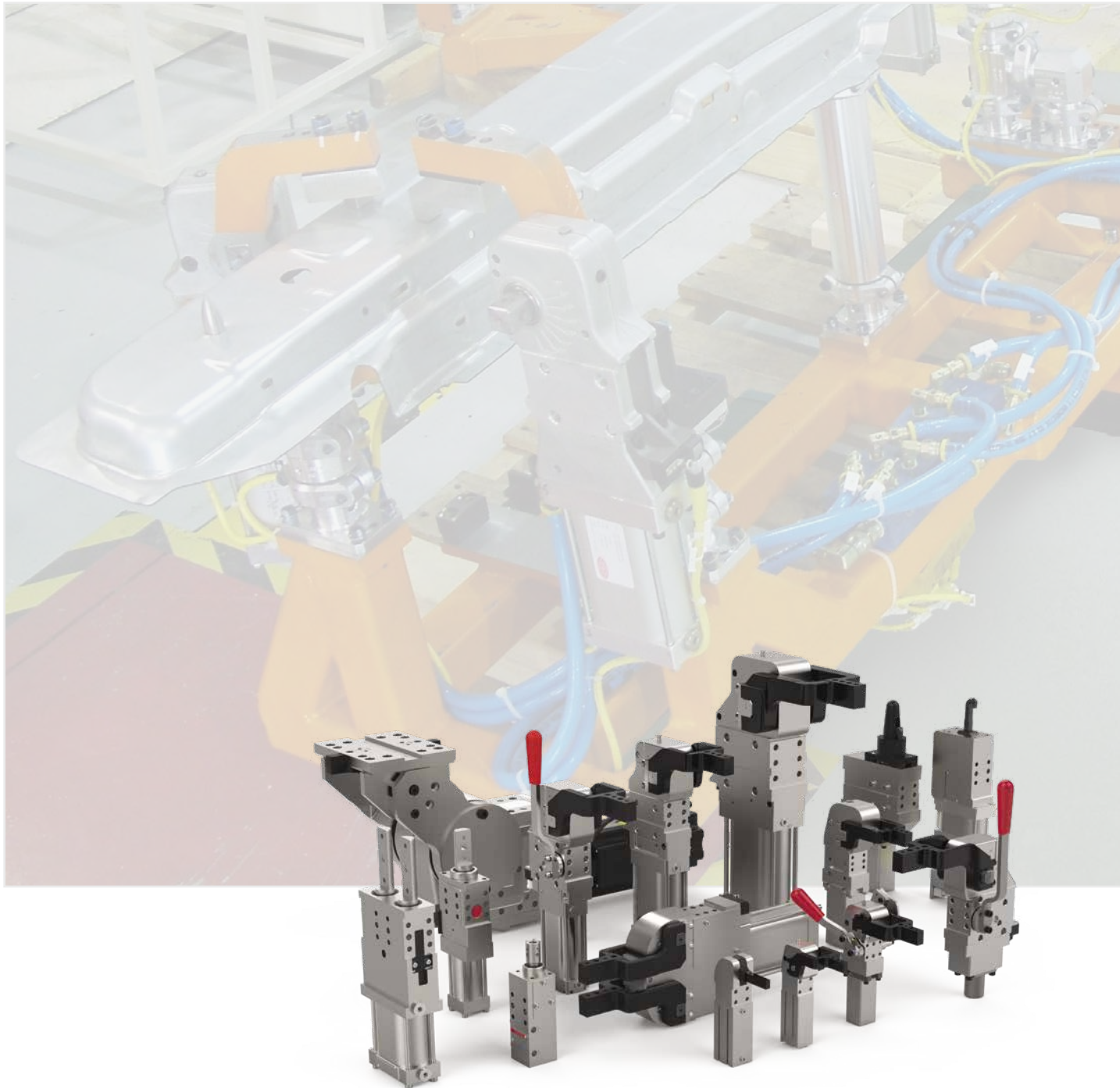


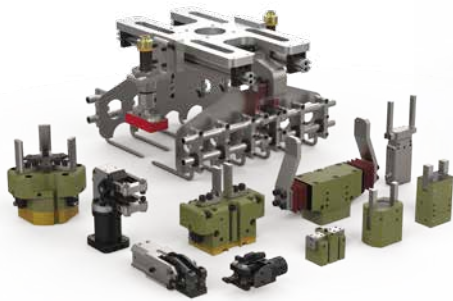
## Visual Selection Guide

### Clamping Technology | Vol.2: Power Clamping & Locating



# ABOUT DESTACO

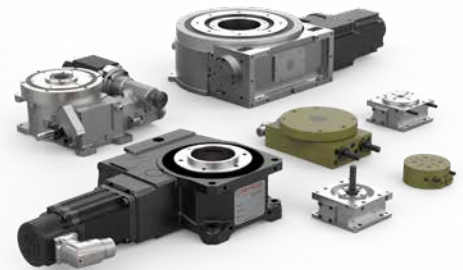
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Gripping Solutions



Linear Positioning Solutions



Rotary Positioning Solutions



Clamping Solutions



CRL Remote Handling Solutions



Robotic Tooling Solutions

Destaco, a Dover company, is a global leader in the design and manufacture of high-performance automation, workholding and remote-handling solutions. The company serves customers in a variety of end-markets, including the automotive, life sciences, consumer packaged goods, aerospace, industrial and nuclear sectors.

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Destaco is part of Dover Corporation, a diversified global manufacturer with annual revenues of \$7 billion. The company delivers innovative equipment and components, specialty systems and support services through four major operating segments: Energy, Engineered Systems, Fluids, and Refrigeration & Food Equipment. Headquartered in Downers Grove, IL, (NYSE: DOV)

More information is available at [destaco.com](http://destaco.com) and [dovercorporation.com](http://dovercorporation.com)

## Focusing all our Resources

### New Product Development

Destaco has dedicated resources to design and build the next generation of products and solutions

### Customer Service and Technical Support

Destaco has industry leading global support to address any product and application concerns you may have

### Design Tools

Destaco provides an extensive CAD library, sizing software, and online tools to support our global customers



## Our Insight Working for You

### Application Engineering

We utilize our expertise and complete portfolio of products to create solutions that fit our customers' needs and applications



## Pneumatic Power Clamps, Pin Clamps/Packages, and Pivot Units

### Clamp with Confidence

#### Markets



Transportation



Aerospace



Food & Packaging



Industrial



Consumer Goods

#### Applications



Assembly



Welding



Fixture and Testing



White Goods/  
Appliance



CNC/Machining



Electric Products



# PNEUMATIC CLAMPING SOLUTIONS

## Table of Contents



Pneumatic Power Clamps ..... 10



Pin Clamps..... 30



Precision Guides..... 35



Pin Packages ..... 36



Pivot Units..... 46

# FEATURED NEW PRODUCTS

## 82M-3/TCC Series

Tolerance Compensation Power Clamps

- Tolerance compensation (TCC Series)
- Field adjustable arm opening angle
- Enclosed aluminum body
- Optional U-Arms and lateral arms available

See Pages 16-19



## 84A40/50 Series

Dual-Arm Tolerance Compensation Clamps

- Tolerance compensation
- 90° clamp arm motion
- Multiple clamp arm options
- High clamping force, compact size
- Enclosed aluminum body

See Page 29



## 82P25-2 Series

Pin Clamps

- Optional centering pin configurations from Ø8-22 mm
- Integrated sensing
- Aluminum body

See Page 30



## 86P30-5 Series

Single Pin Packages

- Available with 20 mm or 40 mm strokes
- Compact design
- Enclosed aluminum body

See Page 37



## 82P-720 and 85P50-800 Series

Tolerance Compensation Pin Clamps

- Tolerance compensation
- Two sizes available - 50 mm, 63 mm (82P-720)
- Integrated sensing
- Enclosed aluminum body

See Pages 32-34



## 85D5-2 Series

Double Pin Package

- Optional hand lever for manual control
- Sensors can be mounted on either side of unit
- Flexible hand lever mounting positions

See Pages 43



## VV85G Series

Pneumatic Precision Guide

- 20 mm, 40 mm strokes
- Can be used in vertical or horizontal orientation
- Locks in extended and retracted position
- Completely enclosed, protected mechanism

See Page 35



## 98W Series

Electric Pivot Unit

- One-size fits all
- Field adjustable
- Constant torque
- Energy saving
- Interchangeable with standard pneumatic pivot units
- Flexible saddle arm and mounting capabilities

See Page 46

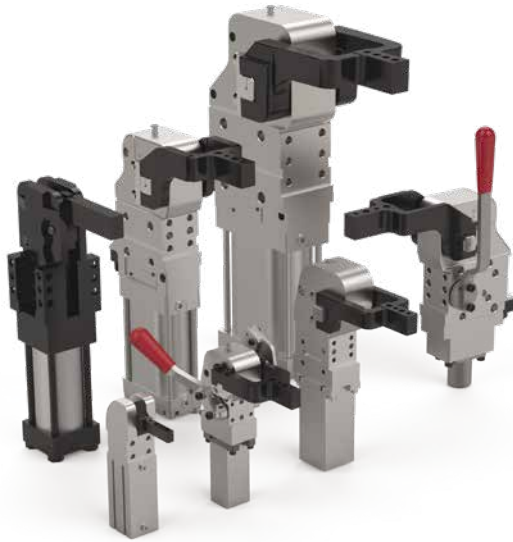


# PNEUMATIC POWER CLAMPS

## Sizing and Application Chart

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Series	Page #	Holding Torque at 5 bar Nm [ft-lb]					Clamping Torque at 5 bar Nm [ft-lb]					Piston Diameter mm [in]						
		0 to 100 [0 to 74]	100 to 500 [74 to 369]	500 to 1000 [369 to 738]	1000 to 2000 [738 to 1475]	2000 to 4000 [1475 to 2950]	0 to 100 [0 to 74]	100 to 500 [74 to 369]	500 to 1000 [369 to 738]	1000 to 2000 [738 to 1475]	2000 to 4000 [1475 to 2950]	Less than 25 [0.98]	25 [0.98]	32 [1.26]	40 [1.57]	50 [1.97]	63 [2.48]	80 [3.15]
81L	10	●					●				●							
82L-4	11	●					●				●	●						
82L-2	12	●	●				●	●			●	●	●					
TCC-2	16	●	●				●	●						●	●			
82M-3E	18	●		●	●		●	●					●	●	●			
52H-3E	20				●													
870/871	25	●					●						●					
860/861	26		●					●							●			
890/891	26				●			●									●	
1000/1001	26				●			●									●	●
82D	27	●					●	●					●				●	
84A	29	●	●				●	●					●	●				



