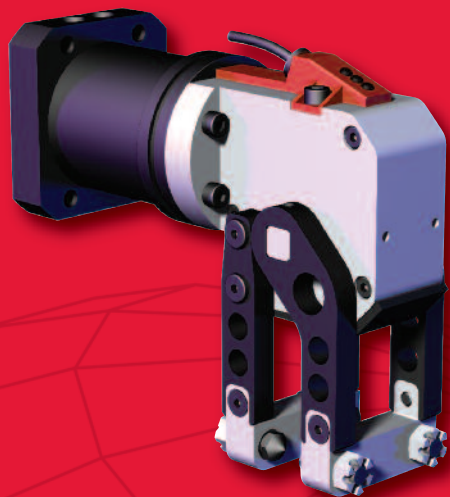




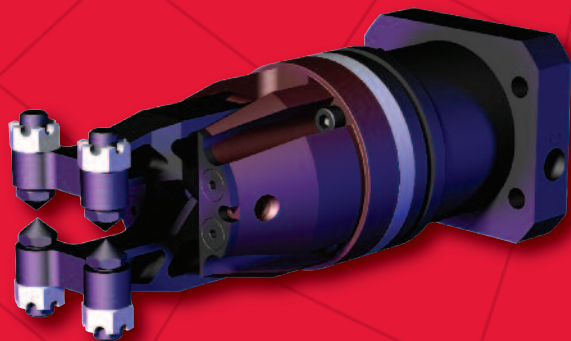
A DOVER COMPANY

MODULAR GRIPPING PRODUCTS

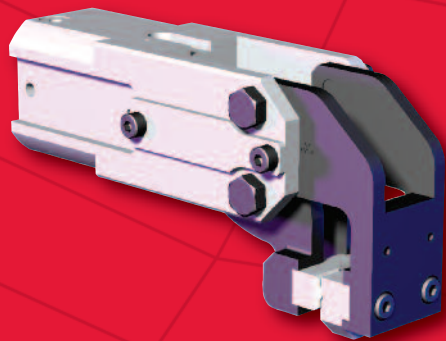
FEBRUARY 2009



GR84 Series Mini-Clamps



GR1 Series Modular Grippers



84A2 Series Cam Grippers

www.destaco.com



CAD FILES
AVAILABLE
ONLINE



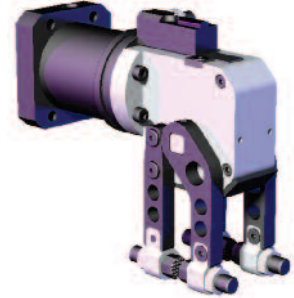
Modular Gripping Products

Introduction



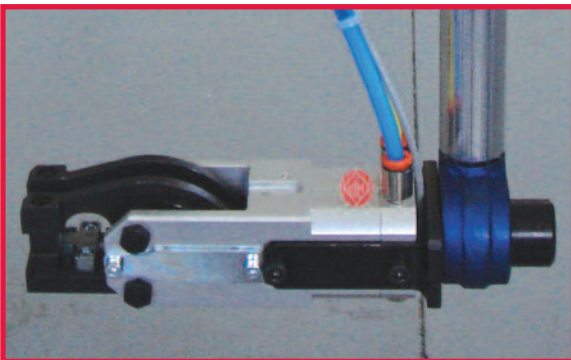
GR84 Enclosed Modular Mini-Clamp

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



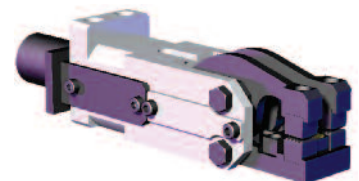
GR1 Modular Gripper

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

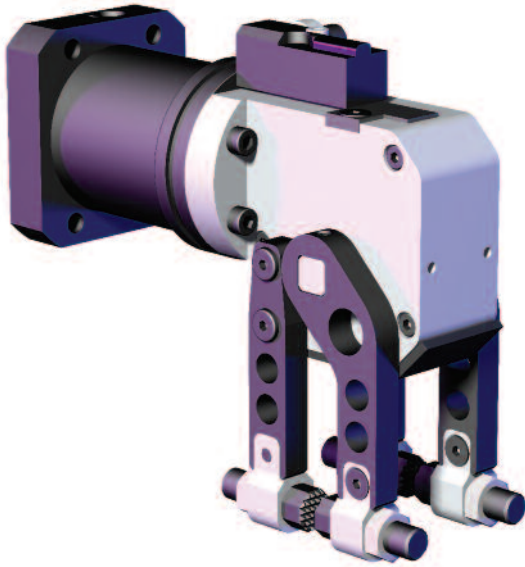


84A2 Modular CAM Style Gripper

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



GR84 Modular Mini Clamp
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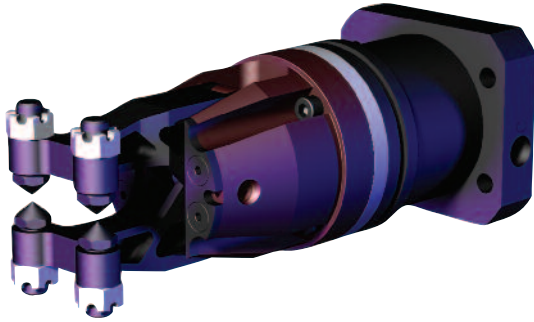
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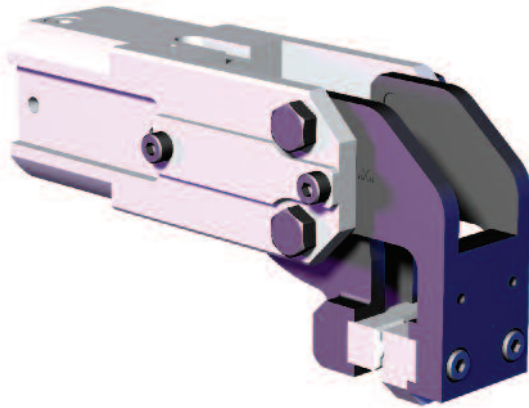
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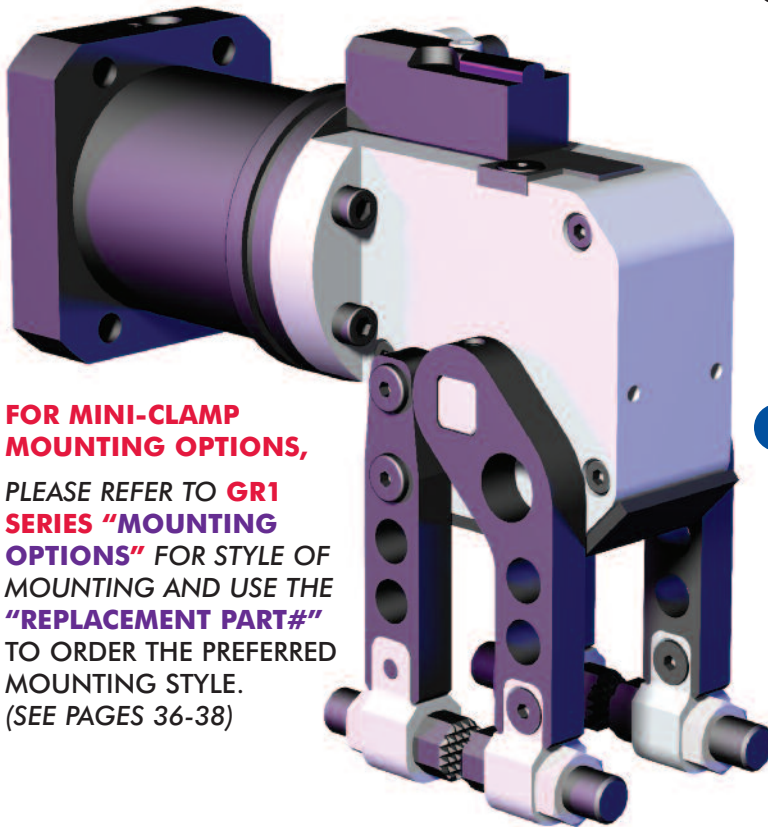
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GR84 Modular Mini Clamp
Ordering Information

MODEL GR84 — **SERIES** 15 — **CYLINDER** BE — **JAW ARM** DD — **JAW OPTIONS** 9S9 —



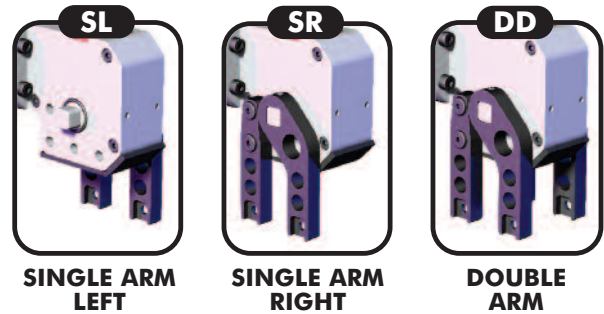
PATENT# 6,619,182



FOR MINI-CLAMP MOUNTING OPTIONS,

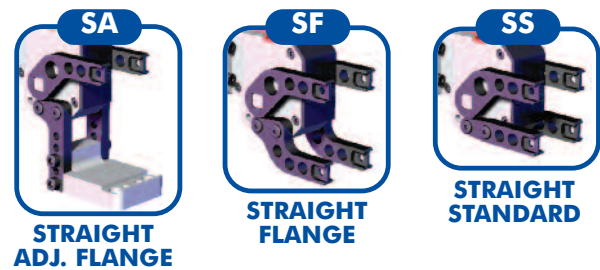
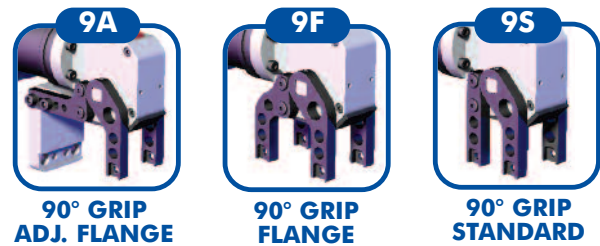
PLEASE REFER TO **GR1 SERIES "MOUNTING OPTIONS"** FOR STYLE OF MOUNTING AND USE THE **"REPLACEMENT PART#"** TO ORDER THE PREFERRED MOUNTING STYLE. (SEE PAGES 36-38)

JAW ARM OPTION



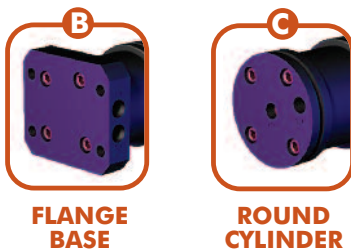
JAW ARRANGEMENT & OPENING

STEP 1 **9S** X **JAW ARRANGEMENT**



CYLINDER TYPE & PORTING

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



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

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

STEP 2 **9S** **9** **ACTIVE JAW OPENING**



GR84 Modular Mini Clamp
Ordering Information

INSERTS

QQSS —

SENSOR

E6

SENSING MOUNTS

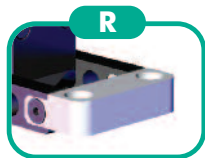
XX

GUARDS

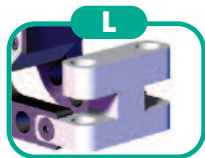
01

JAW BLOCK & INSERT OPTIONS

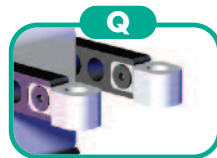
STEP 1 **ACTIVE JAW BLOCK OPTION**



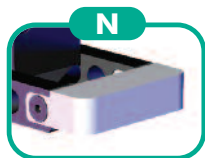
REGULAR BLOCK



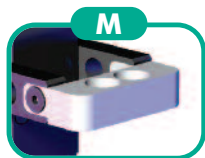
FLANGE BLOCK



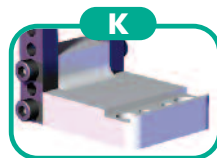
(2) SINGLE BLOCKS



BLANK BLOCK



"B" INSERT JAW
(BLOCK INSERTS ONLY)



ADJUSTABLE JAW
(9A & SA FIXED JAW ONLY)

STEP 2 **FIXED JAW BLOCK OPTION**

STEP 3 **ACTIVE JAW INSERT OPTION**



POINT



CUP



URETHANE



SERRATED



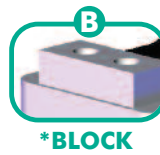
SELF-ADJUSTING
SERRATED



NONE



BLANK



*BLOCK

(N) = NON-STANDARD

STEP 4 **FIXED JAW INSERT OPTION**

OR **"B" BLOCK INSERT OPTIONS**

*(ACTIVE AND FIXED JAWS USE COMMON INSERTS)



SERRATED



URETHANE



ALUMINUM

(N) = NON-STANDARD

(SENSING MOUNTS CAN NOT BE USED WITH (B) BLOCK OPTION INSERTS)

SENSOR OPTIONS

(SEE PAGE 18 FOR SENSOR SPECIFICATIONS)

A1 = (TURCK) VDC

B8 = (PEPPERL FUCHS) VDC

C8 = (DE-STA-CO) VDC

C9 = (ALLEN-BRADLEY) VDC

D1 = (TURCK) AC/DC

E3 = (NAMCO) VDC

E4 = (PEPPERL FUCHS) VDC

E5 = (EFFECTOR) VDC

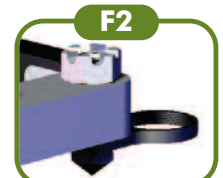
E6 = (BALUFF) VDC

XC = COVER ONLY

SENSOR MOUNTS



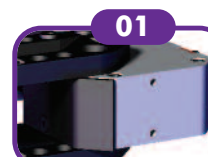
Ø18mm SENSOR



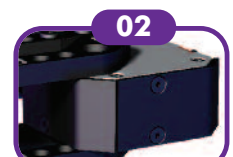
Ø12mm SENSOR

XX = NO SENSOR MOUNTS

GUARD OPTIONS



FACE GUARD

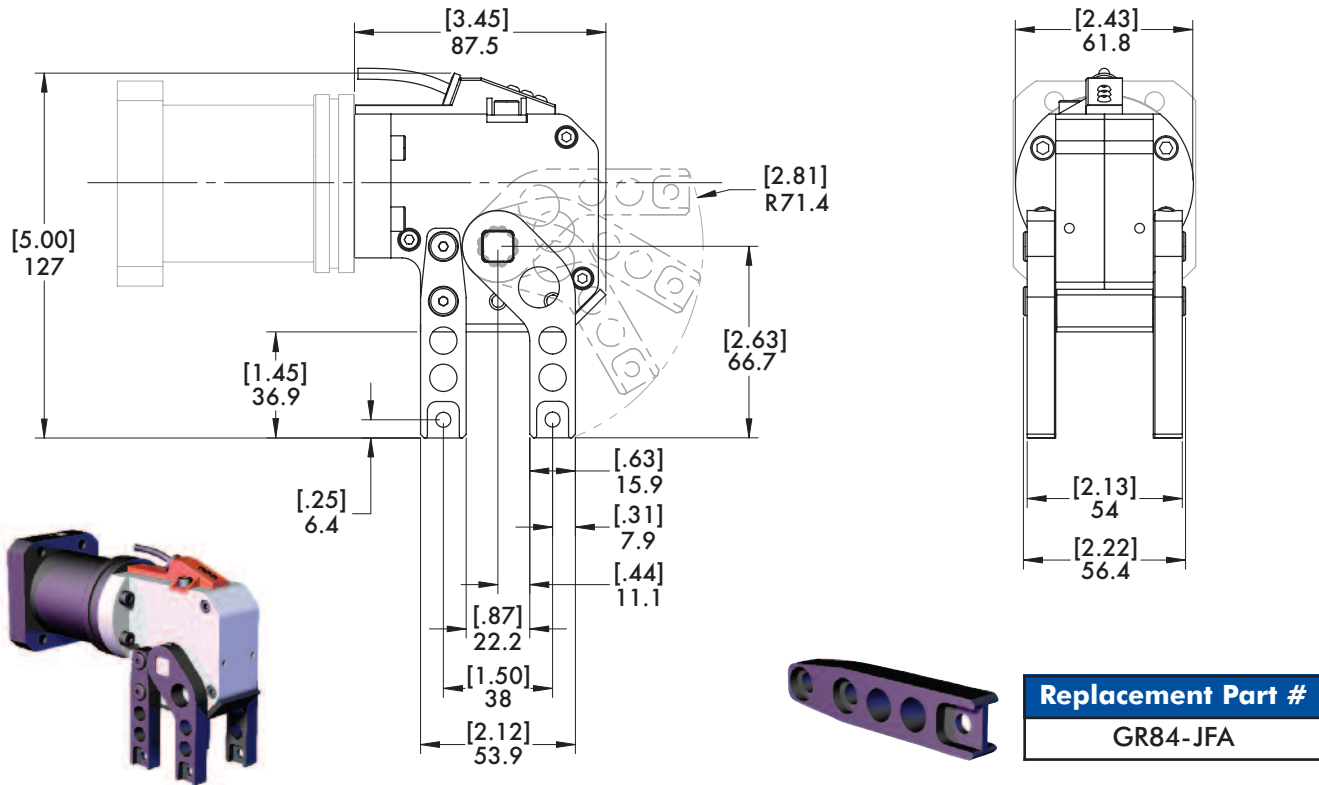


FACE + SKID GUARD

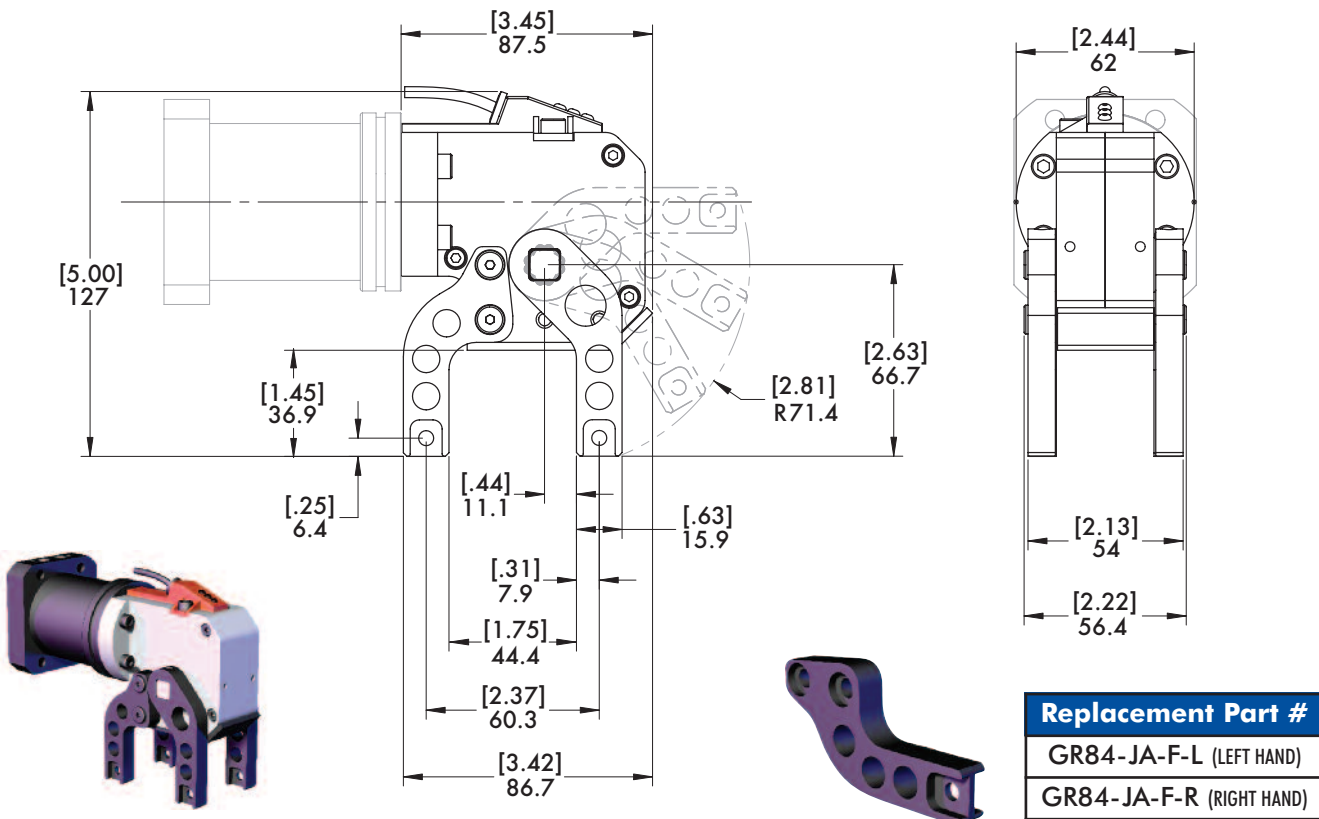
XX = NO FACE GUARD

GR84 Modular Mini Clamp

"9Sx" 90° Jaw Arrangement - Standard Fixed Jaw

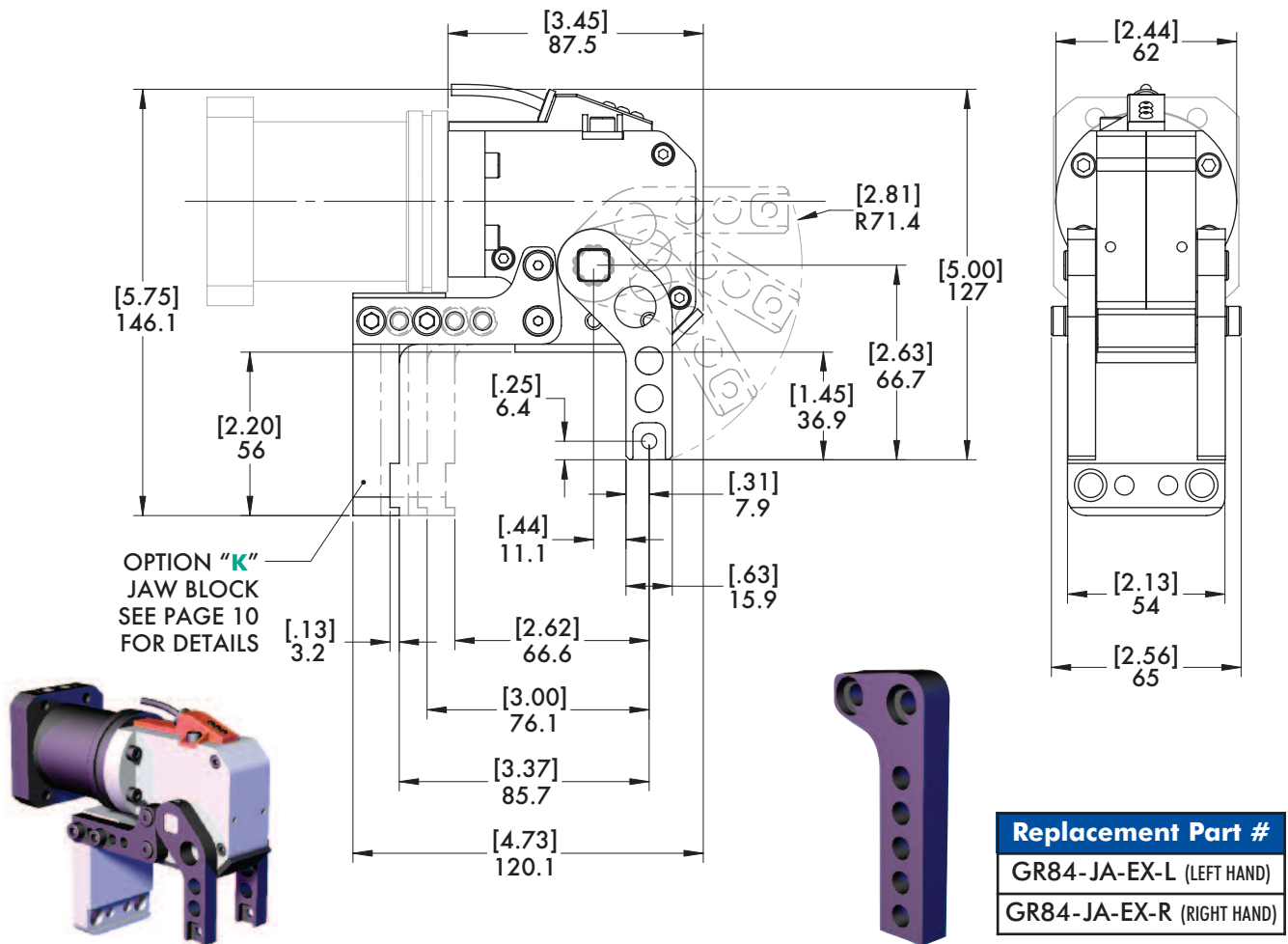


"9Fx" 90° Jaw Arrangement - Flange Fixed Jaw

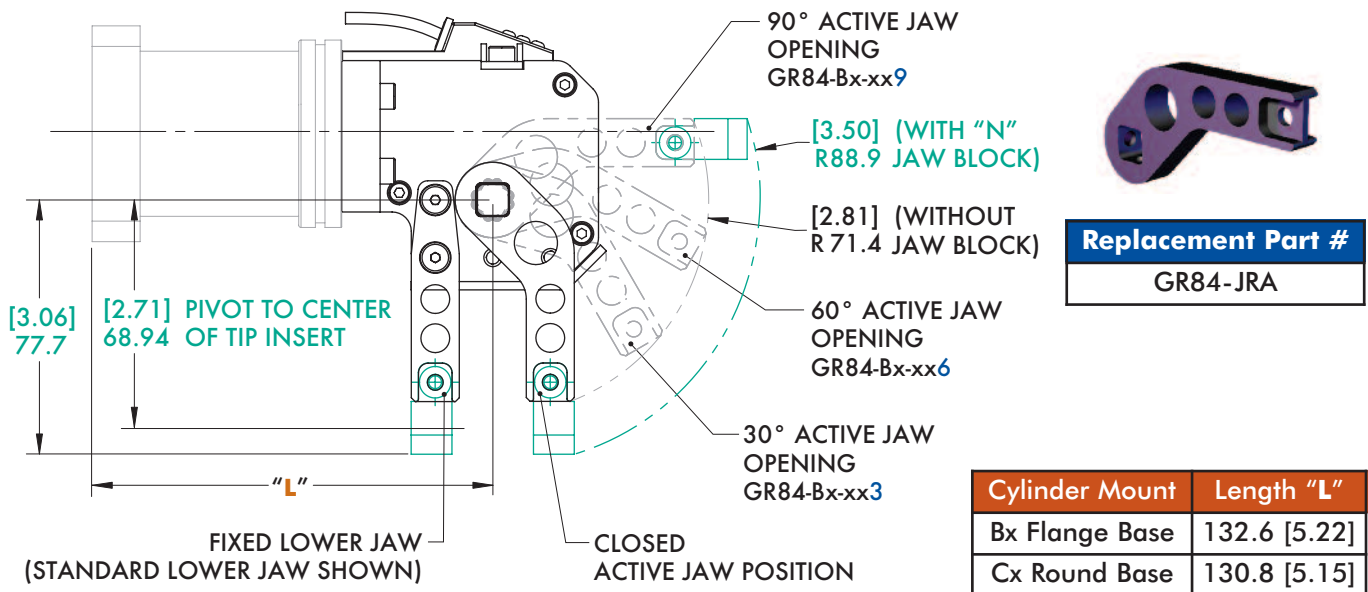


GR84 Modular Mini Clamp

"9Ax" 90° Jaw Arrangement - Adjustable Fixed Jaw

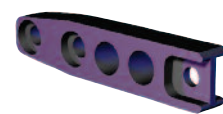
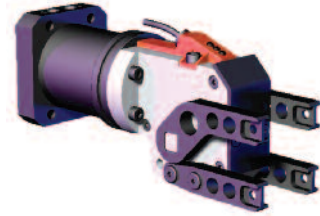
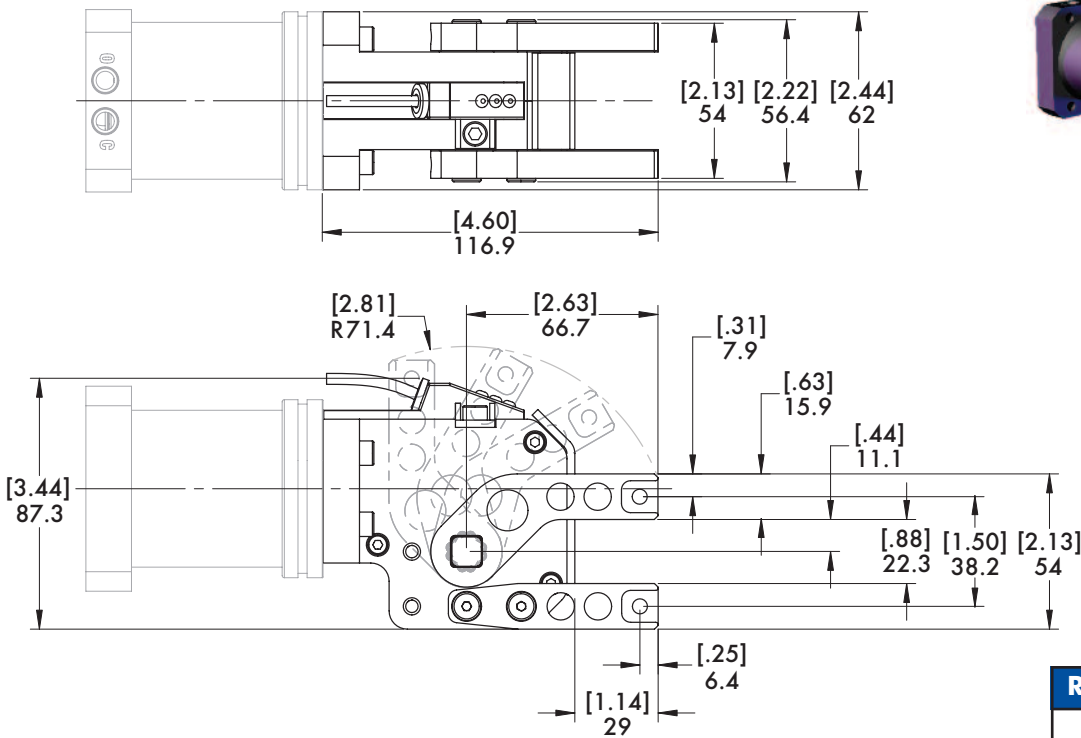


"xx3", "xx6", "xx9" 90° Jaw Arrangement - Preset Active Jaw Opening



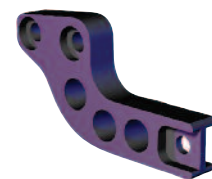
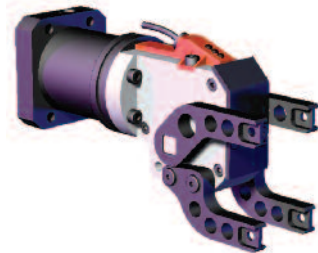
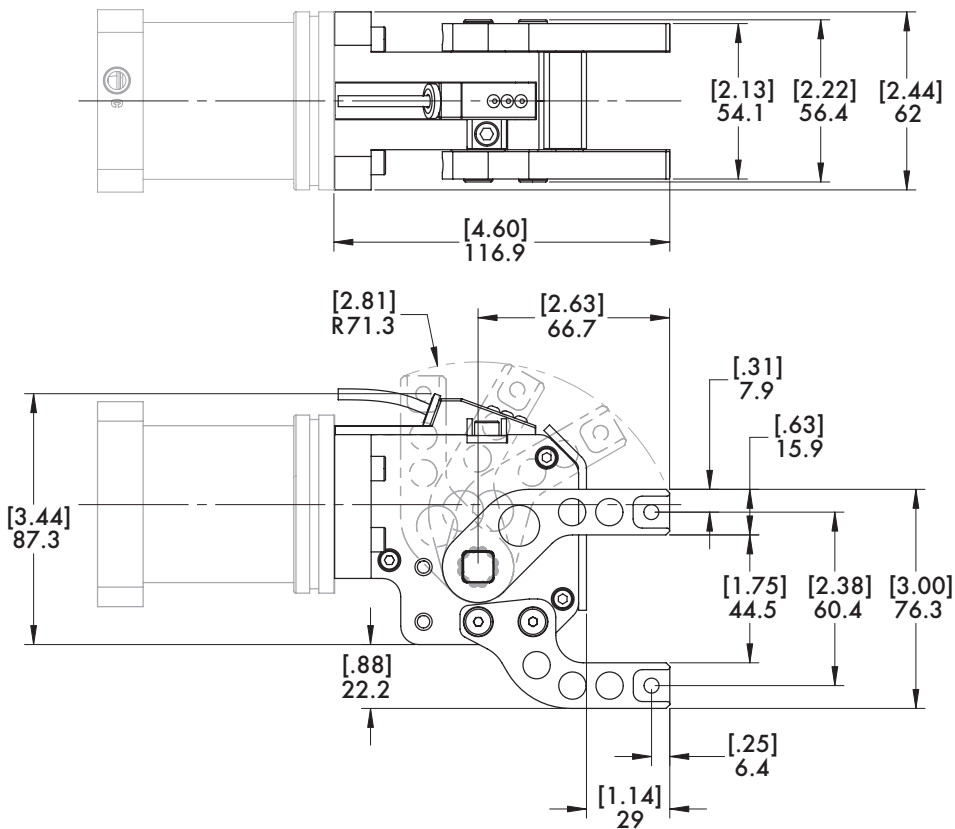
GR84 Modular Mini Clamp

