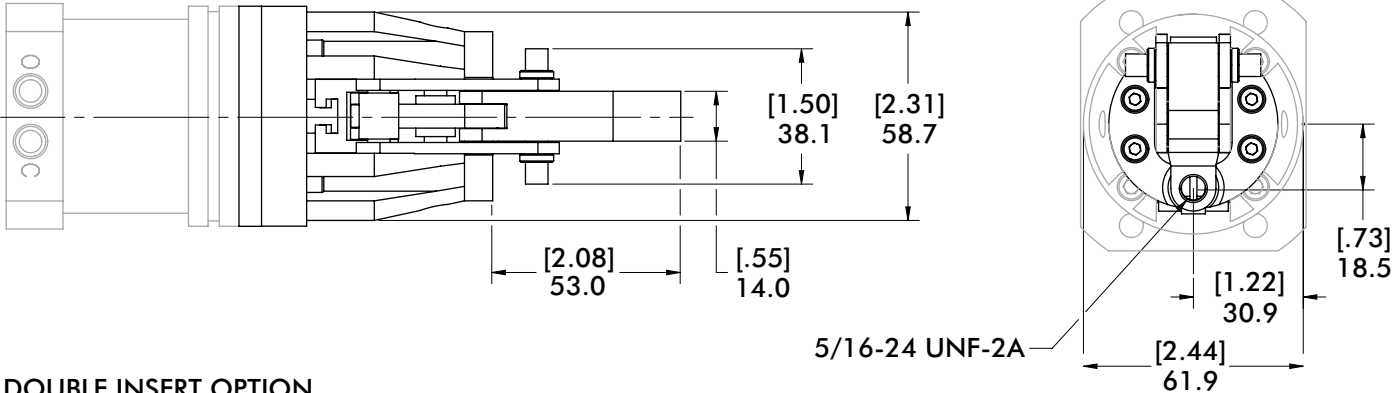
1. Loosen fasteners securing gripper body from cylinder.
2. Pull gripper body away so fasteners clear the spacer.
3. Rotate Spacer 90° (Fig. 2).
4. Reattach gripper body to cylinder and tighten fasteners.

GR1-15 SERIES

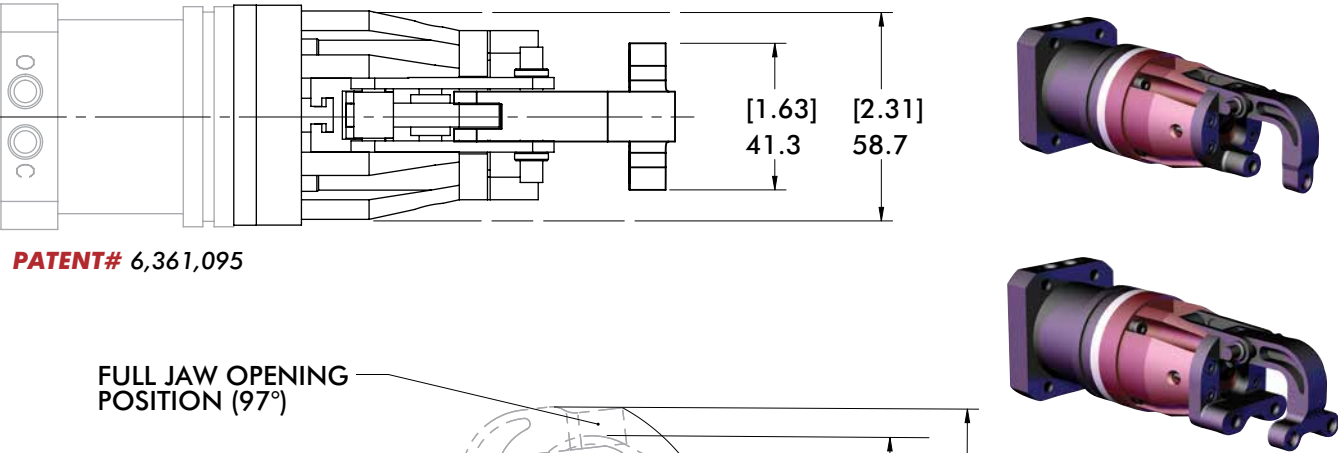
Toggle Lock Sheet Metal Grippers | Dimensions and Technical Specifications

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

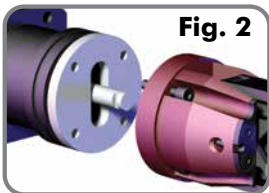
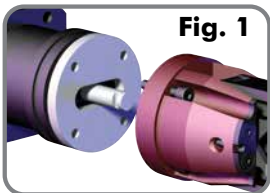
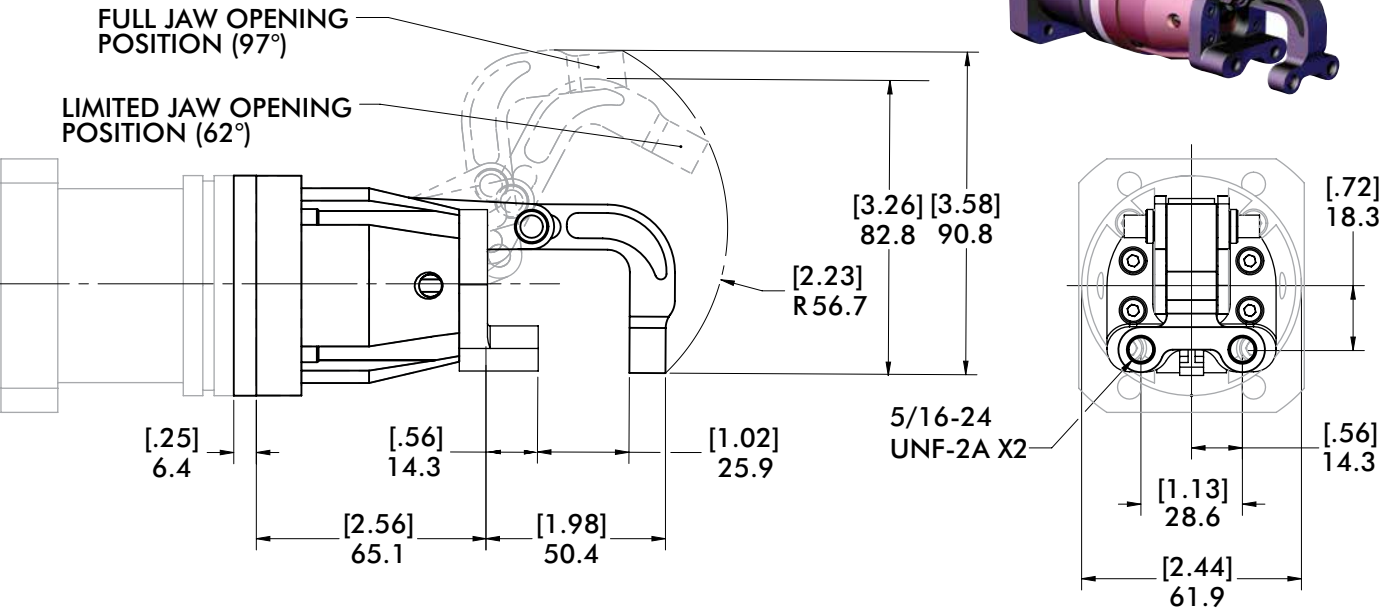
SINGLE INSERT OPTION



DOUBLE INSERT OPTION



PATENT# 6,361,095



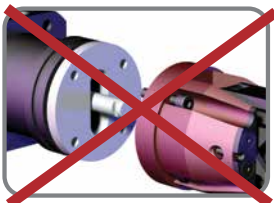
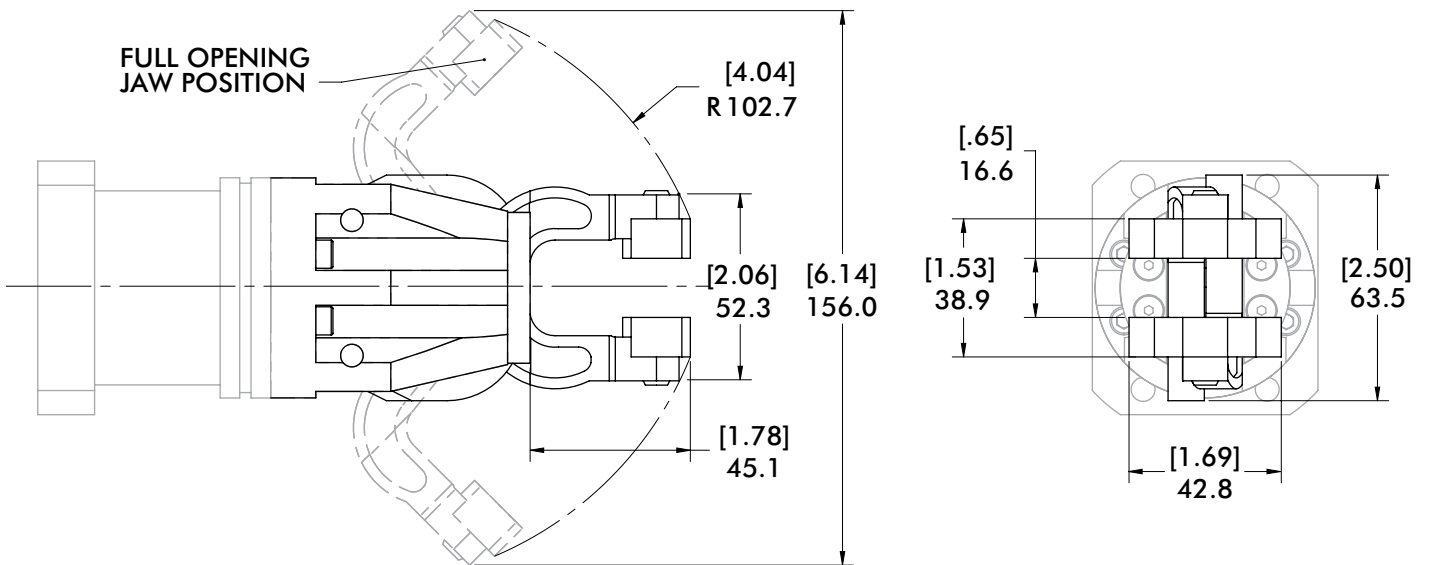
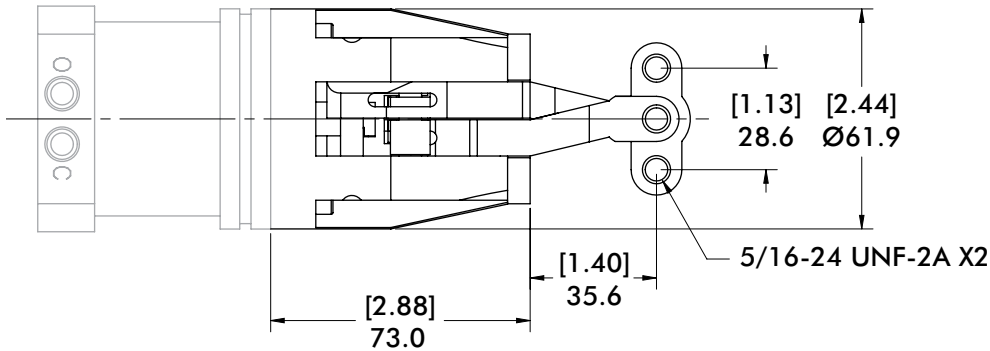
For Limited Stroke Option