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# PNEUMATIC POWER CLAMPS

## Sizing and Application Chart

Material	Weight Kg [lbs]	Air consumption per double stroke at 5 bar [72 psi] dm <sup>3</sup> [in <sup>3</sup> ]				Suitable Application Areas										Features							
		0 to 2 [0 to 4.41]	2 to 4 [4.41 to 8.82]	4 to 6 [8.82 to 13.23]	6 to 8 [13.23 to 17.64] More than 8 [17.64]	0 to 0,5 [0 to 31]	0,5 to 1,0 [31 to 61]	1,0 to 2,0 [61 to 122]	More than 2,0 [122]	Welding	Assembly	Dirty Environment	End Effectors	Machining	Duty Cycle	Adjustable Opening Angle	Inductive Sensors Available	Dual Arms	Tolerance Compensating	Manual Version Available	Center Arm	Lateral Arms	Toggle Locking
Aluminum		●								⊗	●	○	●	●	○						✓		✓
Steel		●				●				○	●	●	●	●	●	✓	✓			✓	✓	✓	✓
	0 to 2 [0 to 4.41]	●				●				○	●	●	●	●	●	✓	✓			✓	✓	✓	✓
	2 to 4 [4.41 to 8.82]	●	●			●	●			○	●	●	●	●	✓	✓		✓		✓	✓	✓	✓
	4 to 6 [8.82 to 13.23]	●	●	●		●	●			○	●	●	●	●	✓	✓		✓		✓	✓	✓	✓
	6 to 8 [13.23 to 17.64] More than 8 [17.64]	●	●	●	●	●	●			○	●	●	●	●	✓	✓		✓		✓	✓	✓	✓
	0 to 0,5 [0 to 31]									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	0,5 to 1,0 [31 to 61]									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	1,0 to 2,0 [61 to 122]									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	More than 2,0 [122]									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	Welding									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	Assembly									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	Dirty Environment									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	End Effectors									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	Machining									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	Duty Cycle									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	Adjustable Opening Angle									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	Inductive Sensors Available									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	Dual Arms									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	Tolerance Compensating									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	Manual Version Available									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	Center Arm									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	Lateral Arms									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	Toggle Locking									○	●	●	●	●	✓	✓			✓	✓	✓	✓	✓

● Excellent/High ○ Fair/Medium ● Poor/Low ⊗ Not Recommended

# PNEUMATIC PIN CLAMPS AND PIN PACKAGES

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## Sizing and Application Chart

### Pin Clamps



Series	Page #	Clamping Torque at 5 bar [72 psi] N [lbf]	Piston Ø mm [in]	Material	Weight Kg [lb]	Air Consumption per Double Stroke at 5 bar [72 psi] dm <sup>3</sup> [in <sup>3</sup> ]	Applications	Features
82P25-2	30	0 to 1000 [0 to 225] 1000 to 2000 [225 to 450] 2000 to 4000 [450 to 899]	25 [0.98] 30 [1.18] 35 [1.38] 50 [1.97] 63 [2.48]	Aluminum Steel	0 to 2 [0 to 4.41] 2 to 4 [4.41 to 8.82]	0 to 0,5 [0 to 31] 0,5 to 1,0 [31 to 61] 1,0 to 2,0 [61 to 122]	Welding Assembly Dirty Environment End Effectors Machining Duty Cycle	Tolerance Compensating Inductive Sensors Dual Hooks Centering Pins Toggle Locking Self Locking
82P30-3	31						Welding Assembly Dirty Environment End Effectors Machining Duty Cycle	Tolerance Compensating Inductive Sensors Dual Hooks Centering Pins Toggle Locking Self Locking
82P35-3	31						Welding Assembly Dirty Environment End Effectors Machining Duty Cycle	Tolerance Compensating Inductive Sensors Dual Hooks Centering Pins Toggle Locking Self Locking
82P50-720	32						Welding Assembly Dirty Environment End Effectors Machining Duty Cycle	Tolerance Compensating Inductive Sensors Dual Hooks Centering Pins Toggle Locking Self Locking
82P63-720	32						Welding Assembly Dirty Environment End Effectors Machining Duty Cycle	Tolerance Compensating Inductive Sensors Dual Hooks Centering Pins Toggle Locking Self Locking
82P50-800	34						Welding Assembly Dirty Environment End Effectors Machining Duty Cycle	Tolerance Compensating Inductive Sensors Dual Hooks Centering Pins Toggle Locking Self Locking
82U50-3	36						Welding Assembly Dirty Environment End Effectors Machining Duty Cycle	Tolerance Compensating Inductive Sensors Dual Hooks Centering Pins Toggle Locking Self Locking

● Excellent/High ○ Fair/Medium ● Poor/Low ⊗ Not Recommended

### Precision Guides



Series	Page #	Stroke mm [in]	Lifting Force N [lbf]	Holding Force N [lbf]	Weight Kg [lb]	Air Consumption per Double Stroke at 5 bar [72 psi] dm <sup>3</sup> [in <sup>3</sup> ]	Applications
VV85G-15020	35	20 [0.79] 40 [1.57]	0 to 500 [0 to 112.4] 0 to 4000 [0 to 899]	13,2 [29.1] 0,7 [42.7] 1,1 [67]	Welding Assembly Dirty Environment End Effectors Machining Duty Cycle		
VV85G-15040	35						Welding Assembly Dirty Environment End Effectors Machining Duty Cycle

● Excellent/High ○ Fair/Medium ● Poor/Low ⊗ Not Recommended





# 81L

## Pneumatic Power Clamps | Miniature

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Size	Description	Arm Style	Description	Design	Description
<b>12-1</b>	12 mm Cylinder (M5 Port)	<b>01</b>	Clamping arm, horizontal	<b>00</b>	Standard design
<b>16-1</b>	16 mm Cylinder (M5 Port)	<b>41</b>	Clamping arm, vertical		
<b>20-1</b>	20 mm Cylinder (M5 Port)				
<b>25-1</b>	20 mm Cylinder (M5 Port)				

*See below for further details*



**12**  
Max Holding Torque  
25 Nm [18.4 ft-lb]  
Max Clamping Torque  
4,5 Nm [3.3 ft-lb]  
at 5 bar [72 psi]

**16**  
Max Holding Torque  
60 Nm [44.3 ft-lb]  
Max Clamping Torque  
7 Nm [5.2 ft-lb]  
at 5 bar [72 psi]

**20**  
Max Holding Torque  
100 Nm [73.8 ft-lb]  
Max Clamping Torque  
18 Nm [13.3 ft-lb]  
at 5 bar [72 psi]

**25**  
Max Holding Torque  
100 Nm [73.8 ft-lb]  
Max Clamping Torque  
18 Nm [13.3 ft-lb]  
at 5 bar [72 psi]

### Accessories/Replacement Parts

Model	Seal Kits
<b>81L12-1....</b>	81L12-1-00
<b>81L16-1....</b>	81L16-1-00
<b>81L20-1....</b>	81L20-1-00
<b>81L25-1....</b>	81L20-1-00

**Order No.**  
**8EA-109-1**  
**82ZB-004-1**

Description (order separately)  
Sensor, 3-wire cable, M8x1 connector, 3-pin  
Adapter for mounting 81L20-1, 81L25-1 to 25mm dia. bar



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# 82L

## Enclosed Pneumatic Power Clamps | Miniature

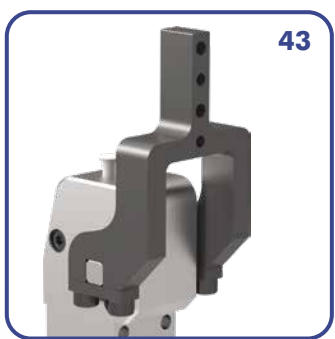
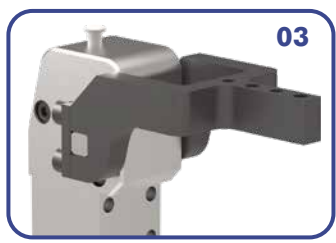
**82L**   **16-4**   **03**   **0**

Size	Description
<b>12-4</b>	12 mm Cylinder (M5 Port)
<b>16-4</b>	16 mm Cylinder (M5 Port)
<b>20-4</b>	20 mm Cylinder (M5 Port)
<b>25-4</b>	25 mm Cylinder (M5 Port)

Arm Style	Description
<b>00</b>	No clamping arm
<b>03</b>	U-bar, central 90°
<b>43</b>	U-bar, central 180°

See below for further details

Opening Angle	Description
<b>0</b>	105° (Standard)
<b>3</b>	90°
<b>4</b>	75°
<b>5</b>	60°
<b>6</b>	45°
<b>7</b>	30°
<b>8</b>	15°



Model	Order No. for Arm
<b>82L12-4...</b>	<b>8JG-401-1-01</b>
<b>82L16-4...</b>	<b>8JG-402-1-01</b>
<b>82L20-4...</b>	<b>8JG-403-1-01</b>
<b>82L25-4...</b>	<b>8JG-404-1-01</b>

**12**   **16**   **20**   **25**

Size	Max Holding Torque	Max Clamping Torque
<b>12</b>	35 Nm [25.8 ft-lb]	10,4 Nm [7.7 ft-lb]
<b>16</b>	40 Nm [29.5 ft-lb]	12,4 Nm [9.1 ft-lb]
<b>20</b>	50 Nm [36.9 ft-lb]	21 Nm [15.5 ft-lb]
<b>25</b>	80 Nm [59.0 ft-lb]	31,8 Nm [23.4 ft-lb]

**90° version:** 10,4 Nm [7.7 ft-lb]  
**180° version:** 8,7 Nm [6.4 ft-lb] at 5 bar [72 psi]

### Accessories

Order No.	Description (order separately)
<b>8EA-109-1</b>	Sensor, 3-wire cable, M8x1 connector, 3-pin
<b>8ZZB-004-1</b>	Adapter for mounting 82L20-4, 82L25-4 to 25mm dia. bar

Dimensions and technical information are subject to change without notice

[www.mfcp.com](http://www.mfcp.com)



