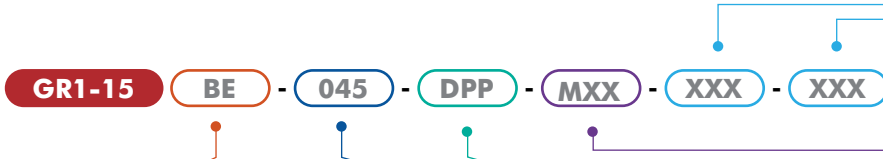


# GR1-15 SERIES

## Toggle Lock Sheet Metal Grippers | Ordering Information

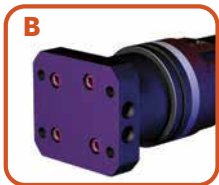


### Cylinder Type & Porting

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
<b>T04</b>	Internal Sensor
<b>XXX</b>	No Sensor

### Part Present Sensor

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

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

### Mount Options

#### Step 1 - Mount Type Choose One

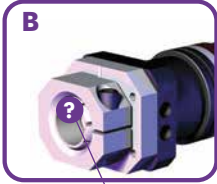
- M**
- A** Parallel Swivel Mount
  - B** Rear Swivel Clamp Mount
  - C** Rear Fixed Welded Style
  - D** Rear Fixed Clamp Mount
  - X** No Mount

#### Step 2 - Mount Ball/Rod Size Choose One

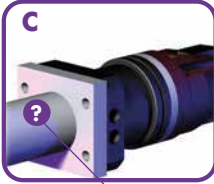
- M**
- |                                   |                              |
|-----------------------------------|------------------------------|
| <b>1</b> 1.00" W/Metric Fasteners | <b>5</b> 1.50" (Type C Only) |
| <b>2</b> 1.25" W/Metric Fasteners | <b>6</b> 40Mm (Type C Only)  |
| <b>3</b> 25Mm Metric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



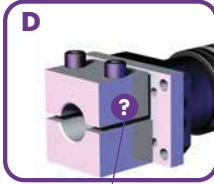
**1 2 3 4**  
Mount Ball Sizes Available



**1 2 3 4**  
Mount Ball Sizes Available



**1 3 5 6**  
Mount Rod Sizes Available

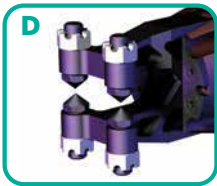
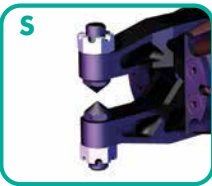


**7**  
Mount Size Available

### Points & Tip Insert Options

#### Step 1 - Point Tip Options Choose One

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



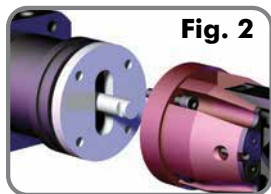
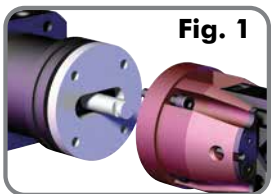
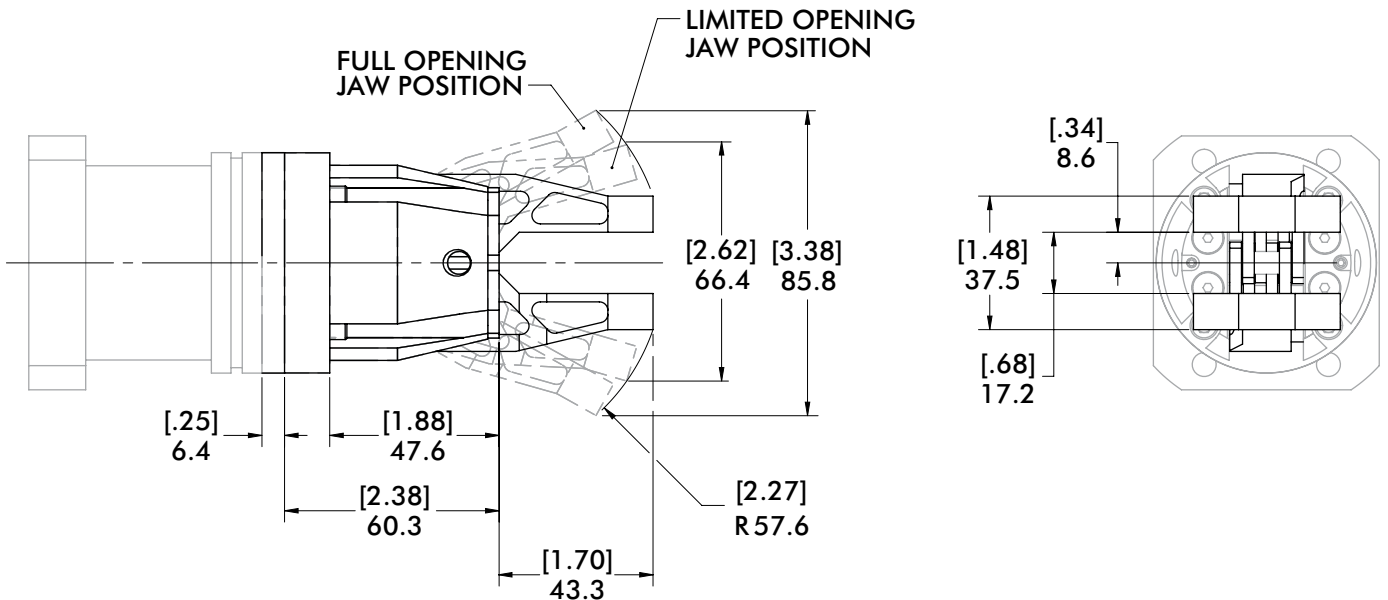
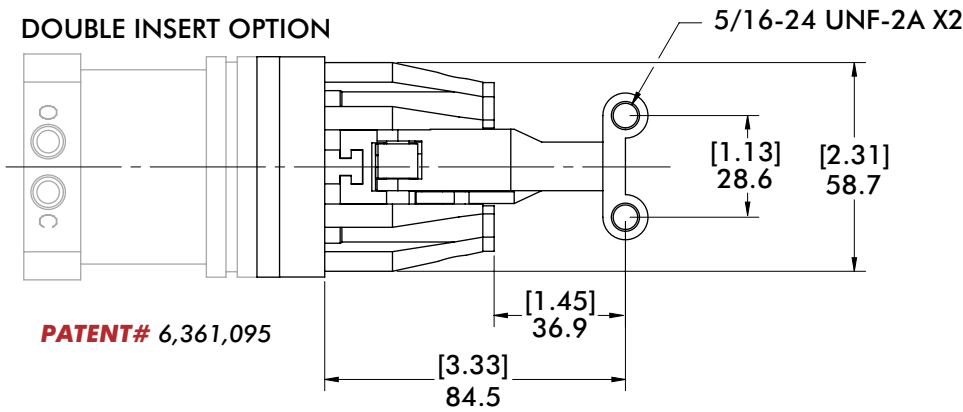
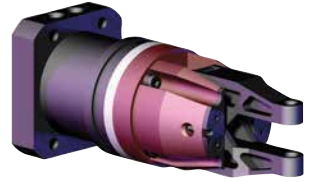
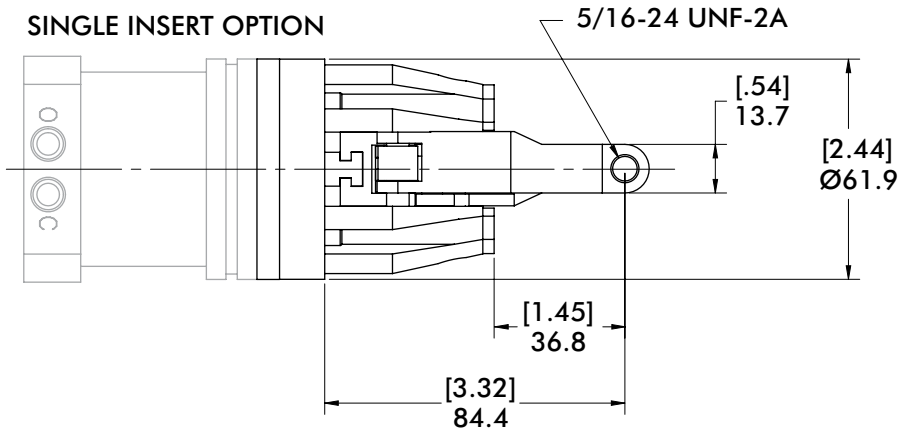
#### Step 3 - Lower Tip Insert Options Choose One Above

- D**

# GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Technical Specifications

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



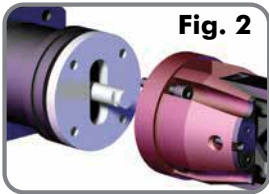
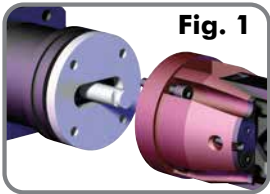
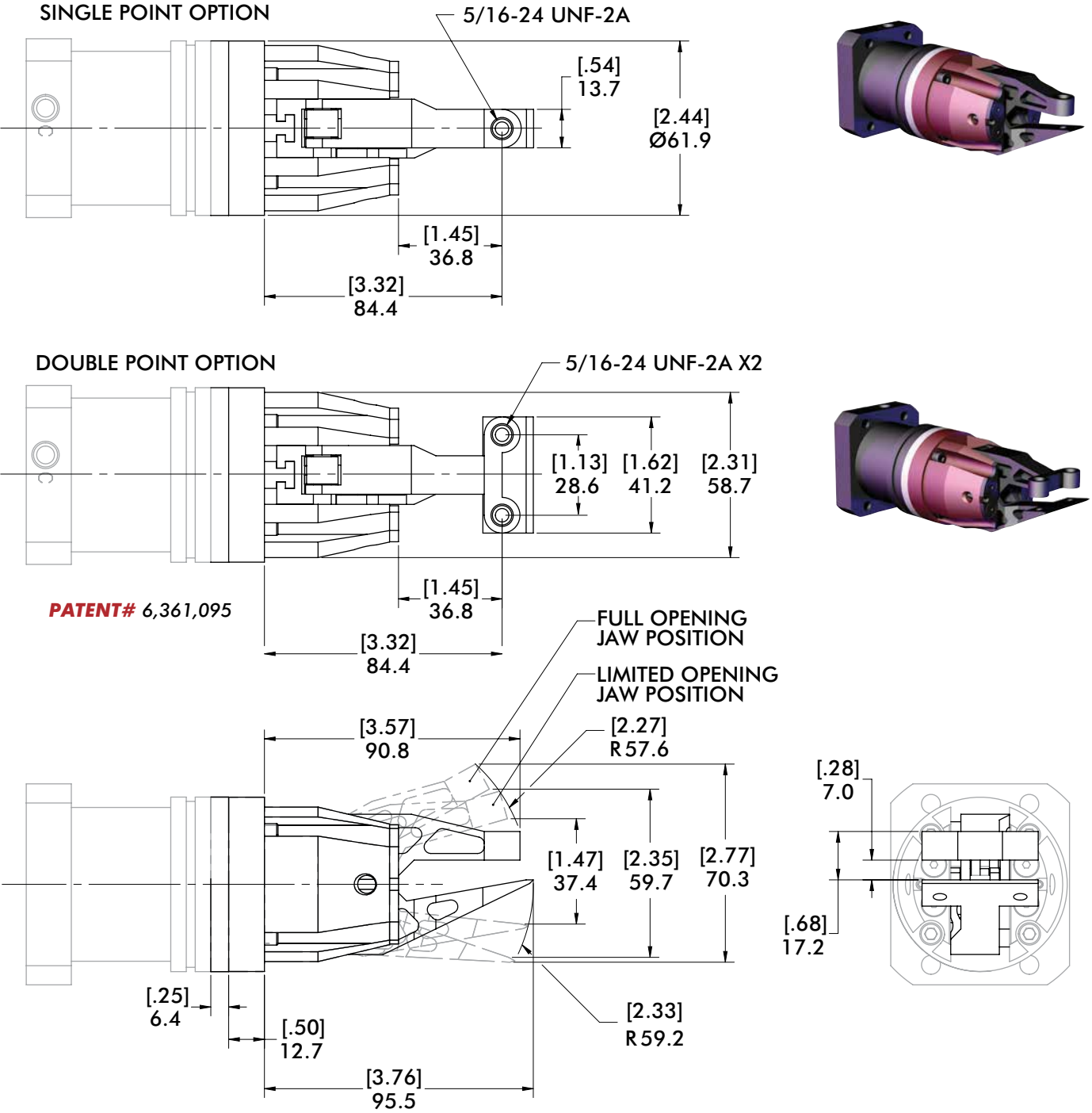
**For Limited Stroke Option**