"SSx" Straight Jaw Arrangement - Standard Fixed Jaw



Replacement Part #
GR84-JFA

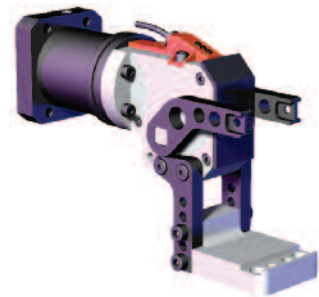
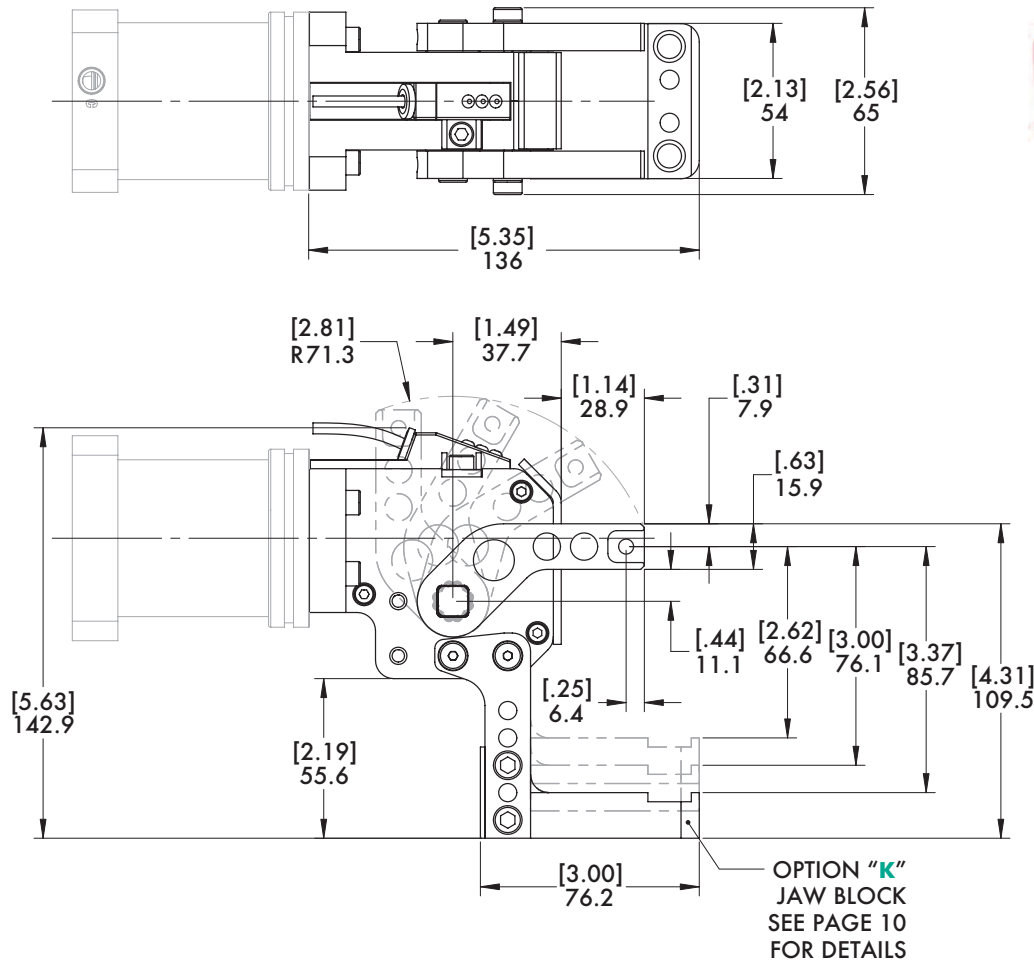
"SFx" Straight Jaw Arrangement - Flange Fixed Jaw



Replacement Part #
GR84-JA-F-L (LEFT HAND)
GR84-JA-F-R (RIGHT HAND)

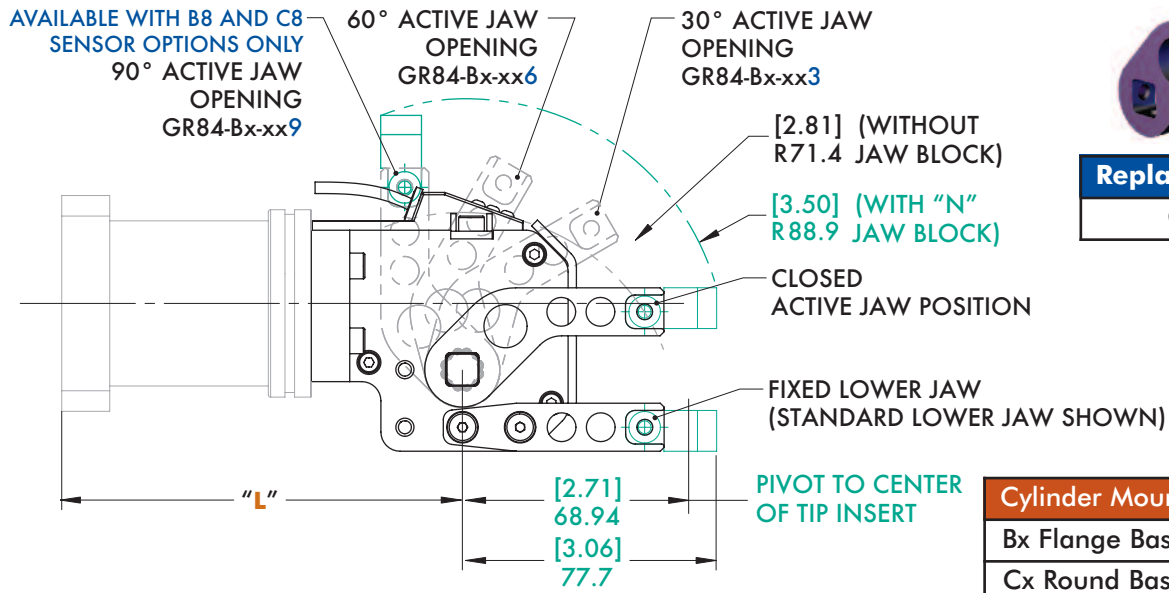
GR84 Modular Mini Clamp

"SAx" Straight Jaw Arrangement - Adjustable Fixed Jaw



Replacement Part #
GR84-JA-EX-L (LEFT HAND)
GR84-JA-EX-R (RIGHT HAND)

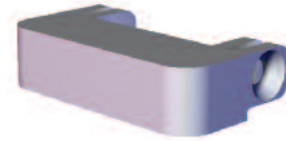
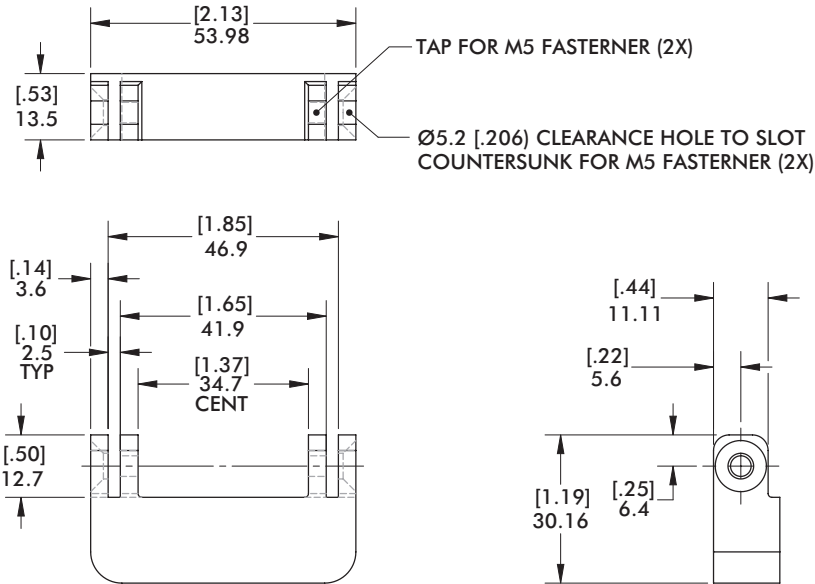
"xx3", "xx6", "xx9" Straight Jaw Arrangement - Preset Active Jaw Opening



Replacement Part #
GR84-JRA

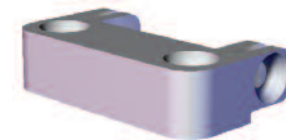
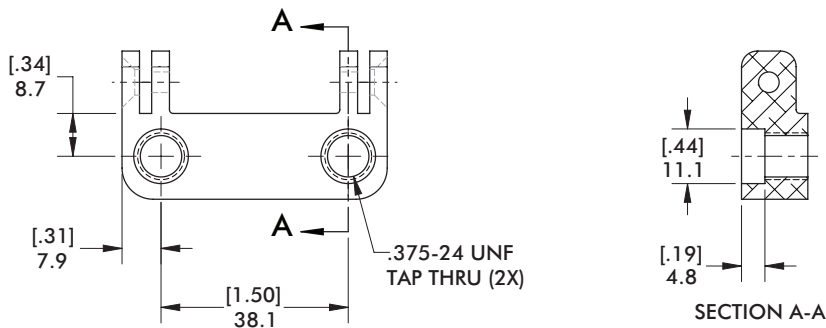
Cylinder Mount	Length "L"
Bx Flange Base	132.6 [5.22]
Cx Round Base	130.8 [5.15]

GR84 Modular Mini Clamp
"N" Blank Jaw Block



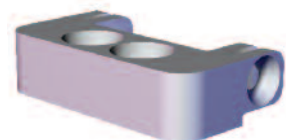
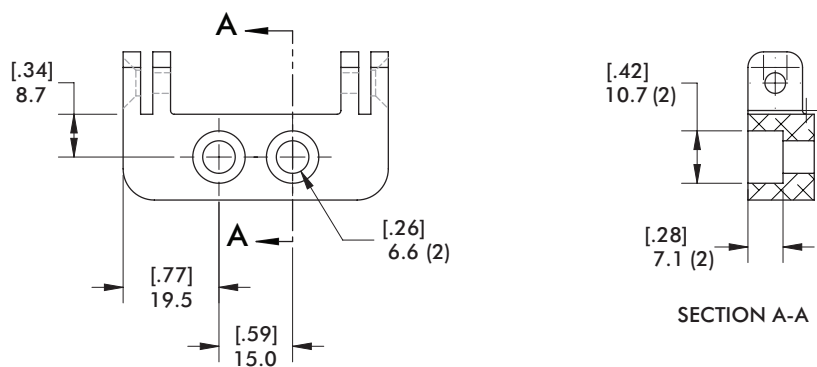
Replacement Part #
GR84-JB

"R" Point Insert Jaw Block



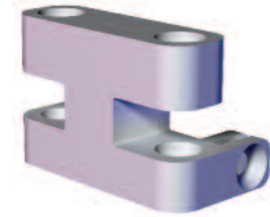
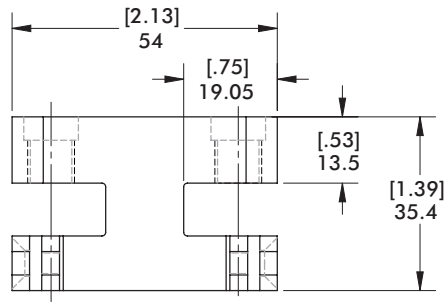
Replacement Part #
GR84-JB-3824

"M" Block Insert Jaw Block

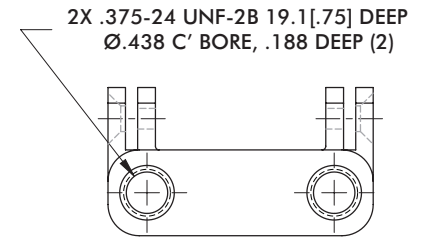
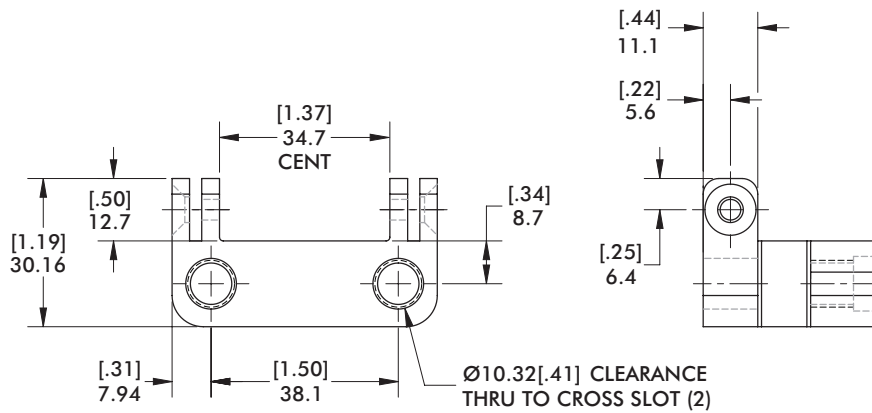


Replacement Part #
GR84-JB-BM6

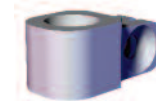
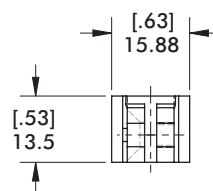
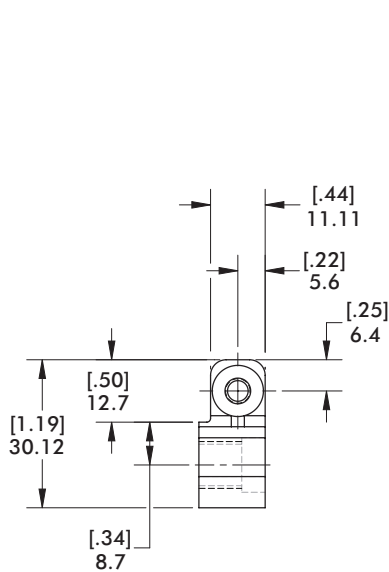
GR84 Modular Mini Clamp
"L" Flange Point Insert Jaw Block



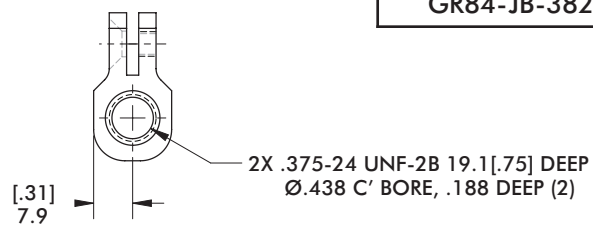
Replacement Part #
GR84-JB-F-3824



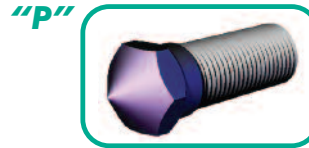
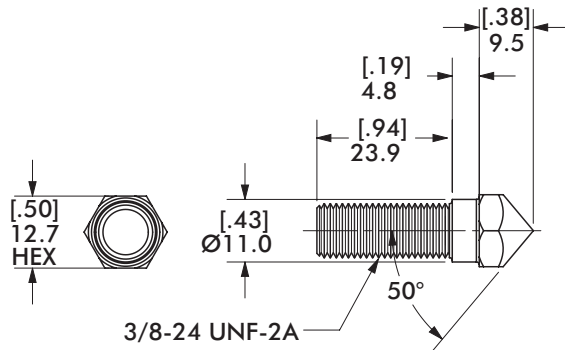
"Q" Single Point Insert Jaw Block
(Offered in pairs per jaw)



Replacement Part #
GR84-JB-3824S

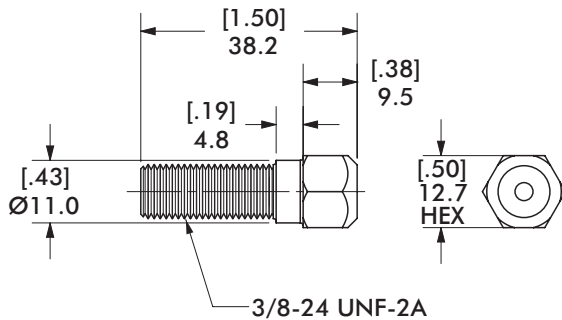


GR84 Modular Mini Clamp
 "P", "C", "S", "T", "U" Jaw Inserts



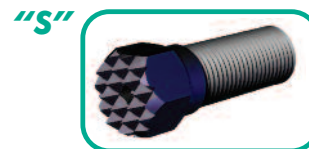
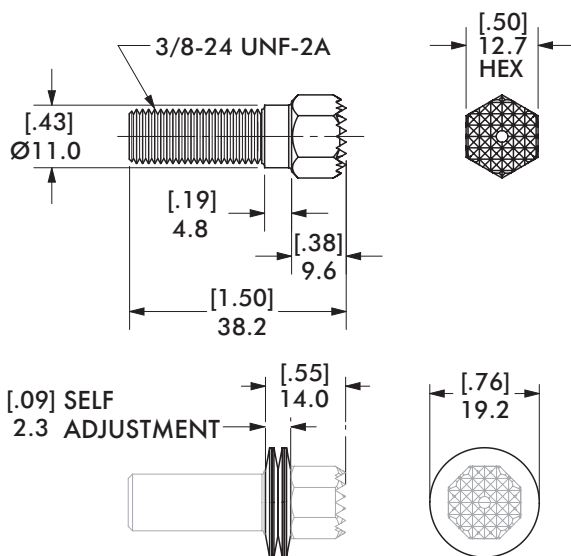
Point Jaw Inserts

Replacement Part #
GR0107



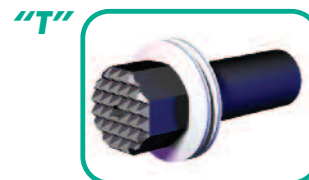
Cup Jaw Inserts

Replacement Part #
GR0108



Serrated Jaw Inserts

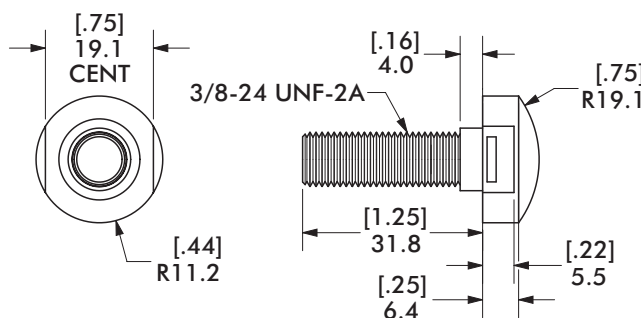
Replacement Part #
GR0342



Self-Adjusting Serrated Jaw Inserts

Includes (1) GR0342 and (4) Belleville Washers
 Part# 329-TPR-BDA-044

Self-adjusting jaw inserts require jaw blocks to have clearance holes in place of the standard tap thread in order for the inserts to function properly.



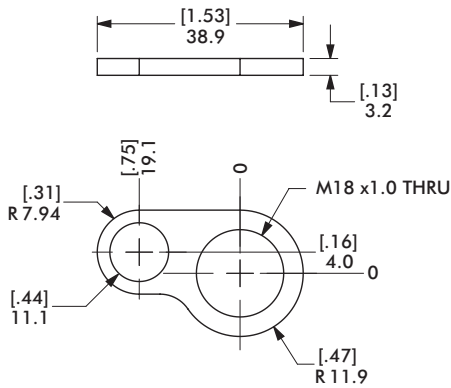
Urethane Jaw Inserts

Replacement Part #
GR0353

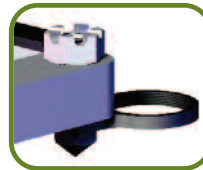
GR84 Modular Mini Clamp

"F1" Ø18mm Sensor Mount

(Can only be used with "K" and "M" jaw blocks)



"F1"

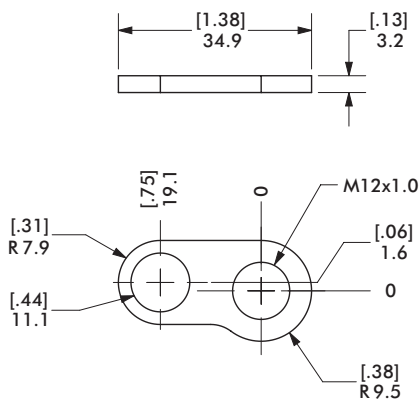


Replacement Part #

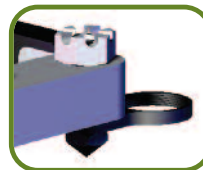
CPI-PM-18

"F2" Ø12mm Sensor Mount

(Can only be used with "K" and "M" jaw blocks)



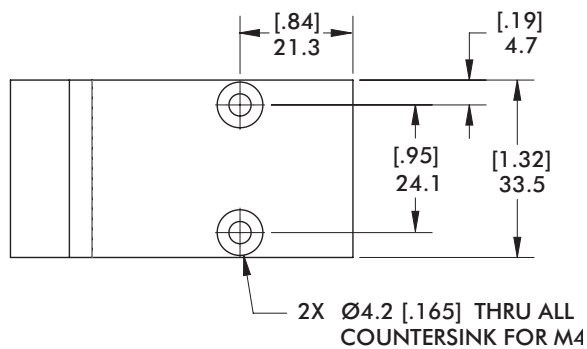
"F2"



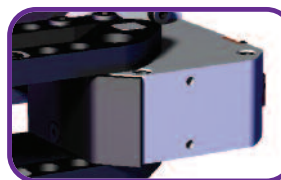
Replacement Part #

CPI-PM-12

"01", "02" Face and Skid Guard

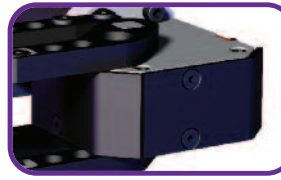


"01"



FACE GUARD

"02"

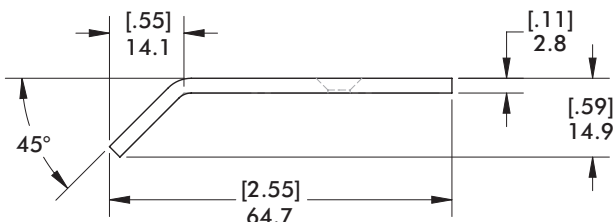


FACE AND SKID GUARD



Replacement Part #

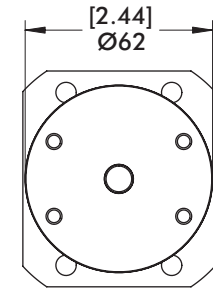
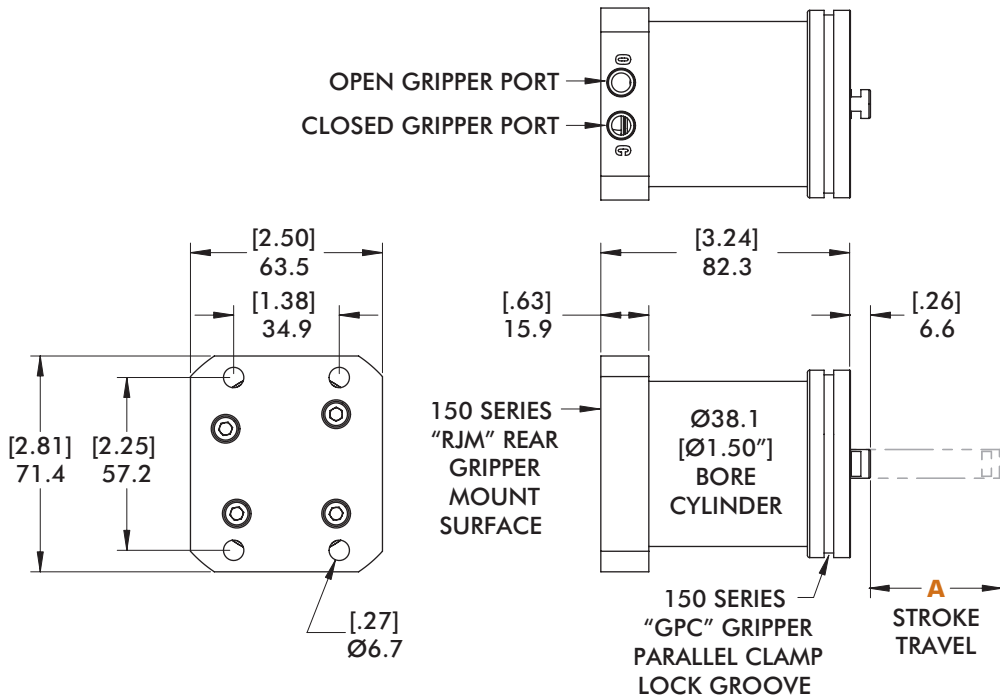
GR84-JFG



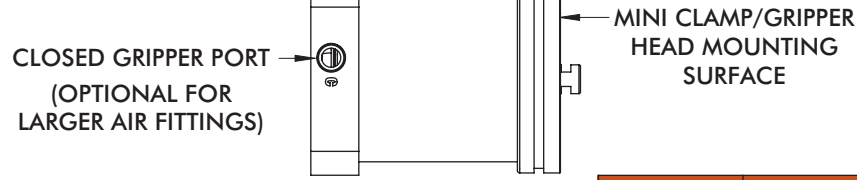
GR84 Modular Mini Clamp
"Bx" Flange Base Cylinder



Replacement Part #
GR84-CYL-B



CYLINDER PORTS
E = 1/8" NPT (ENGLISH)
M = 1/8" G (METRIC)
PATENT# 6,619,182

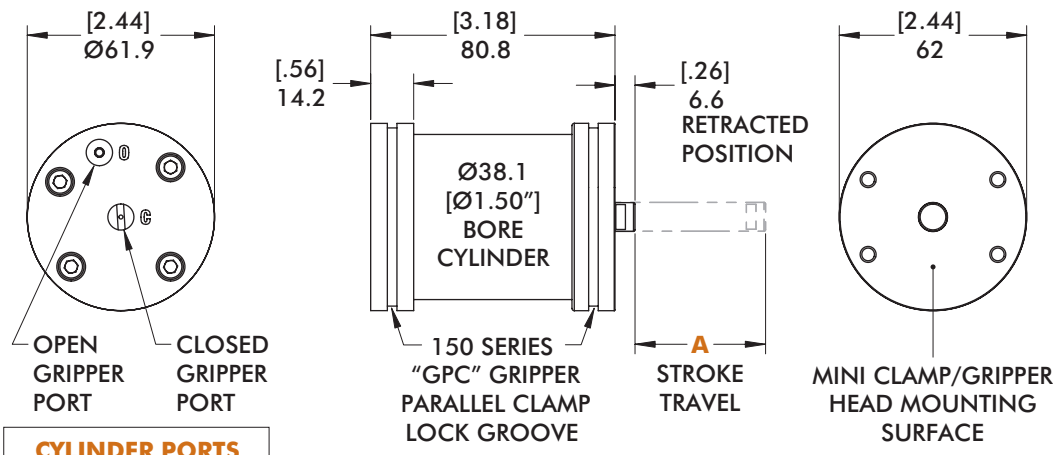


JAW OPENING	30°	60°	90°
STROKE "A"	21.3 [0.84]	32.8 [1.29]	42.9 [1.69]

"Cx" Round Base Cylinder



Replacement Part #
GR84-CYL-C



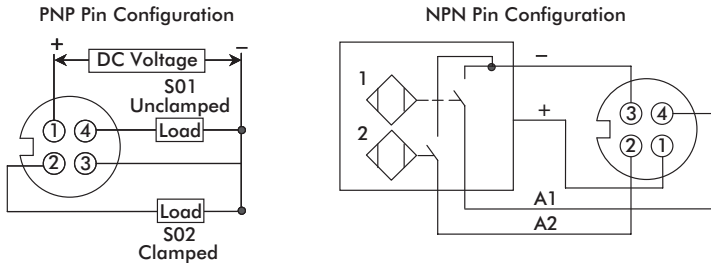
CYLINDER PORTS
E = 1/8" NPT (ENGLISH)
M = 1/8" G (METRIC)
PATENT# 6,619,182

JAW OPENING	30°	60°	90°
STROKE "A"	21.3 [0.84]	32.8 [1.29]	42.9 [1.69]

GR84 Modular Mini Clamp

Technical Information

Wiring diagram of electrical sensing system

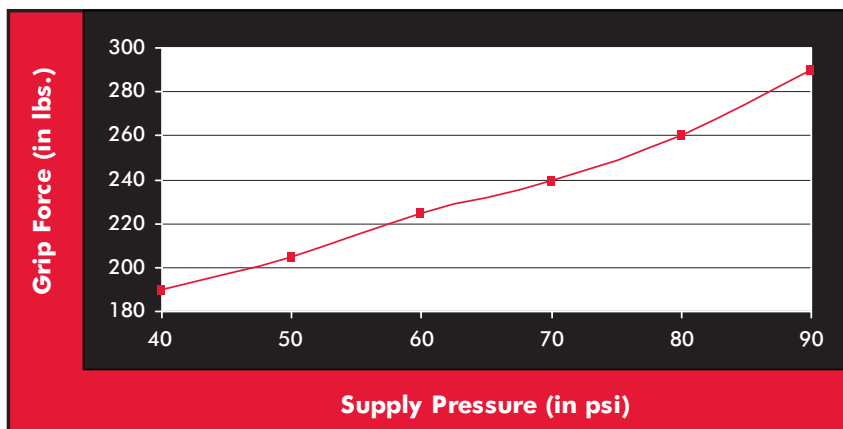


Open/Closed Sensor Options:

- "A1" (Turck) Replacement Part# "8EA-054-1" + "GR84-SB" .10...30 VDC 150mA, PNP, 4-Pin, M12, Eurofast
(Fasteners required for "A1" replacement: (2) M5x0.5 10mm FHCS, (1) M4 x 0.7 20mm SHCS)
- "B8" (Pepperl Fuchs) Replacement Part# "8EA-031-1"10...30 VDC 150mA, PNP, 4-Pin, M12, Eurofast
- "C8" (DE-STA-CO Brand)10...30 VDC 150mA, PNP, 4-Pin, M8, Pico
- "C9" (Allen-Bradley) Replacement Part# "8EA-1006-1"10...30 VDC 150mA, PNP, 4-Pin, M12, Eurofast
- "D1" (Turck) Replacement Part# "8EA-1002-1"20...250 AC/DC 150mA, 5-Pin, 1/2-20, Mini
- "E3" (Namco) Replacement Part# "8EA-1007-1"10...30 VDC 150mA, NPN, 4-Pin, M12
- "E4" (Pepperl Fuchs) Replacement Part# "8EA-1010-1"10...30 VDC 150mA, PNP, 4-Pin, M12, Eurofast
- "E5" (Efector) Replacement Part# "8EA-1012-1"10...30 VDC 150mA, PNP, 4-Pin, M12, Eurofast
- "E6" (Baluff) Replacement Part# "8EA-1019-1"10...30 VDC 150mA, PNP, 4-Pin, M12, Eurofast
- "XC" Cover Only Replacement Part# "GR84-SC"No Sensor Supplied

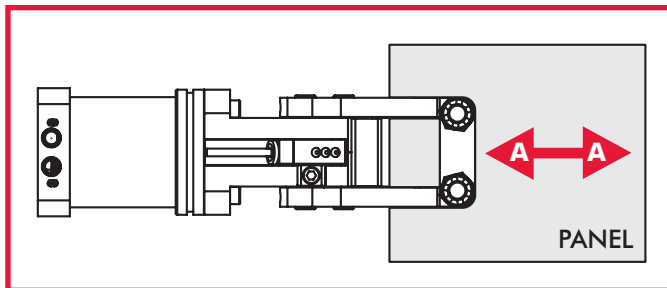
Specifications

- Weight:3.2 lb [1.5 kg]
- Grip Range (Standard and Flange with Jaw Inserts)0 to 0.31" [0mm - 8mm]
- Arm Position Tolerance:±0.33°
- Arm Lateral Tolerance:±0.3mm
- Cycle Speed @ 60 psi:0.6 Sec (Open/Closed)
- Displacement Per Cycle @ 60psi:6.0 in3
- Max Air Consumption @ 100 cycles/min:34 ft3/min
- Reliability:**
- Mean Time Between Failure:3.5 Million Cycles
- Mean Time To Repair:30 Minutes

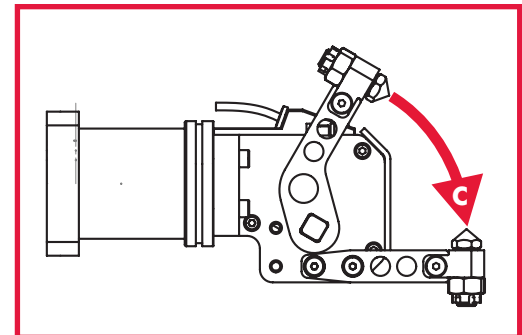


GR84 Modular Mini Clamp
 Technical Information

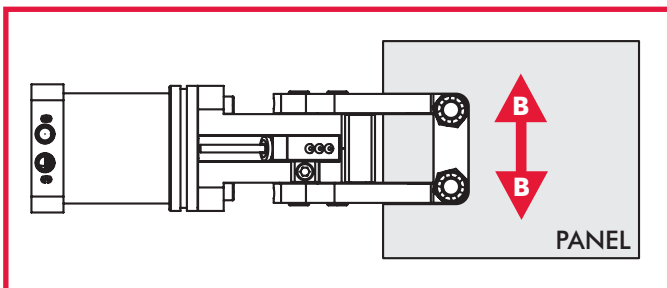
The GR84 Mini-Clamp utilizes a self-locking linkage system. If the air is lost while fully closed, the mini-clamp will continue to hold the part. The amount of air required to achieve the high gripping forces is greater than pressure to release or open the mini-clamp. If there is a slight drop of pressure during the opening cycle, the mini-clamp will still release the part. Other self locking systems can jam and require more air to release the part than it would need to grip it.