# 82LG, 82LN

Enclosed Pneumatic Power Clamps | Lightweight Modular

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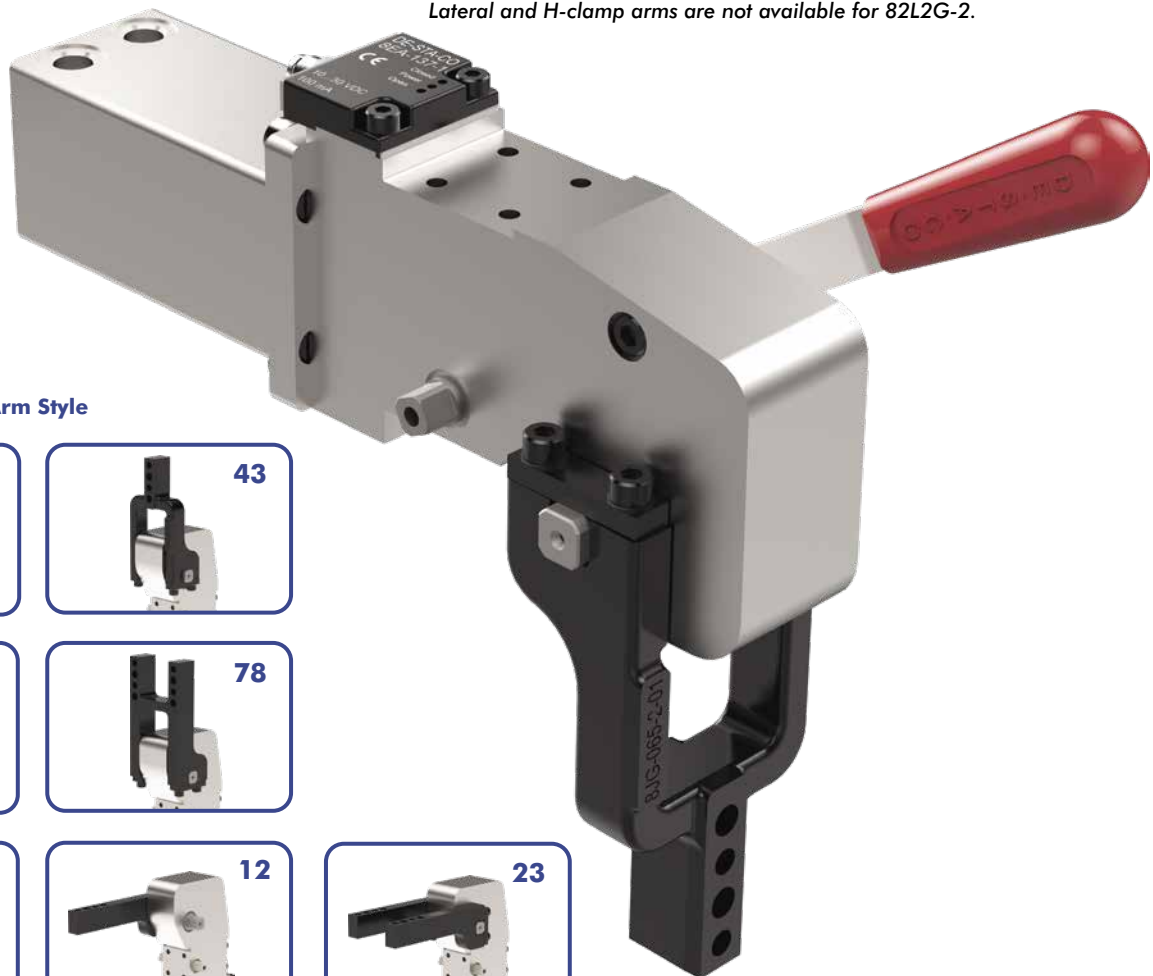
82L 2G-2 03 B8 H 0 B

Size	Description
2G-2	25 mm Cylinder (G1/8 Port)
3G-2	32 mm Cylinder (G1/8 Port)
3N-2	32 mm Cylinder (1/8-18 NPT Port)
4G-2	40 mm Cylinder (G1/4 Port)
4N-2	40 mm Cylinder (1/4-18 NPT Port)

Arm Style	Description
03	U-clamp arm, central 90°
11	Lateral clamp arm, left 90°
12	Lateral clamp arm, right 90°
23	2x lateral clamp arm 90°
38	H-clamp arm 90°
43	U-clamp arm, central 180°
51	Lateral clamp arm, left 180°
52	Lateral clamp arm, right 180°
63	2x lateral clamp arm 180°
78	H-clamp arm 180°

See below for further details.

Lateral and H-clamp arms are not available for 82L2G-2.



Arm Style





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# 82LG, 82LN

## Enclosed Pneumatic Power Clamps | Lightweight Modular

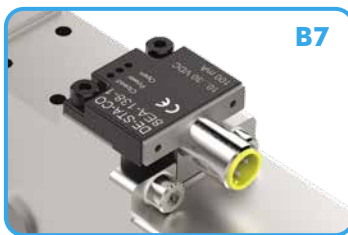
Hand Lever	Description
0	No Hand Lever
H	With Hand Lever

Base Model	Description
B	Power clamp without clamping arm. To be marked with an additional "B". Only with clamping arm "03"

Opening Angle	Description
0	105° (Standard)
3	90°
4	75°
5	60°
6	45°
7	30°
8	15°



Sensor	Description
00	Without Sensing System
C8	Inductive Sensing System with In-Line M8x1 Connector
B7	Inductive Sensing System with In-Line M12x1 Connector
B8	Inductive Sensing System with M12x1 Connector with Cable



**2G**

Max Holding Torque  
75 Nm [55.3 ft-lb]  
Max Clamping Torque  
25 Nm [18.4 ft-lb]  
at 5 bar [72 psi]

**3G/N**

Max Holding Torque  
180 Nm [132.8 ft-lb]  
Max Clamping Torque  
55 Nm [40.6 ft-lb]  
at 5 bar [72 psi]

**4G/N**

Max Holding Torque  
380 Nm [280.3 ft-lb]  
Max Clamping Torque  
120 Nm [88.5 ft-lb]  
at 5 bar [72 psi]

# 82LG, 82LN ACCESSORIES

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Enclosed Pneumatic Power Clamps | Lightweight Modular

## U-Type Central Clamping Arms



Model	Order No. (1 clamp arm)
82L2G-2...	8JG-075-3-01
82L3.-2...	8JG-065-2-01
82L4.-2...	8JG-067-2-01

## H- Clamping Arms



Model	Order No. (1 clamp arm)
82L3.-2...	8JG-363-1-01
82L4.-2...	8JG-364-1-01

## Lateral Clamping Arms



Model	Order No. (1 clamp arm)
82L3.-2...	8JG-066-1-01
82L4.-2...	8JG-068-1-01

## Counter-Support



Order No.	Fit for Model
BK-R25-82L25-1	82L2_
BK-R25-82L32-1	82L3_
BK-R25-82L40-1	82L4_

## Hold Open Device



Clamping position



Open position locked

Order No.	Fit for Model
82ZB-036-1	82L2.-2....H..
82ZB-037-1	82L3.-2....H..
82ZB-038-1	82L4.-2....H..


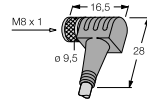

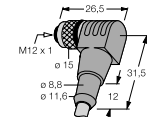


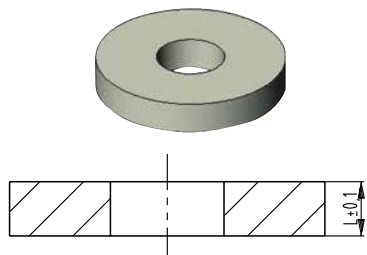
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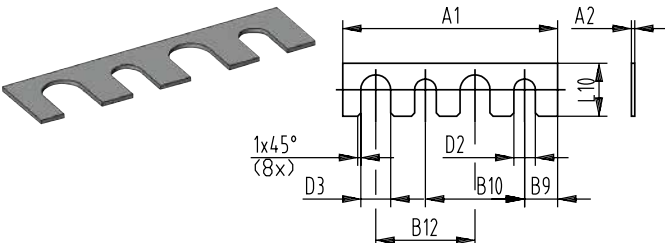
# 82LG, 82LN ACCESSORIES

Enclosed Pneumatic Power Clamps | Lightweight Modular

Clamping Arms	Order No. for set 82L2G-2....0../ 82L2G-2....H..	Order No. for set 82L3.-2....0../ 82L3.-2....H..	Order No. for set 82L4.-2....0../ 82L4.-2....H..
U-central	8JG-075-3-01	8JG-065-2-01	8JG-067-2-01
Lateral	--	8JG-066-1-01	8JG-068-1-01
H-Shape	--	8JG-363-1-01	8JG-364-1-01

Connector cable (1 connector socket & 5 m [16 ft] cable)			
Connector socket M8x1 straight 4-pin		8EL-009-1	8EL-009-1
Connector socket M8x1 angular 4-pin		8EL-007-1	8EL-007-1
Connector socket M12x1 straight 5-pin		8EL-002-1	8EL-002-1
Connector socket M12x1 angular 4-pin		8EL-003-1	8EL-003-1

Opening angle limitation	Opening Angle	82L2G-2		82L3.-2		82L4.-2	
		Order No.	L ± 0,1	Order No.	L ± 0,1	Order No.	L ± 0,1
	15°	8CE-282-1	28,6	8CE-296-1	33,3	8CE-310-1	38,4
	30°	8CE-284-1	22	8CE-298-1	26,9	8CE-312-1	31
	45°	8CE-286-1	18,5	8CE-300-1	21,5	8CE-314-1	24,7
	60°	8CE-288-1	14	8CE-302-1	16,3	8CE-316-1	18,6
	75°	8CE-290-1	7,9	8CE-304-1	11	8CE-318-1	11
	90°	8CE-292-1	4,7	8CE-306-1	5,5	8CE-320-1	6,2

Shim for clamping arm	Order No.	A1	A2	D2	D3	B9	B10	B12	L10
			82ZB-SH4001	42	0,1	6,5	7	6	20
	82ZB-SH4002		0,2						
	82ZB-SH4005		0,5						
	82ZB-SH4010		1,0						
	82ZB-SH4020		2,0						
	82ZB-SH4050		5,0						

Spare Parts	Order No. for set		Order No. for set		Order No. for set	
	82L2G-2....0..	82L2G-2....H..	82L3.-2....0..	82L3.-2....H..	82L4.-2....0..	82L4.-2....H..
Cylinder	8PW-095-2		82L3G-2 (G port): 8PW-096-2 82L3N-2 (NPT port): 8PW-102-2		82L4G-2 (G port): 8PW-097-2 82L4N-2 (NPT port): 8PW-103-2	
Hand Lever	--	8KB-031-1	--	8KB-031-1	--	8KB-032-1

# TCC-2

## Enclosed Pneumatic Power Clamps | Heavy-Duty, Tolerance Compensation

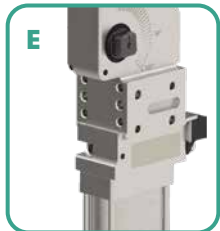
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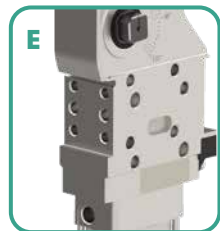
**TCC-2**   **E**   **03**   **00**   **6A**   **L8**

Mounting	Description	Clamp Arm Shaft	Description	Handle	Description
<b>E</b>	Standard Mounting	<b>03</b>	for U-Arms	<b>00</b>	No Hand lever
<b>B</b>	Common Front Mount for Size 40 only (same mount pattern as size 50 & 63)	<b>23</b>	for Lateral Arms		
<b>N</b>	NAAMS Side Mounting for Size 63 only	<i>See below for further details</i>			

