

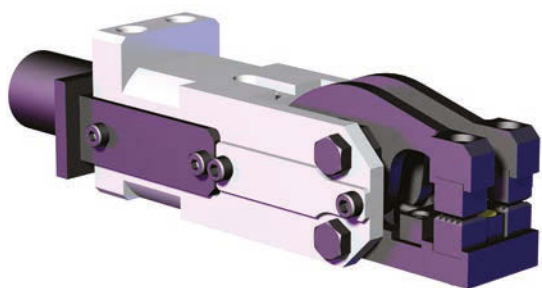
# SHEET METAL GRIPPERS

## Introduction



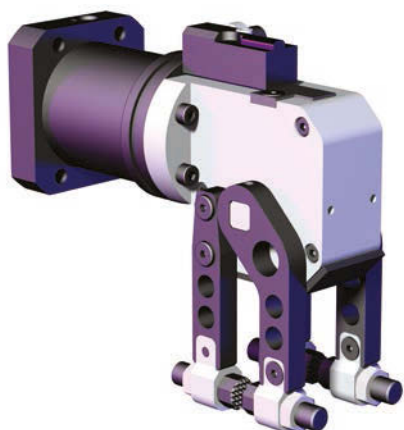
### 84N-1 Accelerate® Lightweight Gripper

- 60% lighter and 12% smaller footprint
- Compact and powerful - grip force (up to 1000N at 5 bar)
- No protrusion of top jaw mechanism below body on fixed bottom jaw version
- Integrated Clamp-Loss Protection
- One-step tip adjustment with optional tool



### 84A & 84L Modular CAM Style Grippers

- 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 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 contaminates.



### GR1 Modular Grippers

- 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.

# SHEET METAL GRIPPERS

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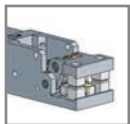
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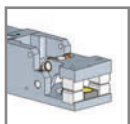
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# 84N1 SERIES

## Sheet Metal Grippers | Features and Benefits

The Accelerate<sup>®</sup> Press Room Gripper is designed to compliment the Accelerate<sup>®</sup> Collection, providing a complete lightweight and flexible tooling system.

**ACCELERATE**  
COLLECTION

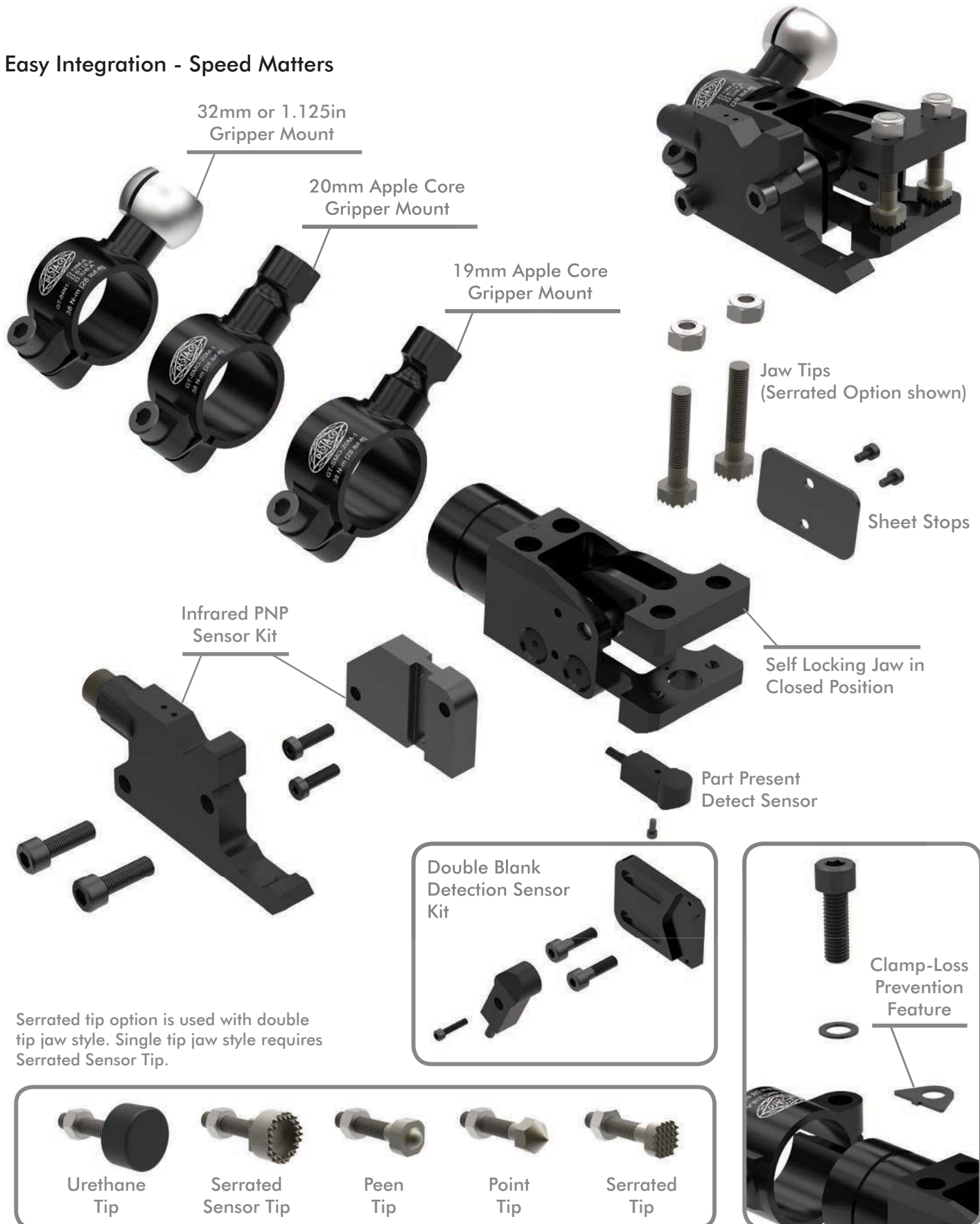


The Accelerate<sup>®</sup> Collection can handle parts of any size and shape throughout the stamping process.



This sheet metal gripper is half the weight, smaller and faster than our closest competition without sacrificing grip force (up to 1000N at 5 bar)

## Easy Integration - Speed Matters





# 84N1 SERIES

## Sheet Metal Grippers | Ordering Information

**84N1** - **N** - **030** - **F** **A** **02** - **1** - **P** - **1** **0**

### Ports

**N** NPT  
**G** BSPP  
**T** BSPT

### Description

### Jaw Configuration

**F**

Description  
Fixed Bottom Jaw

### Opening Angle

**030** 30° Opening Angle  
**075** 75° Opening Angle  
**XXX** Customer specified opening angle in 5° increments to a maximum of 75°

### Description

### Jaw Style and Tip Mount

**A**  
**C**

### Description

Single Tip Threaded  
Double Tip Threaded

**030**



**075**



**A**



**C**

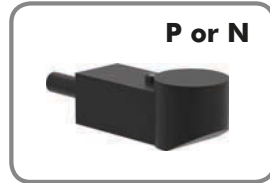


### Part Presence Detection

0  
P  
N

#### Description

None  
PNP  
NPN



**P or N**

4mm Sensing Range

### Left Sensor Side Mount

0  
1  
2  
3

#### Description

None  
Double Blank PNP Sensing  
Double Blank NPN Sensing  
Infrared PNP Sensing

### Right Sensor Side Mount

0  
1  
2  
3

#### Description

None  
Double Blank PNP Sensing  
Double Blank NPN Sensing  
Infrared PNP Sensing

### Sheet Stops

0  
1

#### Description

None  
Included



**1**



**1 or 2**



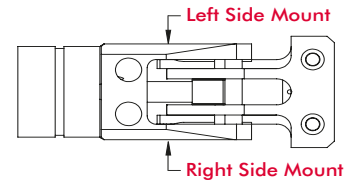
**3**

0.4 mm Double blank minimum per sheet thickness

### Tips

#### Description

- 00 None
- 01 Serrated for double tip jaw style
- 02 Serrated for use with part present sensor single tip jaw style
- 03 Point Tip
- 04 Peen Tip
- 05 Polyurethane Tip (Durometer 70A)



**01**



**02**



**03**



**04**



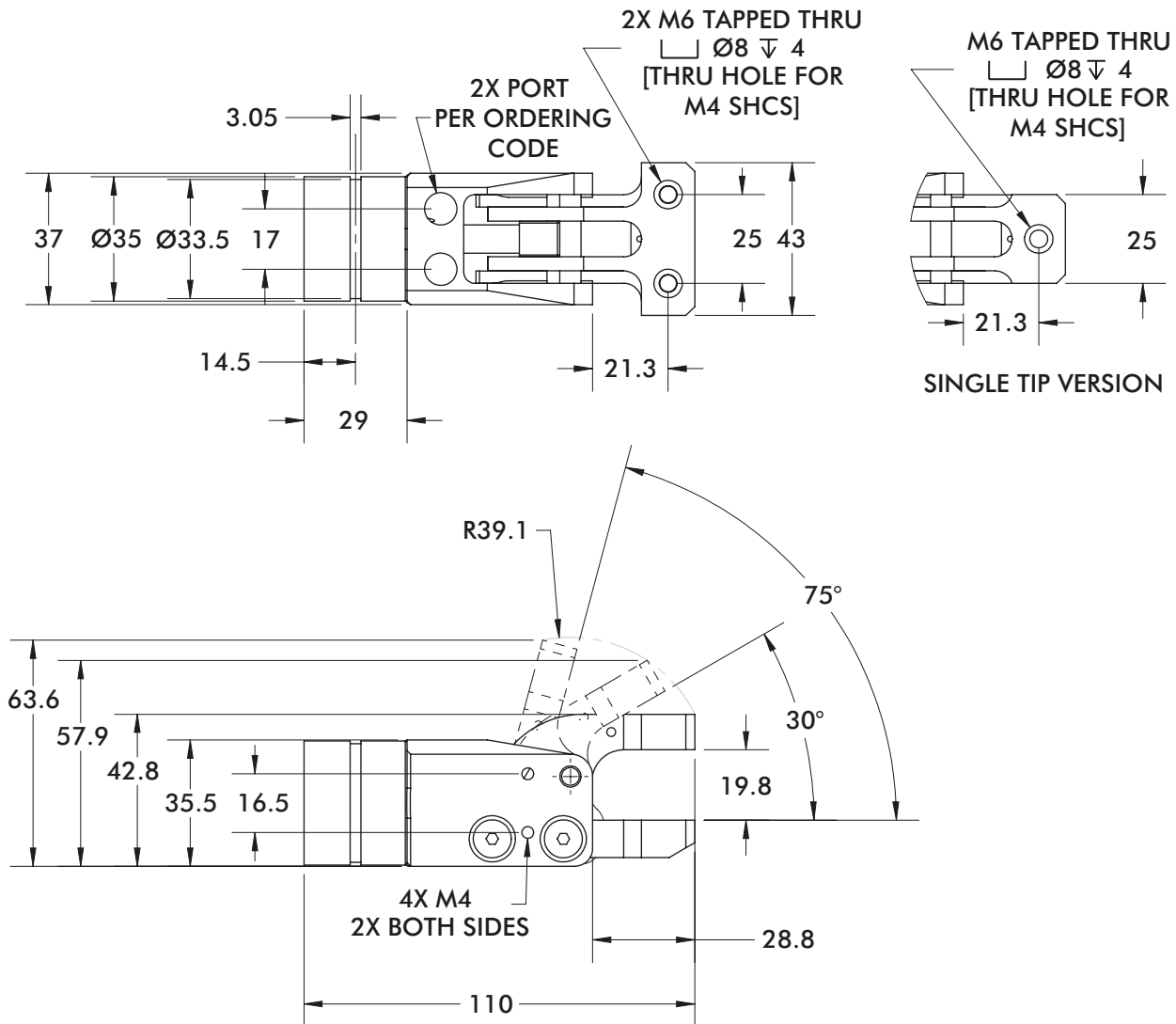
**05**

| Description                              | Part Number | Single Tip Jaw | Double Tip Jaw |
|--|-------------|----------------|----------------|
| Polyurethane Tip                         | 8JD-1005-1  | Yes            | Yes            |
| 90 Degree Point Tip                      | 8JD-1001-1  | Yes*           | Yes            |
| Serrated Tip                             | 8JD-1002-1  | Yes*           | Yes            |
| Peen Tip                                 | 8JD-1003-1  | Yes*           | Yes            |
| Serrated Notched Top (for Jaw Style "A") | 8JD-1004-1  | Yes            | No             |

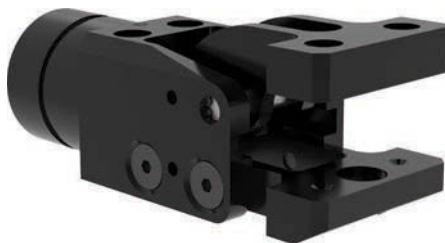
\*These options will work on single tip jaws but WILL activate the part present sensor which will result in a false positive if that option is used.

# 84N1 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications



Single Tip

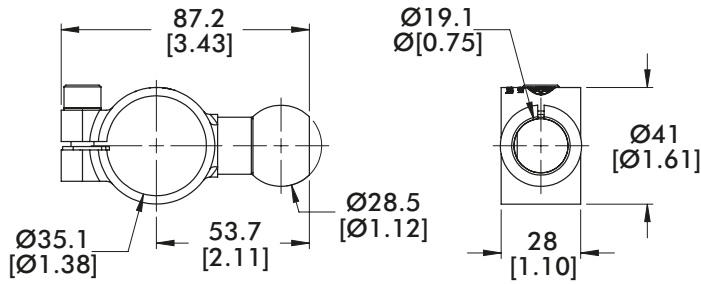


Double Tip

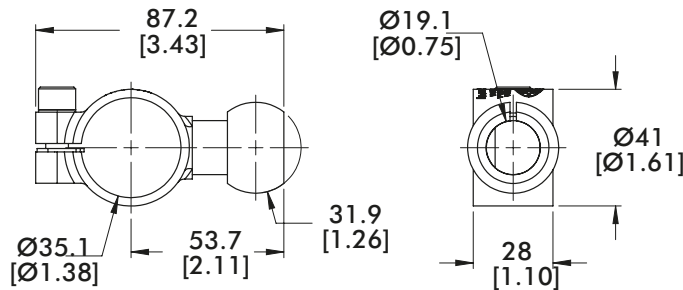
| Specification                                     | Unit   |               |
|---|--------|---------------|
| Grip Force at 5 bar                               | N      | Up to 1000    |
| Weight (FC00 version)                             | Kg     | .27           |
| Size L x W x H (closed)                           | mm     | 110 x 43 x 43 |
| Size L x W x H (open)                             | mm     | 110 x 43 x 64 |
| Actuation Time                                    | ms     | 33            |
| Life  | cycles | 5 million     |
| Minimum Operating Pressure                        | bar    | 1             |
| Opening Angles<br>(others available upon request) |        | 30°, 75°      |
| Piston Ø  | mm     | 25            |
| Air Consumption/Cycle                             | L      | .015          |

# 84N1 MOUNTS

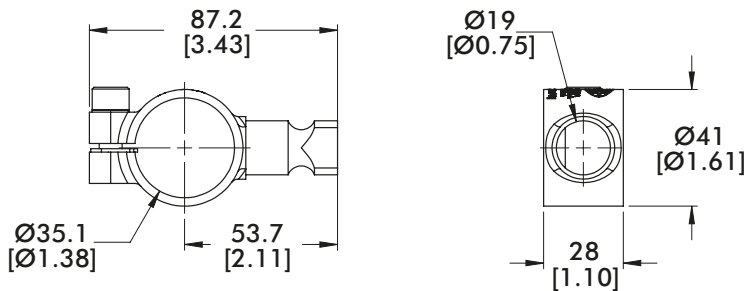
## Sheet Metal Grippers | Dimensions and Ordering Information



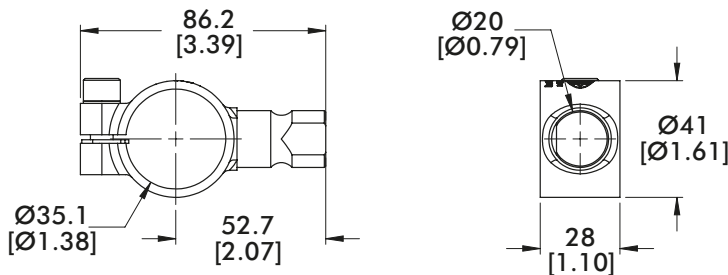
**GT-84N1-B112-A**



**GT-84N1-32B-A**



**GT-84N1-19M-A**



**GT-84N1-20M-A**

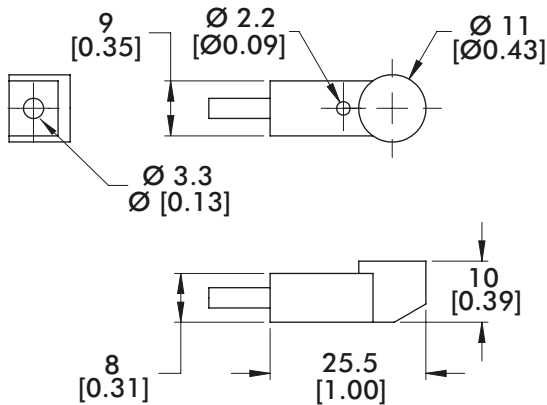


| Mount Accessories                   | Part Number           |
|-------------------------------------|-----------------------|
| Gripper 1.125in (28.5mm) Ball Mount | <b>GT-84N1-B112-A</b> |
| Gripper 32mm Ball Mount             | <b>GT-84N1-32B-A</b>  |
| Gripper 19mm Applecore Mount        | <b>GT-84N1-19M-A</b>  |
| Gripper 20mm Applecore Mount        | <b>GT-84N1-20M-A</b>  |

# 84N1 SENSING OPTIONS

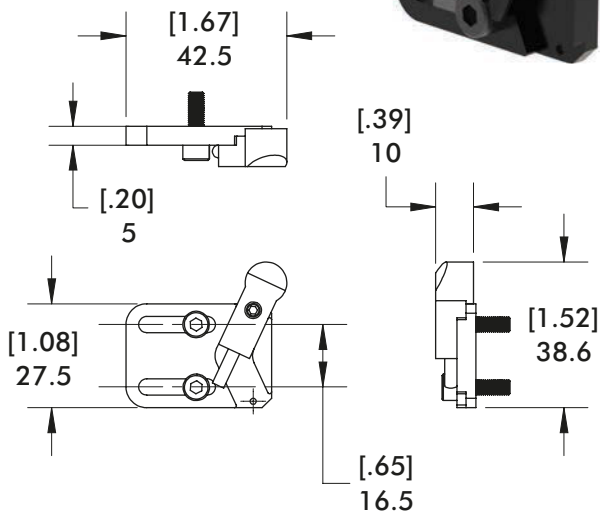
## Sheet Metal Grippers | Dimensions and Ordering Information

### Jaw Part Present Sensor or Double Blank Sensor (see kit)



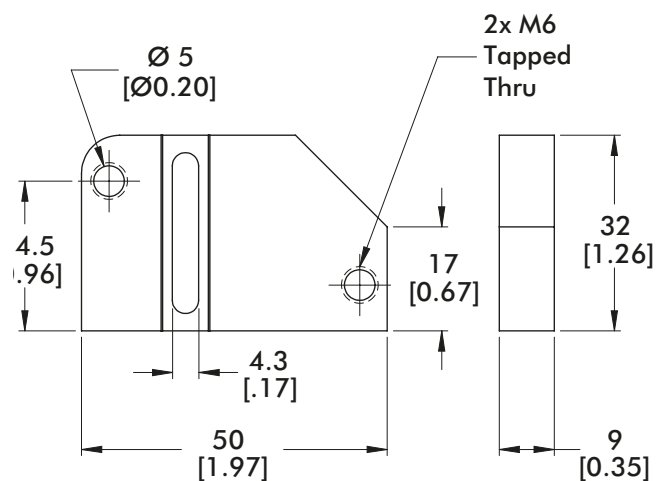
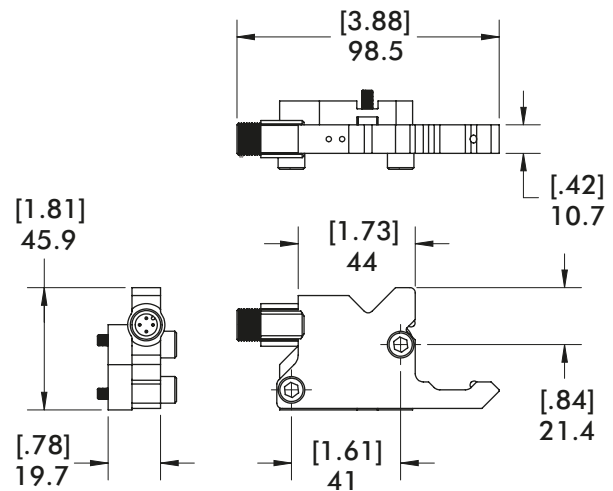
| Description                           | Part Number       |
|---------------------------------------|-------------------|
| PNP Inductive Part Present Sensor Kit | <b>8EA-1024-1</b> |
| NPN Inductive Part Present Sensor Kit | <b>8EA-1025-1</b> |

### Double Blank Sensor Kit



| Description                           | Part Number       |
|---------------------------------------|-------------------|
| PNP Inductive Double Blank Sensor Kit | <b>8EA-1026-1</b> |
| NPN Inductive Double Blank Sensor Kit | <b>8EA-1029-1</b> |

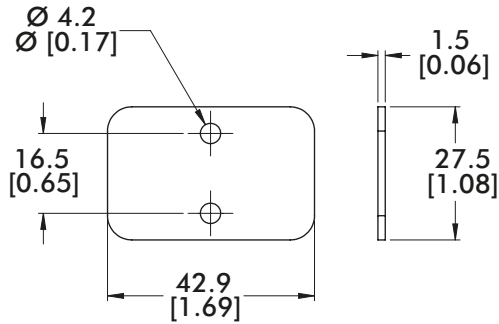
### Infrared Part Present Sensor and Mounting Adapter



| Description                      | Part Number       |
|----------------------------------|-------------------|
| Infrared Part Present Sensor Kit | <b>8EA-1023-1</b> |



### Sheet Stop Option



#### Description

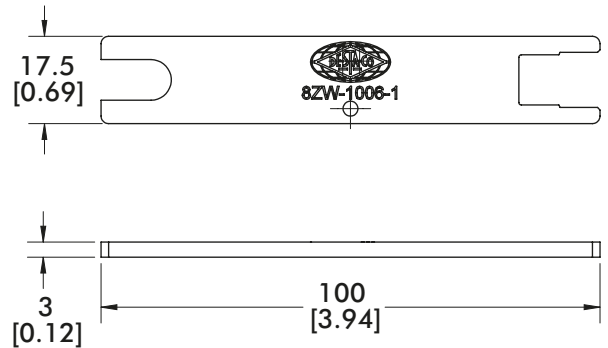
Sheet Stop Kit

#### Part Number

**8MH-1003-1**

Includes socket head cap mounting screws

### One-Step Easy Tip Adjustment Tool



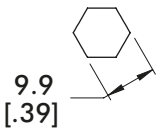
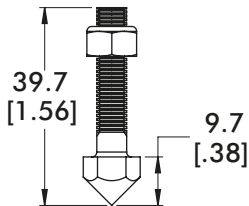
#### Description

One-Step Quick Tip Adjustment Tool

#### Part Number

**8ZW-1006-1**

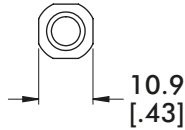
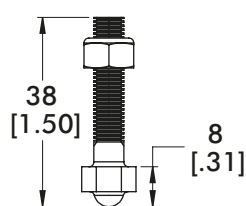
### Jaw Tip Options



Point  
Tip

#### Part Number

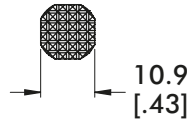
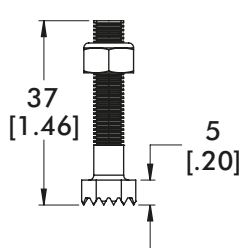
**8JD-1001-1**



Peen  
Tip

#### Part Number

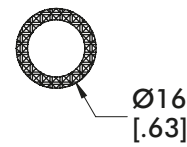
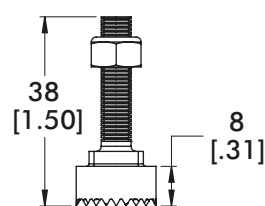
**8JD-1003-1**



Serrated  
Tip

#### Part Number

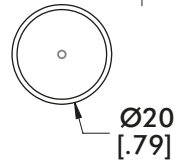
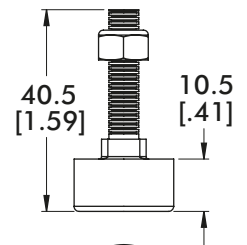
**8JD-1002-1**



Serrated  
Sensor Tip

#### Part Number

**8JD-1004-1**



Polyurethane  
Tip

#### Part Number

**8JD-1005-1**

## Notes

[illegible]

## Sheet Metal Grippers | Features and Benefits, Technical Information

**Features:**










- Small size, low weight
- Fast opening and closing action
- High clamping force
- Long life cycle
- Roller and cam principle, self-locking at end stop position
- Add-on component and end position sensing available
- Cylinder diameter 25
- Air consumption per double stroke: 0,3 dm<sup>3</sup>
- Air connectors M5

**Application:**

Gripping, holding, placing, removing and transporting of metal sheets and other parts, mainly in jigs, transfer presses and handling systems.

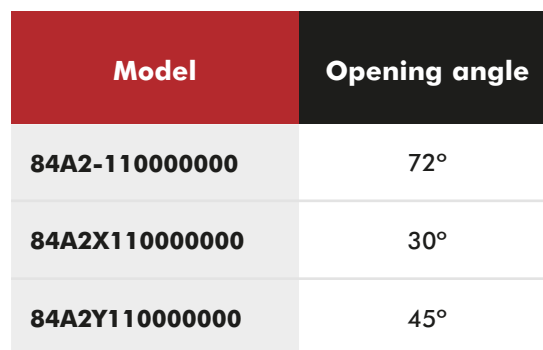
**Key areas of application:**

Automotive manufacturing, sheet processing industry, jig and general mechanical engineering.

| Picture   | Model          | Clamping Force at 5 bar N [lbs] | Opening Angle        | Weight Kg [lbs] | Opening/closure time min sec. |
|---|----------------|---------------------------------|----------------------|-----------------|-------------------------------|
|    | 84A2-110000000 | 580 [130]                       | 72° upper            | 0,6 [1.32]      | 0,2                           |
|   | 84A2X110000000 |                                 | 30° upper            |                 |                               |
|   | 84A2Y110000000 |                                 | 45° upper            |                 |                               |
|    | 84A2-120000000 | 360 [81]                        | 72° upper            | 0,65 [1.43]     | 0,2                           |
|   | 84A2X120000000 |                                 | 30° upper            |                 |                               |
|   | 84A2Y120000000 |                                 | 45° upper            |                 |                               |
|  | 84A2-130000000 | 270 [61]                        | 72° upper + lower    | 0,6 [1.32]      | 0,2                           |
|   | 84A2X130000000 |                                 | 30° upper + lower    |                 |                               |
|   | 84A2Y130000000 |                                 | 45° upper + lower    |                 |                               |
|  | 84A2R130000000 | 270 [61]                        | 72° upper, 15° lower | 0,6 [1.32]      | 0,2                           |
|   | 84A2T130000000 |                                 | 45° upper, 15° lower |                 |                               |
|  | 84A2-140000000 | 580 [130]                       | 72° upper            | 0,5 [0.11]      | 0,2                           |
|   | 84A2X140000000 |                                 | 30° upper            |                 |                               |
|   | 84A2Y140000000 |                                 | 45° upper            |                 |                               |
|  | 84A2-160000000 | 580 [130]                       | 72° upper            | 0,5 [0.11]      | 0,2                           |
|   | 84A2X160000000 |                                 | 30° upper            |                 |                               |
|   | 84A2Y160000000 |                                 | 45° upper            |                 |                               |
|  | 84A2-170000000 | 580 [130]                       | 72° upper            | 0,6 [1.32]      | 0,2                           |
|   | 84A2X170000000 |                                 | 30° upper            |                 |                               |
|   | 84A2Y170000000 |                                 | 45° upper            |                 |                               |
|  | 84A2-180000000 | 340 [76]                        | 72° upper            | 0,65 [1.43]     | 0,2                           |
|   | 84A2X180000000 |                                 | 30° upper            |                 |                               |
|   | 84A2Y180000000 |                                 | 45° upper            |                 |                               |
|  | 84A2-190000000 | 400 [90]                        | 45° upper            | 0,65 [1.43]     | 0,2                           |
|   | 84A2X190000000 |                                 | 30° upper            |                 |                               |

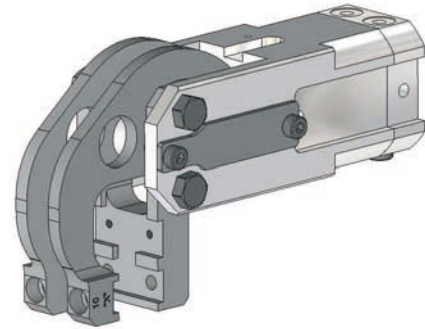
\* The values of gripping forces include a safety factor 20%

## Sheet Metal Grippers | Dimensions and Technical Specifications

[illegible]

Dimensions and technical information are subject to change without notice

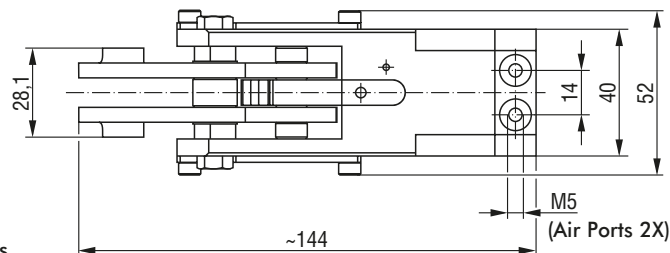
| Model          | Opening angle |
|----------------|---------------|
| 84A2-120000000 | 72°           |
| 84A2X120000000 | 30°           |
| 84A2Y120000000 | 45°           |



| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~ Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|--------------|-------------------------------------|---------------------|---|----------------------|---|---|
| 84A2-12***** | 360 [81]                            | 25 [0.98]           | 0,3 [0.01]  | 0,65 [1.43]          | 0,2                                     | 0,2                                     |

### Note!

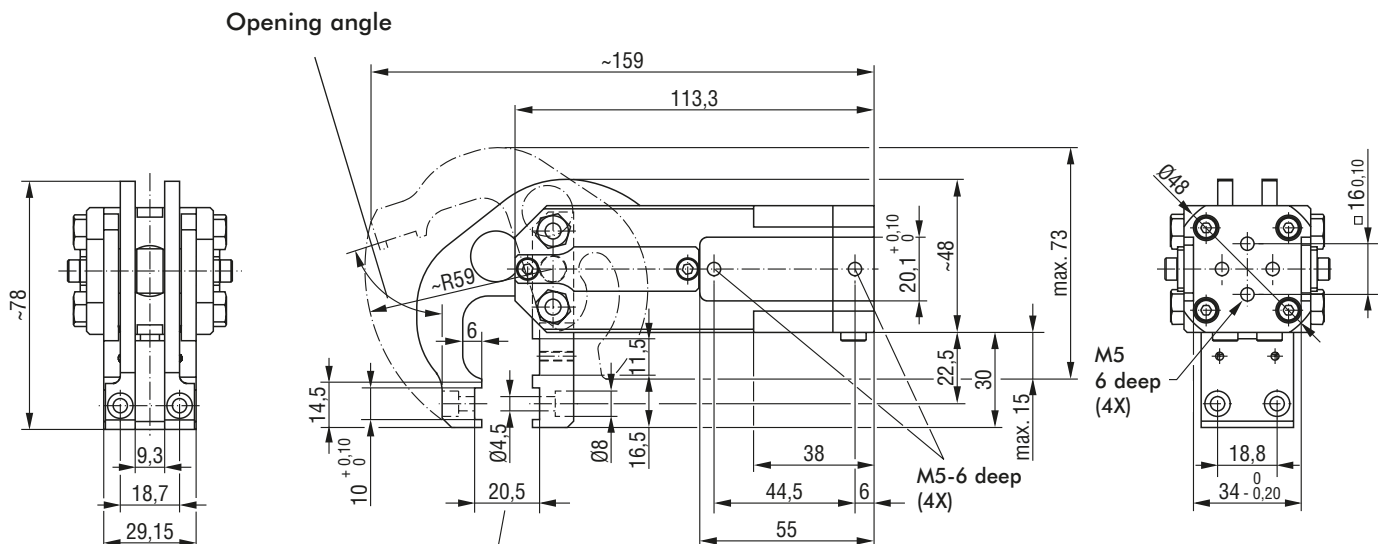
Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.



Medium: air, min. 3 bar, max. 6 bar operation with oil-free air is permissible.

### Attention!

Concept guidelines to be considered



### Note!

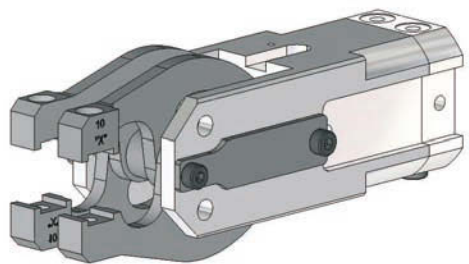
Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.

Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20



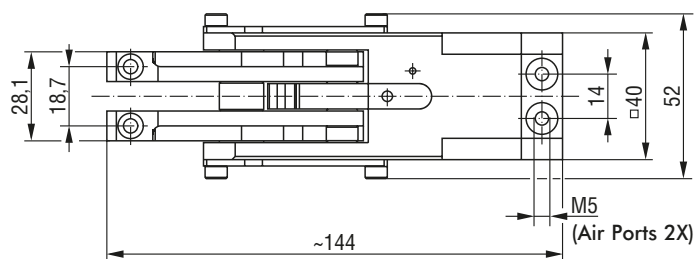
# 84A2-1 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications



| Model          | Opening angle |
|----------------|---------------|
| 84A2-130000000 | 72°           |
| 84A2X130000000 | 30°           |
| 84A2Y130000000 | 45°           |

| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~ Kg [lbs] | Min Opening speed for max. opening<br>sec. | Min Closing speed for max. opening<br>sec. |
|--------------|-------------------------------------|---------------------|---|----------------------|--|--|
| 84A2-13***** | 270<br>[61]                         | 25<br>[0.98]        | 0,3<br>[0.01]   | 0,6<br>[1.32]        | 0,2  | 0,2  |



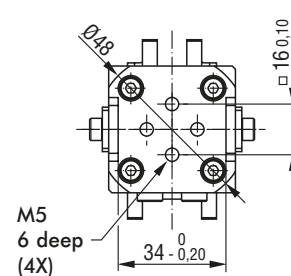
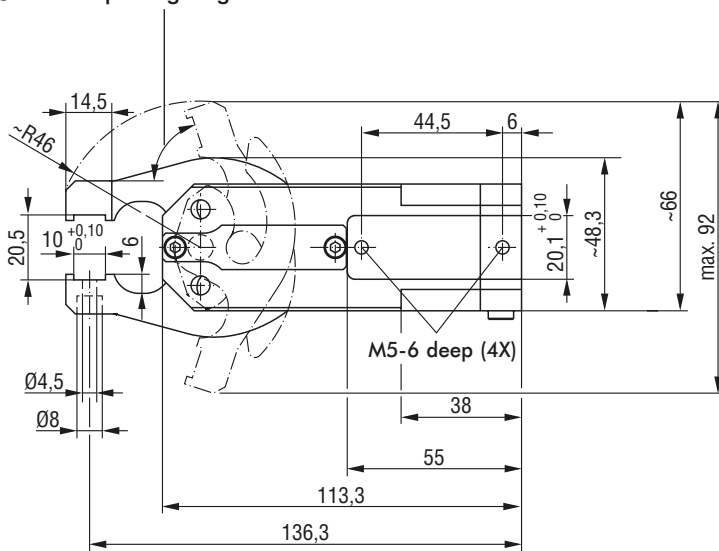
Medium: air, min. 3 bar,  
max. 6 bar operation with  
oil-free air is permissible.

**Attention!**  
Concept guidelines to be  
considered

### Note!

Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

### Opening angle



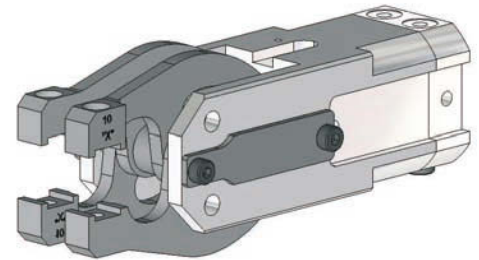
### Note!

Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.

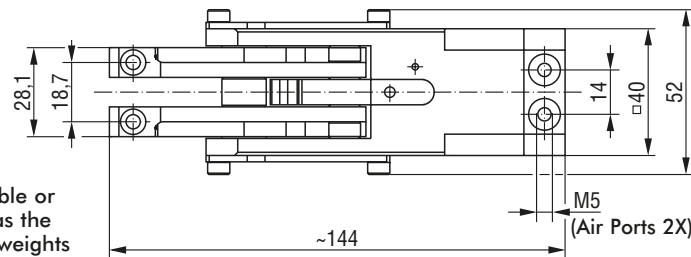
Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20

## Sheet Metal Grippers | Dimensions and Technical Specifications

| Model          | Upper<br>Opening angle | Lower<br>Opening angle |
|----------------|------------------------|------------------------|
| 84A2R130000000 | 72°                    | 15°                    |
| 84A2T130000000 | 45°                    | 15°                    |



| <b>Model</b>           | <b>Clamping<br/>force at<br/>5 bar<br/>~N [lbs]</b> | <b>Piston<br/>Ø<br/>mm [in]</b> | <b>Air consumption<br/>per double stroke<br/>at 5 bar<br/>dm³ [ft³]</b> | <b>Weight<br/>~<br/>Kg [lbs]</b> | <b>Min<br/>Opening speed for<br/>max. opening<br/>sec.</b> | <b>Min<br/>Closing speed for<br/>max. opening<br/>sec.</b> |
|------------------------|---|---------------------------------|---|----------------------------------|--|--|
| <b>84A2R(T)13*****</b> | 270<br>[61]   | 25<br>[0.98]                    | 0,3<br>[0.01]   | 0,6<br>[1.32]                    | 0,2  | 0,2  |



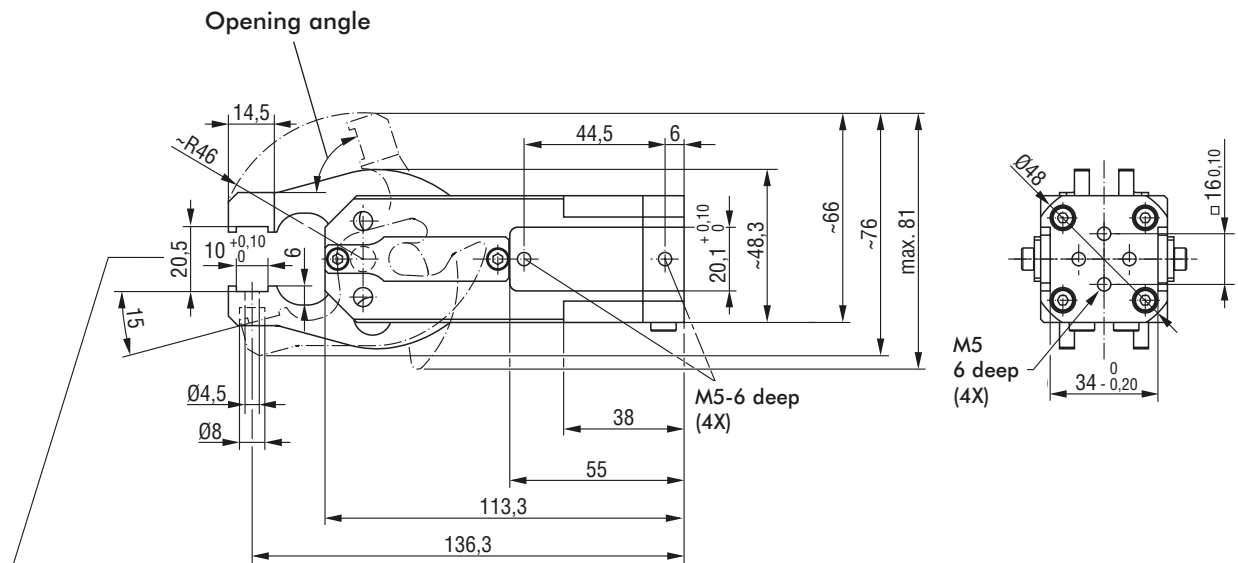
Medium: air, min. 3 bar,  
max. 6 bar operation with  
oil-free air is permissible.

### Note!

Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

### Attention!

Concept guidelines to be considered



**Note!**

**Note:**  
Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.

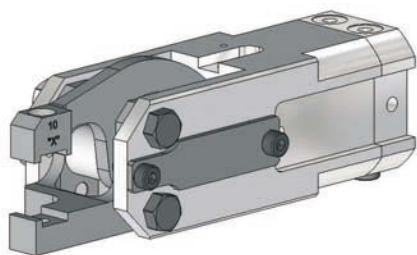
Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20

mm [INCH]

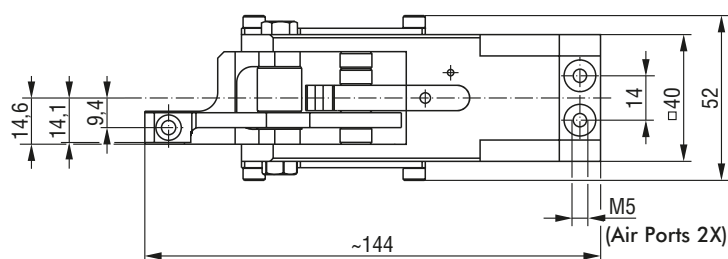


### THIRD ANGLE PROJECTION

## Sheet Metal Grippers | Dimensions and Technical Specifications

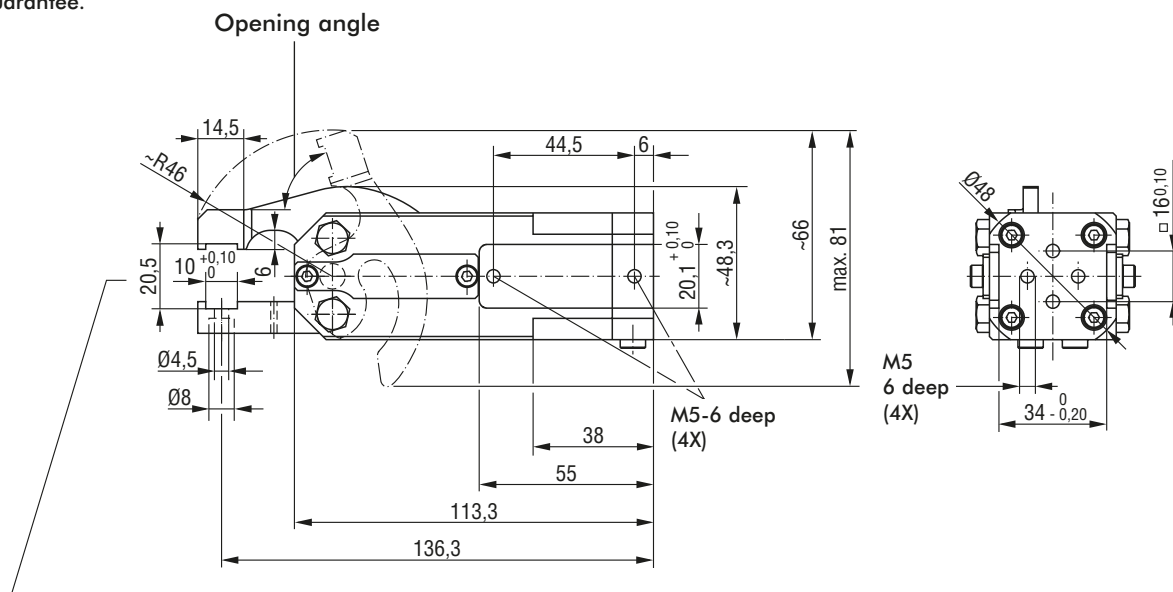


| <b>Model</b>        | <b>Clamping<br/>force at<br/>5 bar<br/>~N [lbs]</b> | <b>Piston<br/>Ø<br/>mm [in]</b> | <b>Air consumption per<br/>double stroke at 5<br/>bar<br/>dm³ [ft³]</b> | <b>Weight<br/>~<br/>Kg [lbs]</b> | <b>Min<br/>Opening speed for<br/>max. opening<br/>sec.</b> | <b>Min<br/>Closing speed for<br/>max. opening<br/>sec.</b> |
|---------------------|---|---------------------------------|---|----------------------------------|--|--|
| <b>84A2-14*****</b> | 580<br>[130]  | 25<br>[0.98]                    | 0,3<br>[0.01]   | 0,5<br>[0.11]                    | 0,2  | 0,2  |



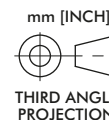
**Attention!**  
Concept guidelines to be considered

Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

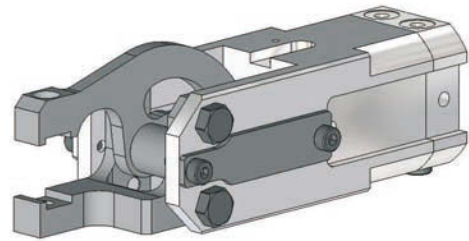


Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.

Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20



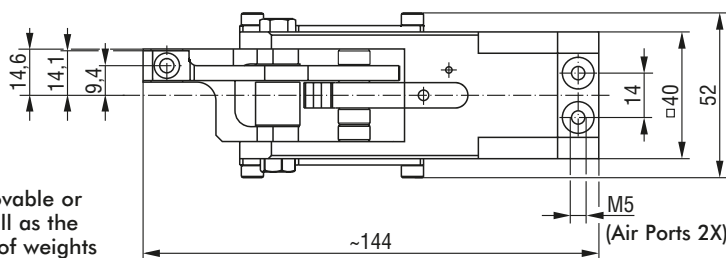
| Model          | Opening angle |
|----------------|---------------|
| 84A2-160000000 | 72°           |
| 84A2X160000000 | 30°           |
| 84A2Y160000000 | 45°           |



| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~ Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|--------------|-------------------------------------|---------------------|---|----------------------|---|---|
| 84A2-16***** | 580 [130]                           | 25 [0.98]           | 0,3 [0.01]  | 0,5 [0.11]           | 0,2                                     | 0,2                                     |

### Note!

Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

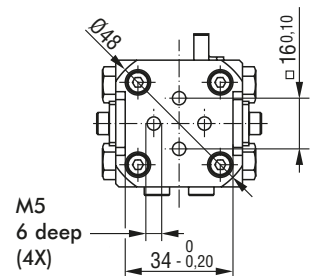
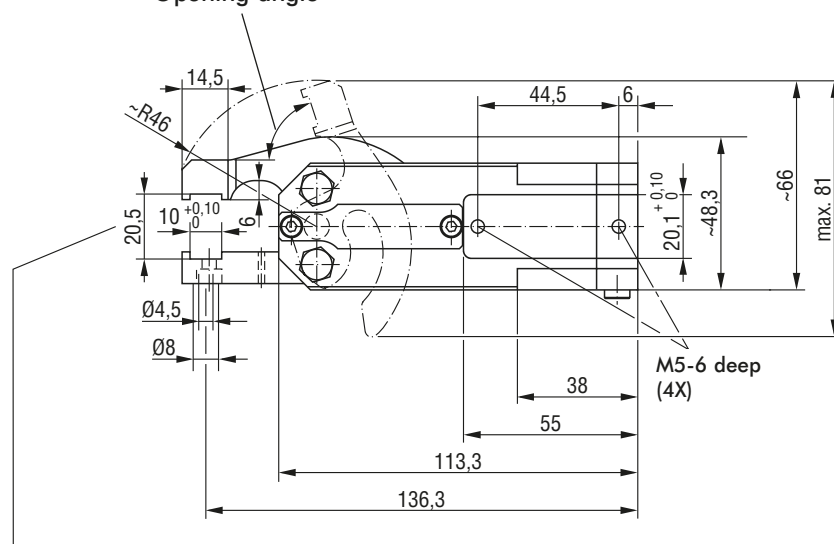


Medium: air, min. 3 bar, max. 6 bar operation with oil-free air is permissible.

### Attention!

Concept guidelines to be considered

### Opening angle



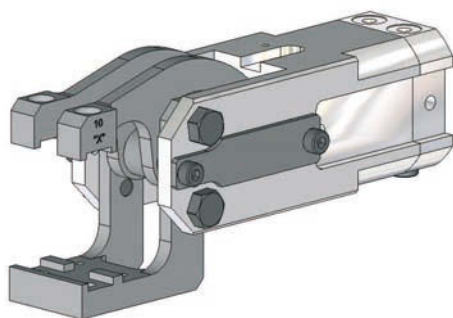
### Note!

Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.

Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20

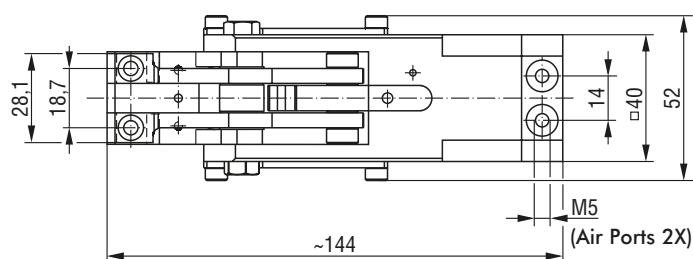
# 84A2-1 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications



| Model          | Opening angle |
|----------------|---------------|
| 84A2-170000000 | 72°           |
| 84A2X170000000 | 30°           |
| 84A2Y170000000 | 45°           |

| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~ Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|--------------|-------------------------------------|---------------------|---|----------------------|---|---|
| 84A2-17***** | 580<br>[130]                        | 25<br>[0.98]        | 0,3<br>[0.01]   | 0,6<br>[1.32]        | 0,2                                     | 0,2                                     |

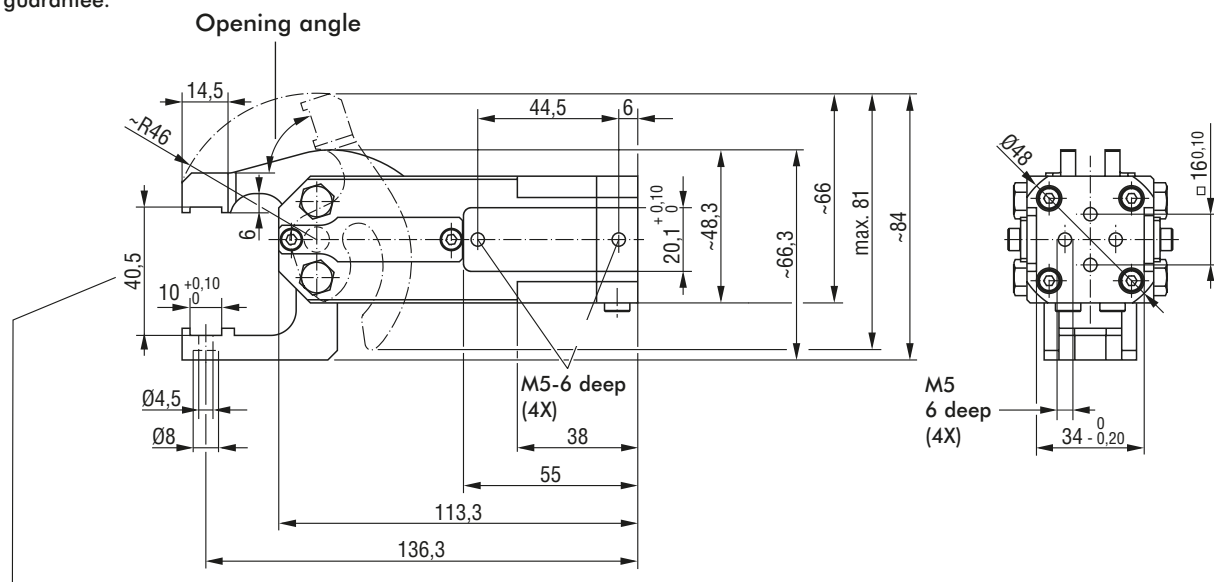


Medium: air, min. 3 bar, max. 6 bar operation with oil-free air is permissible.

**Attention!**  
Concept guidelines to be considered

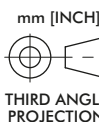
### Note!

Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.



### Note!

Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.

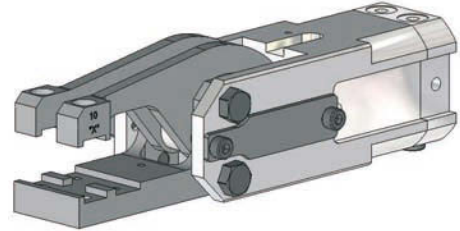


THIRD ANGLE PROJECTION

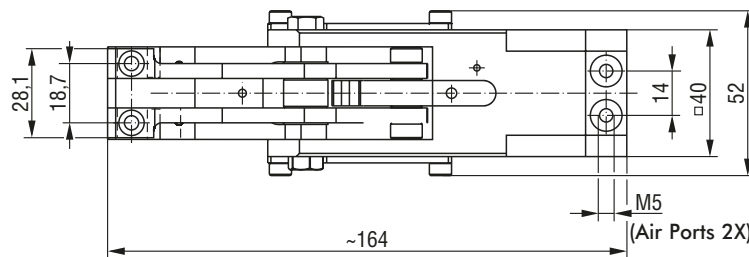
Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20



| Model          | Opening angle |
|----------------|---------------|
| 84A2-180000000 | 72°           |
| 84A2X180000000 | 30°           |
| 84A2Y180000000 | 45°           |



| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~ Kg [lbs] | Min Opening speed for max. opening<br>sec. | Min Closing speed for max. opening<br>sec. |
|--------------|-------------------------------------|---------------------|---|----------------------|--|--|
| 84A2-18***** | 340<br>[76]                         | 25<br>[0.98]        | 0,3<br>[0.01]   | 0,65<br>[1.43]       | 0,2  | 0,2  |

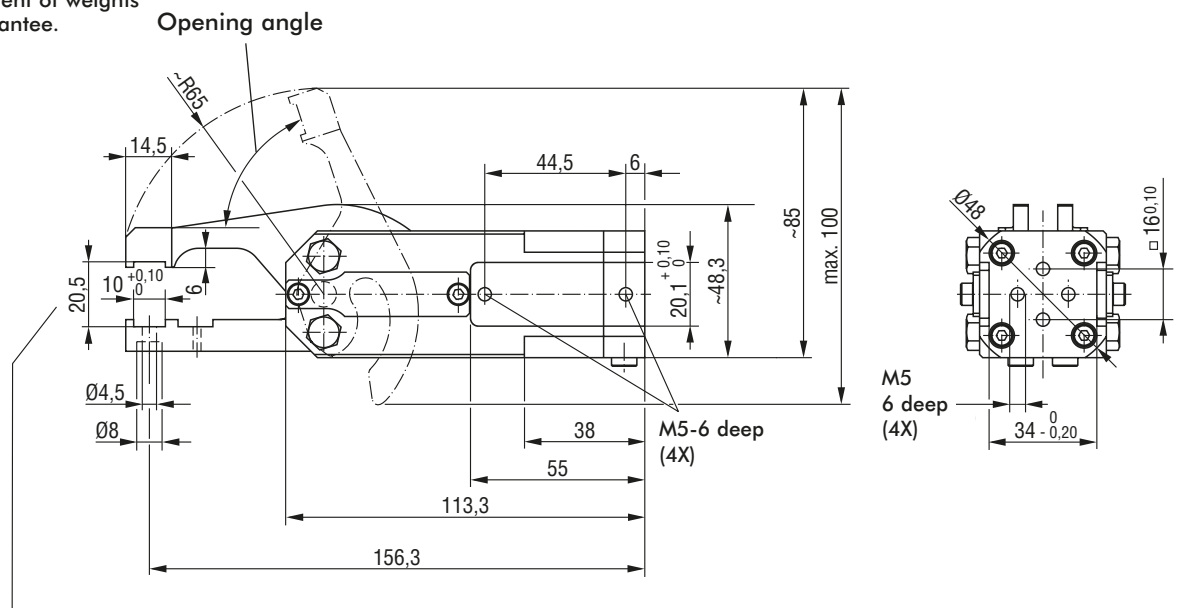


Medium: air, min. 3 bar, max. 6 bar operation with oil-free air is permissible.

**Attention!**  
Concept guidelines to be considered

### Note!

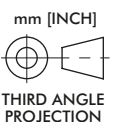
Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.



### Note!

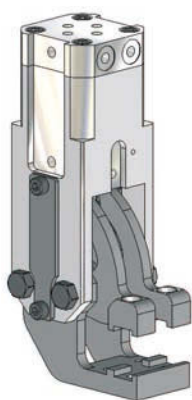
Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.

Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20



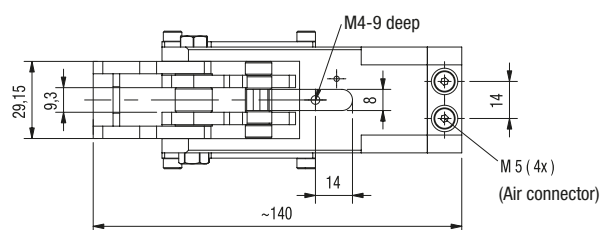
# 84A2-1 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications



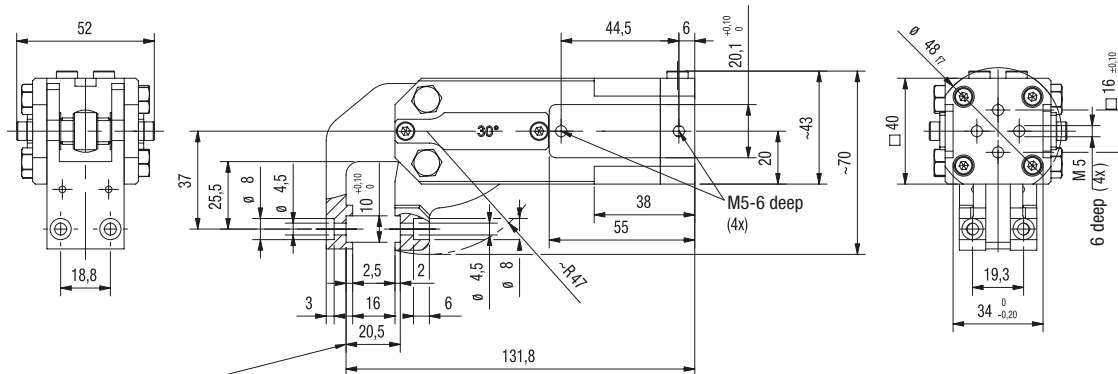
| Model          | Opening angle |
|----------------|---------------|
| 84A2-190000000 | 45°           |
| 84A2X190000000 | 30°           |

| Model        | Clamping force at 5 bar<br>~N [lbs] | Holding force max.<br>N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~Kg [lbs] | Min Opening speed for max. opening<br>sec. | Min Closing speed for max. opening<br>sec. |
|--------------|-------------------------------------|-------------------------------|---------------------|---|---------------------|--|--|
| 84A2-19***** | 400<br>[90]                         | 1500<br>[337]                 | 25<br>[0.98]        | 0,3<br>[0.01]   | 0,6<br>[1.32]       | 0,2  | 0,2  |



Medium: air, min. 3 bar, max. 6 bar operation with oil-free air is permissible.

**Attention!**  
Concept guidelines to be considered



**Note!**  
Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.

**Note!**  
Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20

# 84A2-1/84A2-V SERIES

## Sheet Metal Grippers | Accessories Overview and Major Spare Parts

### Major spare parts

| Specification | Order no. for 84A2-1 |
|---------------|----------------------|
| Cylinder      | 8PW-059-1            |
| Seal kit      | 8PW-059-1-00         |

| Specification | Order no. for 84A2-V |
|---------------|----------------------|
| Cylinder      | 8PW-070-1            |
| Seal kit      | 8PW-059-1-00         |



Gripper teeth: steel hardened



8JZ-027-1

Gripper teeth: steel soft



8JZ-028-1

Gripper points: steel hardened



8JZ-029-1

Crown-teeth: steel hardened



8JZ-037-1  
8JZ-038-1  
8JZ-039-1  
8JZ-040-1  
For transfer free of deformation and swarf

**Gripper jaw, top: Gripper teeth, Gripper points, Crown teeth** – Dimensions see page GR-SGM-61 to 64

Gripper teeth: steel hardened



8JZ-027-1

Gripper teeth: steel soft



8JZ-028-1

Gripper points: steel hardened



8JZ-029-1

Crown-teeth: steel hardened



8JZ-036-2  
For transfer free of deformation and swarf

**Gripper jaw, top: Gripper teeth, Gripper points, Crown teeth** – Dimensions see page GR-SGM-61 to 64

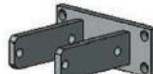
8MA-165-1  
Ø 20 mm



8MA-166-1  
Ø 25 mm



8MA-147-1



82ZB-025-2



8MA-168-1  
Ø 1"



**Adapters / Limit stops** – Dimensions see page GR-SGM-64 to 66

8EA-075-2  
switching distance  
3 mm with 2m cable



Für Mod.-Nr.:  
84A2-11 /12 /14 /16 /17 /18  
84A2-V1 /V2 /V4 /V6 /V7 /V8

8EA-075-3  
switching distance  
3 mm with plug M12x12m cable



Für Mod.-Nr.:  
84A2-11 /12 /14 /16 /17 /18  
84A2-V1 /V2 /V4 /V6 /V7 /V8

8EA-087-1  
workplace control



Shims for gripper teeth  
order no.: **8SB-039-1**  
(to be ordered separately)

Dimensions:  
10 x 10 x 0,1 mm



### Accessories

#### Opening angle limiter

| Specification | Order no. for 84A2 | Comment  |
|---------------|--------------------|--|
| for 45°       | 8MF-052-1          | For change of opening angle (2parts necessary) |
| for 30°       | 8MF-051-1          |  |

# 84A2-V SERIES

## Sheet Metal Grippers | Features and Benefits, Technical Information

### Features:










- small size, low weight
- fast opening and closing action
- high clamping force
- long life cycle
- roller and cam principle, self-locking at end stop position
- add-on component and end position sensing available
- Cylinder diameter 25
- Air consumption per double stroke: 0,3 dm<sup>3</sup>
- Air connectors G1/8

### Application:

Gripping, holding, placing, removing and transporting of metal sheets and other parts, mainly in jigs, transfer presses and handling systems.

### Key areas of application:

Automotive manufacturing, sheet processing industry, jig and general mechanical engineering.

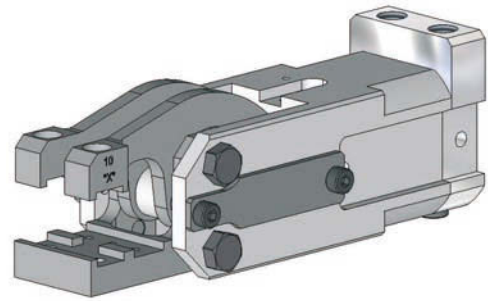
| Picture   | Model          | Clamping Force at 5 bar N [lbs] | Opening Angle        | Weight Kg [lbs] | Opening/closure time min sec. |
|---|----------------|---------------------------------|----------------------|-----------------|-------------------------------|
|    | 84A2-V10000000 | 580 [120]                       | 72° upper            | 0,6 [1.32]      | 0,2                           |
|   | 84A2XV10000000 |                                 | 30° upper            |                 |                               |
|   | 84A2YV10000000 |                                 | 45° upper            |                 |                               |
|    | 84A2-V20000000 | 360 [81]                        | 72° upper            | 0,65 [1.43]     | 0,2                           |
|   | 84A2XV20000000 |                                 | 30° upper            |                 |                               |
|   | 84A2YV20000000 |                                 | 45° upper            |                 |                               |
|   | 84A2-V30000000 | 270 [61]                        | 72° upper + lower    | 0,6 [1.32]      | 0,2                           |
|   | 84A2XV30000000 |                                 | 30° upper + lower    |                 |                               |
|   | 84A2YV30000000 |                                 | 45° upper + lower    |                 |                               |
|  | 84A2RV30000000 | 270 [61]                        | 72° upper, 15° lower | 0,6 [1.32]      | 0,2                           |
|   | 84A2TV30000000 |                                 | 45° upper, 15° lower |                 |                               |
|  | 84A2-V40000000 | 580 [130]                       | 72° upper            | 0,5 [0.11]      | 0,2                           |
|   | 84A2XV40000000 |                                 | 30° upper            |                 |                               |
|   | 84A2YV40000000 |                                 | 45° upper            |                 |                               |
|  | 84A2-V60000000 | 580 [130]                       | 72° upper            | 0,5 [0.11]      | 0,2                           |
|   | 84A2XV60000000 |                                 | 30° upper            |                 |                               |
|   | 84A2YV60000000 |                                 | 45° upper            |                 |                               |
|  | 84A2-V70000000 | 580 [130]                       | 72° upper            | 0,6 [1.32]      | 0,2                           |
|   | 84A2XV70000000 |                                 | 30° upper            |                 |                               |
|   | 84A2YV70000000 |                                 | 45° upper            |                 |                               |
|  | 84A2-V80000000 | 340 [76]                        | 72° upper            | 0,65 [1.43]     | 0,2                           |
|   | 84A2XV80000000 |                                 | 30° upper            |                 |                               |
|   | 84A2YV80000000 |                                 | 45° upper            |                 |                               |
|  | 84A2-V90000000 | 400 [90]                        | 45° upper            | 0,65 [1.43]     | 0,2                           |
|   | 84A2XV90000000 |                                 | 30° upper            |                 |                               |

\* The values of gripping forces include a safety factor 20%

# 84A2-V SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

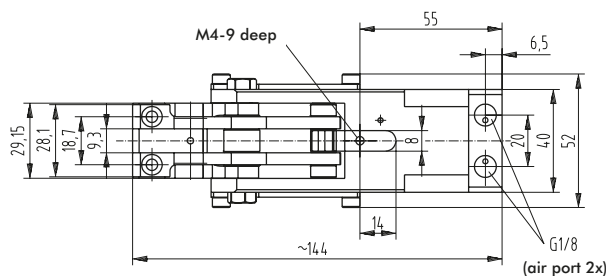
| Model          | Opening angle |
|----------------|---------------|
| 84A2-V10000000 | 72°           |
| 84A2XV10000000 | 30°           |
| 84A2YV10000000 | 45°           |



| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~ Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|--------------|-------------------------------------|---------------------|---|----------------------|---|---|
| 84A2-V1***** | 580 [17]                            | 25 [0.98]           | 0,3 [0.01]  | 0,6 [1.32]           | 0,2                                     | 0,2                                     |

### Note!

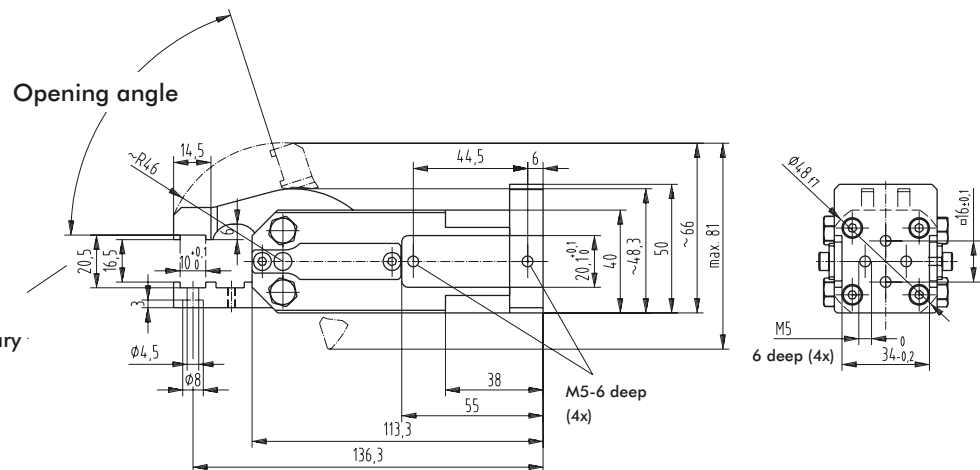
Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.



Medium: air, min. 3 bar, max. 6 bar operation with oil-free air is permissible.

### Attention!

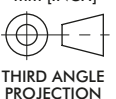
Concept guidelines to be considered



### Note!

Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.

mm [INCH]

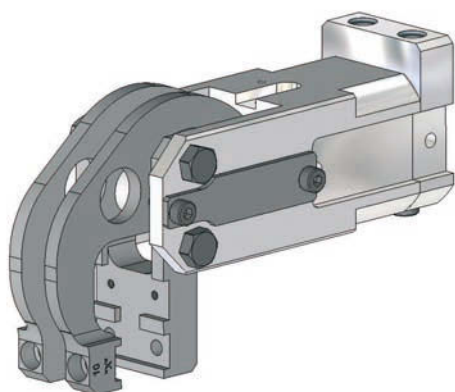


THIRD ANGLE PROJECTION

Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20



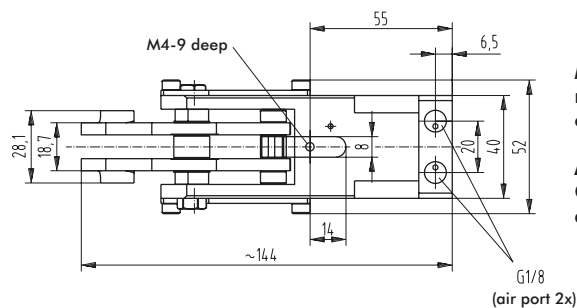
## Sheet Metal Grippers | Dimensions and Technical Specifications



| Model          | Opening angle |
|----------------|---------------|
| 84A2-V20000000 | 72°           |
| 84A2XV20000000 | 30°           |
| 84A2YV20000000 | 45°           |

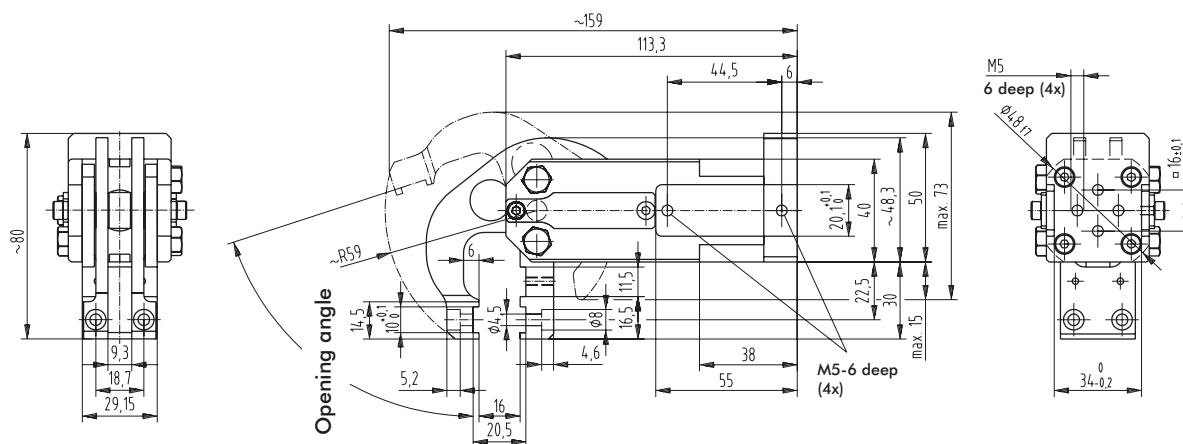
| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~ Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|--------------|-------------------------------------|---------------------|---|----------------------|---|---|
| 84A2-V2***** | 360<br>[81]                         | 25<br>[0.98]        | 0,3<br>[0.01]   | 0,65<br>[1.43]       | 0,2                                     | 0,2                                     |

Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

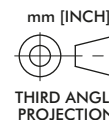


Medium: air, min. 3 bar,  
max. 6 bar operation with  
oil-free air is permissible.

**Attention!**  
Concept guidelines to be considered



Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.



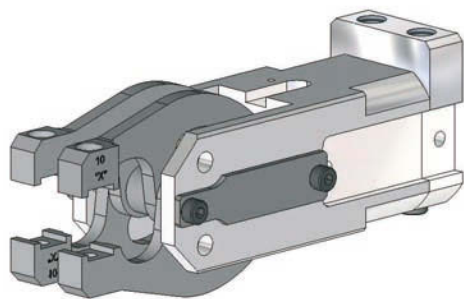
Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20

## Sheet Metal Grippers | Dimensions and Technical Specifications

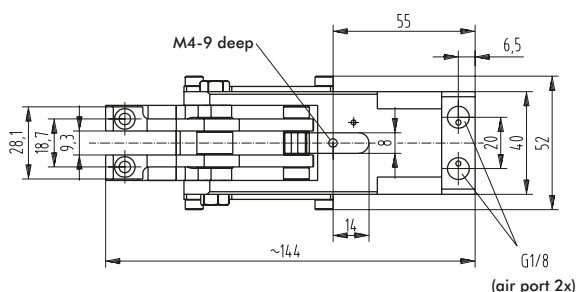
A 3D CAD model of a mechanical assembly, likely a valve actuator. The model shows a main body with a handle and a mounting bracket. The handle has a circular grip and a rectangular base. The mounting bracket is attached to the side of the main body and has two mounting holes. The model is rendered in a light gray color with some blue highlights.



## Sheet Metal Grippers | Dimensions and Technical Specifications



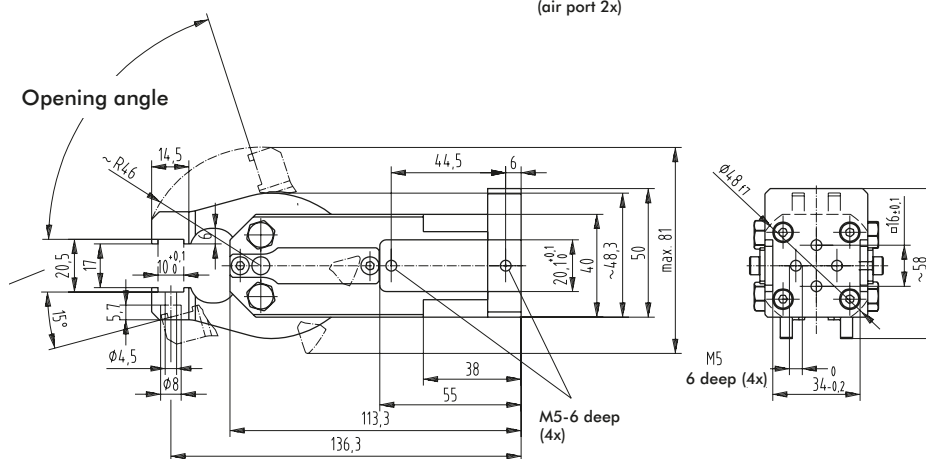
| Model           | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~<br>Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|-----------------|-------------------------------------|---------------------|---|-------------------------|---|---|
| 84A2R(T)V3***** | 270<br>[61]                         | 25<br>[0.98]        | 0,3<br>[0.01]   | 0,6<br>[1.32]           | 0,2                                     | 0,2                                     |



Medium: air, min. 3 bar,  
max. 6 bar operation with  
oil-free air is permissible.

Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

Concept guidelines to be considered



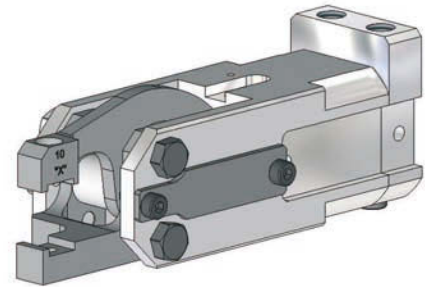
**NOTE:**  
Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.

THIRD ANGLE  
PROJECTION

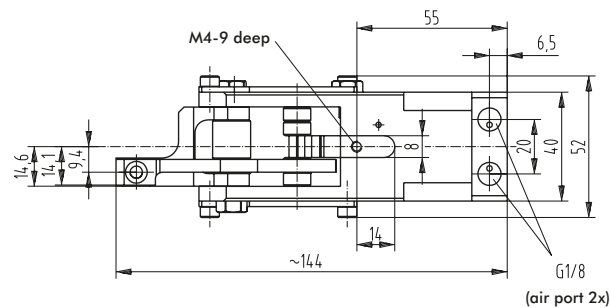
Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20

## Sheet Metal Grippers | Dimensions and Technical Specifications

| Model          | Opening angle |
|----------------|---------------|
| 84A2-V40000000 | 72°           |
| 84A2XV40000000 | 30°           |
| 84A2YV40000000 | 45°           |



| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~<br>Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|--------------|-------------------------------------|---------------------|---|-------------------------|---|---|
| 84A2-V4***** | 580<br>[130]                        | 25<br>[0.98]        | 0,3<br>[0.01]   | 0,5<br>[0.11]           | 0,2                                     | 0,2                                     |

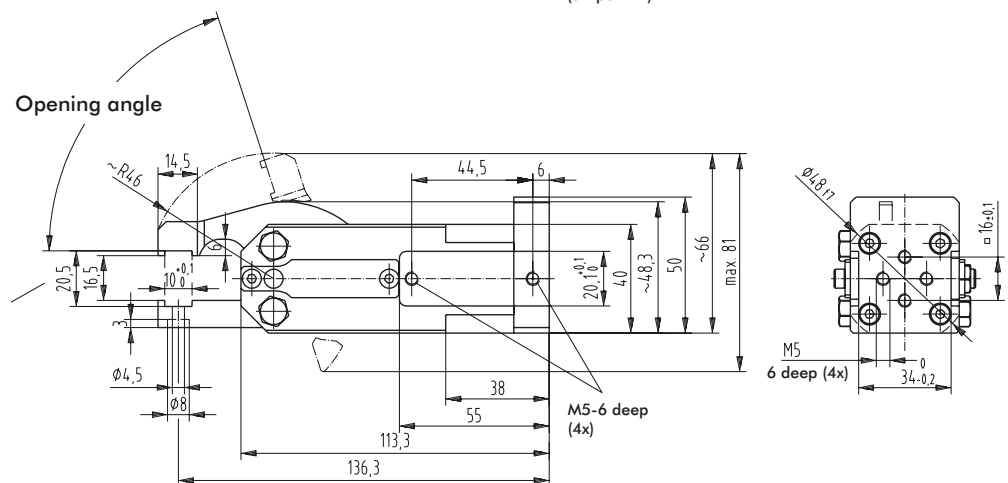


Medium: air, min. 3 bar,  
max. 6 bar operation with  
oil-free air is permissible.

**Attention!**  
Concept guidelines to be considered

### Note!

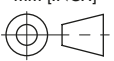
Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.



### Note!

Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.

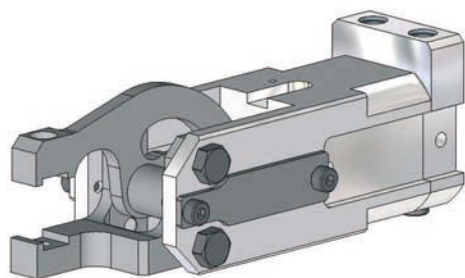
mm [INCH]



THIRD ANGLE  
PROJECTION

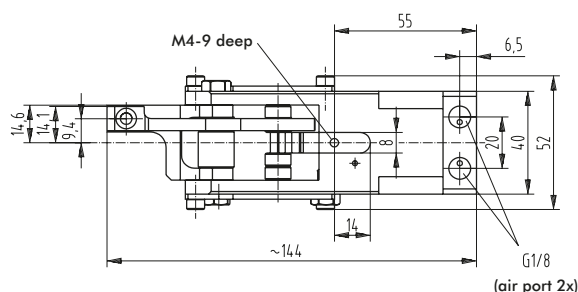
Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20

## Sheet Metal Grippers | Dimensions and Technical Specifications



| Model          | Opening angle |
|----------------|---------------|
| 84A2-V60000000 | 72°           |
| 84A2XV60000000 | 30°           |
| 84A2YV60000000 | 45°           |

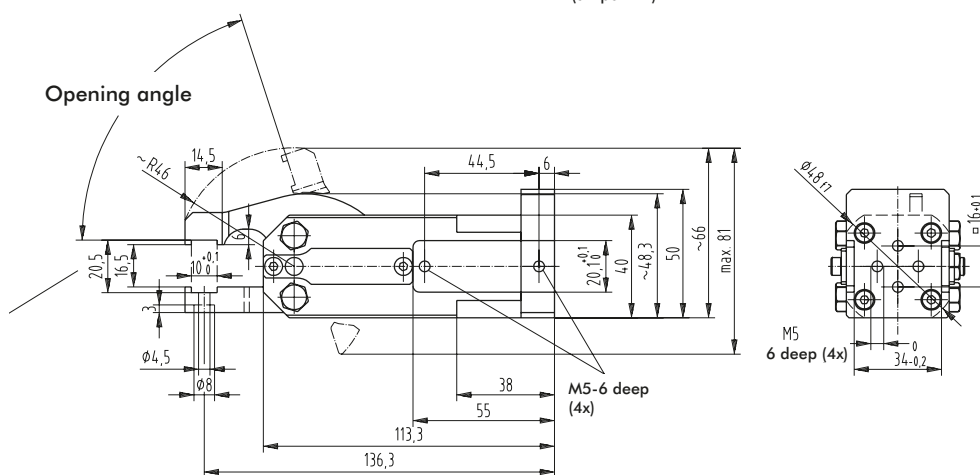
| Model        | Clamping<br>force at<br>5 bar<br>~N [lbs] | Piston<br>Ø<br>mm [in] | Air consumption per<br>double stroke at 5<br>bar<br>dm³ [ft³] | Weight<br>~<br>Kg [lbs] | Min<br>Opening speed for<br>max. opening<br>sec. | Min<br>Closing speed for<br>max. opening<br>sec. |
|--------------|---|------------------------|---|-------------------------|--|--|
| 84A2-V6***** | 580<br>[130]                              | 25<br>[0.98]           | 0,3<br>[0.01]   | 0,5<br>[0.11]           | 0,2  | 0,2  |



Medium: air, min. 3 bar,  
max. 6 bar operation with  
oil-free air is permissible.

Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

Concept guidelines to be considered



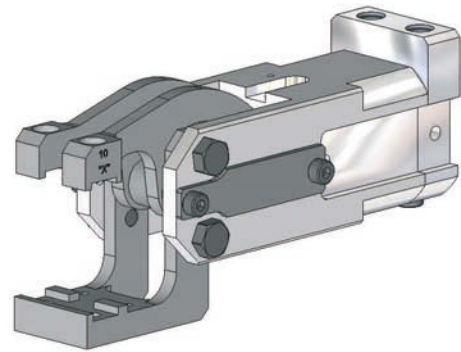
Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.

THIRD ANGLE  
PROJECTION

Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20

## Sheet Metal Grippers | Dimensions and Technical Specifications

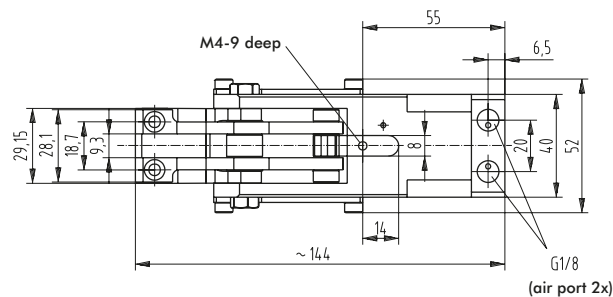
| Model          | Opening angle |
|----------------|---------------|
| 84A2-V70000000 | 72°           |
| 84A2XV70000000 | 30°           |
| 84A2YV70000000 | 45°           |



| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~<br>Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|--------------|-------------------------------------|---------------------|---|-------------------------|---|---|
| 84A2-V7***** | 580<br>[130]                        | 25<br>[0.98]        | 0,3<br>[0.01]   | 0,6<br>[1.32]           | 0,2                                     | 0,2                                     |

**Note!**

Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.



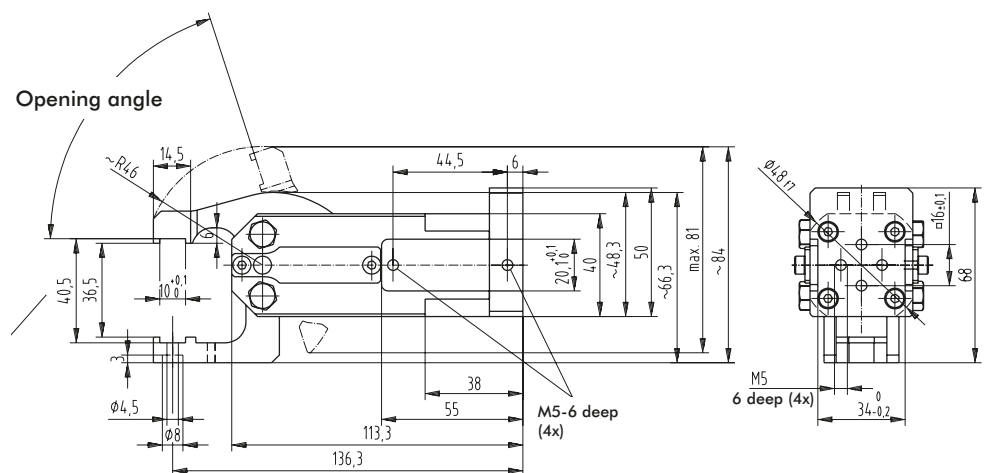
Medium: air, min. 3 bar,  
max. 6 bar operation with  
oil-free air is permissible.

### Attention!

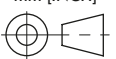
Concept guidelines to be considered

**Note!**

Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.



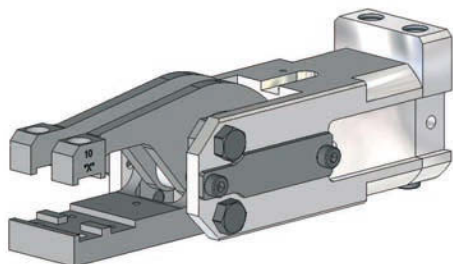
mm [INCH]



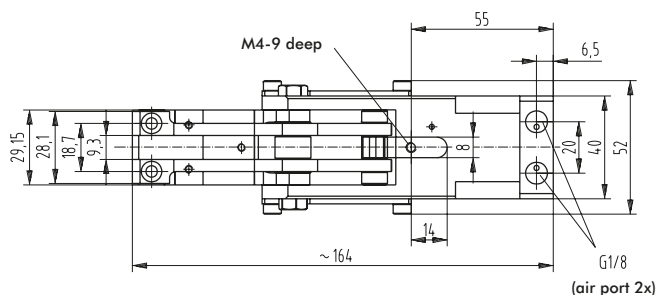
THIRD ANGLE  
PROJECTION

Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20

## Sheet Metal Grippers | Dimensions and Technical Specifications



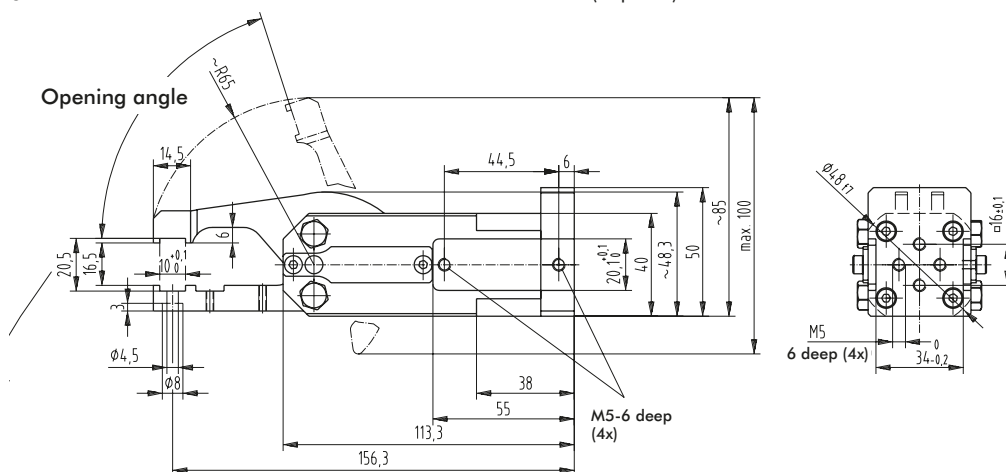
| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~ Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|--------------|-------------------------------------|---------------------|---|----------------------|---|---|
| 84A2-V8***** | 340<br>[76]                         | 25<br>[0.98]        | 0,3<br>[0.01]   | 0,65<br>[1.43]       | 0,2                                     | 0,2                                     |



Medium: air, min. 3 bar,  
max. 6 bar operation with  
oil-free air is permissible.

Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.



THIRD ANGLE  
PROJECTION

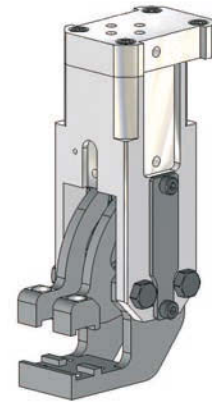
Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20



# 84A2-V SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

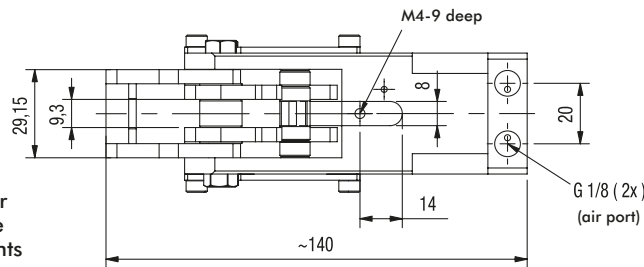
| Model          | Opening angle |
|----------------|---------------|
| 84A2-V90000000 | 45°           |
| 84A2XV90000000 | 30°           |



| Model        | Clamping force at 5 bar<br>~N [lbs] | Holding force max.<br>N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~ Kg [lbs] | Min Opening speed for max. opening<br>sec. | Min Closing speed for max. opening<br>sec. |
|--------------|-------------------------------------|-------------------------------|---------------------|---|----------------------|--|--|
| 84A2-V9***** | 400<br>[90]                         | 1500<br>[337]                 | 25<br>[0.98]        | 0,3<br>[0.01]   | 0,6<br>[0.81]        | 0,2  | 0,2  |

### Note!

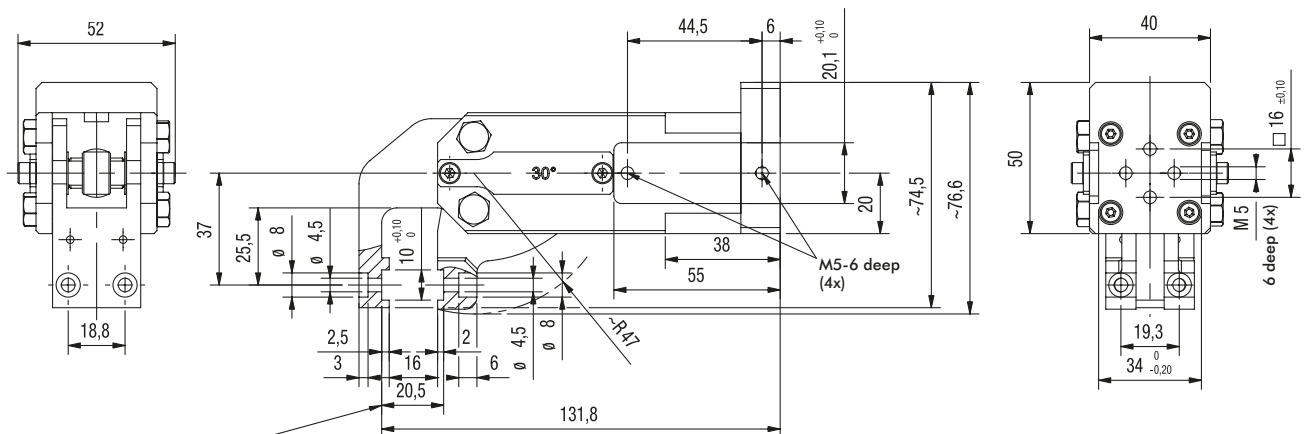
Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.



Medium: air, min. 3 bar, max. 6 bar operation with oil-free air is permissible.

### Attention!

Concept guidelines to be considered



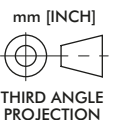
### Note!

Addition of the gripper teeth height and thickness must be 20,5 mm. It might be necessary to use shim plates or to grind the gripper teeth.

Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-20












Dimensions and technical information are subject to change without notice

GR-SMG-32



# 84A3-3 SERIES

## Sheet Metal Grippers | Product Overview

| Picture   | Model          | Clamping Force<br>at 5 bar N [lbs] | Opening Angle        | Weight<br>Kg [lbs] | Opening/closure<br>time min sec. |
|---|----------------|------------------------------------|----------------------|--------------------|----------------------------------|
|    | 84A3-310000000 | 1500<br>[337]                      | 76°                  | 1,35<br>[2.86]     | 0,2                              |
|   | 84A3X310000000 |                                    | 30°                  |                    |                                  |
|   | 84A3Y310000000 |                                    | 45°                  |                    |                                  |
|   | 84A3Z310000000 |                                    | 60°                  |                    |                                  |
|    | 84A3-320000000 | 950<br>[213]                       | 76°                  | 1,6<br>[3.52]      | 0,2                              |
|   | 84A3X320000000 |                                    | 30°                  |                    |                                  |
|   | 84A3Y320000000 |                                    | 45°                  |                    |                                  |
|   | 84A3Z320000000 |                                    | 60°                  |                    |                                  |
|    | 84A3-330000000 | 750<br>[169]                       | 76°                  | 1,35<br>[2.97]     | 0,2                              |
|   | 84A3X330000000 |                                    | 30°                  |                    |                                  |
|   | 84A3Y330000000 |                                    | 45°                  |                    |                                  |
|   | 84A3Z330000000 |                                    | 60°                  |                    |                                  |
|    | 84A3-340000000 | 1500<br>[337]                      | 76°                  | 1,3<br>[2.86]      | 0,2                              |
|   | 84A3X340000000 |                                    | 30°                  |                    |                                  |
|   | 84A3Y340000000 |                                    | 45°                  |                    |                                  |
|   | 84A3Z340000000 |                                    | 60°                  |                    |                                  |
|   | 84A3-350000000 | 1500<br>[337]                      | 76°                  | 1,25<br>[2.75]     | 0,2                              |
|   | 84A3X350000000 |                                    | 30°                  |                    |                                  |
|   | 84A3Y350000000 |                                    | 45°                  |                    |                                  |
|   | 84A3Z350000000 |                                    | 60°                  |                    |                                  |
|  | 84A3-360000000 | 570<br>[128]                       | 76°                  | 1,55<br>[3.41]     | 0,3                              |
|   | 84A3X360000000 |                                    | 30°                  |                    |                                  |
|   | 84A3Y360000000 |                                    | 45°                  |                    |                                  |
|   | 84A3Z360000000 |                                    | 60°                  |                    |                                  |
|  | 84A3-370000000 | 1600<br>[404]                      | 76°                  | 1,45<br>[3.17]     | 0,2                              |
|   | 84A3X370000000 |                                    | 30°                  |                    |                                  |
|   | 84A3Y370000000 |                                    | 45°                  |                    |                                  |
|   | 84A3Z370000000 |                                    | 60°                  |                    |                                  |
|  | 84A3-380000000 | 1600<br>[404]                      | 76°                  | 1,4<br>[3.08]      | 0,2                              |
|   | 84A3X380000000 |                                    | 30°                  |                    |                                  |
|   | 84A3Y380000000 |                                    | 45°                  |                    |                                  |
|   | 84A3Z380000000 |                                    | 60°                  |                    |                                  |
|  | 84A3R330000000 | 750<br>[169]                       | 76° upper, 15° lower | 1,35<br>[2.97]     | 0,2                              |
|   | 84A3S330000000 |                                    | 30° upper, 15° lower |                    |                                  |
|   | 84A3T330000000 |                                    | 45° upper, 15° lower |                    |                                  |
|   | 84A3U330000000 |                                    | 60° upper, 15° lower |                    |                                  |
|  | 84A3-390000000 | 1500<br>[337]                      | 76°                  | 1,3<br>[2.86]      | 0,2                              |
|   | 84A3X390000000 |                                    | 30°                  |                    |                                  |
|   | 84A3Y390000000 |                                    | 45°                  |                    |                                  |
|   | 84A3Z390000000 |                                    | 60°                  |                    |                                  |
|  | 84A3-300000000 | 1500<br>[337]                      | 76°                  | 1,4<br>[3.08]      | 0,2                              |
|   | 84A3X300000000 |                                    | 30°                  |                    |                                  |
|   | 84A3Y300000000 |                                    | 45°                  |                    |                                  |
|   | 84A3Z300000000 |                                    | 60°                  |                    |                                  |

Major spare parts and accessories see page GR-SGM-43.

### Features:

- Small size, low weight
- Fast opening and closing action
- High clamping force
- Long life cycle
- Roller and cam principle, self-locking at end stop position
- Add-on component and end position sensing available

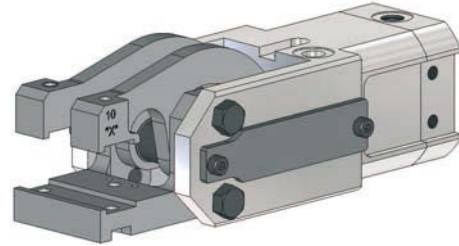
### Application:

Gripping, holding, placing, removing and transporting of metal sheets and other parts, mainly in jigs, transfer presses and handling systems.

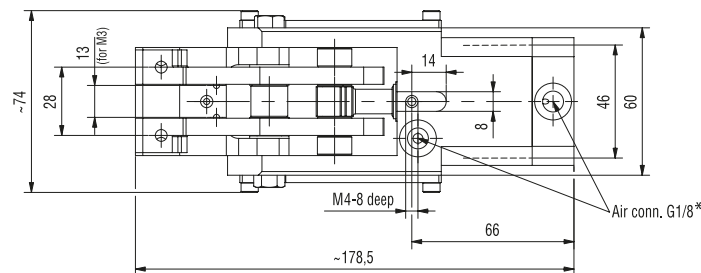
### Key areas of application:

Automotive manufacturing, sheet processing industry, jig and general mechanical engineering.

| Model          | Opening angle |
|----------------|---------------|
| 84A3-310000000 | 76°           |
| 84A3X310000000 | 30°           |
| 84A3Y310000000 | 45°           |
| 84A3Z310000000 | 60°           |

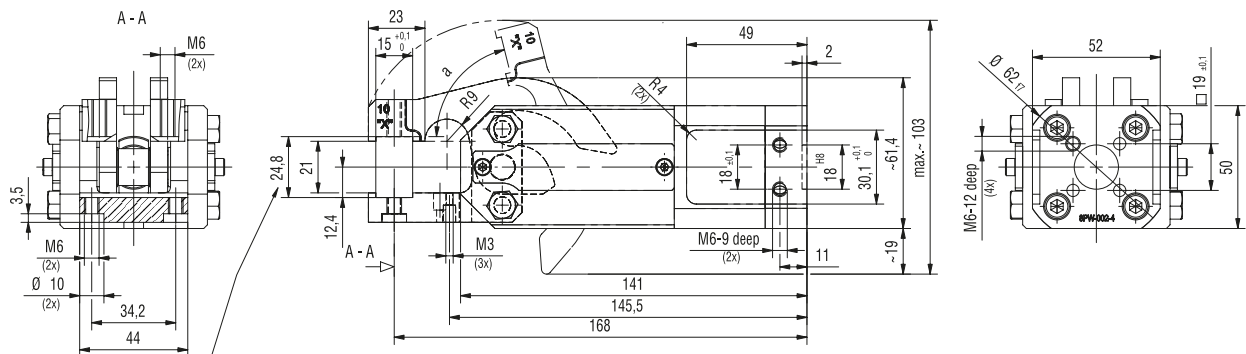


| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~ Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|--------------|-------------------------------------|---------------------|---|----------------------|---|---|
| 84A3-31***** | 1500<br>[337]                       | 32<br>[1.26]        | 0,4<br>[0.01]   | 1.35<br>[2.86]       | 0,2                                     | 0,2                                     |



Medium: air, min. 3 bar, max. 6 bar operation with oil-free air is permissible.

**Attention!**  
Concept guidelines to be considered



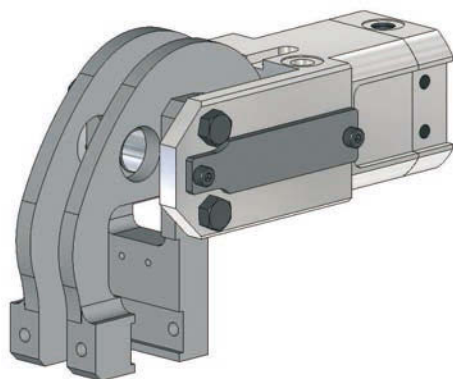
### Note!

Addition of the gripper teeth height and thickness of the clamped plate must be 24,8 mm. It might be necessary to use shim plates or to grind the gripper teeth.

Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-43.

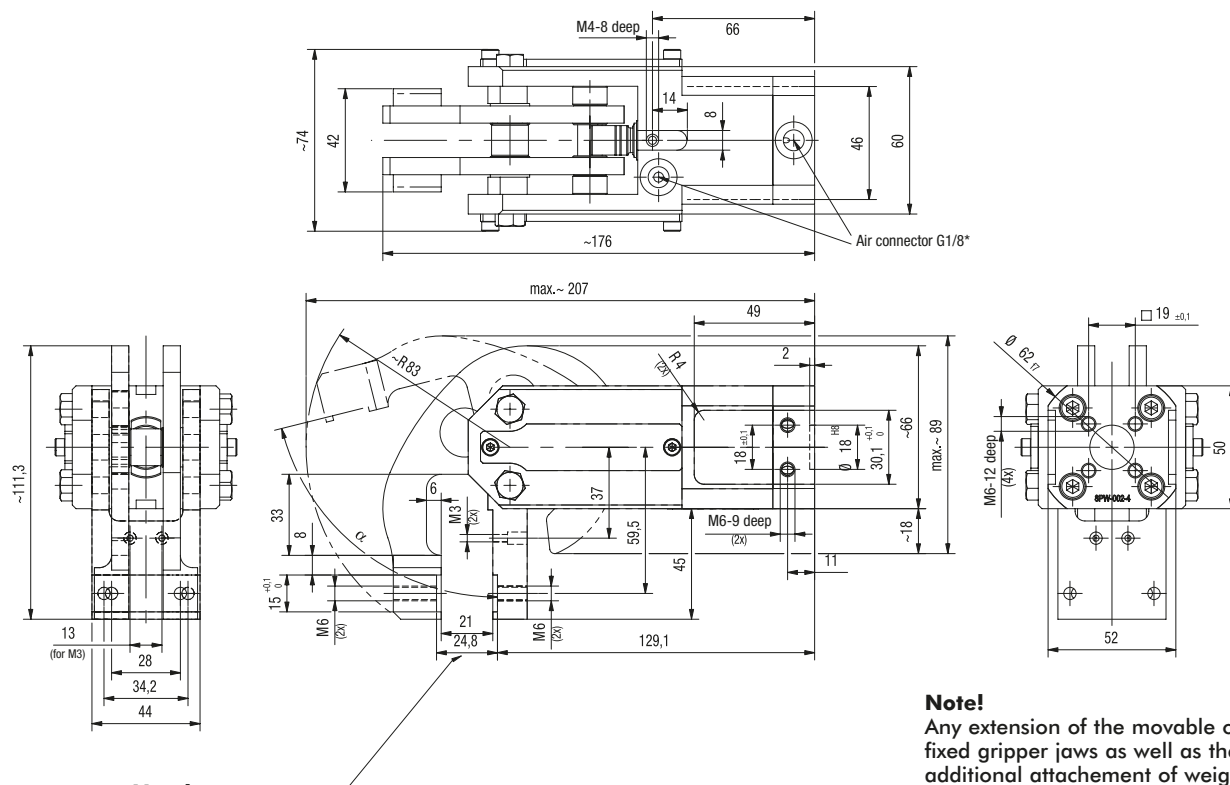
# 84A3-3 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications



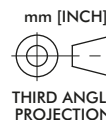
| Model          | Opening angle |
|----------------|---------------|
| 84A3-320000000 | 76°           |
| 84A3X320000000 | 30°           |
| 84A3Y320000000 | 45°           |
| 84A3Z320000000 | 60°           |

| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~ Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|--------------|-------------------------------------|---------------------|---|----------------------|---|---|
| 84A3-32***** | 950<br>[213]                        | 32<br>[1.26]        | 0,4<br>[0.01]   | 1,6<br>[3.52]        | 0,2                                     | 0,2                                     |



**Note!**  
Addition of the gripper teeth height and thickness of the clamped plate must be 24,8 mm. It might be necessary to use shim plates or to grind the gripper teeth.

**Note!**  
Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.



Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-43.


## Sheet Metal Grippers | Dimensions and Technical Specifications

Technical drawing of the 3000 series air cylinder, showing three views: front, side, and end view. The front view shows a double-acting cylinder with a 66mm bore and 60mm stroke. The side view shows the cylinder with a 168mm total length and a 141mm mounting bracket length. The end view shows the 52mm diameter end flange. Dimensions are given in millimeters. Key features include M6 mounting holes, M4-8 deep holes, and an air connector G1/8\*.

**Note:**  
Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.



mm [INCH]

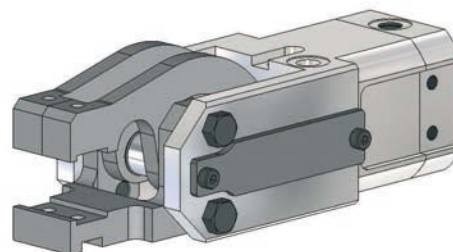


THIRD ANGLE  
PROJECTION

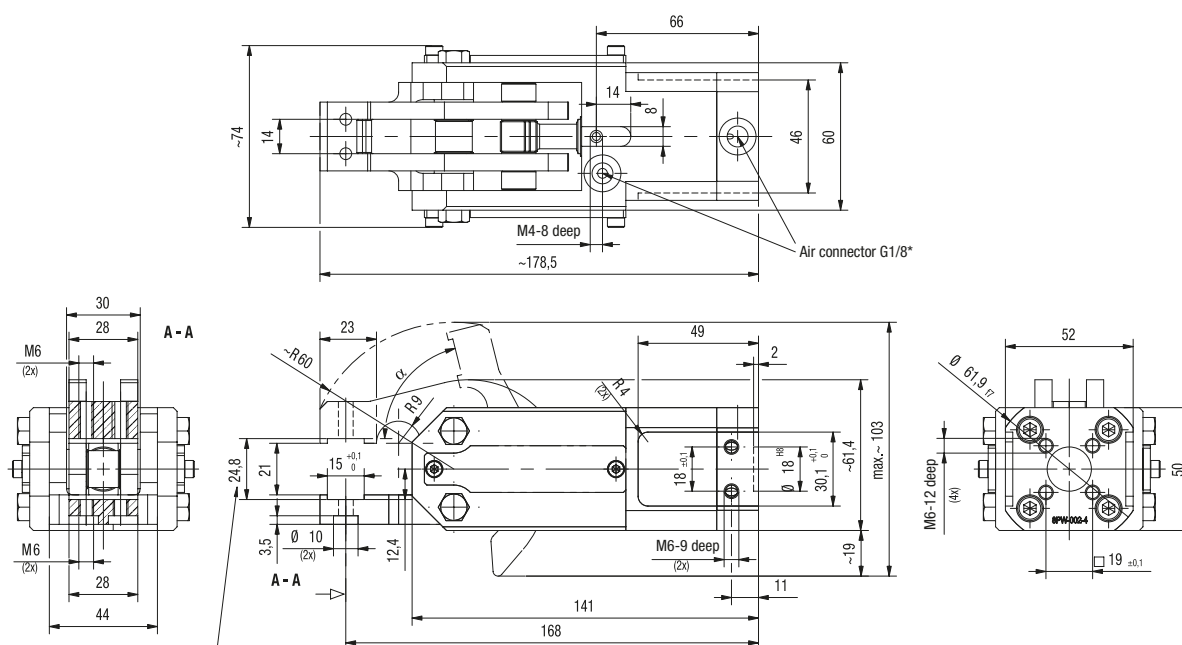


## Sheet Metal Grippers | Dimensions and Technical Specifications

| Model          | Opening angle |
|----------------|---------------|
| 84A3-350000000 | 76°           |
| 84A3X350000000 | 30°           |
| 84A3Y350000000 | 45°           |
| 84A3Z350000000 | 60°           |



| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~<br>Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|--------------|-------------------------------------|---------------------|---|-------------------------|---|---|
| 84A3-35***** | 1500<br>[337]                       | 32<br>[1.26]        | 0,4<br>[0.01]   | 1,3<br>[2.86]           | 0,2                                     | 0,2                                     |

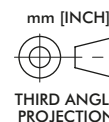


### Note!

**Note:** Addition of the gripper teeth height and thickness of the clamped plate must be 24,8 mm. It might be necessary to use shim plates or to grind the gripper teeth.

**Note!**

**Note:**  
Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.



Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-43.

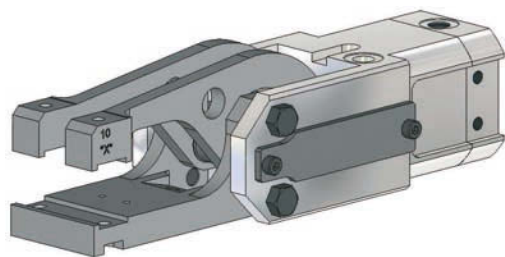
Dimensions and technical information are subject to change without notice

GR-SMG-38

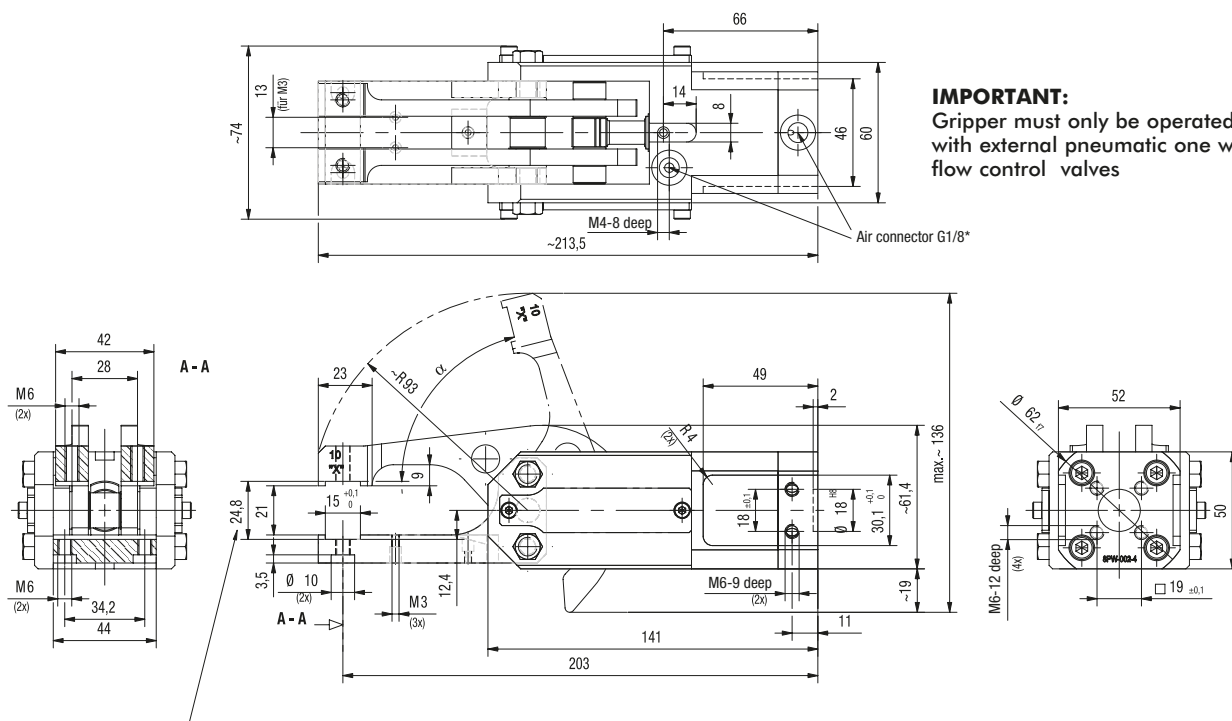




## Sheet Metal Grippers | Dimensions and Technical Specifications



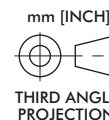
| <b>Model</b>        | Clamping<br>force at<br>5 bar<br>~N [lbs] | Piston<br>Ø<br>mm [in] | Air consumption per<br>double stroke at 5<br>bar<br>dm <sup>3</sup> [ft <sup>3</sup> ] | Weight<br>~<br>Kg [lbs] | Min<br>Opening speed for<br>max. opening<br>sec. | Min<br>Closing speed for<br>max. opening<br>sec. |
|---------------------|---|------------------------|--|-------------------------|--|--|
| <b>84A3-36*****</b> | 570<br>[128]                              | 32<br>[1.26]           | 0,4<br>[0.01]  | 1,55<br>[3.41]          | 0,3  | 0,3  |



**IMPORTANT:**  
Gripper must only be operated  
with external pneumatic one way  
flow control valves

**Note!**  
Addition of the gripper teeth height and thickness of the clamped plate must be 24,8 mm. It might be necessary to use shim plates or to grind the gripper teeth.

**Note!**  
Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

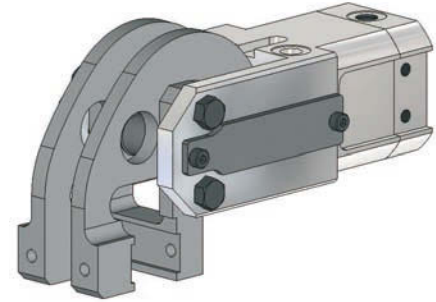


Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-43.

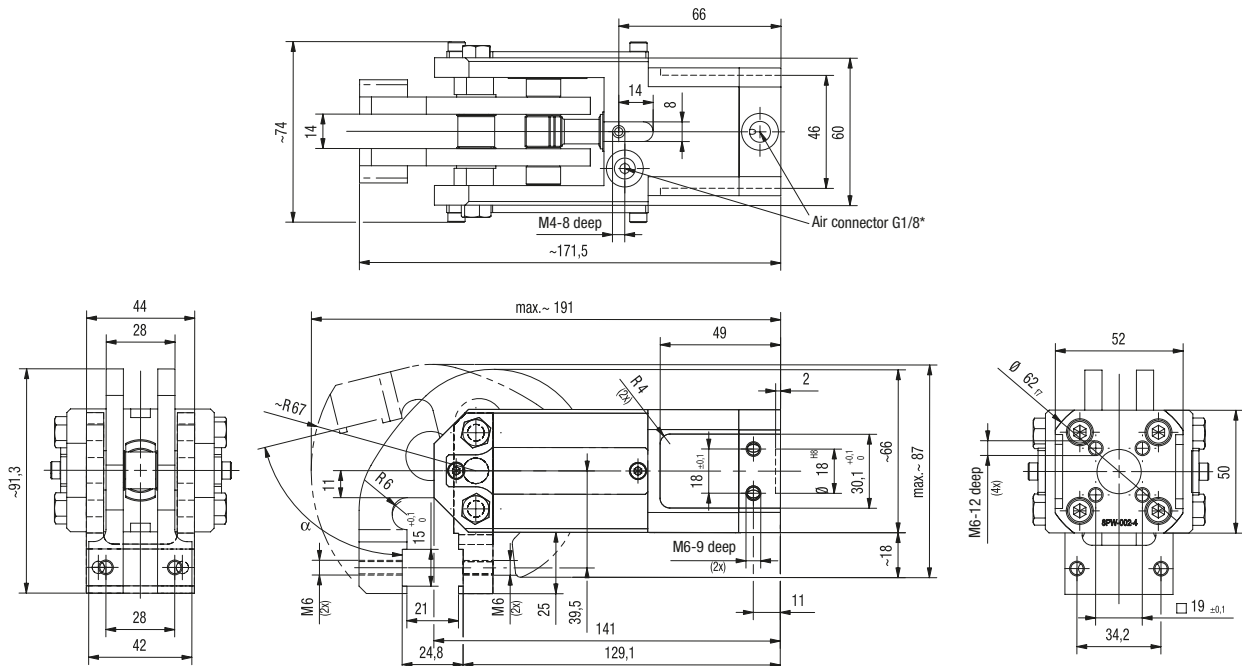
# 84A3-3 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

| Model          | Opening angle |
|----------------|---------------|
| 84A3-370000000 | 76°           |
| 84A3X370000000 | 30°           |
| 84A3Y370000000 | 45°           |
| 84A3Z370000000 | 60°           |



| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~ Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|--------------|-------------------------------------|---------------------|---|----------------------|---|---|
| 84A3-37***** | 1600<br>[360]                       | 32<br>[1.26]        | 0,4<br>[0.01]   | 1,45<br>[3.17]       | 0,2                                     | 0,2                                     |



### Note!

Addition of the gripper teeth height and thickness of the clamped plate must be 24,8 mm. It might be necessary to use shim plates or to grind the gripper teeth.

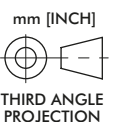
### Note!

Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-43.

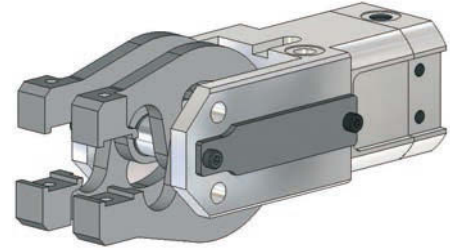
Dimensions and technical information are subject to change without notice

GR-SMG-40

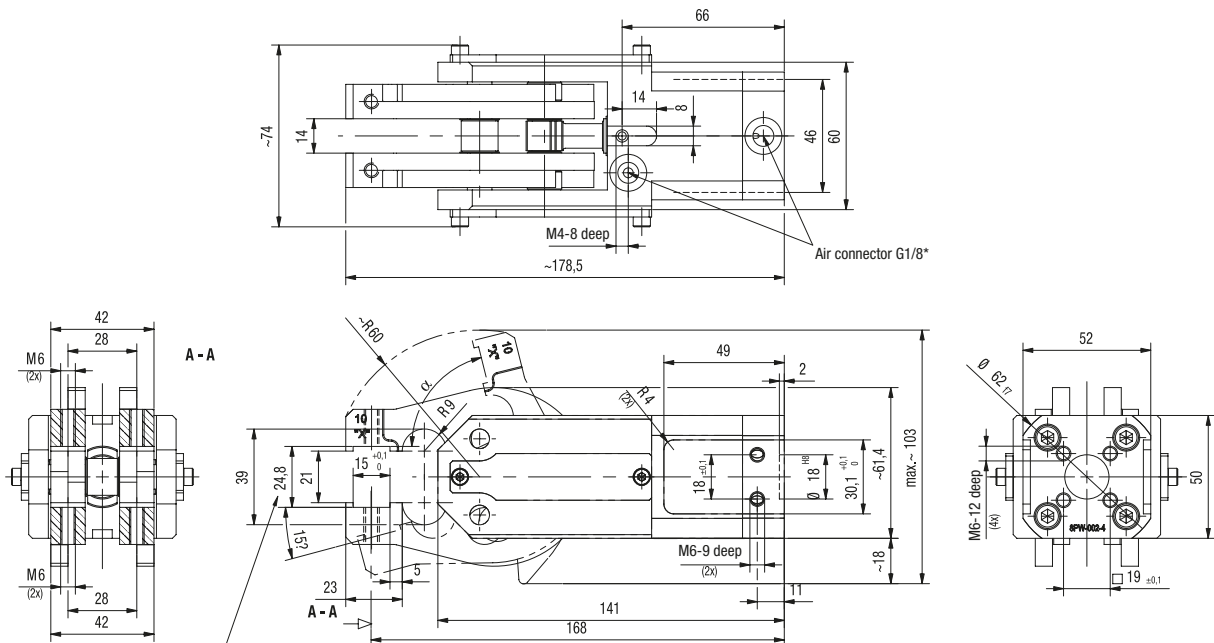




| Model          | Opening angle |           |
|----------------|---------------|-----------|
| 84A3R330000000 | upper 76°     | lower 15° |
| 84A3S330000000 | upper 30°     | lower 15° |
| 84A3T330000000 | upper 45°     | lower 15° |
| 84A3U330000000 | upper 60°     | lower 15° |



| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~ Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|--------------|-------------------------------------|---------------------|---|----------------------|---|---|
| 84A3R33***** | 750<br>[169]                        | 32<br>[1.26]        | 0,4<br>[0.01]   | 1,35<br>[2.97]       | 0,2                                     | 0,2                                     |



### Note!

Addition of the gripper teeth height and thickness of the clamped plate must be 24,8 mm. It might be necessary to use shim plates or to grind the gripper teeth.

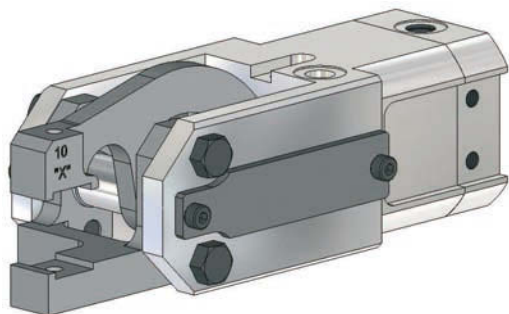
### Note!

Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-43.

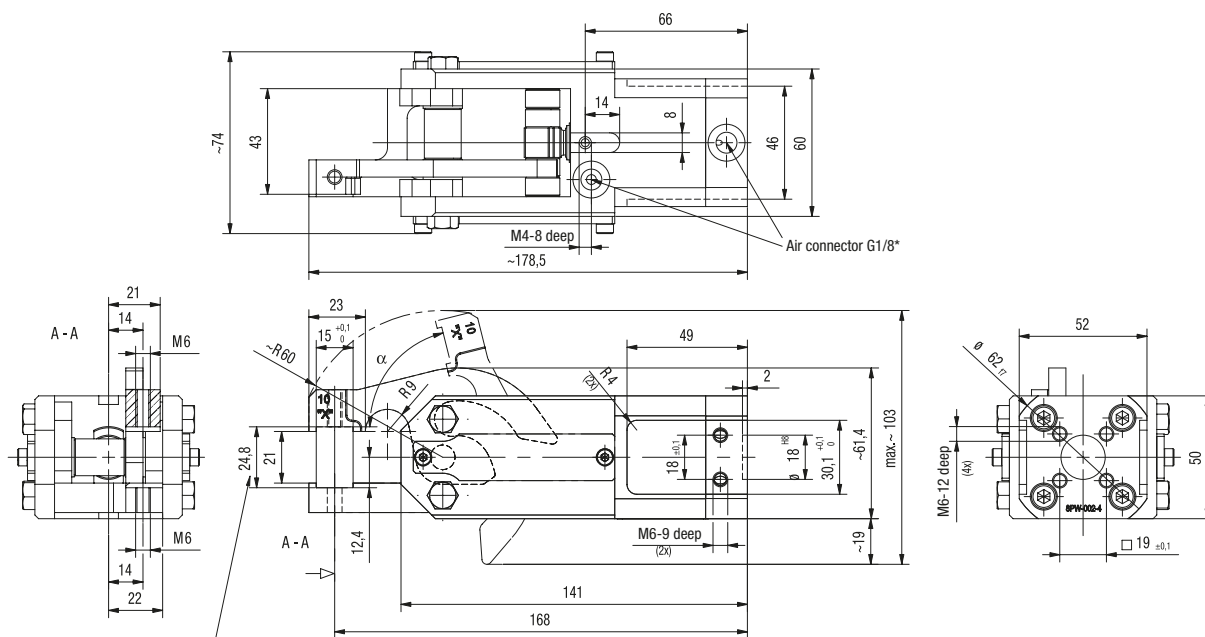
# 84A3-3 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications



| Model          | Opening angle |
|----------------|---------------|
| 84A3-390000000 | 76°           |
| 84A3X390000000 | 30°           |
| 84A3Y390000000 | 45°           |
| 84A3Z390000000 | 60°           |

| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~ Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|--------------|-------------------------------------|---------------------|---|----------------------|---|---|
| 84A3-39***** | 1500 [337]                          | 32 [1.26]           | 0,4 [0.01]  | 1,3 [2.86]           | 0,2                                     | 0,2                                     |

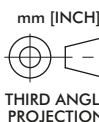


### Note!

Addition of the gripper teeth height and thickness of the clamped plate must be 24,8 mm. It might be necessary to use shim plates or to grind the gripper teeth.

### Note!

Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

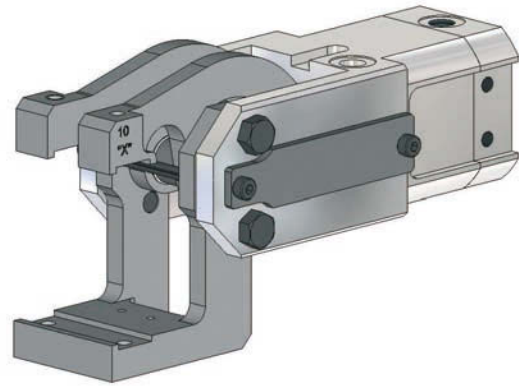


Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-43.

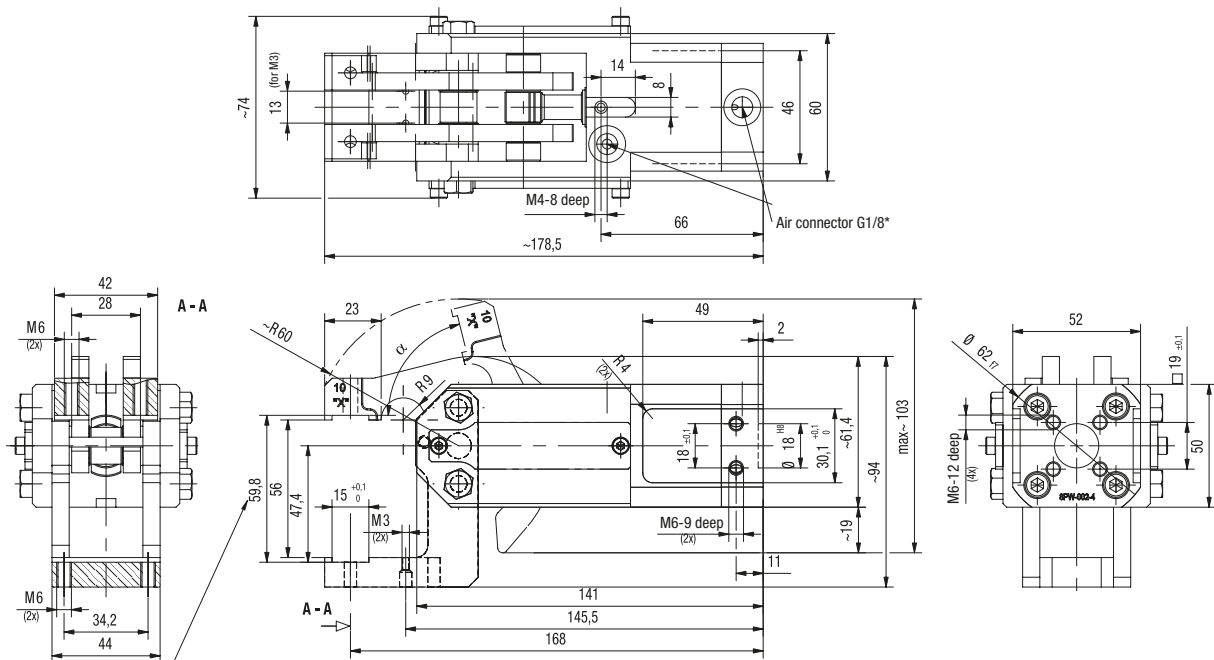
# 84A3-3 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

| Model          | Opening angle |
|----------------|---------------|
| 84A3-300000000 | 76°           |
| 84A3X300000000 | 30°           |
| 84A3Y300000000 | 45°           |
| 84A3Z300000000 | 60°           |



| Model        | Clamping force at 5 bar<br>~N [lbs] | Piston Ø<br>mm [in] | Air consumption per double stroke at 5 bar<br>dm³ [ft³] | Weight<br>~ Kg [lbs] | Min Opening speed for max. opening sec. | Min Closing speed for max. opening sec. |
|--------------|-------------------------------------|---------------------|---|----------------------|---|---|
| 84A3-30***** | 1500 [337]                          | 32 [1.26]           | 0,4 [0.01]  | 1,4 [3.08]           | 0,2                                     | 0,2                                     |



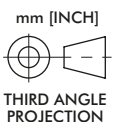
**Note!**  
Addition of the gripper teeth height and thickness of the clamped plate must be 59,8 mm. It might be necessary to use shim plates or to grind the gripper teeth.

**Note!**  
Any extension of the movable or fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

Please order separately accessories such as gripper teeth, sensing and adaptors. See page GR-SGM-43.

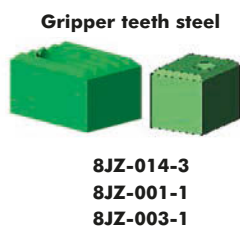
Dimensions and technical information are subject to change without notice

GR-SMG-44



# 84A3-3 SERIES

## Sheet Metal Grippers | Overview of Accessories and Major Spare Parts



For transfer free of deformation and swarf

**Gripper jaw, top: Gripper teeth, Gripper points, Crown teeth** – Dimensions see page GR-SGM-61 to 64



**Gripper jaw, bottom: Gripper teeth, Gripper points, Crown teeth** – Dimensions see page GR-SGM-61 to 64



**Adapters / Limit stops** – Dimensions see page GR-SGM-64 to 67



**Sensing systems** – Dimensions see page GR-SGM-67

### Accessories

| Specification   | Order no. for 84A3 |
|---|--------------------|
| <b>Connector</b> (1 connector socket & 5 m cable)       |                    |
| Connector socket M12x1, straight, 5-pin                 | 8EL-002-1          |
| Connector socket M12x1, angular, 4-pin                  | 8EL-003-1          |
| <b>Opening angle limitation spacer</b> (2 pcs required) |                    |
| 60°   | 8MF-046-1          |
| 45°   | 8MF-039-1          |
| 30°   | 8MF-045-1          |

### Major Spare Parts

| Specification | Order no. for 84A3 |
|---------------|--------------------|
| Cylinder      | 8PW-002-4          |
| Seal kit      | 8PW-002-2-00       |



### Accessories: Sensing Systems

| Gripper        | Sensors | Sensing systems         |              |                      | Accessories |  |
|----------------|---------|-------------------------|--------------|----------------------|-------------|--|
|                |         | 8EA-092-1               | 8EA-087-1    | 8EA-022-4*           | 8MB-003-1   |  |
|                |         | Switching distance 8 mm | Angle sensor | End position sensing | Shims       |  |
| 84A3_310000000 |         | ●                       | ●            | ●                    | ●           |  |
| 84A3_320000000 |         | ●                       | ●            | ●                    | ●           |  |
| 84A3_330000000 |         |                         | ●            | ●                    |             |  |
| 84A3_340000000 |         |                         | ●            | ●                    |             |  |
| 84A3_350000000 |         |                         | ●            | ●                    |             |  |
| 84A3_360000000 |         | ●                       | ●            | ●                    | ●           |  |
| 84A3_370000000 |         |                         | ●            | ●                    |             |  |
| 84A3_380000000 |         |                         | ●            | ●                    |             |  |
| 84A3_390000000 |         |                         | ●            | ●                    |             |  |
| 84A3_300000000 |         | ●                       | ●            | ●                    | ●           |  |

\* Only for opening angle 76°



### Accessories: Gripper Teeth

| Gripper Teeth |        | Steel     |           | Plastic   |           | Crown teeth<br>(For transfer free of deformation and swarf) |           |           |           |           | Gripper points |            |            | Shims |
|---------------|--------|-----------|-----------|-----------|-----------|---|-----------|-----------|-----------|-----------|----------------|------------|------------|-------|
|               |        | 8JZ-014-3 | 8JZ-001-1 | 8JZ-003-1 | 8JZ-021-1 | 8JZ-023-1   | 8JZ-016-2 | 8JZ-018-2 | 8JZ-019-1 | 8JZ-020-3 | 8MJ-1001-1     | 8MJ-1002-1 | 8MJ-1003-1 |       |
| 84A3_31..     | bottom | ●         |           |           | ●         |   |           | ●         | ●         |           | ●              | ●          | ●          | ●     |
|               | top    | ●         |           |           | ●         | ●   | ●         |           |           | ●         | ●              | ●          | ●          | ●     |
| 84A3_32..     | bottom | ●         |           |           | ●         |   |           | ●         | ●         |           | ●              | ●          | ●          | ●     |
|               | top    | ●         |           |           | ●         | ●   | ●         |           |           |           | ●              | ●          | ●          | ●     |
| 84A3_33..     | bottom | ●         | ●         |           | ●         |   |           |           |           |           | ●              | ●          | ●          | ●     |
|               | top    | ●         | ●         |           | ●         |   |           |           |           |           | ●              | ●          | ●          | ●     |
| 84A3_34..     | bottom | ●         | ●         |           |           |   |           |           |           |           | ●              | ●          | ●          | ●     |
|               | top    | ●         |           |           |           |   |           |           |           |           | ●              | ●          | ●          | ●     |
| 84A3_35..     | bottom | ●         | ●         |           |           |   |           |           |           |           | ●              | ●          | ●          | ●     |
|               | top    | ●         |           |           |           |   |           |           |           |           | ●              | ●          | ●          | ●     |
| 84A3_36..     | bottom | ●         |           |           | ●         |   |           | ●         | ●         |           | ●              | ●          | ●          | ●     |
|               | top    | ●         |           |           | ●         | ●   | ●         |           |           |           | ●              | ●          | ●          | ●     |
| 84A3_37..     | bottom | ●         |           |           | ●         |   |           | ●         | ●         |           | ●              | ●          | ●          | ●     |
|               | top    |           |           |           | ●         | ●   | ●         |           |           |           | ●              | ●          | ●          | ●     |
| 84A3_38..     | bottom |           | ●         |           |           |   |           |           |           |           | ●              | ●          | ●          | ●     |
|               | top    |           |           |           |           |   |           |           |           |           | ●              | ●          | ●          | ●     |
| 84A3_39..     | bottom |           | ●         |           |           |   |           |           |           |           | ●              | ●          | ●          | ●     |
|               | top    |           |           |           |           |   |           |           |           |           | ●              | ●          | ●          | ●     |
| 84A3_30..     | bottom |           |           |           | ●         |   |           | ●         | ●         |           | ●              | ●          | ●          | ●     |
|               | top    |           |           |           | ●         | ●   | ●         |           |           |           | ●              | ●          | ●          | ●     |

# 84A3-3 SERIES

## Sheet Metal Grippers | Technical Specifications

| Steel gripper teeth | Depth of tooth |
|---------------------|----------------|
| 8JZ-014-3           | 12,00          |
| 8JZ-006-1           | 11,9           |
| 8JZ-001-1           | 14,00          |
| 8JZ-025-1           | 11,90          |
| 8JZ-003-1           | 9,80           |
| 8JZ-005-1           | 9,80           |

| Plastic gripper teeth | Depth of tooth |
|-----------------------|----------------|
| 8JZ-021-1             | 13,00          |
| 8JZ-023-1             | 13,00          |

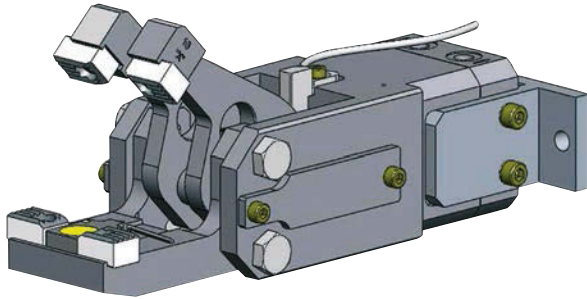
| Gripper points | M6 length of thread |
|----------------|---------------------|
| 8MJ-1001       | 25,4                |
| 8MJ-1002       | 25,4                |
| 8MJ-1003       | 25,4                |

| Crown teeth | Depth of tooth | for material thickness |
|-------------|----------------|------------------------|
| 8JZ-016-2   | 9,80           | 0,8 – 1,0              |
| 8JZ-018-2   | 9,30           | 1,3 – 1,5              |
| 8JZ-019-1   | 13,20          | ./.                    |
| 8JZ-020-3   | 13,20          |                        |

[illegible]

# 84A5-1 SERIES

## Sheet Metal Grippers | Features and Benefits, How To Order



### Application:

Gripping, Holding, Placing, Removing and Transporting of metal sheets and other parts, mainly in jigs, press-automation and handling systems.