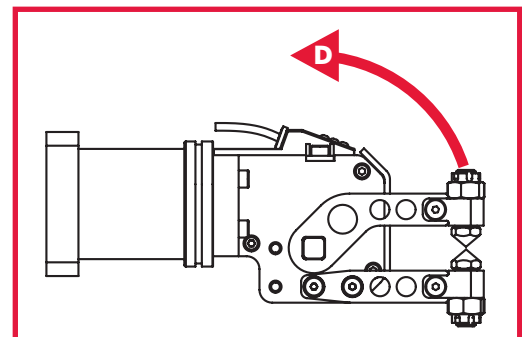
Inline Strip Force



Grip Force



Lateral Strip Force



Opening Force

Single Jaw Arm Styles				
PRESSURE	"A" Inline Strip Force	"B" Lateral Strip Force	"C" Gripping Force	"D" Force to Open
2.8 bar [40 psi]	31.8 kg [70 lb]	31.8 kg [70 lb]	86.2 kg [190 lb]	294.8 kg [650 lb]
3.4 bar [50 psi]	34.0 kg [75 lb]	34.0 kg [75 lb]	93.0 kg [205 lb]	294.8 kg [650 lb]
4.1 bar [60 psi]	36.3 kg [80 lb]	36.3 kg [80 lb]	102.1 kg [225 lb]	294.8 kg [650 lb]
4.8 bar [70 psi]	38.6 kg [85 lb]	38.6 kg [85 lb]	108.9 kg [240 lb]	294.8 kg [650 lb]
5.5 bar [80 psi]	40.8 kg [90 lb]	40.8 kg [90 lb]	117.9 kg [260 lb]	294.8 kg [650 lb]
6.2 bar [90 psi]	43.1 kg [95 lb]	43.1 kg [95 lb]	131.5 kg [290 lb]	294.8 kg [650 lb]

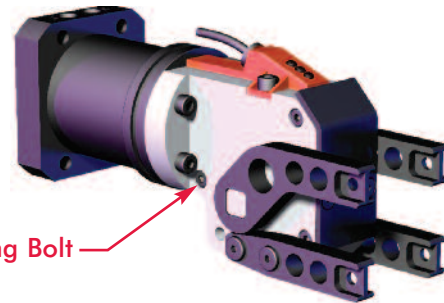
Double Jaw Arm Styles				
PRESSURE	"A" Inline Strip Force	"B" Lateral Strip Force	"C" Gripping Force	"D" Force to Open
2.8 bar [40 psi]	34.0 kg [75 lb]	34.0 kg [75 lb]	86.2 kg [190 lb]	589.4 kg [1300 lb]
3.4 bar [50 psi]	36.3 kg [80 lb]	36.3 kg [80 lb]	93.0 kg [205 lb]	589.4 kg [1300 lb]
4.1 bar [60 psi]	38.6 kg [85 lb]	38.6 kg [85 lb]	102.1 kg [225 lb]	589.4 kg [1300 lb]
4.8 bar [70 psi]	40.8 kg [90 lb]	40.8 kg [90 lb]	108.9 kg [240 lb]	589.4 kg [1300 lb]
5.5 bar [80 psi]	43.1 kg [95 lb]	43.1 kg [95 lb]	117.9 kg [260 lb]	589.4 kg [1300 lb]
6.2 bar [90 psi]	45.4 kg [100 lb]	45.4 kg [100 lb]	131.5 kg [290 lb]	589.4 kg [1300 lb]

GR84 Modular Mini-Clamp

Jaw Opening Adjustment

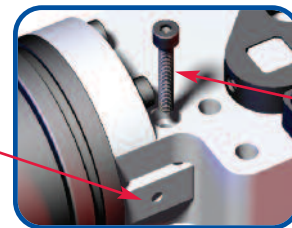
The GR84 Modular Mini-Clamp offers a feature allowing the jaw opening angle to be changed in the field.

The GR84 Modular Mini-Clamp is ordered with a preset jaw opening angle. Follow the instructions below to change the jaw opening angle.



Retaining Bolt

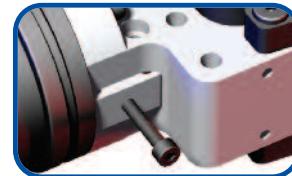
With the jaws in the closed position and the air off, loosen and remove *Retaining Bolt*.



Retaining Bolt

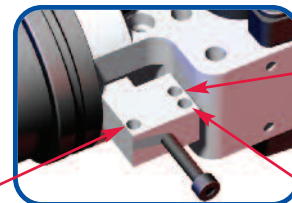
Stroke Adjustment Block

Thread retaining bolt into the bottom of the *Stroke Adjustment Block*.



Use *Retaining Bolt* to remove the *Stroke Adjustment Block*.

There are holes in the *Stroke Adjustment Block* designating three different jaw opening angles.

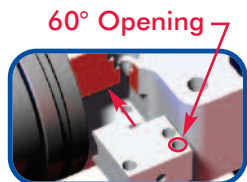
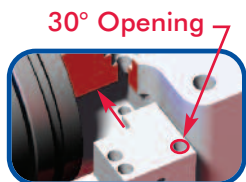


90° Opening

30° Opening

60° Opening

Position the *Stroke Adjustment Block* so the *Retaining Bolt* hole aligns with the desired jaw opening hole.



30° Opening

60° Opening

90° Opening

Replace and tighten *Retaining Bolt* to secure the stroke adjustment block in the new position.



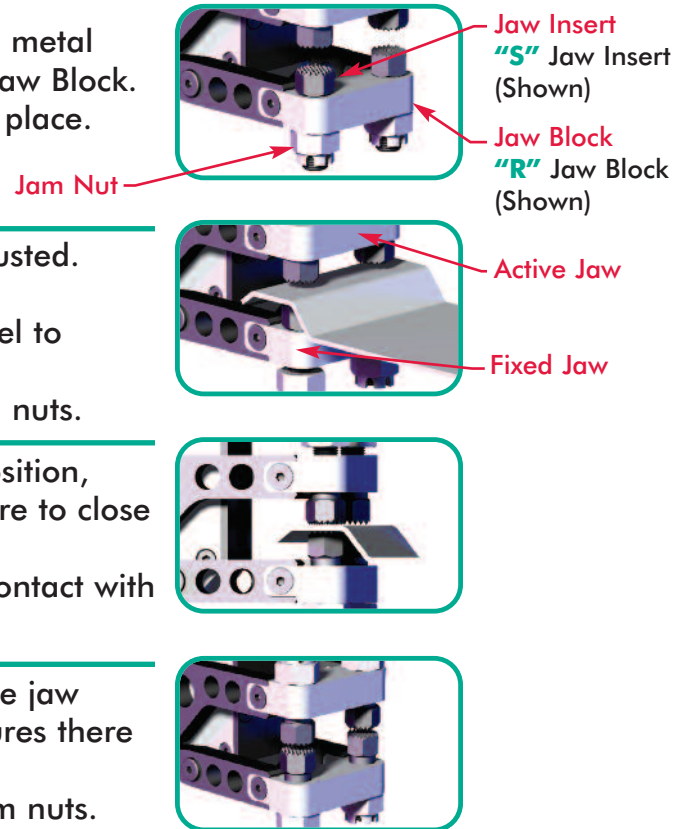
Once the mechanical adjustment is complete, the sensor must be relocated to detect the new target location.

GR84 Modular Mini-Clamp Jaw Insert Adjustment

All Jaw Inserts can be adjusted for different sheet metal thicknesses. The *Jaw Insert* is threaded into the *Jaw Block*. The *Jam Nut* is used to secure the *Jaw Insert* into place.

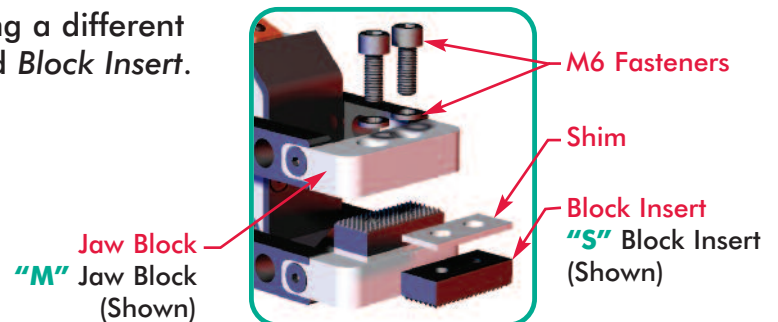
(This procedure can be used for both the GR84 Mini-Clamp and GR1 Grippers)

- Loosen jam nuts to allow jaw inserts to be adjusted.
 - Adjust jaw inserts fully toward jaw blocks.
 - Adjust jaw inserts on the fixed jaw toward panel to establish panel location.
 - Hold fixed jaw inserts in place and tighten jam nuts.
-
- With panel in position, and clamp in closed position, adjust the jaw inserts on the active jaw. (Make sure to close the clamp by air pressure and not by hand.)
 - Turn the jaw inserts by hand until they make contact with the panel and can no longer turn.
-
- Open the clamp and continue to turn the active jaw Inserts (1) turn further toward the part. This ensures there will be a tight grip on the panel.
 - Hold active jaw inserts in place and tighten jam nuts.



Block Insert Adjustment

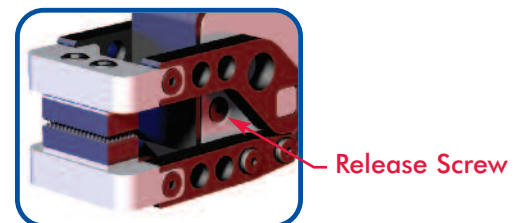
Block Insert height can be adjusted by placing a different thickness *Shim* between the *Jaw Block* and *Block Insert*.



Manual Lock Override

The GR84 Modular Mini-Clamp's manual lock override enables the gripper to be release from the closed position. This lock override eliminates the need to cycle air to the mini-clamp in order to open the jaws, if the part needs to be removed.

- With the air off, using a 3mm hex wrench, rotate the Release Screw approximately 15° clockwise.
- Once unlocked, the Mini-Clamp Jaws can be manually opened.



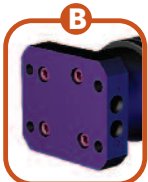
GR1 Series Modular Gripper
Ordering Information

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



CYLINDER TYPE & PORTING

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



FLANGE BASE



ROUND CYLINDER

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

E ENGLISH (1/8 NPT)

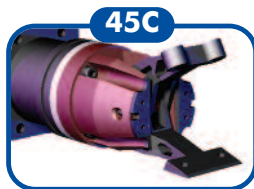
M METRIC (1/8 G)

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

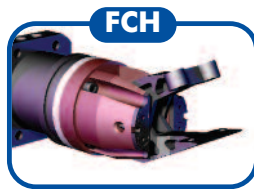
JAW ARRANGEMENT OPTIONS



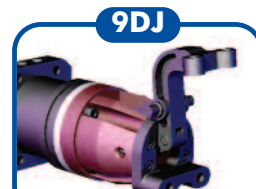
45° ANGULAR



45° CHISEL



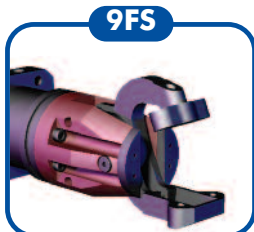
45° FIXED CHISEL



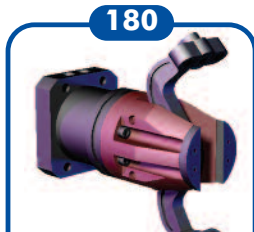
90° DROP JAW



90° FIXED LOWER



90° FIXED LOWER LIMITED STROKE



180° ANGULAR

GR1 Series Modular Gripper
Ordering Information

INSERTS

MOUNTS

PART PRESENT

OPEN/CLOSED

DPP

MXX

XXX

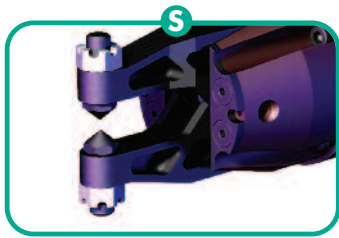
XXX

POINTS & TIP INSERT OPTIONS

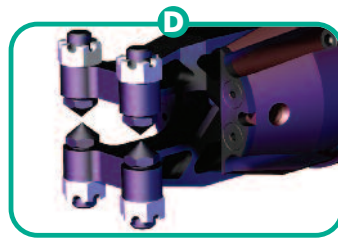
OR

BLOCK INSERT OPTIONS

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



SINGLE POINT



DOUBLE POINT

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



POINT



CUP



URETHANE

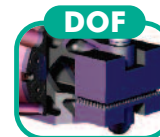


SERRATED

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



DOUBLE DRAW BEAD



DOUBLE OFFSET



DOUBLE 30° ANGLE



SINGLE DRAW BEAD



SINGLE OFFSET



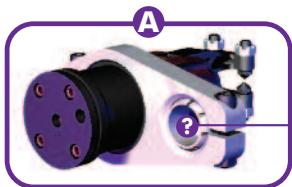
SINGLE 30° ANGLE



SINGLE EXTENDED DRAW BEAD

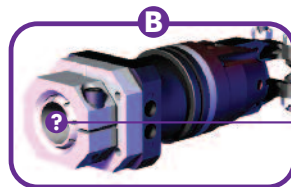
MOUNT OPTIONS

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



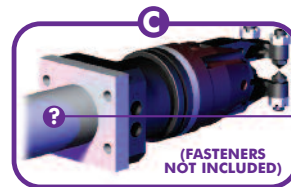
PARALLEL SWIVEL MOUNT

MOUNT BALL SIZES AVAILABLE
1 2 3 4



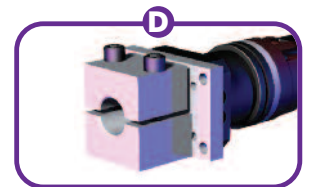
REAR SWIVEL CLAMP MOUNT

MOUNT BALL SIZES AVAILABLE
1 2 3 4



REAR FIXED WELDED STYLE

MOUNT ROD SIZES AVAILABLE
1 3 5 6



REAR FIXED CLAMP MOUNT

MOUNT SIZES AVAILABLE
7

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

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

PART PRESENT

(SEE PAGE 40 FOR SENSOR SPECIFICATIONS)

A04 = TURCK (4-PIN)

P03 = P & F (4-PIN)

XXX = NO SENSOR

OPEN/CLOSED

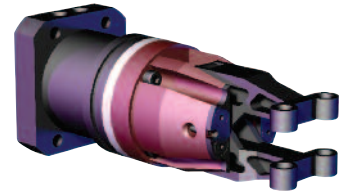
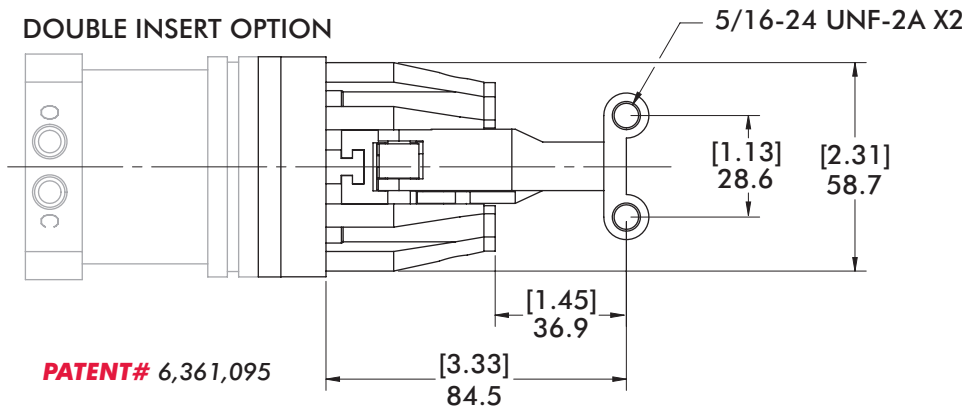
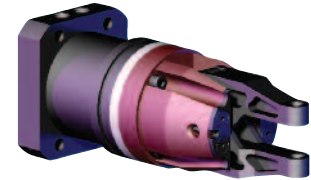
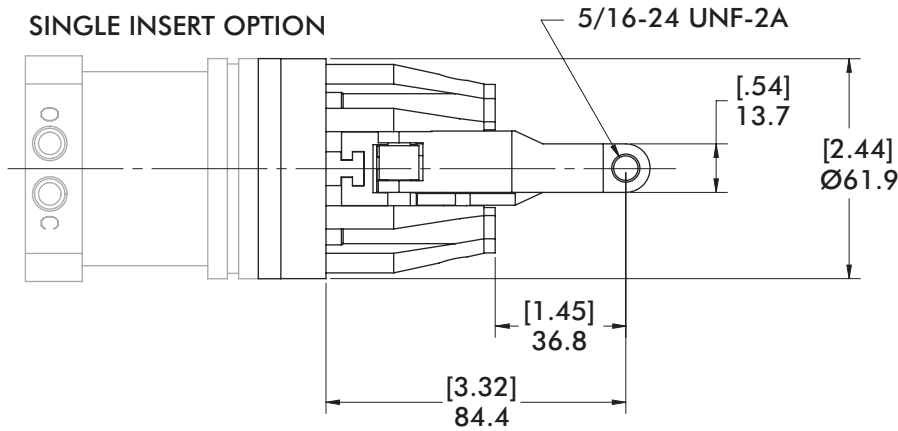
(SEE PAGE 42 FOR SENSOR SPECIFICATIONS)

T04 = INTERNAL SENSOR

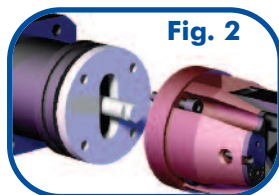
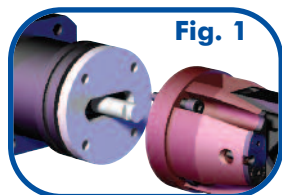
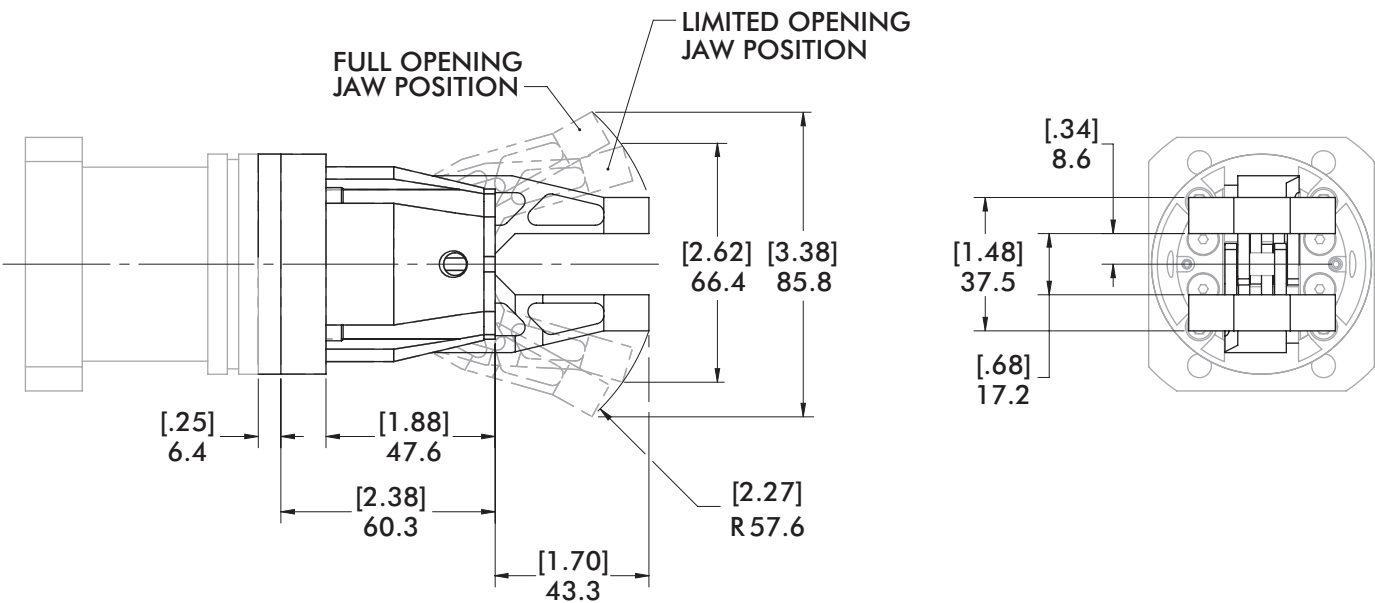
XXX = NO SENSOR

GR1 Series Modular Gripper

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



PATENT# 6,361,095

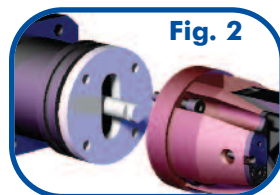
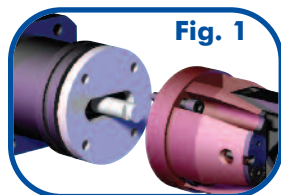
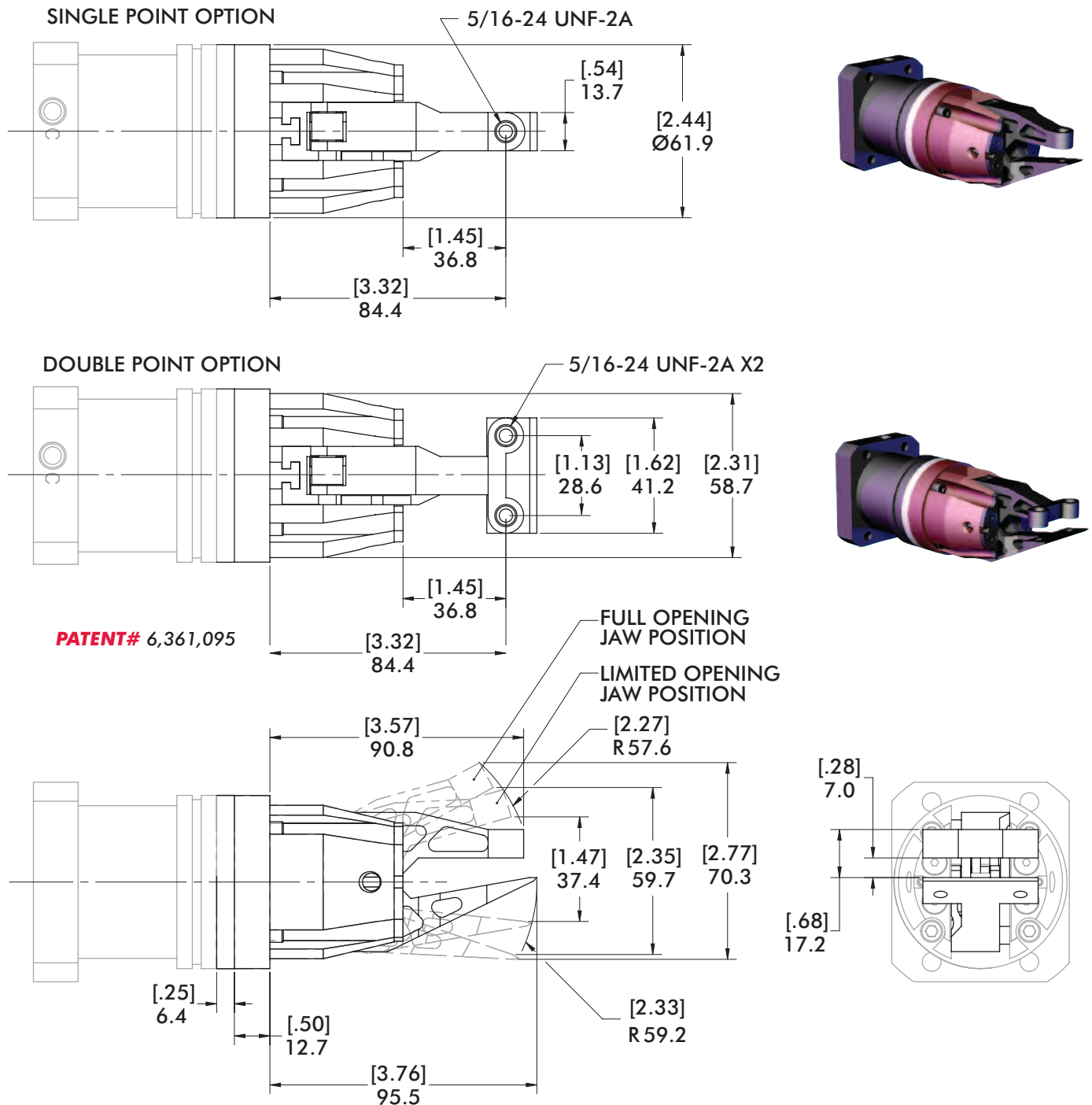


For Limited Stroke Option

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

GR1 Series Modular Gripper

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

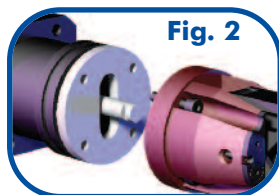
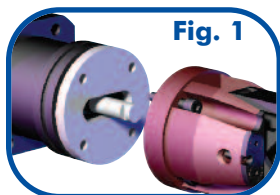
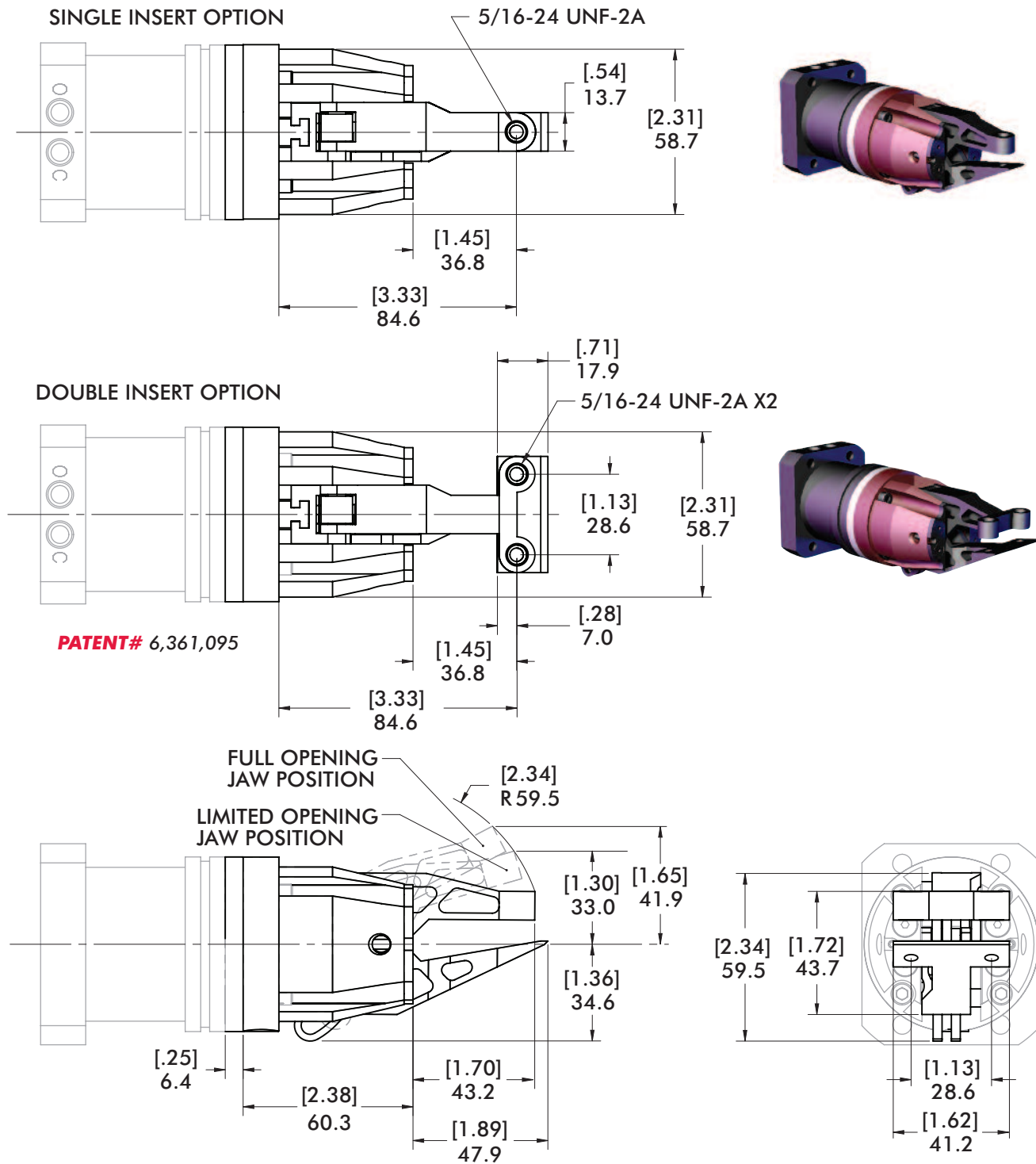


For Limited Stroke Option

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

GR1 Series Modular Gripper

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

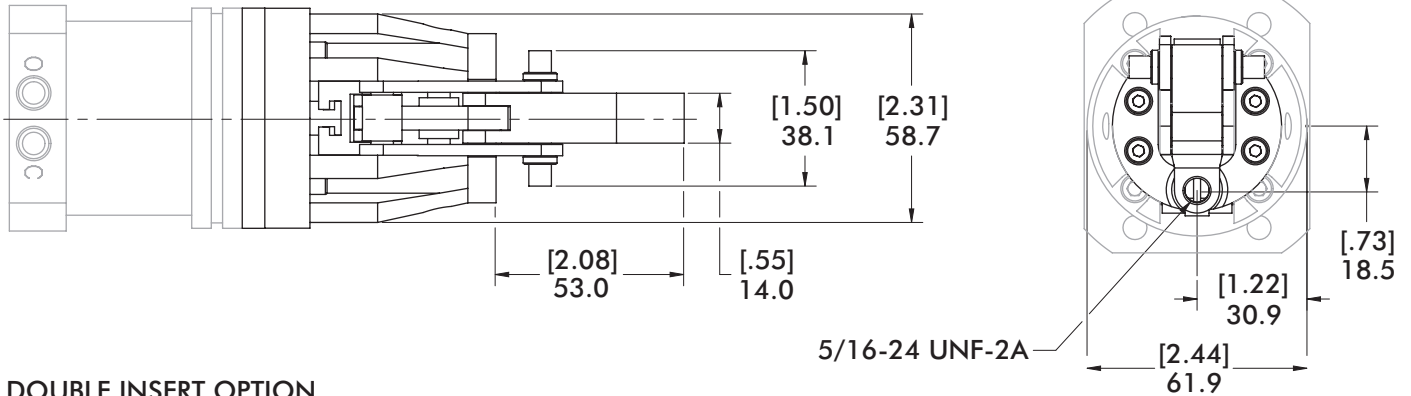


For Limited Stroke Option

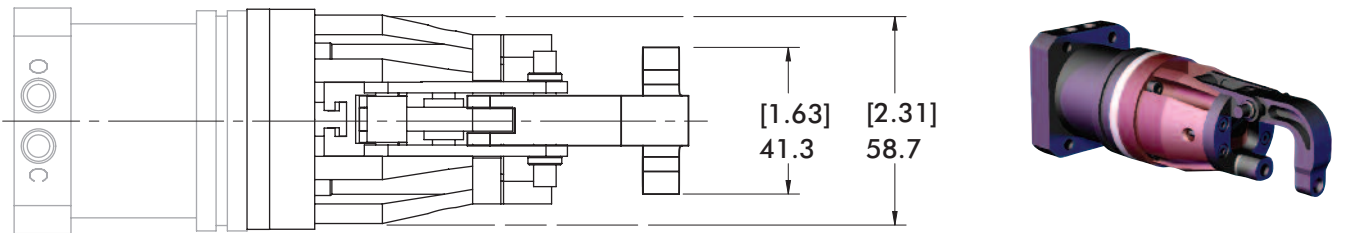
1. Loosen fasteners securing gripper body from cylinder.
2. Pull gripper body away so fasteners clear the spacer.
3. Rotate Spacer 90° (Fig. 2).
4. Reattach gripper body to cylinder and tighten fasteners.