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

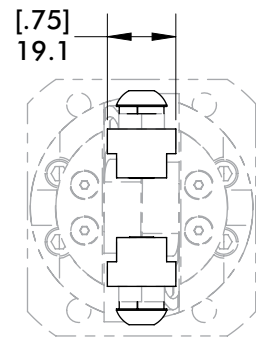
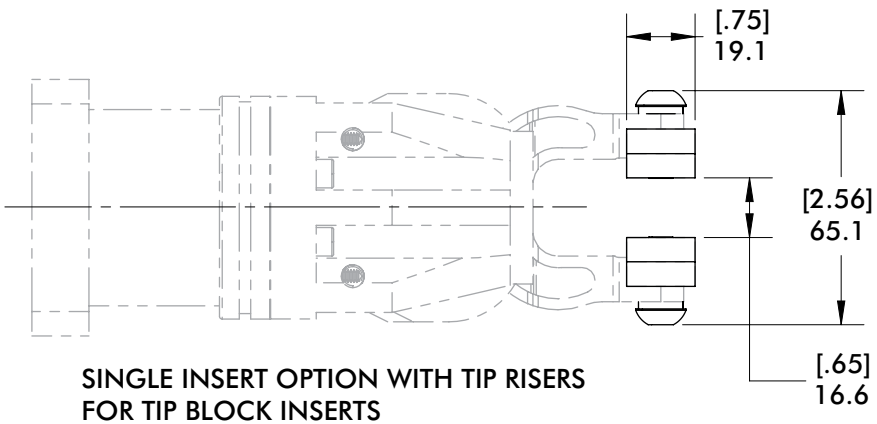
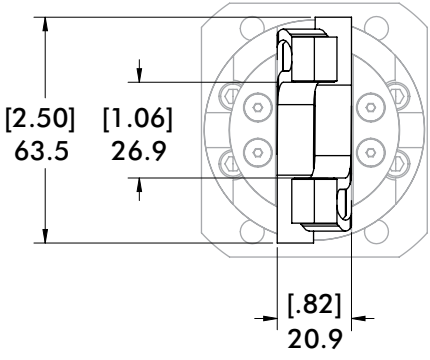
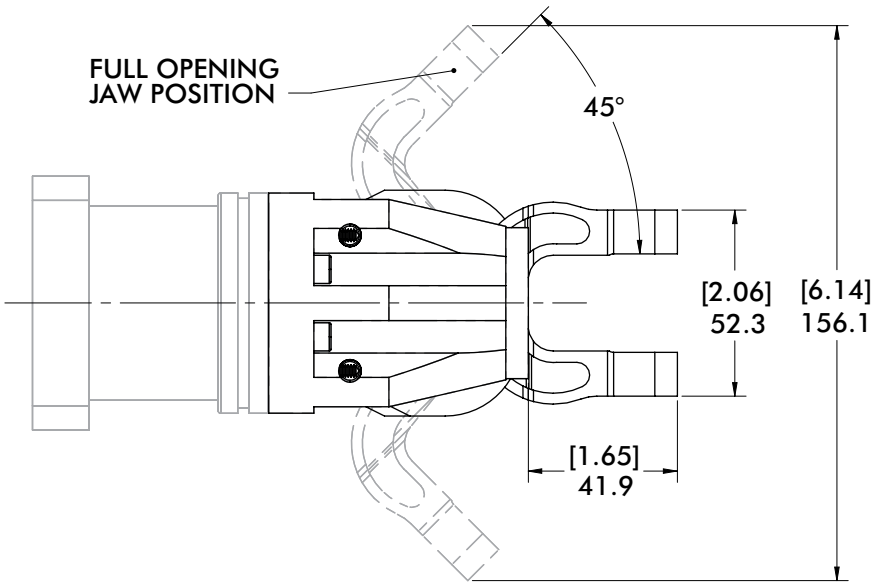
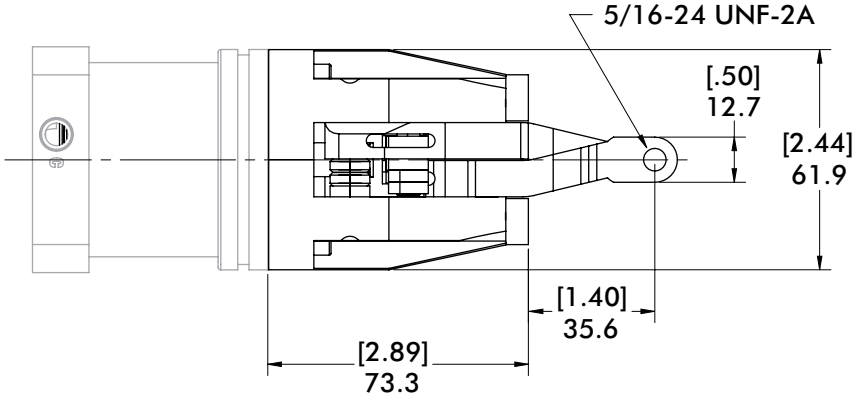


Limited Stroke Ring is **NOT** Available

GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Technical Specifications

"180" 180° Angular Jaw Arrangement - Single Insert



Tip Risers for Block Inserts

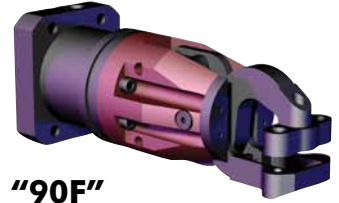
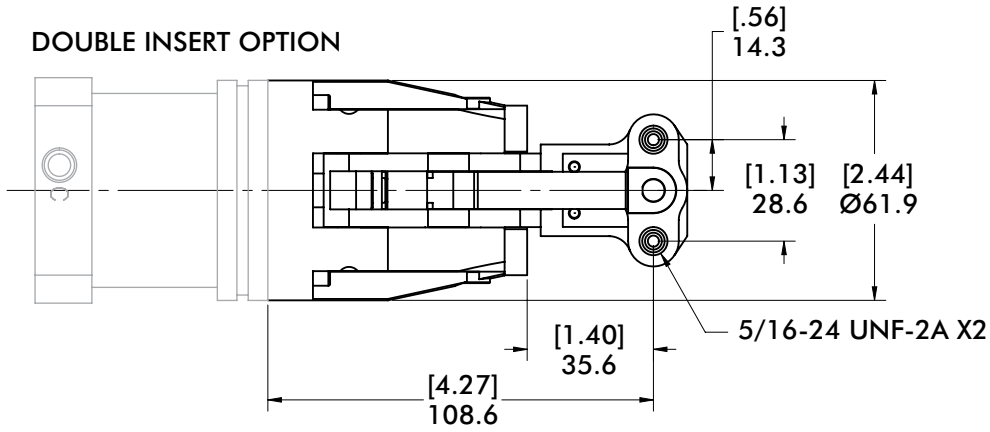
Replacement Part #

GR0314-TR

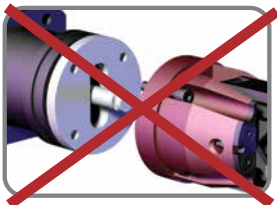
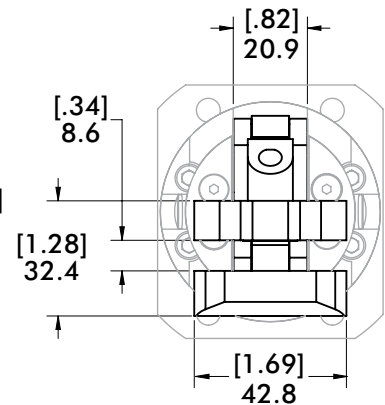
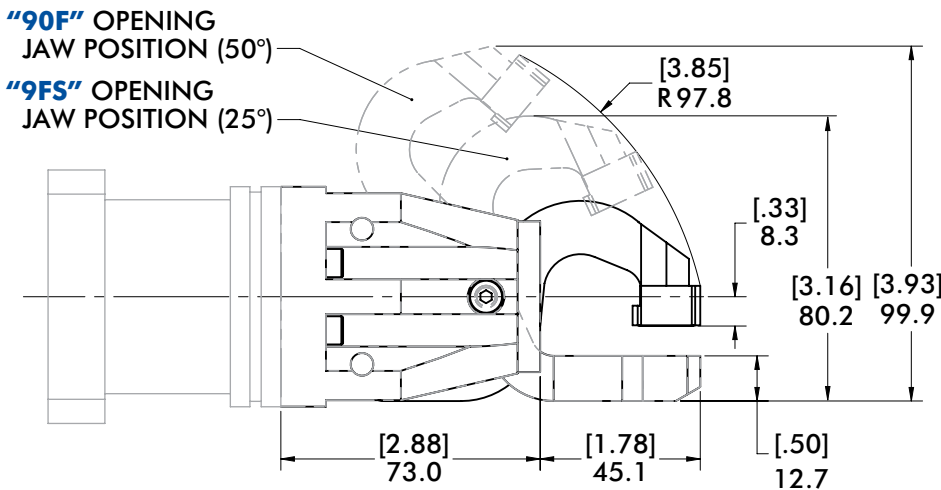
GR1-15 SERIES

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

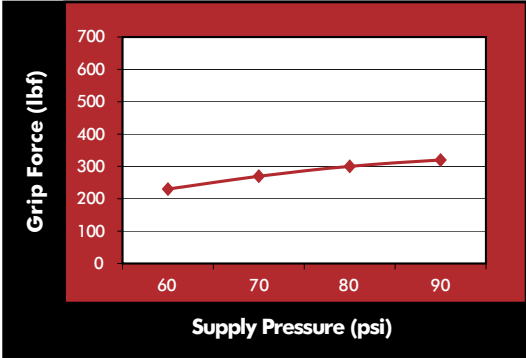


"9FS"
Limited Arm Opening
(Stroke Limiter Installed)

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



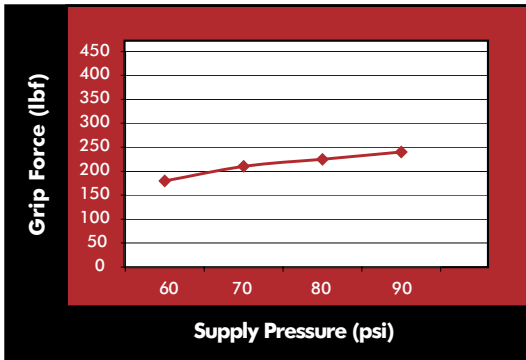
Weight:
1 kg [2.2 lb]
Grip Range:
0" - 0.063" [0 - 1mm]