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



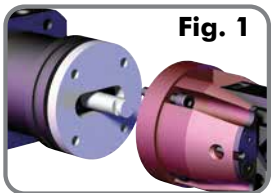
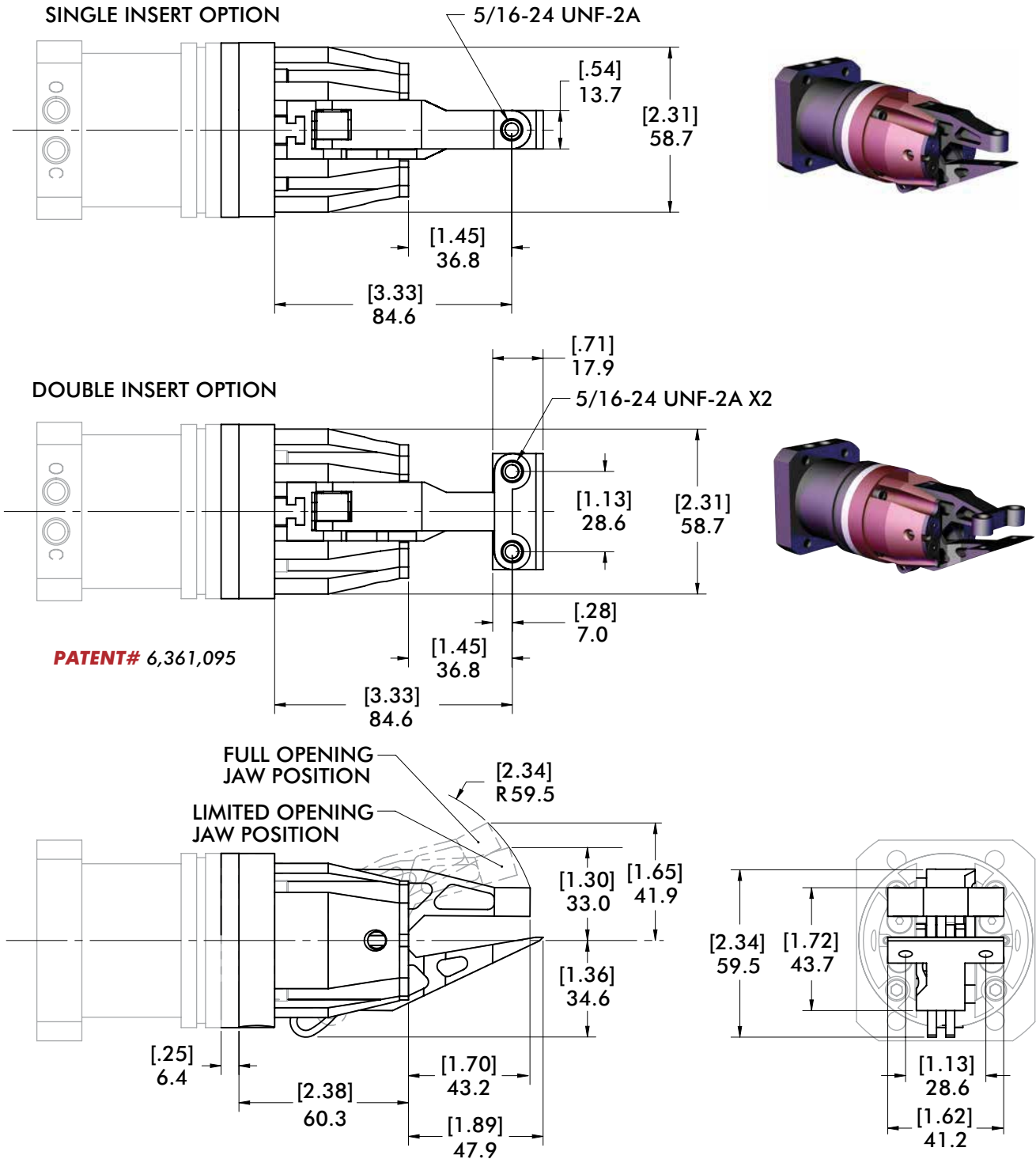
**For Limited Stroke Option**

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.

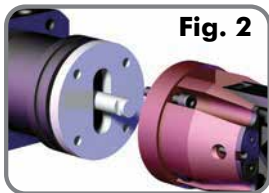
# GR1-15 SERIES

## 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

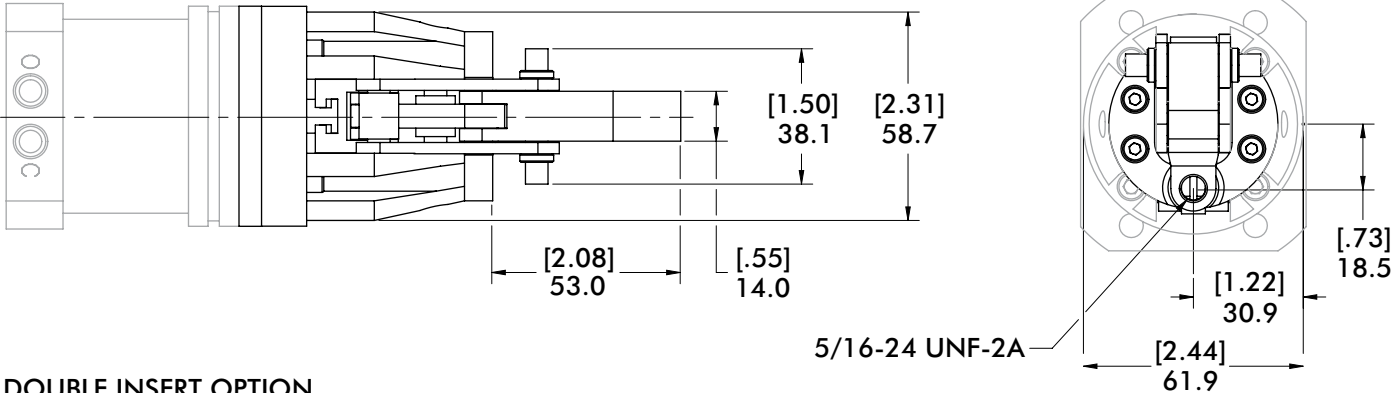
1. Loosen fasteners securing gripper body from cylinder.
2. Pull gripper body away so fasteners clear the spacer.
3. Rotate Spacer 90° (Fig. 2).
4. Reattach gripper body to cylinder and tighten fasteners.

# GR1-15 SERIES

## Toggle Lock Sheet Metal Grippers | Dimensions and Technical Specifications

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

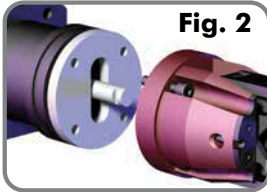
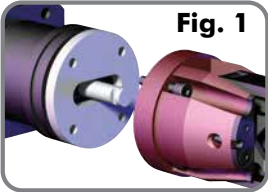
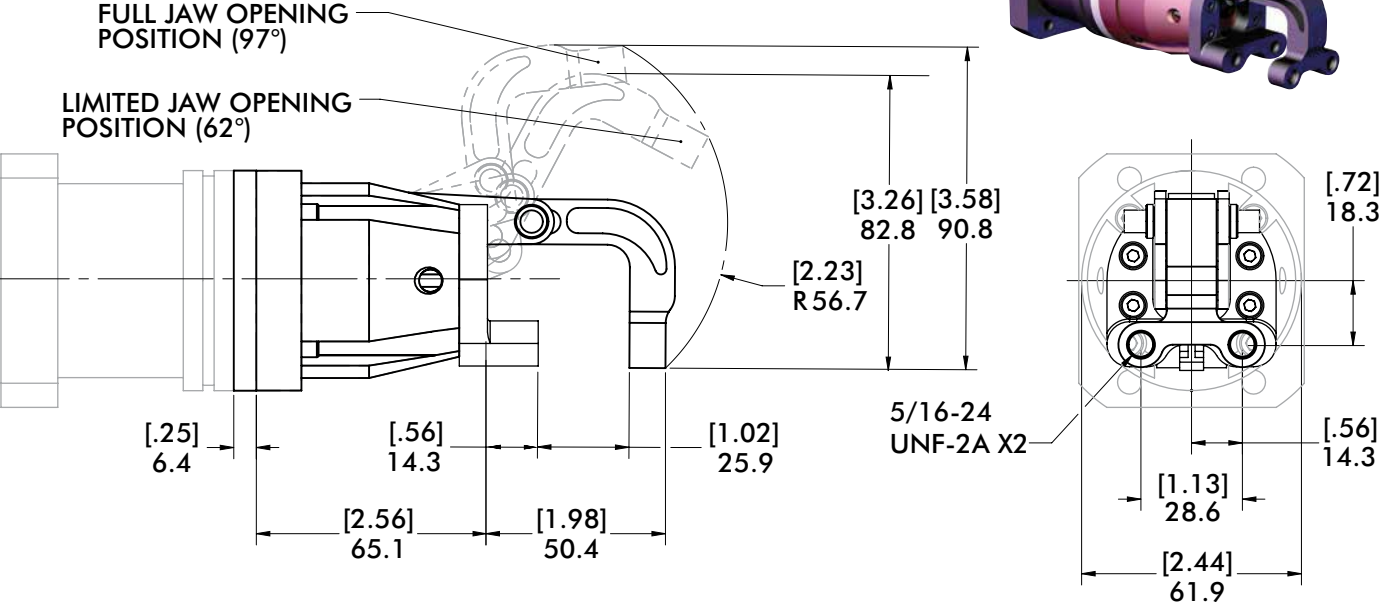
#### SINGLE INSERT OPTION



#### DOUBLE INSERT OPTION



PATENT# 6,361,095



#### For Limited Stroke Option

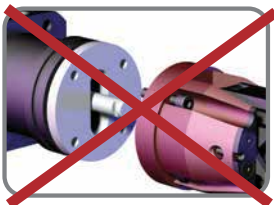
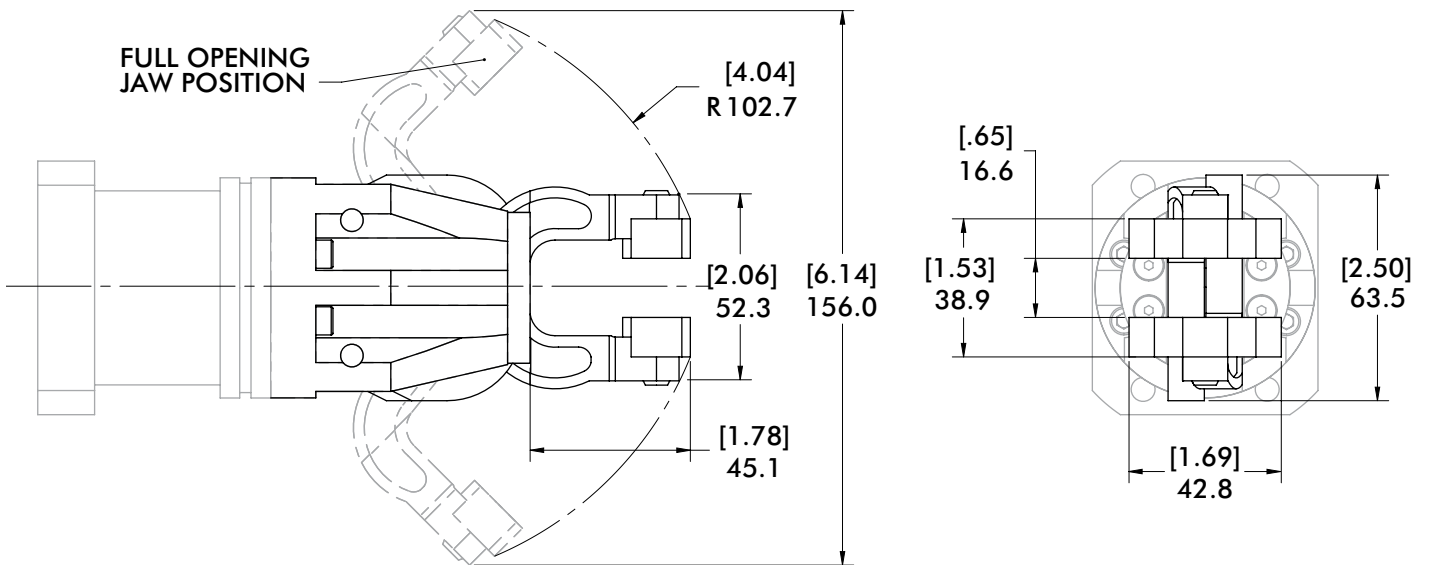
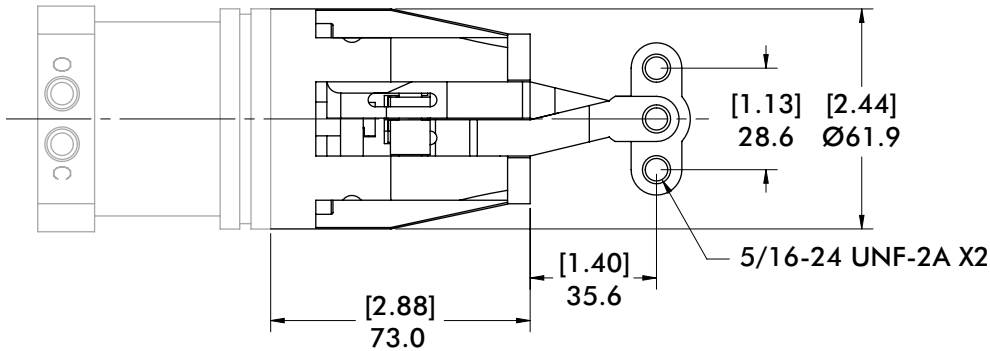
1. Loosen fasteners securing gripper body from cylinder.
2. Pull gripper body away so fasteners clear the spacer.
3. Rotate Spacer 90° (Fig. 2).
4. Reattach gripper body to cylinder and tighten fasteners.



# GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Technical Specifications

“180” 180° Angular Jaw Arrangement - Double Insert

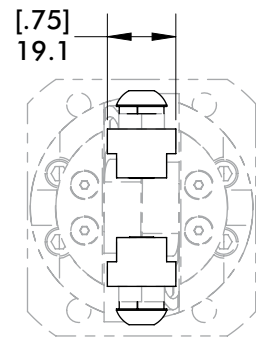
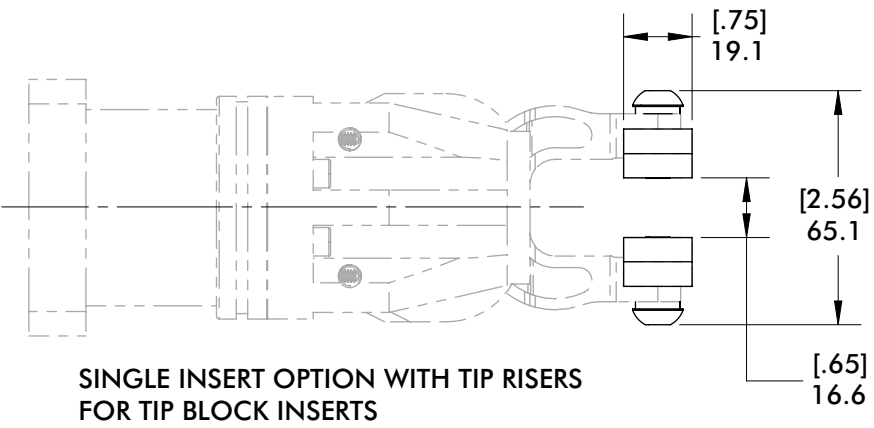
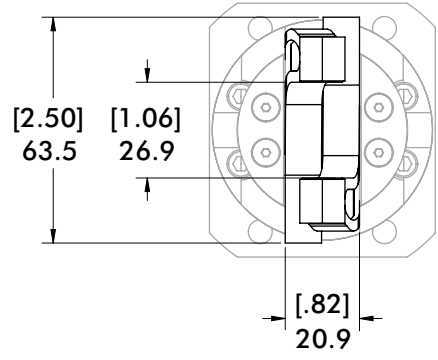
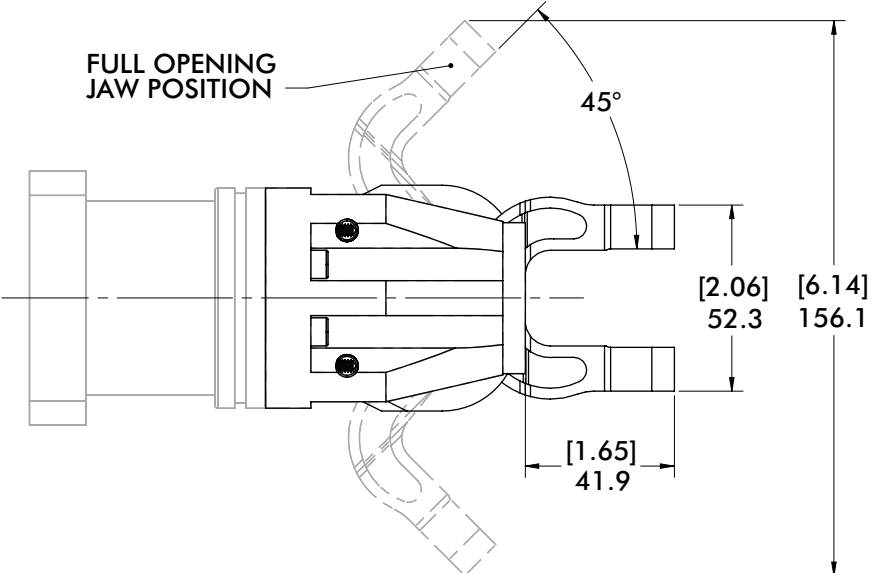
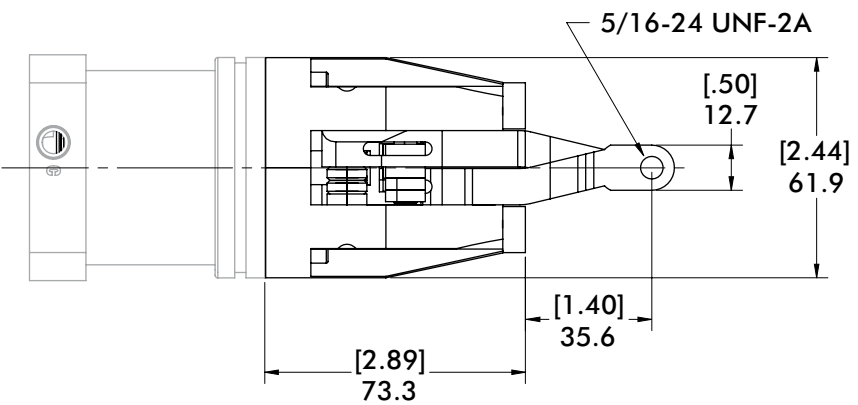


Limited Stroke Ring is **NOT** Available

# 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 #

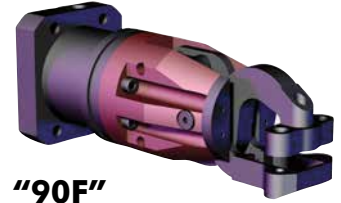
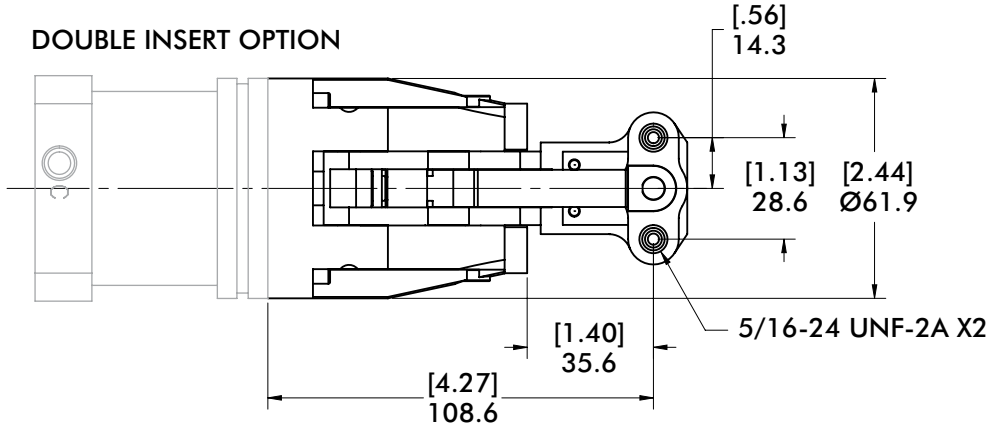
**GR0314-TR**



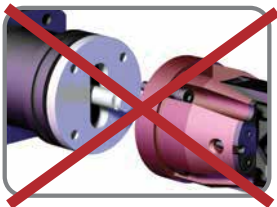
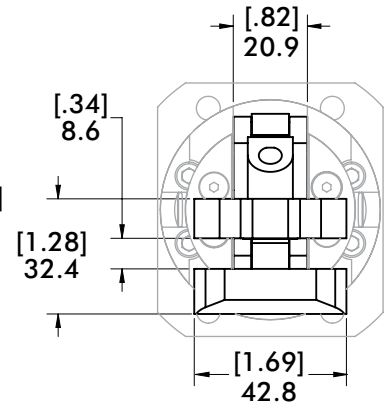
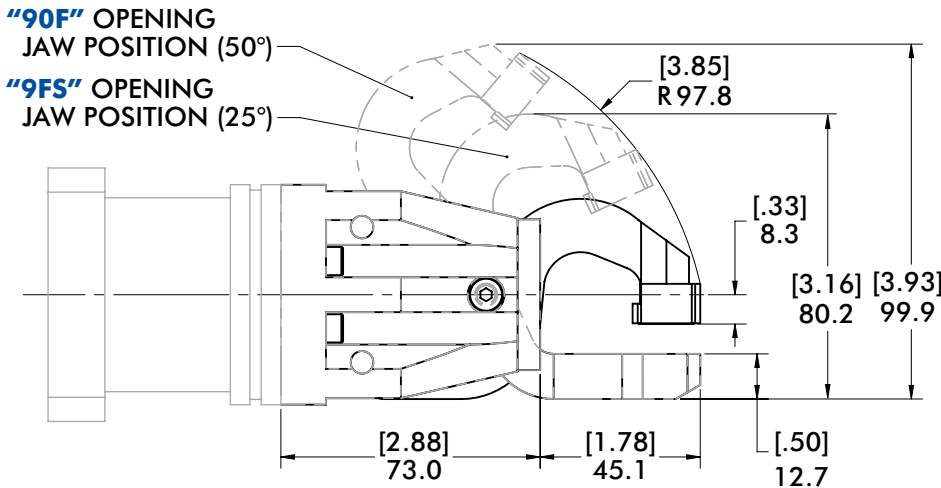
# GR1-15 SERIES

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

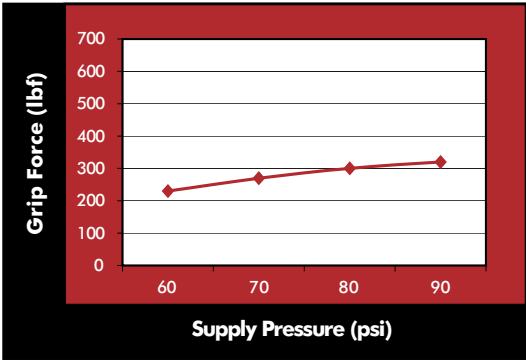


**"9FS"**  
Limited Arm Opening  
(Stroke Limiter Installed)

# 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



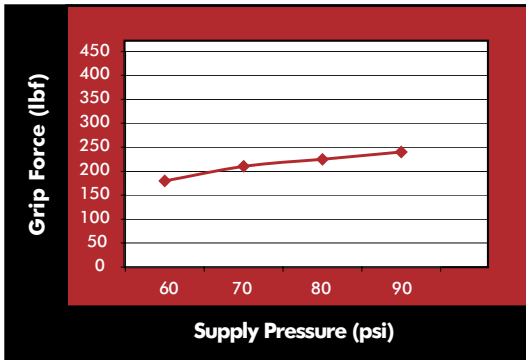
**Weight:**  
1 kg [2.2 lb]  
**Grip Range:**  
0" - 0.063" [0 - 1mm]

**"FCH"** 45° Fixed Chisel



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

### 9DJ

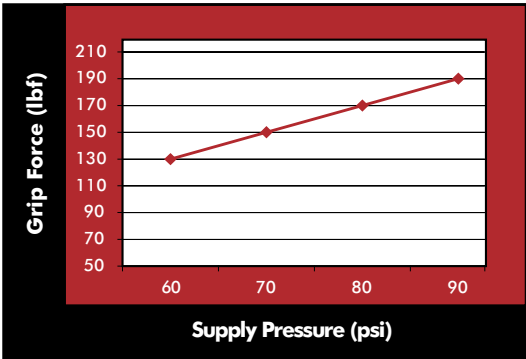


**"9DJ"** 90° Drop Jaw



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

### 90F/9FS



**"90F"** 90° Fixed Lower



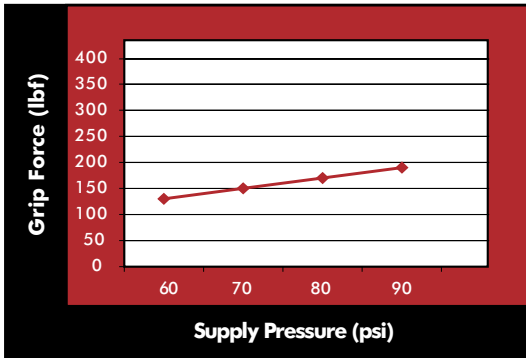
**Weight:**  
1.1 kg [2.6 lb]  
**Grip Range:**  
0" - 0.125" [0 - 3mm]