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

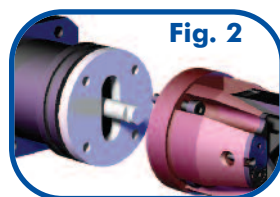
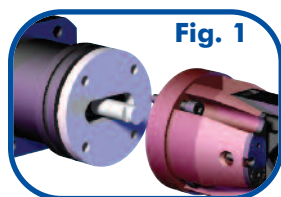
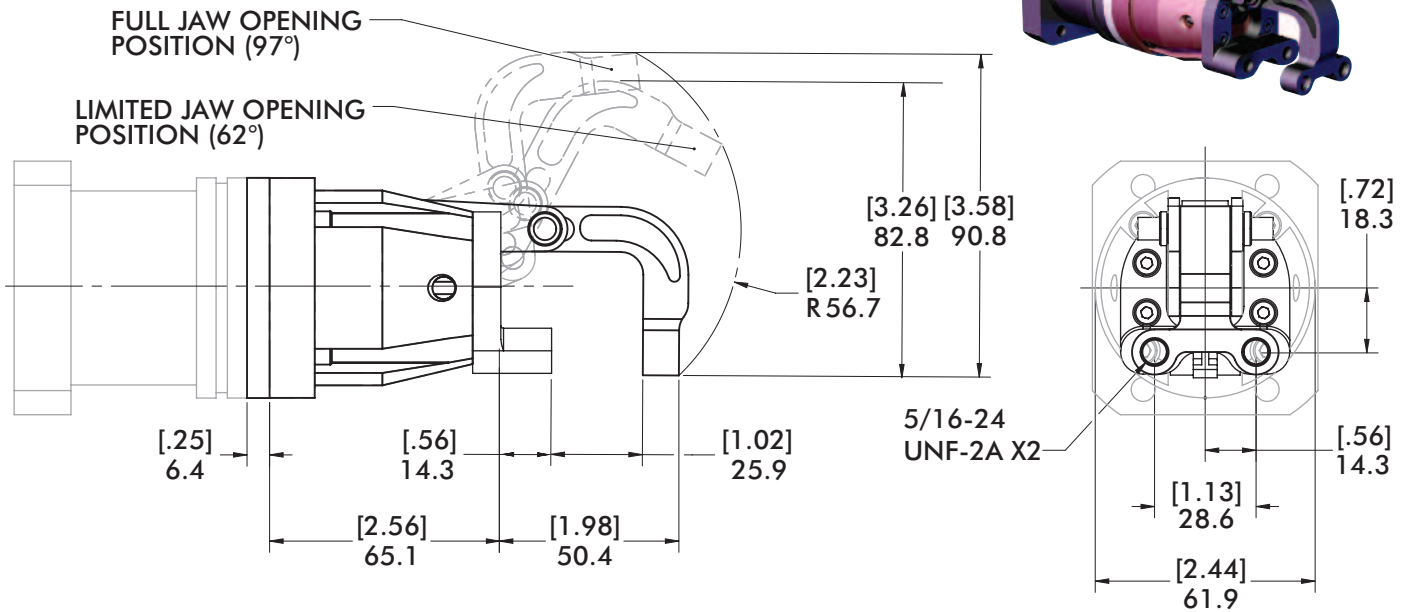
SINGLE INSERT OPTION



DOUBLE INSERT OPTION



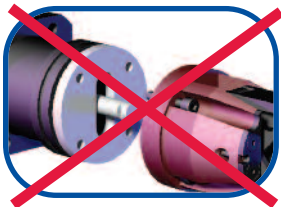
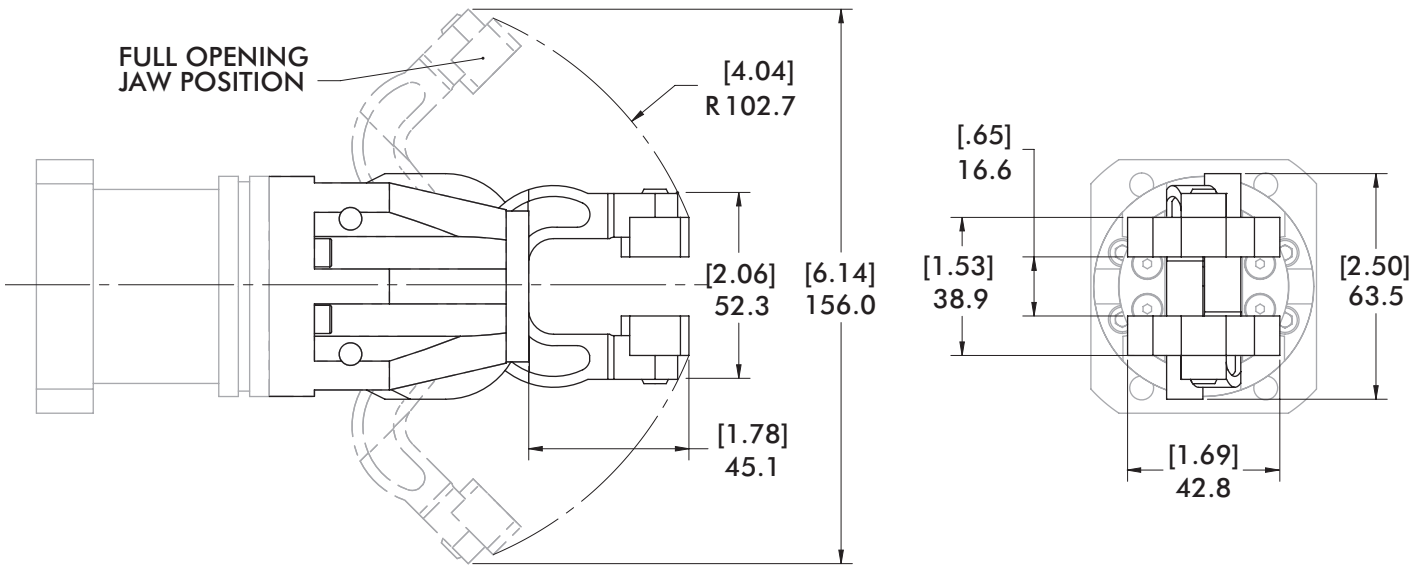
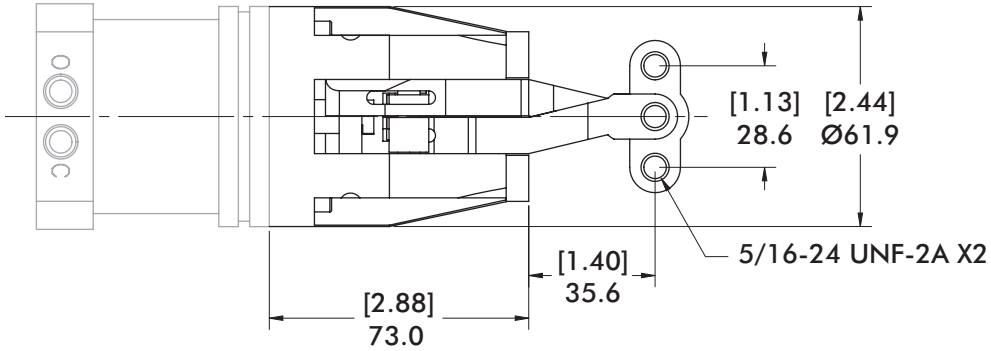
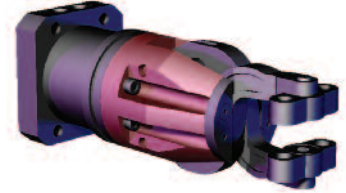
PATENT# 6,361,095



For Limited Stroke Option

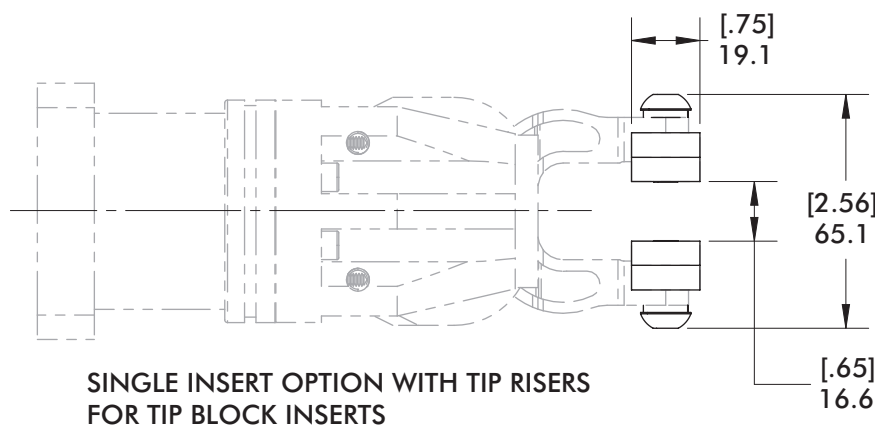
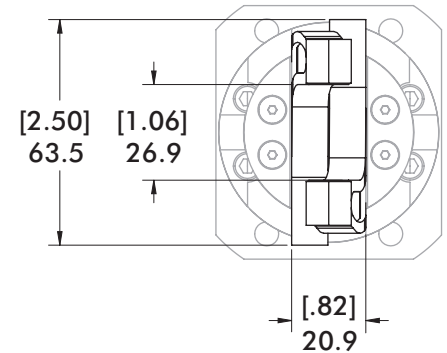
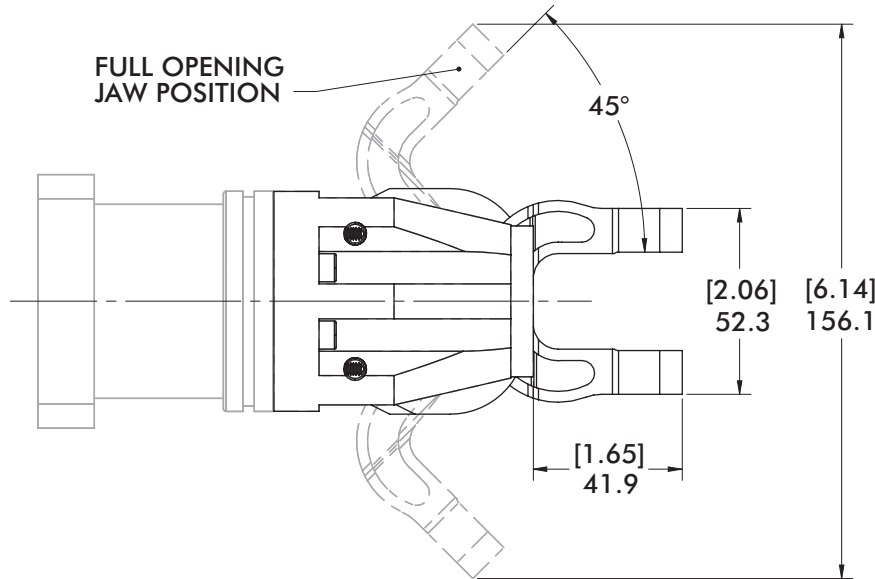
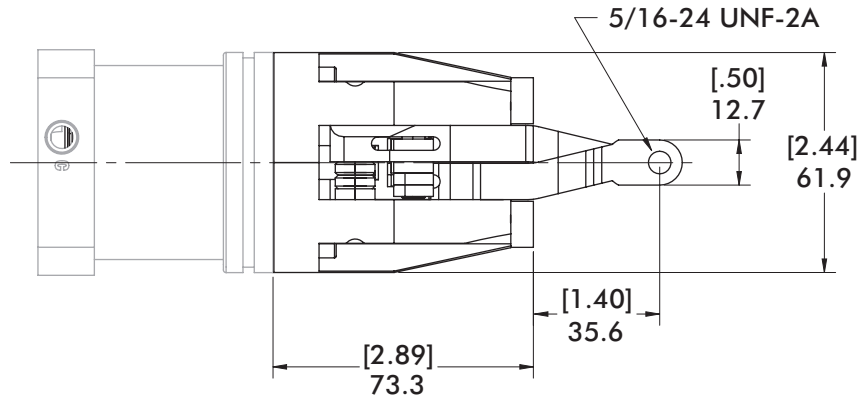
1. Loosen fasteners securing gripper body from cylinder.
2. Pull gripper body away so fasteners clear the spacer.
3. Rotate Spacer 90° (Fig. 2).
4. Reattach gripper body to cylinder and tighten fasteners.

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

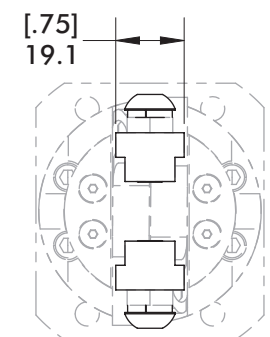


Limited Stroke Ring is **NOT** Available

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



SINGLE INSERT OPTION WITH TIP RISERS
 FOR TIP BLOCK INSERTS

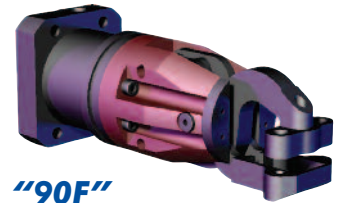
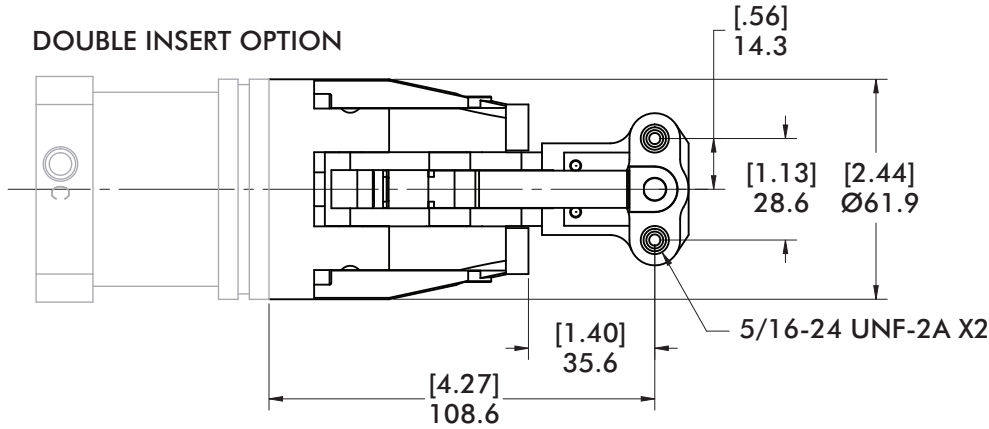


Tip Risers for Block Inserts

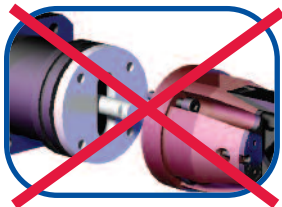
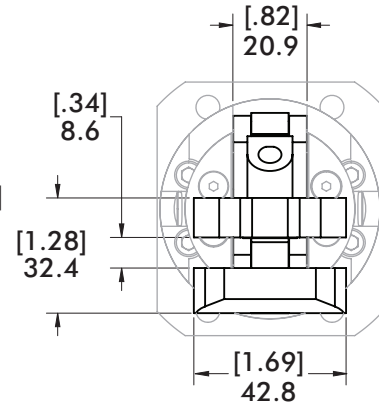
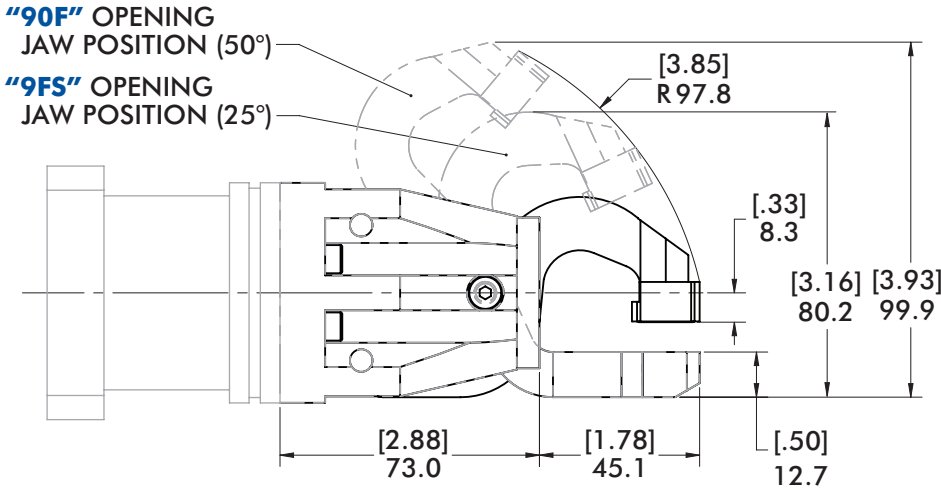
Replacement Part #
 GR0314-TR

GR1 Series Modular Gripper

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



"90F"
Full Arm Opening



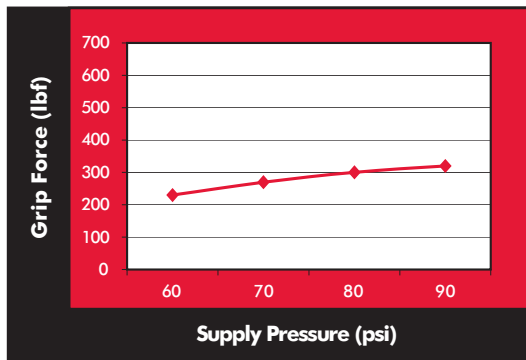
Limited Stroke Ring is **NOT** Available



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

GR1 Series Modular Gripper Grip Force and Technical Information

045/45C/FCH



"045" 45° Angular



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

"45C" 45° Chisel



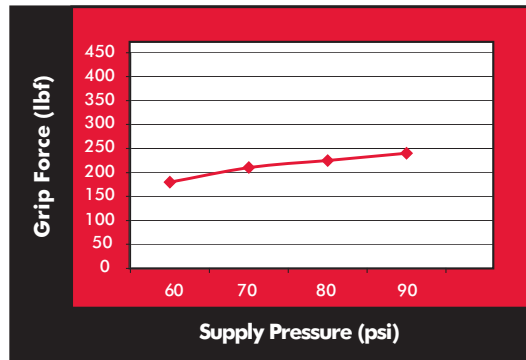
Weight:
1 kg [2.2 lb]
Grip Range:
0" - 0.063" [0 - 1mm]

"FCH" 45° Fixed Chisel

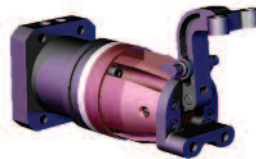


Weight:
1 kg [2.2 lb]
Grip Range:
0" - 0.063" [0 - 1mm]

9DJ

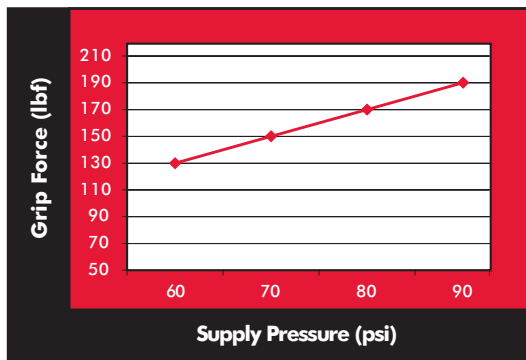


"9DJ" 90° Drop Jaw



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

90F/9FS

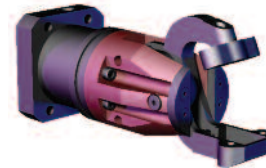


"90F" 90° Fixed Lower



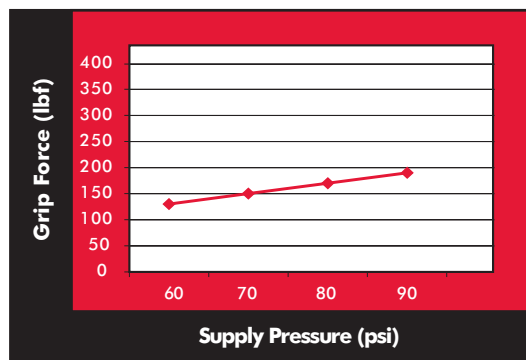
Weight:
1.1 kg [2.6 lb]
Grip Range:
0" - 0.125" [0 - 3mm]

"9FS" 90° Fixed Lower
with Limited Stroke



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

180



"180" 180° Angular



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

Technical Information

(for all GR1 Gripper Jaw Styles)

Air Requirements:

Recommended operating Pressure:
2-6 bar [30-90 psi]

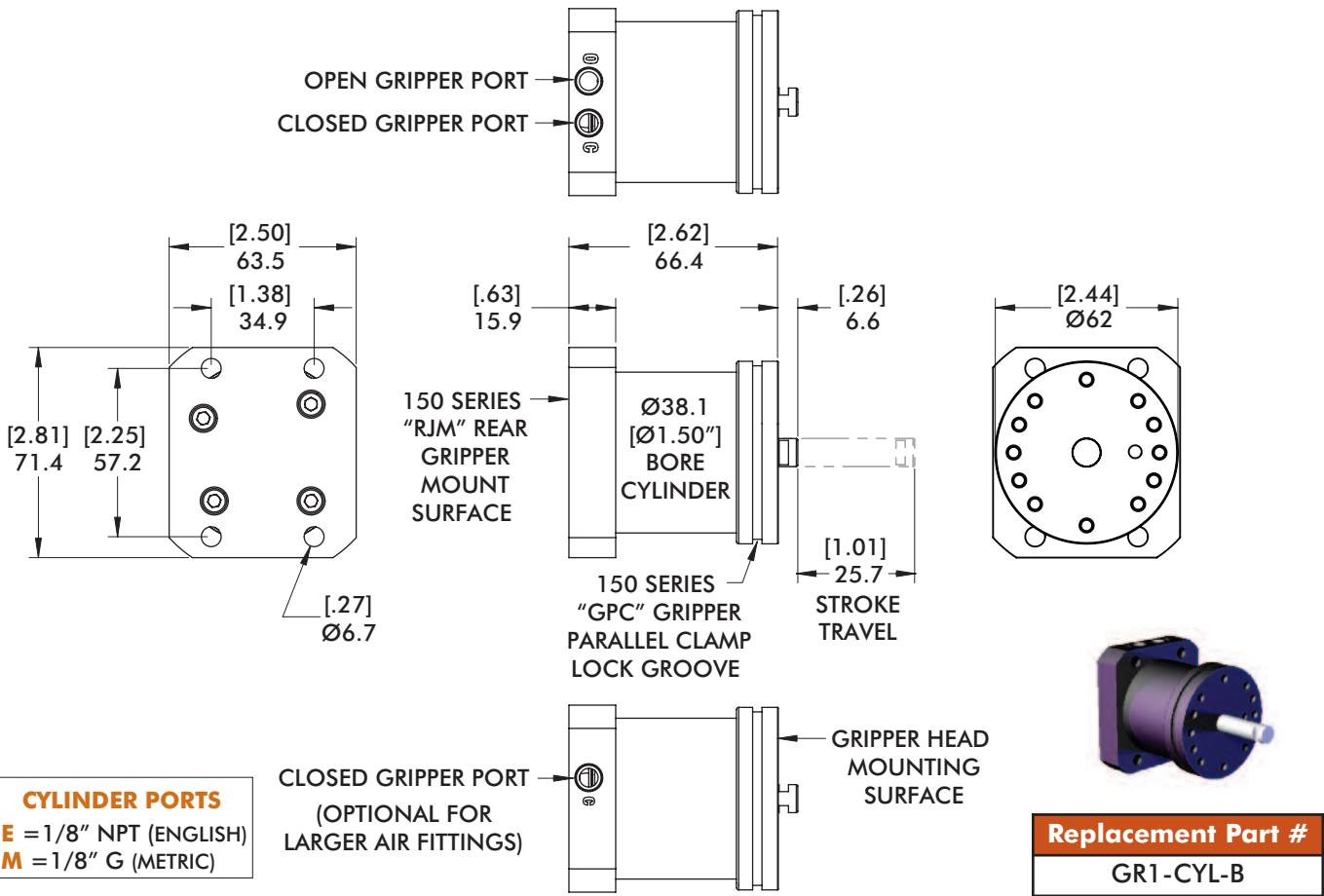
Ports: 1/8" BSPP [1/8" NPT]

Air flow controls recommended for
maximum life

Operating Temperature:

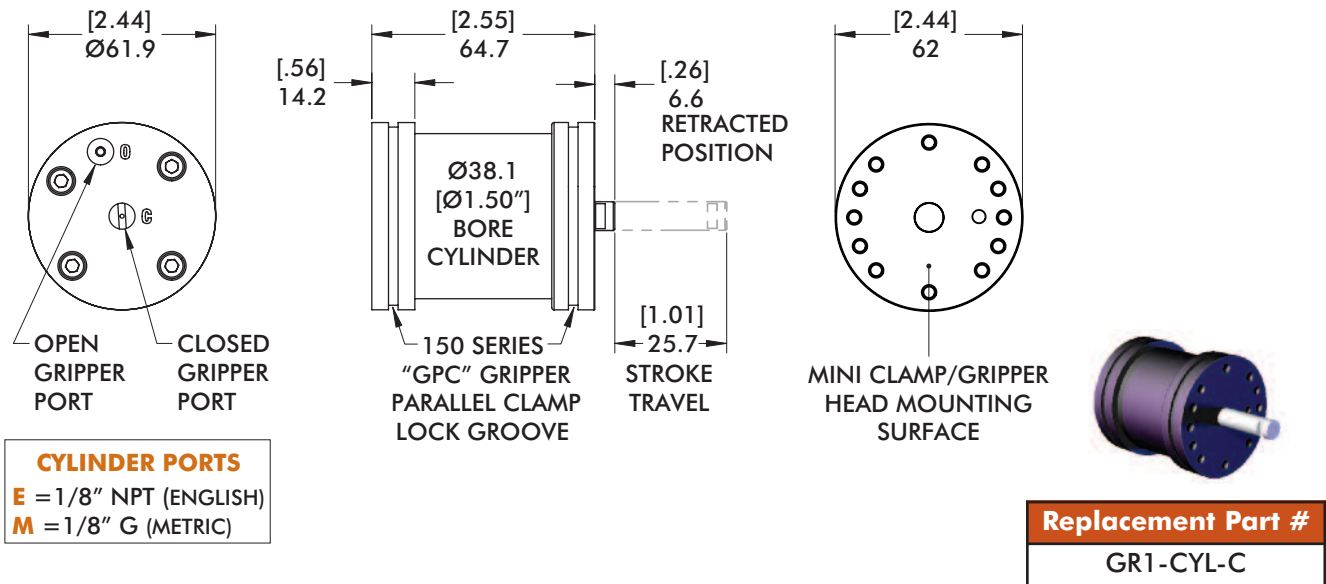
0° - 93°C [32° - 200°F]

GR1 Series Modular Gripper
"Bx" Flange Base Cylinder



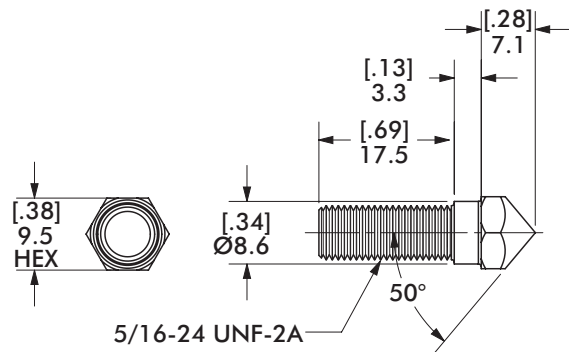
PATENT# 6,619,182

"Cx" Round Base Cylinder

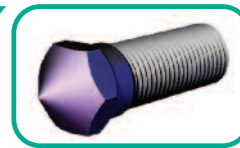


PATENT# 6,619,182

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

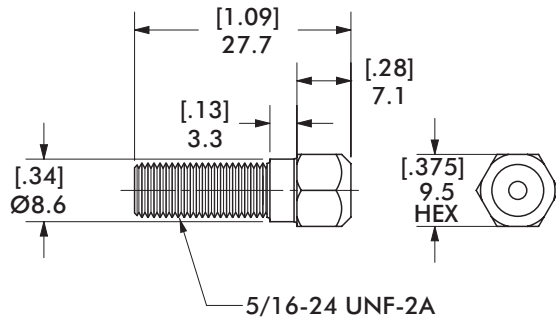


"P"



Point Jaw Inserts

Replacement Part #
GR0304

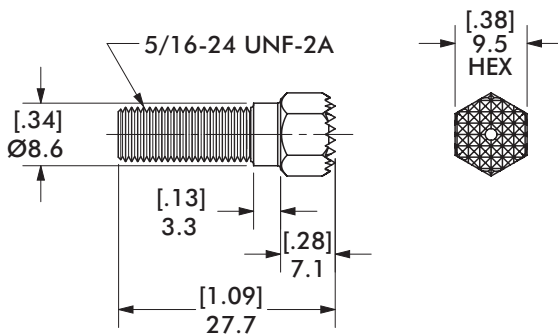


"C"

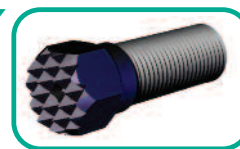


Cup Jaw Inserts

Replacement Part #
GR0305

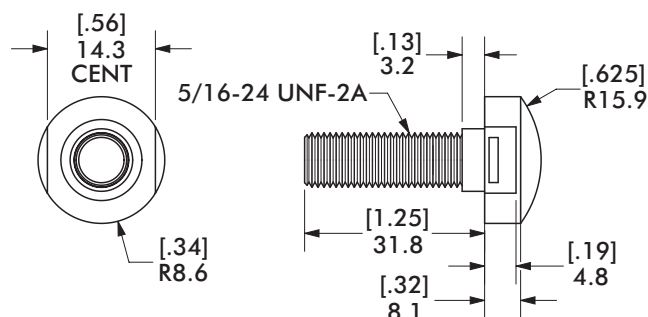


"S"

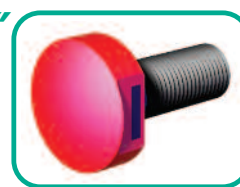


Serrated Jaw Inserts

Replacement Part #
GR0341



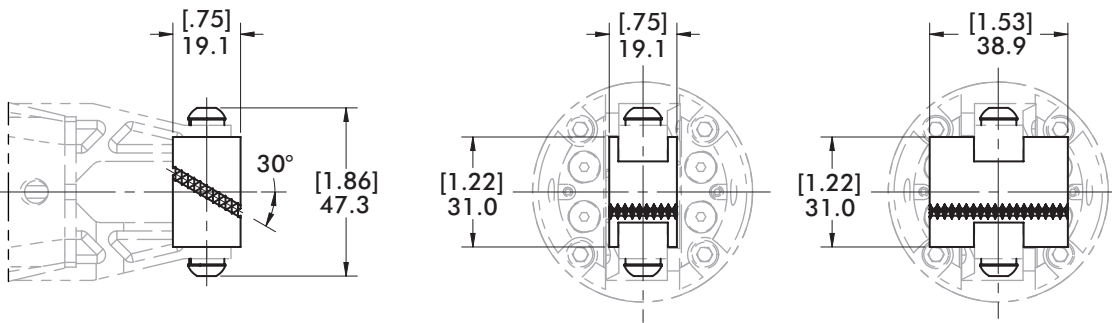
"U"



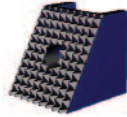
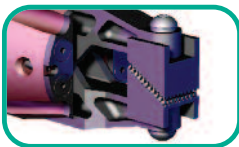
Urethane Jaw Inserts

Replacement Part #
GR0338

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



"S30"

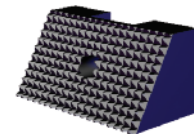


Single Upper/Lower
30° Angle Insert Block

Replacement Part #

GR1-INS-SD30S

"D30"

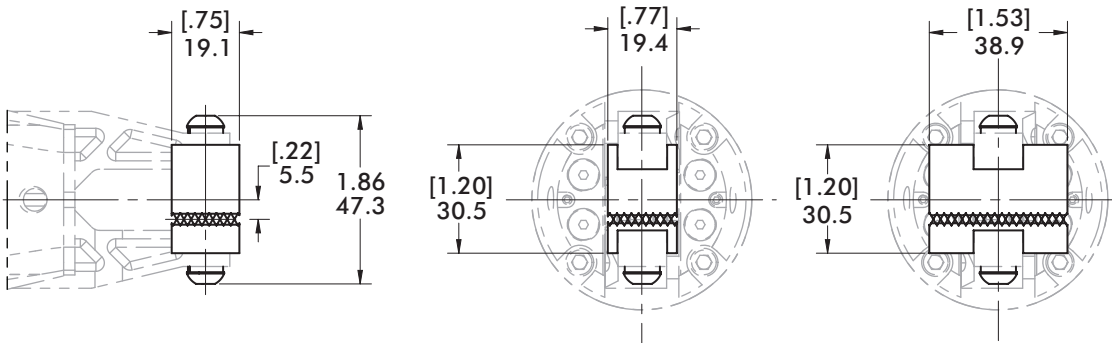


Double Upper/Lower
30° Angle Insert Block

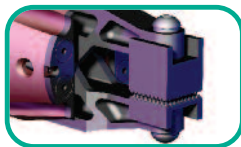
Replacement Part #

GR1-INS-D30S

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



"SOF"



Single Upper
Offset Insert Block

Replacement Part #

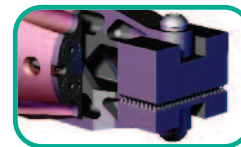
GR1-INS-SDUOS

Single Lower
Offset Insert Block

Replacement Part #

GR1-INS-SDLOS

"DOF"



Double Upper
Offset Insert Block

Replacement Part #

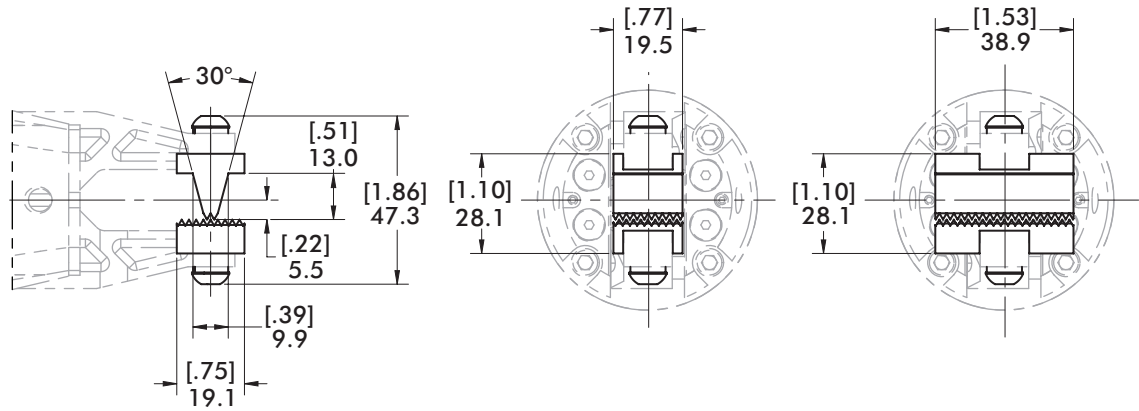
GR1-INS-DUOS

Double Lower
Offset Insert Block

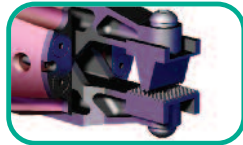
Replacement Part #

GR1-INS-DLOS

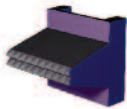
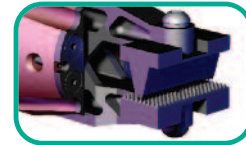
GR1 Series Modular Gripper
"SDB" and "DDB" Draw Bead Serrated Block Inserts



"SDB"

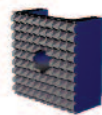


"DDB"



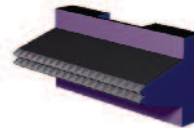
Single Upper Draw Bead Insert Block

Replacement Part #
 GR1-INS-SDDB



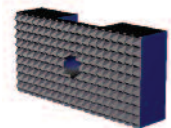
Single Lower Draw Bead Insert Block

Replacement Part #
 GR1-INS-SDLOS



Double Upper Draw Bead Insert Block

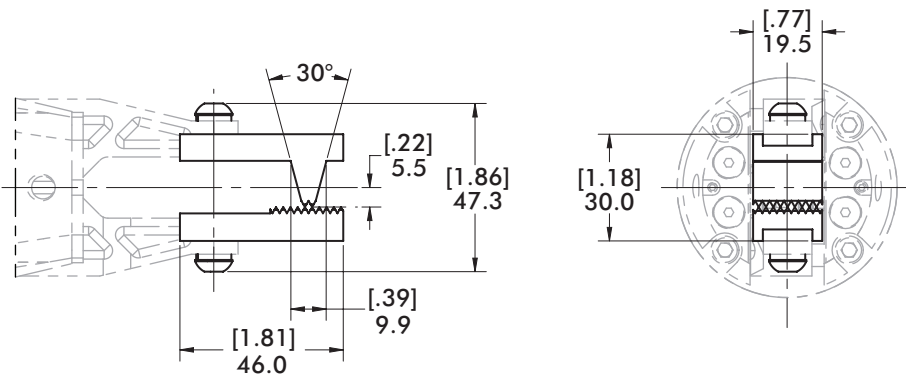
Replacement Part #
 GR1-INS-DDB



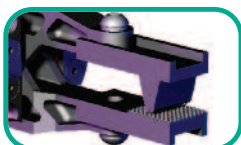
Double Lower Draw Bead Insert Block

Replacement Part #
 GR1-INS-DLOS

"SED" Extended Draw Bead Serrated Block Inserts



"SED"