"FCH" 45° Fixed Chisel



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

9DJ

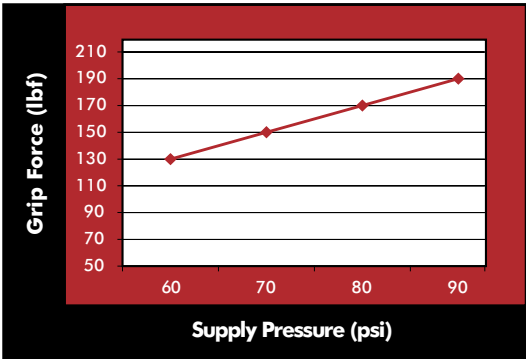


"9DJ" 90° Drop Jaw



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

90F/9FS

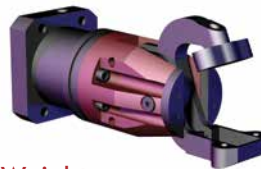


"90F" 90° Fixed Lower



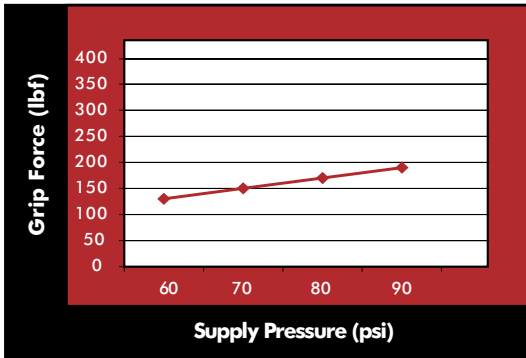
Weight:
1.1 kg [2.6 lb]
Grip Range:
0" - 0.125" [0 - 3mm]

"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:

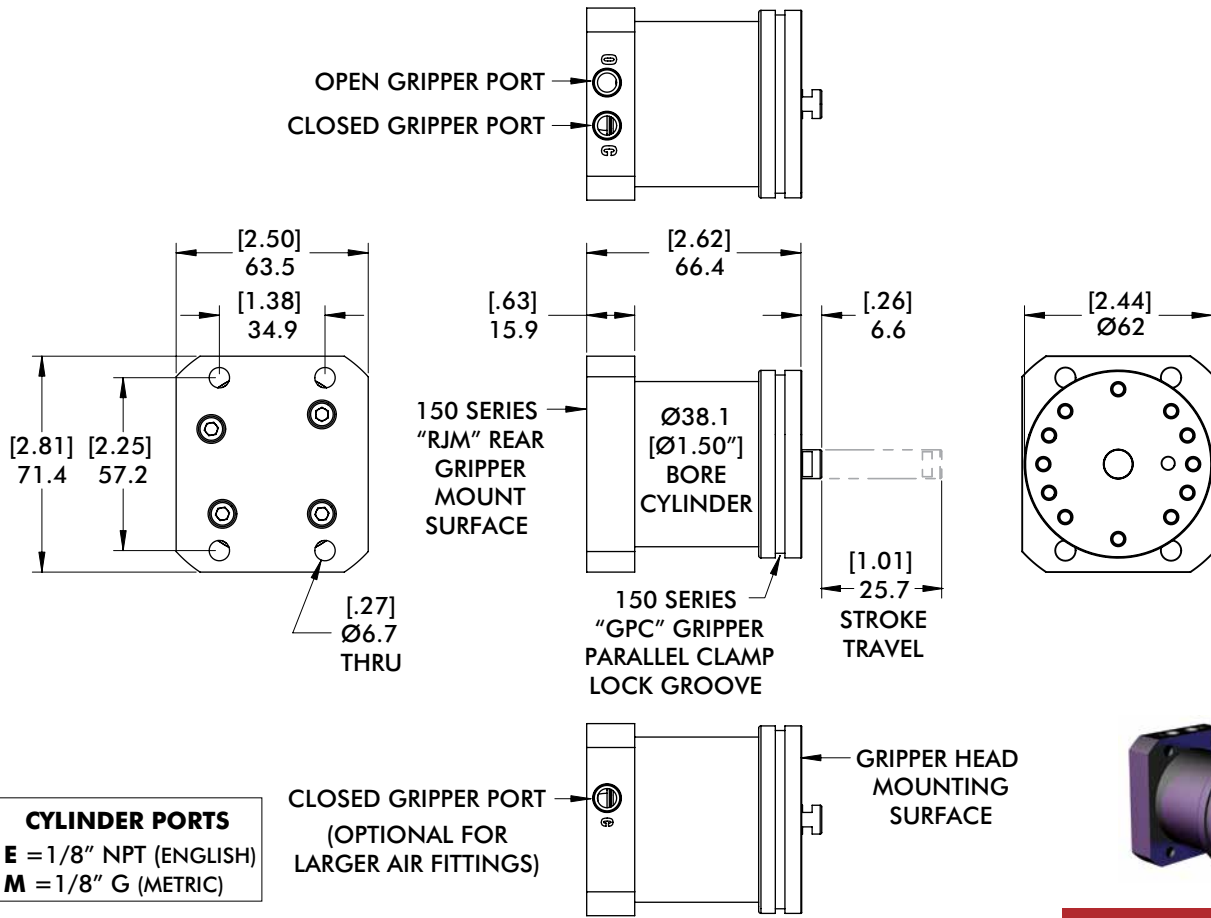
Recommended operating Pressure:
2-6 bar [30-90 psi]
Ports: 1/8" BSPP [1/8" NPT]
Air flow controls recommended for maximum life

Operating Temperature:
0° - 93°C [32° - 200°F]

GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

"Bx" Flange Base Cylinder



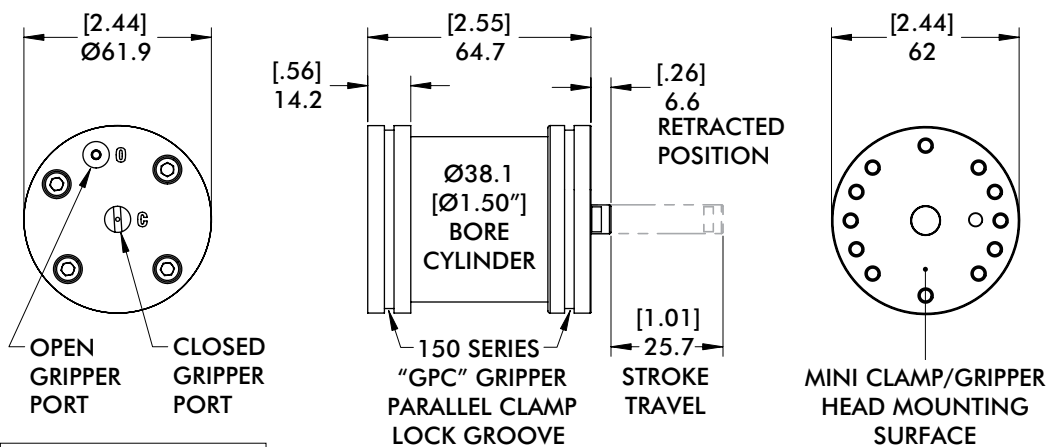
CYLINDER PORTS
E = 1/8" NPT (ENGLISH)
M = 1/8" G (METRIC)

PATENT# 6,619,182



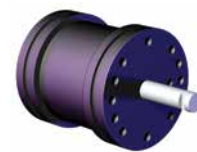
Replacement Part #
GR1-CYL-B

"Cx" Round Base Cylinder



CYLINDER PORTS
E = 1/8" NPT (ENGLISH)
M = 1/8" G (METRIC)

PATENT# 6,619,182

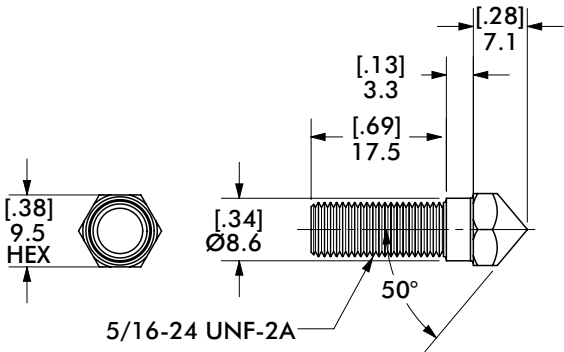


Replacement Part #
GR1-CYL-C

GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

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



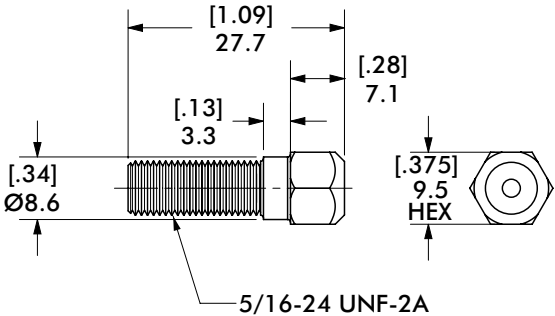
"P"



Point Jaw Inserts

Replacement Part #

GR0304



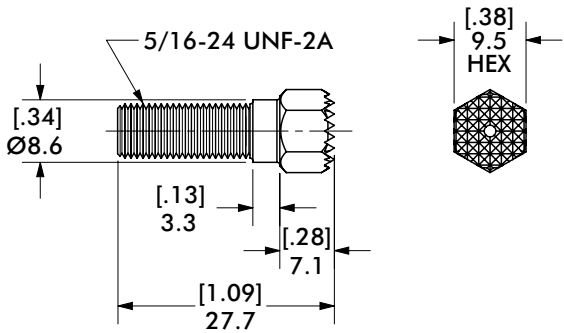
"C"



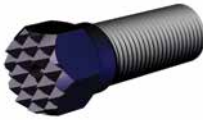
Cup Jaw Inserts

Replacement Part #

GR0305



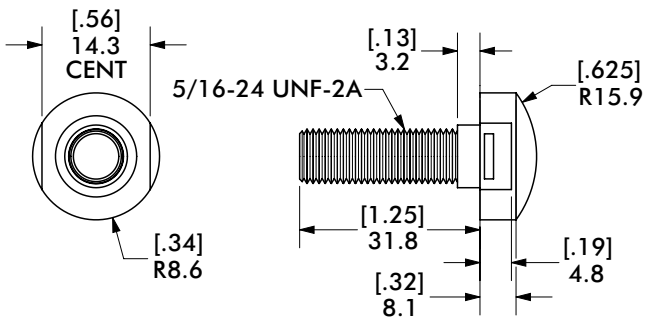
"S"



Serrated Jaw Inserts

Replacement Part #

GR0341



"U"