### Features:

- Compact modular design
- Mounting areas lateral and rear
- Fast opening and closing action
- High clamping force
- Sensor available

**84A5 - 11 A8 A AA AA**

|               |               |  |
|---------------|---------------|--|
| Opening angle | Standard -76° | <b>84A5-11</b> = Base model<br>1 fixed gripper jaw, 2 movable gripper jaws, Straight design    |
|               | 30°           | <b>84A5X11</b> = Base model<br>1 fixed gripper jaw, 2 movable gripper jaws, Straight design    |
|               | 45°           | <b>84A5Y11</b> = Base model<br>1 fixed gripper jaw, 2 movable gripper jaws, Straight design    |
|               | 60°           | <b>84A5Z11</b> = Base model<br>1 fixed gripper jaw, 2 movable gripper jaws, Straight design    |
| Opening angle | Standard -76° | <b>84A5-13</b> = Base model<br>2 Upper movable jaws, 2 Lower movable jaws, Straight design     |
|               | 30°           | <b>84A5X13</b> = Base model<br>2 Upper movable jaws, 2 Lower movable jaws, Straight design     |
|               | 45°           | <b>84A5Y13</b> = Base model<br>2 Upper movable jaws, 2 Lower movable jaws, Straight design     |
|               | 60°           | <b>84A5Z13</b> = Base model<br>2 Upper movable jaws, 2 Lower movable jaws, Straight design     |
| Opening angle | Standard -76° | <b>84A5R13</b> = Base model<br>2 Upper movable jaws, 2 Lower movable jaws, 15° Straight design |
|               | 30°           | <b>84A5S13</b> = Base model<br>2 Upper movable jaws, 2 Lower movable jaws, 15° Straight design |
|               | 45°           | <b>84A5T13</b> = Base model<br>2 Upper movable jaws, 2 Lower movable jaws, 15° Straight design |
|               | 60°           | <b>84A5U13</b> = Base model<br>2 Upper movable jaws, 2 Lower movable jaws, 15° Straight design |

### Base model

**00** = without sensing system

**A8** = 8EA-092-1 workplace control switching distance 7mm for 84A5-11



**D5** = 8EA-087-1 double blank detector



**GK** = combination 2 x D5



**GN** = combination A8 + D5



### Sensing system

Shims for workplace control A8  
**ordering-no.: 8MB-003-1**  
to be ordered separately



**0** = without accessories

**A** = 8MA-006-1



### Accessories

### gripper teeth: steel

**00** = without

**AA** = 8JZ-014-3



### gripper teeth: plastic

**KA** = 8JZ-021-1



### Lower gripper teeth

### gripper teeth: steel

**00** = without

**AA** = 8JZ-014-3



### gripper teeth: plastic

**KA** = 8JZ-021-1



### gripper points:

**PA** = 8MJ-1001-1



**PB** = 8MJ-1002-1

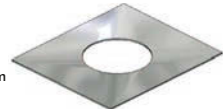


**PC** = 8MJ-1003-1



### Upper gripper teeth/gripper points

Shims for gripper teeth  
**ordering-no.: 8SB-003-1**  
to be ordered separately  
Dimension: 14,8 x 13 x 0,15 mm



**Gripper jaw, top: Gripper teeth, Gripper points, Crown teeth** – Dimensions see page GR-SGM-61 to 64

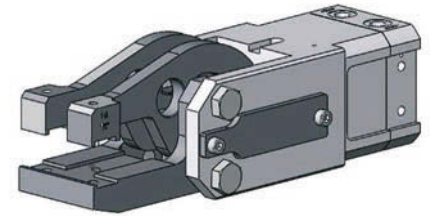
**Gripper jaw, bottom: Gripper teeth, Gripper points, Crown teeth** – Dimensions see page GR-SGM-61 to 64

**Adapters / Limit stops** – Dimensions see page GR-SGM-64 to 66

**Sensing systems** – Dimensions see page GR-SGM-67

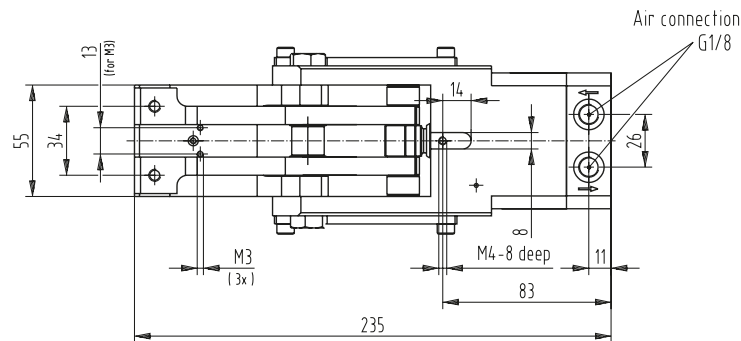
# 84A5-1 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

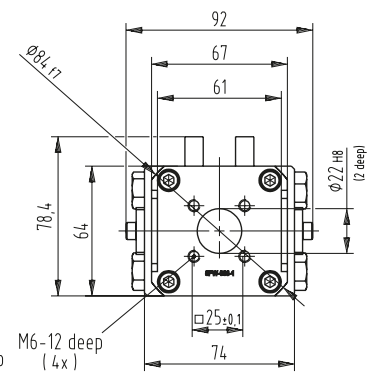
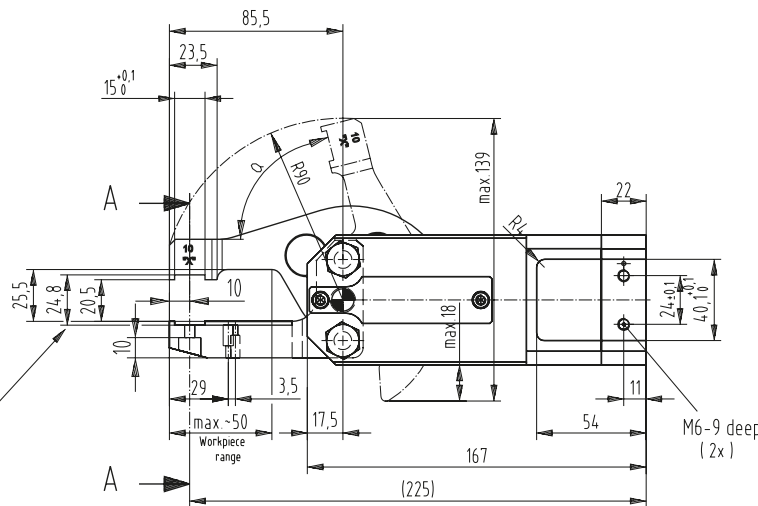
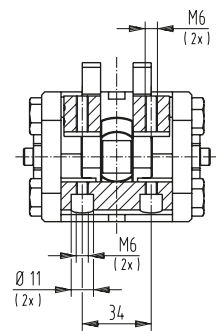


84A5-110000000

| Model      | Gripping force<br>at 5 bar<br>N [lbs] | Piston<br>Ø<br>mm [in] | Air consumption per<br>double stroke<br>at 5 bar dm <sup>3</sup> [ft <sup>3</sup> ] | Weight<br>~<br>Kg [lbs] | Min<br>Opening time<br>sec. | Min<br>Closure time<br>sec. |
|------------|---------------------------------------|------------------------|---|-------------------------|-----------------------------|-----------------------------|
| 84A5-11... | 2000 [449]                            | 50 [1.97]              | 0,66 [0.02]   | 2,8 [6.16]              | 0,6                         | 0,6                         |



Section: A - A



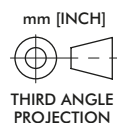
Note!

Addition of gripper teeth height and thickness of the clamped plate must be 24,8 mm. It might be necessary to use shim plates or grind the gripper teeth.

Note!

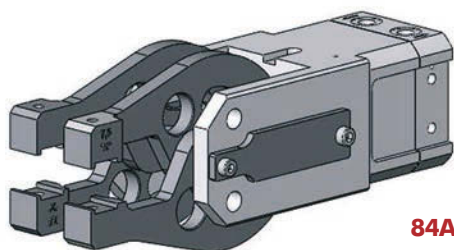
Any extension of the movable, or the fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

Medium air, max. 6 bar  
Operation with oil-free air is permissible.



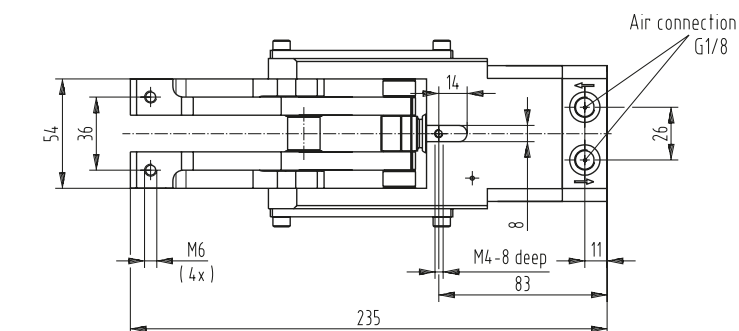
# 84A5-1 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

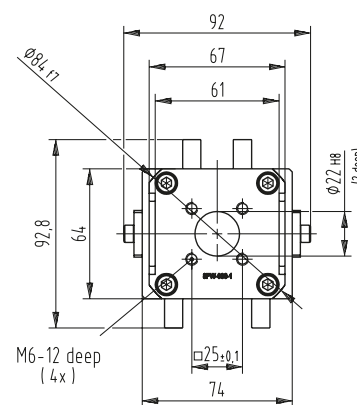
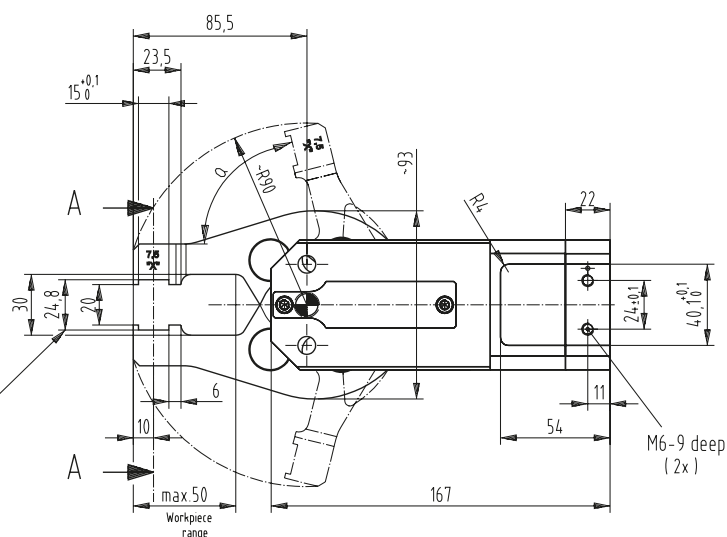
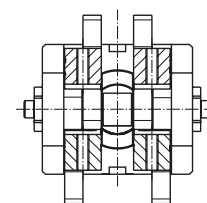


**84A5-130000000**

| Model             | Gripping force<br>at 5 bar<br>N [lbs] | Piston<br>Ø<br>mm [in] | Air consumption per<br>double stroke<br>at 5 bar dm <sup>3</sup> [ft <sup>3</sup> ] | Weight<br>~<br>Kg [lbs] | Min<br>Opening time<br>sec. | Min<br>Closure time<br>sec. |
|-------------------|---------------------------------------|------------------------|---|-------------------------|-----------------------------|-----------------------------|
| <b>84A5-13...</b> | 1200 [270]                            | 50 [1.97]              | 0,66 [0.02]   | 2,8 [6.16]              | 0,6                         | 0,6                         |



Section: A - A



Note!

Addition of gripper teeth height and thickness of the clamped plate must be 24,8 mm. It might be necessary to use shim plates or grind the gripper teeth.

Note!

Any extension of the movable, or the fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

Medium air, max. 6 bar  
Operation with oil-free air is permissible.

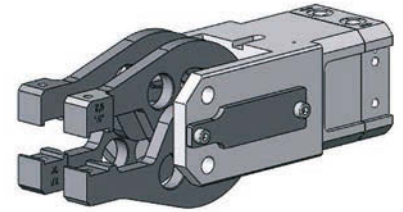
mm [INCH]



THIRD ANGLE  
PROJECTION

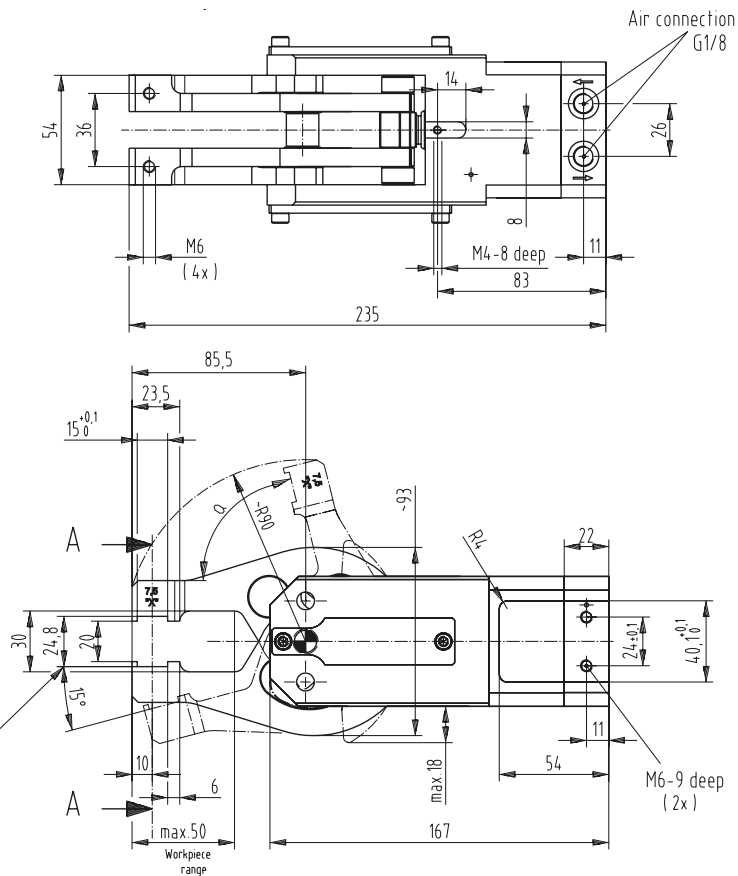
# 84A5-1 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

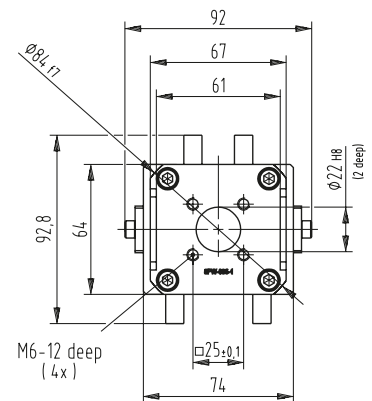
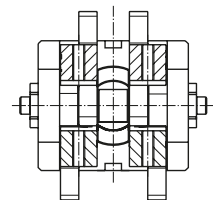


**84A5-R130000000**

| Model              | Gripping force<br>at 5 bar<br>N [lbs] | Piston<br>Ø<br>mm [in] | Air consumption per<br>double stroke<br>at 5 bar dm <sup>3</sup> [ft <sup>3</sup> ] | Weight<br>~<br>Kg [lbs] | Min<br>Opening time<br>sec. | Min<br>Closure time<br>sec. |
|--------------------|---------------------------------------|------------------------|---|-------------------------|-----------------------------|-----------------------------|
| <b>84A5-R13...</b> | 1200 [270]                            | 50 [1.97]              | 0,66 [0.02]   | 2,8 [6.16]              | 0,6                         | 0,6                         |



Section: A - A



Note!

Addition of gripper teeth height and thickness of the clamped plate must be 24,8 mm. It might be necessary to use shim plates or grind the gripper teeth.

Note!

Any extension of the movable, or the fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

Medium air, max. 6 bar  
Operation with oil-free air is permissible.

mm [INCH]



THIRD ANGLE  
PROJECTION

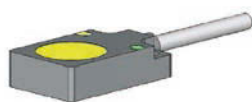


# 84A5-1 SERIES

## Sheet Metal Grippers | Technical Information and Major Spare Parts

### Possible combinations – Gripper teeth/Pins for Cam type gripper **Series 84A5-11**

|                            |            | Gripper teeth / Pins above    |                               |                               |                               |
|----------------------------|------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Gripper teeth / Pins below | 8JZ-014-3  | 8JZ-021-1                     | 8MJ-1001-1                    | 8MJ-1002-1                    | 8MJ-1003-1                    |
|                            | 8JZ-014-3  | with sensor<br>without sensor | with sensor<br>without sensor | with sensor<br>without sensor | with sensor<br>without sensor |
|                            | 8JZ-021-1  | without sensor                | without sensor                | without sensor                | without sensor                |
|                            | 8MJ-1001-1 | without sensor                | without sensor                | without sensor                | without sensor                |
|                            | 8MJ-1002-1 | without sensor                | without sensor                | without sensor                | without sensor                |
|                            | 8MJ-1003-1 | without sensor                | without sensor                | without sensor                | without sensor                |



sensor for workplace  
**8EA-092-1**



**8JZ-014-3**  
steel



**8JZ-021-1**  
plastic



**8MJ-1001-1**  
steel



**8MJ-1002-1**  
steel



**8MJ-1003-1**  
steel

Mounting "M6"

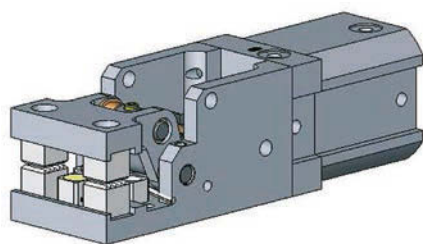
### Major Spare Parts

| Specification | Order no. for<br>84A2-1 |
|---------------|-------------------------|
| Cylinder      | <b>8PW-086-1</b>        |
| Seal kit      | <b>8PW-086-1-00</b>     |

[illegible]

# 84L2-1 SERIES

## Sheet Metal Grippers | Features and Benefits, How To Order



### Major spare parts

| Specification | Order no. for 84A2-1 |
|---------------|----------------------|
| Cylinder      | <b>8PW-108-1</b>     |
| Seal kit      | <b>8PW-108-1-00</b>  |

### Application:

Gripping, Holding, Placing, Removing and Transporting of metal sheets and other parts, mainly in jigs, press-automation and handling systems.

### Features:

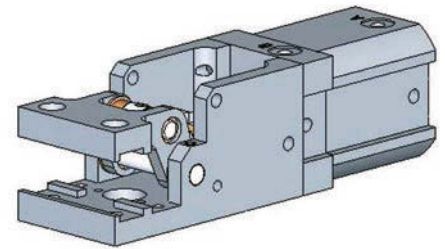
- Compact modular design
- Fast opening and closing action
- Mounting lateral and rear possible
- High clamping force
- Interchangeable in mounting dimensions with 84A2-1
- Add-on component and end position sensing available

Order no. Example: **84L2 - 11 D4 0 BA BA**

|  |  |   |   |  |
|--|--|---|---|--|
| <p><b>84L2-11</b> = Base model straight design</p> <p><b>84L2-14</b> = Base model small, right version</p> <p><b>84L2-16</b> = Base model small, left version</p> <p><b>Base model</b></p> | <p><b>00</b> = without sensing system</p> <p><b>D4</b> = 8EA-075-2 switching distance 3,0 mm with 2m cable</p> <p><b>D7</b> = 8EA-075-3 switching distance 3,0 mm with plug M12 x 1</p> <p><b>Sensing system</b></p> | <p><b>0</b> = without adapter/accessories</p> <p><b>I</b> = 8MA-165-1 – Ø20 mm<br/><b>J</b> = 8MA-166-1 – Ø25 mm<br/><b>Z</b> = 8MA-168-1 – Ø 1"</p> <p><b>V</b> = 8MA-147-1</p> <p><b>W</b> = 82ZB-025-2</p> <p><b>Adapter</b></p> | <p><b>00</b> = without gripper teeth</p> <p><b>BA</b> = 8JZ-027-1 10x10x10 Steel</p> <p><b>BB</b> = 8JZ-028-1 10x10x10 Steel</p> <p><b>KF</b> = 8JZ-045-1 10x10x10 PU-90 Shore plastic</p> <p><b>Gripper teeth steel/plastic, lower</b></p> | <p><b>00</b> = without Gripper teeth/points</p> <p><b>BA</b> = 8JZ-027-1 10x10x10 Steel</p> <p><b>BB</b> = 8JZ-028-1 10x10x10 Steel</p> <p><b>KF</b> = 8JZ-045-1 10x10x10 PU-90 Shore plastic</p> <p><b>PH</b> = 8JZ-029-1 Steel</p> <p><b>Gripper teeth/points steel/plastic, upper</b></p> |
| <p>Shims for gripper teeth<br/><b>ordering-no.: 8SB-003-1</b><br/>(to be ordered separately)<br/>Dimensions: 10 x 10 x 0,1 mm</p>  |  |   |   |  |

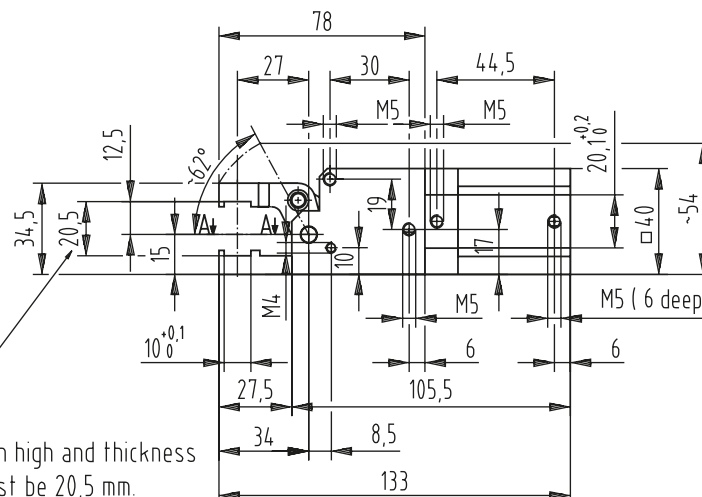
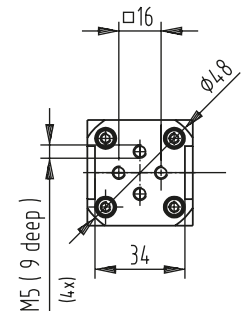
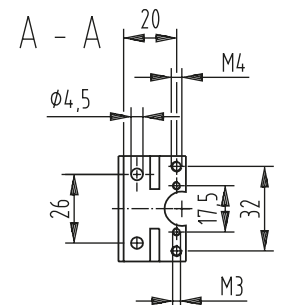
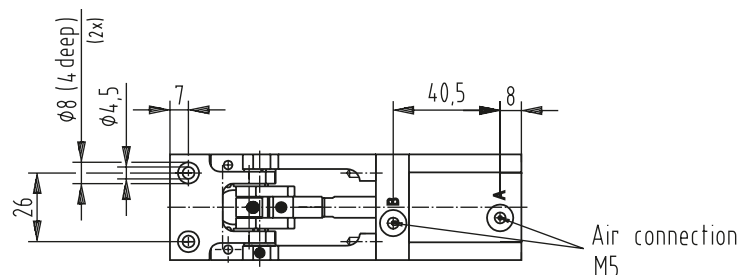
**Gripper jaw, top: Gripper teeth, Gripper points, Crown teeth** – Dimensions see page GR-SGM-61 to 64  
**Gripper jaw, bottom: Gripper teeth, Gripper points, Crown teeth** – Dimensions see page GR-SGM-61 to 64  
**Adapters / Limit stops** – Dimensions see page GR-SGM-64 to 66  
**Sensing systems** – Dimensions see page GR-SGM-67

## Sheet Metal Grippers | Dimensions and Technical Specifications



**84L2-110000000**

| Model      | Gripping force<br>at 5 bar<br>N [lbs] | Piston<br>Ø<br>mm [in] | Air consumption per<br>double stroke<br>at 5 bar dm³ [ft³] | Weight<br>~<br>Kg [lbs] | Min<br>Opening time<br>sec. | Min<br>Closure time<br>sec. |
|------------|---------------------------------------|------------------------|--|-------------------------|-----------------------------|-----------------------------|
| 84L2-11... | 74 [17]                               | 25 [0.98]              | 0,19 [0.01]  | 0,4 [0.88]              | 0,2                         | 0,2                         |



Note!

Addition of gripper teeth high and thickness of the clamped plate must be 20,5 mm.  
If might be necessary to use shim plates or of grind the gripper teeth.

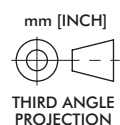
Note!

Any extension of the movable, or the fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

Medium air, max. 6 bar

Operation with oil-free air is permissible.

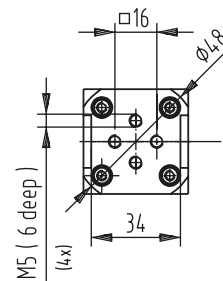
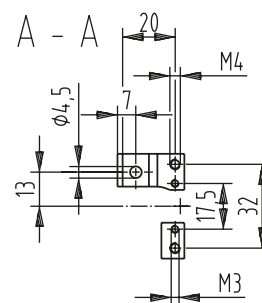
Turning cyl.-air connection possible in  
4x 90° increments.



## Sheet Metal Grippers | Dimensions and Technical Specifications



**84L2-14...**



Turning cyl.-air connection possible in 4x 90° increments.



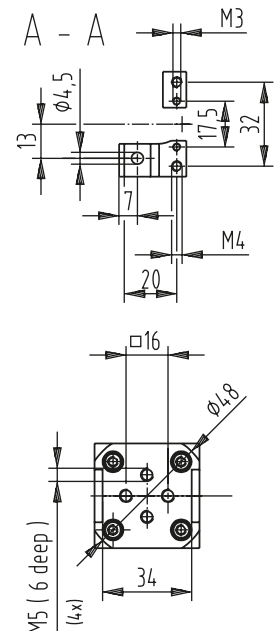
## Sheet Metal Grippers | Dimensions and Technical Specifications



**Note!**  
Addition of gripper teeth high and thickness of the clamped plate must be 20,5 mm.  
If might be necessary to use shim plates or of grind the gripper teeth.

Medium air, max. 6 bar  
Operation with oil-free air is permissible.

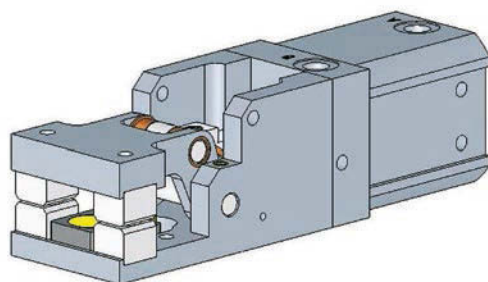
Turning cyl.-air connection possible in  
4x 90° increments.



THIRD ANGLE  
PROJECTION

# 84L3-2 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications



### Application:

Gripping, Holding, Placing, Removing and Transporting of metal sheets and other parts, mainly in jigs, press-automation and handling systems.

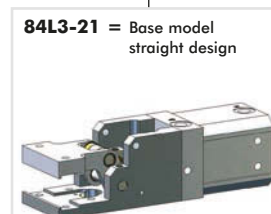
### Features:

- Compact modular design
- Fast opening and closing action
- Mounting lateral and rear possible
- High clamping force
- Interchangeable in mounting dimensions with 84A3-3
- Add-on component and end position sensing available

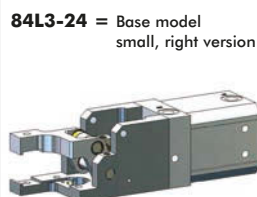
### Major spare parts

| Specification | Order no. for 84A2-1 |
|---------------|----------------------|
| Cylinder      | 8PW-107-1            |
| Seal kit      | 8PW-107-1-00         |

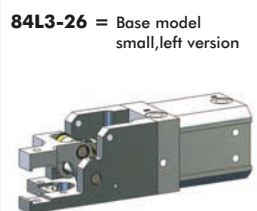
Order no. Example: **84L3 - 21 A8 0 AC AC**



**84L3-21** = Base model straight design

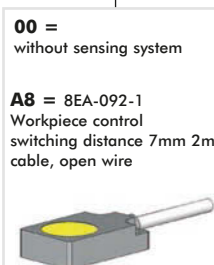


**84L3-24** = Base model small, right version



**84L3-26** = Base model small, left version

Base model



**00** = without sensing system  
**A8** = 8EA-092-1 Workpiece control switching distance 7mm 2m cable, open wire

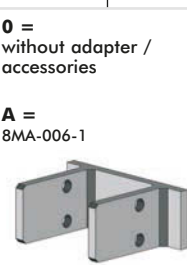


**A9** = 8EA-092-2 Workpiece control switching distance 7mm plug M12 x 1, 3 pin

Sensing system



Shims for workpiece control A8 + A9  
**ordering-no.: 8MB-003-1** to be ordered separately



**0** = without adapter / accessories  
**A** = 8MA-006-1



**S** = 82ZB-007-1



**X** = 82ZB-033-2

Adapter



**00** = without gripper teeth  
**AA** = 8JZ-014-3 15x21x12



**AC** = 8JZ-043-1 15x14x12



**AG** = 8JZ-050-1 15x14x12

Gripper teeth steel, lower



**00** = without Gripper teeth / points  
**AA** = 8JZ-014-3 15x21x12



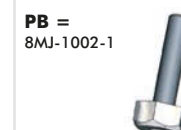
**AC** = 8JZ-043-1 15x14x12



**AG** = 8JZ-050-1 15x14x12



**PA** = 8MJ-1001-1



**PB** = 8MJ-1002-1



**PC** = 8MJ-1003-1

Gripper teeth / points steel, upper

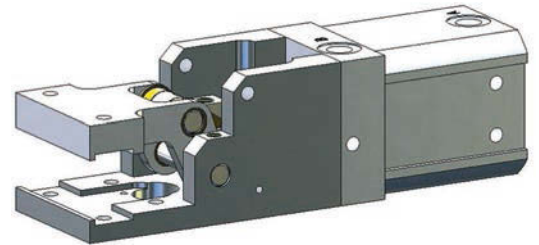
Shims for gripper teeth  
**ordering-no.: 8SB-003-1**  
to be ordered separately  
Dimension: 14,8 x 13 x 0,15 mm



**Gripper jaw, top: Gripper teeth, Gripper points, Crown teeth** – Dimensions see page GR-SGM-61 to 64  
**Gripper jaw, bottom: Gripper teeth, Gripper points, Crown teeth** – Dimensions see page GR-SGM-61 to 64  
**Adapters / Limit stops** – Dimensions see page GR-SGM-64 to 66  
**Sensing systems** – Dimensions see page GR-SGM-67

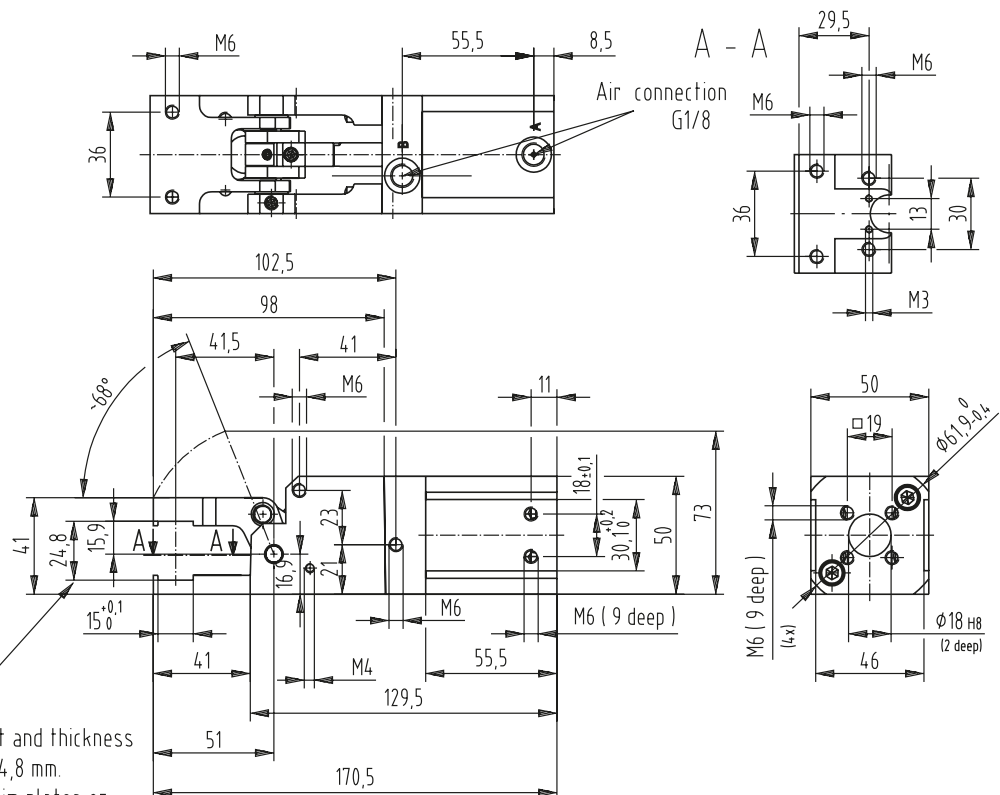


## Sheet Metal Grippers | Dimensions and Technical Specifications



**84L3-210000000**

| Model      | Gripping force<br>at 5 bar<br>N [lbs] | Piston<br>Ø<br>mm [in] | Air consumption per<br>double stroke<br>at 5 bar dm³ [ft³] | Weight<br>~<br>Kg [lbs] | Min<br>Opening time<br>sec. | Min<br>Closure time<br>sec. |
|------------|---------------------------------------|------------------------|--|-------------------------|-----------------------------|-----------------------------|
| 84L3-21... | 135 [30]                              | 32 [1.26]              | 0,3 [0.01]   | 0,8 [1.76]              | 0,2                         | 0,2                         |



Note!

Addition of gripper teeth height and thickness of the clamped plate must be 24,8 mm. It might be necessary to use shim plates or grind the gripper teeth.

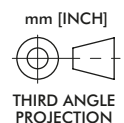
Note!

Any extension of the movable, or the fixed gripper jaws as well as the additional attachment of weights will repeal the guarantee.

Medium air, max. 6 bar

Operation with oil-free air is permissible.

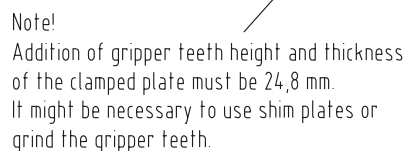
Center the cyl.-air connection about  
4x 90° possible.



## Sheet Metal Grippers | Dimensions and Technical Specifications



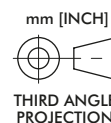
## Model



Note!  
Any extension of the movable,  
or the fixed gripper jaws as well as  
the additional attachment of weights  
will repeal the guarantee.

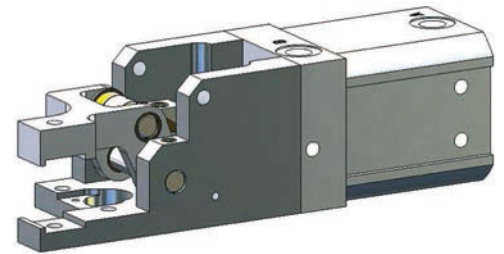
Medium air, max. 6 bar  
Operation with oil-free air is permissible.

Center the cyl.-air connection about  
4x 90° possible.



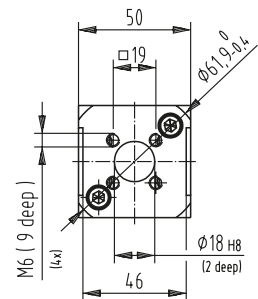
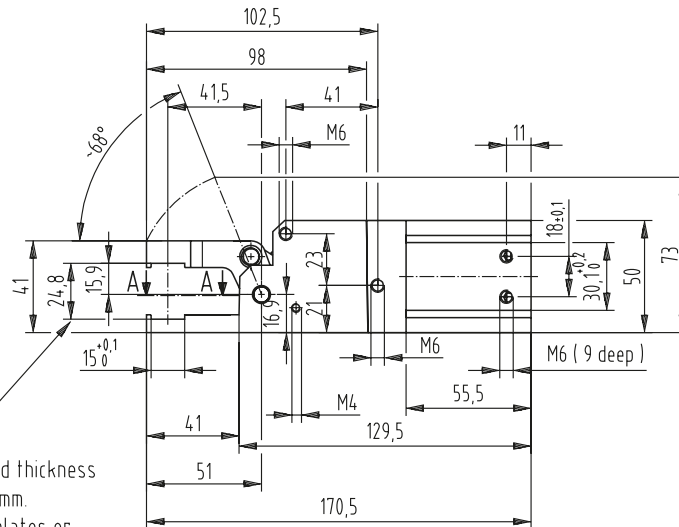
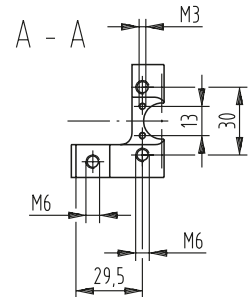
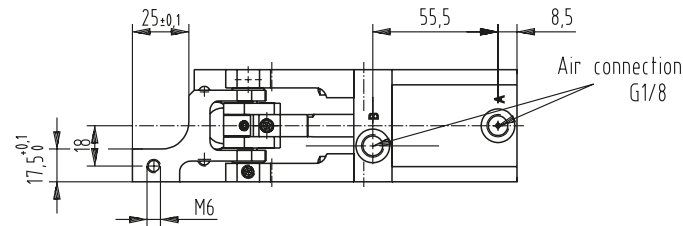
# 84L3-2 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications



**84L3-26000000**

| Model             | Gripping force<br>at 5 bar<br>N [lbs] | Piston<br>Ø<br>mm [in] | Air consumption per<br>double stroke<br>at 5 bar dm <sup>3</sup> [ft <sup>3</sup> ] | Weight<br>~<br>Kg [lbs] | Min<br>Opening time<br>sec. | Min<br>Closure time<br>sec. |
|-------------------|---------------------------------------|------------------------|---|-------------------------|-----------------------------|-----------------------------|
| <b>84L3-26...</b> | 135 [30]                              | 32 [1.26]              | 0,3 [0.01]  | 0,75 [1.65]             | 0,2                         | 0,2                         |



Note!  
Addition of gripper teeth height and thickness  
of the clamped plate must be 24,8 mm.  
It might be necessary to use shim plates or  
grind the gripper teeth.

Note!  
Any extension of the movable,  
or the fixed gripper jaws as well as  
the additional attachment of weights  
will repeal the guarantee.

Medium air, max. 6 bar  
Operation with oil-free air is permissible.

Center the cyl.-air connection about  
4x 90° possible.

mm [INCH]



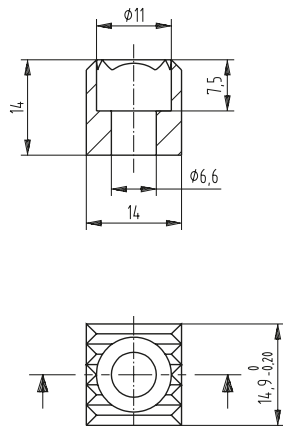
THIRD ANGLE  
PROJECTION

# STEEL GRIPPER TEETH

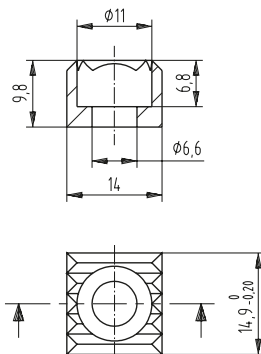
## Sheet Metal Grippers | Dimensions and Technical Specifications

### Steel Gripper Teeth

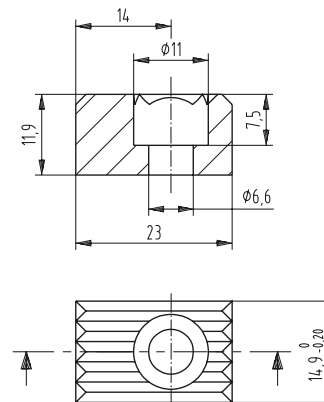
8JZ-001-1



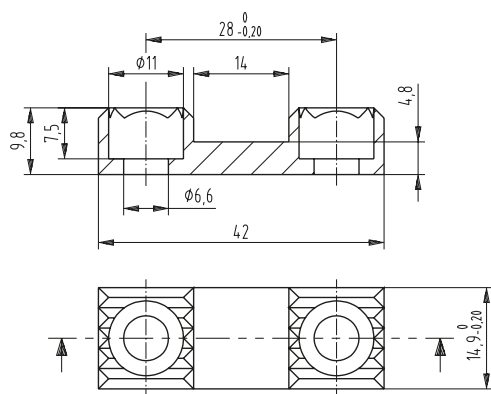
8JZ-003-1



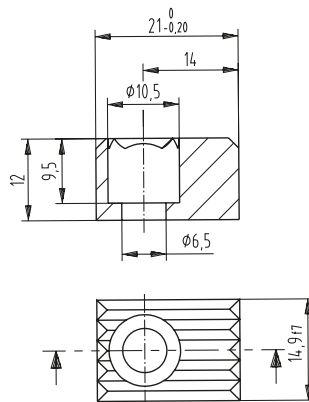
8JZ-004-1



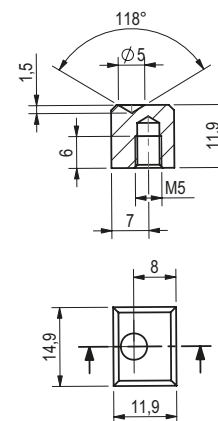
8JZ-005-1



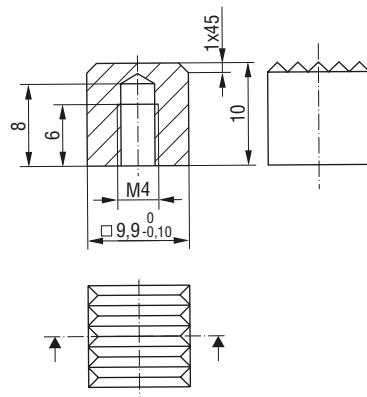
8JZ-014-3



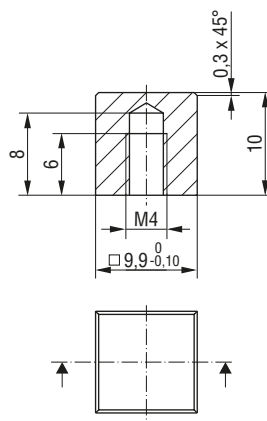
8JZ-025-1



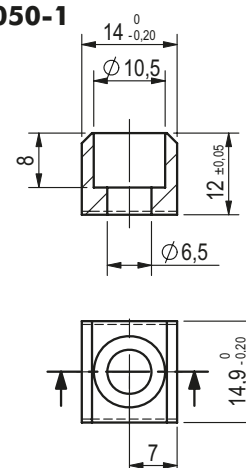
8JZ-027-1



8JZ-028-1



8JZ-050-1



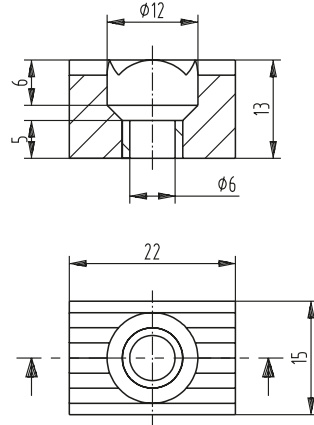
# PLASTIC GRIPPER TEETH, GRIPPER POINTS, CROWN TEETH

Sheet Metal Grippers | Dimensions and Technical Specifications

## Plastic Gripper Teeth

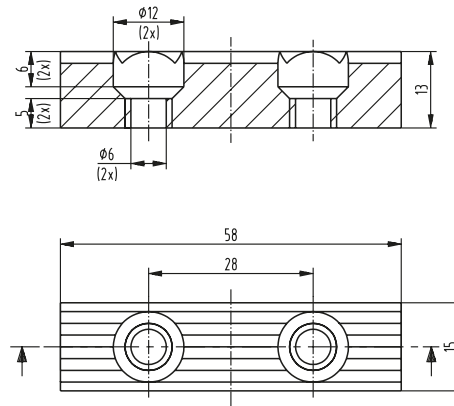
**8JZ-021-1**

90 Shore



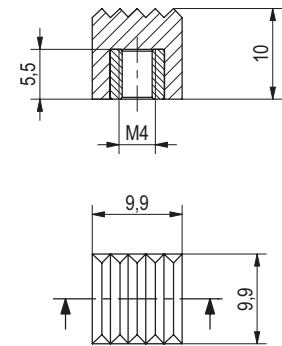
**8JZ-023-1**

90 Shore



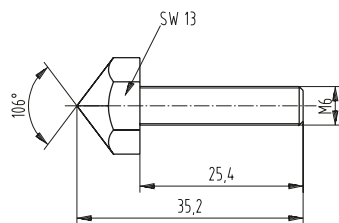
**8JZ-045-1**

90 Shore

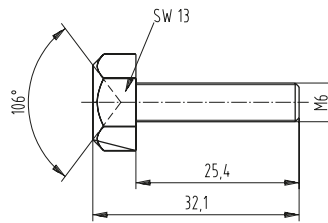


## Gripper Points

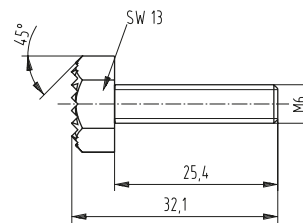
**8MJ-1001-1**



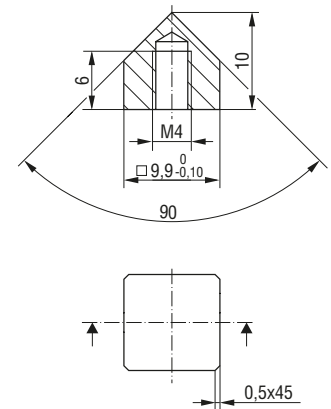
**8MJ-1002-1**



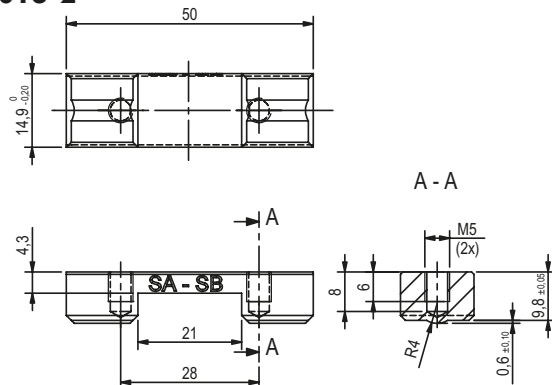
**8MJ-1003-1**



**8JZ-029-1**

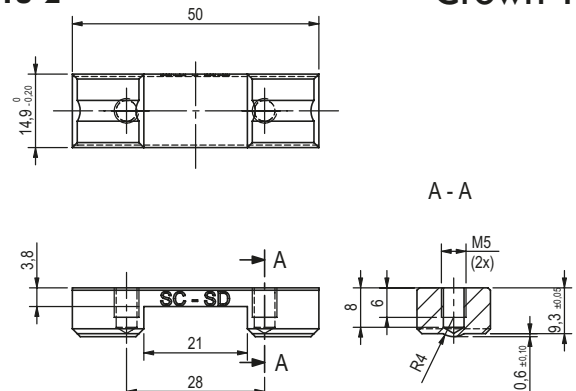


**8JZ-016-2**



For material thickness 0,5 - 1,0 mm

**8JZ-018-2**



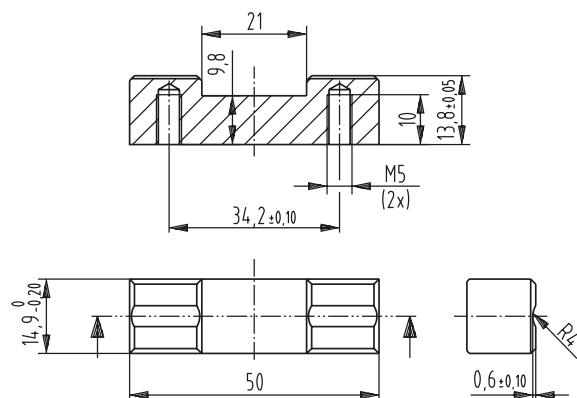
For material thickness 1,0 - 1,5 mm

## Crown Teeth

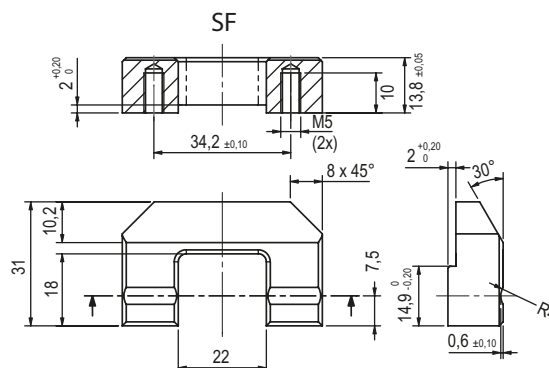
# CROWN TEETH

## Sheet Metal Grippers | Dimensions and Technical Specifications

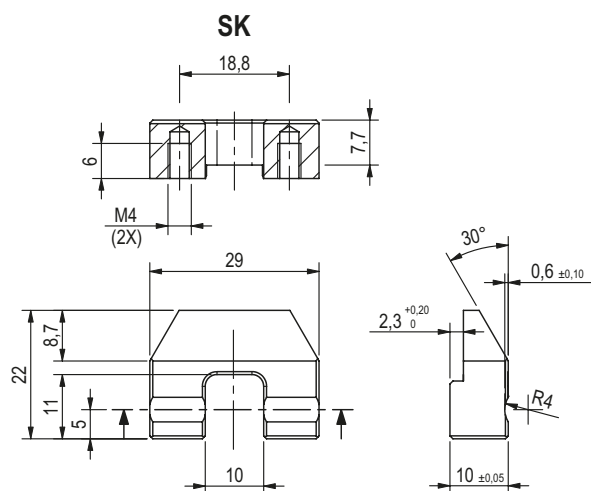
**8JZ-019-1**



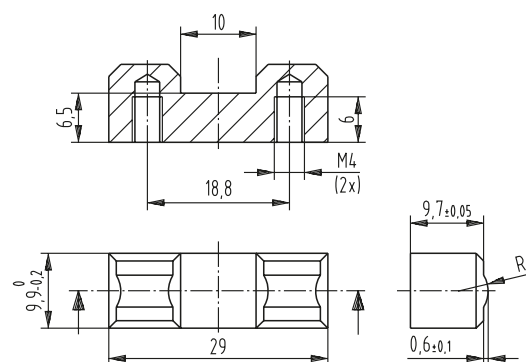
**8JZ-020-3**



**8JZ-036-2**

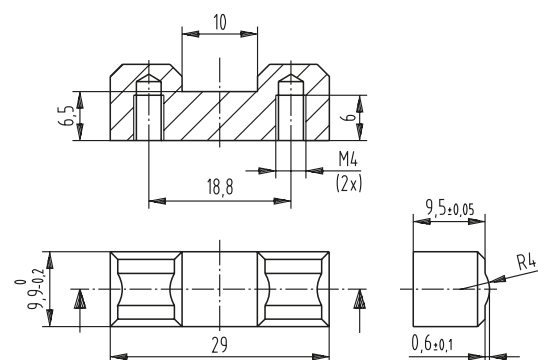


**8JZ-037-1**



For material thickness 0,5 - 0,8 mm

**8JZ-038-1**



For material thickness 0,9 - 1,2 mm

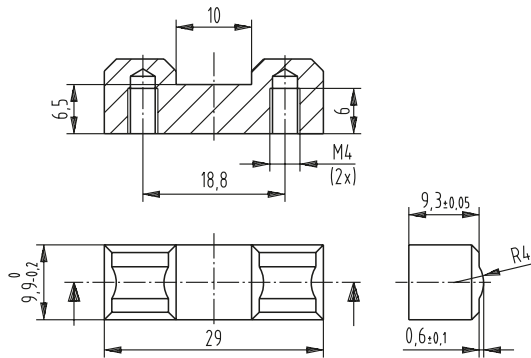
# CROWN TEETH & ADAPTER/LIMIT STOPS

Sheet Metal Grippers | Dimensions and Technical Specifications

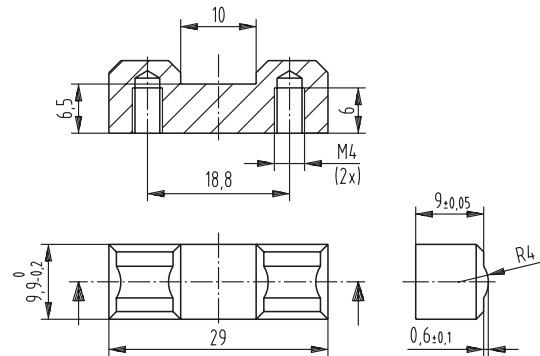
**8JZ-039-1**

**8JZ-040-1**

**Crown Teeth**



For material thickness 1,3 - 1,6 mm

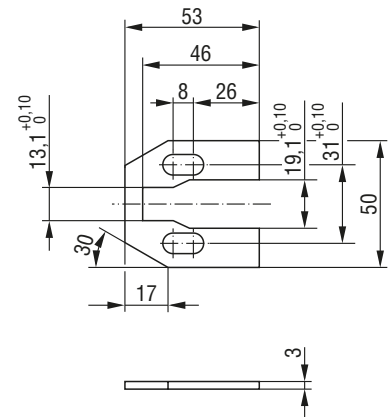
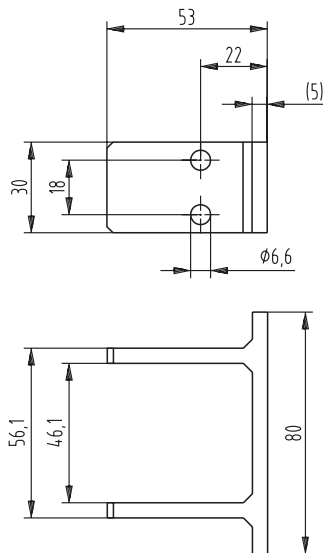