Upper Extended Draw Bead Insert Block

Replacement Part #
 GR1-INS-SDDB-3

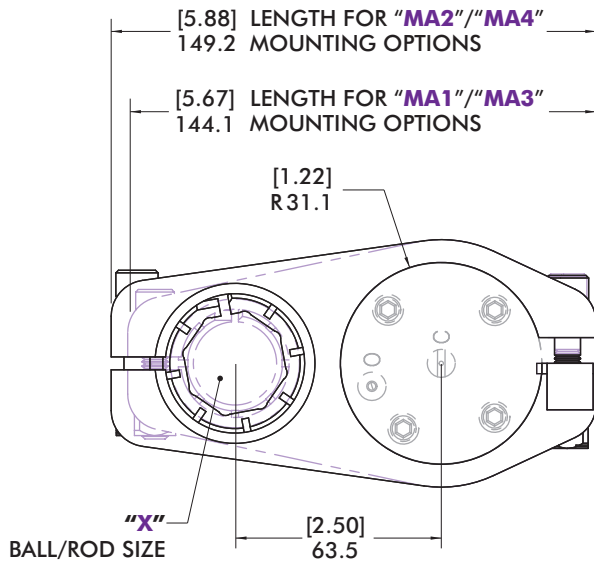
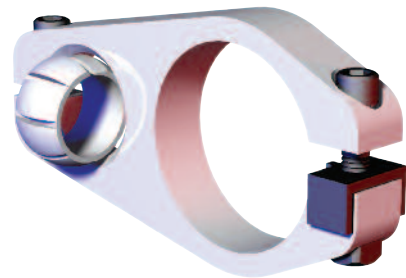
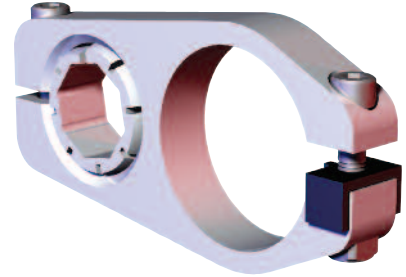
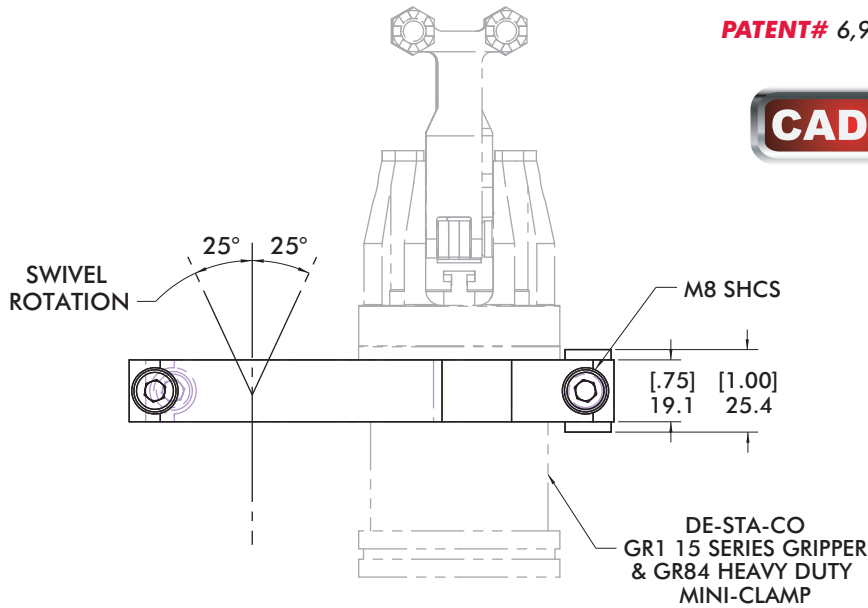


Lower Extended Draw Bead Insert Block

Replacement Part #
 GR1-INS-SDLOS-3

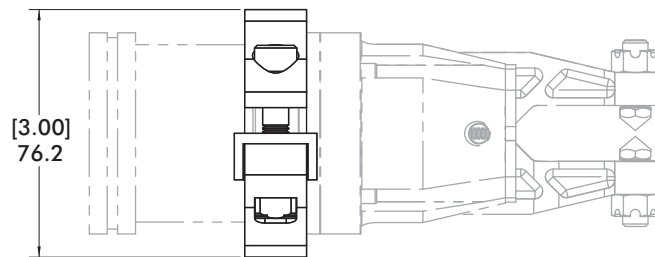
GR1 Series Modular Gripper "MAx" Swivel Parallel Gripper Mounts

PATENT# 6,988,696



Snap-In Ball

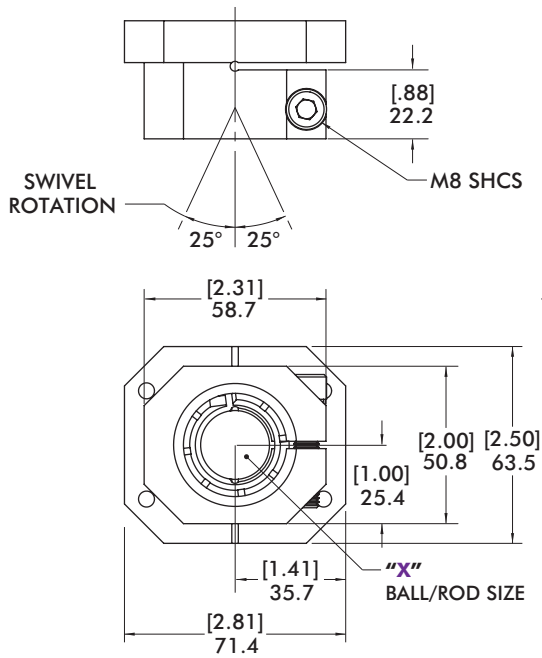
Special patented design allows user to replace ball without disassembly



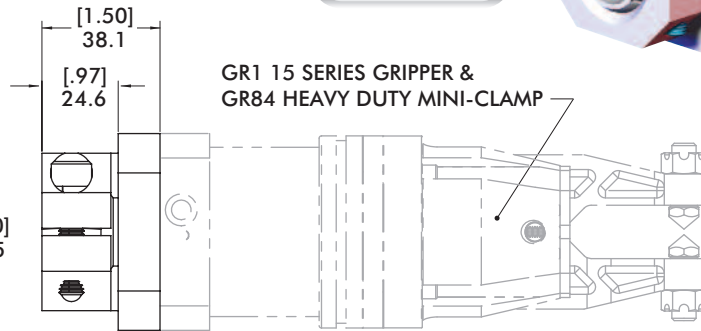
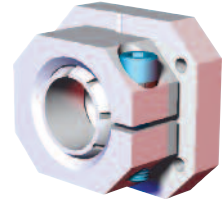
Mounting Option	Rod/Ball "X"	Replacement Part#
MA1	Ø1.00"	CPI-GPC-150-100S-DC
MA2	Ø1.25"	CPI-GPC-150-125S-DC
MA3	Ø25mm	CPI-GPC-150-25MS-DC
MA4*	30mm BB	CPI-GPC-150-30BBS-DC

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

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

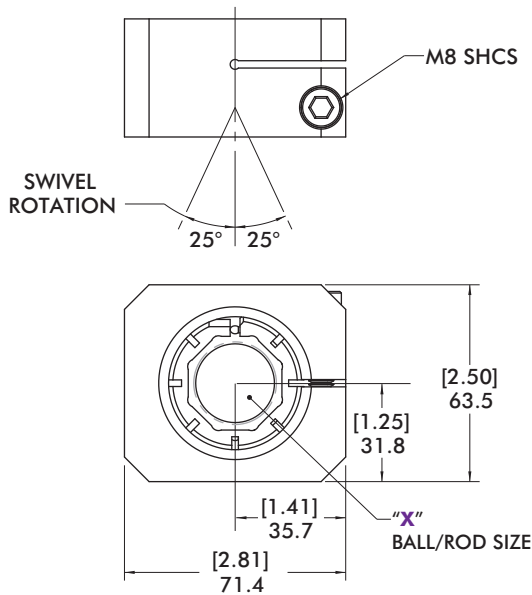


PATENT# 6,988,696

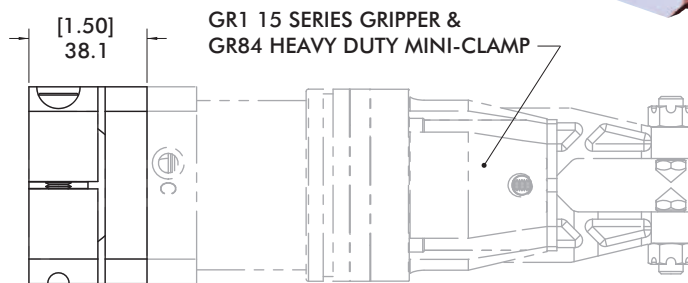
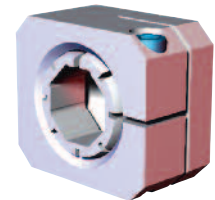


Mounting Option	Rod/Ball "X"	Replacement Part#
MB1	Ø1.00"	CPI-RJM-150-100S
MB3	Ø25mm	CPI-RJM-150-25S

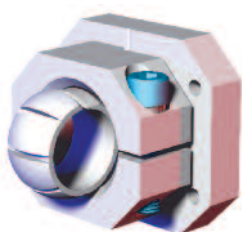
"MB2" and "MB4" Rear Swivel Gripper Mount



PATENT# 6,988,696



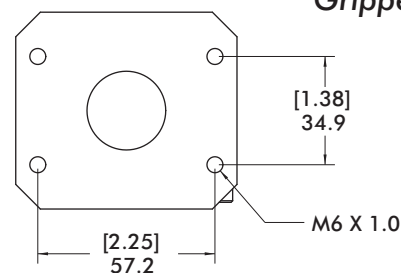
Mounting Option	Rod/Ball "X"	Replacement Part#
MB2	Ø1.25"	CPI-RJM-150-125S
MB4*	30mm BB	CPI-RJM-150-30BBS



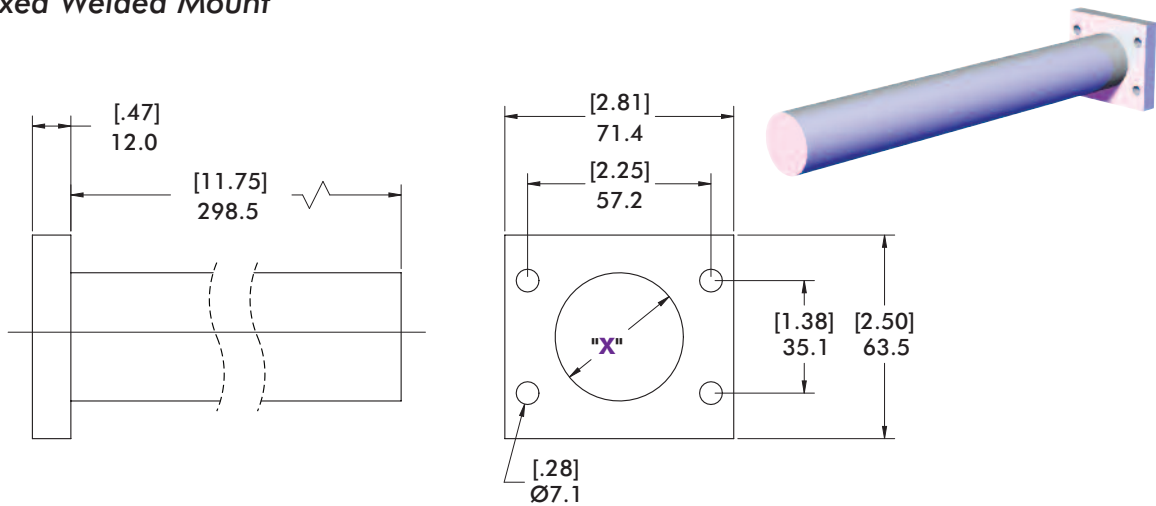
PATENT# 6,988,696

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

"MBx" Rear Swivel Gripper Mount Gripper Mounting Pattern



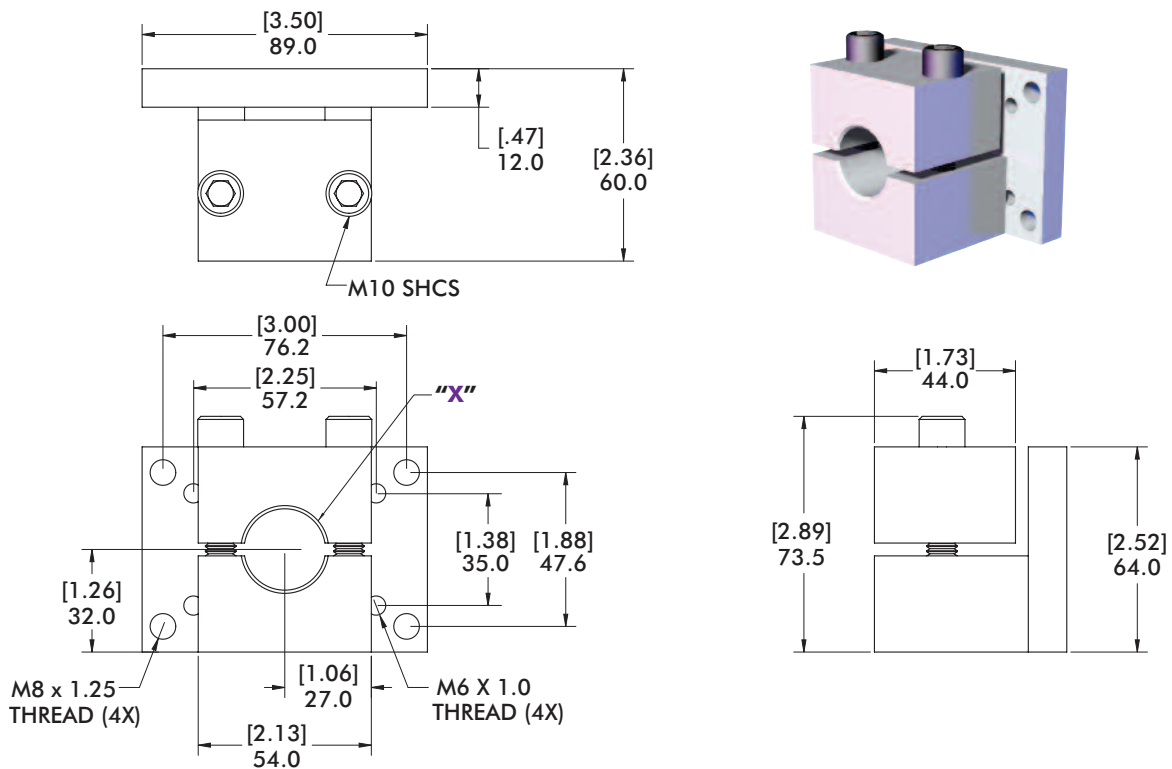
GR1 Series Modular Gripper
"MCx" Rear Fixed Welded Mount



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



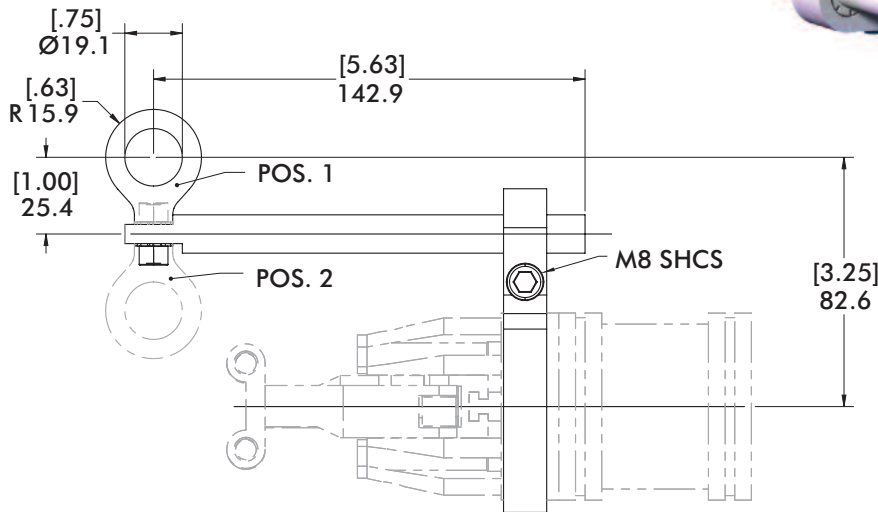
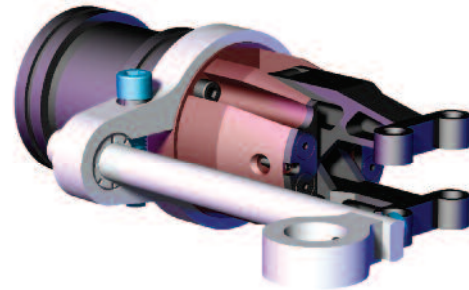
"MD7" Rear Fixed Clamp Mount



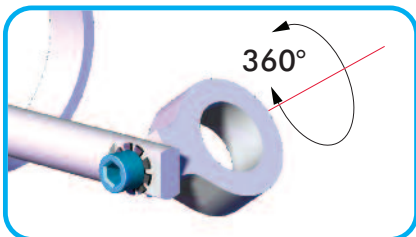
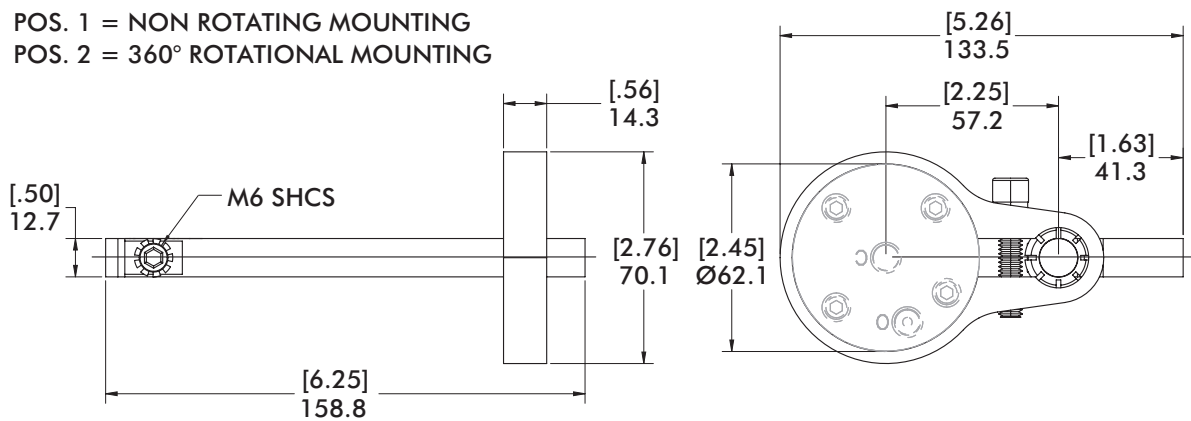
Mounting Option	Rod/Ball "X"	Replacement Part#
MD7	Ø1.00"	M1514



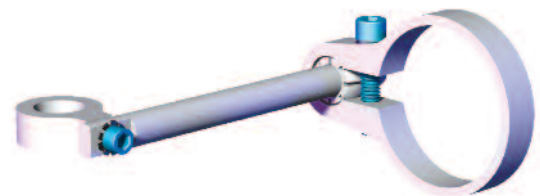
GR1 Series Modular Gripper
18mm Swivel Proximity Sensor Mount



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



POS. 2: 360° ROTATION OPTION
ALONG ONE AXIS

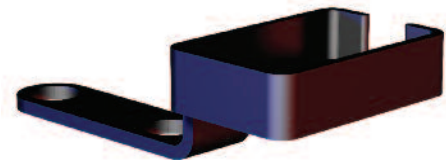


Replacement Part#
CPI-GPM-15-18

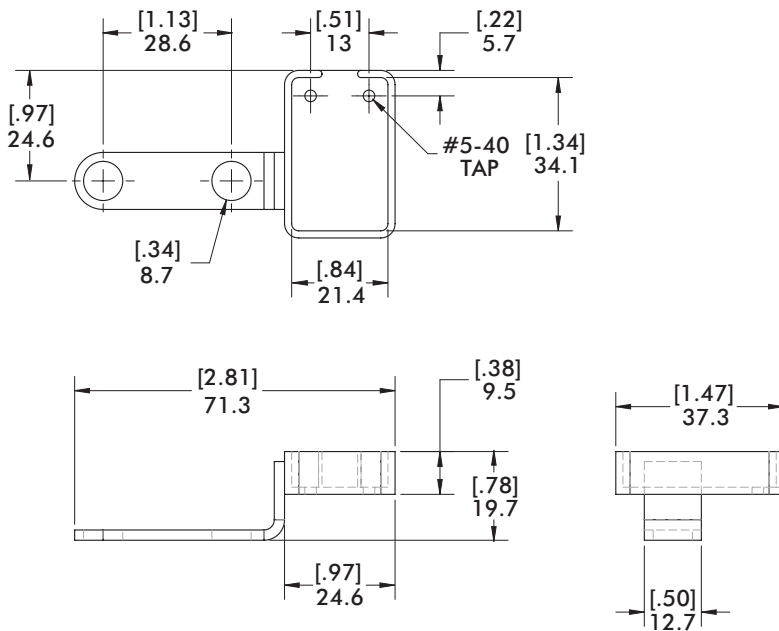
GR1 Series Modular Gripper "A04" and "P03" Sensor Options

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

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



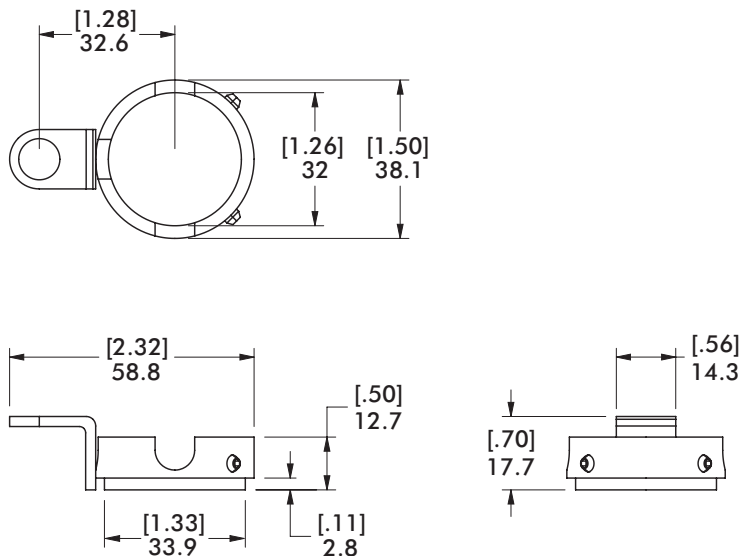
Replacement Part#
GR0326



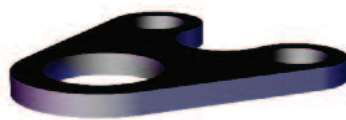
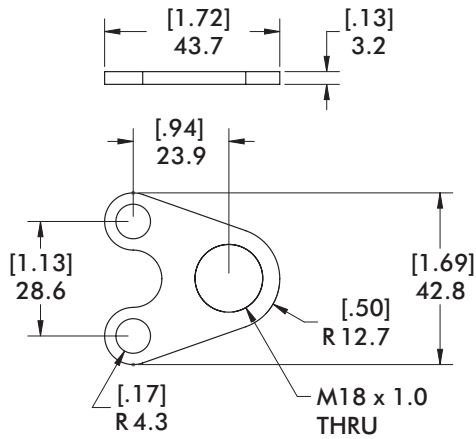
Barrel Style Proximity Switch Mount



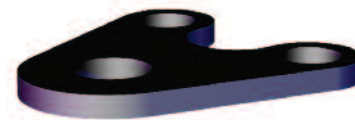
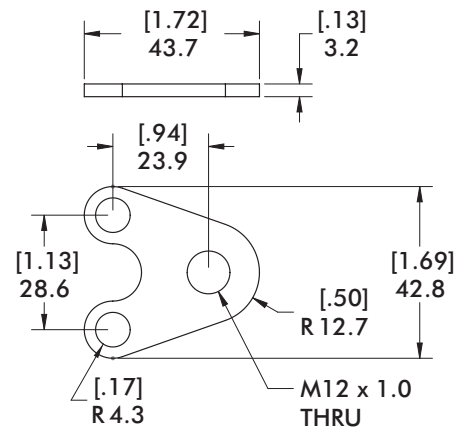
Replacement Part#
GR1-15-PM-31



GR1 Series Modular Gripper
 Ø18mm and Ø12mm Inline Proximity Switch Mount

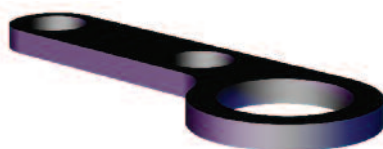
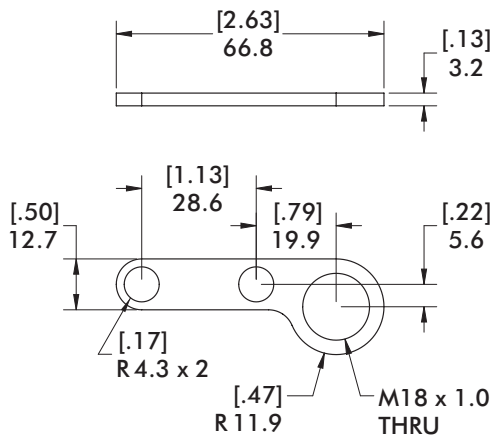


Replacement Part#
 CPI-PM-15D-18

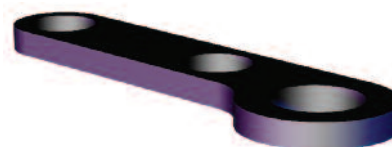
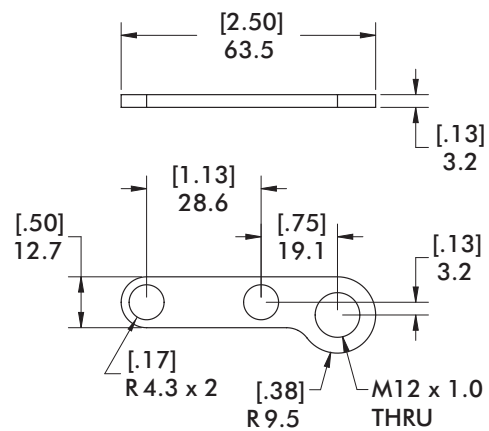


Replacement Part#
 CPI-PM-15D-12

Ø18mm and Ø12mm Offset Proximity Switch Mount



Replacement Part#
 CPI-PM-15S-18

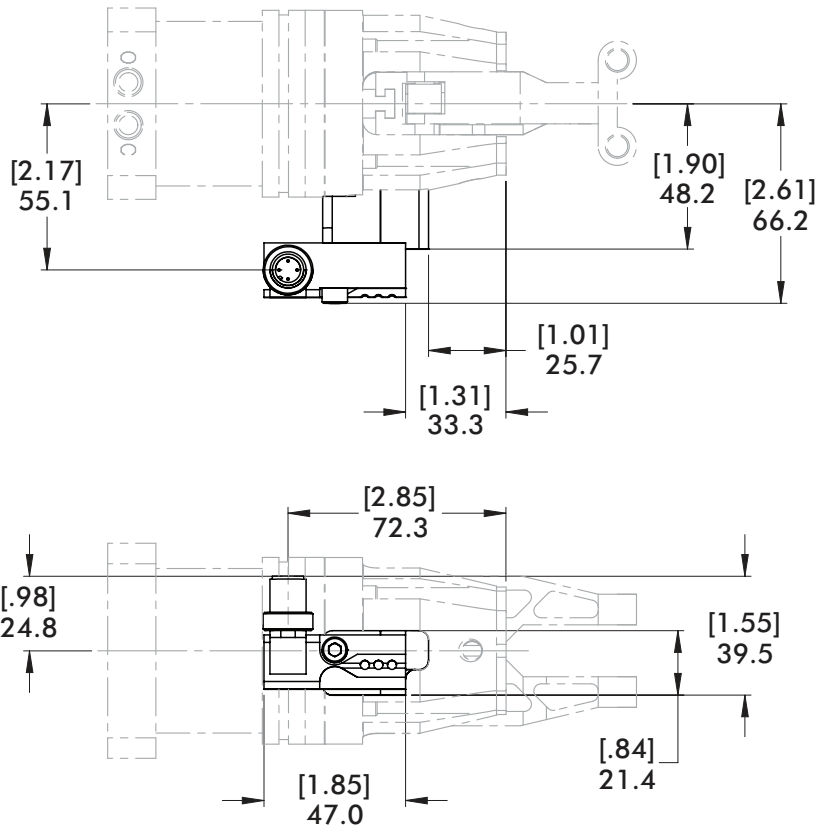
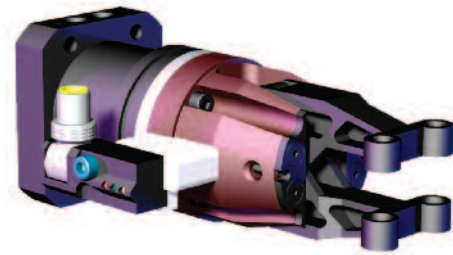


Replacement Part#
 CPI-PM-15S-12

GR1 Series Modular Gripper

"T04" Open/Closed Sensor Option

This sensor option can only be used at full stroke.

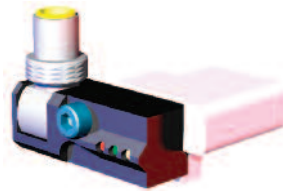


Replacement Part#

CPI-GR1-15-TK-DC-T04

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

"T04"



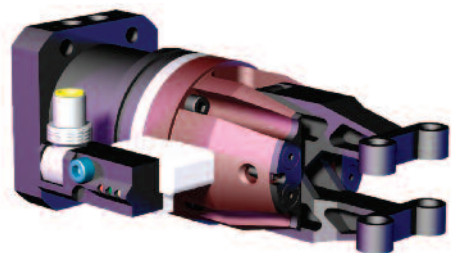
This sensor option is used in conjunction with a special gripper body used in place of the standard gripper body in order for the sensor to function properly.