**"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:

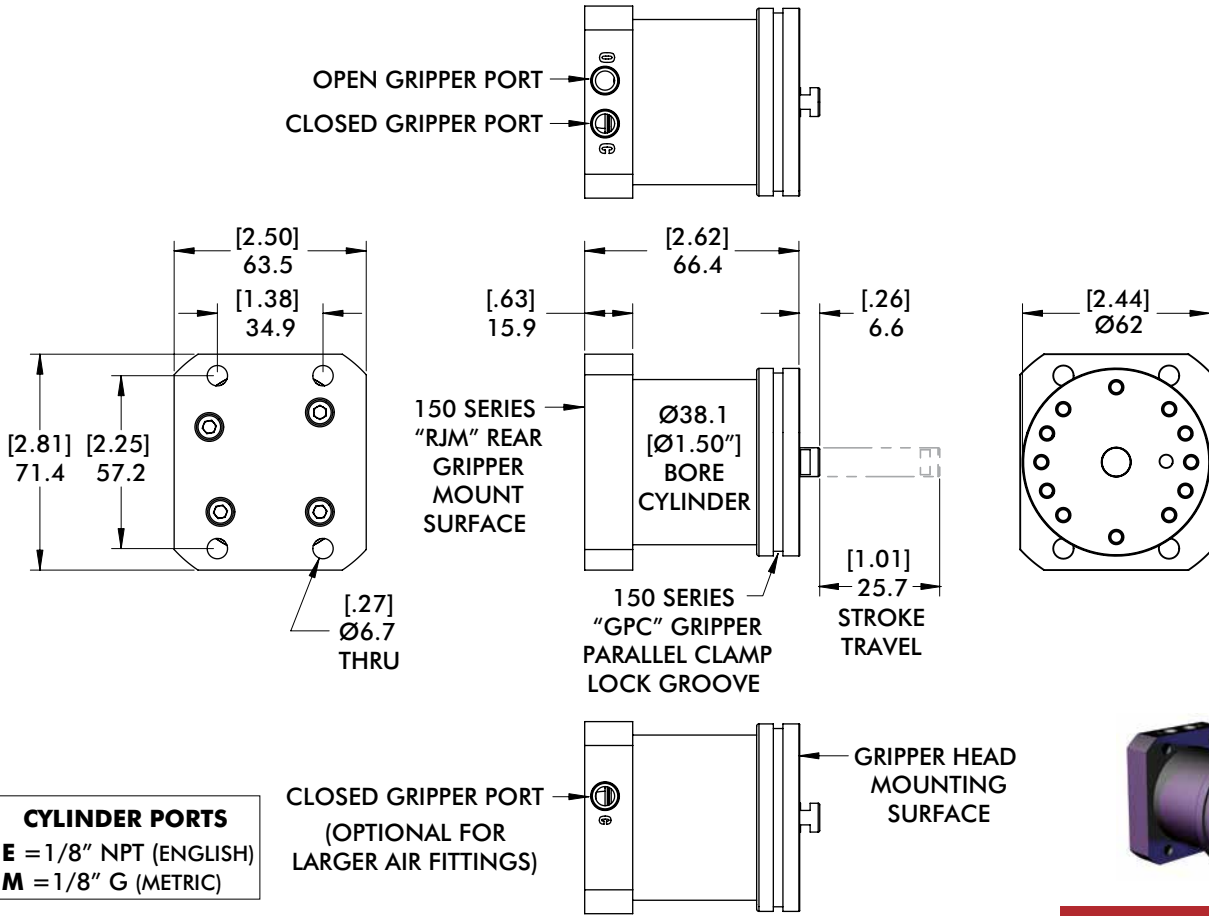
Recommended operating Pressure:  
2-6 bar [30-90 psi]  
Ports: 1/8" BSPP [1/8" NPT]  
Air flow controls recommended for maximum life

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

# GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

## "Bx" Flange Base Cylinder

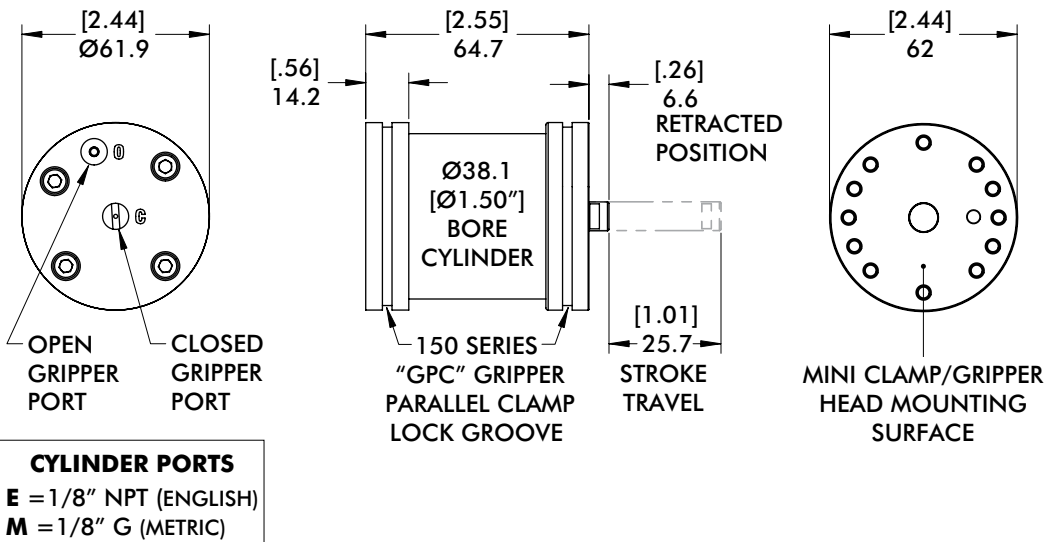


**PATENT#** 6,619,182

Replacement Part #  
**GR1-CYL-B**



## "Cx" Round Base Cylinder



**PATENT#** 6,619,182

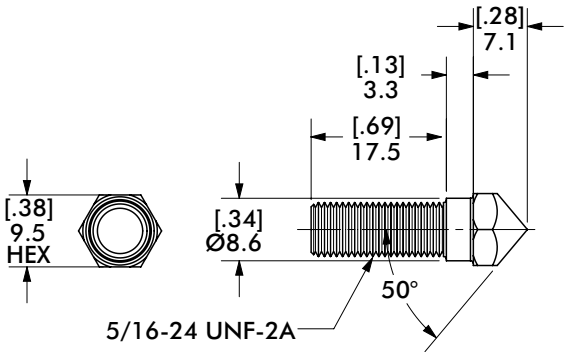
Replacement Part #  
**GR1-CYL-C**



# GR1-15 SERIES

## Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

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



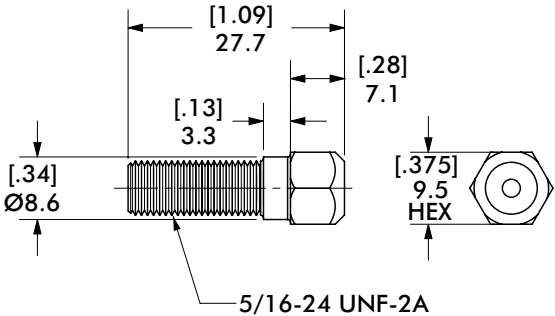
"P"



Point Jaw Inserts

Replacement Part #

**GR0304**



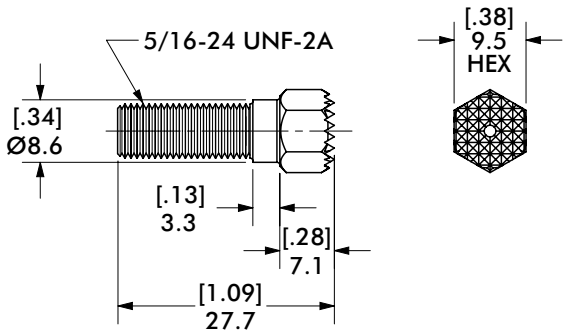
"C"



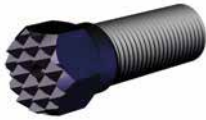
Cup Jaw Inserts

Replacement Part #

**GR0305**



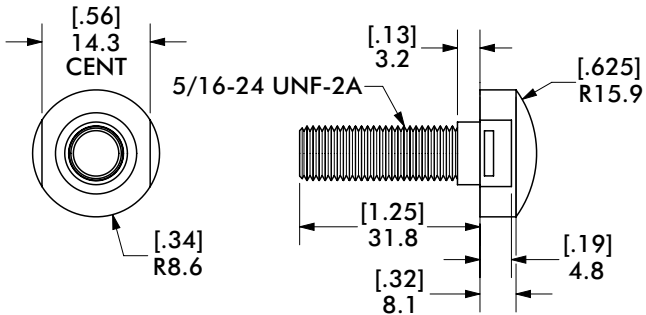
"S"



Serrated Jaw Inserts

Replacement Part #

**GR0341**



"U"