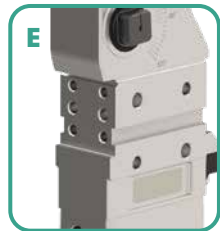
### Mounting



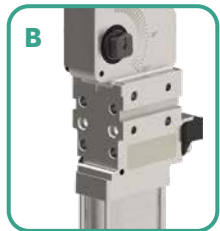
Size 40



Size 50



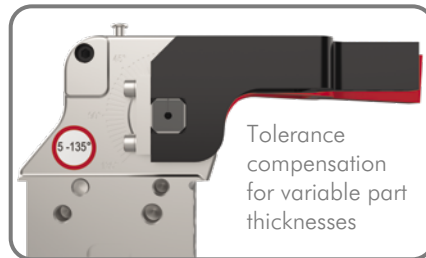
Size 63



Size 40 Only

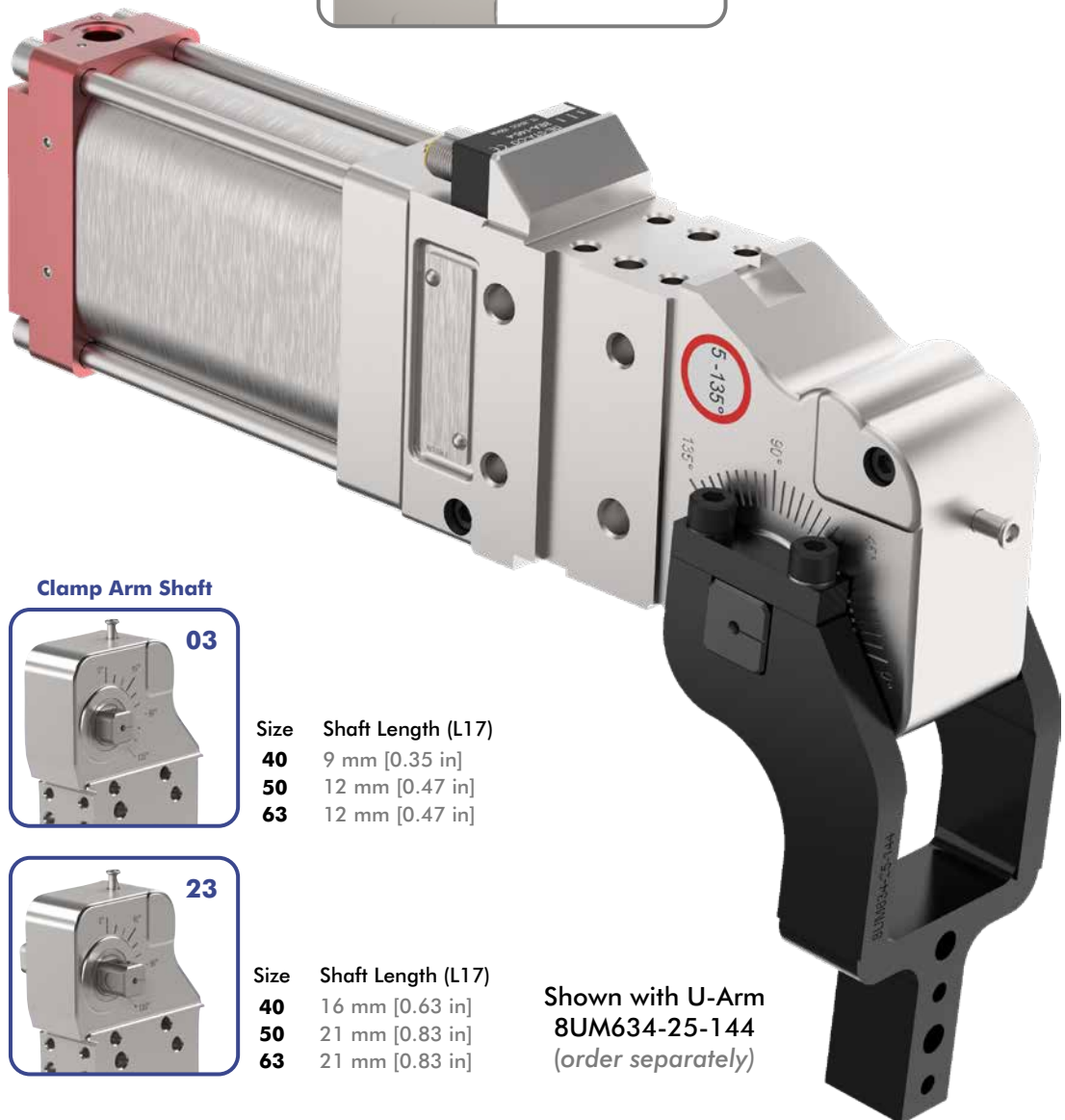


Size 63 Only



Tolerance compensation for variable part thicknesses

- Tolerance compensation for variable sheet metal thicknesses within three degrees of arm movement
- There is no need for shimming



### Clamp Arm Shaft



**03**

Size	Shaft Length (L17)
<b>40</b>	9 mm [0.35 in]
<b>50</b>	12 mm [0.47 in]
<b>63</b>	12 mm [0.47 in]



**23**

Size	Shaft Length (L17)
<b>40</b>	16 mm [0.63 in]
<b>50</b>	21 mm [0.83 in]
<b>63</b>	21 mm [0.83 in]

Shown with U-Arm  
**8UM634-25-144**  
(order separately)





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## Enclosed Pneumatic Power Clamps | Heavy-Duty, Tolerance Compensation

Sensor	Description
<b>00</b>	Without Sensing System
<b>L8*</b>	PNP Sensor with In-line M12x1 Connector (8EA-146-4-B)
<b>N8*</b>	NPN Sensor with In-line M12x1 Connector (8EA-154-4-B)
<b>L9</b>	PNP Sensor with 90° M12x1 Connector (8EA-147-4-B)
<b>N9</b>	NPN Sensor with 90° M12x1 Connector (8EA-155-4-B)
<b>K8</b>	PNP Sensor with M12x1 Cable Connector (8EA-158-4-B)
<b>K9</b>	NPN Sensor with M12x1 Cable Connector (8EA-167-4-B)

\*Not available for use with **4V**, **5V**, **6V** cylinder option.

**Sensor Cables** Order separately

Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector with 5 m [16 ft] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft] Cable



### Cylinder (Standard)

- 40** 40 mm Cylinder (G1/8 Port)
- 50** 50 mm Cylinder (G1/4 Port)
- 5N** 50 mm Cylinder (1/4-18 NPT Port)
- 63** 63 mm Cylinder (G1/4 Port)
- 6N** 63 mm Cylinder (1/4-18 NPT Port)



### Cylinder with Unlockable Return Valve

- 4C** 40 mm Cylinder (G1/8 Port)
- 5C** 50 mm Cylinder (G1/4 Port)
- 5D** 50 mm Cylinder (1/4-18 NPT Port)
- 6C** 63 mm Cylinder (G1/4 Port)
- 6D** 63 mm Cylinder (1/4-18 NPT Port)



### Cylinder with Internal Hold Open Device

- 4A** 40 mm Cylinder (G1/8 Port)
- 5A** 50 mm Cylinder (G1/4 Port)
- 5B** 50 mm Cylinder (1/4-18 NPT Port)
- 6A** 63 mm Cylinder (G1/4 Port)
- 6B** 63 mm Cylinder (1/4-18 NPT Port)



### Cylinder with Piston Rod Locking Device

- 4V** 40 mm Cylinder (G1/8 Port)
- 5V** 50 mm Cylinder (G1/4 Port)
- 6V** 63 mm Cylinder (G1/4 Port)



**40**

Max Holding/  
Clamping Torque  
85 Nm [62.7 ft-lb]  
at 5 bar [72 psi]

**50**

Max Holding/  
Clamping Torque  
175 Nm [129 ft-lb]  
at 5 bar [72 psi]

**63**

Max Holding/  
Clamping Torque  
295 Nm [217.6 ft-lb]  
at 5 bar [72 psi]

# 82M-3

## Enclosed Pneumatic Power Clamps | Heavy-Duty Modular

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**82M-3** **E** **23** **H0** **50** **L8** - **1** ● North America Only

Mounting	Description
<b>E</b>	Standard Mounting
<b>B</b>	Common Front Mount for Size 40 only (same mount pattern as size 50 & 63)
<b>N</b>	NAAMS Side Mounting for Size 63 only

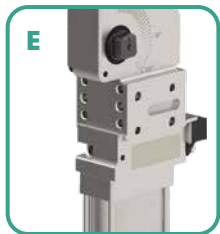
Clamp Arm Shaft	Description
<b>03</b>	for U-Arms
<b>23</b>	for Lateral Arms
<b>D0</b>	for Lateral Arms (size 63 NAAMS only)

Handle	Description
<b>00</b>	No Hand lever
<b>H0</b>	Hand Lever
<b>HS</b>	Weldable

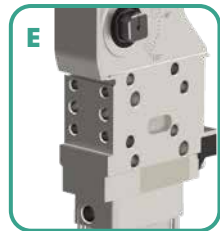
See below for further details

See below for further details

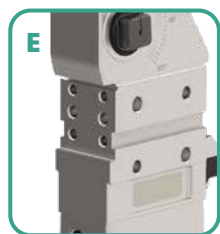
### Mounting



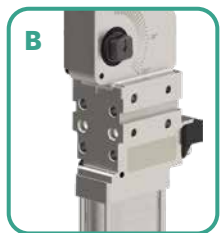
Size 40



Size 50



Size 63/80



Size 40 Only

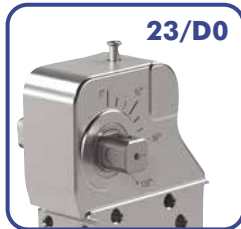


Size 63 Only

### Clamp Arm Shaft



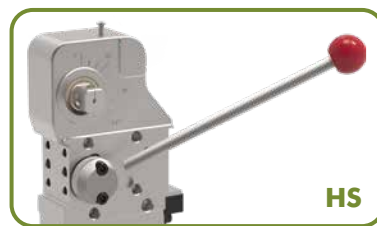
Size	Shaft Length (L17)
<b>40</b>	9 mm [0.35 in]
<b>50</b>	12 mm [0.47 in]
<b>63</b>	12 mm [0.47 in]



Size	Shaft Length (L17)
<b>40</b>	16 mm [0.63 in]
<b>50</b>	21 mm [0.83 in]
<b>63</b>	21 mm [0.83 in]
<b>80</b>	32 mm [1.26 in]