Urethane Jaw Inserts

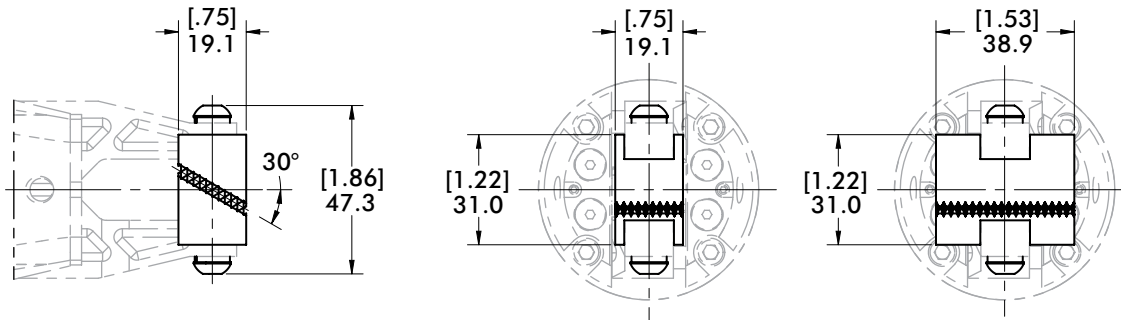
Replacement Part #

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"

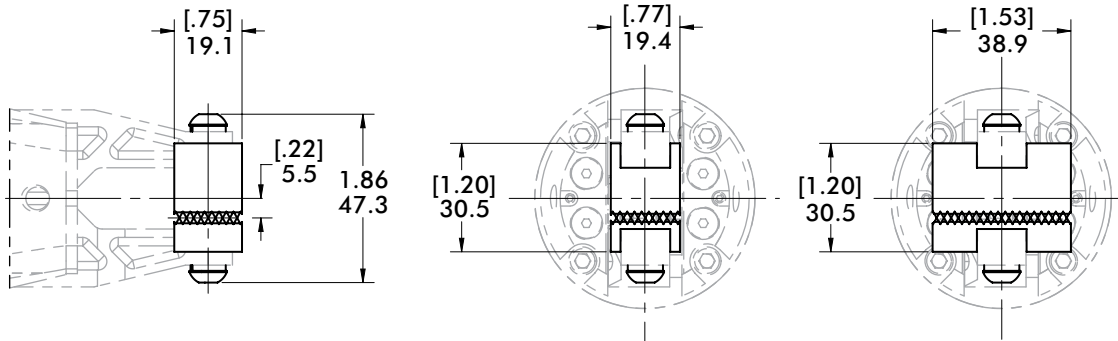


Double Upper/Lower
30° Angle Insert Block

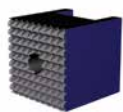
Replacement Part #

GR1-INS-D30S

"SOF" and "DOF" Offset Serrated Block Inserts



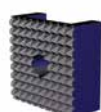
"SOF"



Single Upper
Offset Insert Block

Replacement Part #

GR1-INS-SDUOS

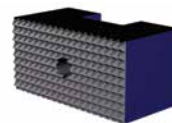


Single Lower
Offset Insert Block

Replacement Part #

GR1-INS-SDLOS

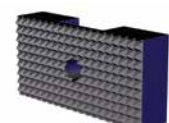
"DOF"



Double Upper
Offset Insert Block

Replacement Part #

GR1-INS-DUOS



Double Lower
Offset Insert Block

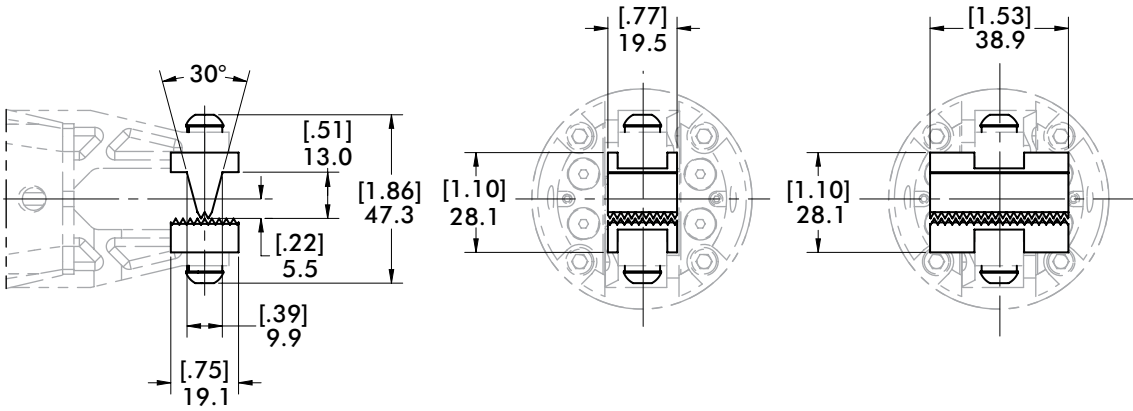
Replacement Part #

GR1-INS-DLOS

GR1-15 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



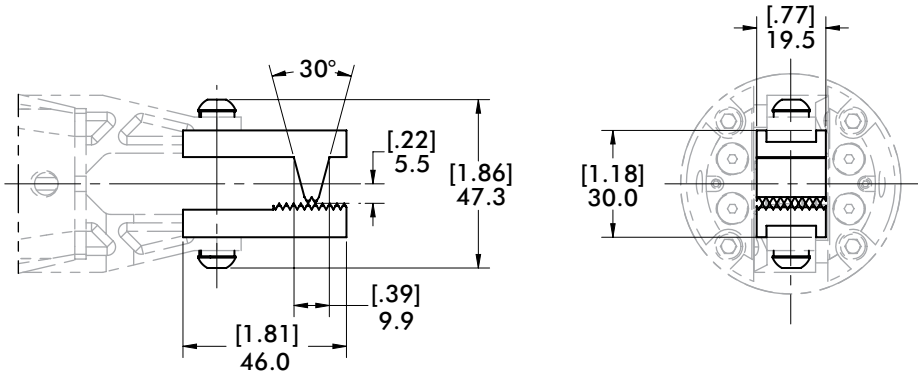
Double Upper Draw Bead Insert Block

Replacement Part #
GR1-INS-DDB

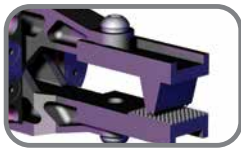
Double Lower Draw Bead Insert Block

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

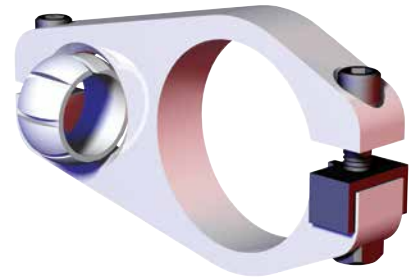
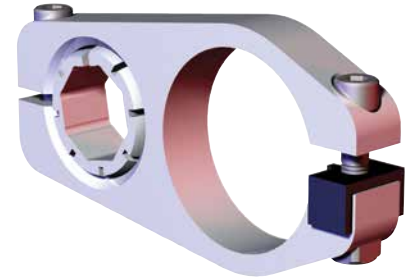
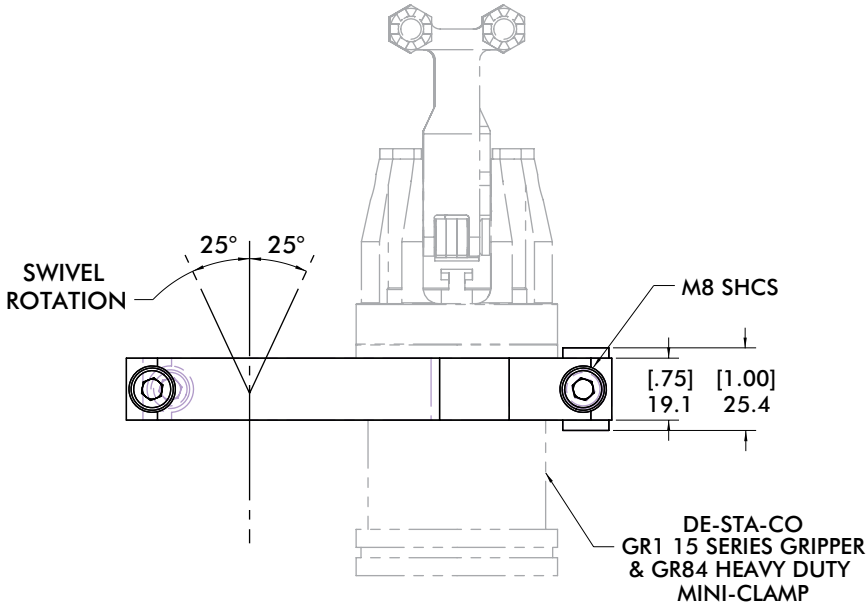


GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

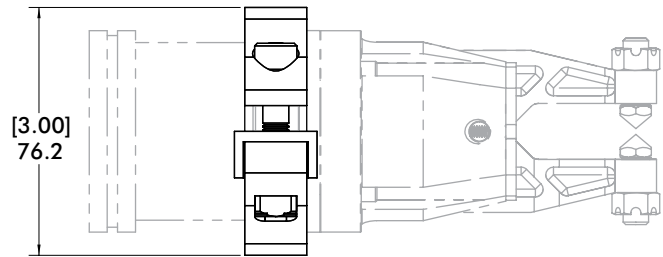
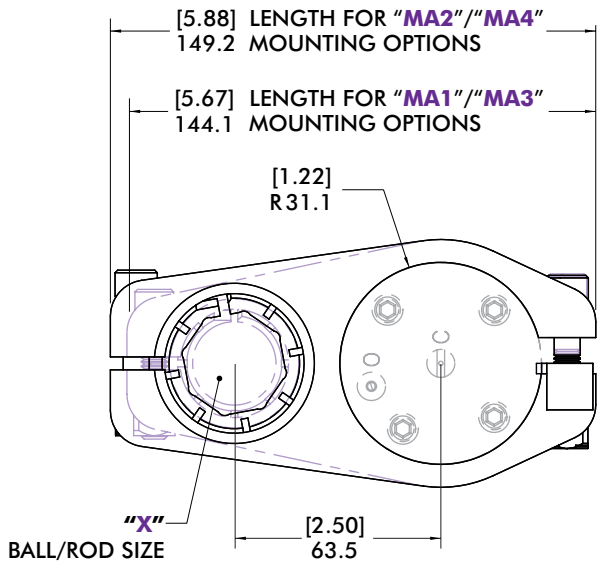
"MAx" Swivel Parallel Gripper Mounts

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

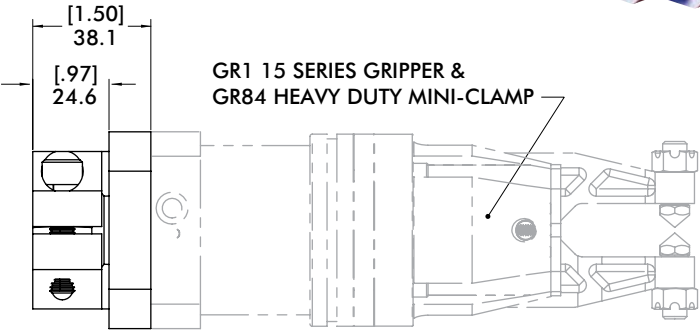
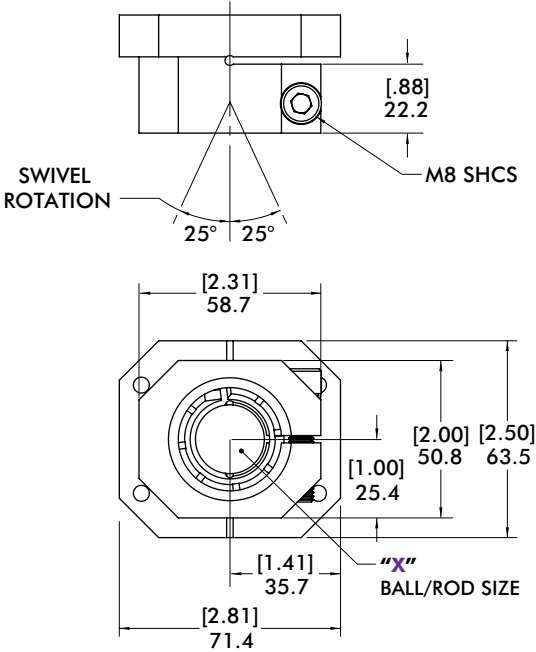
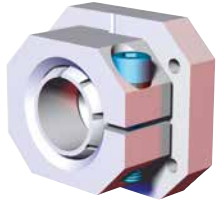
****MA4" and "MB4"** Mounts to the 30mm BodyBuilder™ octagonal extruded aluminum boom. For more information on this octagonal boom, please refer to the BodyBuilder™ Robotic End Effector Systems Catalog.

GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

"MB1" and "MB3" Rear Swivel Gripper Mount

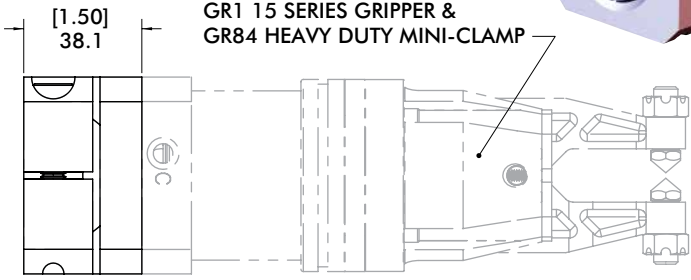
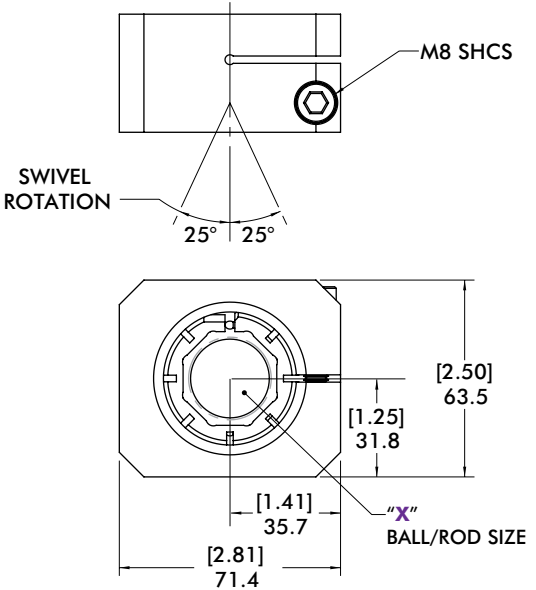
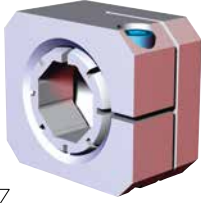
PATENT# 6,988,696



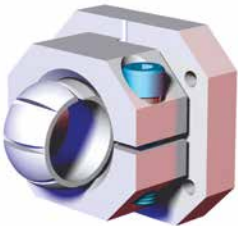
Mounting Option	Rod/Ball "X"	Replacement Part#
MB1	Ø1.00"	CPI-RJM-150-100S
MB3	Ø25mm	CPI-RJM-150-25S

"MB2" and "MB4" Rear Swivel Gripper Mount

PATENT# 6,988,696



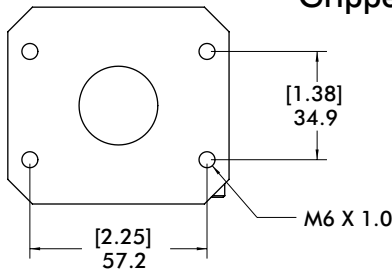
Mounting Option	Rod/Ball "X"	Replacement Part#
MB2	Ø1.25"	CPI-RJM-150-125S
MB4*	30mm BB	CPI-RJM-150-30BBS



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

PATENT# 6,988,696

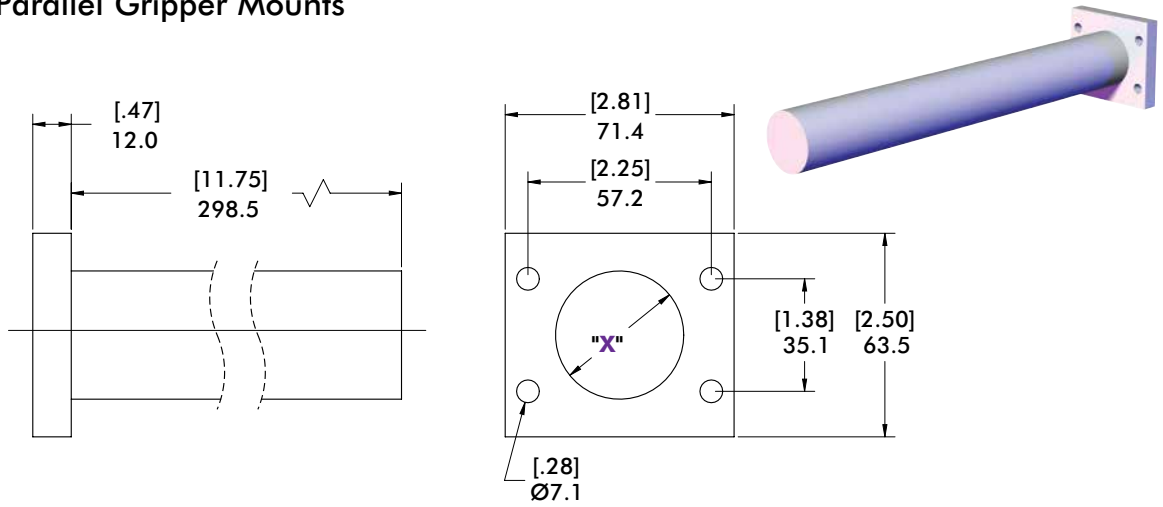
"MBx" Rear Swivel Gripper Mount Gripper Mounting Pattern



GR1-15 SERIES

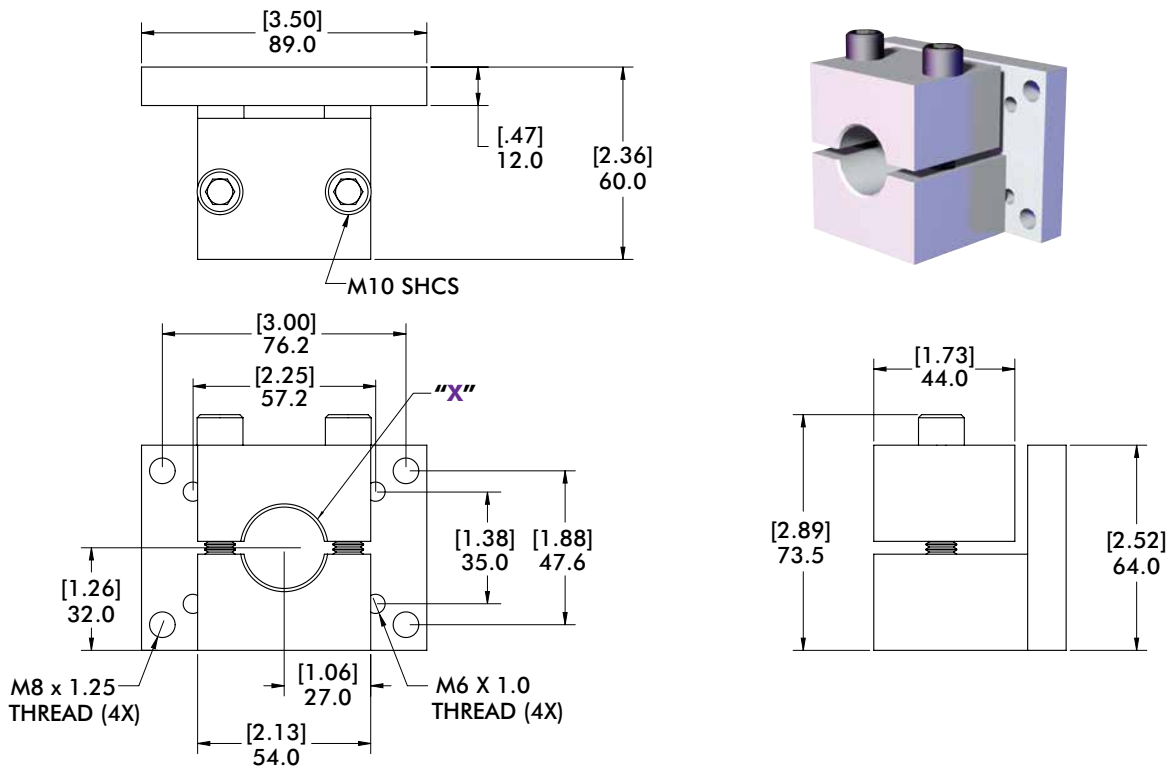
Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

"MCx" Swivel Parallel Gripper Mounts



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

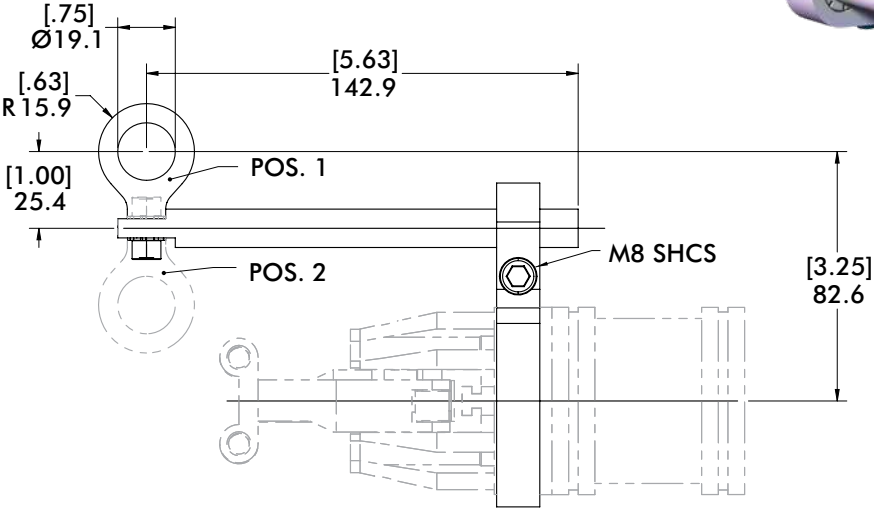
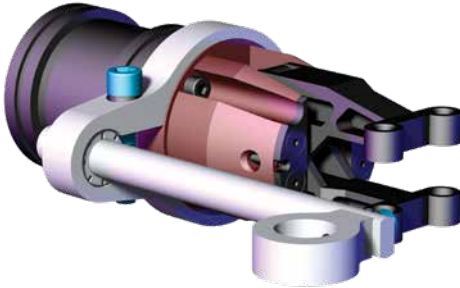