Urethane Jaw Inserts

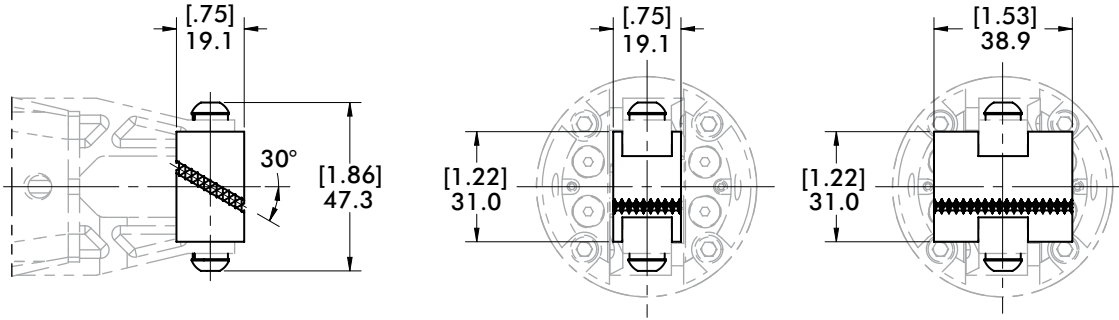
Replacement Part #

**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"**

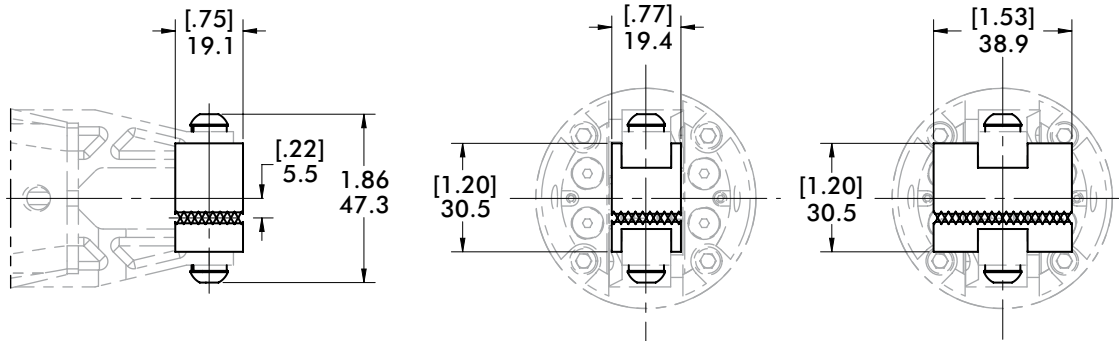


Double Upper/Lower  
30° Angle Insert Block

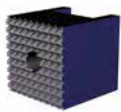
Replacement Part #

**GR1-INS-D30S**

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



**"SOF"**



Single Upper  
Offset Insert Block

Replacement Part #

**GR1-INS-SDUOS**

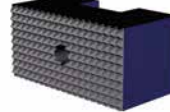


Single Lower  
Offset Insert Block

Replacement Part #

**GR1-INS-SDLOS**

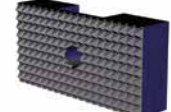
**"DOF"**



Double Upper  
Offset Insert Block

Replacement Part #

**GR1-INS-DUOS**



Double Lower  
Offset Insert Block

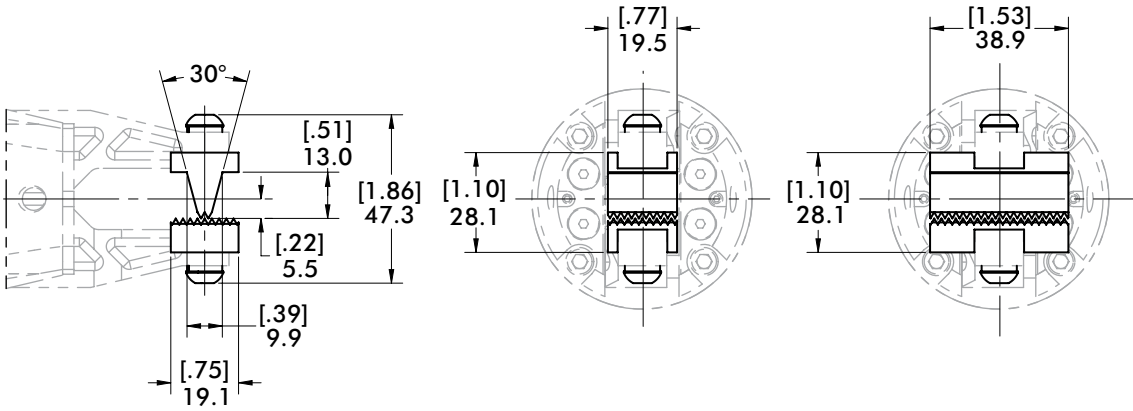
Replacement Part #

**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**



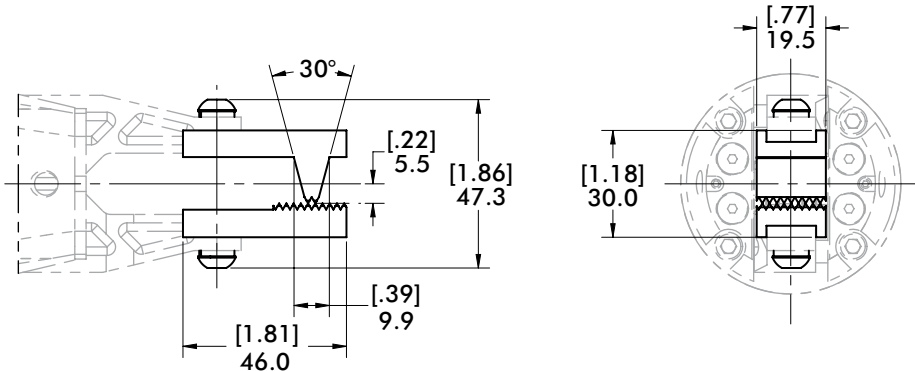
Double Upper Draw Bead Insert Block

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**

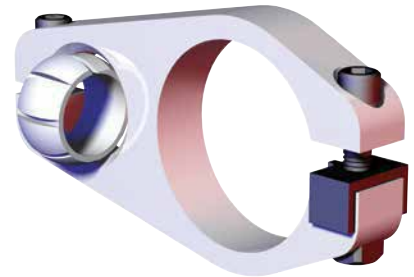
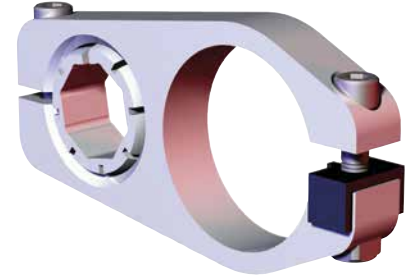
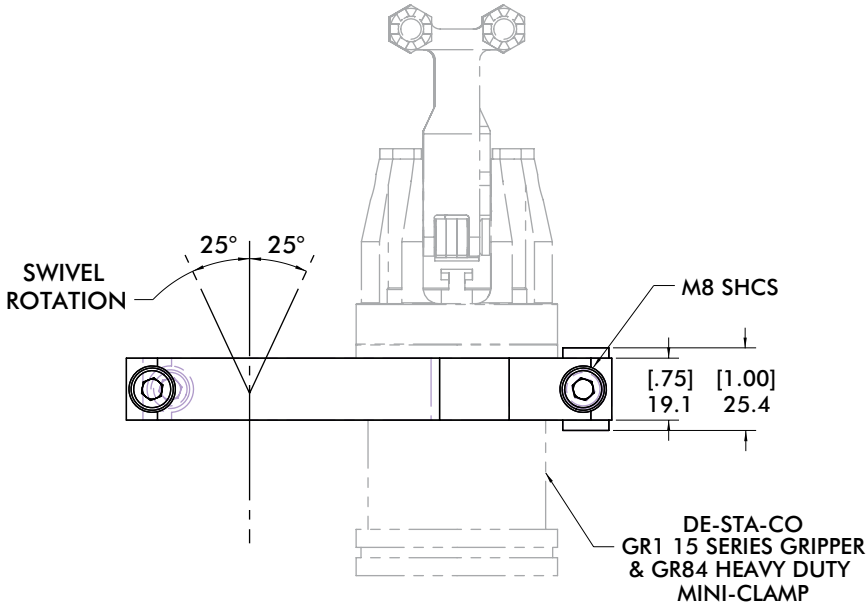


# GR1-15 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

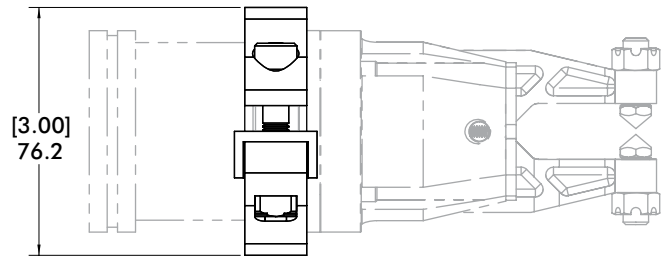
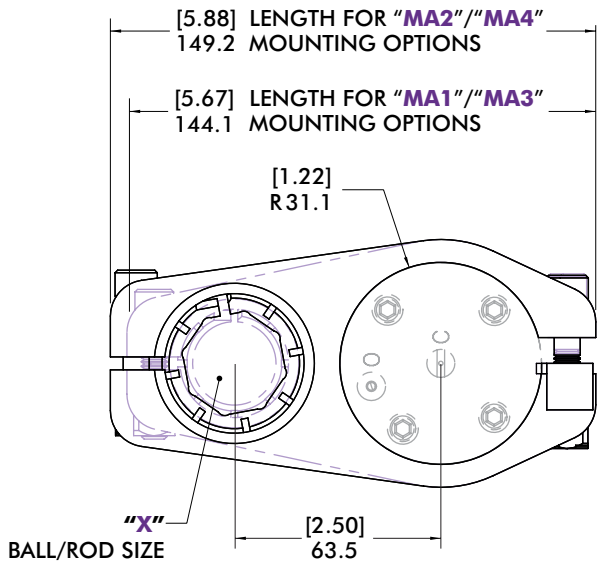
## "MAx" Swivel Parallel Gripper Mounts

**PATENT#** 6,988,696



### Snap-In Ball

Special patented design allows user to replace ball without disassembly



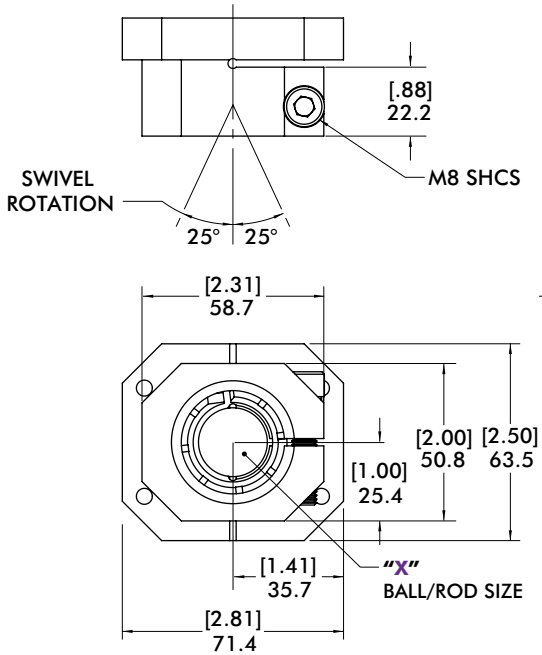
Mounting Option	Rod/Ball "X"	Replacement Part#
<b>MA1</b>	Ø1.00"	CPI-GPC-150-100S-DC
<b>MA2</b>	Ø1.25"	CPI-GPC-150-125S-DC
<b>MA3</b>	Ø25mm	CPI-GPC-150-25MS-DC
<b>MA4*</b>	30mm BB	CPI-GPC-150-30BBS-DC

**\*\*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.

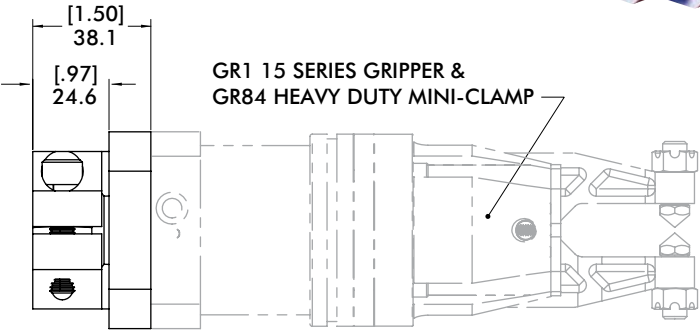
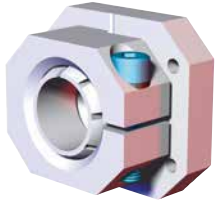
# GR1-15 SERIES

## Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

### "MB1" and "MB3" Rear Swivel Gripper Mount

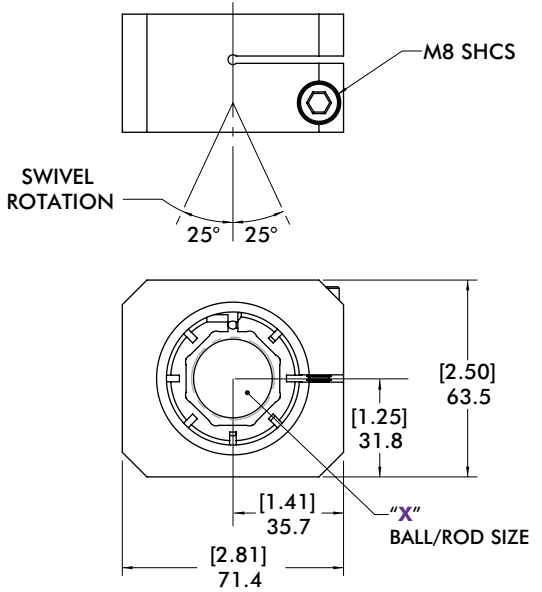


PATENT# 6,988,696

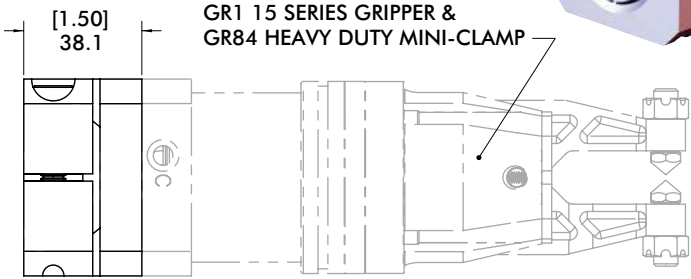


Mounting Option	Rod/Ball "X"	Replacement Part#
<b>MB1</b>	Ø1.00"	CPI-RJM-150-100S
<b>MB3</b>	Ø25mm	CPI-RJM-150-25S

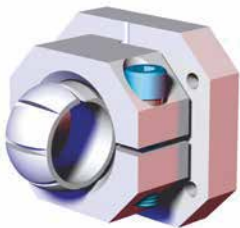
### "MB2" and "MB4" Rear Swivel Gripper Mount



PATENT# 6,988,696



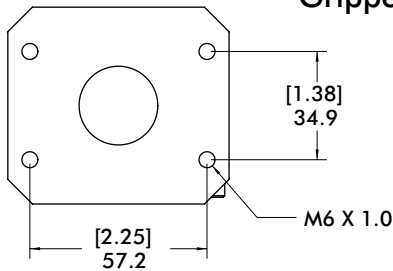
Mounting Option	Rod/Ball "X"	Replacement Part#
<b>MB2</b>	Ø1.25"	CPI-RJM-150-125S
<b>MB4*</b>	30mm BB	CPI-RJM-150-30BBS