"T04" Proximity Switch Wiring

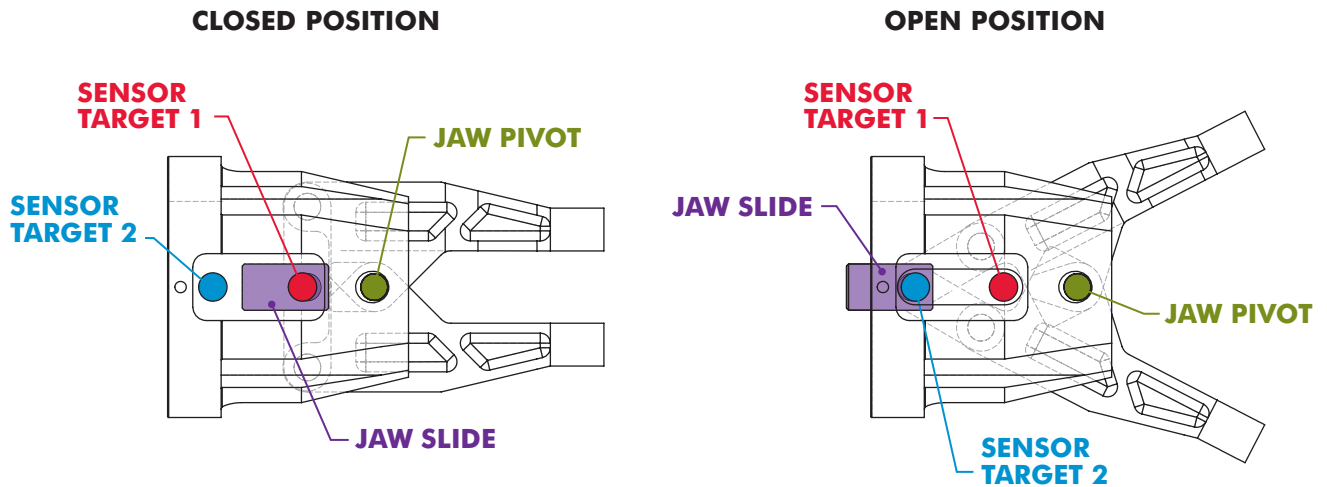


- PIN 1) BROWN: POSITIVE POWER
- PIN 2) BLACK: SIGNAL FOR GRIPPER CLOSED
- PIN 3) BLUE: NEGATIVE POWER
- PIN 4) BLACK: SIGNAL FOR GRIPPER OPEN

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



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

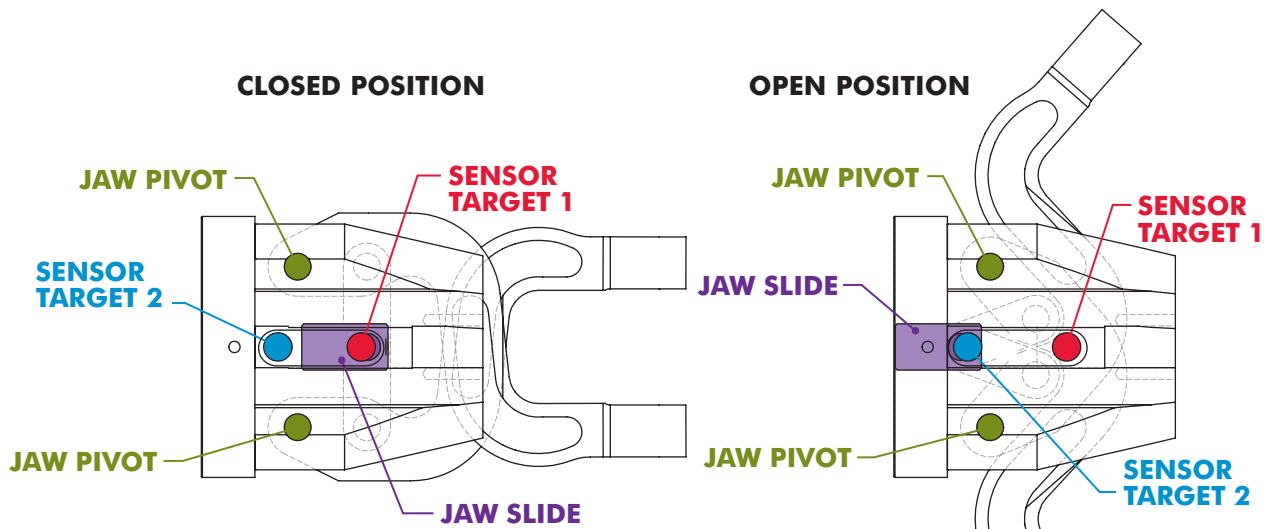
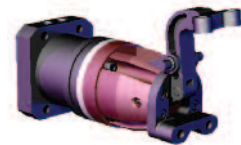
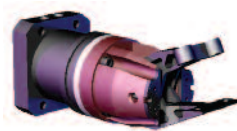


"045" 45° Angular

"45C" 45° Chisel

"FCH" 45° Fixed Chisel

"9DJ" 90° Drop Jaw



"90F" 90° Fixed Lower

"9FS" 90° Fixed Lower with Limited Stroke

"180" 180° Angular



GR1-20 Series Modular Gripper
Ordering Information

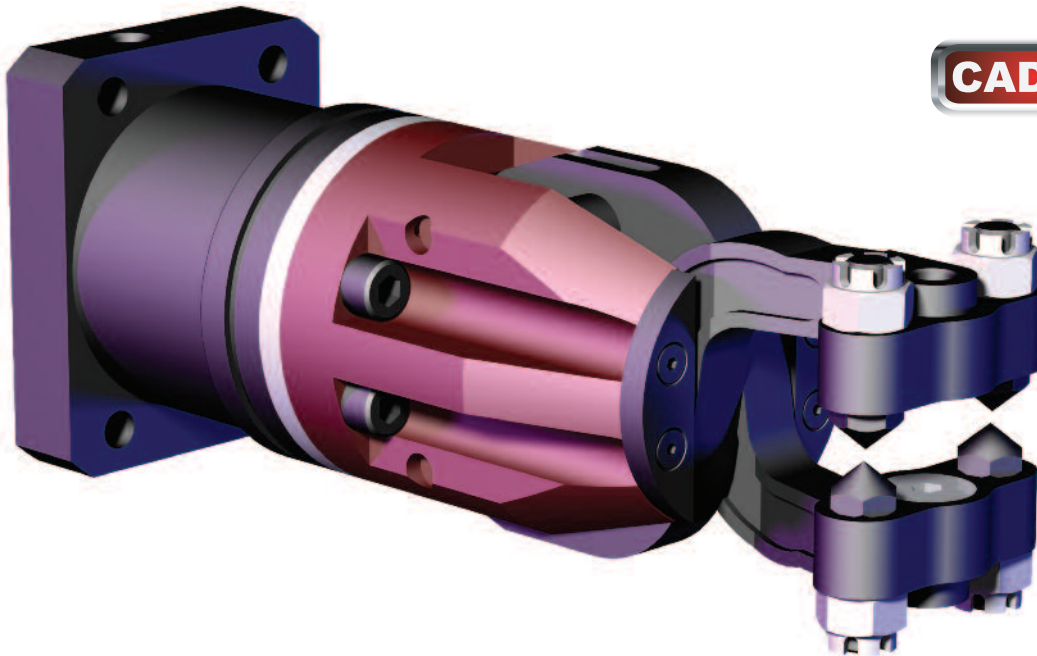
CYLINDER

INSERTS

MOUNTS

OPEN/CLOSED

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



CYLINDER TYPE & PORTING

STEP 1 **B E** CYLINDER PORTING

E ENGLISH (1/8 NPT)

M METRIC (1/8 G)

OPEN/CLOSED SENSING

(SEE PAGE 42 FOR SENSOR SPECIFICATIONS)

B04 = INTERNAL SENSOR
(LEAVE BLANK TO OMIT)

POINTS & TIP INSERT OPTIONS

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



POINT



CUP



URETHANE



SERRATED

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

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

MOUNT OPTIONS

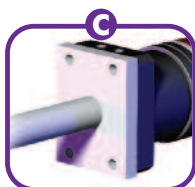
STEP 1 **M X X**

MOUNT TYPE

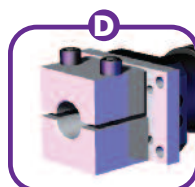
X = OMIT



PARALLEL SWIVEL MOUNT



REAR FIXED WELDED STYLE



REAR FIXED CLAMP MOUNT

STEP 2 **M X X**

MOUNT BALL/ROD SIZE

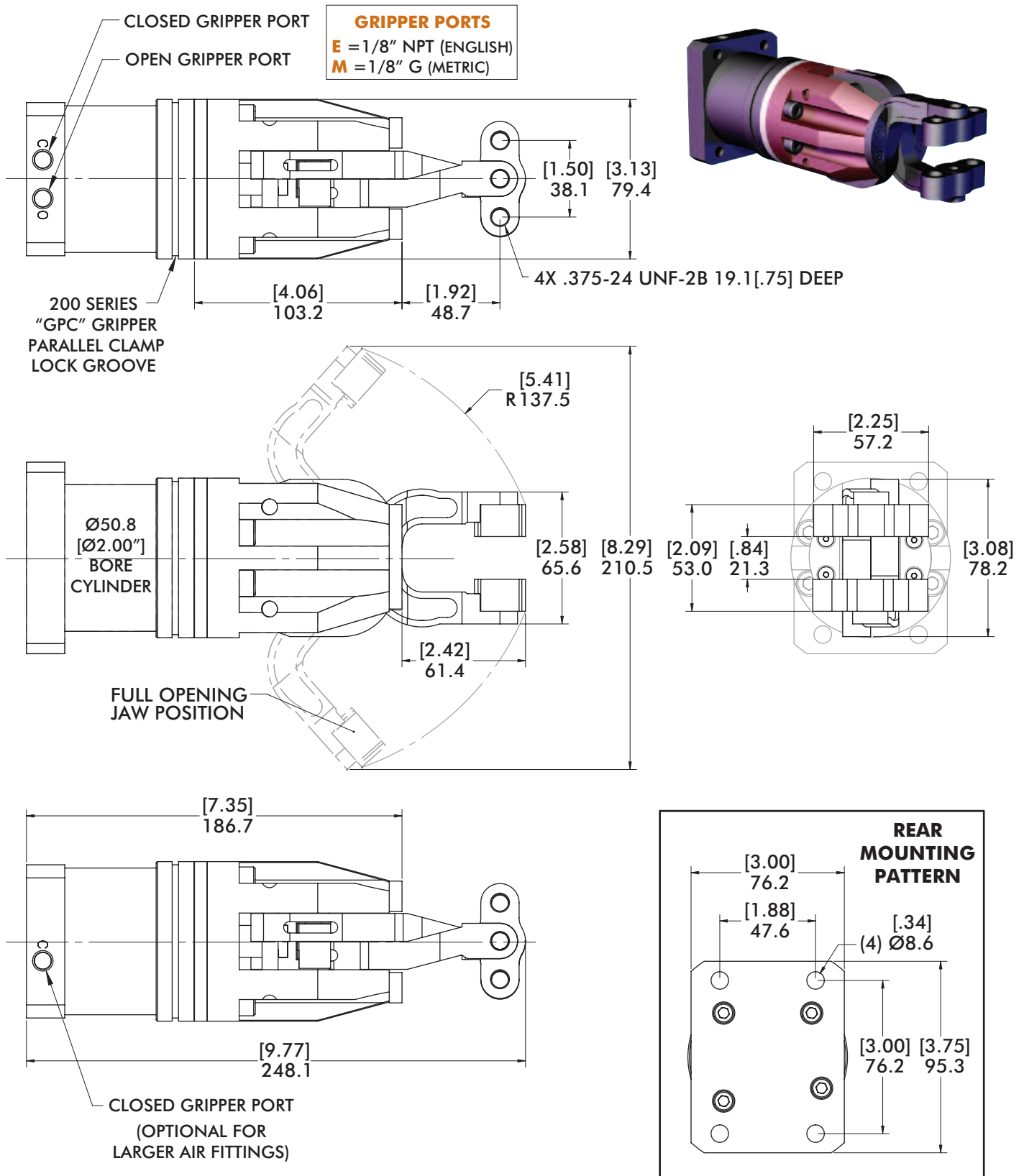
1 = 1.00" ROD/BALL MOUNT (A & C ONLY)

3 = 25MM ROD/BALL MOUNT (A & C ONLY)

7 = M-1514 (D OPTION ONLY)

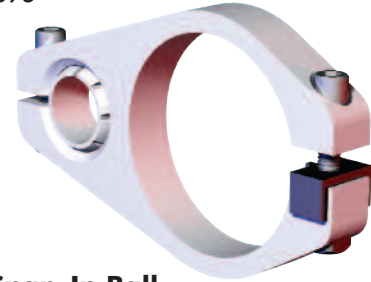
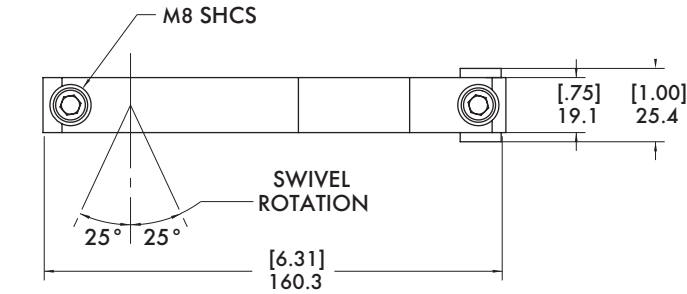
X = OMIT

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

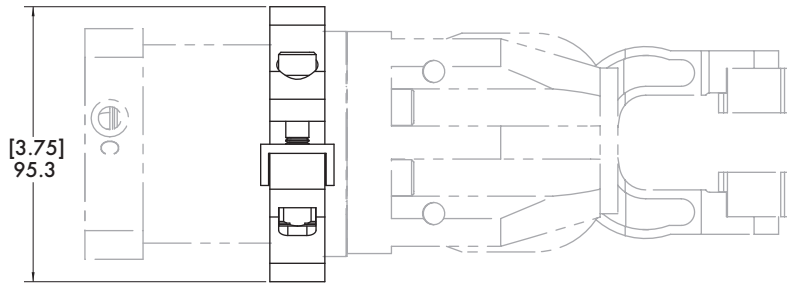
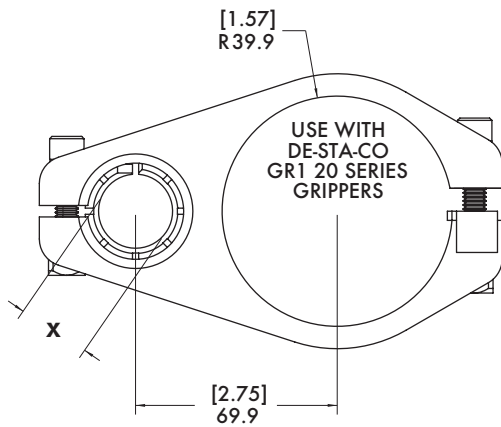


GR1-20 Series Modular Gripper
"MAx" Swivel Parallel Gripper Mounts

PATENT# 6,988,696

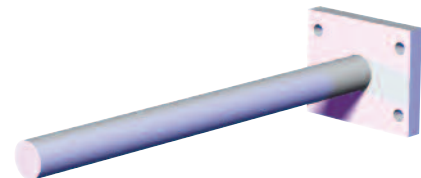
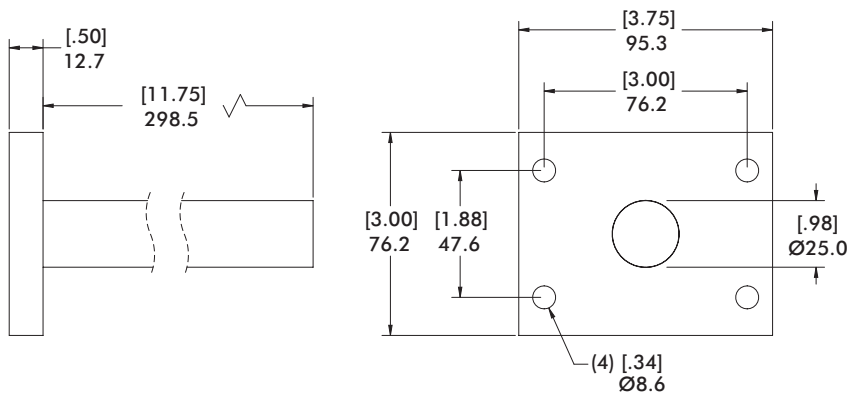


Snap-In Ball
Special patented design allows user to replace ball without disassembly



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

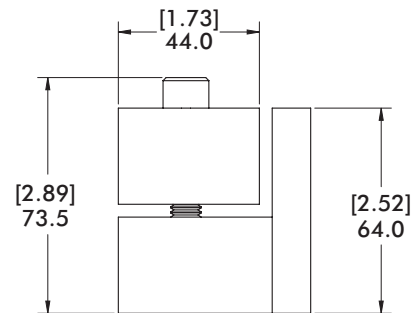
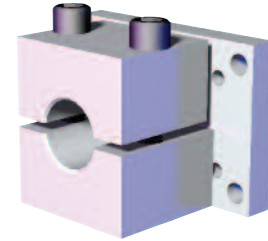
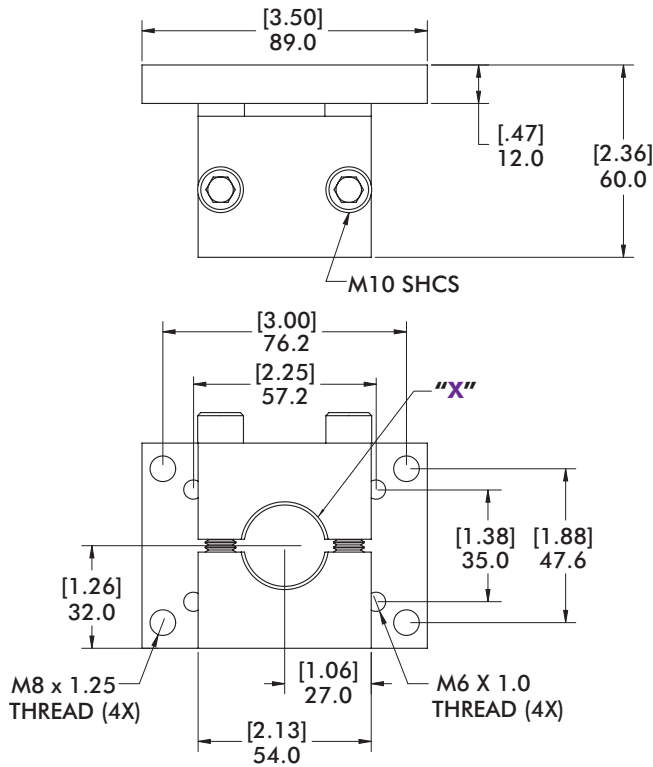
"MCx" Rear Fixed Welded Mount



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



GR1-20 Series Modular Gripper
"MD7" Rear Fixed Clamp Mount

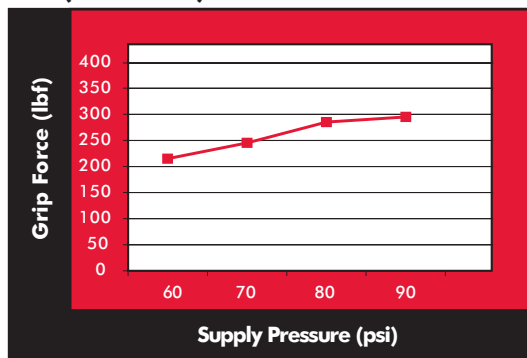


Mounting Option	Rod/Ball "X"	Replacement Part#
MD7	Ø1.00"	M1514



Technical Information

180 (20 SERIES)



"180" 180° Angular



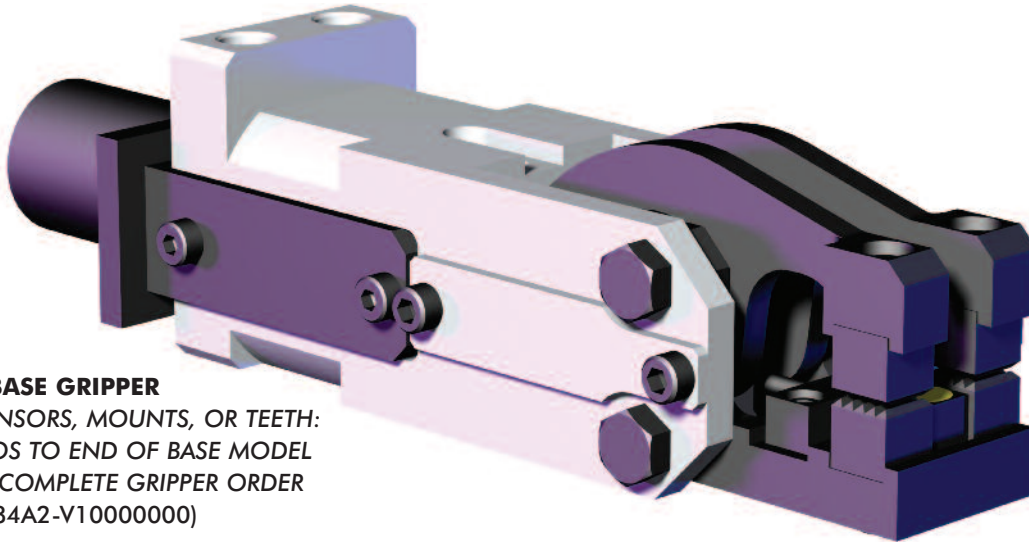
Weight:
 2.4 kg [5.4 lb]
Grip Range:
 0" - 0.125" [0 - 3mm]

Technical Information

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

84A2 Series Cam Style Gripper
Ordering Information

MODEL	OPENING	PORTING	JAW ARRANGEMENT
84A2	-	V	1

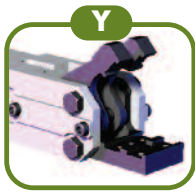


TO ORDER BASE GRIPPER
WITHOUT SENSORS, MOUNTS, OR TEETH:
ADD (7) ZEROS TO END OF BASE MODEL
NUMBER TO COMPLETE GRIPPER ORDER
CODE. (e.g. 84A2-V10000000)

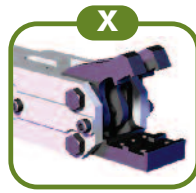
JAW OPENING



72° JAW OPENING



45° JAW OPENING

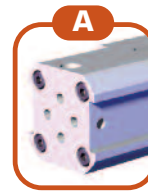


30° JAW OPENING

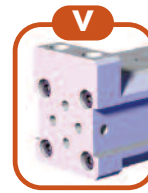
PORTING



(2) M5 PORTS
(2) SIDES

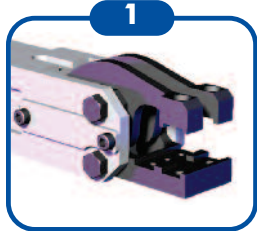


(1) 1/8 NPT
(2) SIDES

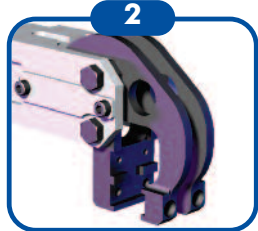


(2) 1/8 G
(1) SIDE

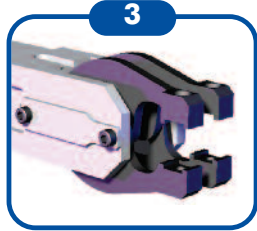
JAW ARRANGEMENT OPTIONS



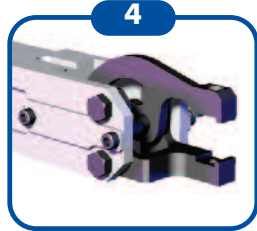
72°/45°/30° Upper



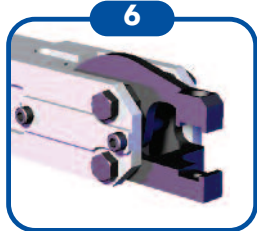
72°/45°/30° Upper



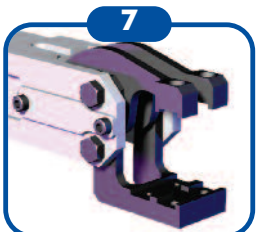
72°/45°/30° Both



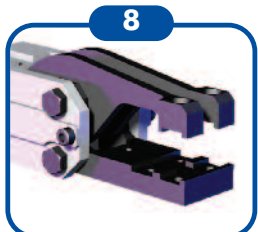
72°/45°/30° Upper



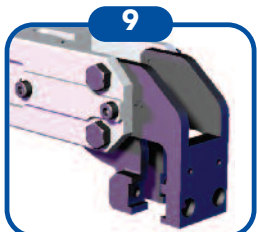
72°/45°/30° Upper



72°/45°/30° Upper



72° Upper



45°/30° Only (Lower)

FOR "DROP JAW" ARRANGEMENTS:
84A2R(x)3 (72° UPPER/15° LOWER) AND
84A2T(x)3 (45° UPPER/15° LOWER)
PLEASE SEE PAGES 58-59.
FOR "HI TEMPERATURE" GRIPPER:
84A2-VB000H1H2 (72° OPENING)
PLEASE SEE PAGE 62.

84A2 Series Cam Style Gripper
Ordering Information

PART PRESENT

D4

MOUNTS

J

LOWER TEETH

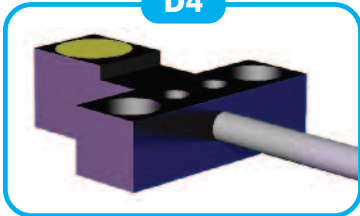
BA

UPPER TEETH

BA

PART PRESENT SENSOR OPTIONS (TO OMIT: USE "00")

D4



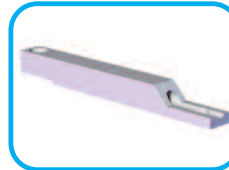
PART PRESENT SENSOR
(3MM SENSING DISTANCE FOR 84A2-1(1/8) AND 84A2-V(1/8))
3-WIRE, OPEN WIRE

D5

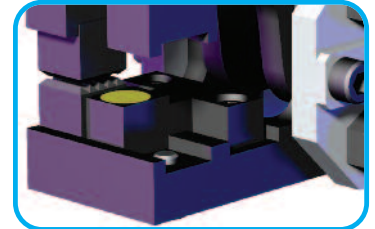


WORK PLACE CONTROL SENSOR
VDC, M12, 4-PIN

8MA-149-1
(ORDERED SEPARATELY)



CABLE SUPPORT FOR "D4" SENSOR
(MOUNTED ON LOWER SIDE OF GRIPPER)

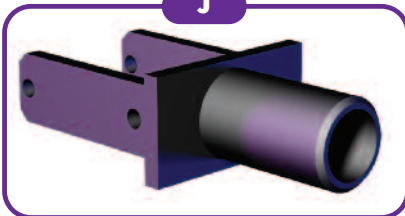


MULTIPLE SENSOR PACKAGE

- GP** (1) D4 + (1) D5
- GK** (2) D5

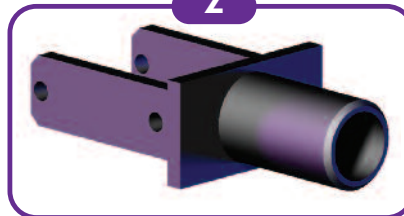
MOUNT OPTIONS (TO OMIT: USE "0")

J

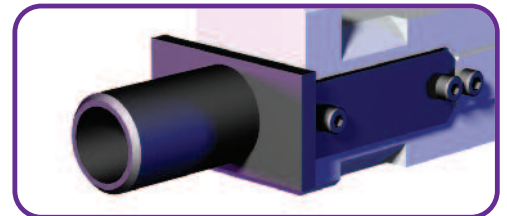


Ø25MM ADAPTOR MOUNT

Z



Ø1.00" ADAPTOR MOUNT



GRIPPER TEETH AND POINTS (TO OMIT: USE "00" IN BOTH, UPPER AND LOWER)

BA



GRIPPER TEETH
HARDENED STEEL

BB



GRIPPER TEETH
SOFT STEEL

PH

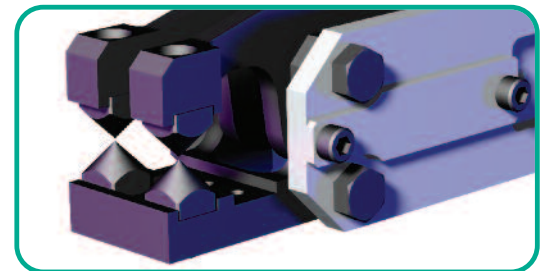


GRIPPER POINT
HARDENED STEEL

8SB-039-1
(ORDERED SEPARATELY)



SHIMS FOR GRIPPER TEETH
(DIMENSIONS: 10x10x1MM)

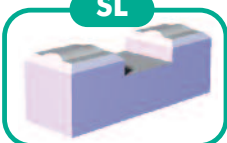


CROWN TEETH (TO OMIT: USE "00" IN BOTH, UPPER AND LOWER)

(FOR DEFORMATION-FREE PART TRANSFER)

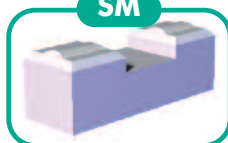
UPPER CROWN TEETH

SL



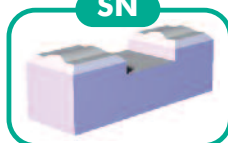
CROWN TEETH
HARDENED STEEL

SM



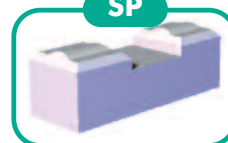
CROWN TEETH
HARDENED STEEL

SN



CROWN TEETH
HARDENED STEEL

SP



CROWN TEETH
HARDENED STEEL

LOWER CROWN TEETH

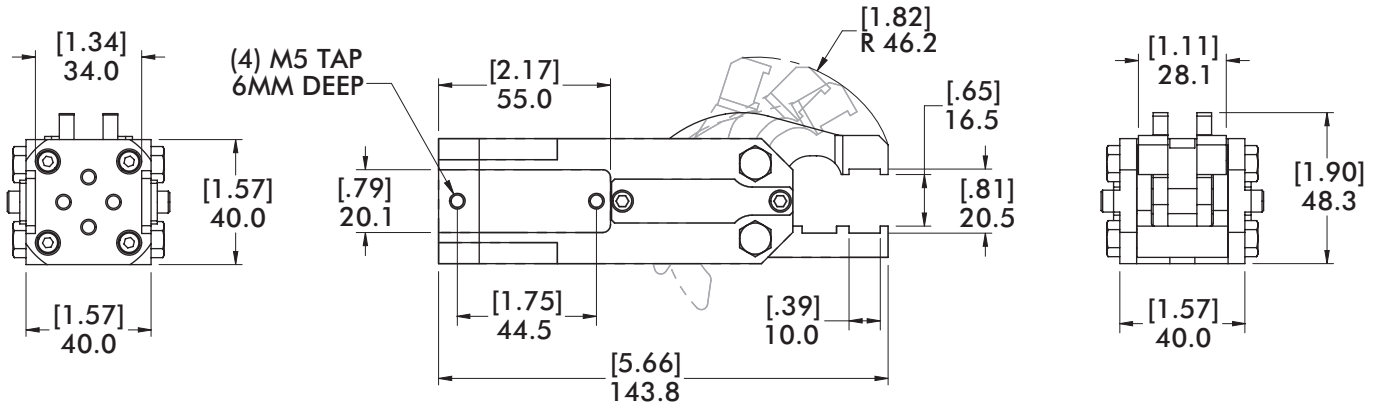
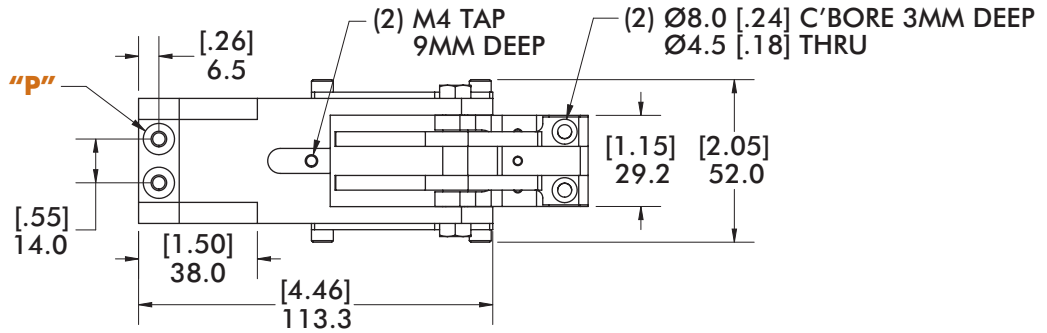
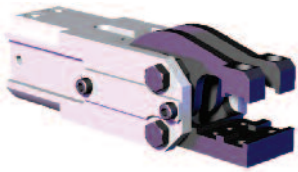
SK



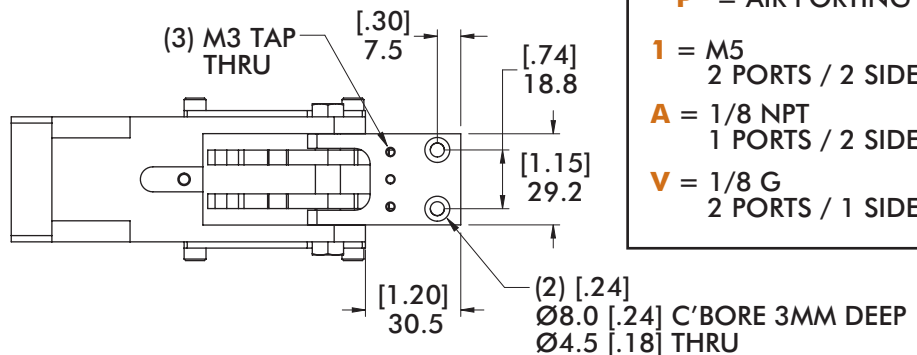
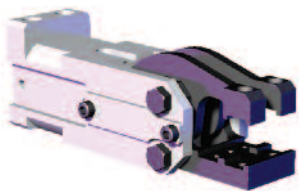
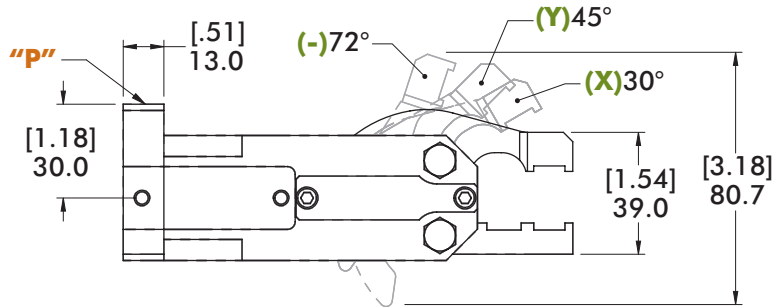
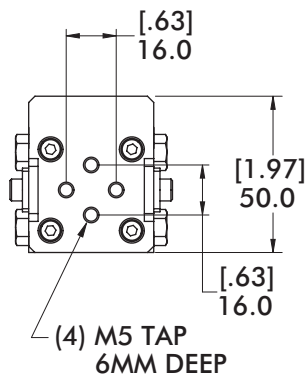
CROWN TEETH
HARDENED STEEL

84A2 Series Cam Style Gripper

"(-/Y/X)(1/A)(1)" 72°/45°/30° Upper/Fixed Lower Jaw Arrangement



"(-/Y/X)(V)(1)" 72°/45°/30° Upper/Fixed Lower Jaw Arrangement

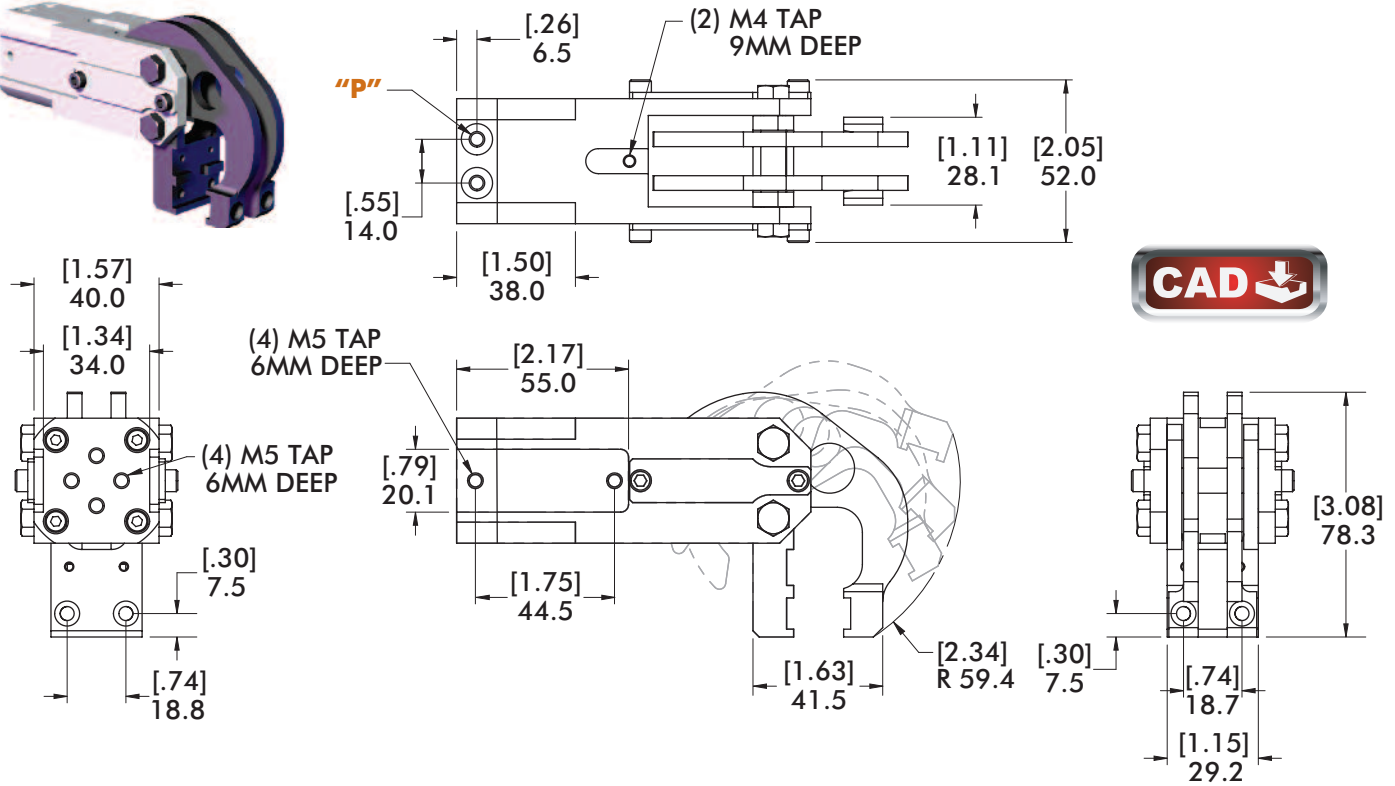
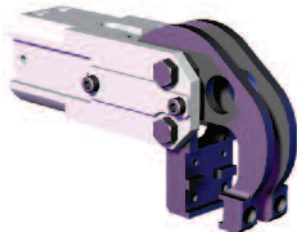