For material thickness 1,7 - 2,1 mm

## Adapter/Limit Stops

**8MA-006-1**

**8MH-046-1**



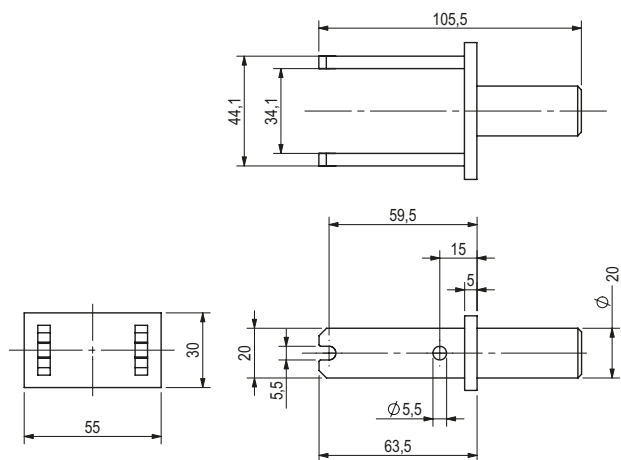
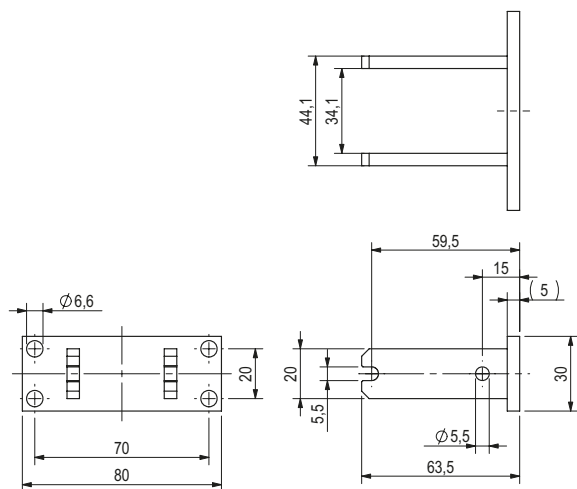


# ADAPTER/LIMIT STOPS

## Sheet Metal Grippers | Dimensions and Technical Specifications

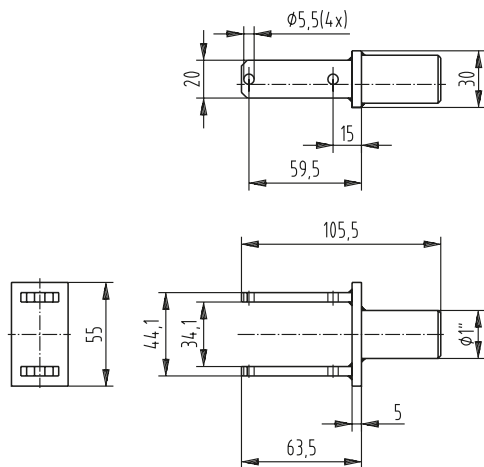
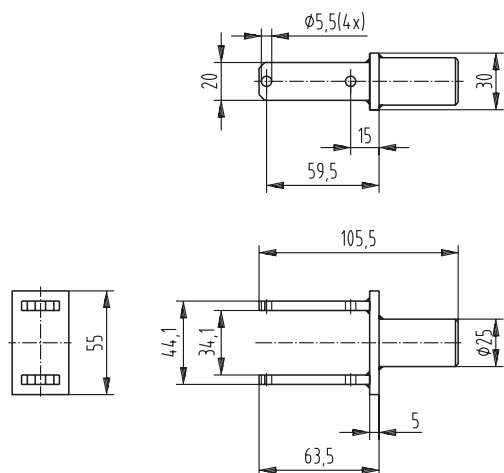
**8MA-147-1**

**8MA-165-1**



**8MA-166-1**

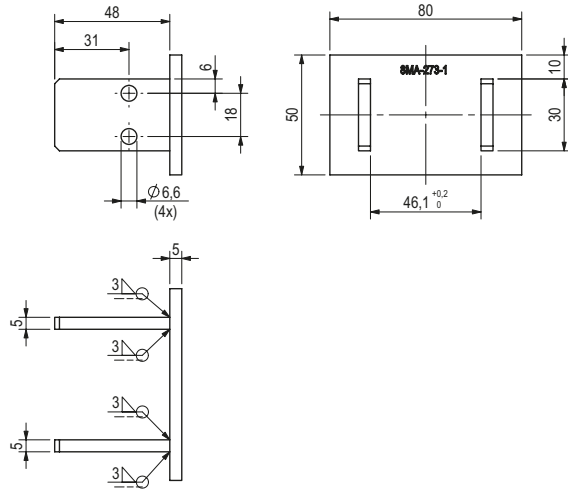
**8MA-168-1**



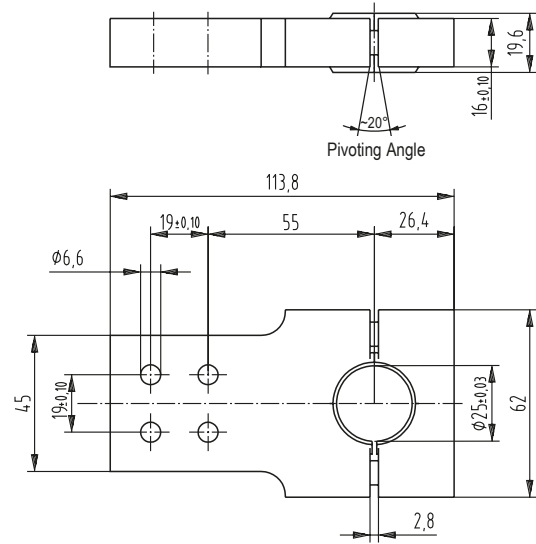
# ADAPTER/LIMIT STOPS

## Sheet Metal Grippers | Dimensions and Technical Specifications

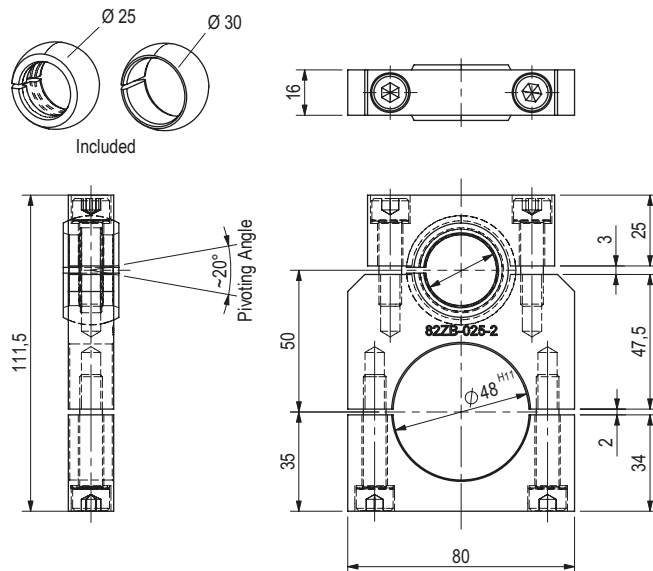
**8MA-273-1**



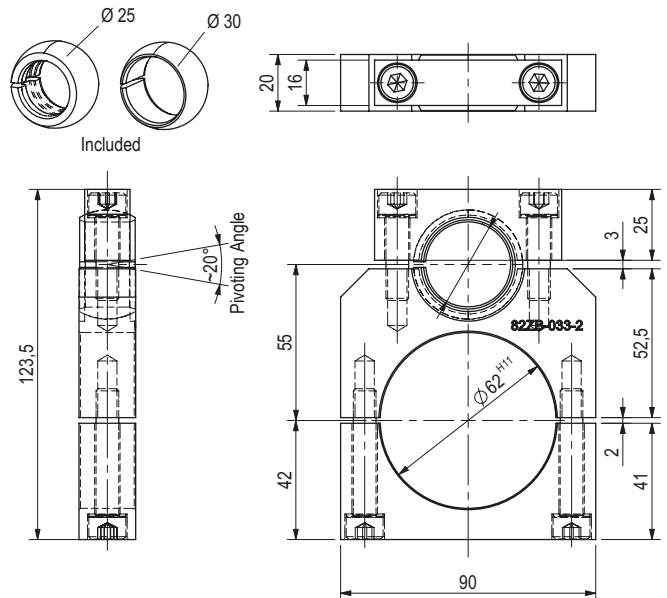
**82ZB-007-1**



**82ZB-025-2**



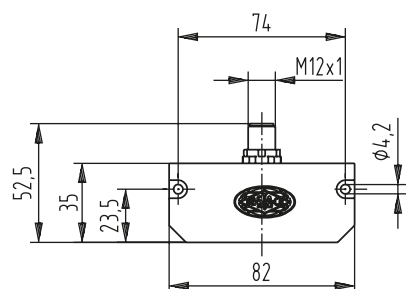
**82ZB-033-2**



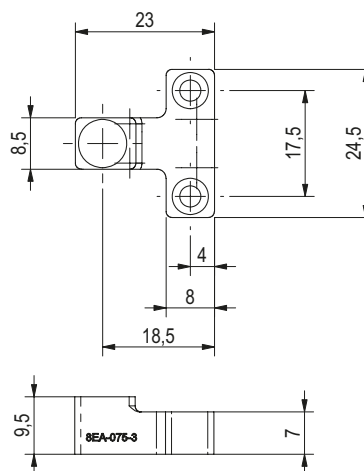
# SENSORS & SHIMS

## Sheet Metal Grippers | Dimensions and Technical Specifications

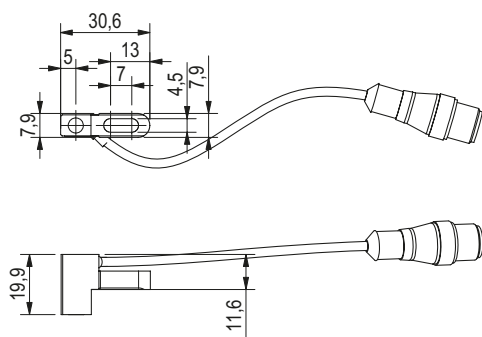
**8EA-022-4** (only for opening angle 76°)



**8EA-075-2/3**

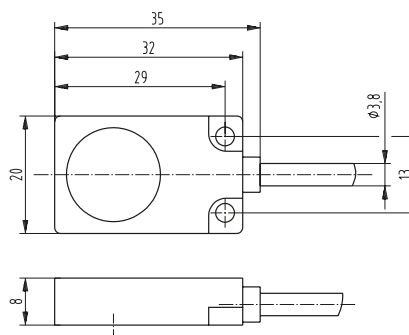


**8EA-087-1**



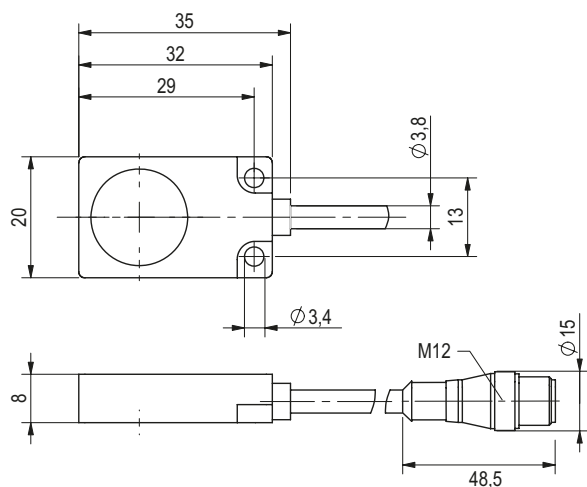
**8EA-092-1**

Switching distance 7 mm



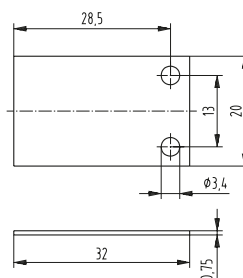
**8EA-092-2**

Switching distance 7 mm

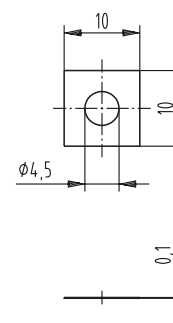


## Shims

**8MB-003-1**



**8SB-039-1**



[illegible]

# GR84 SERIES

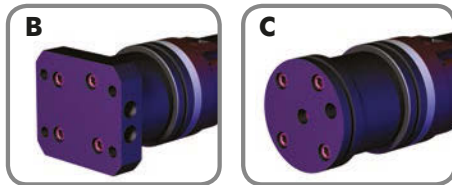
## Sheet Metal Grippers | Ordering Information

**GR84-15** **BE** - **DD** **9S9** **RRSS** - **A1** **XX** **01**

### Cylinder Type & Porting

Step 1 **B**

**Cylinder Type**  
**B** Choose One  
**C** Flange Base  
 Round Cylinder



Step 2 **B** **E**

**Cylinder Ports**  
**E** Choose One  
**M** English (1/8 NPT)  
 Metric (1/8 G)

### Jaw Arm Option

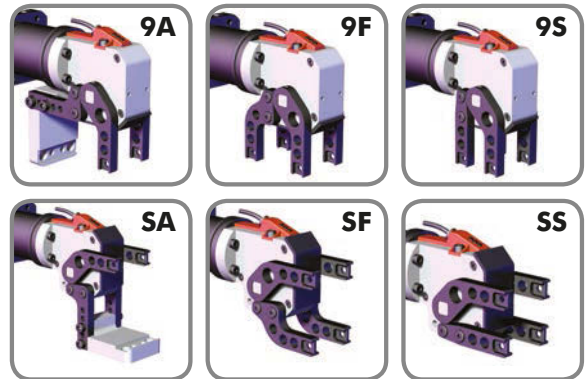
**DD** Description  
 Double Arm



### Jaw Arrangement & Opening

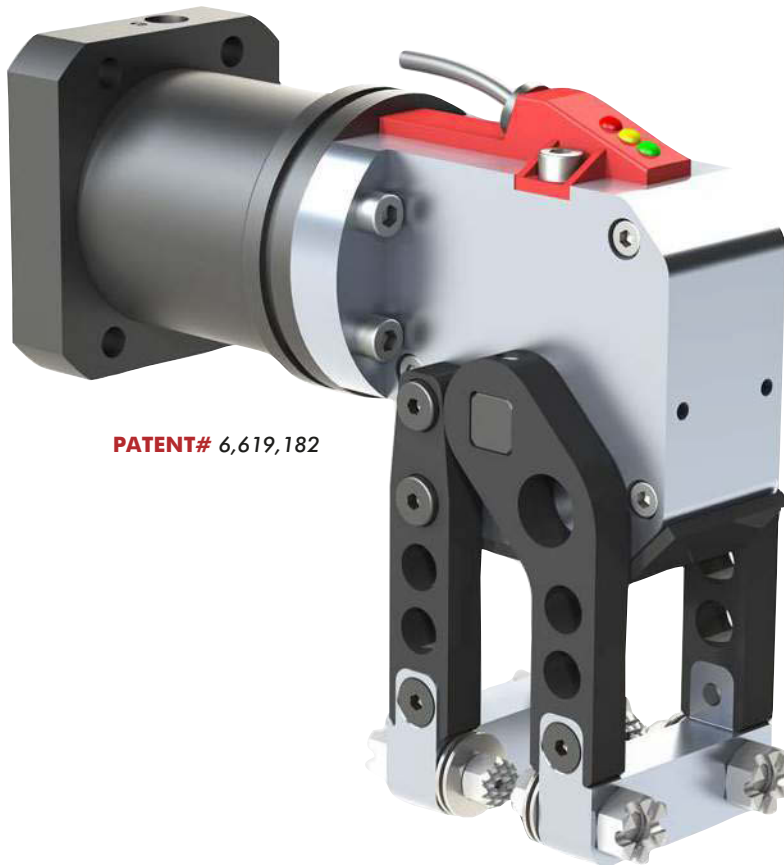
Step 1 **9S**

**Jaw Arrangement**  
**9A** Choose One  
**9F** 90° Grip Adj. Flange  
**9S** 90° Grip Flange  
**SA** 90° Grip Standard  
**SF** Straight Adj. Flange  
**SS** Straight Flange  
 Straight Standard



Step 2 **9S** **9**

**Active Jaw Opening**  
**3** Choose One  
**6** 30° Preset  
**9** 60° Preset  
 90° Preset



**PATENT#** 6,619,182

### For Mini-Clamp Mounting Options

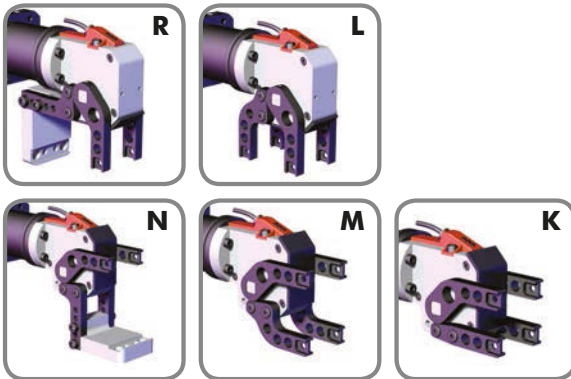
Please Refer to **GR1 Series**  
**"Mounting Options"** for  
 style of mounting and use the  
**"Replacement Part#"** to  
 order the Preferred Mounting  
 Style (See pages GR-SGM-99 to 101).

### Jaw Block & Insert Options

Step 1 **Q** ☐ ☐ ☐ ☐

#### Active Jaw Block Choose One

- |                        |  |
|------------------------|--|
| <b>R</b> Regular Block | <b>M</b> "B" Insert Jaw (Block Inserts Only)     |
| <b>L</b> Flange Block  | <b>K</b> Adjustable Jaw (9A & SA Fixed Jaw Only) |
| <b>N</b> Blank Block   |  |



Step 2 **Q** **Q** **S** **S**

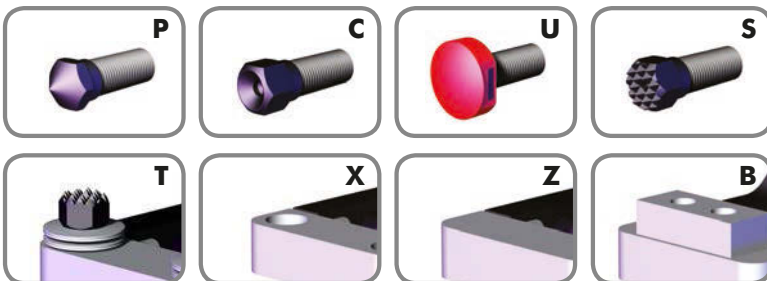
#### Fixed Jaw Block

- R** Fixed Jaw Block

Step 3 **Q** **Q** **S** **S**

#### Active Jaw Block Choose One

- |                   |                                  |
|-------------------|----------------------------------|
| <b>P</b> Point    | <b>T</b> Self-Adjusting Serrated |
| <b>C</b> Cup      | <b>X</b> None                    |
| <b>U</b> Urethane | <b>Z</b> Blank                   |
| <b>S</b> Serrated | <b>B</b> Block                   |



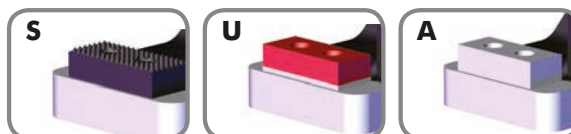
Step 4 **Q** **Q** **S** **S**

#### Fixed Jaw Insert

- S** Fixed Jaw Insert  
or

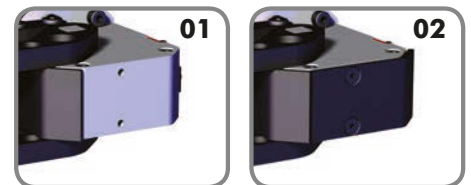
#### "B" Block Insert Choose One

- S** Serrated  
**U** Urethane  
**A** Aluminum  
**N** Non-Standard



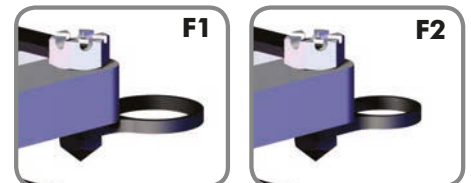
### Guard Options

- | XX        | Description       |
|-----------|-------------------|
| <b>01</b> | No Face Guard     |
| <b>02</b> | Face Guard        |
|           | Face + Skid Guard |



### Sensor Mounts

- | XX        | Description      |
|-----------|------------------|
| <b>F1</b> | No Sensor Mounts |
| <b>F2</b> | Ø18mm Sensor     |
|           | Ø12mm Sensor     |



### Sensor Options

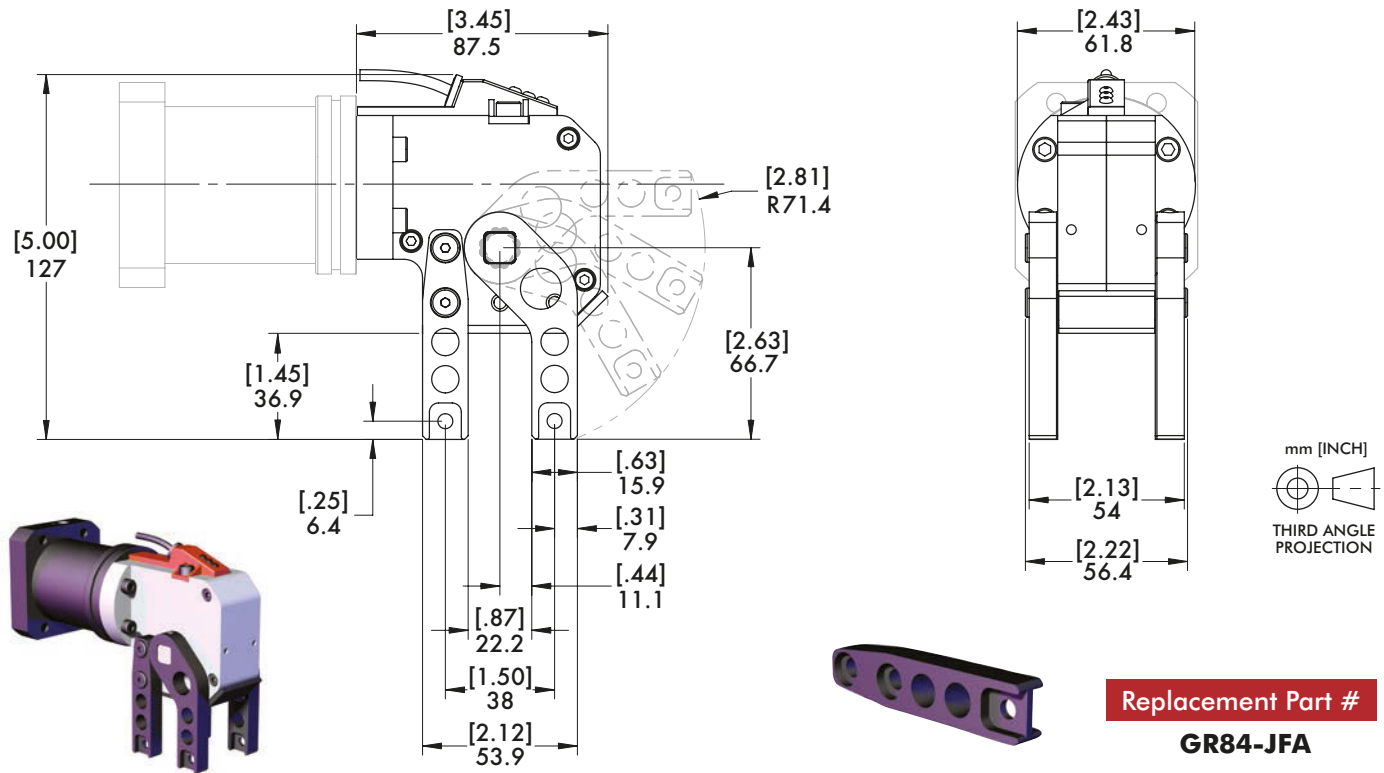
- |           | Description         |
|-----------|---------------------|
| <b>A1</b> | (Turck) VDC         |
| <b>B8</b> | (Pepperl Fuchs) VDC |
| <b>C8</b> | (DE-STA-CO) VDC     |
| <b>C9</b> | (Allen-Bradley) VDC |
| <b>D1</b> | (Turck) AC/DC       |
| <b>E3</b> | (Namco) VDC         |
| <b>E4</b> | (Pepperl Fuchs) VDC |
| <b>E5</b> | (Efector) VDC       |
| <b>E6</b> | (Baluff) VDC        |
| <b>XC</b> | Cover Only          |

(See page 81 for sensor specifications)

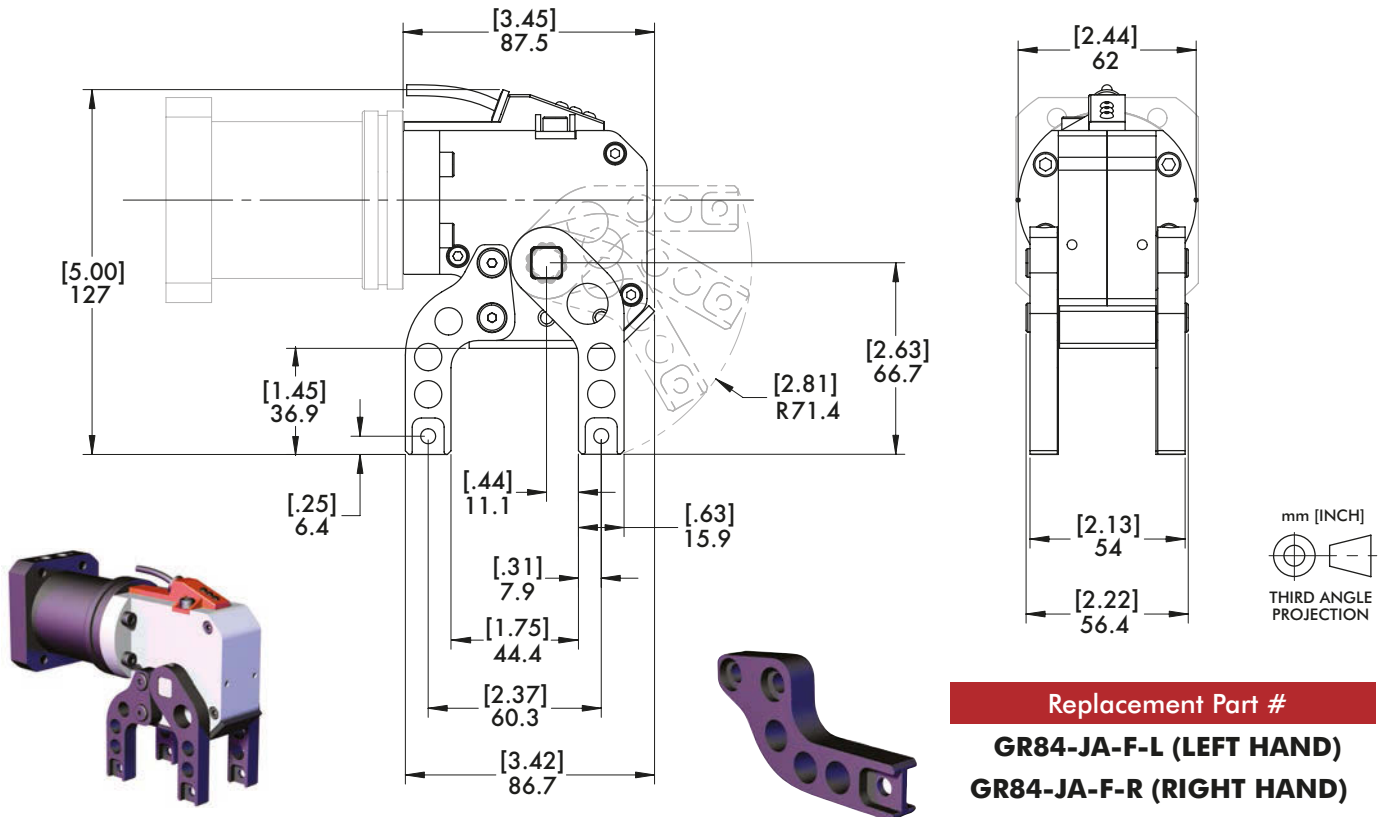
# GR84 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

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

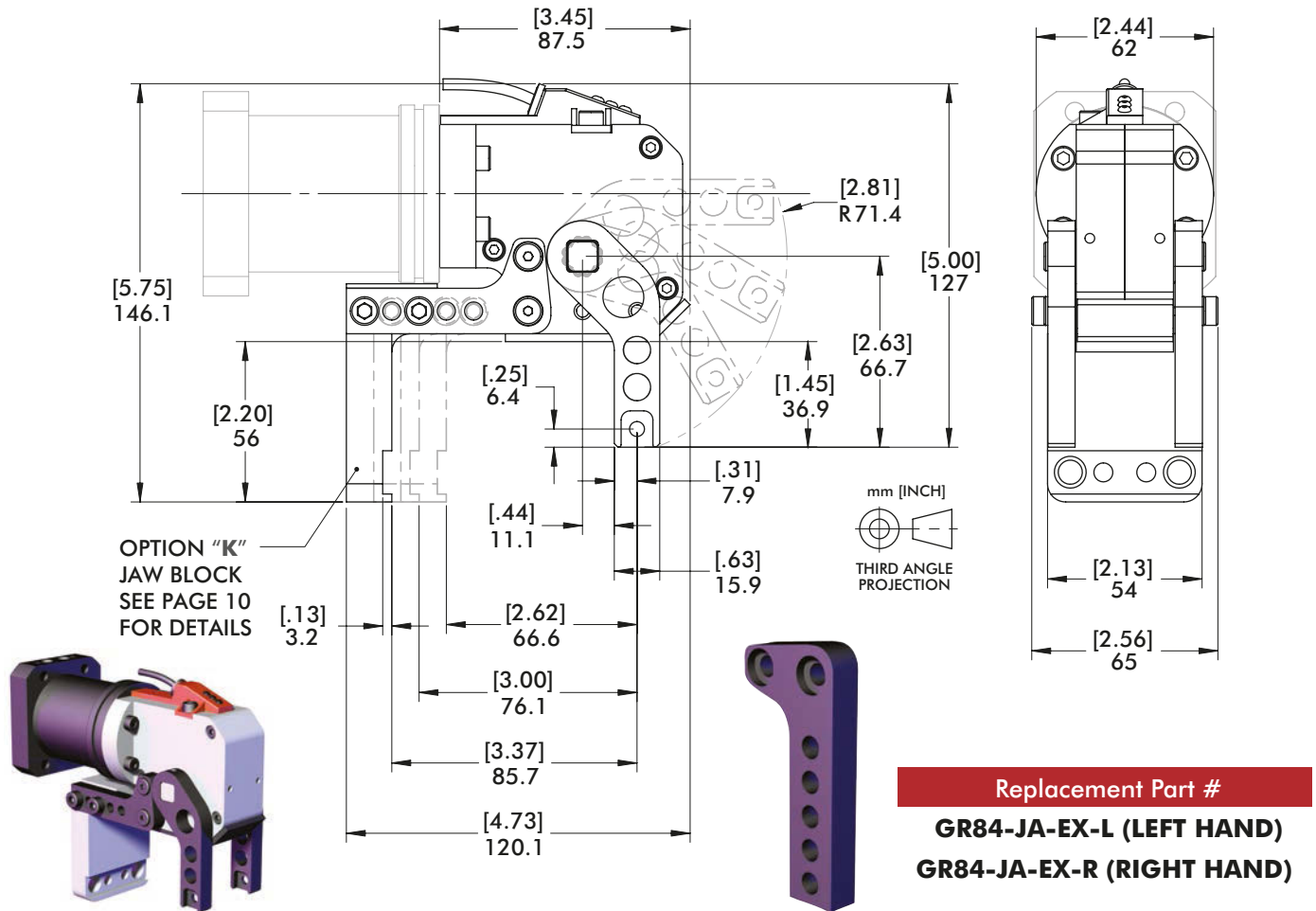


### "9Fx" 90° Jaw Arrangement - Flange Fixed Jaw

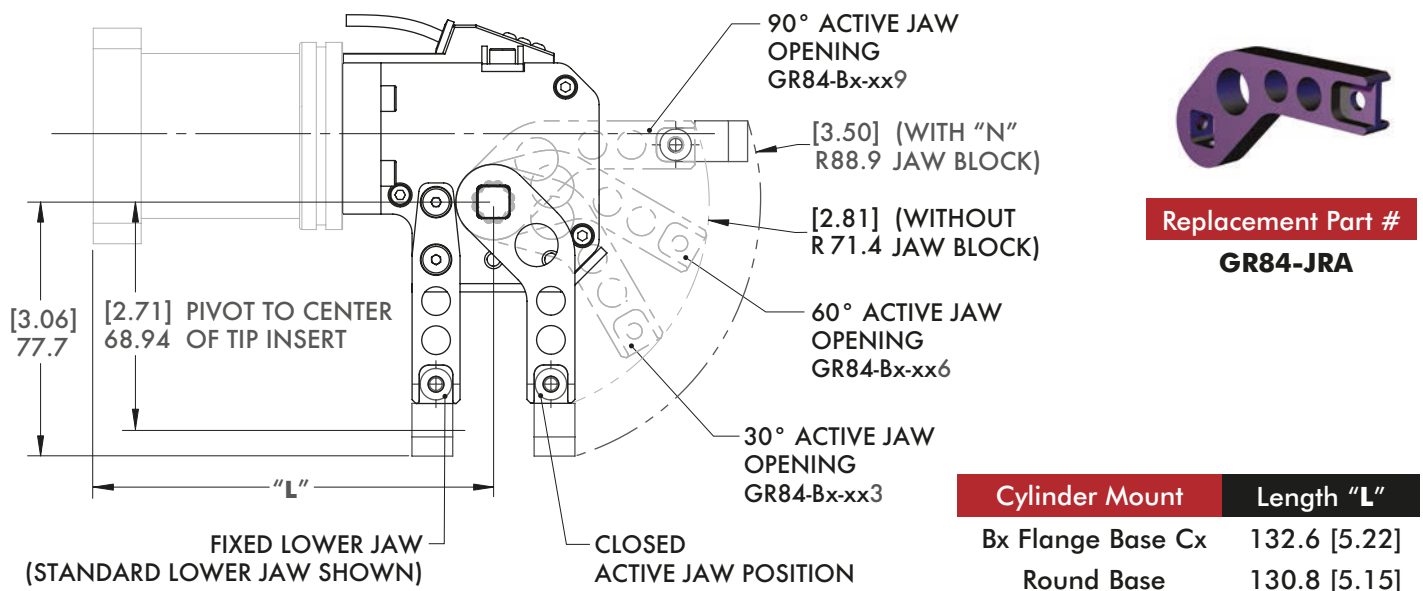




### "9Ax" 90° Jaw Arrangement - Adjustable Fixed Jaw



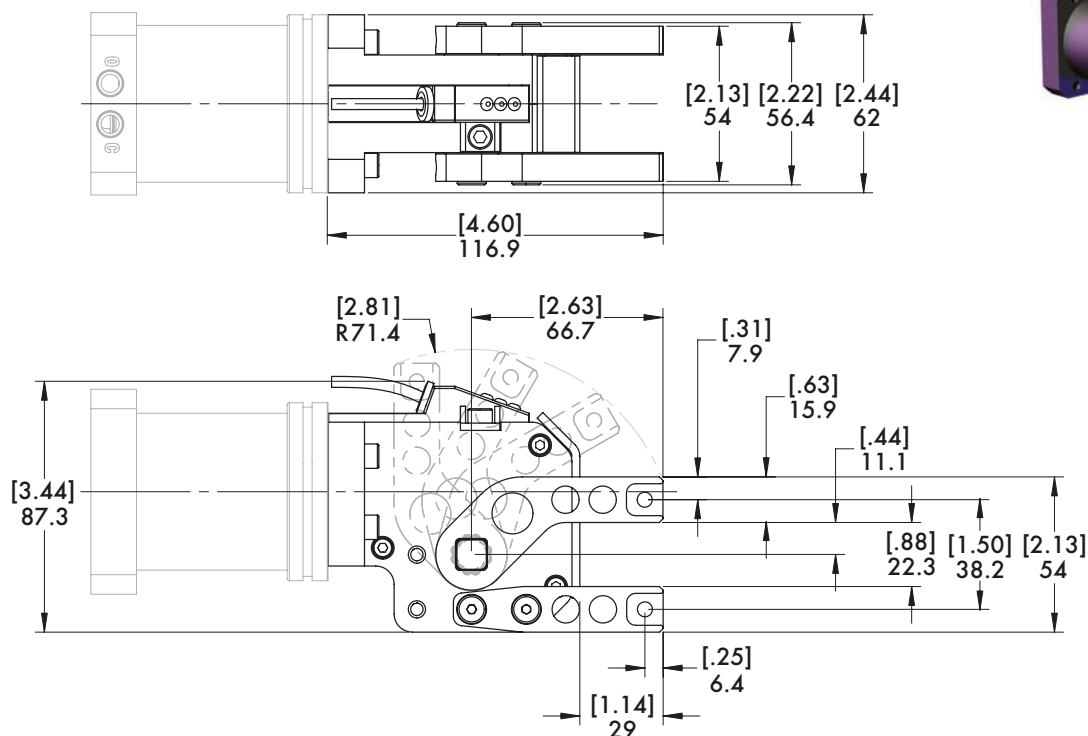
### "xx3", "xx6", "xx9" 90° Jaw Arrangement - Preset Active Jaw Opening



# GR84 SERIES

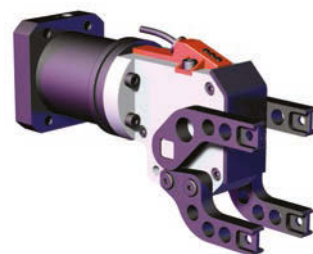
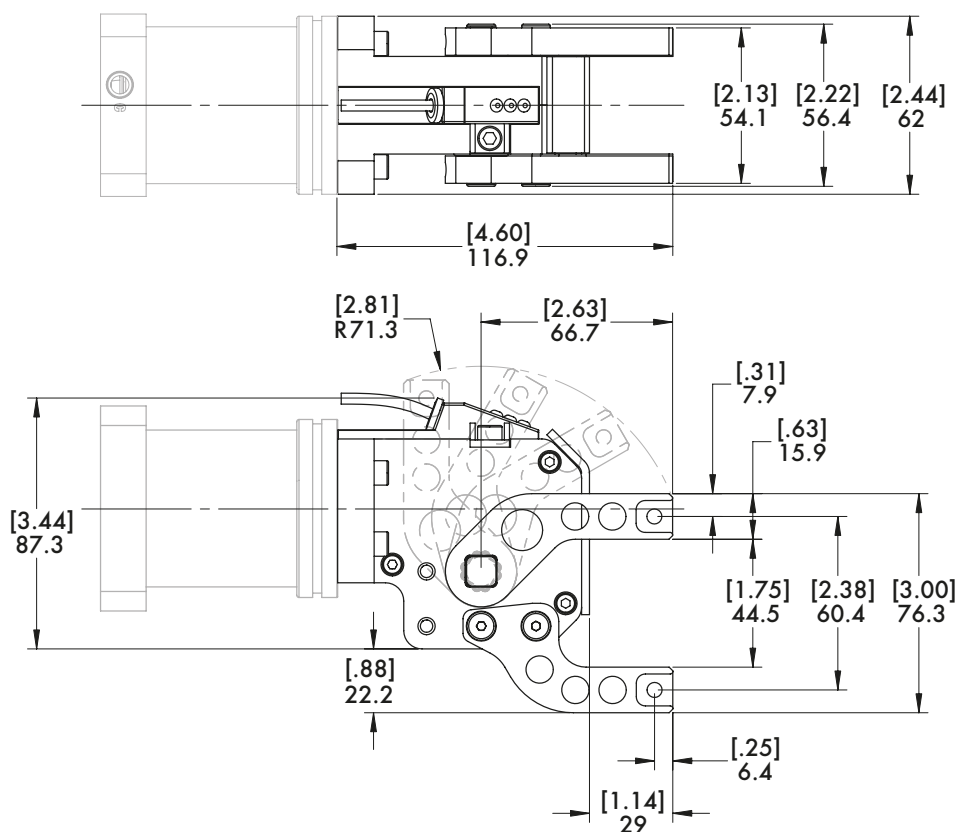
## Sheet Metal Grippers | Dimensions and Technical Specifications

### "SSx" Straight Jaw Arrangement - Standard Fixed Jaw



Replacement Part #  
**GR84-JFA**

### "SFx" Straight Jaw Arrangement - Flange Fixed Jaw

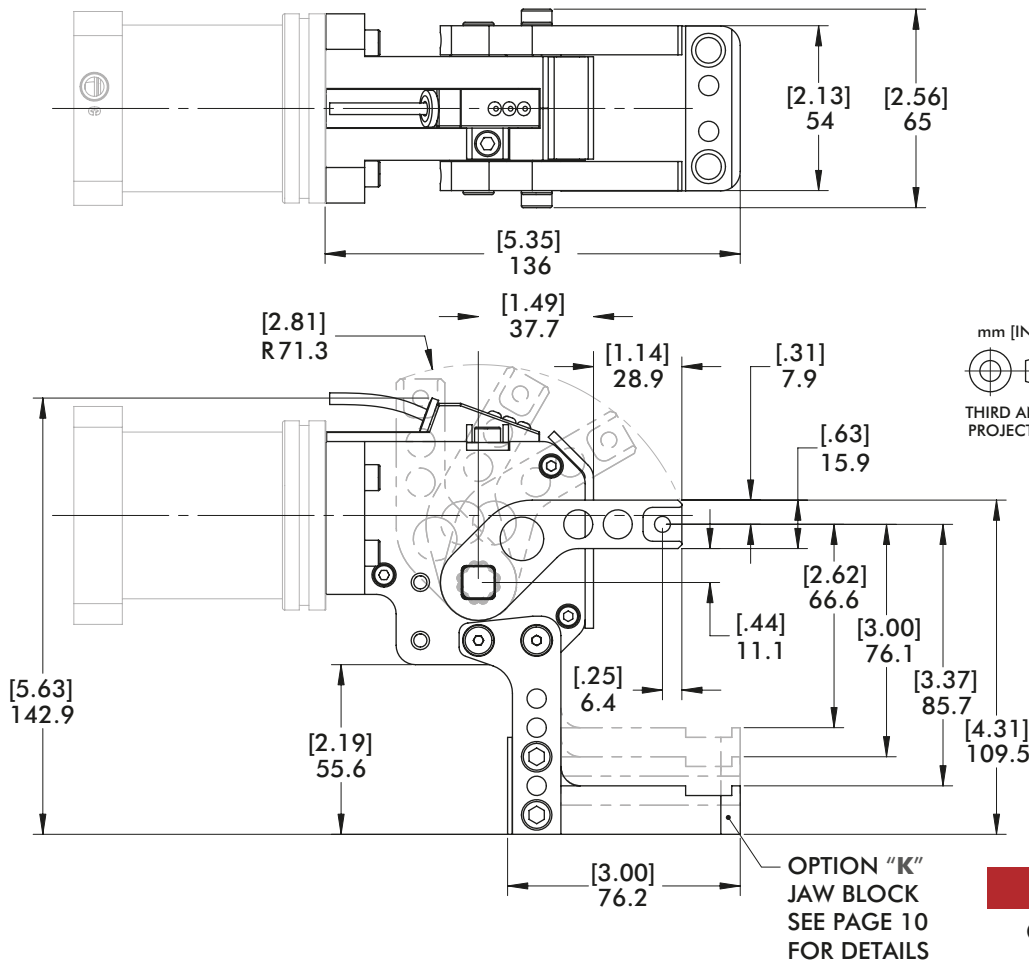


Replacement Part #  
**GR84-JA-F-L (LEFT HAND)**  
**GR84-JA-F-R (RIGHT HAND)**

# GR84 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

### "SAx" Straight Jaw Arrangement - Adjustable Fixed Jaw

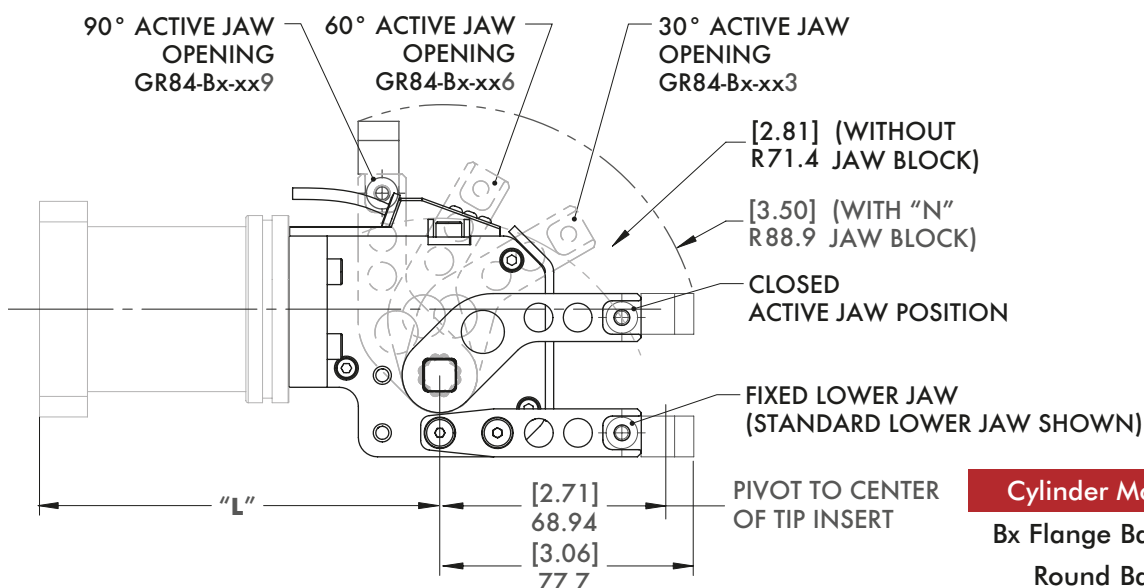


Replacement Part #

**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**

mm [INCH]