PATENT# 6,988,696

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

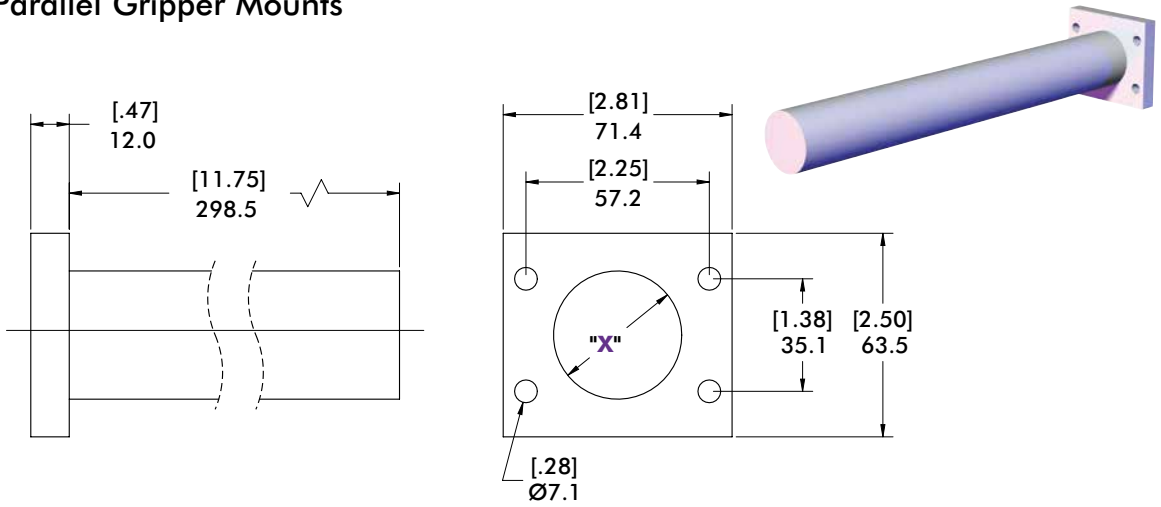
### "MBx" Rear Swivel Gripper Mount Gripper Mounting Pattern



# GR1-15 SERIES

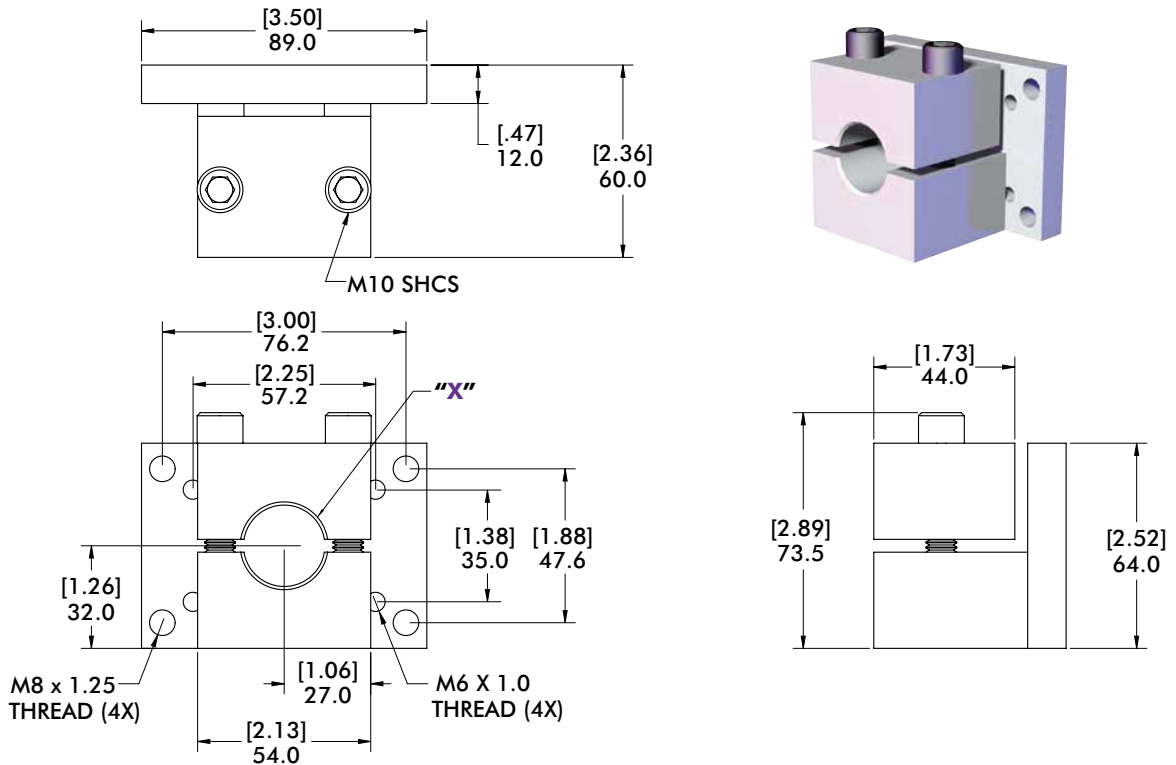
## Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

### "MCx" Swivel Parallel Gripper Mounts



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

### "MD7" Rear Fixed Clamp Mount

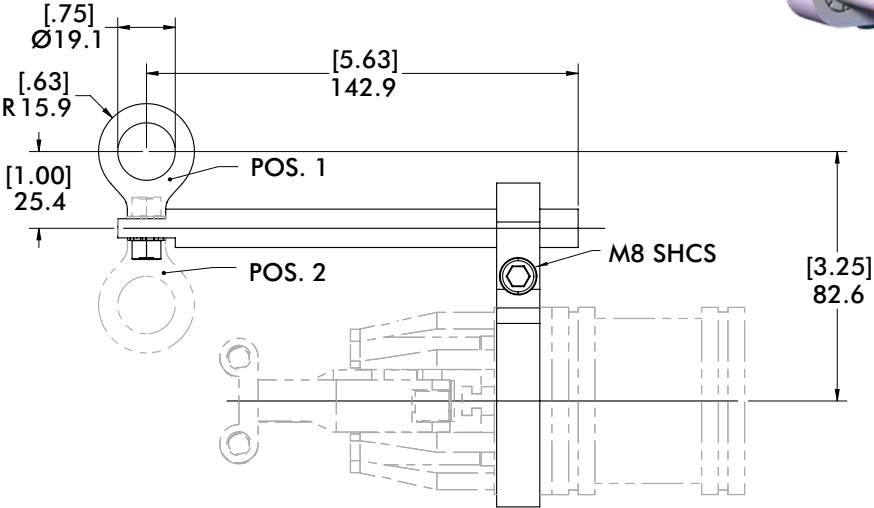
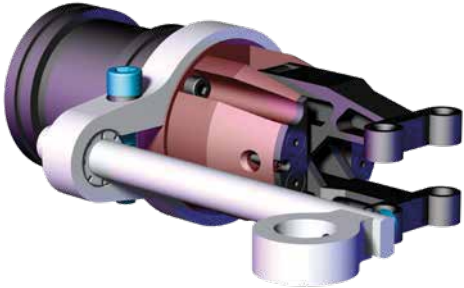


Mounting Option	Rod/Ball "X"	Replacement Part#
<b>MD7</b>	Ø1.00"	M1514

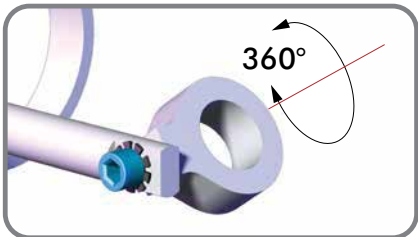
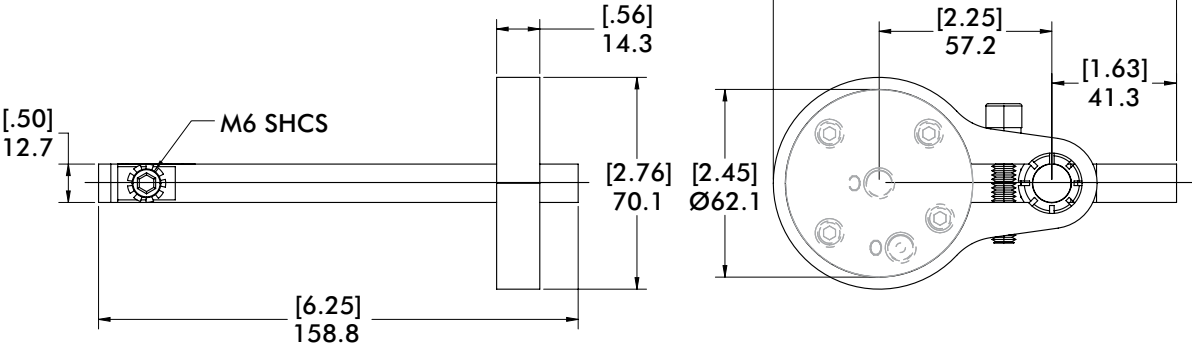
# GR1-15 SERIES

## Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

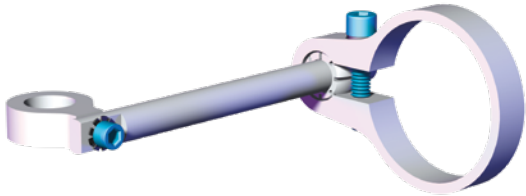
### 18mm Swivel Proximity Sensor Mount



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



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



**Replacement Part #  
 CPI-GPM-15-18**

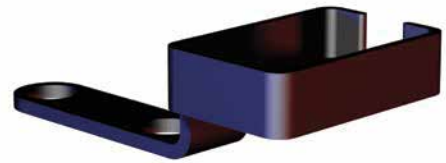
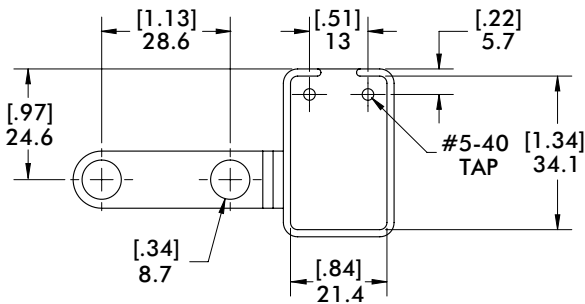
# GR1-15 SERIES

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

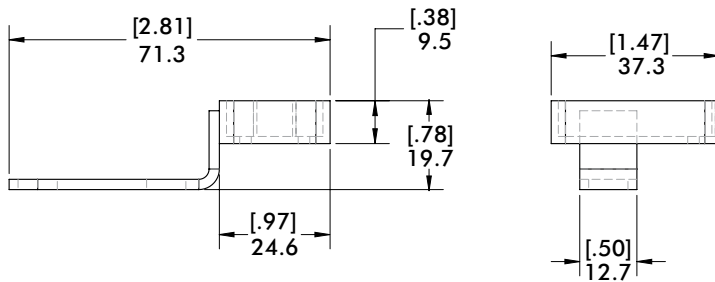
## "A04" and "P03" Sensor Options

"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.)