Size	Shaft Length (L17)
<b>63</b>	26 mm [1.02 in]

### Hand Lever



Hand Lever	Description
<b>00</b>	No Hand Lever
<b>H0</b>	Standard Hand Lever (not compatible with cylinder options *A, *B)
<b>HS</b>	Weldable Hand Lever (not compatible with cylinder options *A, *B)

Shown with U-Arm  
8UM504-25-144  
(order separately)

Replacement Hand Levers	Order No.
<b>Standard</b>	
82M-3E..H040..	<b>8KB-097-1</b>
82M-3E..H05...	<b>8KB-098-1</b>
82M-3E..H06..	<b>8KB-099-1</b>
82M-3E..H08..	<b>8KB-100-1</b>
<b>Weldable</b>	
82M-3E..HS40..	<b>8KB-101-1</b>
82M-3E..HS5...	<b>8KB-102-1</b>
82M-3E..HS6..	<b>8KB-103-1</b>
82M-3E..HS8..	<b>8KB-104-1</b>



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# 82M-3

## Enclosed Pneumatic Power Clamps | Heavy-Duty Modular

Sensor	Description
<b>00</b>	Without Sensing System
<b>L8</b>	PNP Sensor with In-line M12x1 Connector (8EA-146-4-B)
<b>N8</b>	NPN Sensor with In-line M12x1 Connector (8EA-154-4-B)
<b>L9</b>	PNP Sensor with 90° M12x1 Connector (8EA-147-4-B)
<b>N9</b>	NPN Sensor with 90° M12x1 Connector (8EA-155-4-B)
<b>K8</b>	PNP Sensor with M12x1 Cable Connector (8EA-158-4-B)
<b>K9</b>	NPN Sensor with M12x1 Cable Connector (8EA-167-4-B)



**Sensor Cables** Order separately

Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector with 5 m [16 ft] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft] Cable



### Cylinder - Standard

- 40** 40 mm Cylinder (G1/8 Port)
- 50** 50 mm Cylinder (G1/4 Port)
- 5N** 50 mm Cylinder (1/4-18 NPT Port)
- 63** 63 mm Cylinder (G1/4 Port)
- 6N** 63 mm Cylinder (1/4-18 NPT Port)
- 80** 80 mm Cylinder (G1/4 Port)
- 8N** 80 mm Cylinder (1/4-18 NPT Port)



### Cylinder with Internal Hold Open Device

- 4A** 40 mm Cylinder (G1/8 Port)
- 5A** 50 mm Cylinder (G1/4 Port)
- 5B** 50 mm Cylinder (1/4-18 NPT Port)
- 6A** 63 mm Cylinder (G1/4 Port)
- 6B** 63 mm Cylinder (1/4-18 NPT Port)
- 8A** 80 mm Cylinder (G1/4 Port)
- 8B** 80 mm Cylinder (1/4-18 NPT Port)



**40**

Max Holding Torque  
380 Nm [280 ft-lb]  
Max Clamping Torque  
120 Nm [89 ft-lb]  
at 5 bar [72 psi]

**50**

Max Holding Torque  
1300 Nm [959 ft-lb]  
Max Clamping Torque  
270 Nm [199 ft-lb]  
at 5 bar [72 psi]

**63**

Max Holding Torque  
1800 Nm [1328 ft-lb]  
Max Clamping Torque  
420 Nm [310 ft-lb]  
at 5 bar [72 psi]

**80**

Max Holding Torque  
3000 Nm [2213 ft-lb]  
Max Clamping Torque  
850 Nm [627 ft-lb]  
at 5 bar [72 psi]

### Locking Device for Hand Lever



Order No.	For Model
82ZB-162-1	82M-3E..H040..
82ZB-084-1	82M-3E..H05...
82ZB-039-1	82M-3E..H06...

### Anti-Ramming Device



Order No.	For Model
8AB-151-1	82M-3E...40..
8AB-152-1	82M-3E...5...
8AB-153-1	82M-3E...6...
8AB-154-1	82M-3E...8...

Using of the anti-ramming device is only possible with 82M-3E.....00 and 82M-3E.....L8

# 52H-3

## Enclosed Modular Manual Power Clamps | Heavy-Duty

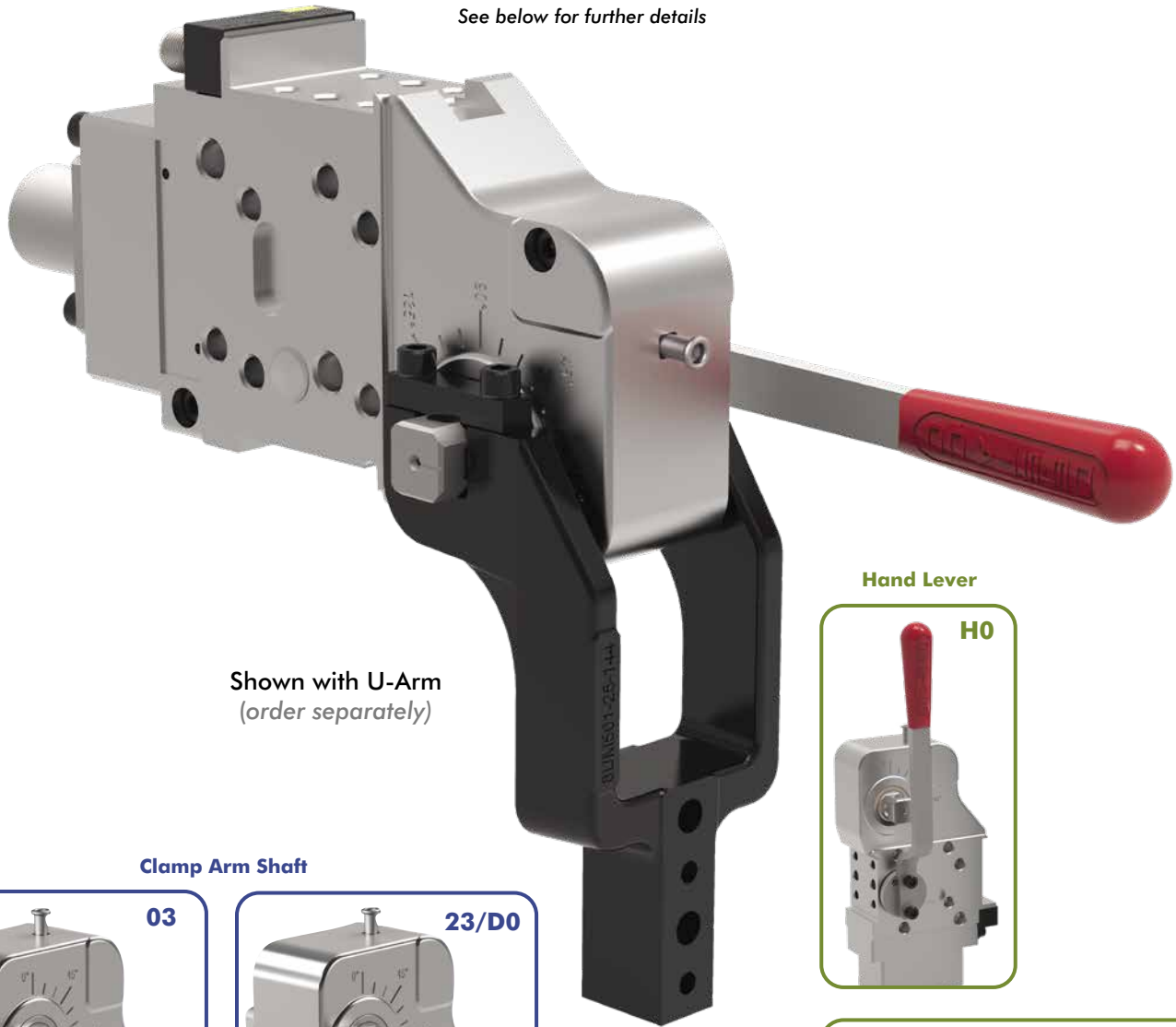
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**52H-3**   **E**   **23**   **H0**   **50**   **L8**

Mounting	Description	Clamp Arm Shaft	Description	Handle	Description
<b>E</b>	Standard	<b>03</b>	for U-Arms	<b>H0</b>	Hand lever
<b>N</b>	NAAMS (Size 63 only)	<b>23</b>	for Lateral Arms	<b>HS</b>	Hand Lever (Weldable)
		<b>D0</b>	for Lateral Arms (size 63 only)		

See below for further details



Shown with U-Arm  
(order separately)

### Clamp Arm Shaft



**03**

**Size** Shaft Length (L17)  
50 12 mm [0.47 in]  
63 12 mm [0.47 in]



**23/D0**

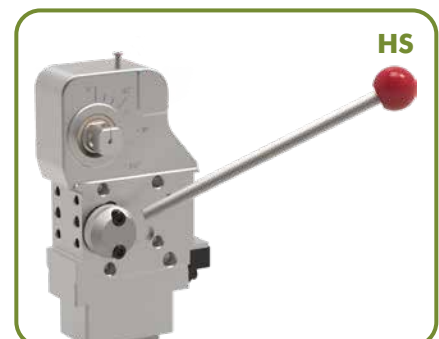
**23**  
**Size** Shaft Length (L17)  
50 21 mm [0.83 in]  
63 21 mm [0.83 in]

**D0**  
**Size** Shaft Length (L17)  
D0 26 mm [1.02 in]

### Hand Lever



**H0**



**HS**

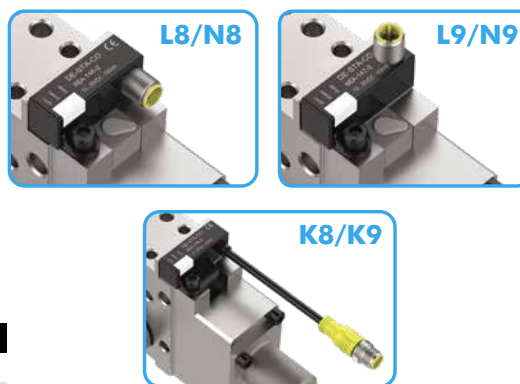


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# 52H-3

## Enclosed Modular Manual Power Clamps | Heavy-Duty

Sensor	Description
00	Without Sensing System
L8	PNP Sensor with In-line M12x1 Connector (8EA-146-4-B)
N8	NPN Sensor with In-line M12x1 Connector (8EA-154-4-B)
L9	PNP Sensor with 90° M12x1 Connector (8EA-147-4-B)
N9	NPN Sensor with 90° M12x1 Connector (8EA-155-4-B)
K8	PNP Sensor with M12x1 Cable Connector (8EA-158-4-B)
K9	NPN Sensor with M12x1 Cable Connector (8EA-167-4-B)



**Sensor Cables** Order separately

Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector with 5 m [16 ft] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft] Cable