THIRD ANGLE PROJECTION

Cylinder Mount

Length "L"

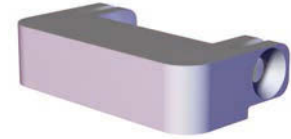
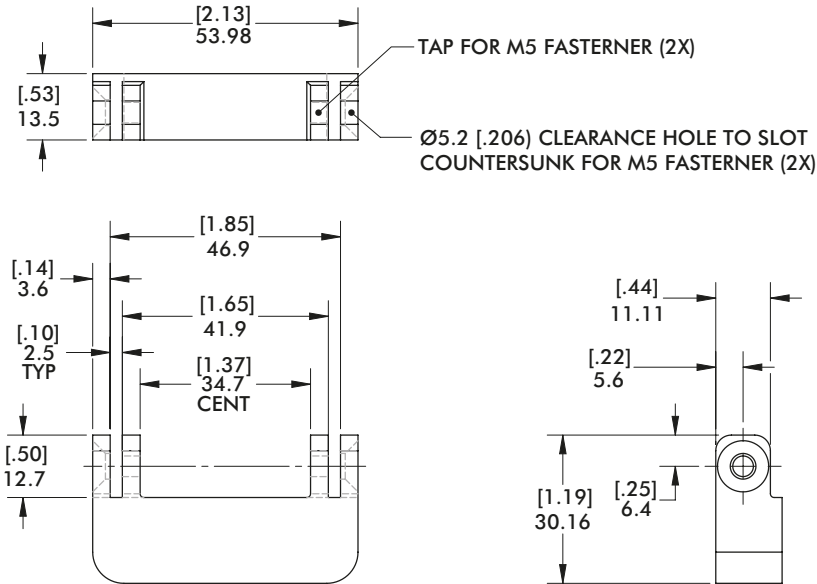
Bx Flange Base Cx 132.6 [5.22]

Round Base 130.8 [5.15]

# GR84 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

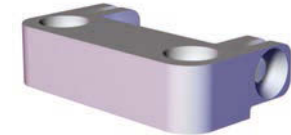
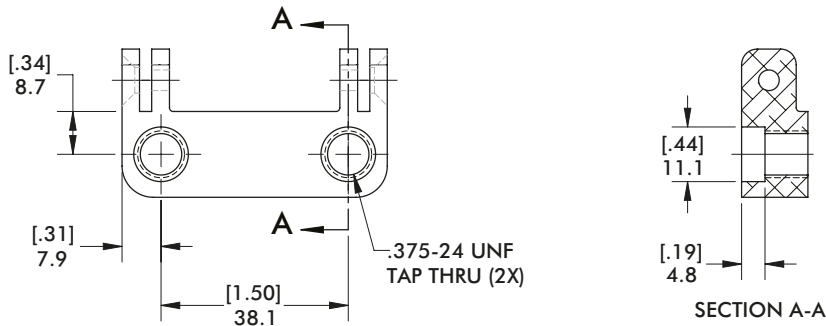
### "N" Blank Jaw Block



Replacement Part #

**GR84-JB**

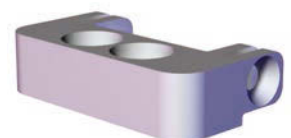
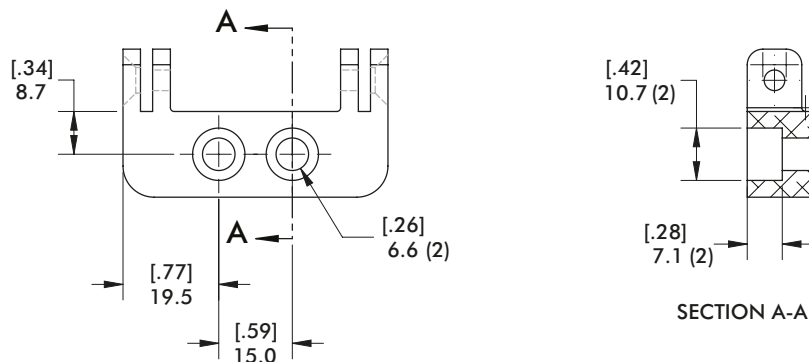
### "R" Point Insert Jaw Block



Replacement Part #

**GR84-JB-3824**

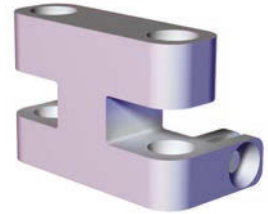
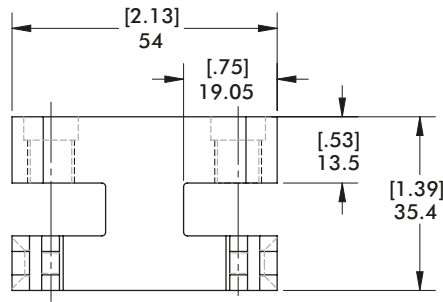
### "M" Block Insert Jaw Block



Replacement Part #

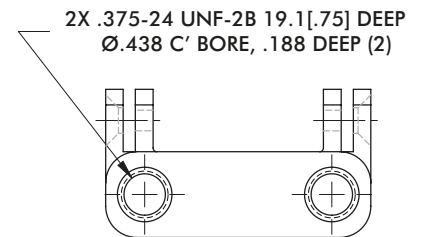
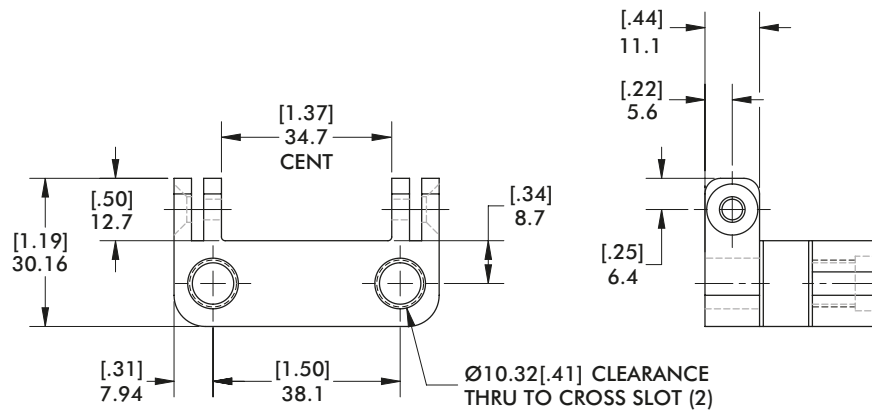
**GR84-JB-BM6**

### "L" Flange Point Insert Jaw Block

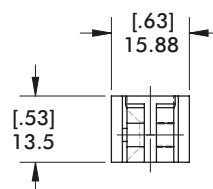


Replacement Part #

**GR84-JB-F-3824**

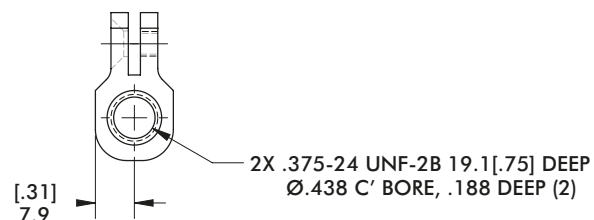
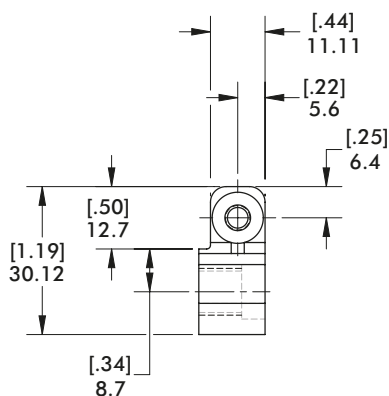


### "Q" Single Point Insert Jaw Block (Offered in pairs per jaw)



Replacement Part #

**GR84-JB-3824S**

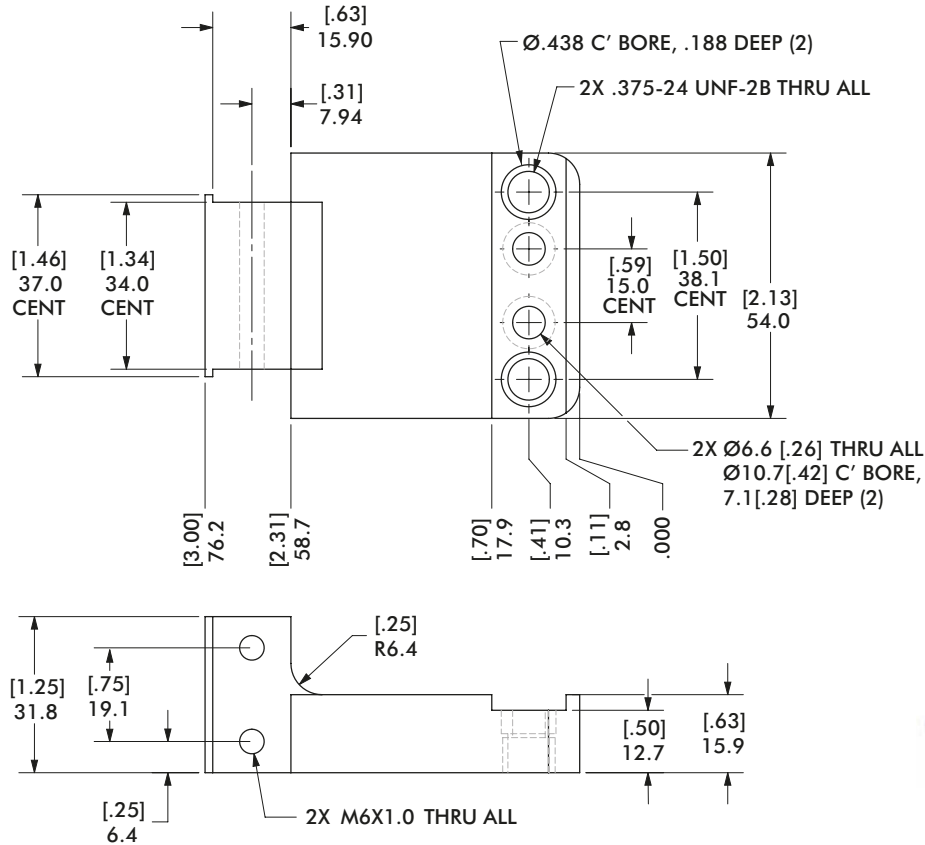


# GR84 SERIES

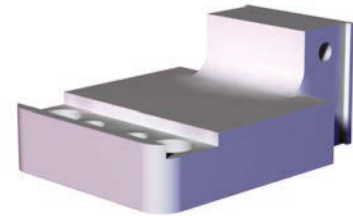
## Sheet Metal Grippers | Dimensions and Technical Specifications

### "K" Adjustable Jaw Block

(Can only be used with "SA" and "9A" fixed lower jaw)



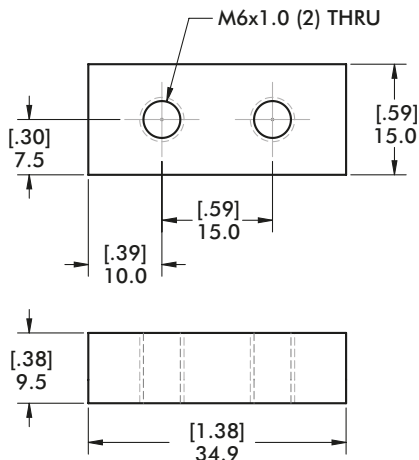
THIS JAW BLOCK GR84-JB-ADJ  
CAN ONLY BE USED ON  
SA AND 9A FIXED LOWER JAW



Replacement Part #  
**GR84-JB-ADJ**

### "S", "U", "A" Block Inserts

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



"S"



Serrated Block Inserts

Replacement Part #  
**GR84-JB-SS**

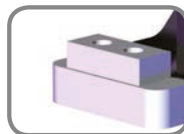
"U"



Urethane Block Inserts

Replacement Part #  
**GR84-JB-UP**

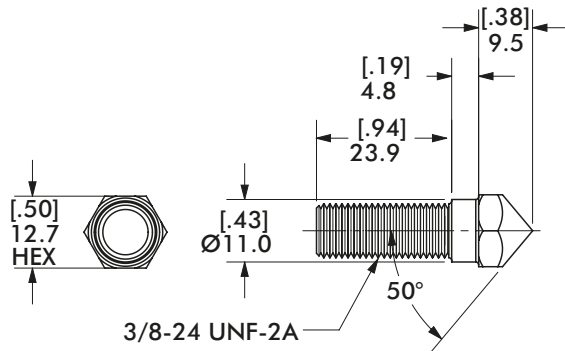
"A"



Aluminum Block Inserts

Replacement Part #  
**GR84-JB-PA**

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



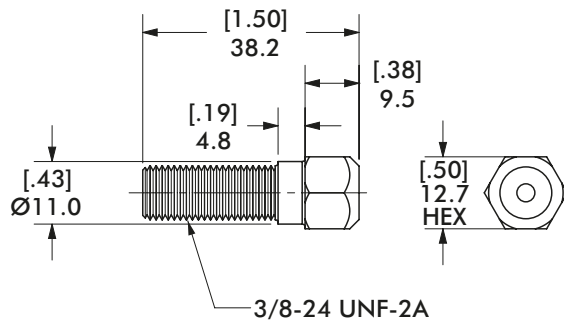
"P"



Point Jaw Inserts

Replacement Part #

**GR0107**



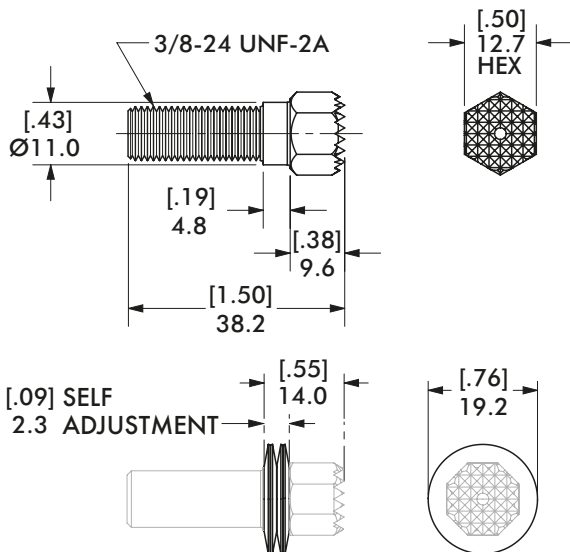
"C"



Cup Jaw Inserts

Replacement Part #

**GR0108**



"S"

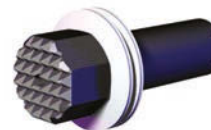


Serrated Jaw Inserts

Replacement Part #

**GR0342**

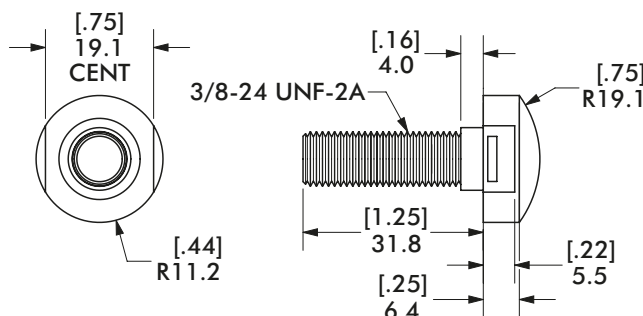
"T"



Self-Adjusting  
Serrated Jaw Inserts

Includes (1) GR0342 and  
(4) Belleville Washers  
Part# 329-TPR-BDA-047

*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.*



"U"



Urethane Jaw Inserts

Replacement Part #

**GR0353**

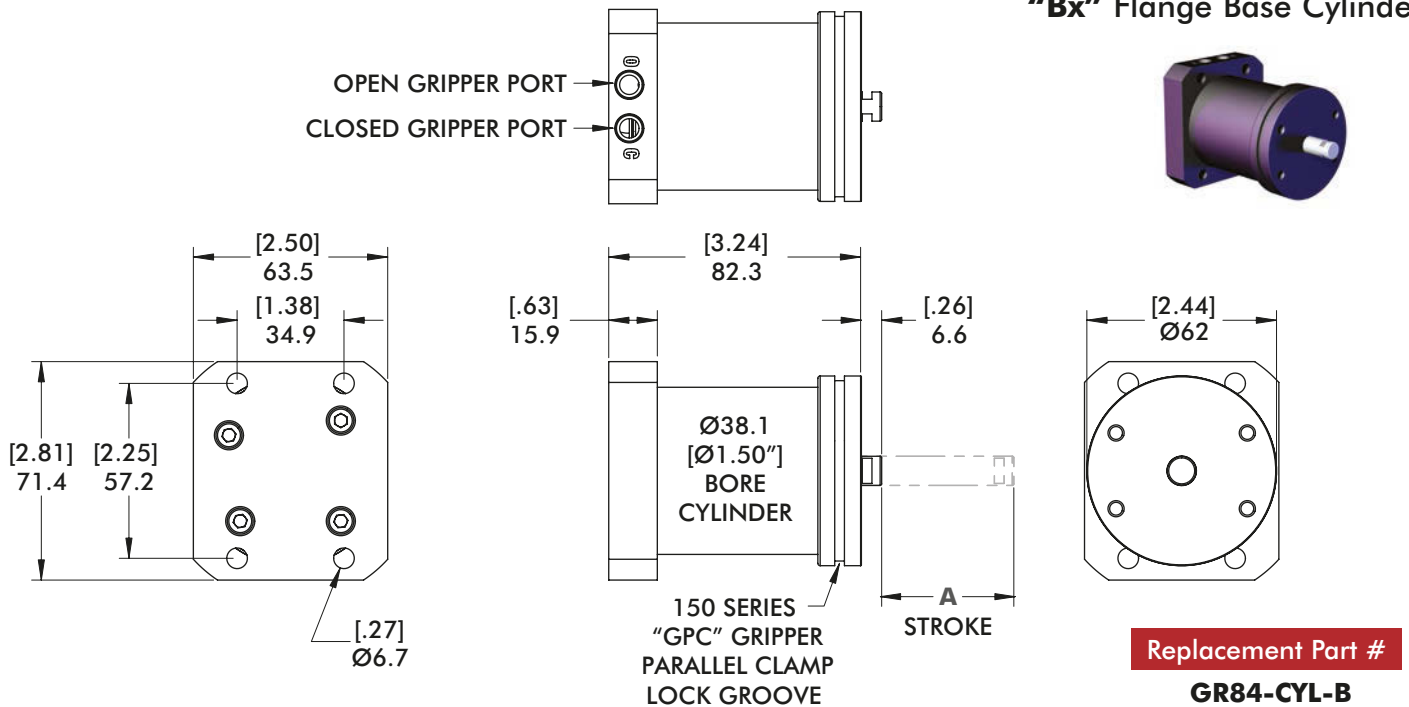




# GR84 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

### "Bx" Flange Base Cylinder

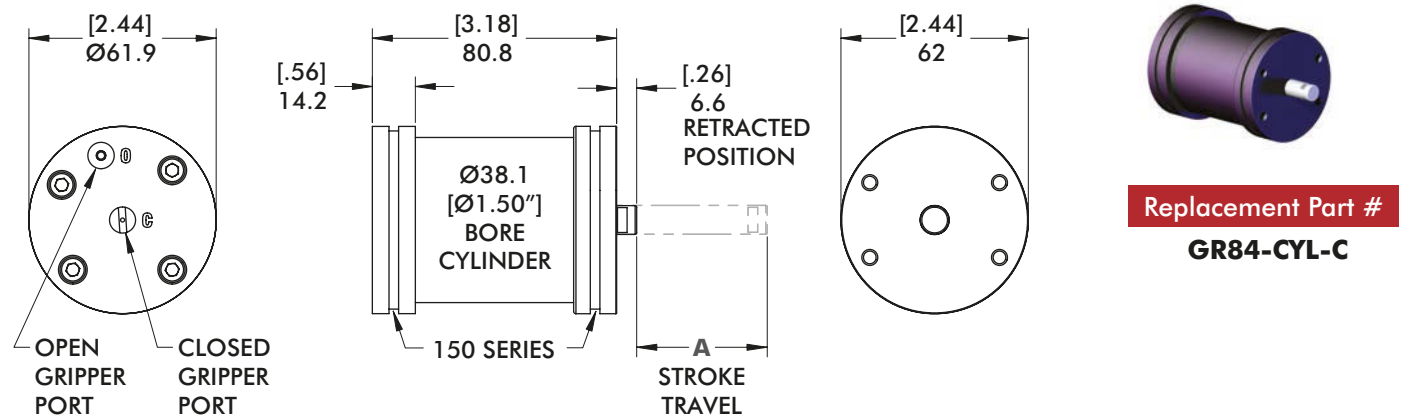


**CYLINDER PORTS**  
**E** = 1/8" NPT (ENGLISH)  
**M** = 1/8" G (METRIC)

**PATENT#** 6,619,182

| Jaw Opening | 30°        | 60°         | 90°         |
|-------------|------------|-------------|-------------|
| STROKE "A"  | 21.3 [.84] | 32.8 [1.29] | 42.9 [1.69] |

### "Cx" Round Base Cylinder



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

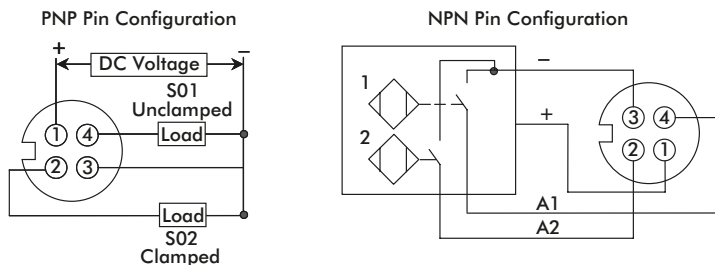
**PATENT#** 6,619,182

| Jaw Opening | 30°        | 60°         | 90°         |
|-------------|------------|-------------|-------------|
| STROKE "A"  | 21.3 [.84] | 32.8 [1.29] | 42.9 [1.69] |

# GR84 SERIES

## Sheet Metal Grippers | Technical Information

### Wiring Diagram of Electrical Sensing System



"A1"



"C8"

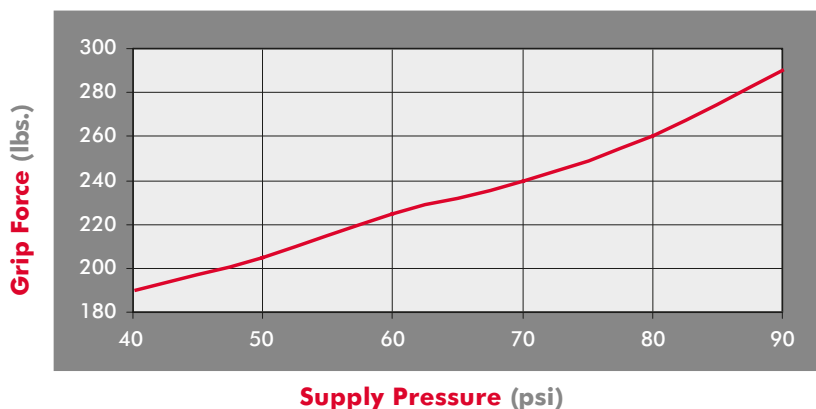


### Open/Closed Sensor Options:

|   |  |
|---|--|
| "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                           |

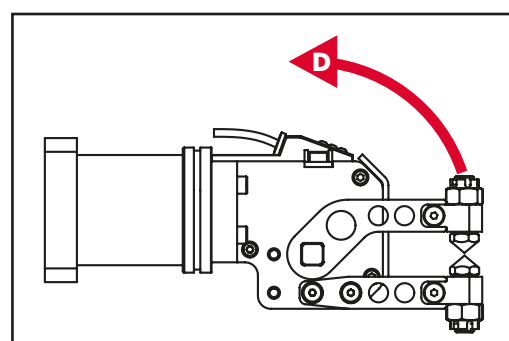
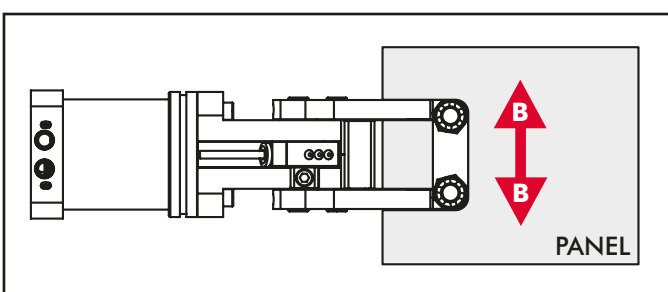
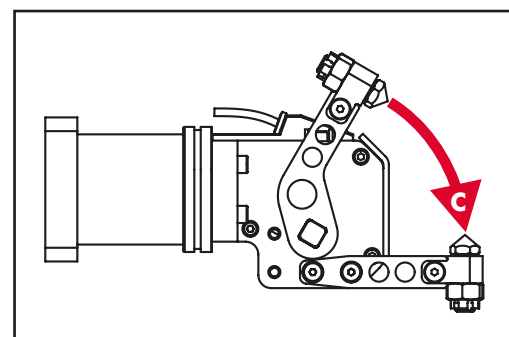
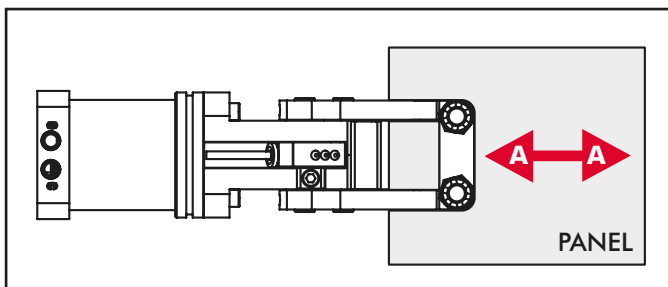
### Specifications:

|   |                         |
|---|-------------------------|
| Weight:   | 3.2 lb [1.5 kg]         |
| Grip Range (Standard and Flange with Jaw Inserts) | 0 to 0.31" [0mm - 8mm]  |
| Arm Position Tolerance:                           | $\pm 0.33^\circ$        |
| Arm Lateral Tolerance:                            | $\pm 0.3\text{mm}$      |
| Cycle Speed @ 60 psi:                             | 0.6 Sec (Open/Closed)   |
| Displacement Per Cycle @ 60psi:                   | 6.0 in <sup>3</sup>     |
| Max Air Consumption @ 100 cycles/min:             | 34 ft <sup>3</sup> /min |
| <u>Reliability:</u>                               |                         |
| Mean Time Between Failure:                        | 3.5 Million Cycles      |
| Mean Time To Repair:                              | 30 Minutes              |



### Self-locking Linkage System

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.



#### Single Jaw Arm Styles

| Pressure            | "A"                | "B"                | "C"                  | "D"                  |
|---------------------|--------------------|--------------------|----------------------|----------------------|
| 2.8 bar<br>[40 psi] | 31.8 kg<br>[70 lb] | 31.8 kg<br>[70 lb] | 86.2 kg<br>[190 lb]  | 294.8 kg<br>[650 lb] |
| 3.4 bar<br>[50 psi] | 34.0 kg<br>[75 lb] | 34.0 kg<br>[75 lb] | 93.0 kg<br>[205 lb]  | 294.8 kg<br>[650 lb] |
| 4.1 bar<br>[60 psi] | 36.3 kg<br>[80 lb] | 36.3 kg<br>[80 lb] | 102.1 kg<br>[225 lb] | 294.8 kg<br>[650 lb] |
| 4.8 bar<br>[70 psi] | 38.6 kg<br>[85 lb] | 38.6 kg<br>[85 lb] | 108.9 kg<br>[240 lb] | 294.8 kg<br>[650 lb] |
| 5.5 bar<br>[80 psi] | 40.8 kg<br>[90 lb] | 40.8 kg<br>[90 lb] | 117.9 kg<br>[260 lb] | 294.8 kg<br>[650 lb] |
| 6.2 bar<br>[90 psi] | 43.1 kg<br>[95 lb] | 43.1 kg<br>[95 lb] | 131.5 kg<br>[290 lb] | 294.8 kg<br>[650 lb] |

#### Double Jaw Arm Styles

| Pressure            | "A"                 | "B"                 | "C"                  | "D"                   |
|---------------------|---------------------|---------------------|----------------------|-----------------------|
| 2.8 bar<br>[40 psi] | 34.0 kg<br>[75 lb]  | 34.0 kg<br>[75 lb]  | 86.2 kg<br>[190 lb]  | 589.4 kg<br>[1300 lb] |
| 3.4 bar<br>[50 psi] | 36.3 kg<br>[80 lb]  | 36.3 kg<br>[80 lb]  | 93.0 kg<br>[205 lb]  | 589.4 kg<br>[1300 lb] |
| 4.1 bar<br>[60 psi] | 38.6 kg<br>[85 lb]  | 38.6 kg<br>[85 lb]  | 102.1 kg<br>[225 lb] | 589.4 kg<br>[1300 lb] |
| 4.8 bar<br>[70 psi] | 40.8 kg<br>[90 lb]  | 40.8 kg<br>[90 lb]  | 108.9 kg<br>[240 lb] | 589.4 kg<br>[1300 lb] |
| 5.5 bar<br>[80 psi] | 43.1 kg<br>[95 lb]  | 43.1 kg<br>[95 lb]  | 117.9 kg<br>[260 lb] | 589.4 kg<br>[1300 lb] |
| 6.2 bar<br>[90 psi] | 45.4 kg<br>[100 lb] | 45.4 kg<br>[100 lb] | 131.5 kg<br>[290 lb] | 589.4 kg<br>[1300 lb] |

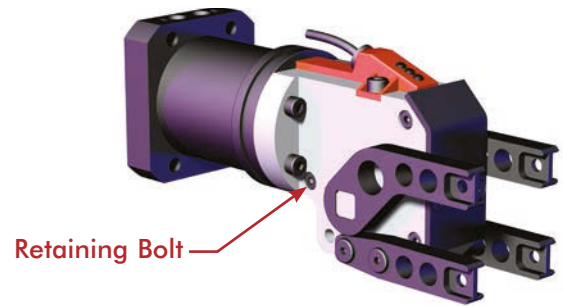
# GR84 SERIES

## Sheet Metal Grippers | Technical Information

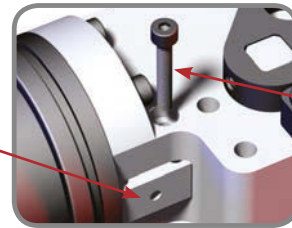
### Jaw Opening Adjustment

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.

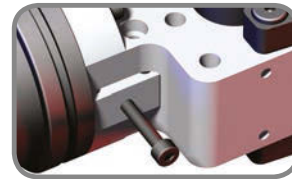
With the jaws in the closed position and the air off, loosen and remove *Retaining Bolt*.



*Stroke Adjustment Block*



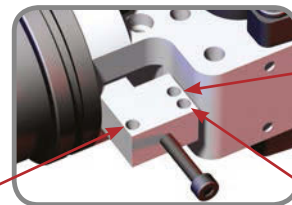
Thread retaining bolt into the bottom of the *Stroke Adjustment Block*.



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

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

30° Opening



90° Opening

60° Opening

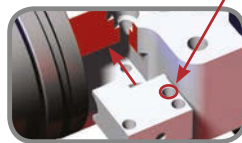
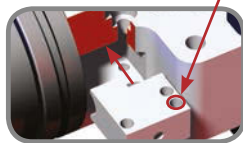
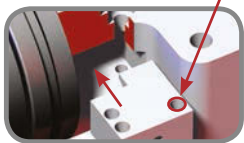
Position the *Stroke Adjustment Block* so the *Retaining Bolt* hole aligns with the desired jaw opening hole.



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.

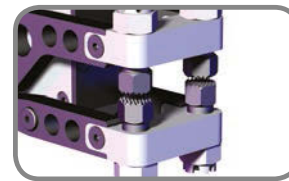
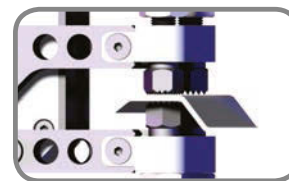
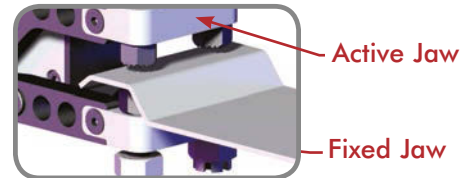
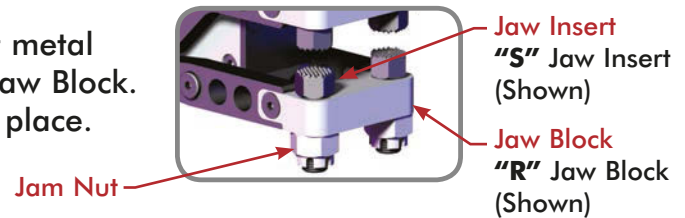


### Jaw Opening Adjustment

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.

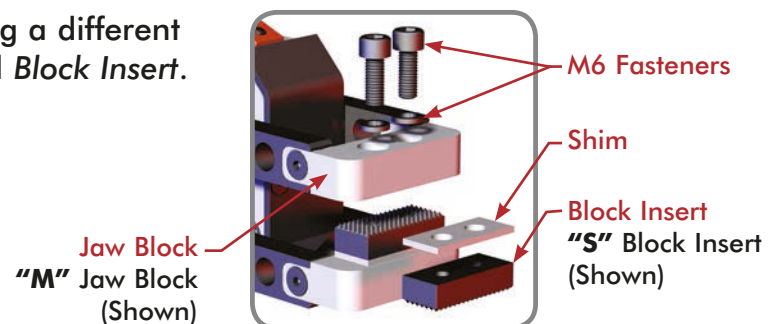
(This procedure can be used for both the GR84 Mini-Clamp and GR1 Grippers)

- 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

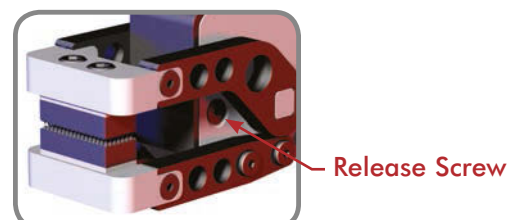
*Block Insert* height can be adjusted by placing a different thickness *Shim* between the *Jaw Block* and *Block Insert*.



### 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.





# GR1-15 SERIES

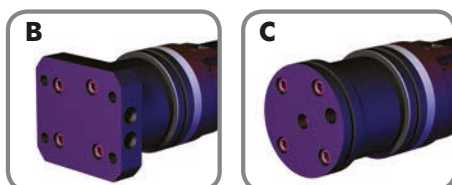
## Sheet Metal Grippers | Ordering Information

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

### Cylinder Type & Porting

#### Step 1 B

**Cylinder Type** Choose One  
**B** Flange Base  
**C** Round Cylinder



#### Step 2 B E

**Cylinder Ports** Choose One  
**E** English (1/8 NPT)  
**M** Metric (1/8 G)

### Jaw Arrangement Options

#### Step 1

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



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



### Open/Closed Sensor

| Sensors Type | Description     |
|--------------|-----------------|
| <b>T04</b>   | Internal Sensor |
| <b>XXX</b>   | No Sensor       |

(See page XX for sensor specifications)

### Part Present Sensor

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

### Mount Options

**Step 1** **M** ☒ ☐

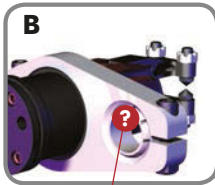
| Mount Type | Choose One              |
|------------|-------------------------|
| <b>A</b>   | Parallel Swivel Mount   |
| <b>B</b>   | Rear Swivel Clamp Mount |
| <b>C</b>   | Rear Fixed Welded Style |
| <b>D</b>   | Rear Fixed Clamp Mount  |

**X** = Omit

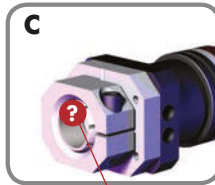
**Step 2** **M** ☐ ☒

| Ball/Rod Size | Choose One               |
|---------------|--------------------------|
| <b>1</b>      | 1.00" W/Metric Fasteners |
| <b>2</b>      | 1.25" W/Metric Fasteners |
| <b>3</b>      | 25Mm Metric Fasteners    |
| <b>4</b>      | 30Mm Bodybuilder/Metric  |

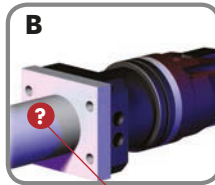
**X** = Omit



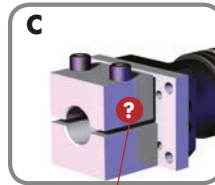
**1 2 3 4**  
Mount Ball Sizes



**1 2 3 4**  
Mount Ball Sizes



**1 3 5 6**  
Mount Rod Sizes



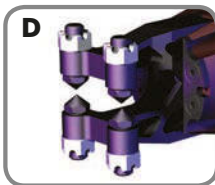
**7**  
Mount Size

### Points & Tip Insert Options

**Step 1** **D** ☐ ☐

| Point Tip | Choose One     |
|-----------|----------------|
| <b>S</b>  | Flange Base    |
| <b>D</b>  | Round Cylinder |

**X** = Omit



**Step 2** **D** **P** **P**

| Upper Tip Insert | Choose One |
|------------------|------------|
| <b>P</b>         | Point      |
| <b>C</b>         | Cup        |
| <b>U</b>         | Urethane   |
| <b>S</b>         | Serrated   |

**X** = Omit



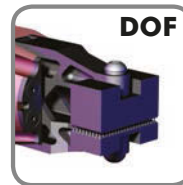
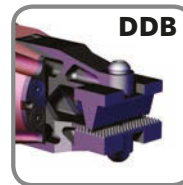
**Step 3** **D** **P** **P**

| Lower Tip Insert | Choose One |
|------------------|------------|
| <b>P</b>         | Point      |

**X** = Omit

### - or - Block Insert Options

| Block insert | Choose One                |
|--------------|---------------------------|
| <b>DDB</b>   | Double Draw Bead          |
| <b>DOF</b>   | Double Offset             |
| <b>D30</b>   | Double 30° Angle          |
| <b>SDB</b>   | Single Draw Bead          |
| <b>SOF</b>   | Single Offset             |
| <b>S30</b>   | Single 30° Angle          |
| <b>SED</b>   | Single Extended Draw Bead |

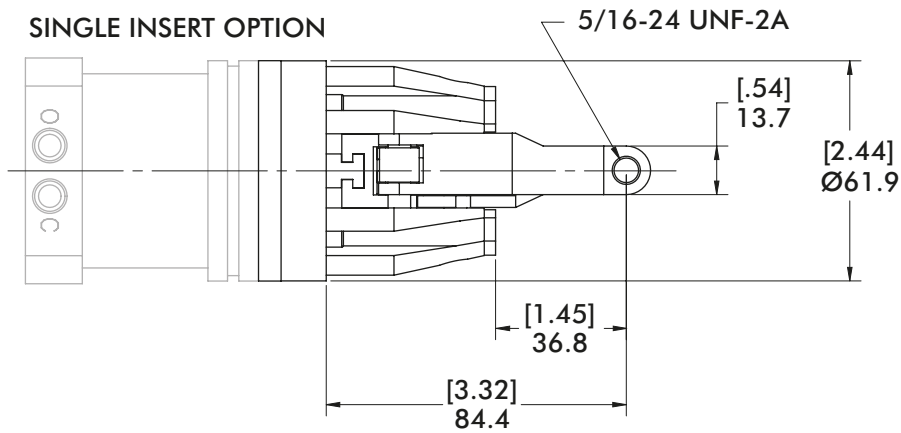


# GR1-15 SERIES

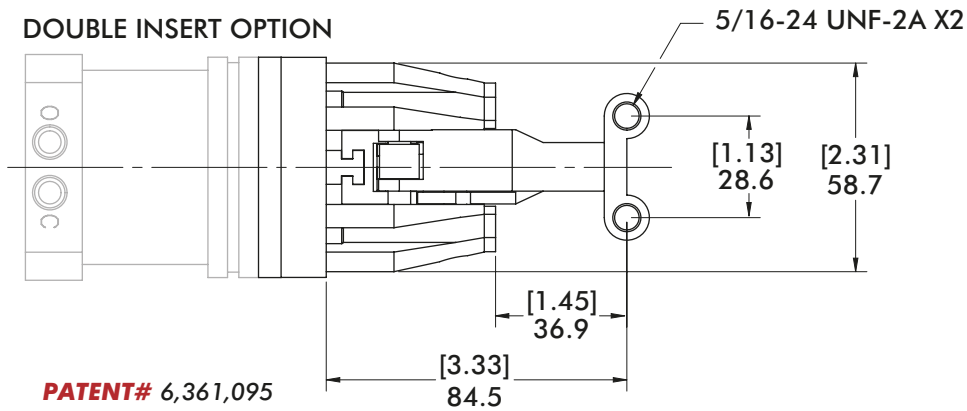
## Sheet Metal Grippers | Dimensions and Technical Information

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

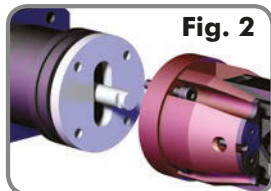
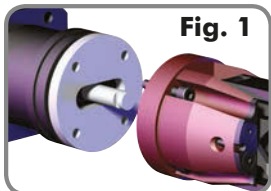
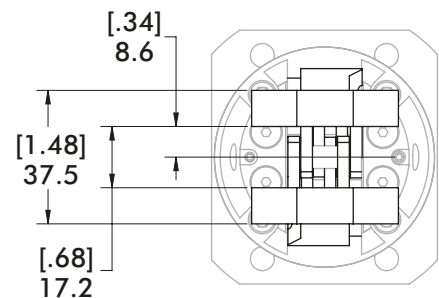
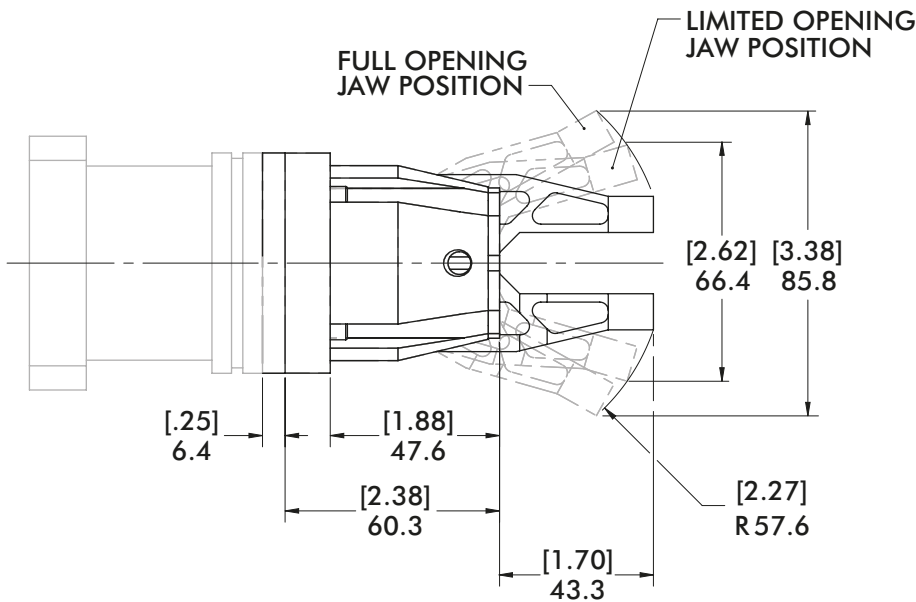
#### SINGLE INSERT OPTION



#### DOUBLE INSERT OPTION



**PATENT#** 6,361,095

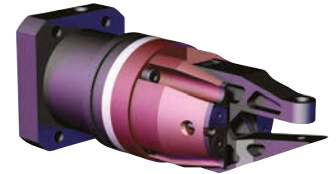
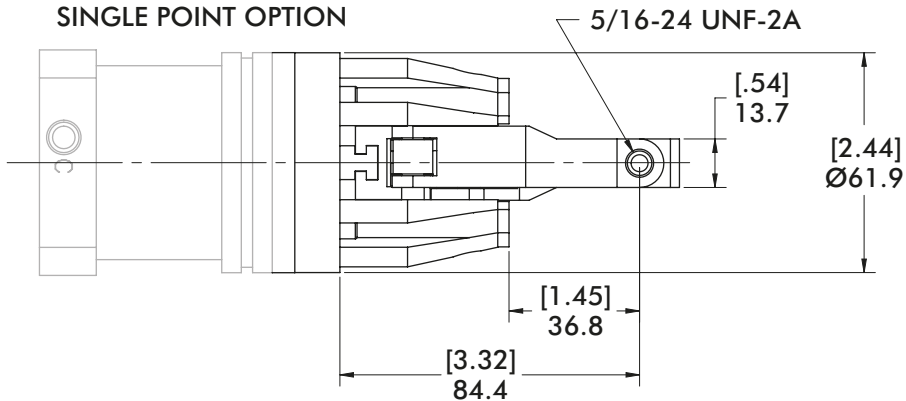


#### For Limited Stroke Option

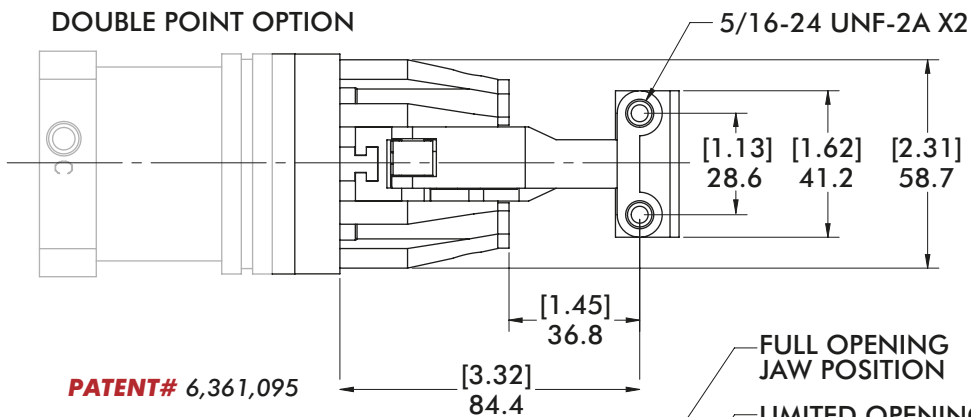
1. Loosen fasteners securing gripper body from cylinder.
2. Pull gripper body away so fasteners clear the spacer.
3. Rotate Spacer 90° (Fig. 2).
4. Reattach gripper body to cylinder and tighten fasteners.