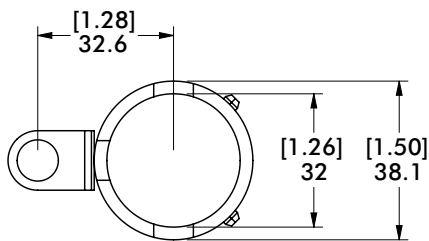
### Proximity Switch Mount for "A04" and "P03" Sensor Options



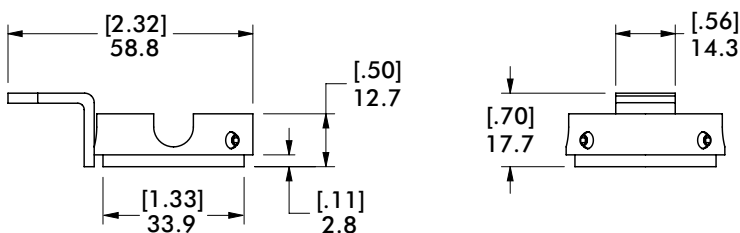
Replacement Part #  
**GR0326**



### Barrel Style Proximity Switch Mount



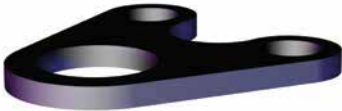
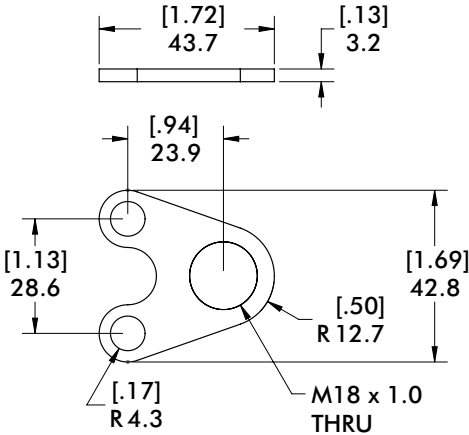
Replacement Part #  
**GR1-15-PM-31**



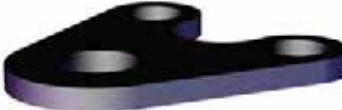
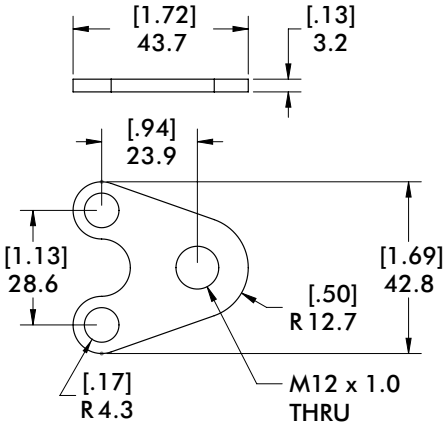
# GR1-15 SERIES

## Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

### Ø18mm and Ø12mm Inline Proximity Switch Mount

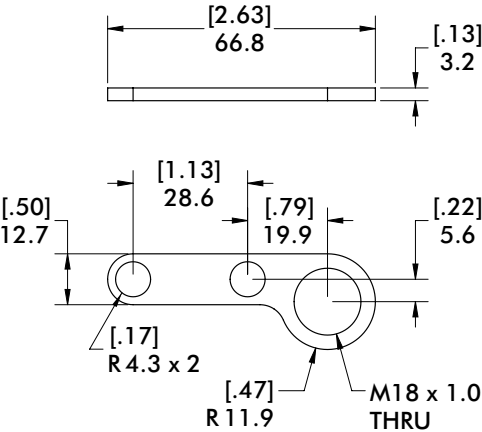


Replacement Part #  
**CPI-PM-15D-18**

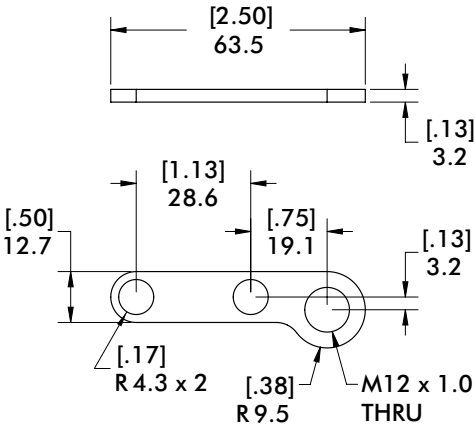


Replacement Part #  
**CPI-PM-15D-12**

### Ø18mm and Ø12mm Offset Proximity Switch Mount



Replacement Part #  
**CPI-PM-15S-18**



Replacement Part #  
**CPI-PM-15S-12**

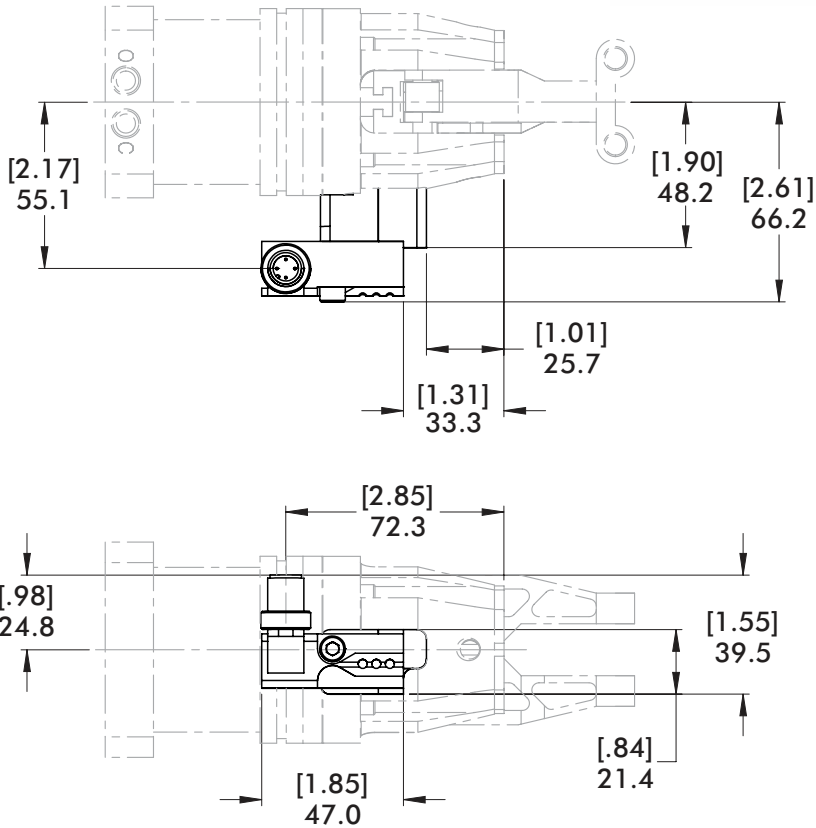


# GR1-15 SERIES

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.

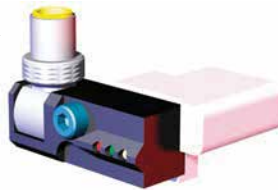


### Replacement Part #

**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

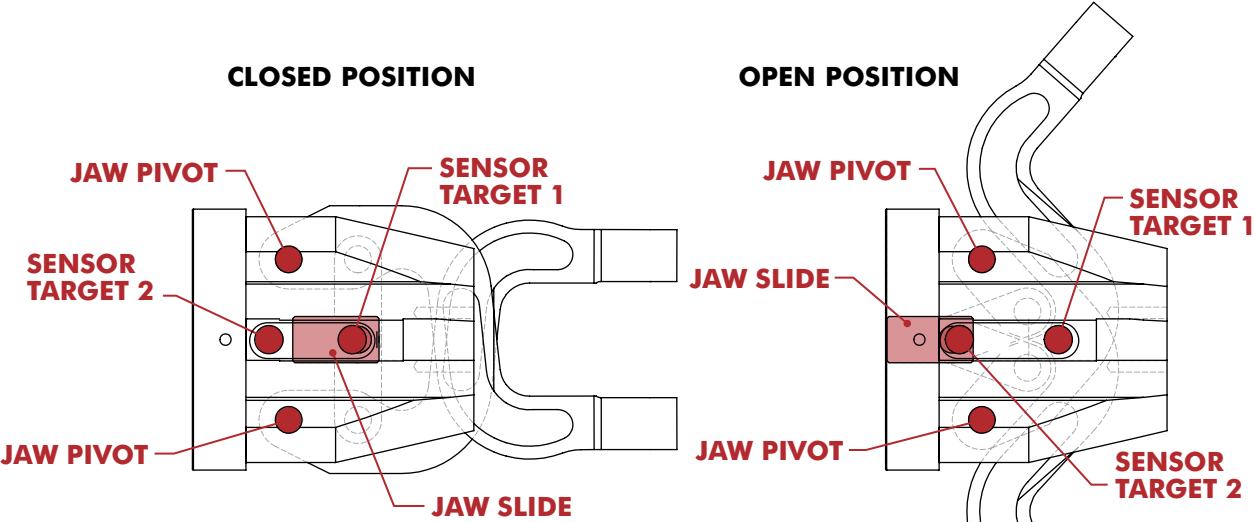
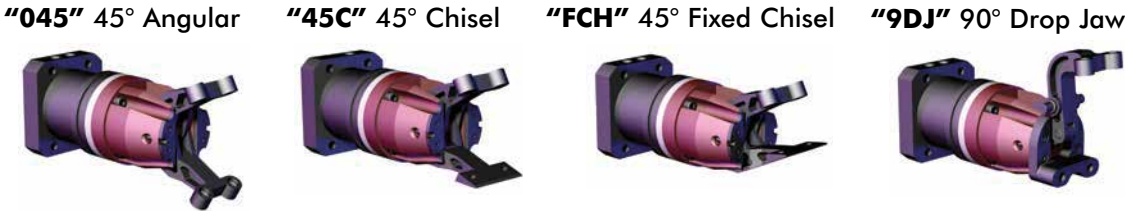
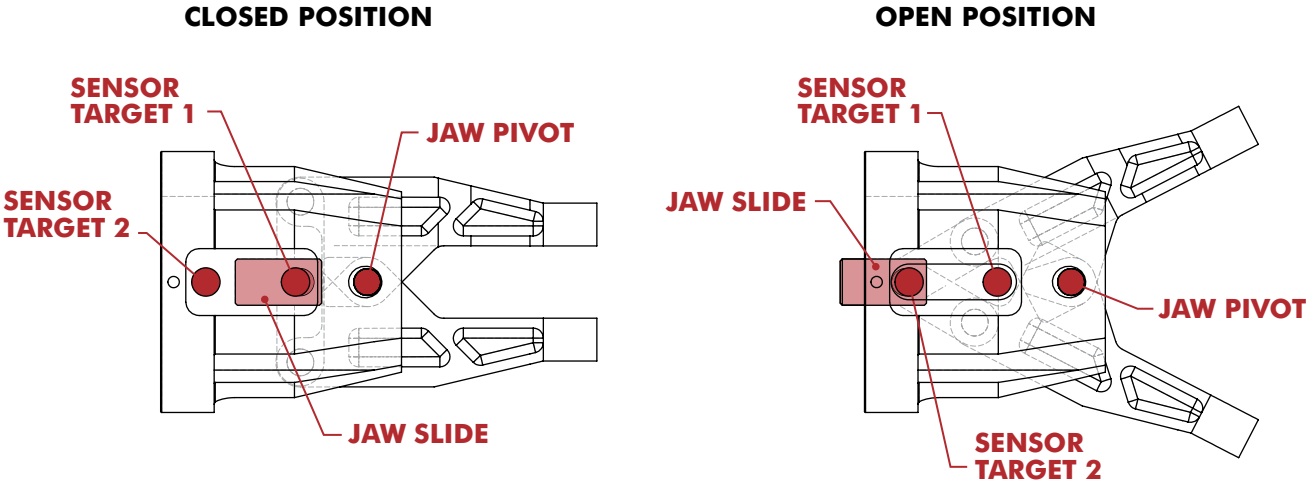
3 amps, 250 volts, VDC  
4-Pin Euro Micro Connector



# 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

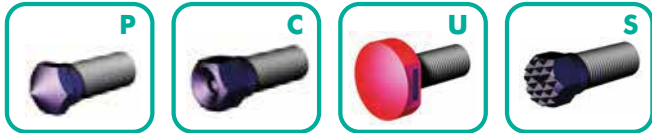
Sensors Type	Description
<b>T04</b>	Internal Sensor
(Leave Blank)	No Sensor