Mounting Option	Rod/Ball "X"	Replacement Part#
MD7	Ø1.00"	M1514

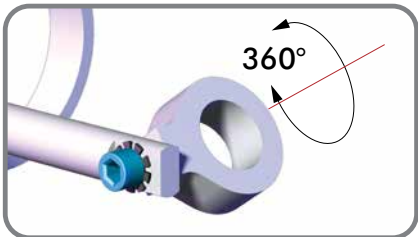
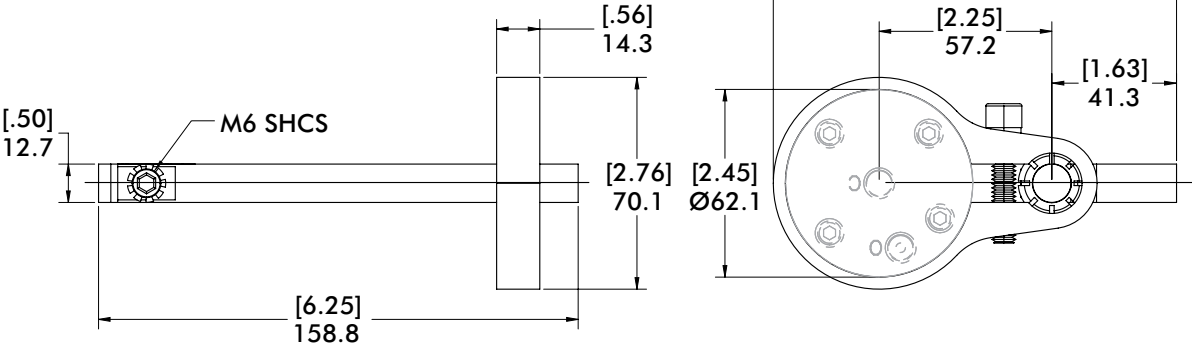
GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

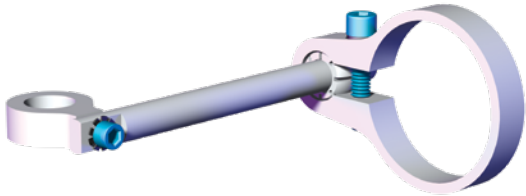
18mm Swivel Proximity Sensor Mount



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



POS. 2: 360° ROTATION OPTION ALONG ONE AXIS



Replacement Part #
CPI-GPM-15-18

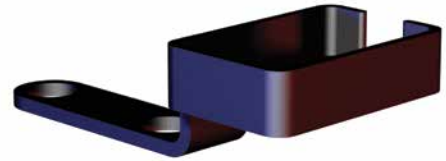
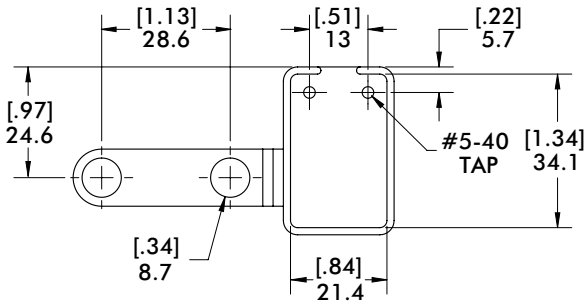
GR1-15 SERIES

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

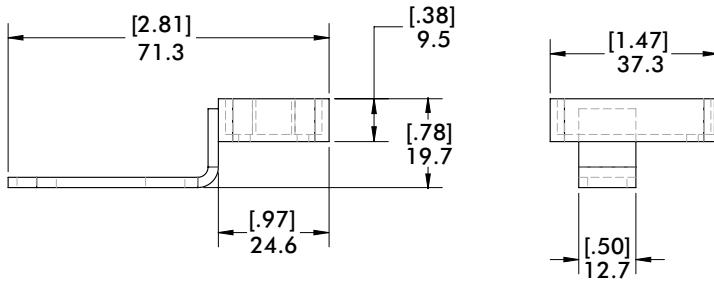
"A04" and "P03" Sensor Options

"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.)

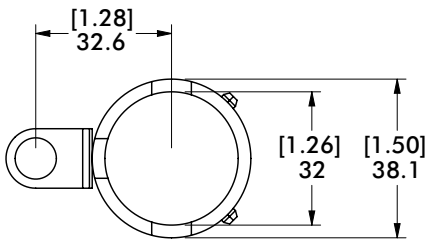
Proximity Switch Mount for "A04" and "P03" Sensor Options



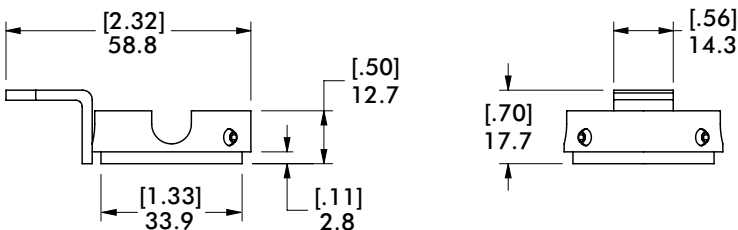
Replacement Part #
GR0326



Barrel Style Proximity Switch Mount



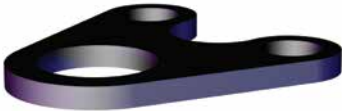
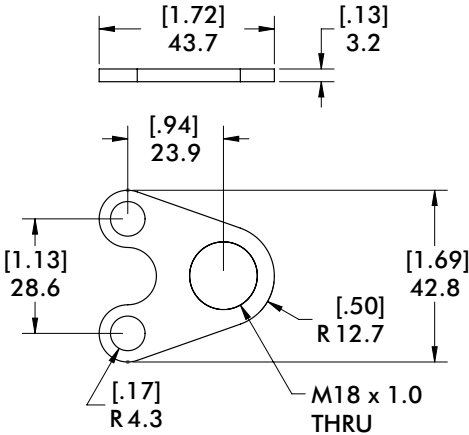
Replacement Part #
GR1-15-PM-31



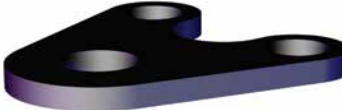
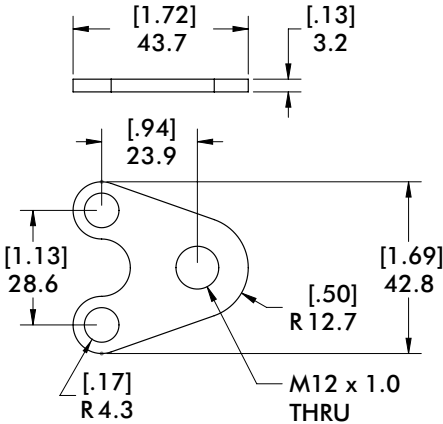
GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

Ø18mm and Ø12mm Inline Proximity Switch Mount

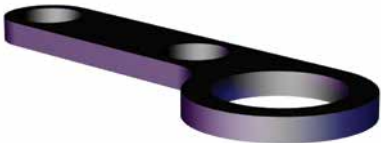
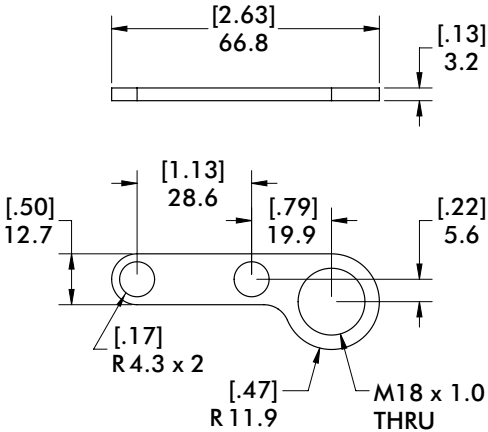


Replacement Part #
CPI-PM-15D-18

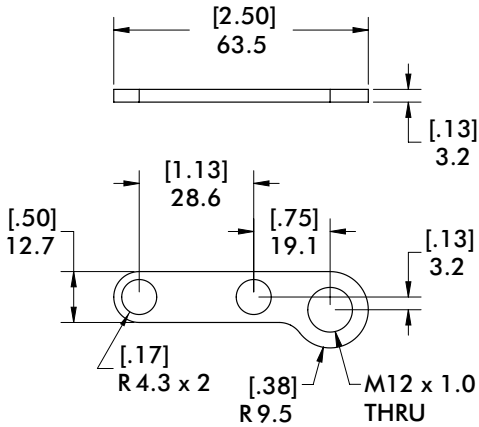


Replacement Part #
CPI-PM-15D-12

Ø18mm and Ø12mm Offset Proximity Switch Mount



Replacement Part #
CPI-PM-15S-18



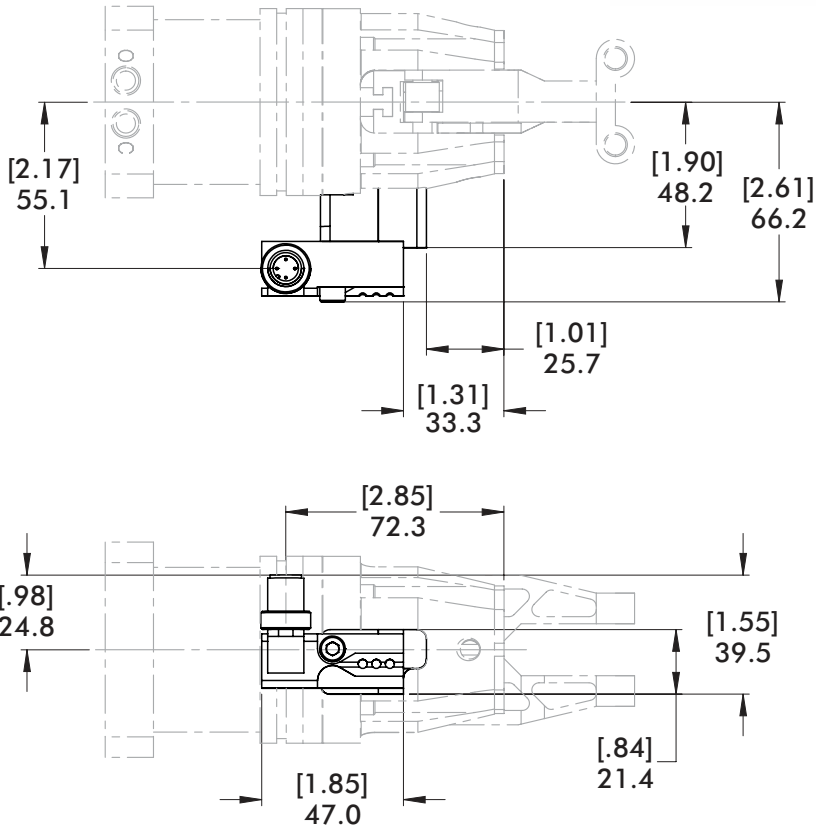
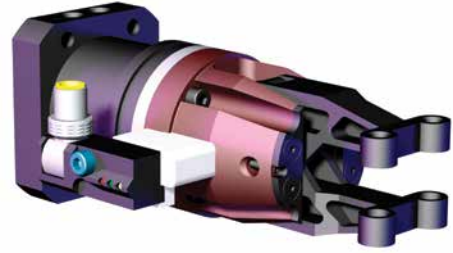
Replacement Part #
CPI-PM-15S-12