Size	Description
50	Size 50 mm
63	Size 63 mm

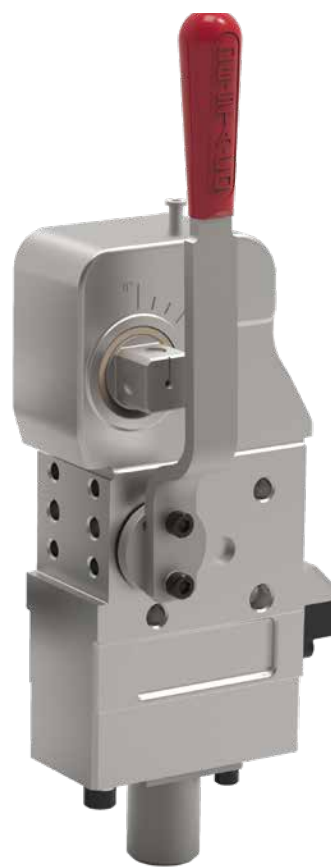


**52H-3E..H.50/63**  
Modular manual  
clamp, interchangeable  
with 82M-3E...50/63



**50**

Max Holding Torque  
1300 Nm [959 ft-lb]



**63**

Max Holding Torque  
1800 Nm [1328 ft-lb]

### Spare parts

Replacement	for Model	Order No.
Hand lever set	52H-3E...50	8KB-098-1
	52H-3E...63	8KB-099-1
Hand lever set (weldable)	52H-3E...50	8KB-102-1
	52H-3E...63	8KB-103-1

# 82M-3, 52H-3 CLAMP ARMS

Enclosed Modular Manual and Power Clamps

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## U-Arms Center (Aluminum)

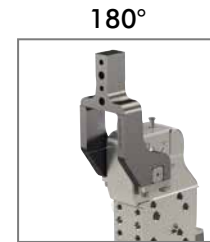
Fits 82M-3E...40..	Max. Opening	
	for 90°	for 180°
8UM404-00-117		105°
8UM404-15-117	135°	120°
8UM404-25-117		135°
8UM404-45-107	130°	

Fits 82M-3...5... and 52H-3E...5...	Max. Opening	
	for 90°	for 180°
8UM504-15-144		105°
8UM504-25-144	135°	120°
8UM504-45-144		135°



Fits 82M-3...6... and 52H-3E...6...	Max. Opening	
	for 90°	for 180°
8UM634-15-144		105°
8UM634-25-144	135°	120°
8UM634-45-144		135°
8UM631-75-204*		135°

Fits 82M-3...8...	Max. Opening	
	for 90°	for 180°
8JG-169-2-01*		105°
8UM801-45-204*	135°	135°



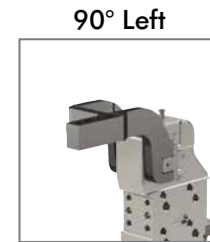
\* only steel version available.

## U-Arms Offset (Aluminum)

(•) = **L** for Left, **R** for Right

Fits 82M-3E...40..	Max. Opening	
	for 90°	for 180°
8U(•)404-00-117		105°
8U(•)404-15-117	135°	120°
8U(•)404-25-117		135°
8U(•)404-45-107	130°	

Fits 82M-3...5... and 52H-3E...5...	Max. Opening	
	for 90°	for 180°
8U(•)504-15-144		105°
8U(•)504-25-144	135°	120°
8U(•)504-45-144		135°



8UL...  
8JG-170-2-01

8UR...  
8JG-171-2-01

Fits 82M-3...6... and 52H-3E...6...	Max. Opening	
	for 90°	for 180°
8U(•)634-15-144		105°
8U(•)634-25-144	135°	120°
8U(•)634-45-144		135°
8U(•)631-75-204*		135°

Fits 82M-3...8...	Max. Opening	
	for 90°	for 180°
8JG-17(•)-2-01*	135°	105°

(•) = **0** for Left, **1** for Right



8UR...  
8JG-171-2-01

8UL...  
8JG-170-2-01

**Note:** 180° left uses same clamp arm as 90° right.  
180° right uses same clamp arm as 90° left.

\* only steel version available.

## Lateral (Steel)

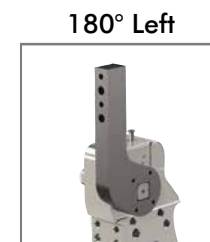
Fits 82M-3E...40..	Max. Opening	
	for 90°	for 180°
8S401-15-117	135°	120°

Fits 82M-3...5... and 52H-3E...5...	Max. Opening	
	for 90°	for 180°
8JG-070-1-01		135°
8S501-25-144	135°	135°



Fits 82M-3...6... and 52H-3E...6...	Max. Opening	
	for 90°	for 180°
8JG-080-1-01		135°
8S631-25-144	135°	135°
8S631-45-144		135°
8S631-75-204		135°

Fits 82M-3...8...	Max. Opening	
	for 90°	for 180°
8JG-1179-1-01		135°
8S801-45-204	135°	135°



Models with 2 lateral clamp arms requires 2 clamp arm sets.



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# 82M-3, 52H-3 CLAMP ARMS

Enclosed Modular Manual and Power Clamps

## Lateral Arms (NAAMS-Style) for 82M-3E and 52H-3E 50mm

### 9mm Thru Hole (6.00 H7 Dowel)

#### 90mm [3.54"] Arm Length

Series	Arm Style	Model
50 Offset	▲ • 3256	B8JG-3256-1
25 Offset	▲ • 3246	B8JG-3246-1
0 Offset	▲ • 3236	B8JG-3236-1

#### 120mm [4.72"] Arm Length

Series	Arm Style	Model
50 Offset	▲ • 3257	B8JG-3257-1
25 Offset	▲ • 3247	B8JG-3247-1
0 Offset	▲ • 3237	B8JG-3237-1

#### 150mm [5.90"] Arm Length

Series	Arm Style	Model
50 Offset	▲ • 3258	B8JG-3258-1
25 Offset	▲ • 3248	B8JG-3248-1
0 Offset	▲ • 3238	B8JG-3238-1

### 11mm Thru Hole (8.00 F7 Dowel)

#### 90mm [3.54"] Arm Length

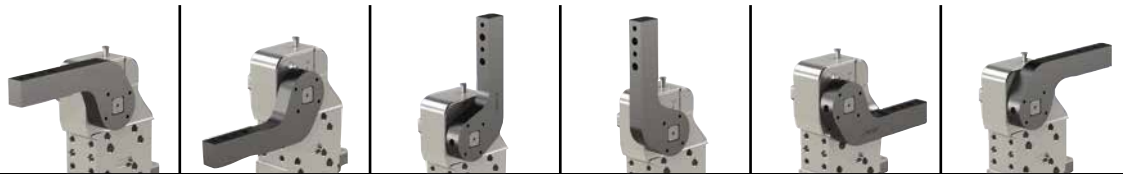
Series	Arm Style	Model
50 Offset	▲ • 1226	B8JG-1226-1
25 Offset	▲ • 1216	B8JG-1216-1
0 Offset	▲ • 1206	B8JG-1206-1

#### 120mm [4.72"] Arm Length

Series	Arm Style	Model
50 Offset	▲ • 1227	B8JG-1227-1
25 Offset	▲ • 1217	B8JG-1217-1
0 Offset	▲ • 1207	B8JG-1207-1

#### 150mm [5.90"] Arm Length

Series	Arm Style	Model
50 Offset	▲ • 1228	B8JG-1228-1
25 Offset	▲ • 1218	B8JG-1218-1
0 Offset	▲ • 1208	B8JG-1208-1



Arm Styles	Maximum Opening Angle (shown in locked position)					
1206-1208/3236-3238	135°	135°	100°	100°	N/A	N/A
1216-1218/3246-3248	135°	N/A	50°	125°	N/A	30°
1226-1228/3256-3258	125°	N/A	35°	135°	N/A	50°

## Lateral Arms (NAAMS-Style) for 82M-3. and 52H-3E 63mm for 23 Clamp Arm Shaft Option

### 9mm Thru Hole (6.00 H7 Dowel)

#### 135mm [5.31"] Arm Length

Series	Arm Style	Model
120 Offset	▲ 1543	B8JG-1543-1
70 Offset	▲ 1531	B8JG-1531-1
25 Offset	▲ 1519	B8JG-1519-1
0 Offset	▲ 1507	B8JG-1507-1

#### 165mm [6.50"] Arm Length

Series	Arm Style	Model
120 Offset	▲ 1544	B8JG-1544-1
70 Offset	▲ 1532	B8JG-1532-1
25 Offset	▲ 1520	B8JG-1520-1
0 Offset	▲ 1508	B8JG-1508-1

#### 195mm [7.68"] Arm Length

Series	Arm Style	Model
120 Offset	▲ 1545	B8JG-1545-1
70 Offset	▲ 1533	B8JG-1533-1
25 Offset	▲ 1521	B8JG-1521-1
0 Offset	▲ 1509	B8JG-1509-1

#### 225mm [8.86"] Arm Length

Series	Arm Style	Model
120 Offset	▲ 1546	B8JG-1546-1
70 Offset	▲ 1534	B8JG-1534-1
25 Offset	▲ 1522	B8JG-1522-1
0 Offset	▲ 1510	B8JG-1510-1

#### 255mm [10.04"] Arm Length

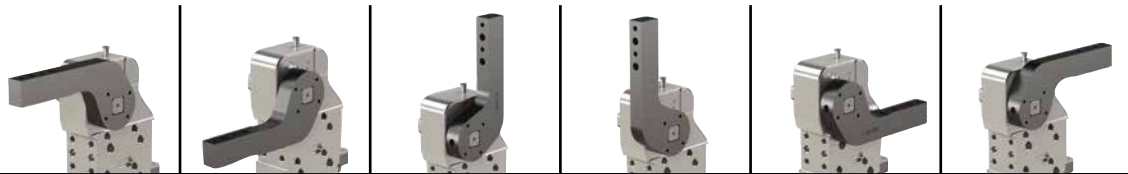
Series	Arm Style	Model
120 Offset	▲ 1547	B8JG-1547-1
70 Offset	▲ 1535	B8JG-1535-1
25 Offset	▲ 1523	B8JG-1523-1
0 Offset	▲ 1511	B8JG-1511-1

#### 285mm [11.22"] Arm Length

Series	Arm Style	Model
120 Offset	▲ 1548	B8JG-1548-1
70 Offset	▲ 1536	B8JG-1536-1
25 Offset	▲ 1524	B8JG-1524-1
0 Offset	▲ 1512	B8JG-1512-1