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

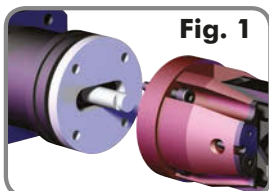
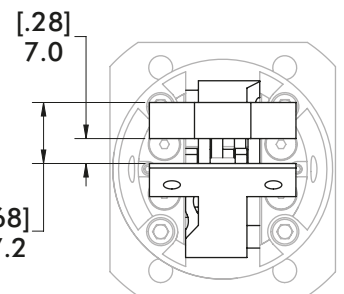
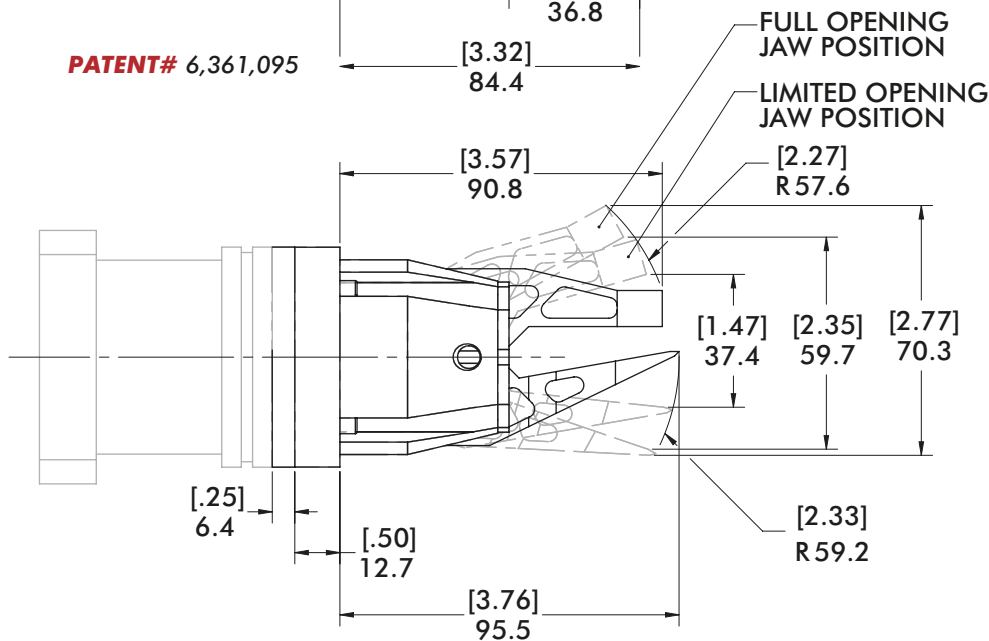
#### SINGLE POINT OPTION



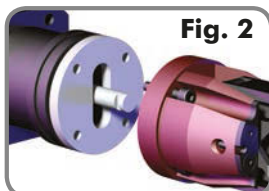
#### DOUBLE POINT OPTION



**PATENT#** 6,361,095



**Fig. 1**



**Fig. 2**

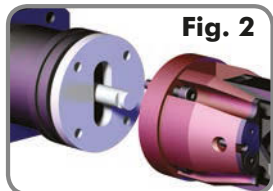
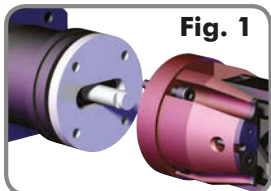
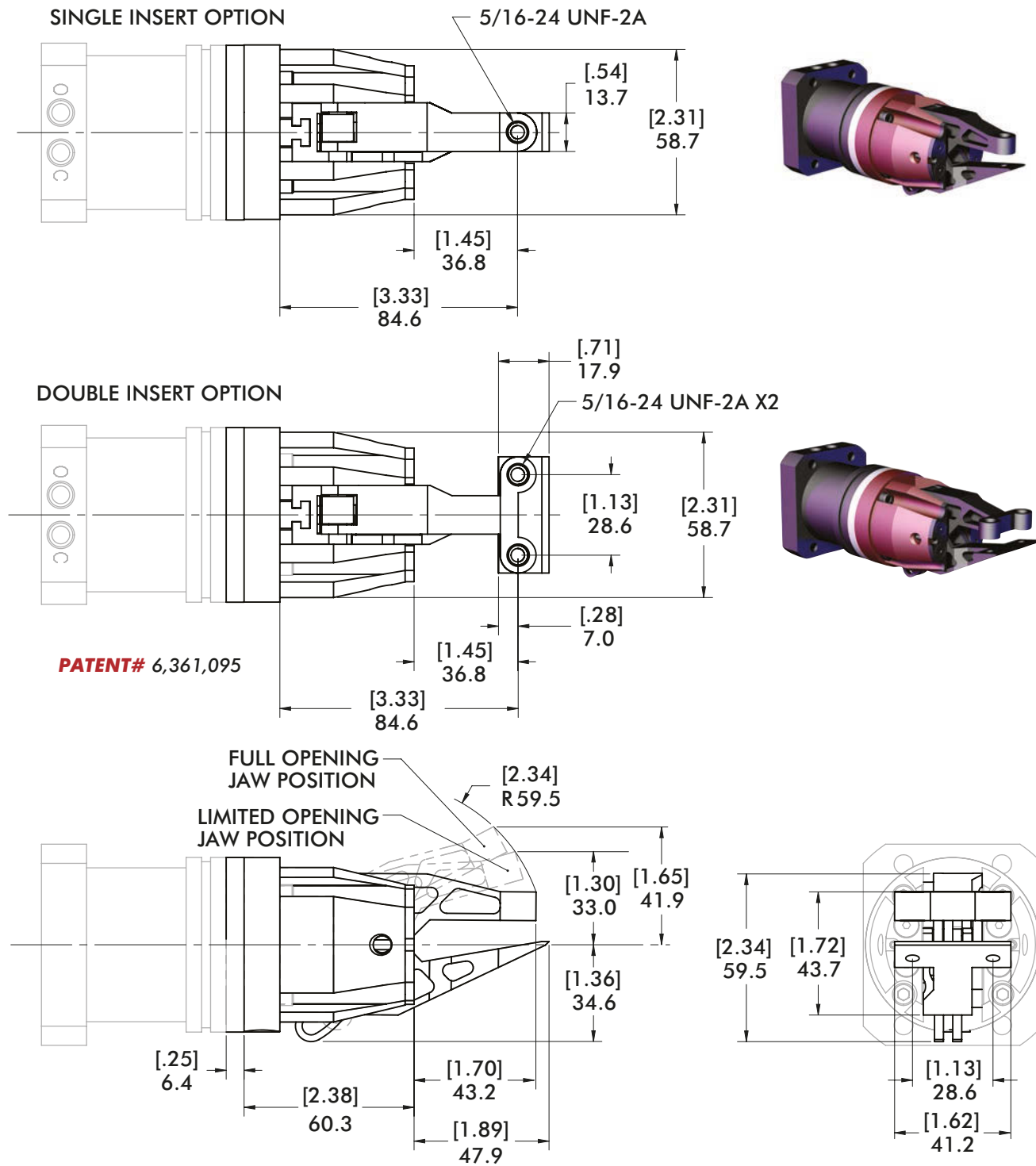
#### For Limited Stroke Option

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

# GR1-15 SERIES

## Sheet Metal Grippers | Dimensions and Technical Information

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

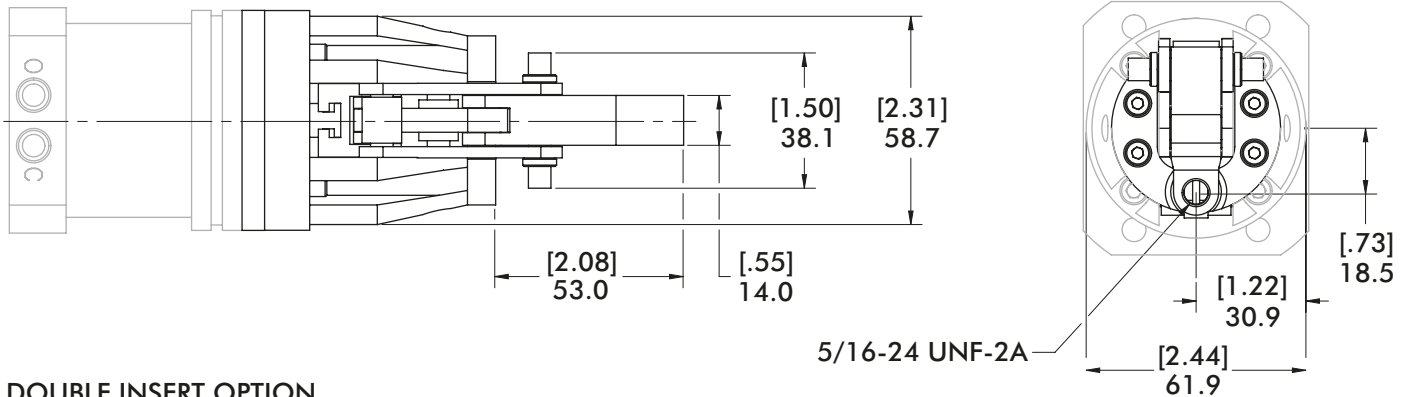


#### For Limited Stroke Option

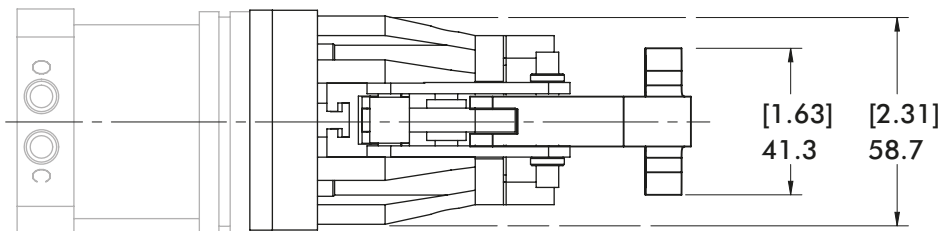
1. Loosen fasteners securing gripper body from cylinder.
2. Pull gripper body away so fasteners clear the spacer.
3. Rotate Spacer 90° (Fig. 2).
4. Reattach gripper body to cylinder and tighten fasteners.

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

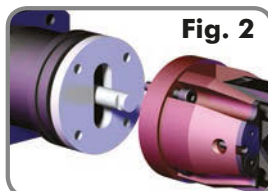
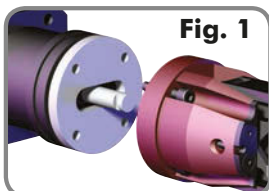
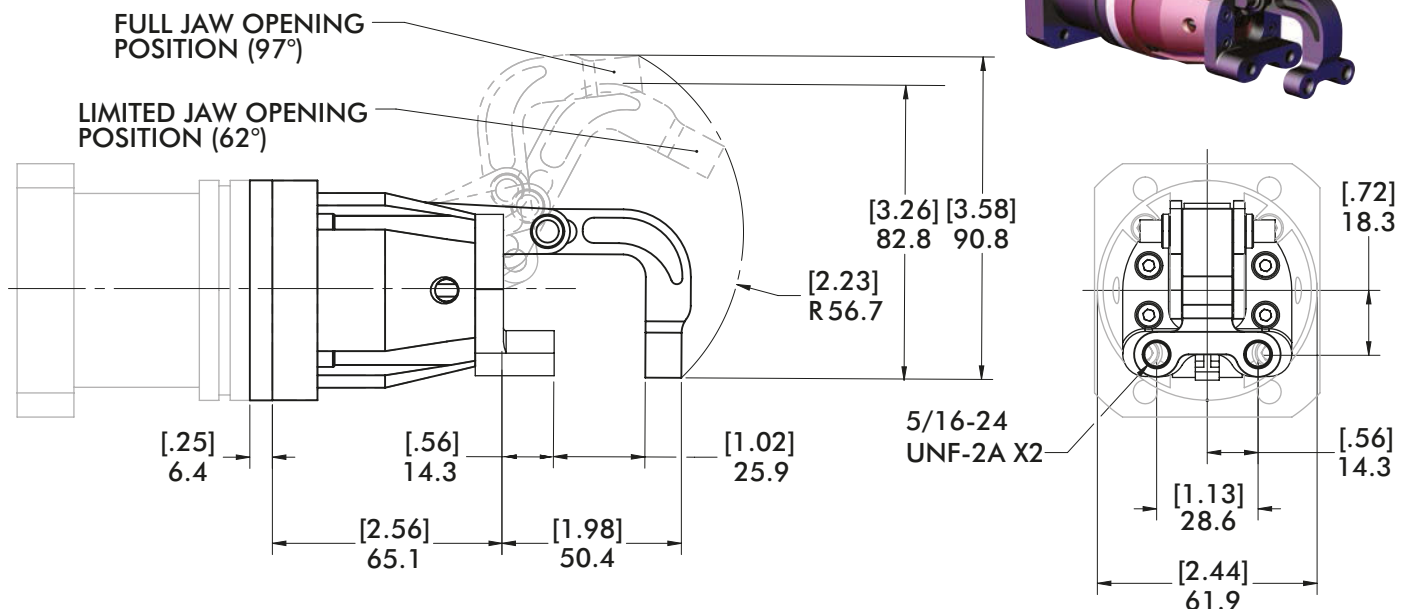
#### SINGLE INSERT OPTION



#### DOUBLE INSERT OPTION



**PATENT#** 6,361,095



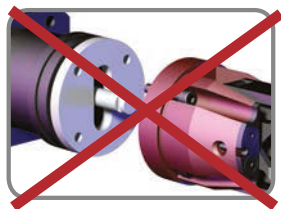
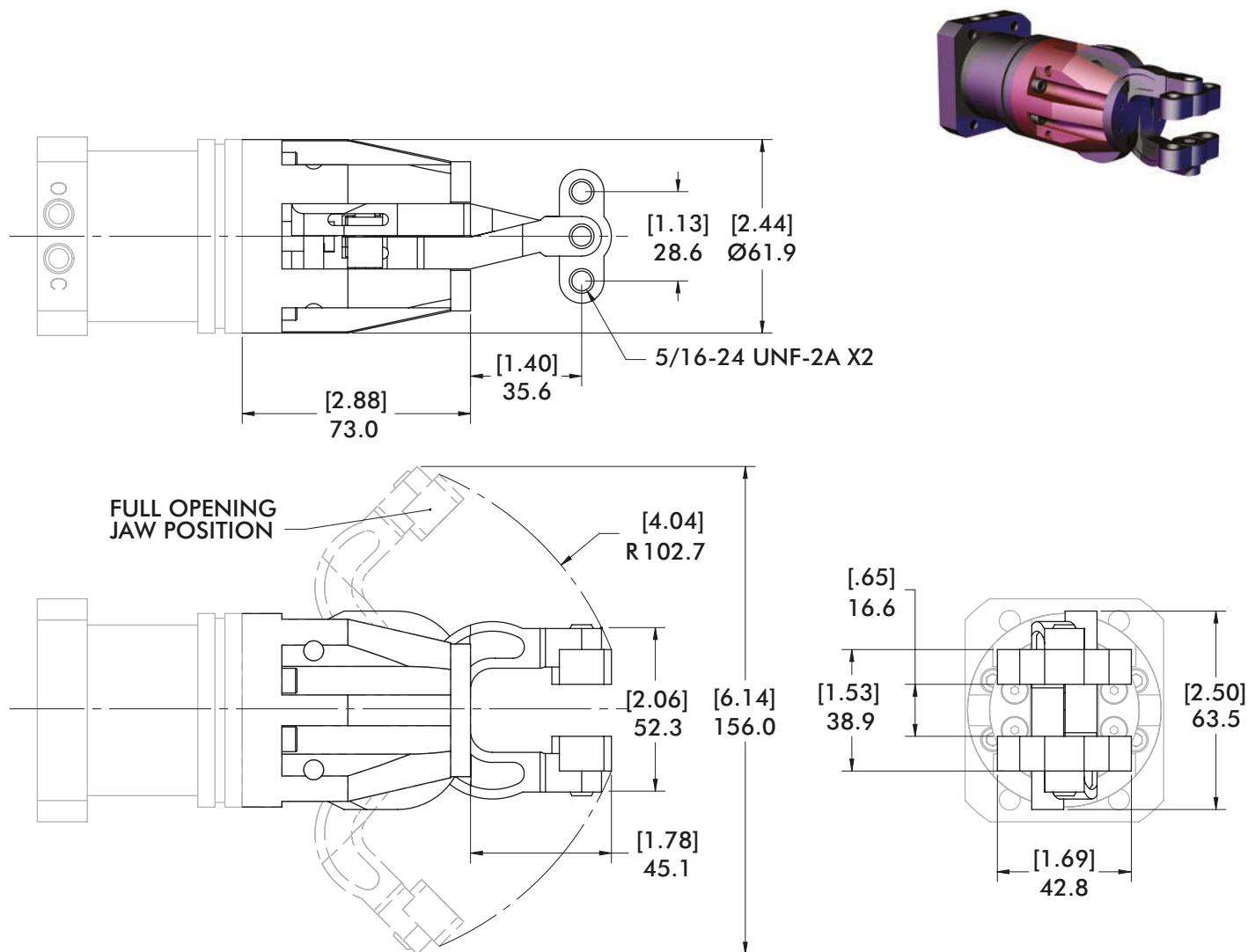
#### For Limited Stroke Option

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

# GR1-15 SERIES

## Sheet Metal Grippers | Dimensions

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



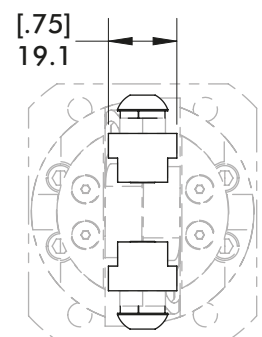
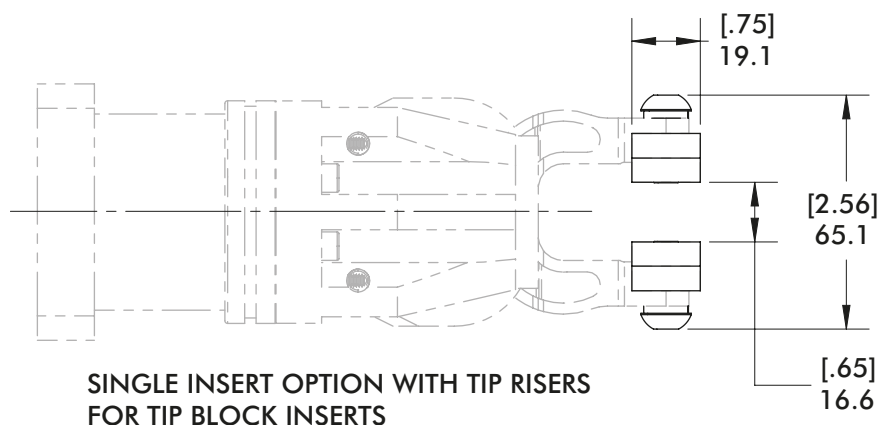
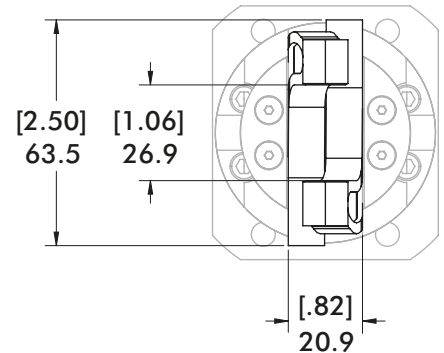
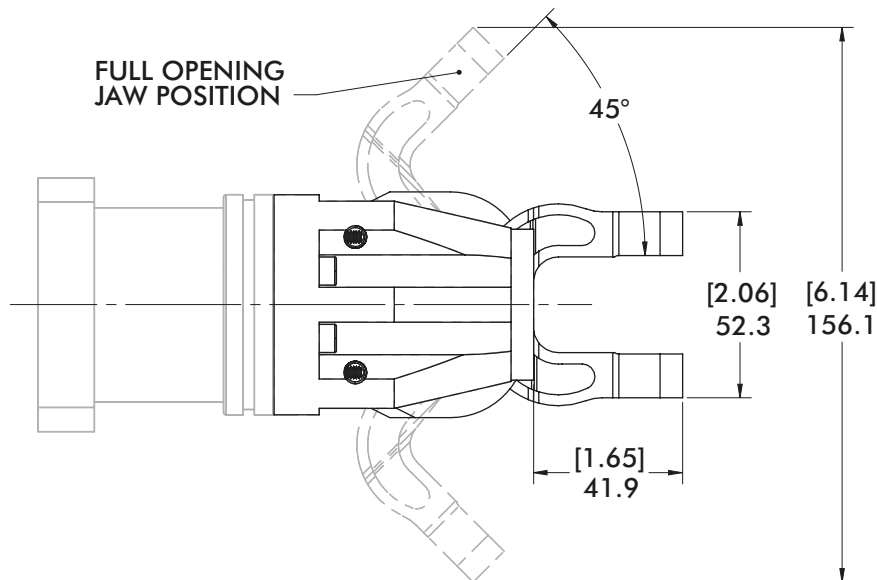
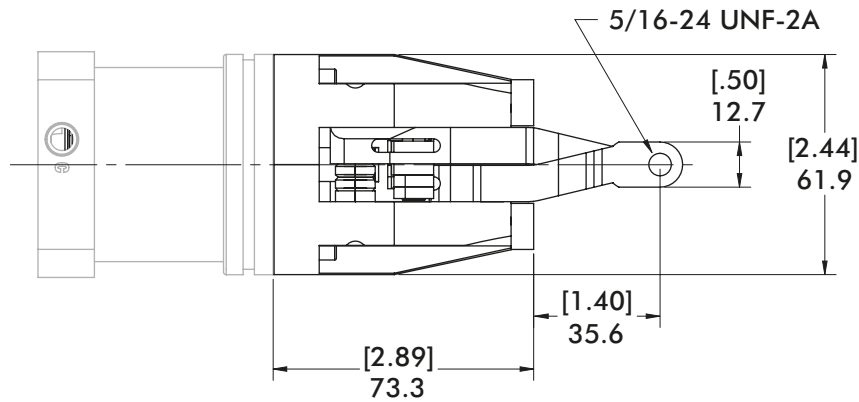
Limited Stroke Ring is **NOT** Available



# GR1-15 SERIES

## Sheet Metal Grippers | Dimensions

### "180" 180° Angular Jaw Arrangement - Single Insert



Tip Risers for Block Inserts

Replacement Part #

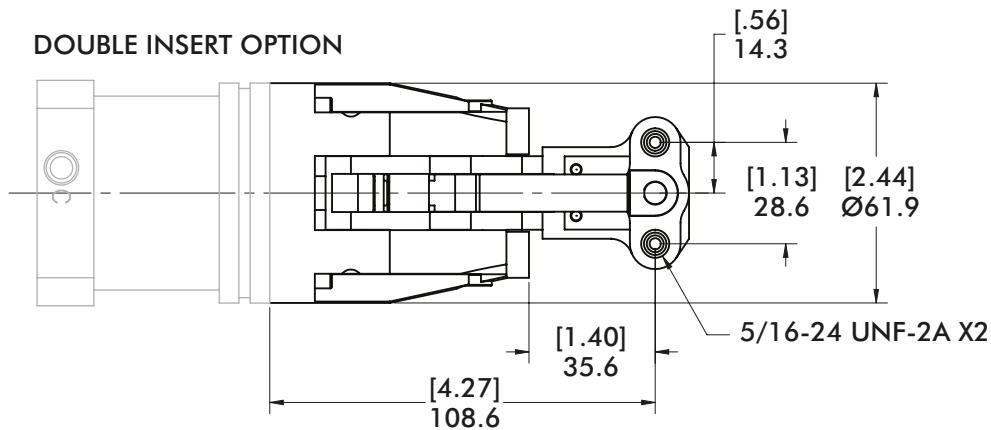
**GR0314-TR**



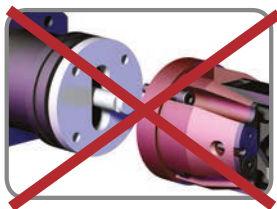
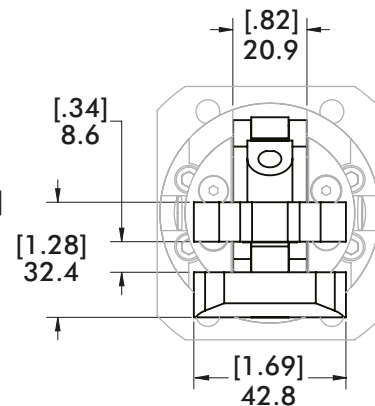
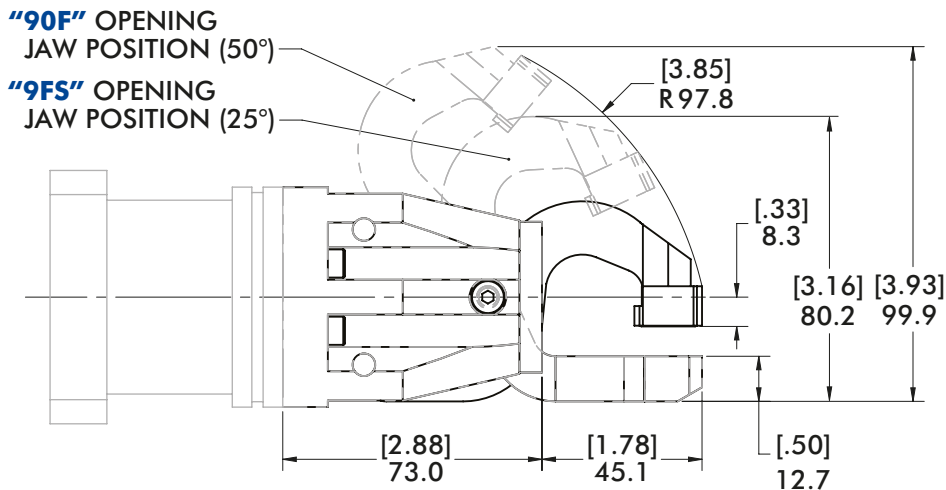
# GR1-15 SERIES

## Sheet Metal Grippers | Dimensions

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



**"90F"**  
Full Arm Opening

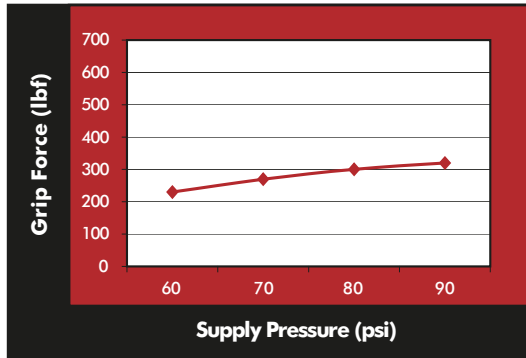


Limited Stroke Ring is **NOT** Available



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

### 045/45C/FCH



**"045"** 45° Angular



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

**"45C"** 45° Chisel



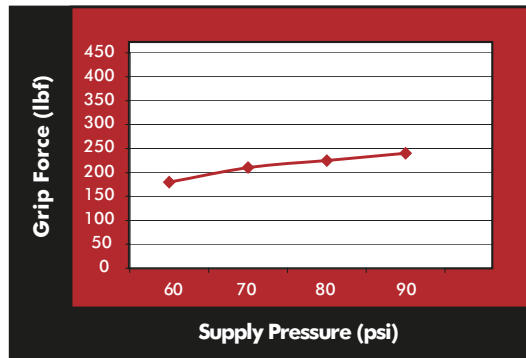
**Weight:**  
1 kg [2.2 lb]  
**Grip Range:**  
0"- 0.063" [0 - 1mm]

**"FCH"** 45° Fixed Chisel



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

### 9DJ

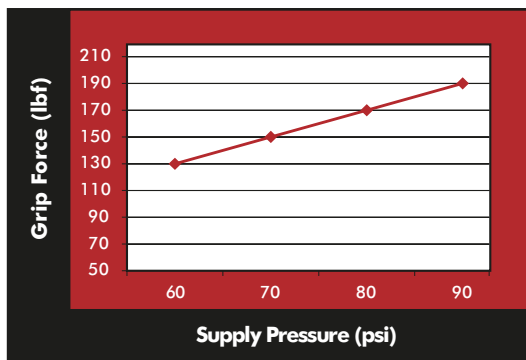


**"9DJ"** 90° Drop Jaw



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

### 90F/9FS



**"90F"** 90° Fixed Lower



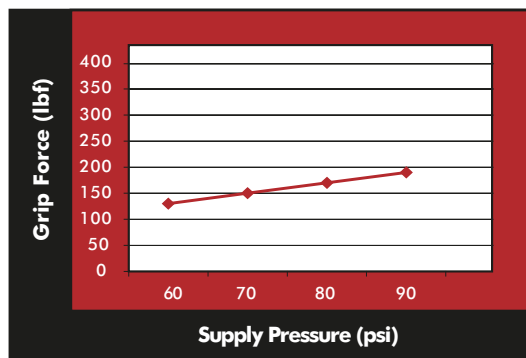
**Weight:**  
1.1 kg [2.6 lb]  
**Grip Range:**  
0"- 0.125" [0 - 3mm]

**"9FS"** 90° Fixed Lower with Limited Stroke



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

### 180



**"180"** 180° Angular



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

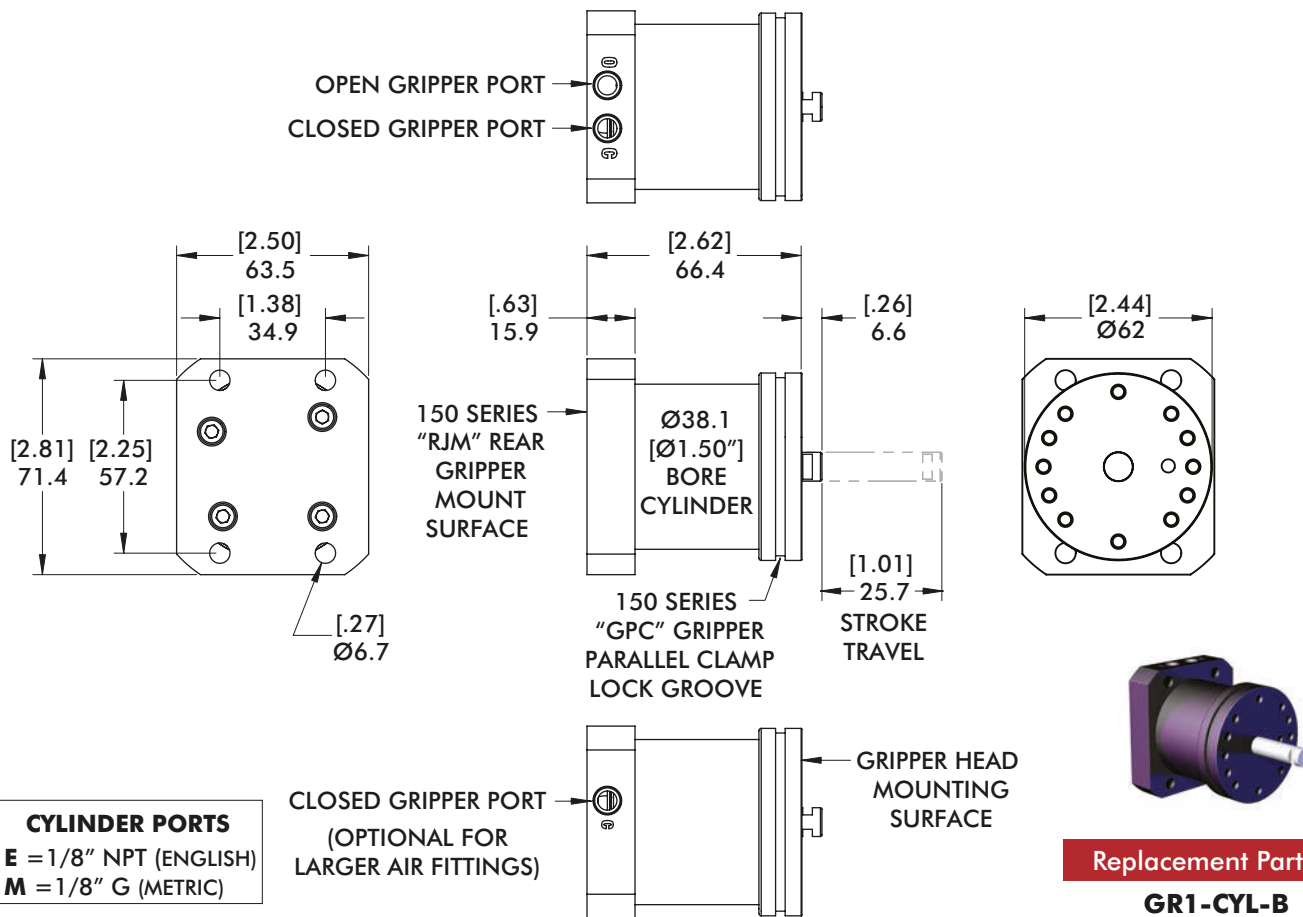
### Technical Information (for all GR1 Gripper Jaw Styles)

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

# GR1-15 SERIES

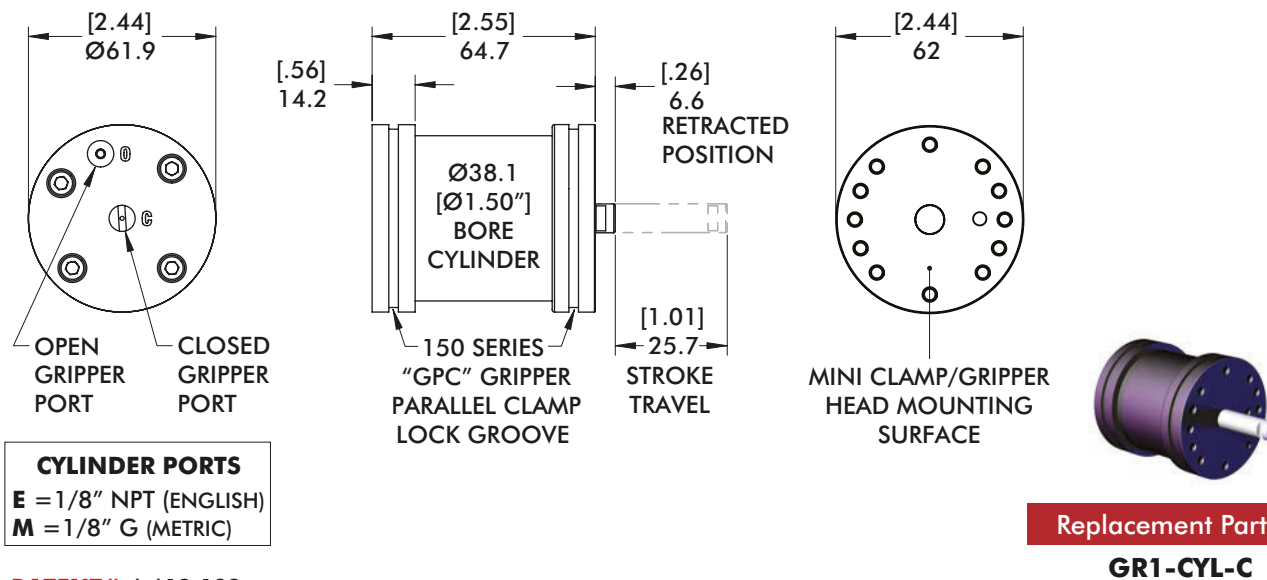
## Sheet Metal Grippers | Dimensions and Technical Specifications

### "Bx" Flange Base Cylinder

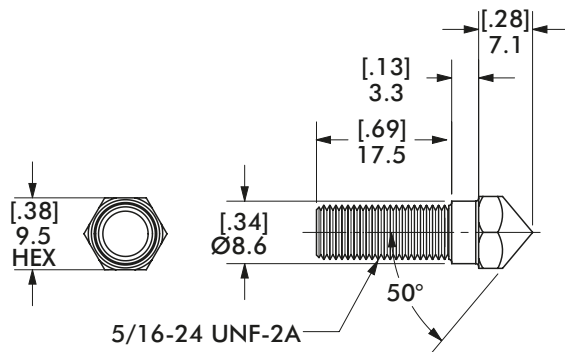


**PATENT#** 6,619,182

### "Cx" Round Base Cylinder



**PATENT#** 6,619,182



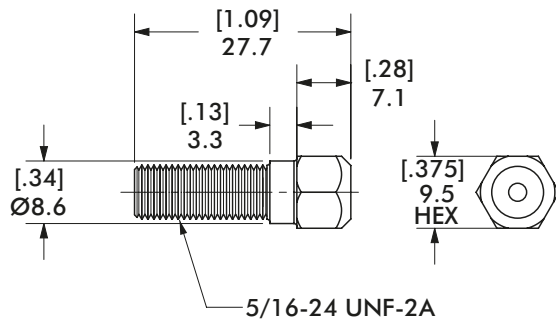
**"P"**



Point Jaw Inserts

Replacement Part #

**GR0304**



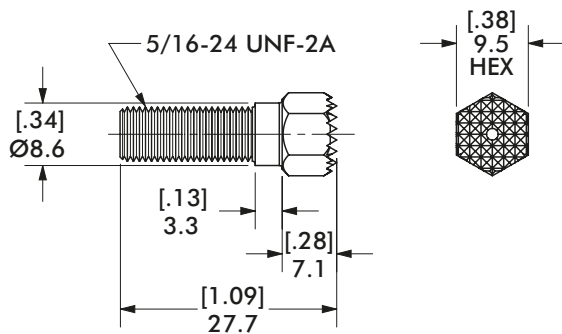
**"C"**



Cup Jaw Inserts

Replacement Part #

**GR0305**



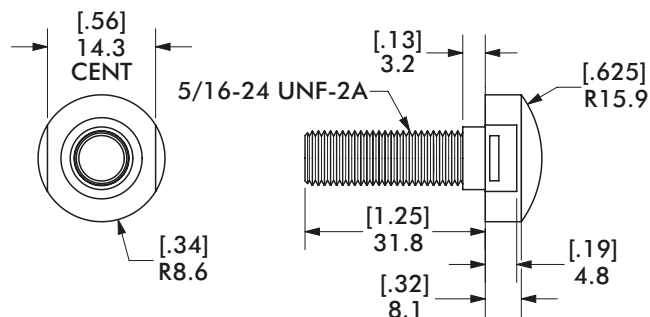
**"S"**



Serrated Jaw Inserts

Replacement Part #

**GR0341**



**"U"**



Urethane Jaw Inserts

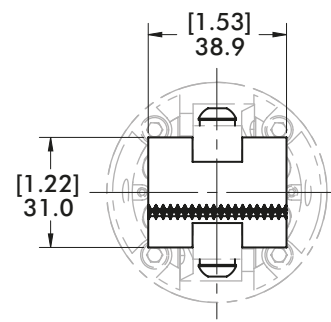
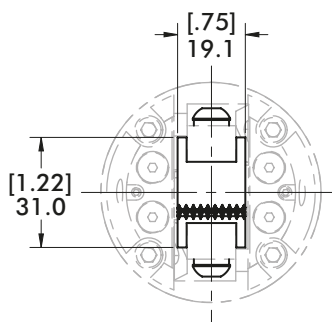
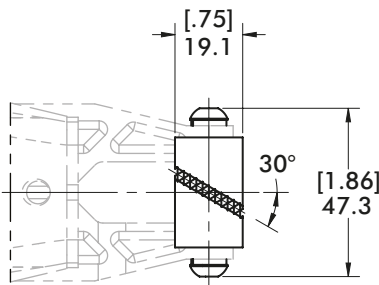
Replacement Part #

**GR0338**

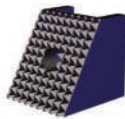
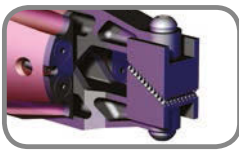
# GR1-15 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

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



**"S30"**



Single Upper/Lower  
30° Angle Insert Block

Replacement Part #

**GR1-INS-SD30S**

**"D30"**

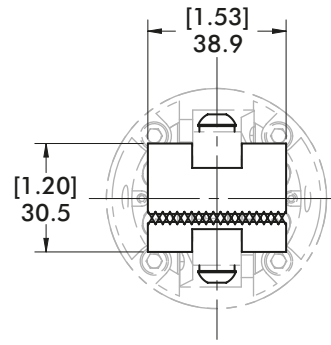
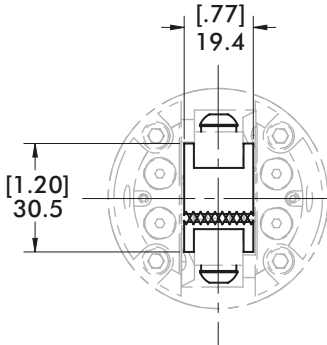
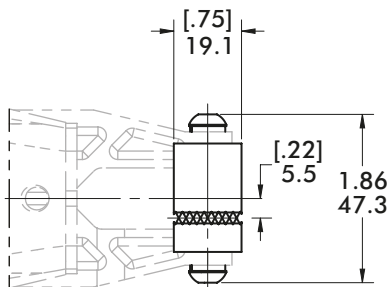


Double Upper/Lower  
30° Angle Insert Block

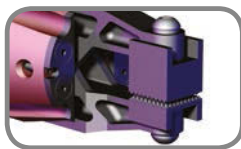
Replacement Part #

**GR1-INS-D30S**

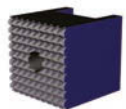
### "SOF" and "DOF" Offset Serrated Block Inserts



**"SOF"**



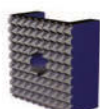
**"DOF"**



Single Upper  
Offset Insert Block

Replacement Part #

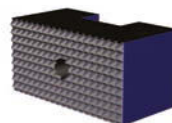
**GR1-INS-SDUOS**



Single Lower  
Offset Insert Block

Replacement Part #

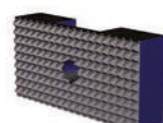
**GR1-INS-SDLOS**



Double Upper  
Offset Insert Block

Replacement Part #

**GR1-INS-DUOS**

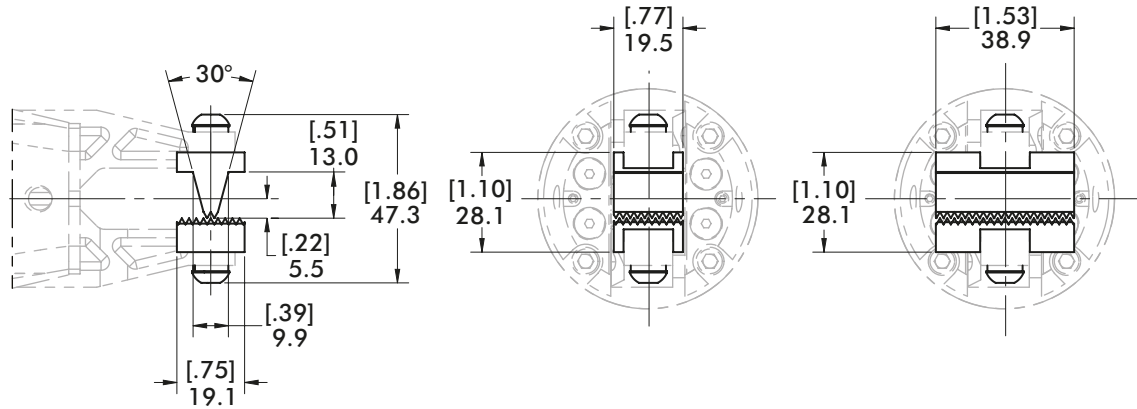


Double Lower  
Offset Insert Block

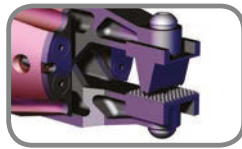
Replacement Part #

**GR1-INS-DLOS**

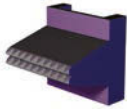
### "SDB" and "DDB" Draw Bead Serrated Block Inserts