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

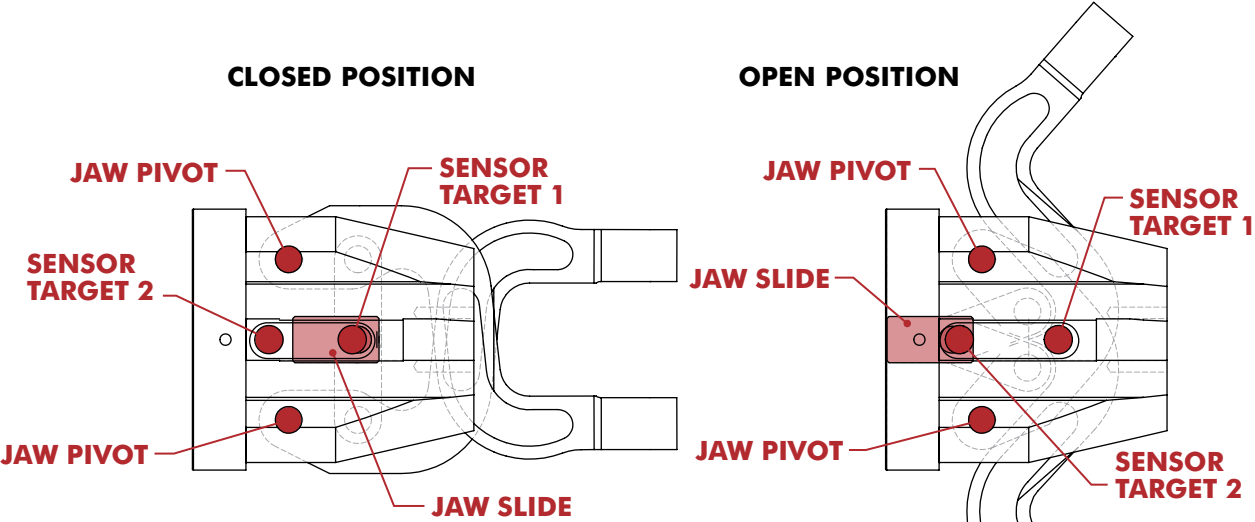
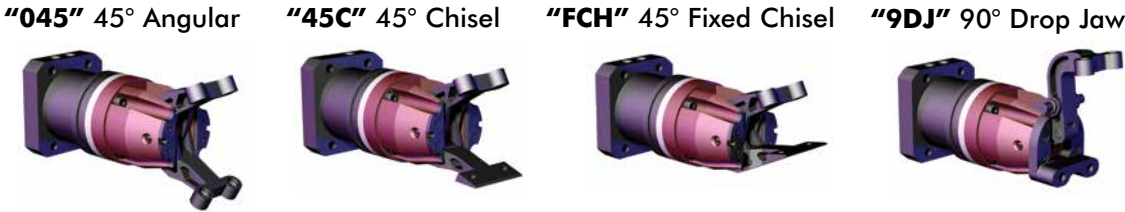
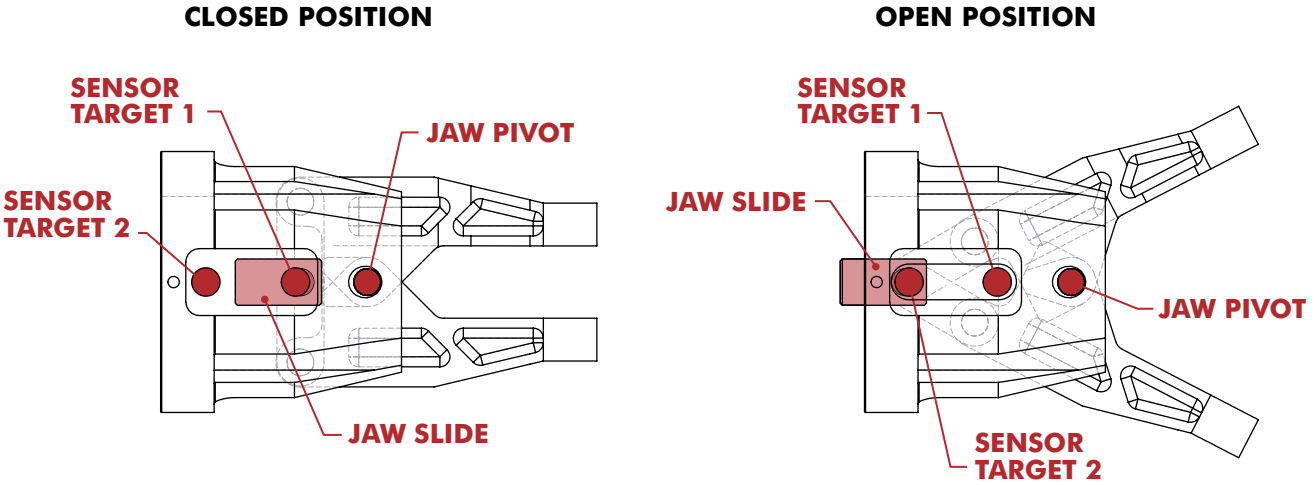
3 amps, 250 volts, VDC
4-Pin Euro Micro Connector



GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Technical Information

"T04" Open/Closed Target Position



GR1-20 SERIES

Toggle Lock Sheet Metal Grippers | Ordering Information

GR1-20 - BE - 180 - DXX - MXX - []

Cylinder Type & Porting

Step 1 - Cylinder Ports Choose One

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

Open/Closed Sensor

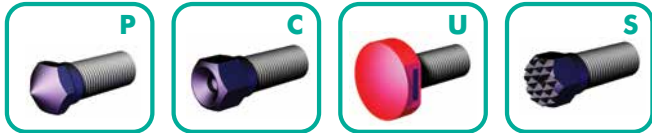
Sensors Type	Description
T04	Internal Sensor
(Leave Blank)	No Sensor

(See page SG-TGL-43 for sensor specifications)

Tip Insert Options

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

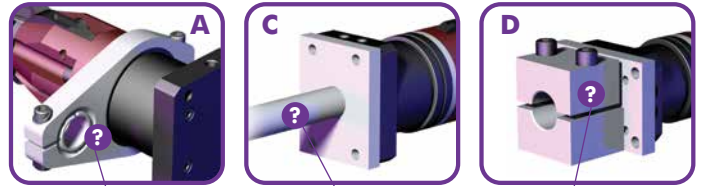
- D** **P** **P**

For tip insert dimensions and replacement part #'s, please refer to **GR84** Mini Clamp Tip Insert options.

Mount Options

Step 1 - Mount Type Choose One

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



1 **3**
 Mount Ball Sizes Available

1 **3**
 Mount Rod Sizes Available

7
 Mount Size Available

Step 2 - Mount Ball/Rod Type Choose One

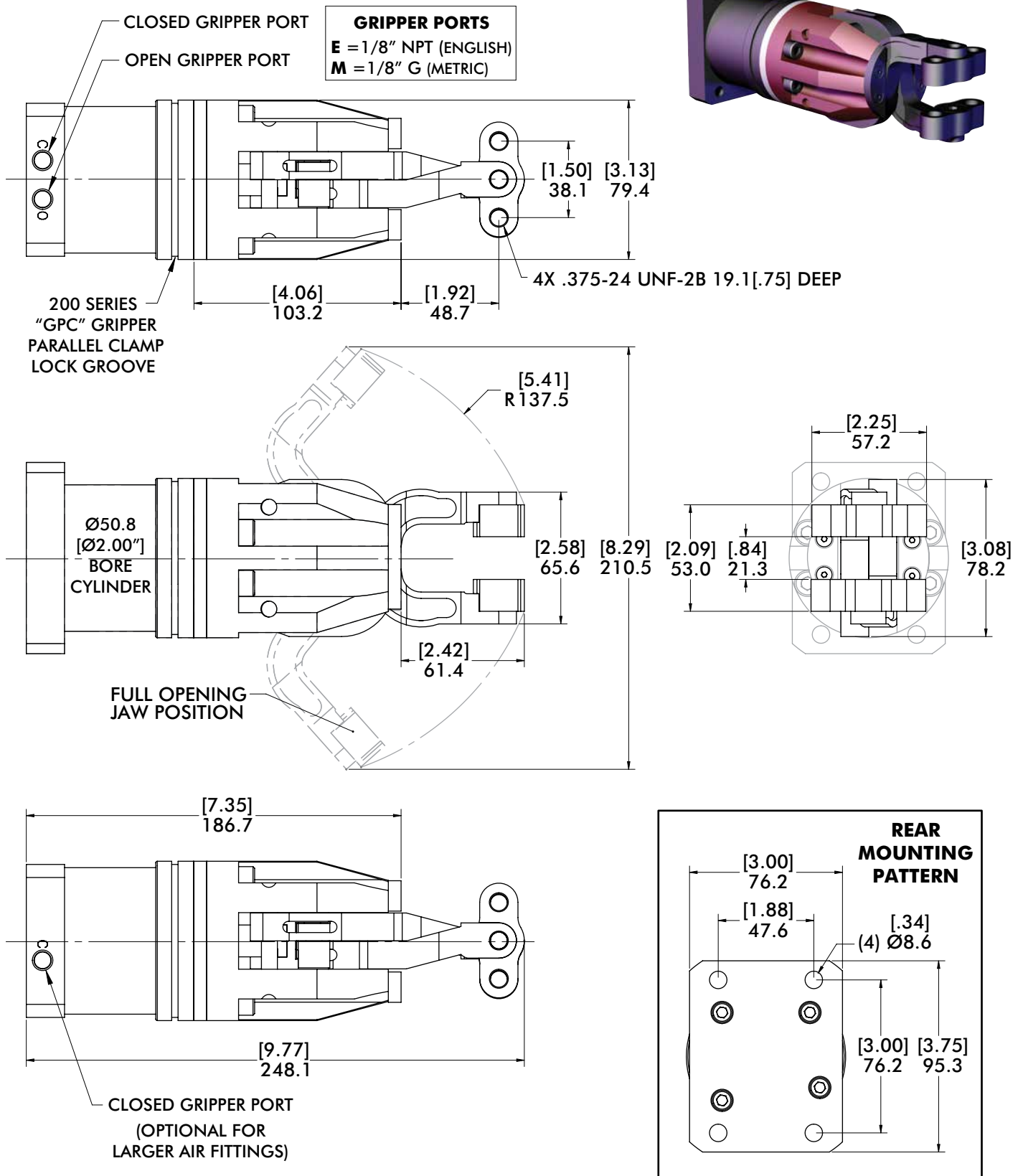
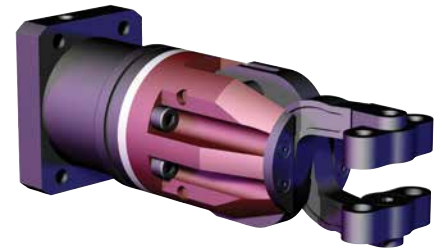
- M** **X** **X**
1 1.00" W/Metric Fasteners (A & C Only)
3 25Mm Metric Fasteners (A & C Only)
7 M1514 (Type D Only)
X No Mount