▲ Common in North America

(•) STANDARD ARM OFFERING



Arm Styles	Maximum Opening Angle (shown in locked position)					
1510-1512/1507-1509	135°	135°	100°	100°	N/A	N/A
1522-1524/1519-1521	135°	N/A	50°	130°	N/A	40°
1534-1536/1531-1533	115°	N/A	25°	135°	N/A	75°
1546-1548/1543-1545	110°	N/A	20°	135°	N/A	85°

▲ Common in North America

(•) STANDARD ARM OFFERING

# 82M-3, 52H-3 CLAMP ARMS

Enclosed Modular Manual and Power Clamps

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Lateral Arms (NAAMS-Style) for **82M-3**. and **52H-3E**. 63mm for **D0** Clamp Arm Shaft Option  
11mm Thru Hole (8.00 F7 Dowel)

135mm [5.31"] Arm Length			165mm [6.50"] Arm Length			195mm [7.68"] Arm Length		
Series	Arm Style	Model	Series	Arm Style	Model	Series	Arm Style	Model
120 Offset	▲ • 1043	B8JG-1043-1	120 Offset	▲ ⓘ 1044	B8JG-1044-1	120 Offset	▲ ⓘ 1045	B8JG-1045-1
70 Offset	▲ • 1031	B8JG-1031-1	70 Offset	▲ • 1032	B8JG-1032-1	70 Offset	▲ • 1033	B8JG-1033-1
25 Offset	▲ • 1019	B8JG-1019-1	25 Offset	▲ • 1020	B8JG-1020-1	25 Offset	▲ ⓘ 1021	B8JG-1021-1
0 Offset	▲ • 1007	B8JG-1007-1	0 Offset	▲ • 1008	B8JG-1008-1	0 Offset	▲ • 1009	B8JG-1009-1
225mm [8.86"] Arm Length			255mm [10.04"] Arm Length			285mm [11.22"] Arm Length		
Series	Arm Style	Model	Series	Arm Style	Model	Series	Arm Style	Model
120 Offset	▲ ⓘ 1046	B8JG-1046-1	120 Offset	▲ ⓘ 1047	B8JG-1047-1	120 Offset	▲ ⓘ 1048	B8JG-1048-1
70 Offset	▲ • 1034	B8JG-1034-1	70 Offset	▲ • 1035	B8JG-1035-1	70 Offset	▲ ⓘ 1036	B8JG-1036-1
25 Offset	▲ ⓘ 1022	B8JG-1022-1	25 Offset	▲ ⓘ 1023	B8JG-1023-1	25 Offset	▲ ⓘ 1024	B8JG-1024-1
0 Offset	▲ ⓘ 1010	B8JG-1010-1	0 Offset	▲ ⓘ 1011	B8JG-1011-1	0 Offset	▲ ⓘ 1012	B8JG-1012-1

Arm Styles	Maximum Opening Angle (shown in locked position)					
1010-1012/1007-1009	135°	135°	100°	100°	N/A	N/A
1022-1024/1019-1021	135°	N/A	50°	130°	N/A	40°
1034-1036/1031-1033	115°	N/A	25°	135°	N/A	75°
1046-1048/1043-1045	110°	N/A	20°	135°	N/A	85°

Lateral Arms (NAAMS-Style) for **82M-3E** 80mm

11mm Thru Hole (8.00 F7 Dowel)

155mm [6.10"] Arm Length			185mm [7.28"] Arm Length			215mm [8.46"] Arm Length		
Series	Arm Style	Model	Series	Arm Style	Model	Series	Arm Style	Model
120 Offset	▲ ⓘ 1170	B8JG-1170-1	120 Offset	▲ ⓘ 1171	B8JG-1171-1	120 Offset	▲ ⓘ 1172	B8JG-1172-1
70 Offset	▲ • 1150	B8JG-1150-1	70 Offset	▲ ⓘ 1151	B8JG-1151-1	70 Offset	▲ ⓘ 1152	B8JG-1152-1
25 Offset	▲ ⓘ 1130	B8JG-1130-1	25 Offset	▲ ⓘ 1131	B8JG-1131-1	25 Offset	▲ ⓘ 1132	B8JG-1132-1
0 Offset	▲ ⓘ 1110	B8JG-1110-1	0 Offset	▲ ⓘ 1111	B8JG-1111-1	0 Offset	▲ • 1112	B8JG-1112-1
245mm [9.65"] Arm Length			275mm [10.83"] Arm Length			305mm [12.00"] Arm Length		
Series	Arm Style	Model	Series	Arm Style	Model	Series	Arm Style	Model
120 Offset	▲ ⓘ 1173	B8JG-1173-1	120 Offset	▲ ⓘ 1174	B8JG-1174-1	120 Offset	▲ ⓘ 1175	B8JG-1175-1
70 Offset	▲ ⓘ 1153	B8JG-1153-1	70 Offset	▲ ⓘ 1154	B8JG-1154-1	70 Offset	▲ • 1155	B8JG-1155-1
25 Offset	▲ ⓘ 1133	B8JG-1133-1	25 Offset	▲ • 1134	B8JG-1134-1	25 Offset	▲ ⓘ 1135	B8JG-1135-1
0 Offset	▲ ⓘ 1113	B8JG-1113-1	0 Offset	▲ ⓘ 1114	B8JG-1114-1	0 Offset	▲ ⓘ 1115	B8JG-1115-1
335mm [13.19"] Arm Length			365mm [14.37"] Arm Length			395mm [15.55"] Arm Length		
Series	Arm Style	Model	Series	Arm Style	Model	Series	Arm Style	Model
120 Offset	▲ ⓘ 1176	B8JG-1176-1	120 Offset	▲ ⓘ 1177	B8JG-1177-1	120 Offset	▲ ⓘ 1178	B8JG-1178-1
70 Offset	▲ ⓘ 1156	B8JG-1156-1	70 Offset	▲ ⓘ 1157	B8JG-1157-1	70 Offset	▲ • 1158	B8JG-1158-1
25 Offset	▲ ⓘ 1136	B8JG-1136-1	25 Offset	▲ ⓘ 1137	B8JG-1137-1	25 Offset	▲ ⓘ 1138	B8JG-1138-1
0 Offset	▲ ⓘ 1116	B8JG-1116-1	0 Offset	▲ ⓘ 1117	B8JG-1117-1	0 Offset	▲ • 1118	B8JG-1118-1

Arm Styles	Maximum Opening Angle (shown in locked position)					
1110 - 1118	135°	135°	100°	100°	N/A	N/A
1130 - 1138	135°	N/A	60°	120°	N/A	30°
1150 - 1158	125°	N/A	35°	135°	N/A	55°
1170 - 1178	115°	N/A	25°	135°	N/A	80°

▲ Common in North America

(•) STANDARD ARM OFFERING

ⓘ NON-STANDARD ARM OFFERING (extended leadtimes apply)





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# 870-2, 871-2

## Pneumatic Power Clamps

**870-2**

Base Model	Description
<b>870-2</b>	38,1 mm [1.5 in.] Cylinder with Vertical Clamp Arm
<b>871-2</b>	38,1 mm [1.5 in.] Cylinder with Horizontal Clamp Arm

Sensors	Description (order separately)
<b>BIM-IKE-AP</b>	Magnetic Sensor, 2 pieces required
<b>810151</b>	Magnetic Sensor, 2 pieces required
<b>810153</b>	Magnetic Sensor, 2 pieces required
<b>810155</b>	Magnetic Sensor, 2 pieces required
<b>810157</b>	Magnetic Sensor, 2 pieces required

See below for sensor specifications.



**871-2**

Max Holding Torque  
260 Nm [192 ft-lb]  
Max Clamping Torque  
60 Nm [44 ft-lb]  
at 5 bar [72 psi]



**870-2**

Max Holding Torque  
260 Nm [192 ft-lb]  
Max Clamping Torque  
60 Nm [44 ft-lb]  
at 5 bar [72 psi]

**Sensors** Order separately (2 pieces required)

Order No.	Mount Style	Connector	Length	Function	Voltage	Max. Switching Current	Voltage Drop
<b>BIM-IKE-AP</b>	Tie Rod	No connector cord	2m [6.6 ft.]	PNP	10-30 V DC	200 mA	2.3V
<b>810151</b>				Reed	5-120 V AC/DC	500 mA	3.5V
<b>810153</b>			2.7m [9ft.]	Reed	24-240 V AC	4 A	1.0V
<b>810155</b>				PNP	6-24 V DC	500 mA	1.0V
<b>810157</b>				NPN	6-24 V DC	500 mA	1.0V

# 860, 861, 890, 891, 1000, 1001

## Pneumatic Power Clamps

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860

Base Model	Description
<b>860</b>	50,8 mm [2 in.] Cylinder with Vertical Clamp Arm
<b>861</b>	50,8 mm [2 in.] Cylinder with Horizontal Clamp Arm
<b>890</b>	63,5 mm [2.5 in.] Cylinder with Vertical Clamp Arm
<b>891</b>	63,5 mm [2.5 in.] Cylinder with Horizontal Clamp Arm
<b>1000</b>	82,5 mm [3.25 in.] Cylinder with Vertical Clamp Arm
<b>1001</b>	82,5 mm [3.25 in.] Cylinder with Horizontal Clamp Arm

Sensors	Description (order separately)
<b>BIM-IKE-AP</b>	Magnetic Sensor, 2 pieces required
<b>810151</b>	Magnetic Sensor, 2 pieces required
<b>810153</b>	Magnetic Sensor, 2 pieces required
<b>810155</b>	Magnetic Sensor, 2 pieces required
<b>810157</b>	Magnetic Sensor, 2 pieces required

See page 25 for sensor specifications.