- "P" = AIR PORTING
- 1 = M5
2 PORTS / 2 SIDES
 - A = 1/8 NPT
1 PORTS / 2 SIDES
 - V = 1/8 G
2 PORTS / 1 SIDES

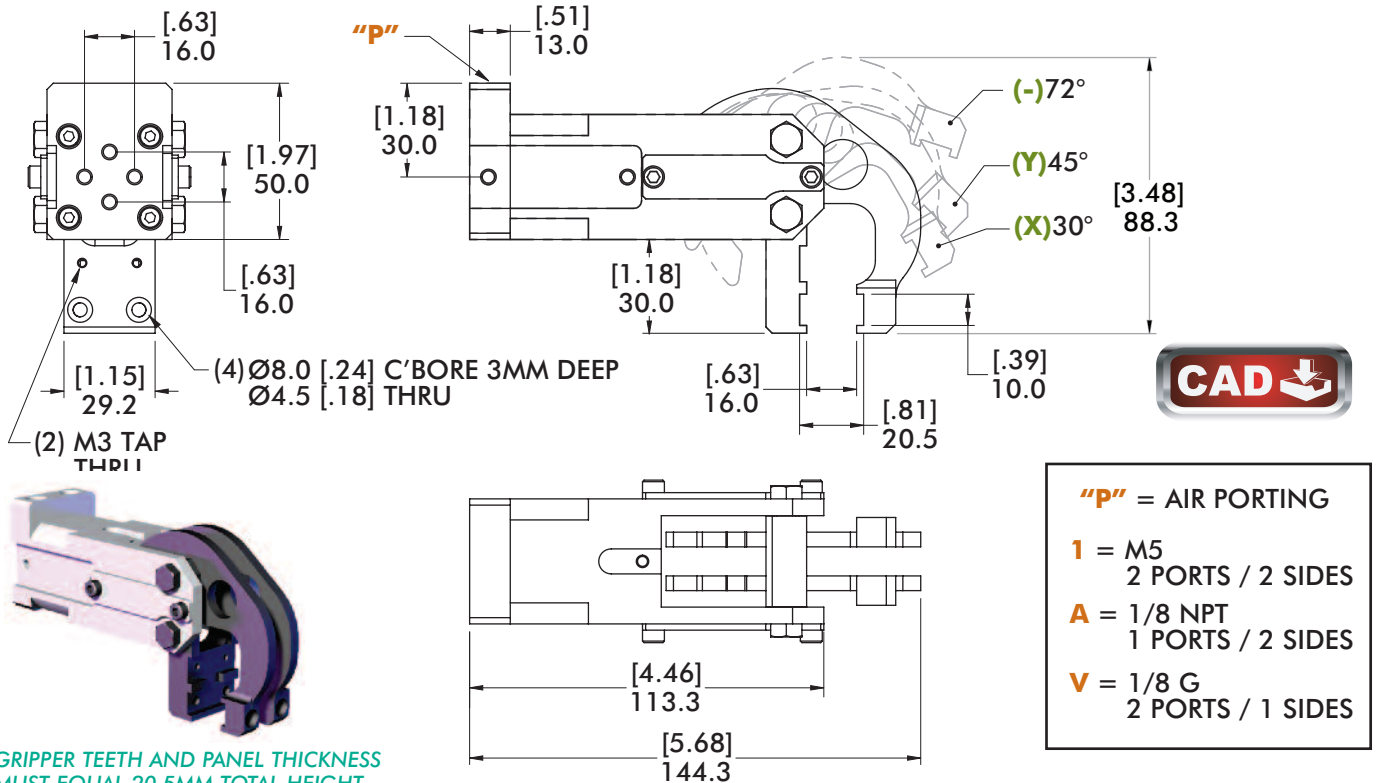
GRIPPER TEETH AND PANEL THICKNESS MUST EQUAL 20.5MM TOTAL HEIGHT IT MAY BE NECESSARY TO USE SHIMS OR TO GRIND TEETH TO ACHIEVE THIS HEIGHT

84A2 Series Cam Style Gripper

"(-Y/X)(1/A)(2)" 72°/45°/30° Upper/Fixed Lower Jaw Arrangement



"(-Y/X)(V)(2)" 72°/45°/30° Upper/Fixed Lower Jaw Arrangement

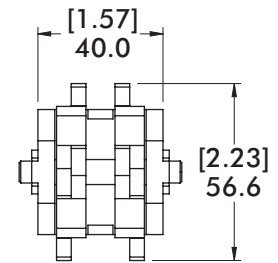
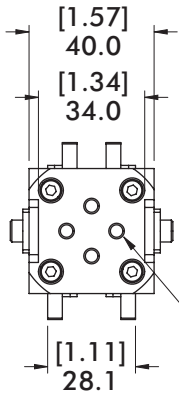
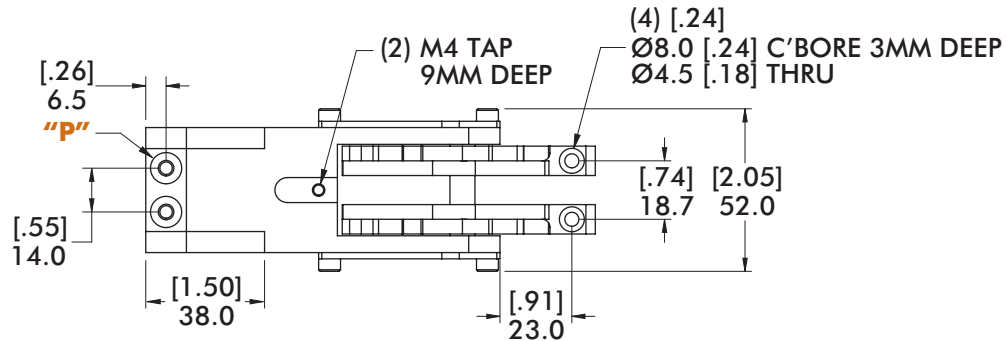
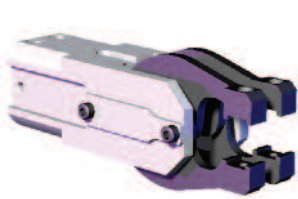


- "P" = AIR PORTING
- 1 = M5
2 PORTS / 2 SIDES
- A = 1/8 NPT
1 PORTS / 2 SIDES
- V = 1/8 G
2 PORTS / 1 SIDES

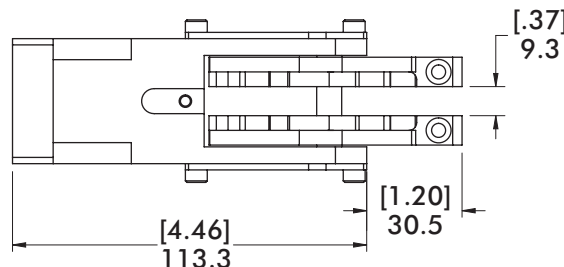
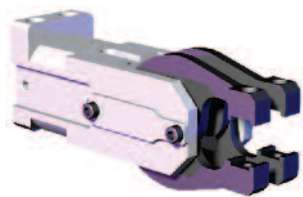
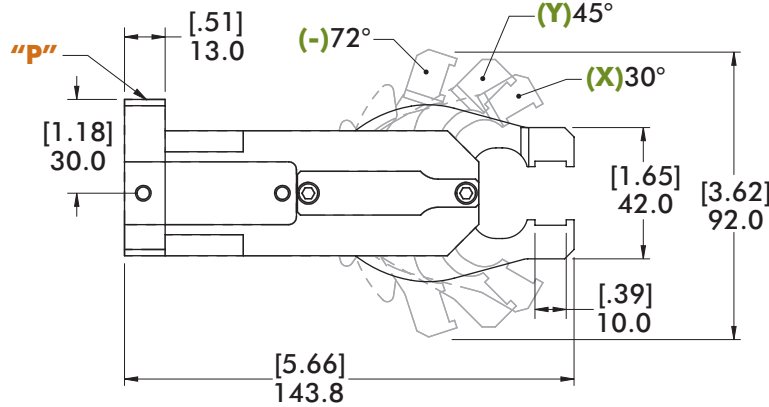
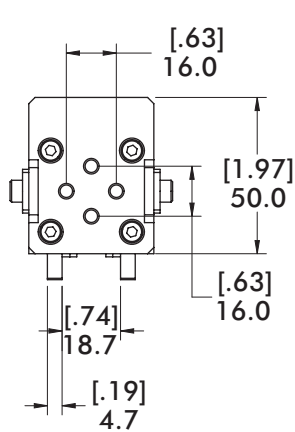
GRIPPER TEETH AND PANEL THICKNESS MUST EQUAL 20.5MM TOTAL HEIGHT IT MAY BE NECESSARY TO USE SHIMS OR TO GRIND TEETH TO ACHIEVE THIS HEIGHT

84A2 Series Cam Style Gripper

"(-/Y/X)(1/A)(3)" 72°/45°/30° Upper and Lower Jaw Arrangement



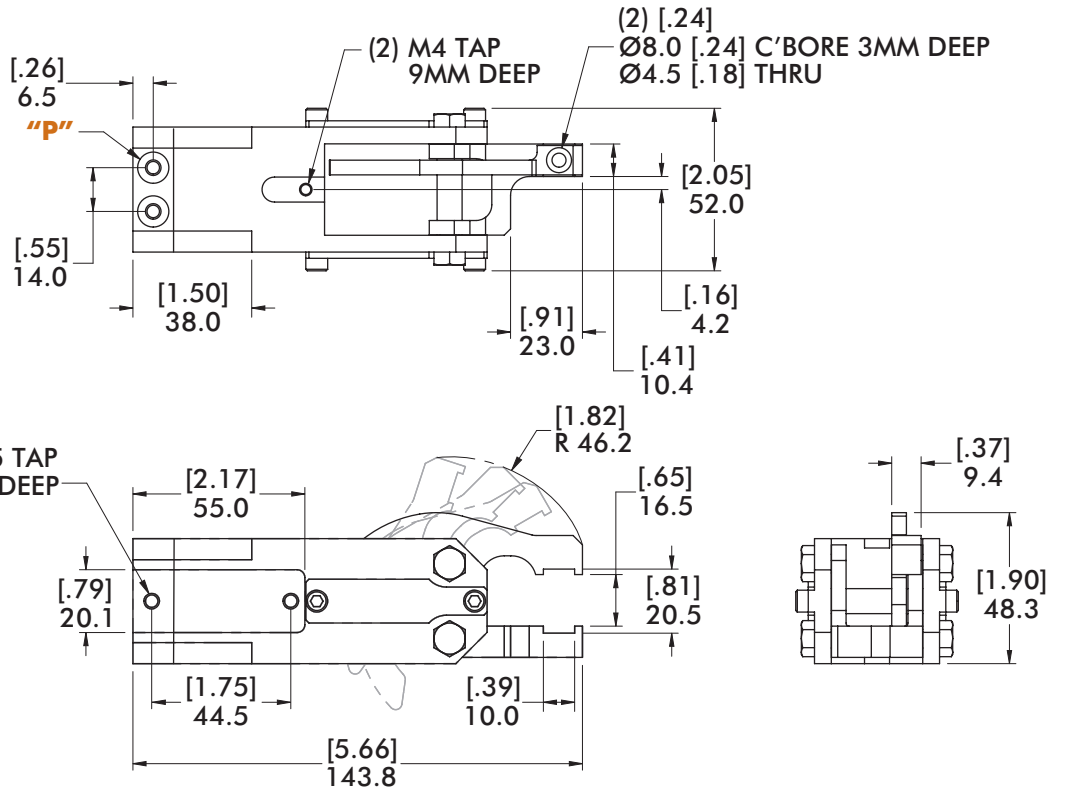
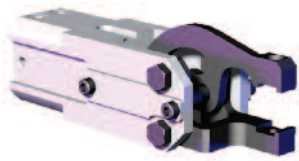
"(-/Y/X)(V)(3)" 72°/45°/30° Upper and Lower Jaw Arrangement



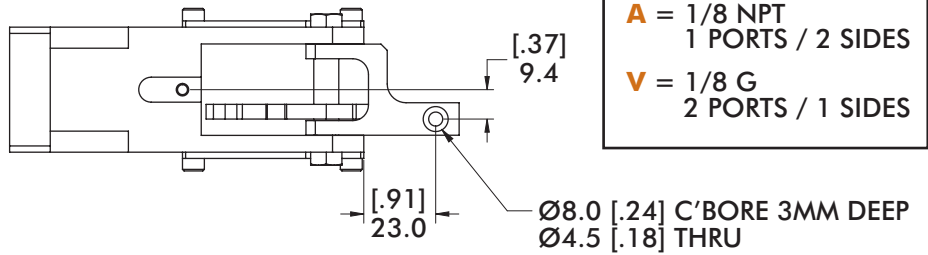
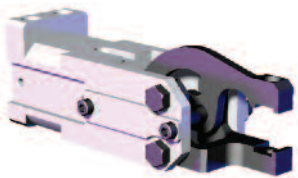
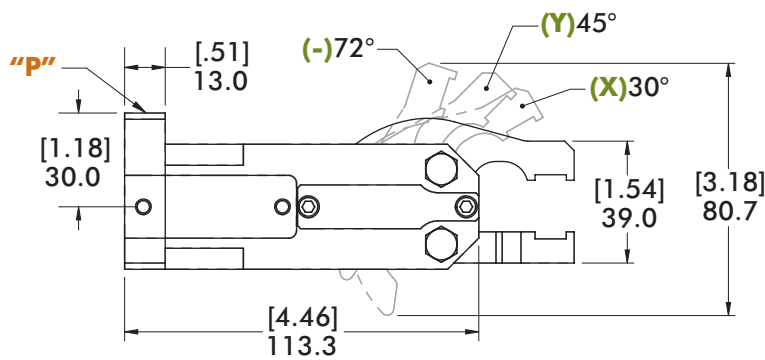
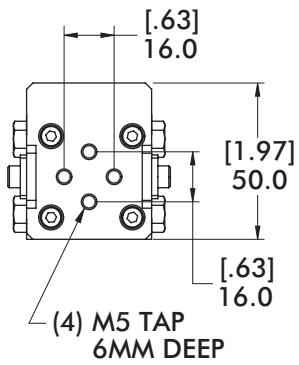
"p" = AIR PORTING	
1 = M5	2 PORTS / 2 SIDES
A = 1/8 NPT	1 PORTS / 2 SIDES
V = 1/8 G	2 PORTS / 1 SIDES

GRIPPER TEETH AND PANEL THICKNESS MUST EQUAL 20.5MM TOTAL HEIGHT IT MAY BE NECESSARY TO USE SHIMS OR TO GRIND TEETH TO ACHIEVE THIS HEIGHT

84A2 Series Cam Style Gripper
 “(-/Y/X)(1/A)(4)” Jaw Arrangement



“(-/Y/X)(V)(4)” Jaw Arrangement

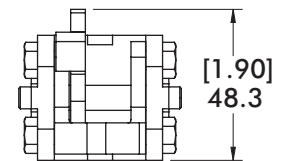
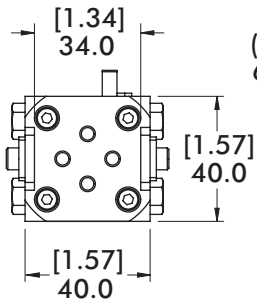
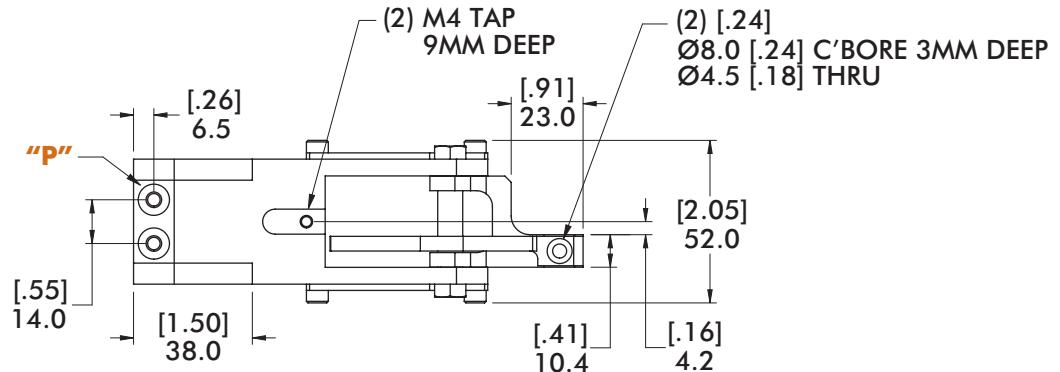
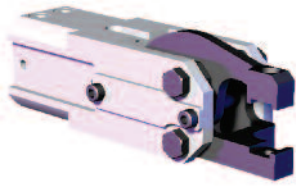


“P” = AIR PORTING	
1	= M5 2 PORTS / 2 SIDES
A	= 1/8 NPT 1 PORTS / 2 SIDES
V	= 1/8 G 2 PORTS / 1 SIDES

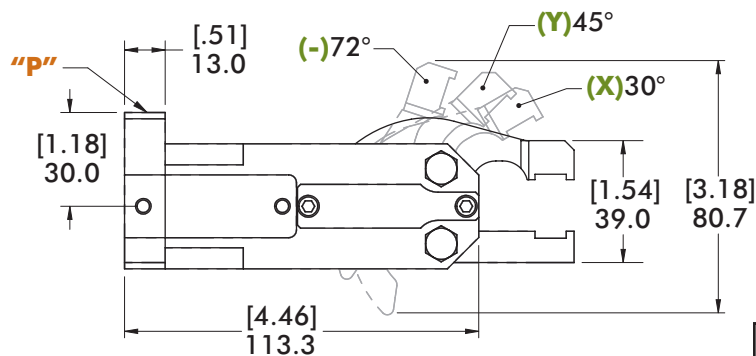
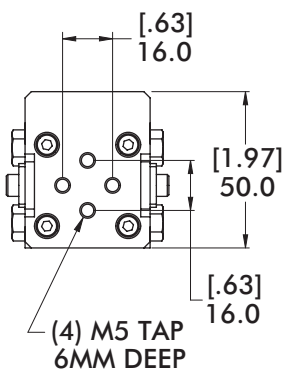
GRIPPER TEETH AND PANEL THICKNESS MUST EQUAL 20.5MM TOTAL HEIGHT IT MAY BE NECESSARY TO USE SHIMS OR TO GRIND TEETH TO ACHIEVE THIS HEIGHT

84A2 Series Cam Style Gripper

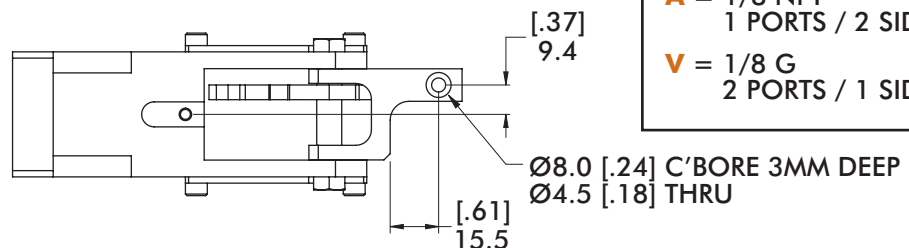
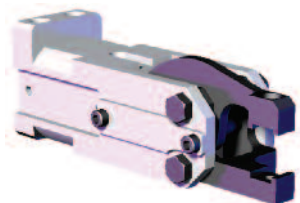
"(-/Y/X)(1/A)(6)" 72°/45°/30° Upper/Fixed Lower Jaw Arrangement



"(-/Y/X)(V)(6)" 72°/45°/30° Upper/Fixed Lower Jaw Arrangement



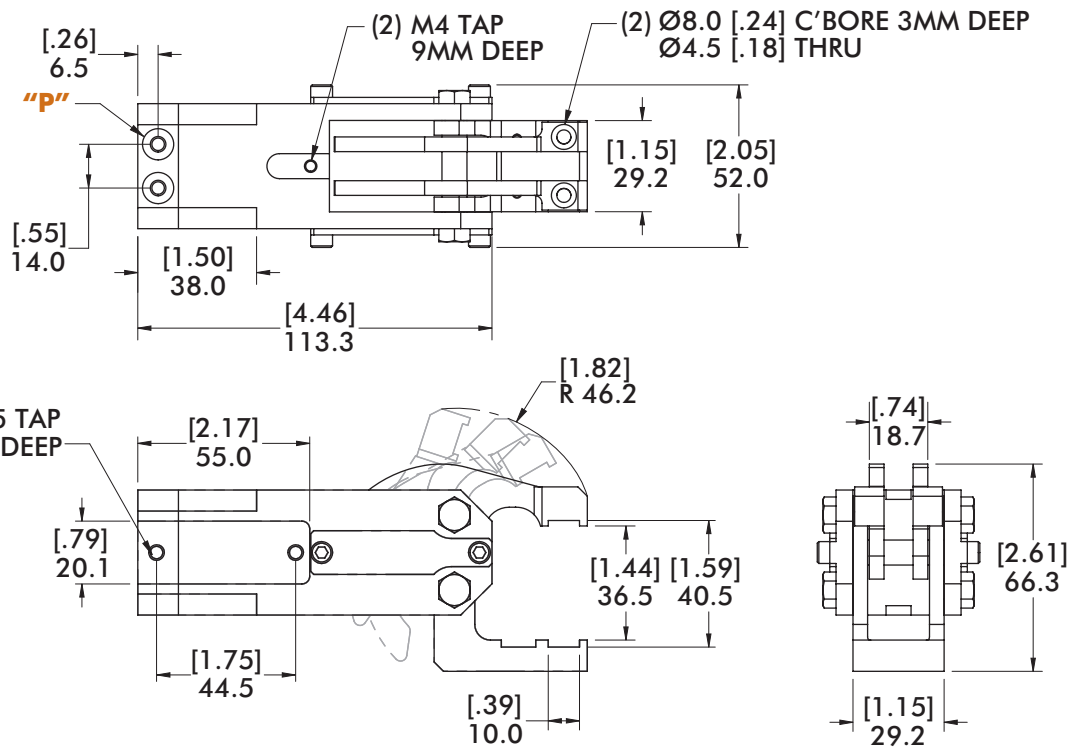
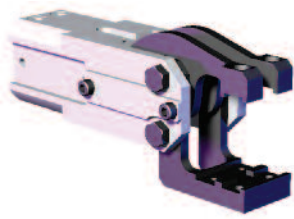
- "P" = AIR PORTING
- 1 = M5
2 PORTS / 2 SIDES
 - A = 1/8 NPT
1 PORTS / 2 SIDES
 - V = 1/8 G
2 PORTS / 1 SIDES



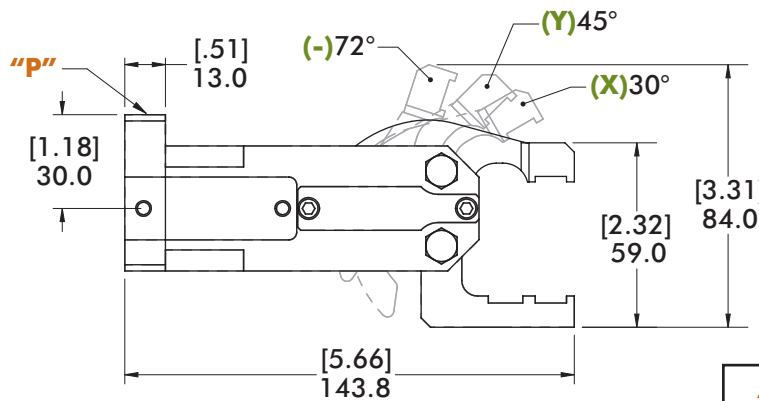
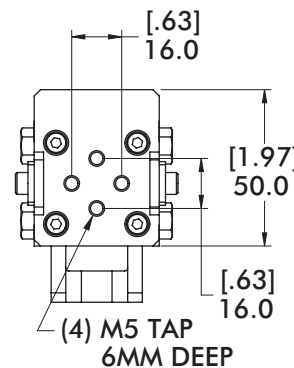
GRIPPER TEETH AND PANEL THICKNESS MUST EQUAL 20.5MM TOTAL HEIGHT IT MAY BE NECESSARY TO USE SHIMS OR TO GRIND TEETH TO ACHIEVE THIS HEIGHT

84A2 Series Cam Style Gripper

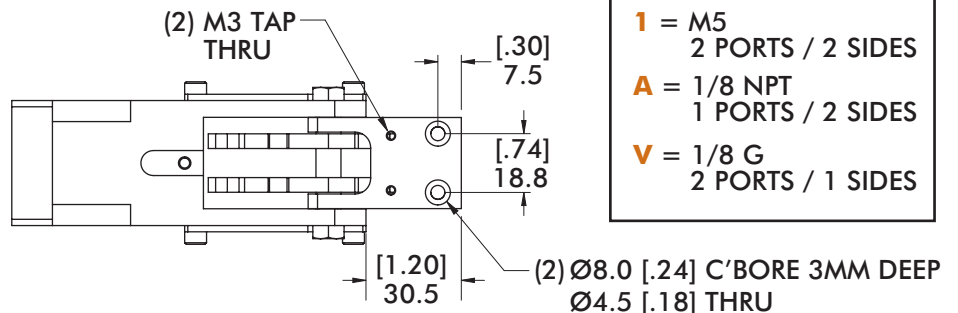
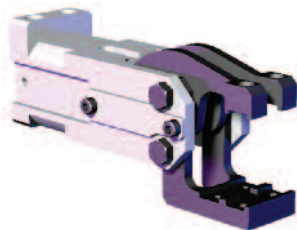
"(-Y/X)(1/A)(7)" 72°/45°/30° Upper/Fixed Lower Jaw Arrangement



"(-Y/X)(V)(7)" 72°/45°/30° Upper/Fixed Lower Jaw Arrangement



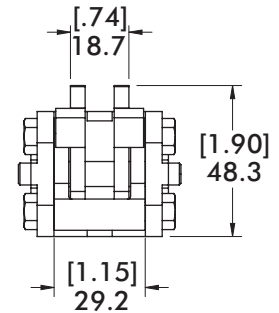
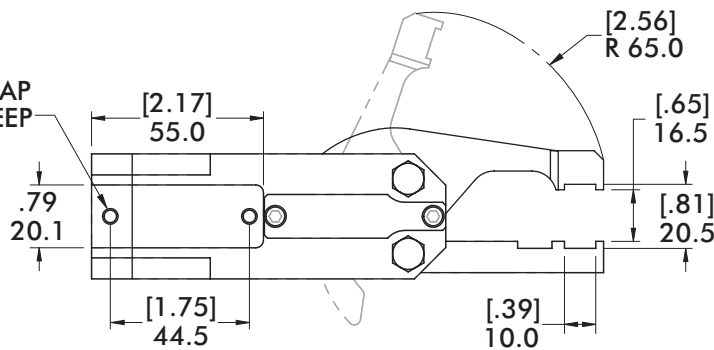
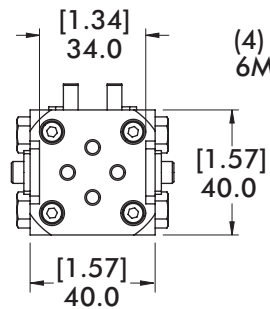
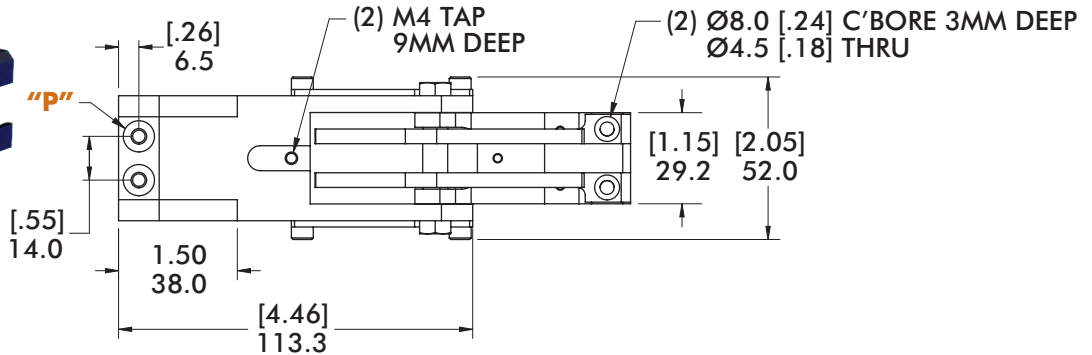
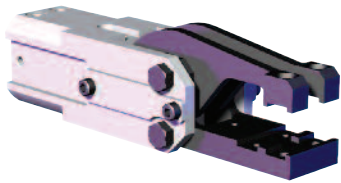
- "P" = AIR PORTING
- 1 = M5
2 PORTS / 2 SIDES
- A = 1/8 NPT
1 PORTS / 2 SIDES
- V = 1/8 G
2 PORTS / 1 SIDES



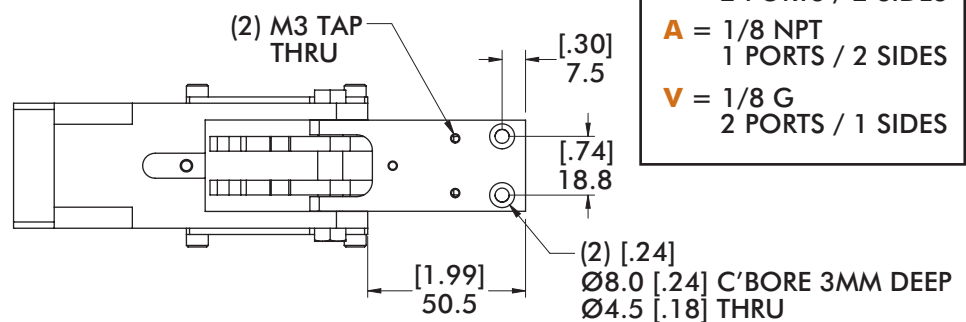
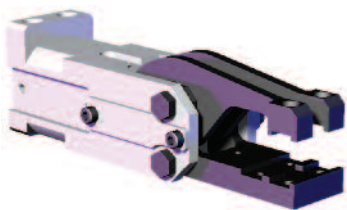
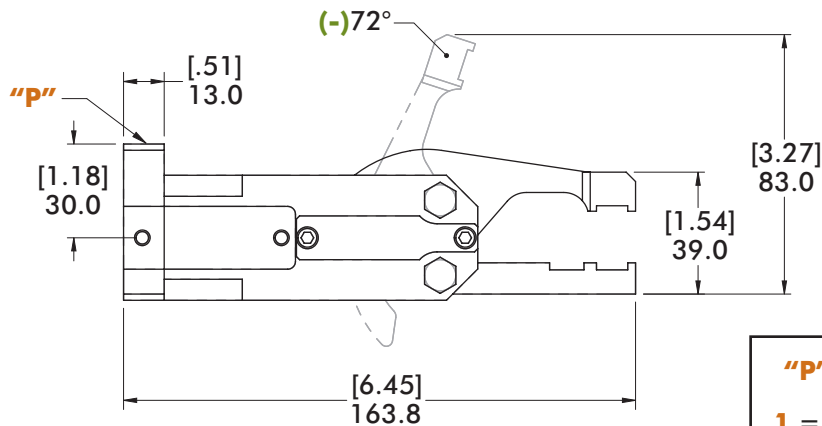
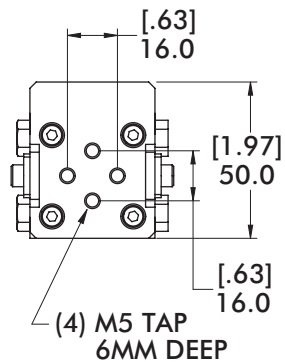
GRIPPER TEETH AND PANEL THICKNESS MUST EQUAL 20.5MM TOTAL HEIGHT IT MAY BE NECESSARY TO USE SHIMS OR TO GRIND TEETH TO ACHIEVE THIS HEIGHT

84A2 Series Cam Style Gripper

"(-)(1/A)(8)" 72° Upper/Fixed Lower Jaw Arrangement



"(-)(V)(8)" 72° Upper/Fixed Lower Jaw Arrangement



"P" = AIR PORTING

1 = M5
2 PORTS / 2 SIDES

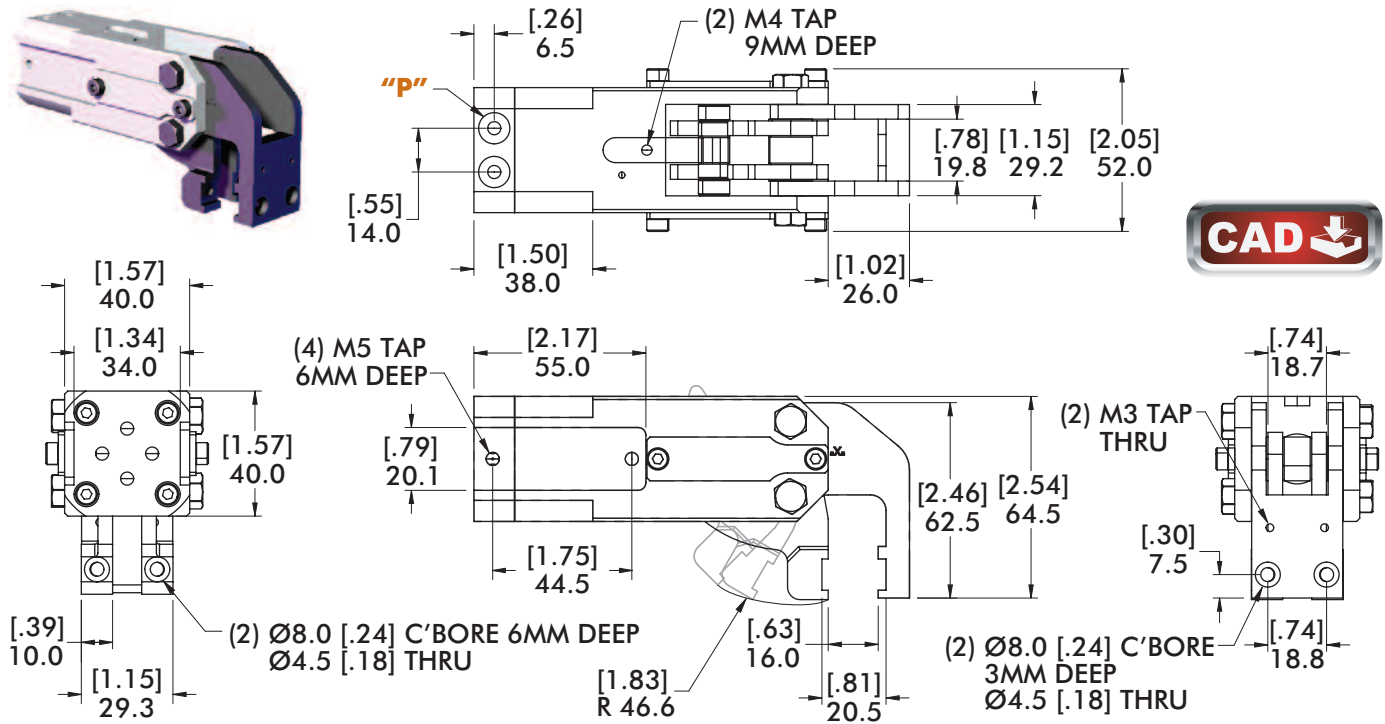
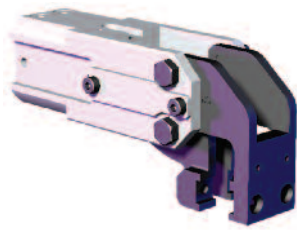
A = 1/8 NPT
1 PORTS / 2 SIDES