GR1-20 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions

"180" 180° Angular Jaw Arrangement - Double Insert

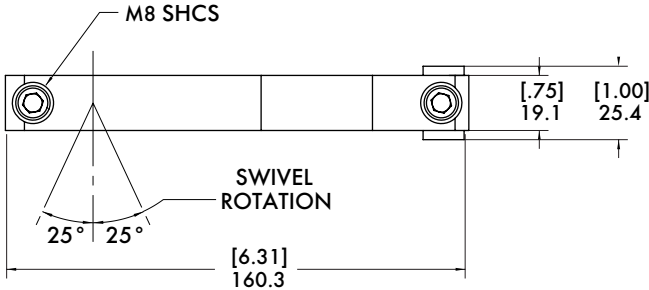
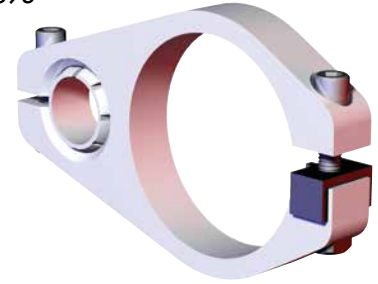


GR1-20 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

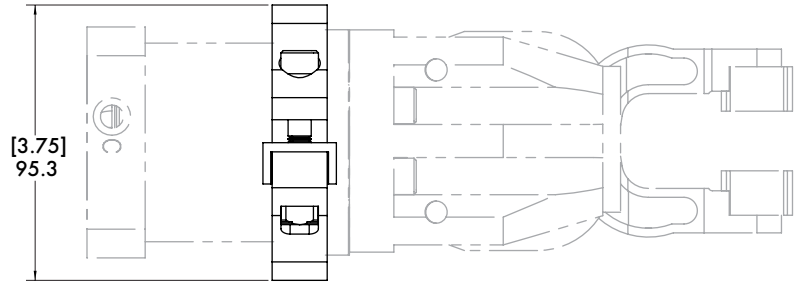
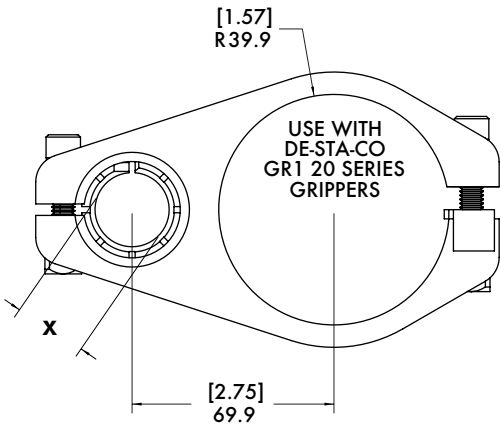
"MAx" Swivel Parallel Gripper Mounts

PATENT# 6,988,696



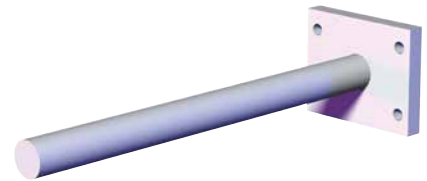
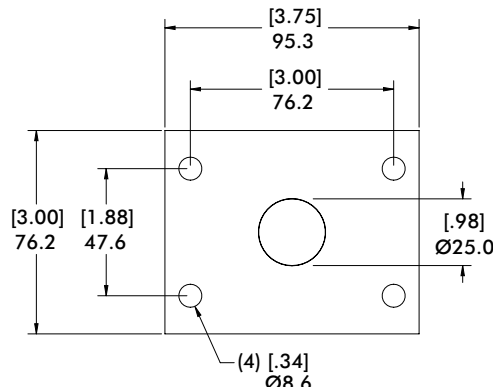
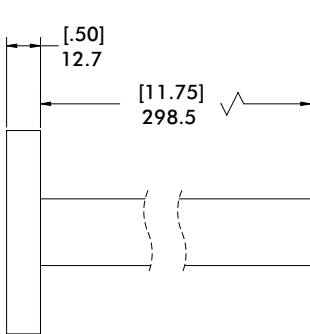
Snap-In Ball

Special patented design allows user to replace ball without disassembly



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

"MCx" Rear Fixed Welded Mount

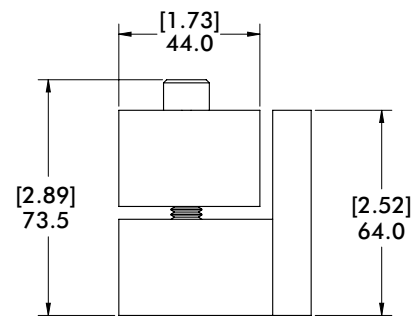
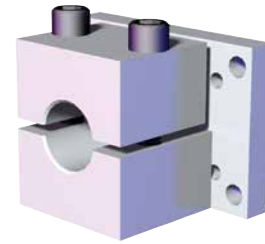
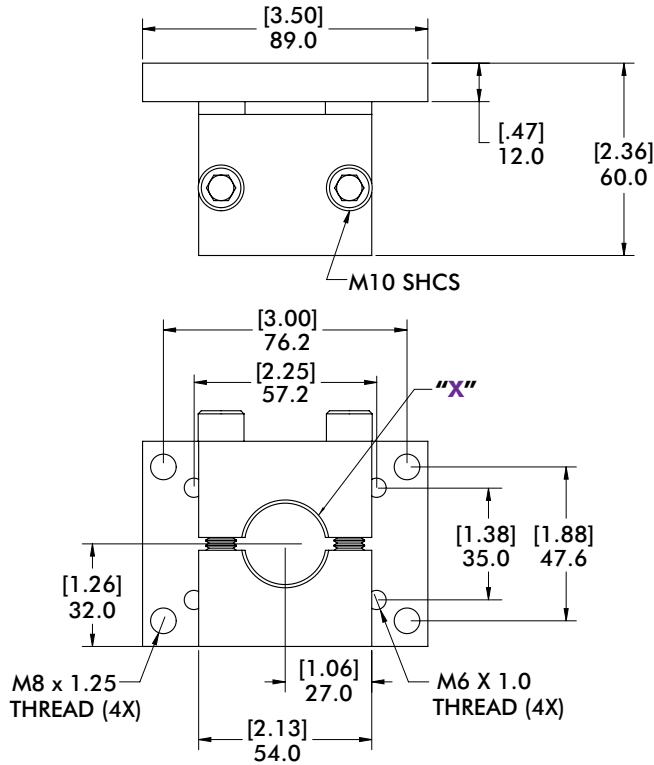


Mounting Option	Rod/Ball "X"	Replacement Part #
MC1	Ø1.00"	CPI-RJM-200-100
MC3	Ø25mm	CPI-RJM-200-25

GR1-20 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions, Ordering Information

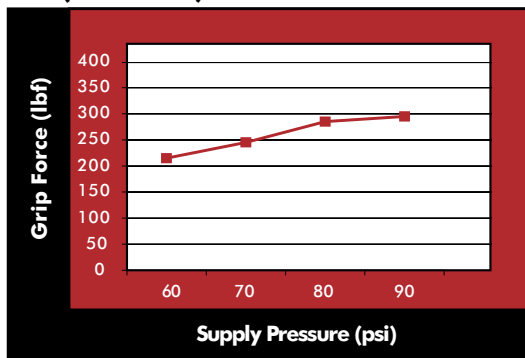
"MD7" Rear Fixed Clamp Mount



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]

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:

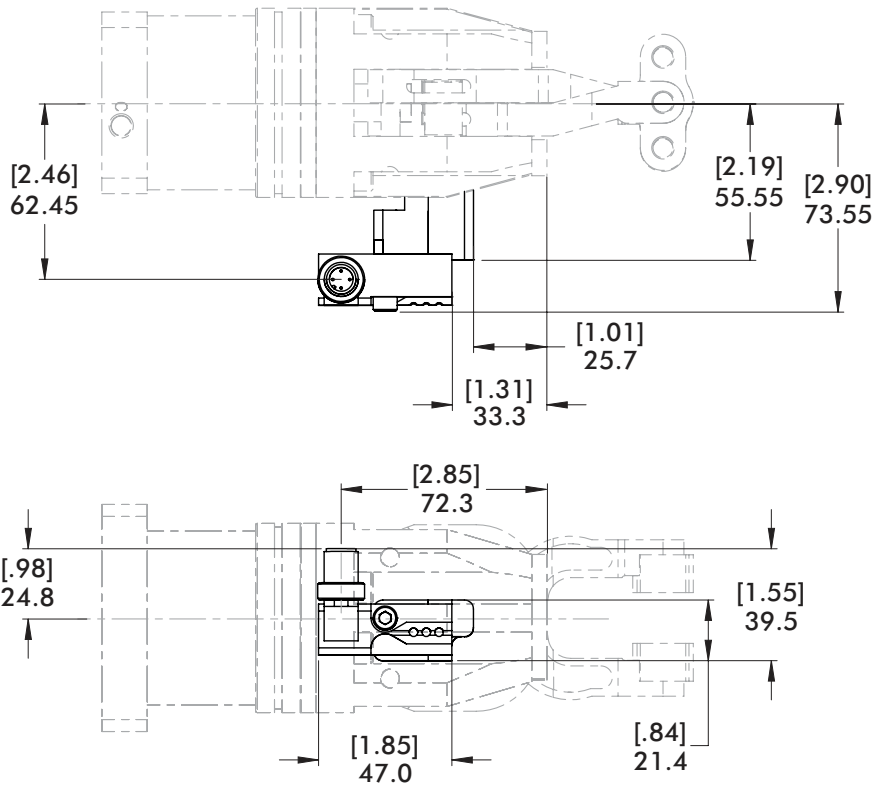
0° - 93°C [32° - 200°F]

SHEET METAL GRIPPERS

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.

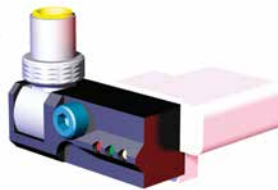


Replacement Part

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