(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

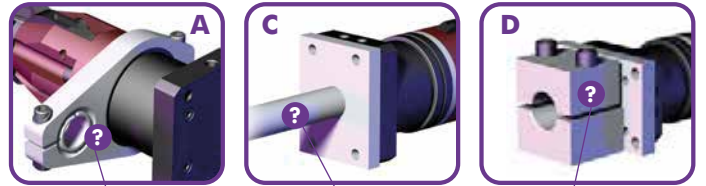
- D** **P** **P**

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

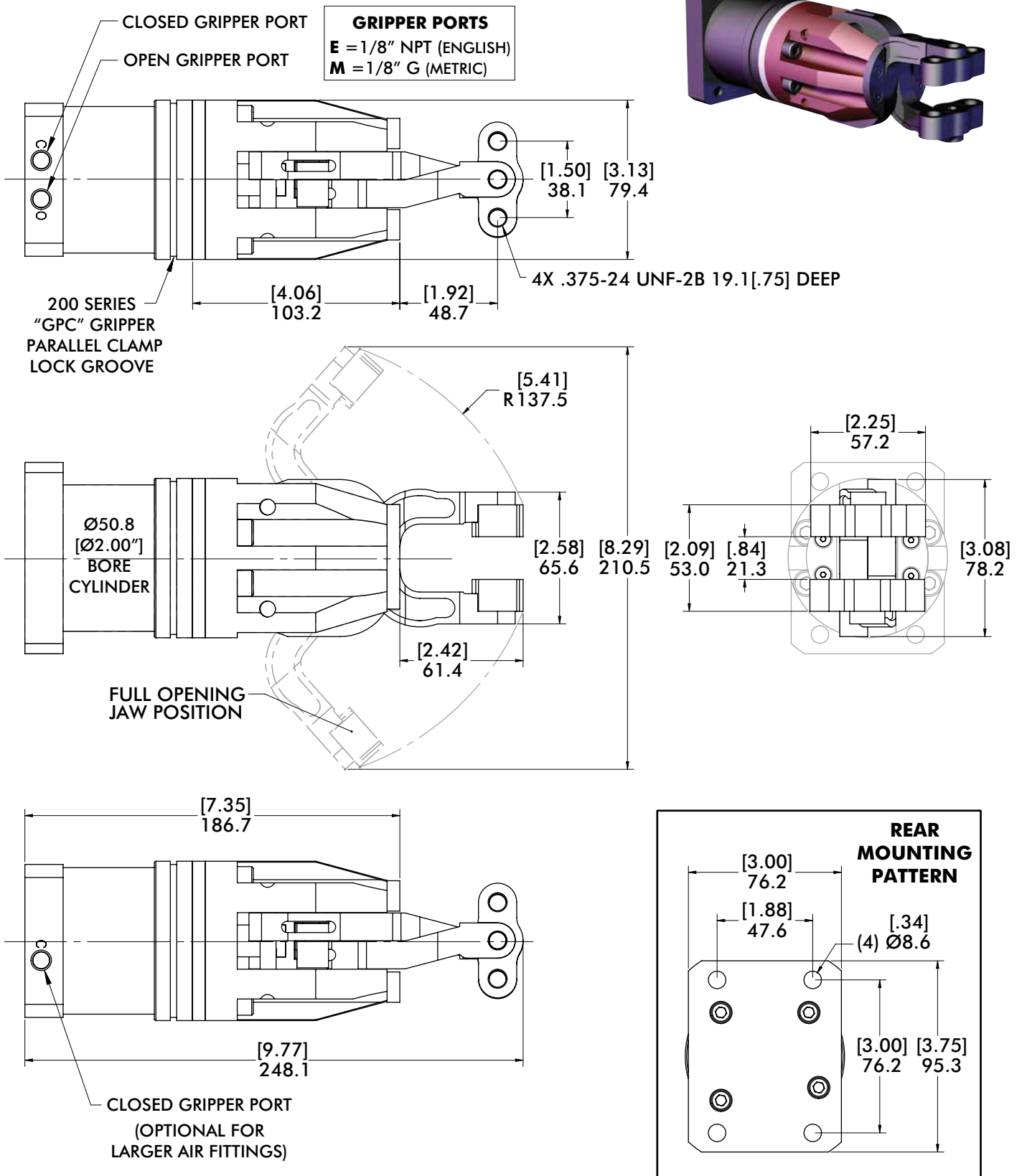
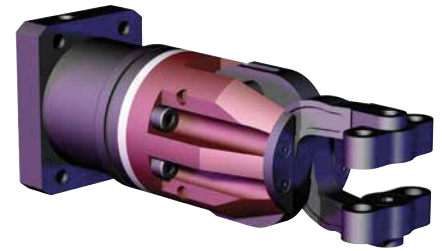
- M** **X** **X**  
**1** 1.00" W/Metric Fasteners (A & C Only)  
**3** 25Mm Metric Fasteners (A & C Only)  
**7** M1514 (Type D Only)  
**X** No Mount



# GR1-20 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions

**"180"** 180° Angular Jaw Arrangement - Double Insert

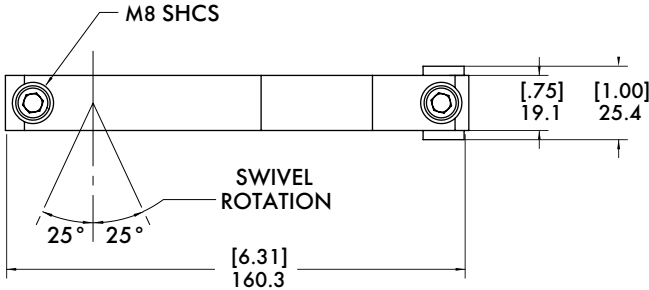
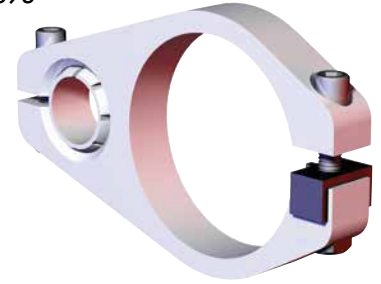


# GR1-20 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions and Ordering Information

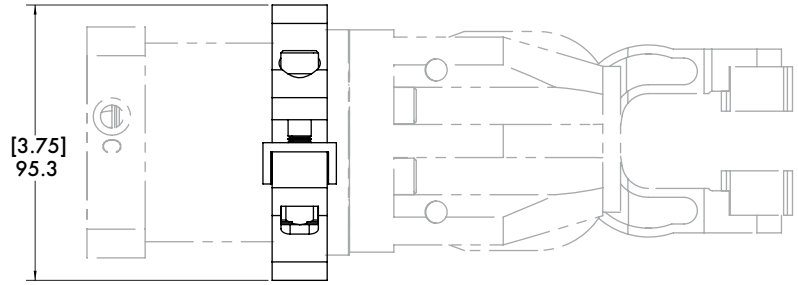
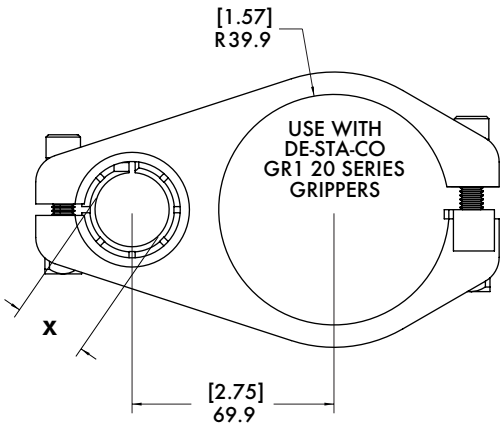
## "MAx" Swivel Parallel Gripper Mounts

**PATENT#** 6,988,696



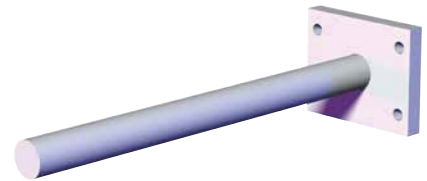
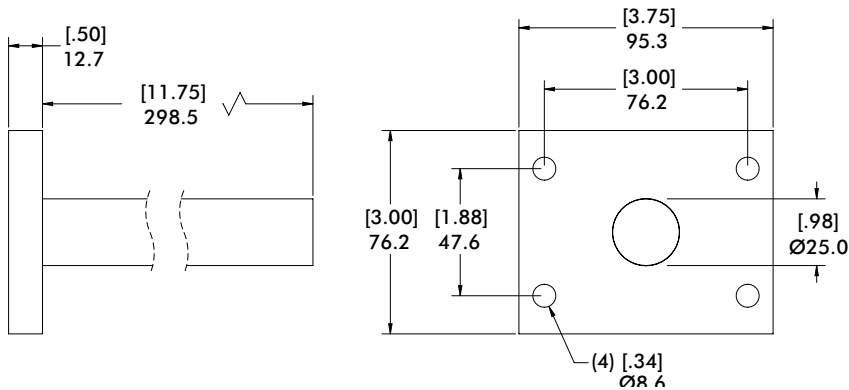
### Snap-In Ball

Special patented design allows user to replace ball without disassembly



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

## "MCx" Rear Fixed Welded Mount

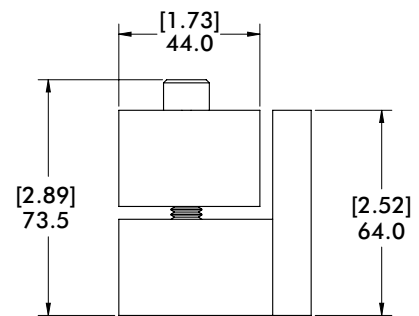
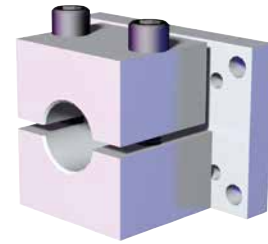
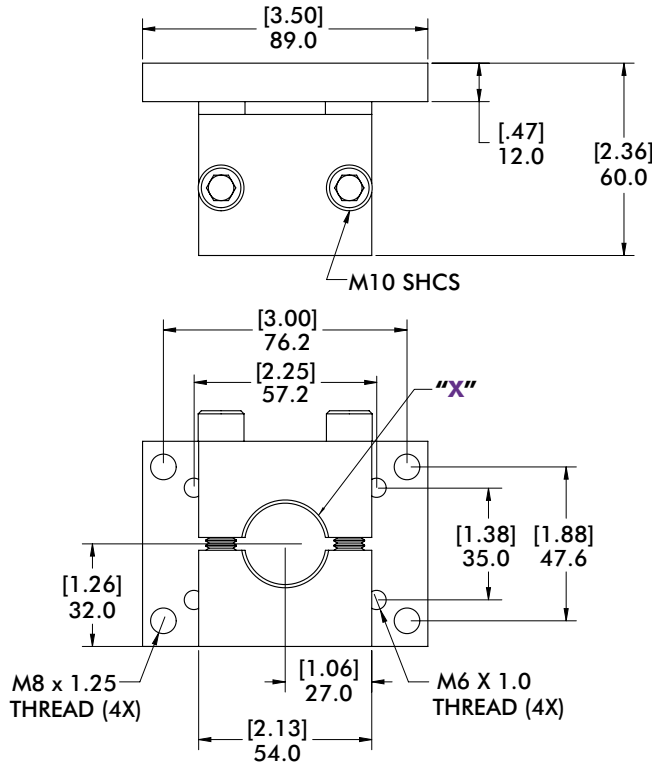


Mounting Option	Rod/Ball "X"	Replacement Part #
<b>MC1</b>	Ø1.00"	CPI-RJM-200-100
<b>MC3</b>	Ø25mm	CPI-RJM-200-25

# GR1-20 SERIES

Toggle Lock Sheet Metal Grippers | Dimensions, Ordering Information

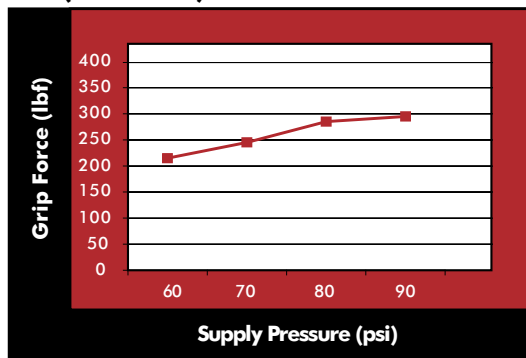
## "MD7" Rear Fixed Clamp Mount



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]

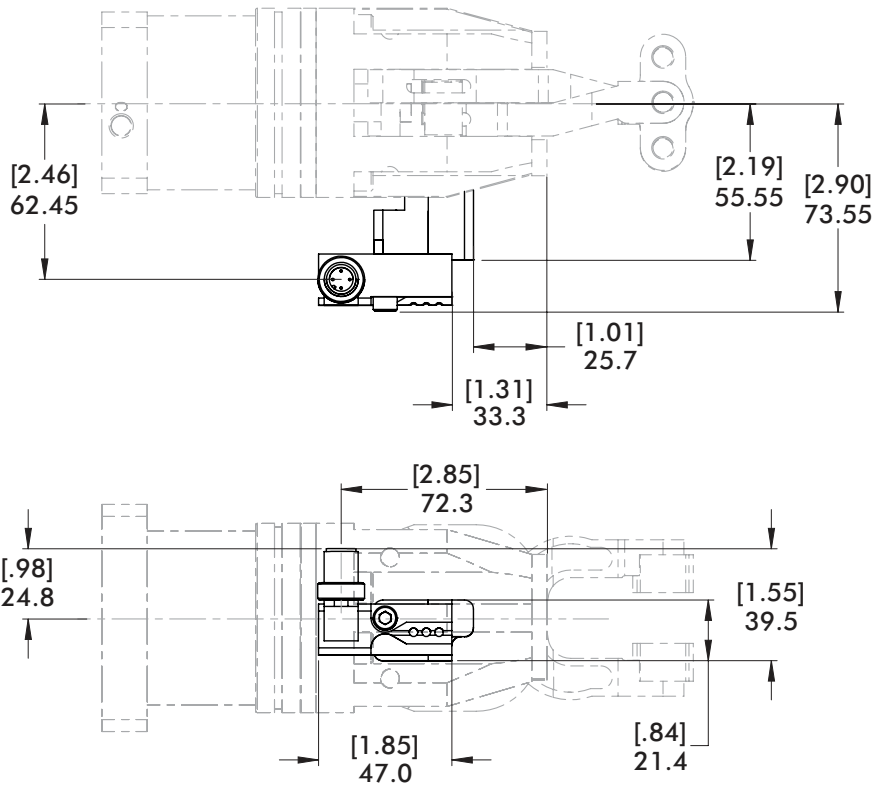


# SHEET METAL GRIPPERS

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