V = 1/8 G
2 PORTS / 1 SIDES

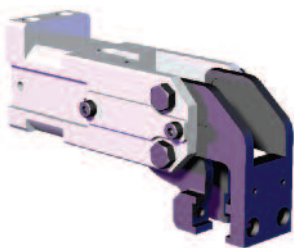
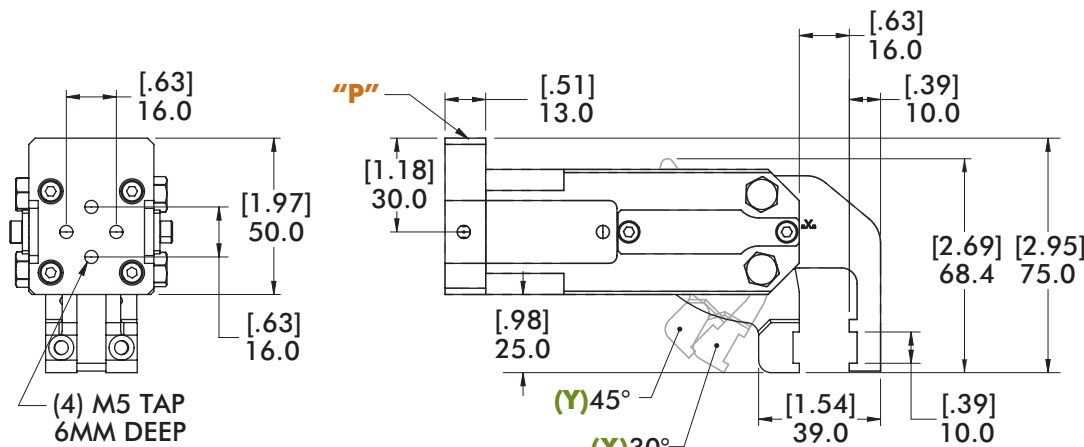
GRIPPER TEETH AND PANEL THICKNESS
MUST EQUAL 20.5MM TOTAL HEIGHT
IT MAY BE NECESSARY TO USE SHIMS OR
TO GRIND TEETH TO ACHIEVE THIS HEIGHT

84A2 Series Cam Style Gripper

"(Y/X)(1/A)(9)" 45°/30° Lower/Fixed Upper Jaw Arrangement

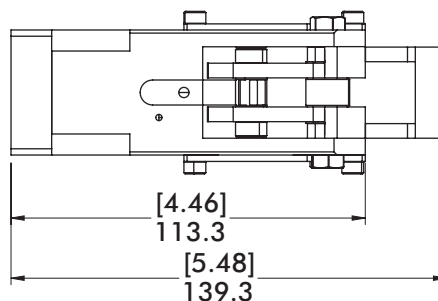


"(Y/X)(V)(9)" 45°/30° Lower/Fixed Upper Jaw Arrangement



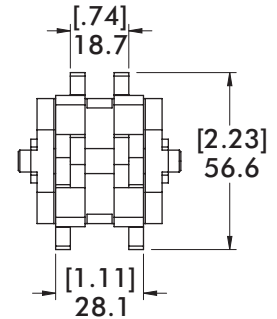
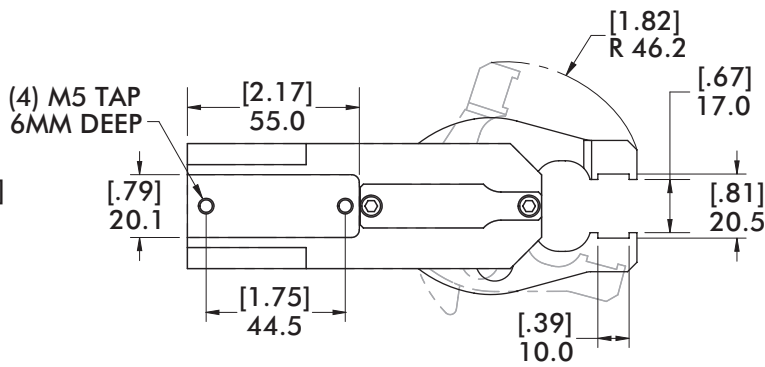
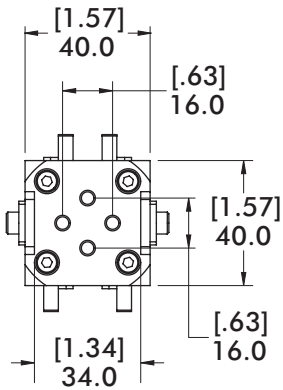
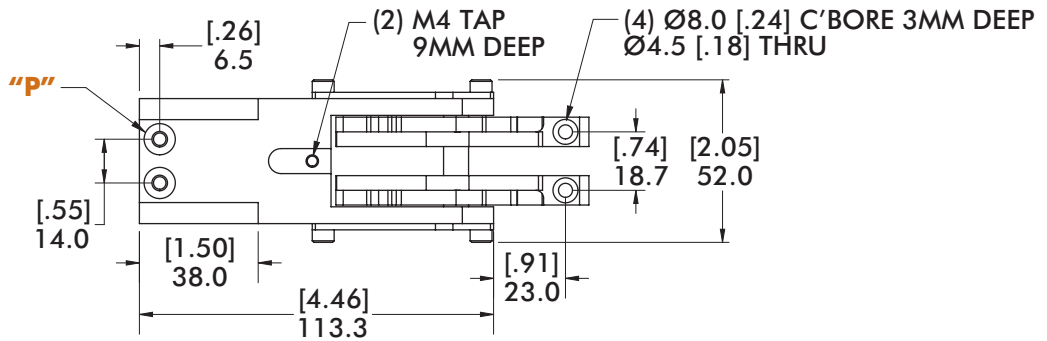
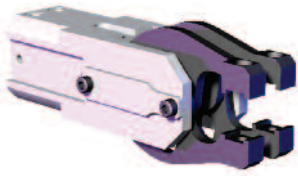
- "P" = AIR PORTING
- 1** = M5
2 PORTS / 2 SIDES
 - A** = 1/8 NPT
1 PORTS / 2 SIDES
 - V** = 1/8 G
2 PORTS / 1 SIDES

GRIPPER TEETH AND PANEL THICKNESS MUST EQUAL 20.5MM TOTAL HEIGHT IT MAY BE NECESSARY TO USE SHIMS OR TO GRIND TEETH TO ACHIEVE THIS HEIGHT

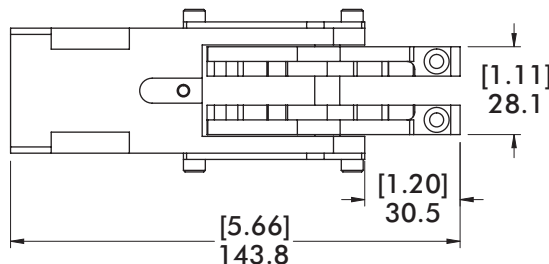
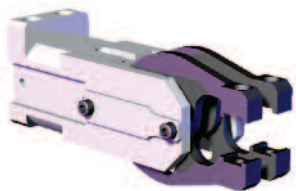
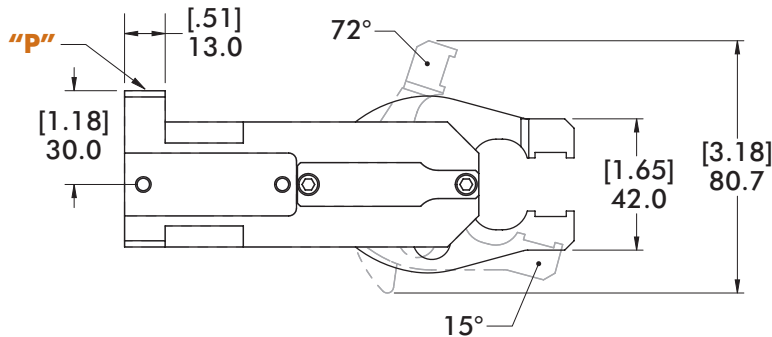
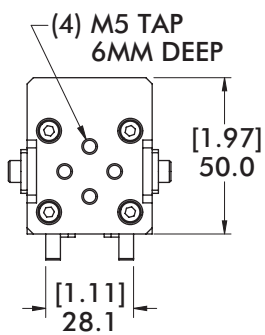


84A2 Series Cam Style Gripper

"84A2R(1/A)(3)" Drop Jaw Gripper with 72° Opening



"84A2R(V)(3)" Drop Jaw Gripper with 72° Opening

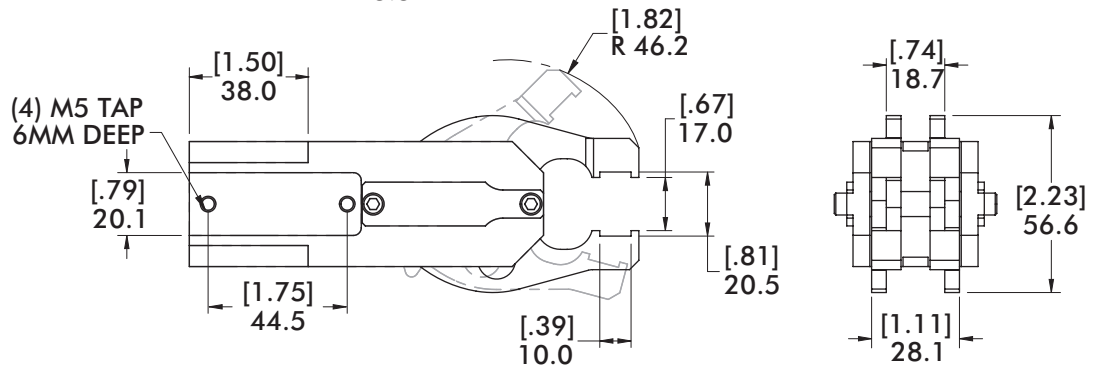
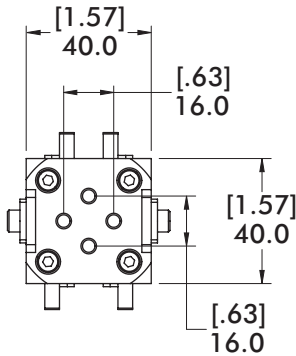
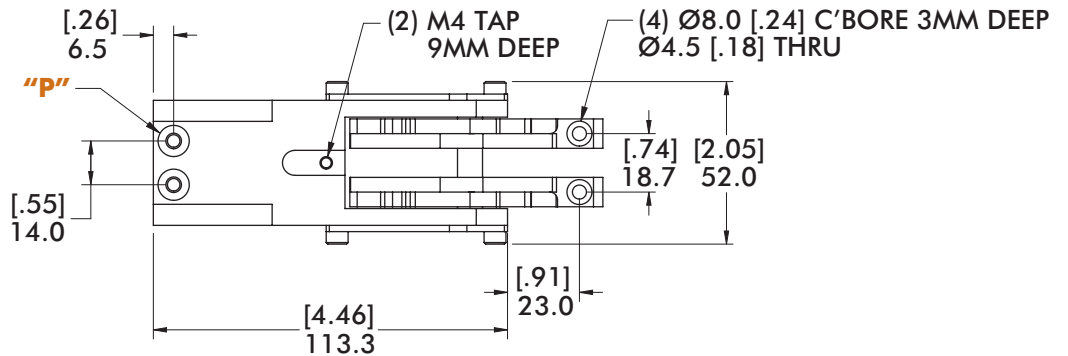
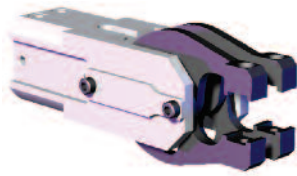


"P"	= AIR PORTING
1	= M5 2 PORTS / 2 SIDES
A	= 1/8 NPT 1 PORTS / 2 SIDES
V	= 1/8 G 2 PORTS / 1 SIDES

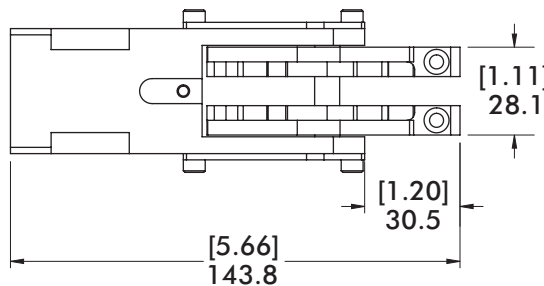
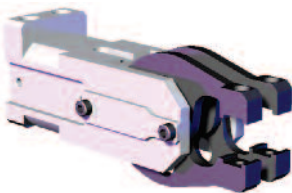
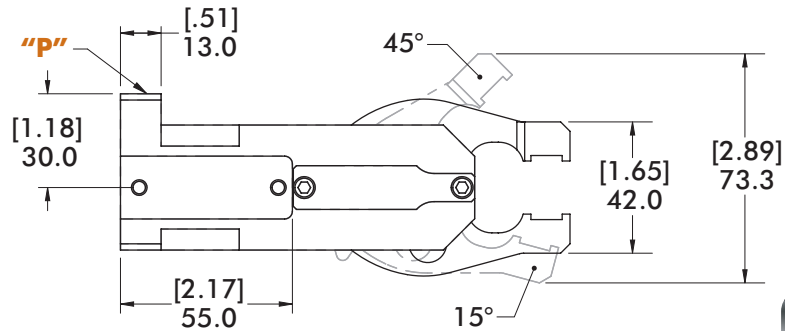
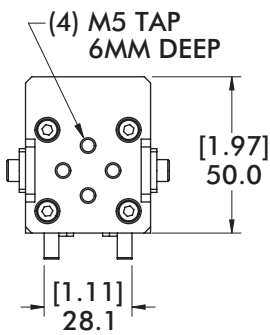
GRIPPER TEETH AND PANEL THICKNESS MUST EQUAL 20.5MM TOTAL HEIGHT IT MAY BE NECESSARY TO USE SHIMS OR TO GRIND TEETH TO ACHIEVE THIS HEIGHT

ADD SENSORS, MOUNTS, AND TEETH TO END OF BASE MODEL NUMBER TO COMPLETE GRIPPER ORDER CODE. (e.g. 84A2RV3D4JBABA)

84A2 Series Cam Style Gripper
"84A2T(1/A)(3)" Drop Jaw Gripper with 45° Opening



"84A2T(V)(3)" Drop Jaw Gripper with 45° Opening



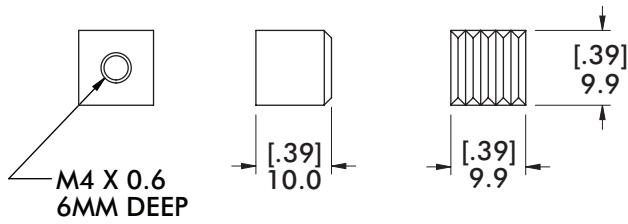
- "P" = AIR PORTING
- 1 = M5
2 PORTS / 2 SIDES
- A = 1/8 NPT
1 PORTS / 2 SIDES
- V = 1/8 G
2 PORTS / 1 SIDES

GRIPPER TEETH AND PANEL THICKNESS MUST EQUAL 20.5MM TOTAL HEIGHT IT MAY BE NECESSARY TO USE SHIMS OR TO GRIND TEETH TO ACHIEVE THIS HEIGHT

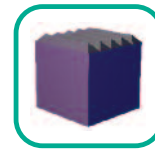
ADD SENSORS, MOUNTS, AND TEETH TO END OF BASE MODEL NUMBER TO COMPLETE GRIPPER ORDER CODE. (e.g. 84A2RV3D4JBABA)

84A2 Series Cam Style Gripper

"BA", "BB", "PH" Gripper Teeth, Point, and Crown Teeth

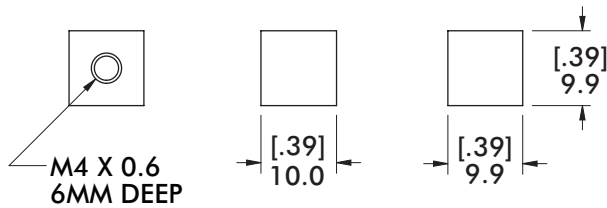


"BA"



Gripper Teeth
(Hardened Steel)

Replacement Part#
8JZ-027

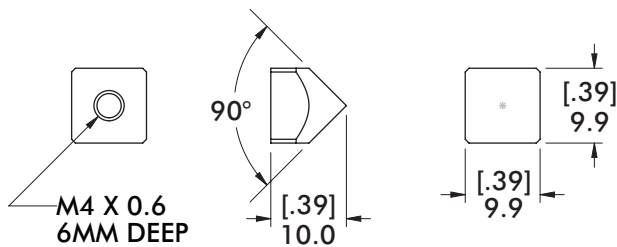


"BB"



Gripper Teeth
(Hardened Steel)

Replacement Part#
8JZ-028



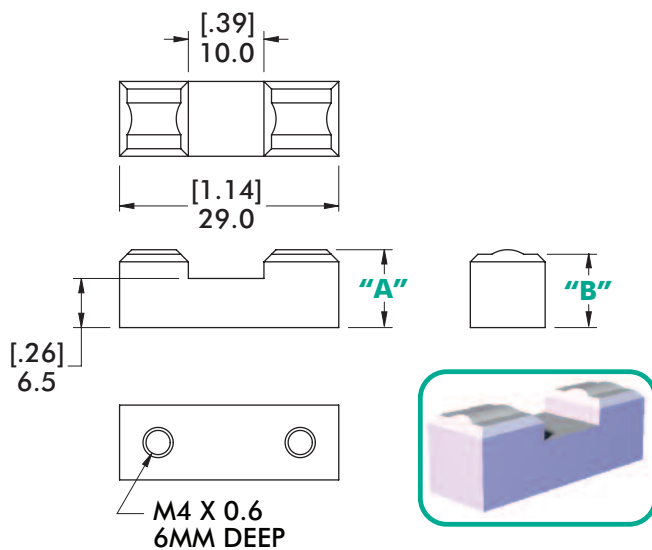
"PH"



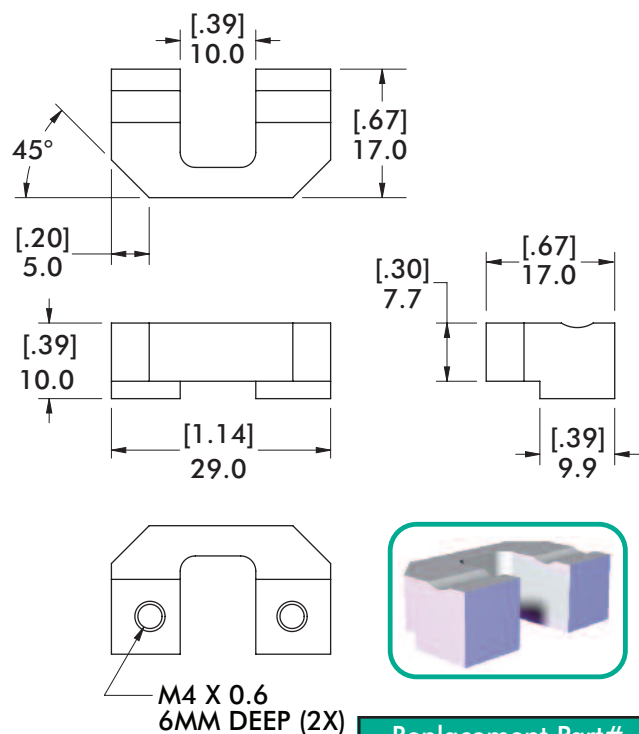
Gripper Point
(Hardened Steel)

Replacement Part#
8JZ-029

"Sx" Upper Crown Teeth



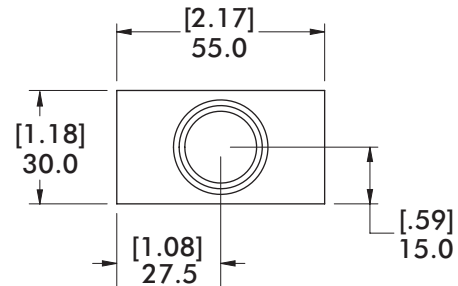
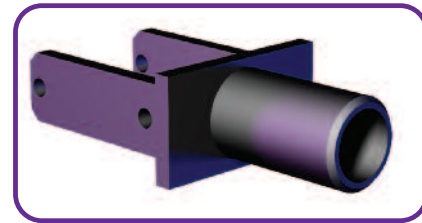
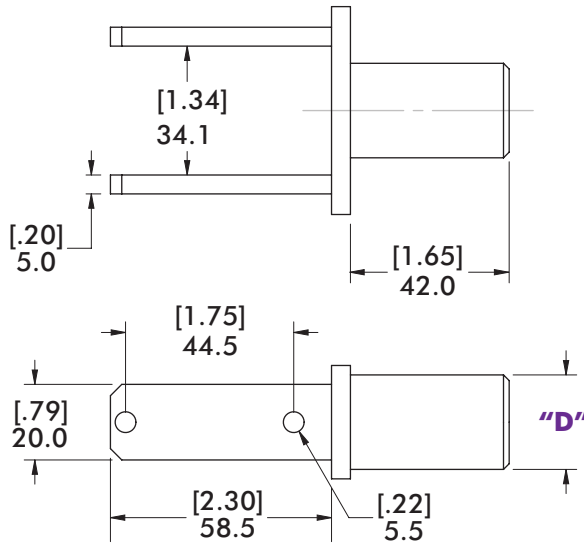
"SK" Lower Crown Teeth



Crown Teeth	Replacement Part#	"A"	"B"	MATERIAL THICKNESS
"SL"	8JZ-037	10.3 [.41]	9.7 [.38]	0.5 - 0.8MM
"SM"	8JZ-038	10.1 [.40]	9.5 [.37]	0.9 - 1.2MM
"SN"	8JZ-039	9.9 [.39]	9.3 [.37]	1.3 - 1.6MM
"SP"	8JZ-040	9.6 [.38]	9.0 [.30]	1.7 - 2.1MM

Replacement Part#
8JZ-036

84A2 Series Cam Style Gripper
"J", "Z" Adaptor Mounts

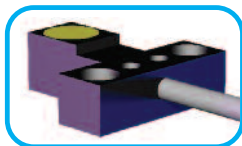


Adaptor Mount	Replacement Part#	"D"	Weight
J	8MA-166-1	Ø25.0mm [.98"]	74.9g [.17 lb]
Z	8MA-168-1	Ø25.4mm [1.00"]	75.3g [.17 lb]

"D4", "D5" Sensors

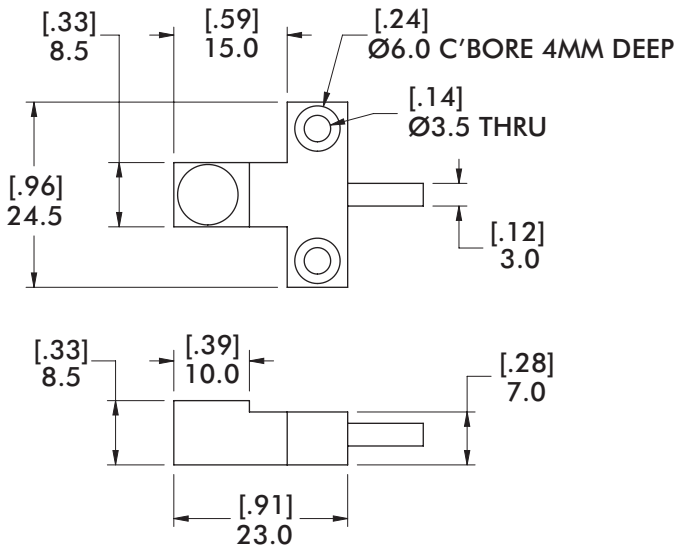
- "D4" (Turck) Replacement Part# "8EA-075-2"Open Wire (3 Wires, No Connector)
- "D5" (Turck) Replacement Part# "8EA-087-1"10...30 VDC 150mA, PNP, 4-Pin, M12, Eurofast

"D4"

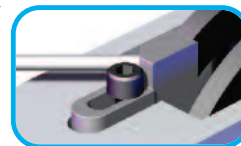


Part Present Sensor

Replacement Part#
8EA-075-2

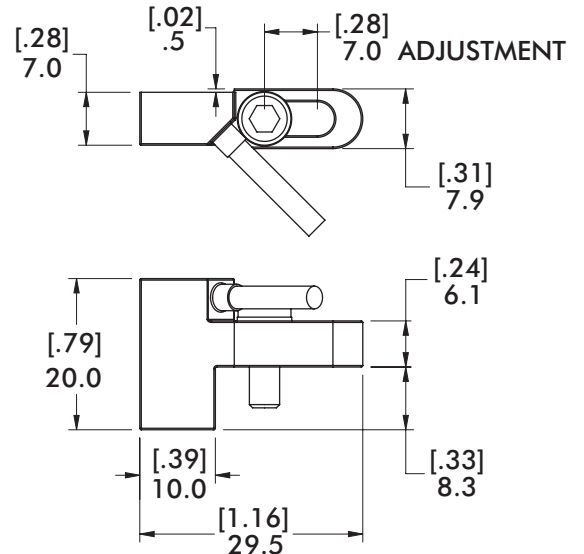


"D5"



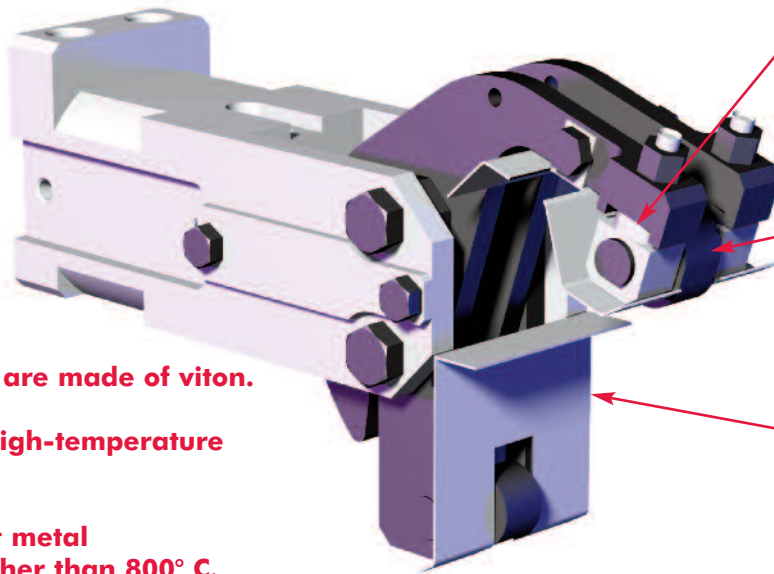
Workplace Control Sensor

Replacement Part#
8EA-087-1



84A2 Series Cam Style Gripper

"84A2-VB000H1H2" Hi Temperature Gripper with 72° Opening



Gripper teeth can be adjusted by shims for different material thicknesses.

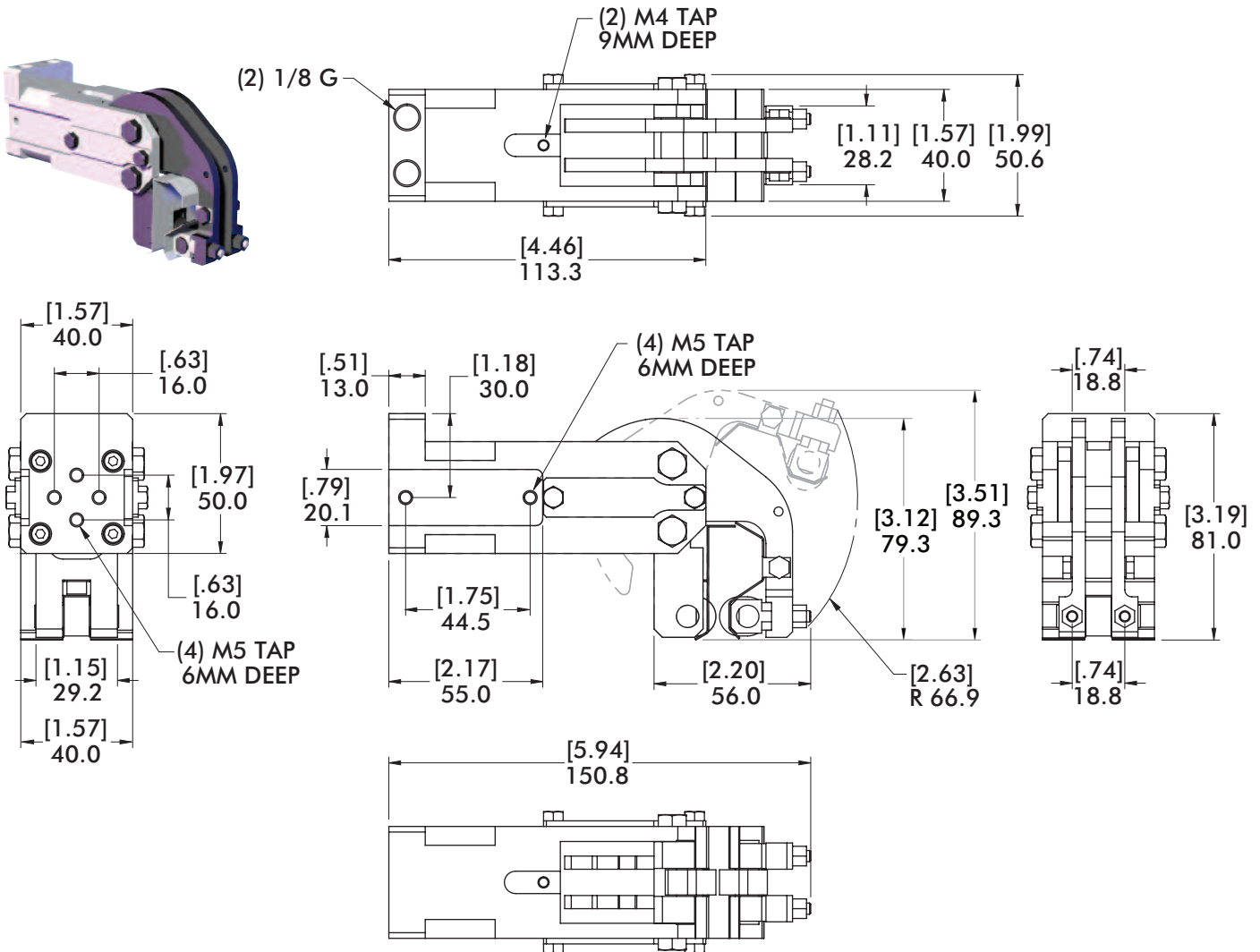
Ceramic Gripper Teeth
Prevent gripper arms from heat conduction

Stainless Steel Shielding Plates
Protects gripper mechanics from heat.

All cylinder seals are made of viton.

Lubricated with high-temperature grease.

Can handle sheet metal temperatures higher than 800° C.



84A2 Series Cam Style Gripper
 Technical Information

84A2 Series Cam Style Gripper				
Model Number	Clamp Force @ 5 bar [70 psi]	Opening Angle	Air Consumption per minute @ 5 bar [70 psi]	Weight
84A2(x)(x1)	580 N [130 lbf]	72°/45°/30° Upper Fixed Lower	0.3 Liters [18 in ³]	0.60 kg [1.3 lb]
84A2(x)(x2)	360 N [81 lbf]	72°/45°/30° Upper Fixed Lower	0.4 Liters [24 in ³]	0.65 kg [1.4 lb]
84A2(x)(x3)	270N [60 lbf]	72°/45°/30° Upper and Lower	0.3 Liters [18 in ³]	0.60 kg [1.3 lb]
84A2(x)(x4)	580 N [130 lbf]	72°/45°/30° Upper/Fixed Lower	0.3 Liters [18 in ³]	0.50 kg [1.1 lb]
84A2(x)(x6)	580 N [130 lbf]	72°/45°/30° Upper Fixed Lower	0.3 Liters [18 in ³]	0.50 kg [1.1 lb]
84A2(x)(x7)	580 N [130 lbf]	72°/45°/30° Upper Fixed Lower	0.3 Liters [18 in ³]	0.60 kg [1.3 lb]
84A2(x)(x8)	340 N [76 lbf]	72° Upper Fixed Lower	0.3 Liters [18 in ³]	0.65 kg [1.4 lb]
84A2(x)(x9)	580 N [130 lbf]	45°/30° Lower Fixed Upper	0.3 Liters [18 in ³]	0.65 kg [1.4 lb]
84A2R(x)(x3)	270N [60 lbf]	72°Upper/15° Lower	0.3 Liters [18 in ³]	0.60 kg [1.3 lb]
84A2T(x)(x3)	270N [60 lbf]	72°Upper/15° Lower	0.3 Liters [18 in ³]	0.60 kg [1.3 lb]
84A2-VB000H1H2	360 N [81 lbf]	72° Upper Fixed Lower	0.4 Liters [24 in ³]	0.65 kg [1.4 lb]

Specifications

Maximum Operating Pressure:6 bar [85 PSI]
 Temperature Range:-20°C to 80°C [-4°F to 176°F]
 Maximum Operating Temperature (84A2-VB000H1H2) :210°C [410°F]
 Cycle Speed @ 60 psi:0.2 Sec (Open/Closed)



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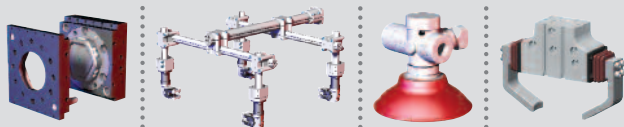
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