**"SDB"**



**"DDB"**



Single Upper  
Draw Bead Insert Block

Replacement Part #

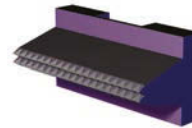
**GR1-INS-Sddb**



Single Lower  
Draw Bead Insert Block

Replacement Part #

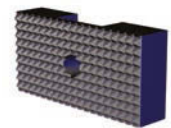
**GR1-INS-Sdlos**



Double Upper  
Draw Bead Insert Block

Replacement Part #

**GR1-INS-DDB**

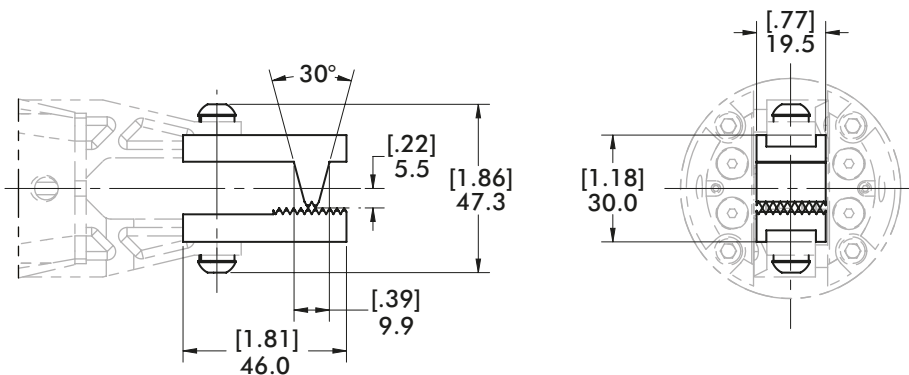


Double Lower  
Draw Bead Insert Block

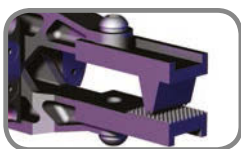
Replacement Part #

**GR1-INS-DLOS**

### "SED" Extended Draw Bead Serrated Block Inserts



**"SED"**



Upper Extended  
Draw Bead Insert Block

Replacement Part #

**GR1-INS-Sddb-3**



Lower Extended  
Draw Bead Insert Block

Replacement Part #

**GR1-INS-Sdlos-3**

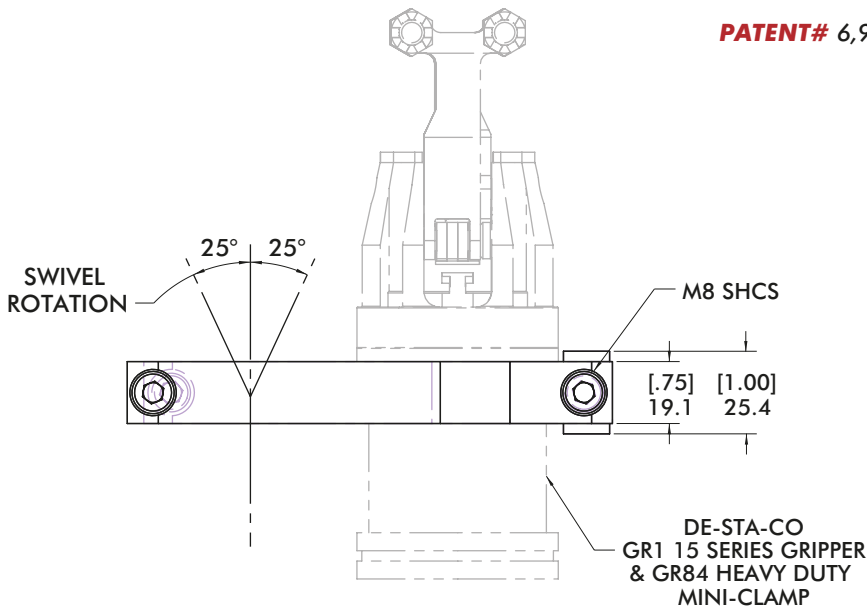




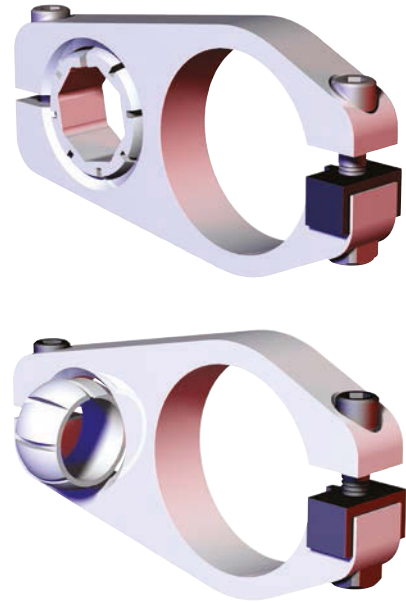
# GR1-15 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

### "MAx" Swivel Parallel Gripper Mounts

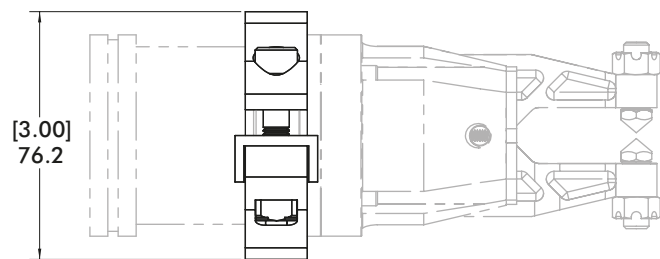
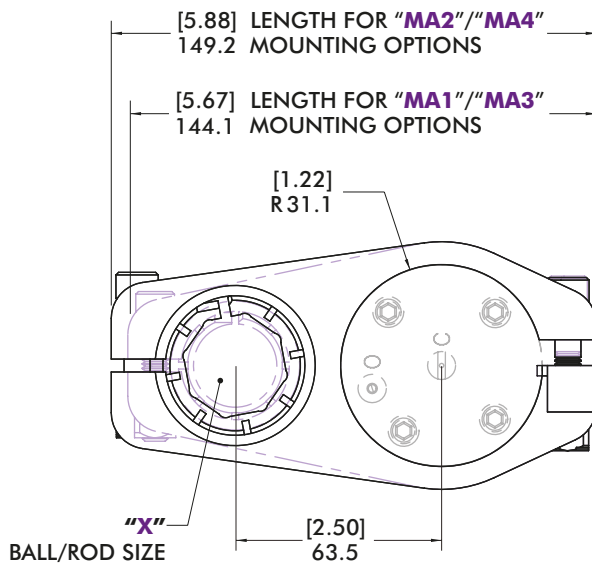


**PATENT#** 6,988,696



#### Snap-In Ball

Special patented design allows user to replace ball without disassembly



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

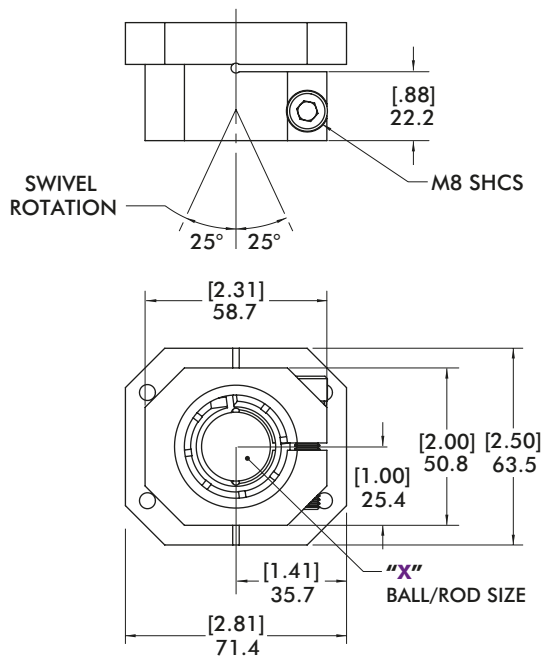
\*"MA4" and "MB4" Mounts to the 30mm BodyBuilder™ octagonal extruded aluminum boom. For more information on this octagonal boom, please refer to the BodyBuilder™ Robotic End Effector Systems Catalog.



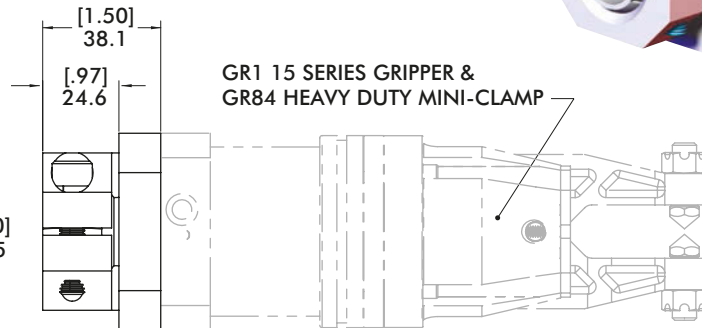
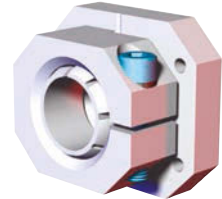
# GR1-15 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

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

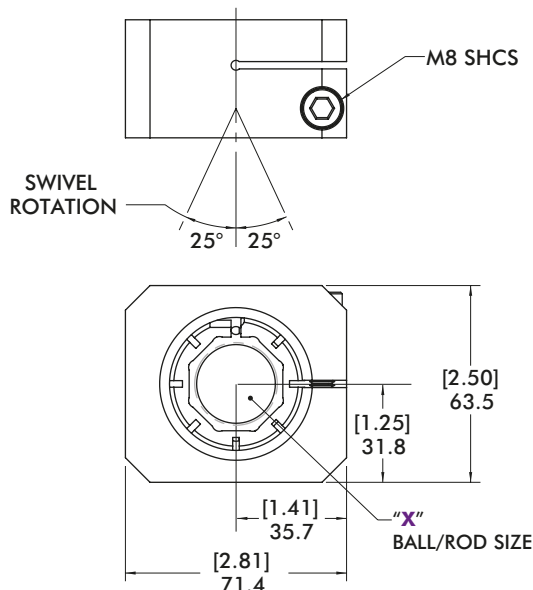


**PATENT#** 6,988,696

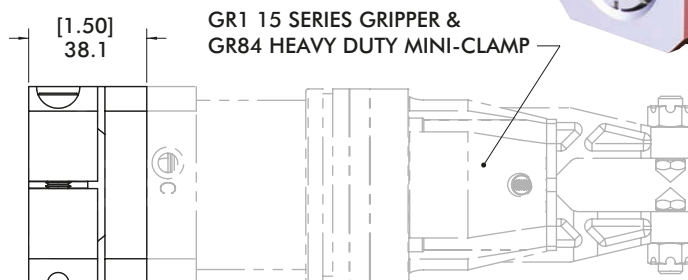
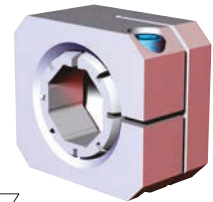


| Mounting Option | Rod/Ball "X" | Replacement Part# |
|-----------------|--------------|-------------------|
| <b>MB1</b>      | Ø1.00"       | CPI-RJM-150-100S  |
| <b>MB3</b>      | Ø25mm        | CPI-RJM-150-25S   |

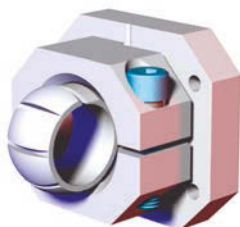
### "MB2" and "MB4" Rear Swivel Gripper Mount



**PATENT#** 6,988,696



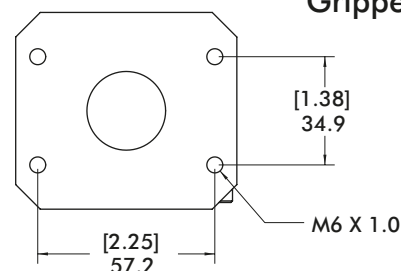
| Mounting Option | Rod/Ball "X" | Replacement Part# |
|-----------------|--------------|-------------------|
| <b>MB2</b>      | Ø1.25"       | CPI-RJM-150-125S  |
| <b>MB4*</b>     | 30mm BB      | CPI-RJM-150-30BBS |



**PATENT#** 6,988,696

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

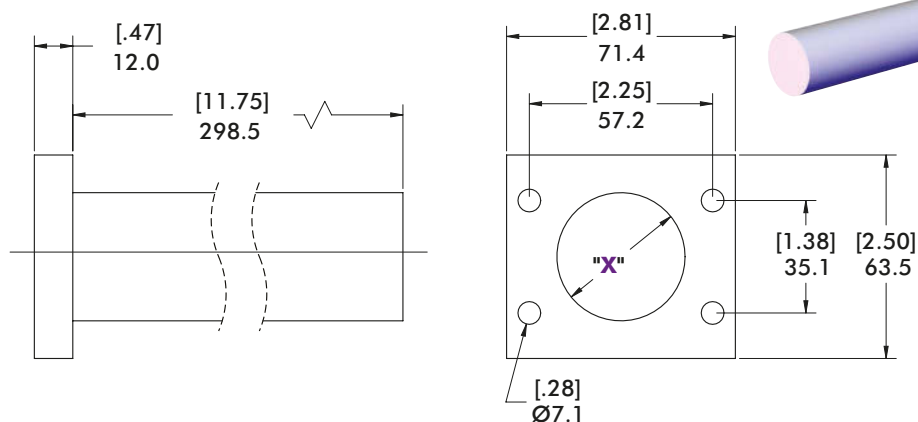
### "MBx" Rear Swivel Gripper Mount Gripper Mounting Pattern



# GR1-15 SERIES

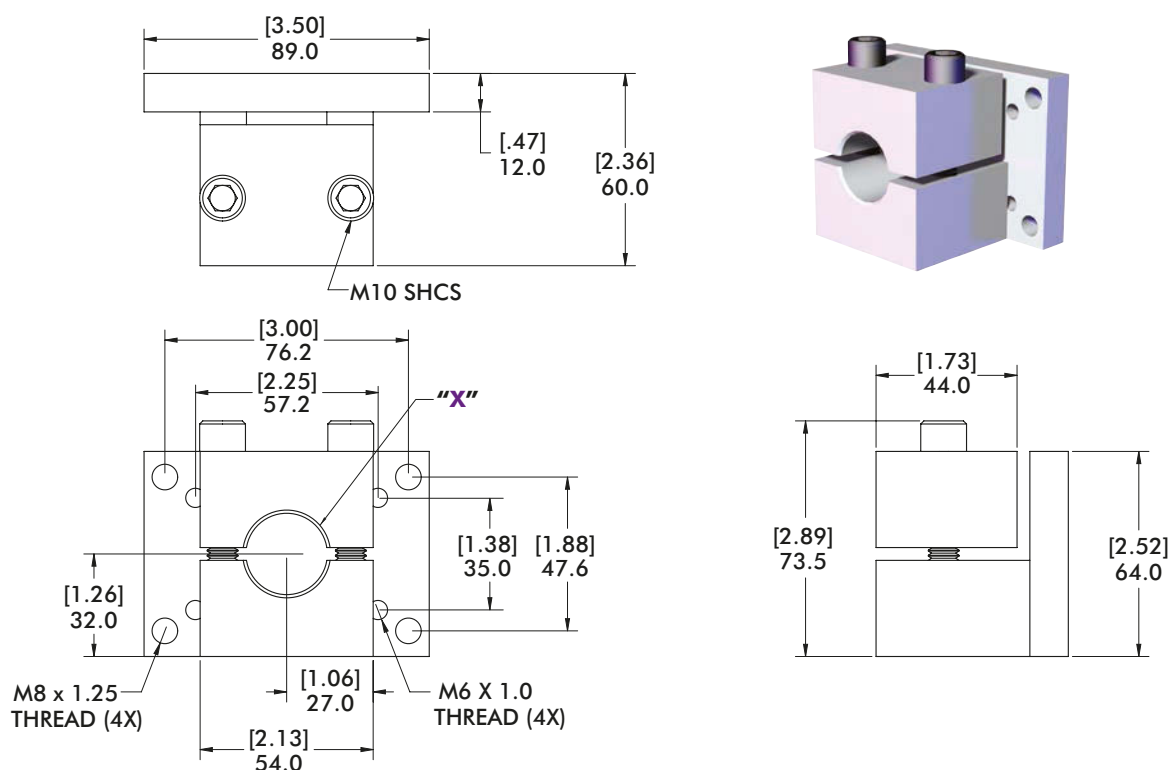
## Sheet Metal Grippers | Dimensions and Technical Specifications

### "MCx" Swivel Parallel Gripper Mounts

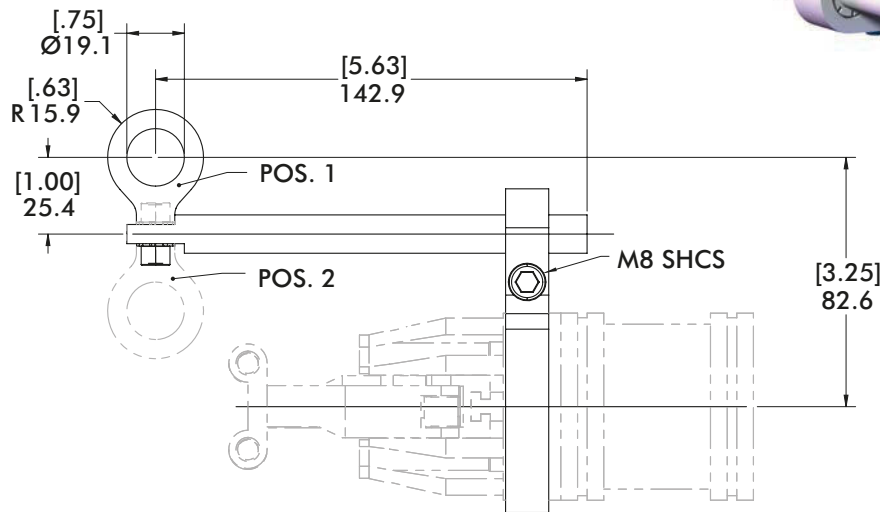


| Mounting Option | Rod "X" | Replacement Part# |
|-----------------|---------|-------------------|
| <b>MC1</b>      | Ø1.00"  | CPI-RJM-150-100   |
| <b>MC3</b>      | Ø25mm   | CPI-RJM-150-25    |
| <b>MC5</b>      | Ø1.50"  | CPI-RJM-150-150   |
| <b>MC6</b>      | Ø40mm   | CPI-RJM-150-40    |

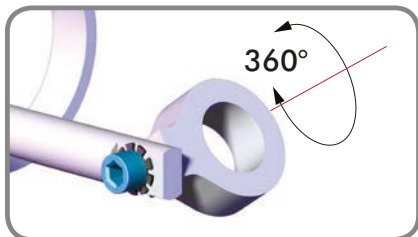
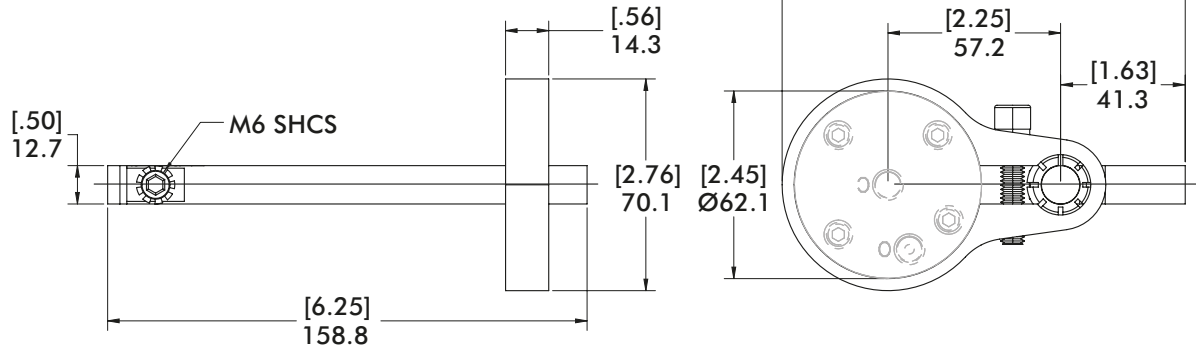
### "MD7" Rear Fixed Clamp Mount



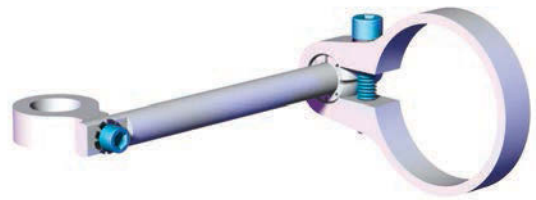
| Mounting Option | Rod/Ball "X" | Replacement Part# |
|-----------------|--------------|-------------------|
| <b>MD7</b>      | Ø1.00"       | M1514             |



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



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



**Replacement Part #**

**CPI-GPM-15-18**

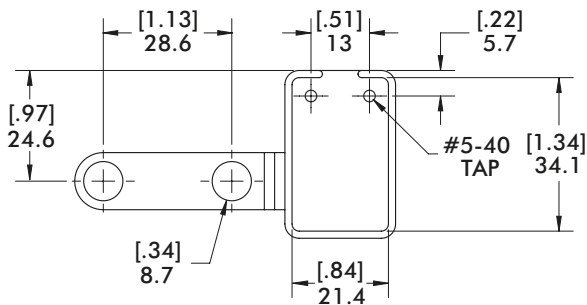
# GR1-15 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

### "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.)

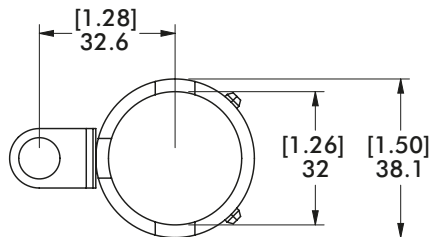
### Proximity Switch Mount for "A04" and "P03" Sensor Options



Replacement Part #

**GR0326**

### Barrel Style Proximity Switch Mount

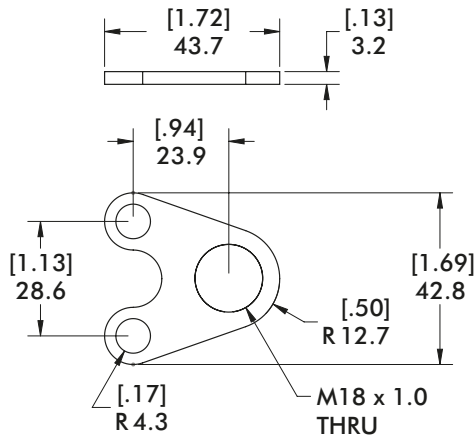


Replacement Part #

**GR1-15-PM-31**

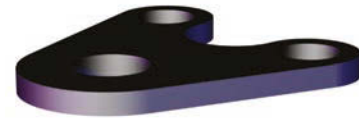
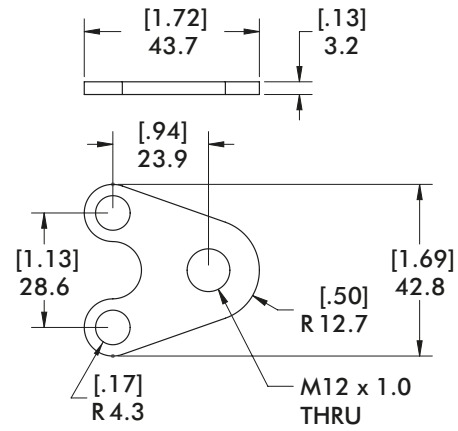
## Sheet Metal Grippers | Dimensions and Technical Specifications

### Ø18mm and Ø12mm Inline Proximity Switch Mount



Replacement Part #

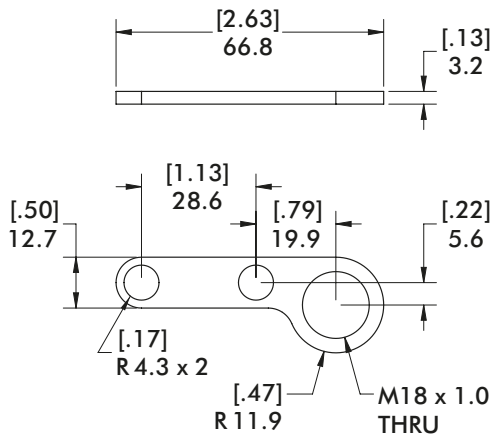
**CPI-PM-15D-18**



Replacement Part #

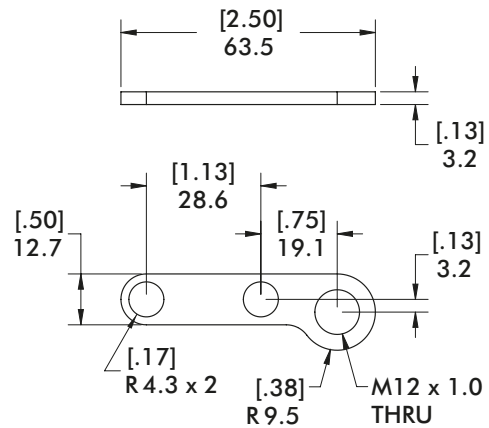
**CPI-PM-15D-12**

### Ø18mm and Ø12mm Offset Proximity Switch Mount



Replacement Part #

**CPI-PM-15S-18**



Replacement Part #

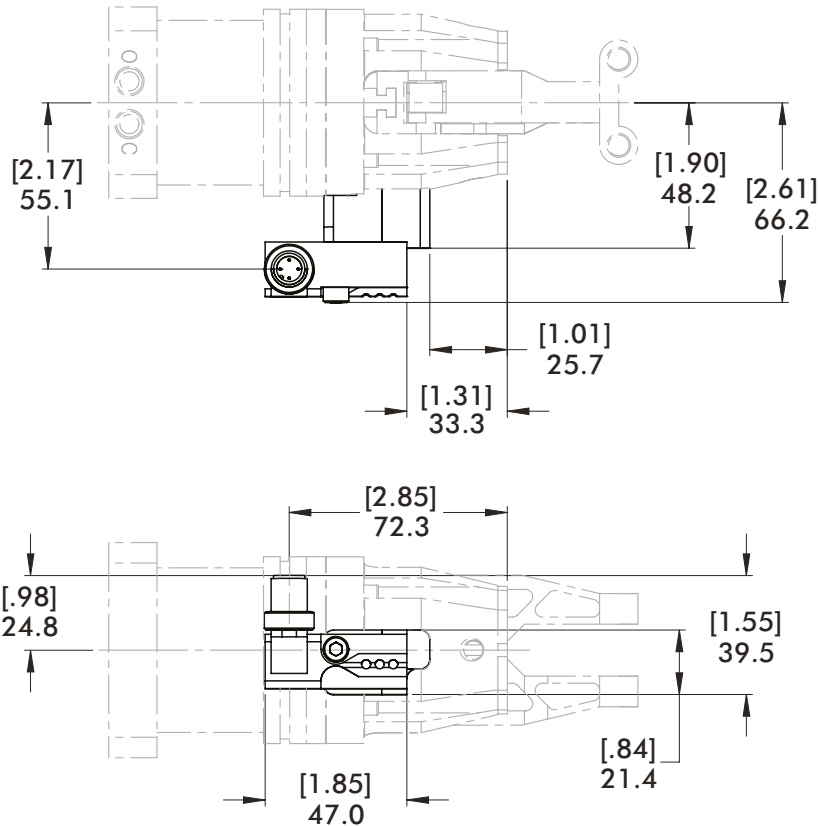
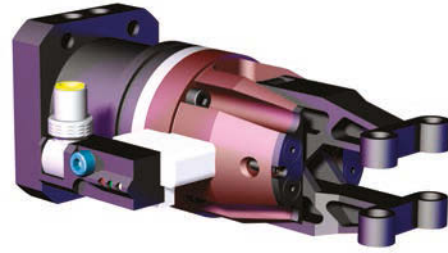
**CPI-PM-15S-12**

# GR1-15 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

### "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

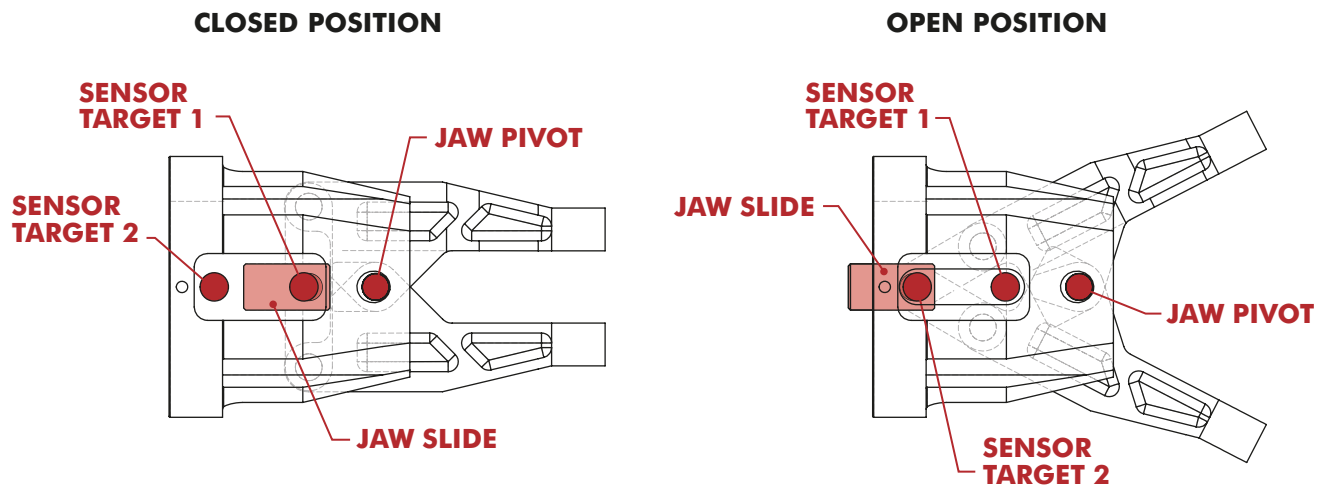


PIN 1) BROWN: POSITIVE POWER  
PIN 2) BLACK: SIGNAL FOR GRIPPER CLOSED  
PIN 3) BLUE: NEGATIVE POWER  
PIN 4) BLACK: SIGNAL FOR GRIPPER OPEN

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



### "T04" Open/Closed Target Position



**"045"** 45° Angular



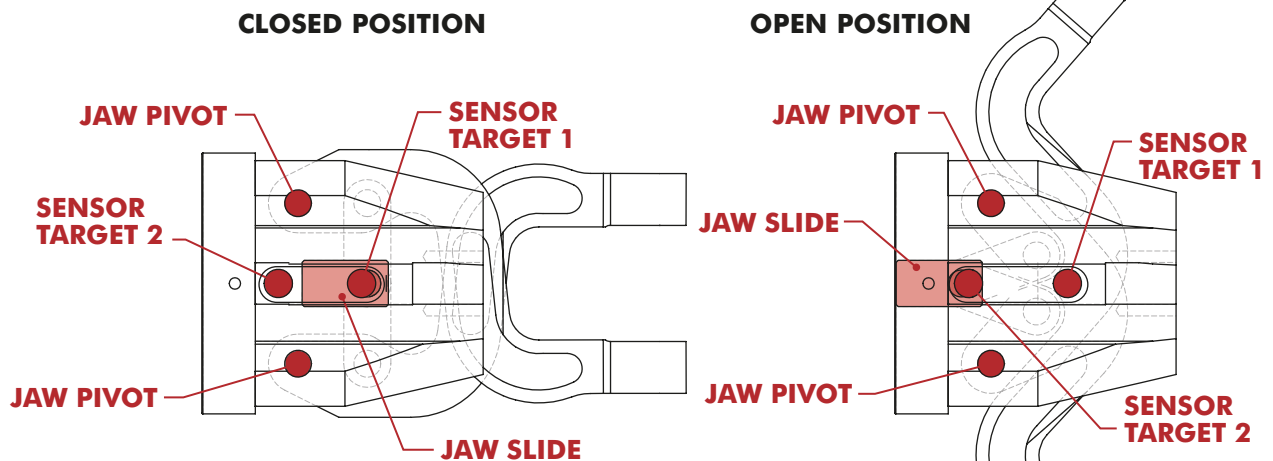
**"45C"** 45° Chisel



**"FCH"** 45° Fixed Chisel



**"9DJ"** 90° Drop Jaw



**"90F"** 90° Fixed Lower



**"9FS"** 90° Fixed Lower with Limited Stroke



**"180"** 180° Angular





# GR1-20 SERIES

## Sheet Metal Grippers | Ordering Information

GR1-20 - BE - 180 - DXX - MXX -

### Cylinder Type & Porting

**Step 1** **B** **E**  
**Cylinder Ports** Choose One  
**E** English (1/8 NPT)  
**M** Metric (1/8 G)

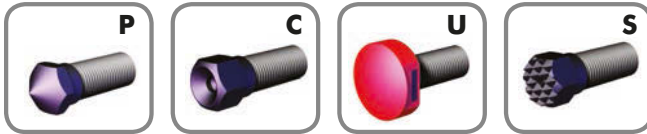
### Open/Closed Sensor

| Sensors Type  | Description     |
|---------------|-----------------|
| <b>B04</b>    | Internal Sensor |
| (Leave Blank) | No Sensor       |

(See page 81 for sensor specifications)

### Points & Tip Insert Options

**Step 2**  **P**  **X** = Omit  
**Mount Type** Choose One  
**P** Point  
**C** Cup  
**U** Urethane  
**S** Serrated

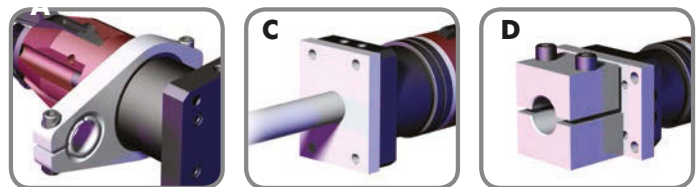


**Step 3**   **P**  **X** = Omit  
**Mount Type** Choose One  
**P** Point

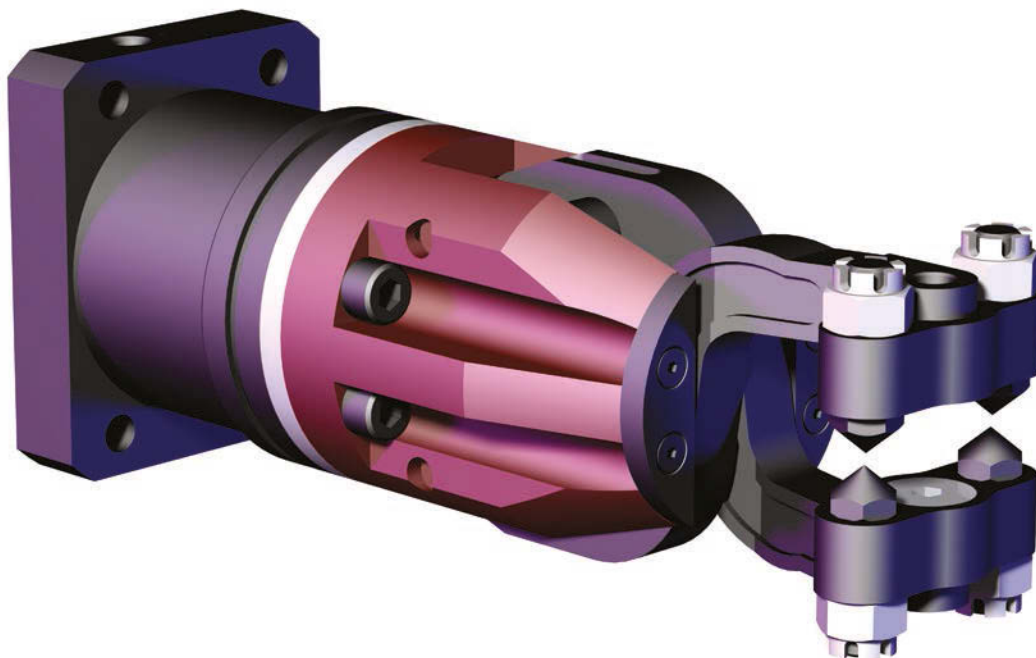
For tip insert dimensions and replacement part #'s, please refer to **GR84** Mini Clamp Tip Insert options.

### Mount Options

**Step 1** **M** **X**  **X** = Omit  
**Mount Type** Choose One  
**A** Parallel Swivel Mount  
**C** Rear Fixed Welded Style  
**D** Rear Fixed Clamp Mount



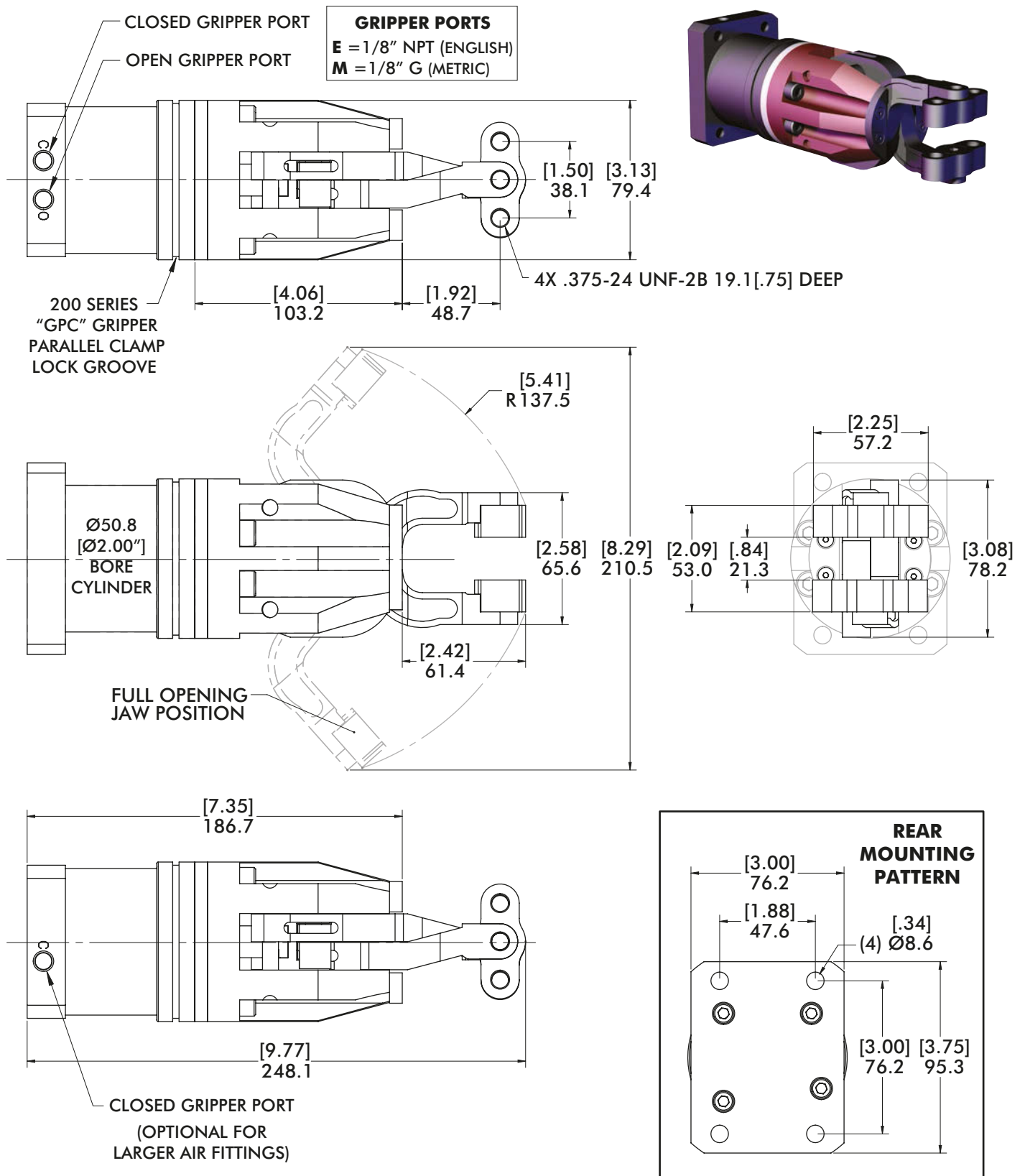
**Step 2** **M**  **X**  **X** = Omit  
**Mount Type** Choose One  
**1** 1.00" W/Metric Fasteners  
**3** 25Mm Metric Fasteners  
**7** M1514 (Type D Only)



# GR1-20 SERIES

## Sheet Metal Grippers | Dimensions

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

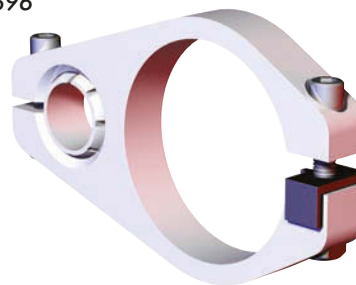
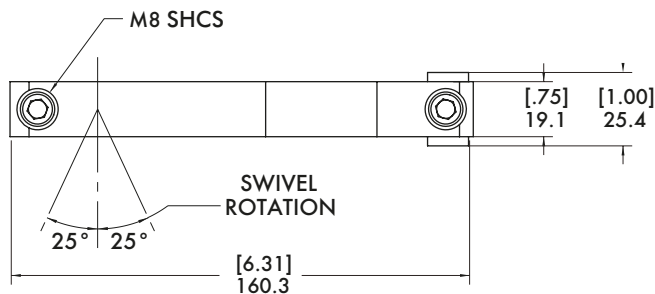


# GR1-20 SERIES

## Sheet Metal Grippers | Dimensions and Technical Specifications

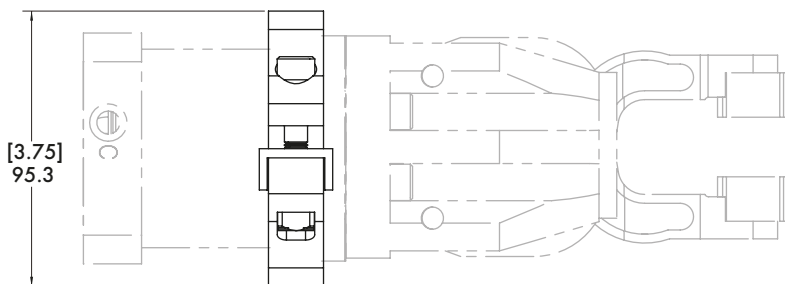
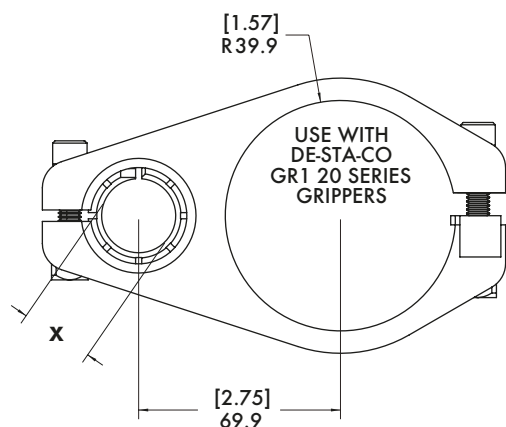
### "MAx" Swivel Parallel Gripper Mounts

**PATENT#** 6,988,696



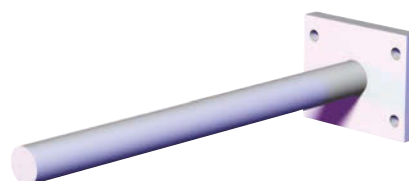
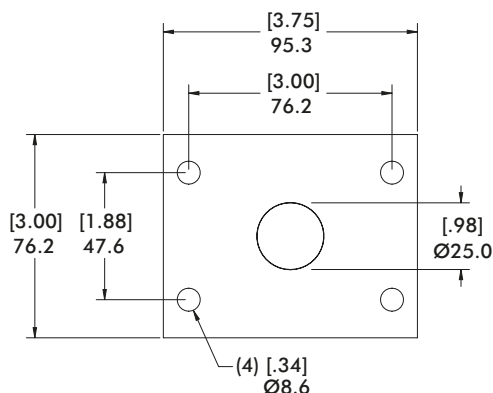
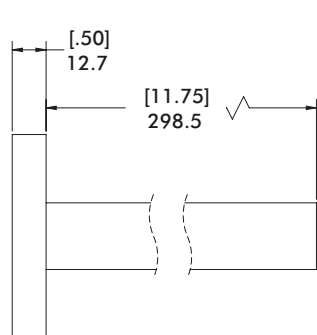
#### Snap-In Ball

Special patented design allows user to replace ball without disassembly



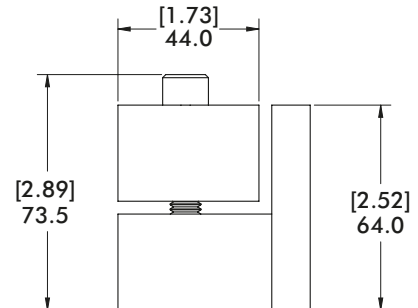
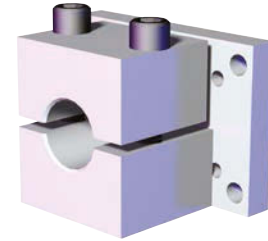
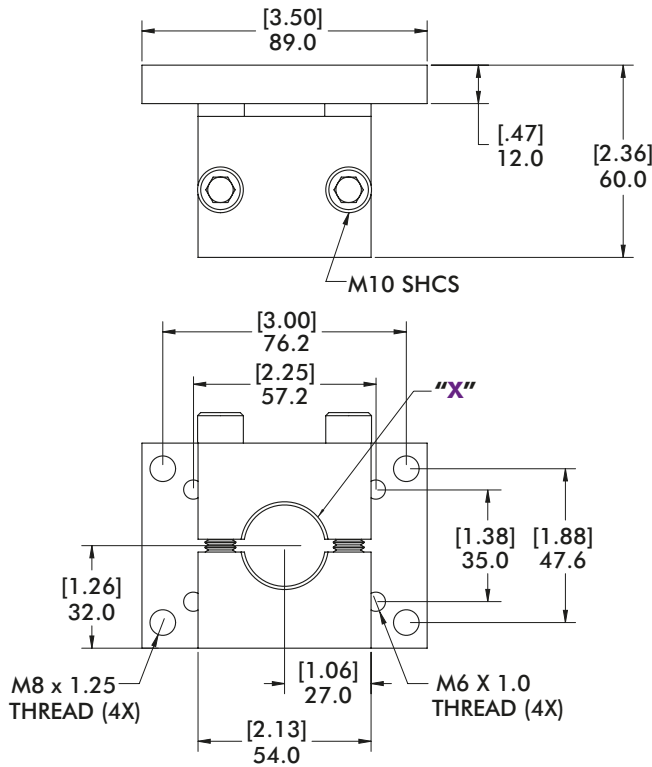
| Mounting Option | Rod/Ball "X" | Replacement Part #  |
|-----------------|--------------|---------------------|
| MA1             | Ø1.00"       | CPI-GPC-200-100S-DC |
| MA3             | Ø25mm        | CPI-GPC-200-25MS-DC |

### "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     |

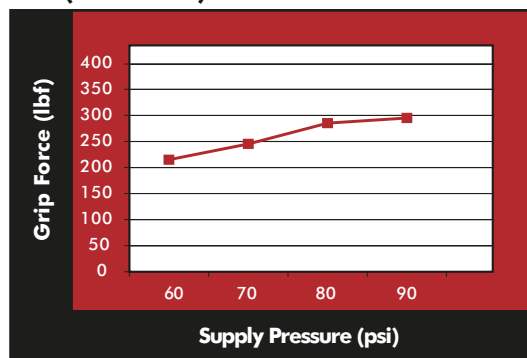
### "MD7" Rear Fixed Clamp Mount



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

### Technical Information

#### 180 (20 SERIES)



#### "180" 180° Angular



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

#### Air Requirements:

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

#### Operating Temperature:

0° - 93°C [32° - 200°F]