Seal Kit	Description (order separately)
<b>8610100</b>	Seal Kit for Model 860, 861
<b>8910100</b>	Seal Kit for Model 890, 891
<b>10010100</b>	Seal Kit for Model 1000, 1001

Cylinder	Description (order separately)
<b>865133-MR</b>	Replacement Cylinder for Model 860
<b>865132-MR</b>	Replacement Cylinder for Model 861
<b>895133-MR</b>	Replacement Cylinder for Model 890
<b>895132-MR</b>	Replacement Cylinder for Model 891
<b>1005134-MR</b>	Replacement Cylinder for Model 1000
<b>1005133-MR</b>	Replacement Cylinder for Model 1001



861

Max Holding Torque  
380 Nm [280 ft-lb]  
Max Clamping Torque  
120 Nm [89 ft-lb]  
at 5 bar [72 psi]

891

Max Holding Torque  
1300 Nm [959 ft-lb]  
Max Clamping Torque  
270 Nm [199 ft-lb]  
at 5 bar [72 psi]

1001

Max Holding Torque  
1800 Nm [1328 ft-lb]  
Max Clamping Torque  
420 Nm [310 ft-lb]  
at 5 bar [72 psi]

860

Max Holding Torque  
380 Nm [280 ft-lb]  
Max Clamping Torque  
120 Nm [89 ft-lb]  
at 5 bar [72 psi]

890

Max Holding Torque  
1300 Nm [959 ft-lb]  
Max Clamping Torque  
270 Nm [199 ft-lb]  
at 5 bar [72 psi]

1000

Max Holding Torque  
1800 Nm [1328 ft-lb]  
Max Clamping Torque  
420 Nm [310 ft-lb]  
at 5 bar [72 psi]

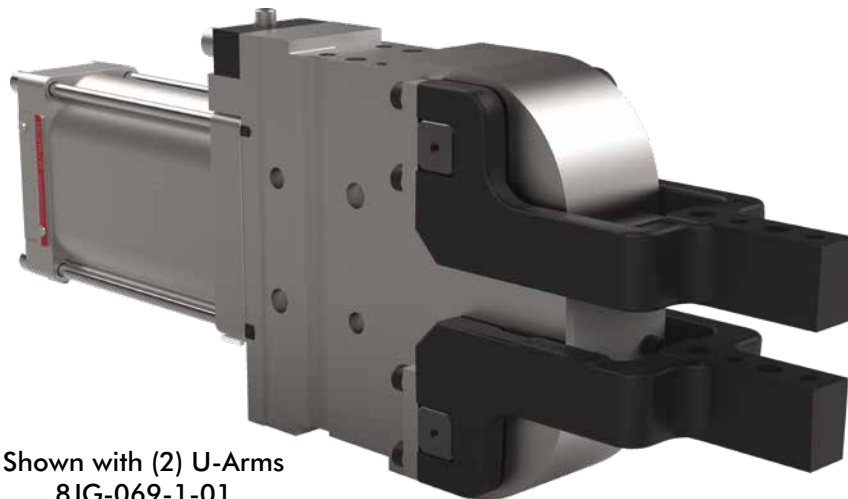


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# 82D40, 82D63

## Enclosed Pneumatic Power Clamps | Dual Arm

<p><b>82D63-5</b>   <b>23</b>   <b>C9</b>   <b>0</b>   <b>0</b>   <b>B</b></p>		<p><b>Clamp Arms</b>   Description</p> <p><b>B</b>   Base model only. Order clamps arms separately.</p>
<p><b>Base Model</b>   Description</p> <p><b>82D40-2</b>   40 mm Cylinder (G1/4 Port)</p> <p><b>82D63-5</b>   63 mm Cylinder (G1/4 Port)</p>	<p><b>Hand Lever</b>   Description</p> <p><b>0</b>   Hand Lever not available</p>	<p><b>Opening Angle</b>   Opening Angle</p> <p><b>0</b>   180° (standard)</p> <p><b>1</b>   160°</p> <p><b>2</b>   140°</p> <p><b>3</b>   120°</p> <p><b>4</b>   100°</p> <p><b>5</b>   80°</p> <p><b>6</b>   60°</p> <p><b>7</b>   40°</p> <p><b>8</b>   20°</p> <p><i>Reduced opening angles available upon request.</i></p>
<p><b>Clamp Arm Shaft</b>   Description</p> <p><b>23</b>   includes long drive shaft ends on both sides fit for all clamping arms (standard)</p>	<p><b>Sensor</b>   Description</p> <p><b>C9</b>   includes Sensing System with M12x1 Connector (8EA-024-2) Standard</p>	



Shown with (2) U-Arms  
8JG-069-1-01  
(order separately)



<p><b>82D63-5</b></p> <p>Max Holding 400 Nm [295 ft-lb]</p> <p>Max Clamping Torque 120 Nm [88 ft-lb] at 5 bar [72 psi]</p>	<p><b>82D40-2</b></p> <p>Max Holding 140 Nm [103 ft-lb]</p> <p>Max Clamping Torque 60 Nm [44 ft-lb] at 5 bar [72 psi]</p>
--	---

### U-type Central Clamping Arm



Model	Order No. (1 clamp arm)
82D40-223C900B	8JG-065-2-01
82D63-523C900B	8JG-069-1-01



Alternate Clamp Arm mounting positions

### Lateral Clamping Arm

#### Clamp Arm Variants

Left Side, Right Side, Both Sides



Model	Order No. (1 clamp arm)
82D40-223C900B	8JG-066-1-01
82D63-523C900B	8JG-070-1-01

# 82D ACCESSORIES

## Enclosed Pneumatic Power Clamps | Dual Arm

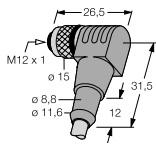
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Clamping Arms		Order No. for Set		Comment
Clamping are variant	Clamping position	82D40-223C900B	82D63-523C900B	
U-central	vertical	<b>8JG-065-1-01</b>	<b>8JG-069-1-01</b>	sets of U-type clamping arms consist of clamping arm, links and screws you need 2 sets of clamping arms
lateral right/left	vertical	<b>8JG-066-1-01<sup>1)</sup></b>	<b>8JG-070-1-01<sup>2)</sup></b>	sets of lateral clamping arms consist of 1) clamping arm, links and screws 2) clamping arm and set screws you need 2 sets of clamping arms
lateral both sides	vertical	<b>8JG-066-1-01<sup>1)</sup></b>	<b>8JG-070-1-01<sup>2)</sup></b>	you need 4 sets of clamping arms



Connector socket  
M12x1 straight, 5-pin



Connector socket  
M12x1 angular, 4-pin

Sensor Cables (Order Separately)	
Order No.	Description
<b>8EL-002-1</b>	M12x1, Straight, 5-Pin Connector with 5 m [16 ft] Cable
<b>8EL-003-1</b>	M12x1, Angular, 4-Pin Connector with 5 m [16 ft] Cable

Opening Angle Limiter	Fit for Model 82D40-2...		Fit for Model 82D63-5...		
	Angle	Length	Order No.	Length	Order No.
180° (Standard)		11,4 mm	<b>8CE-342-1</b>	14,4 mm	<b>8CE-362-1</b>
160°		15,1 mm	<b>8CE-340-1</b>	20,0 mm	<b>8CE-360-1</b>
140°		18,5 mm	<b>8CE-338-1</b>	24,8 mm	<b>8CE-358-1</b>
120°		22,2 mm	<b>8CE-336-1</b>	29,6 mm	<b>8CE-356-1</b>
100°		25,8 mm	<b>8CE-334-1</b>	34,3 mm	<b>8CE-354-1</b>
80°		28,0 mm	<b>8CE-332-1</b>	39,0 mm	<b>8CE-352-1</b>
60°		33,0 mm	<b>8CE-330-1</b>	43,8 mm	<b>8CE-350-1</b>
40°		37,0 mm	<b>8CE-328-1</b>	49,1 mm	<b>8CE-348-1</b>
20°		41,8 mm	<b>8CE-326-1</b>	56,2 mm	<b>8CE-346-1</b>

Shim Plates (for clamping arm)	Fit for model 82D40-2								Fit for model 82D63-5									
	Order No.	A1	A2	D2	D3	B9	B10	B12	L10	Order No.	A1	A2	D2	D3	B9	B10	B12	L10
	<b>82ZB-SH4001</b>		0,1							<b>82ZB-SH5001</b>		0,1						
	<b>82ZB-SH4002</b>		0,2							<b>82ZB-SH5002</b>		0,2						
	<b>82ZB-SH4005</b>	42	0,5	6,5	7	6	20	20	12	<b>82ZB-SH5005</b>	65	0,5	6,5	9	10	30	30	15,8
	<b>82ZB-SH4010</b>		1,0							<b>82ZB-SH5010</b>		1,0						
	<b>82ZB-SH4020</b>		2,0							<b>82ZB-SH5020</b>		2,0						
	<b>82ZB-SH4050</b>		5,0							<b>82ZB-SH5050</b>		5,0						

Spare Parts	Order No. for Set	
	82D40-2	82D63-5
Cylinder	<b>8PW-016-1</b>	<b>8PW-067-1</b>
Integrated sensing system C9 Connector plug M12x1	<b>8EA-024-2</b>	<b>8EA-024-2</b>



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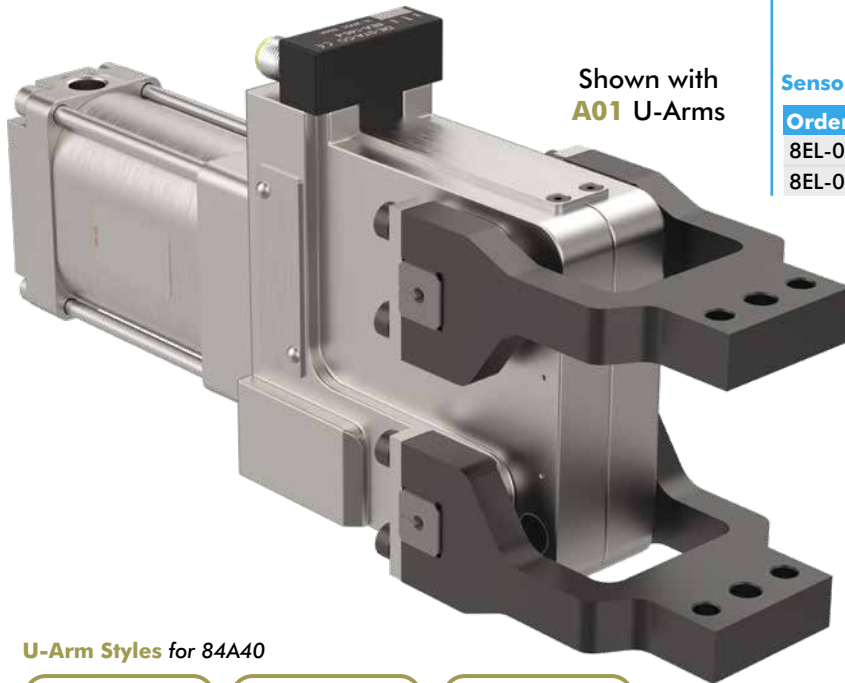
# 84A40, 84A50

## Enclosed Pneumatic Power Clamps | Dual Arm, Tolerance Compensation

**84A** **50-1** **A01** **L8**

Size	Description
<b>40-1</b>	32 mm Cylinder (G1/8 Port)
<b>50-1</b>	50 mm Cylinder (G1/4 Port)

U-Arm Style	Description
<b>000</b>	Without Clamping Arms
<b>A01</b>	Double Tip, Surface Clamping
<b>A02</b>	Single Tip, Point Clamping
<b>A03</b>	Double Tip, Surface Clamping (Standard Profile <b>84A40</b> , Wide Profile <b>84A50</b> )
<b>A04</b>	Double Tip, Surface Clamping, Wide Profile for <b>84A50</b> only



Sensor	Description
<b>00</b>	Without Sensing System
<b>L8</b>	PNP Sensor with In-line M12x1 Connector (8EA-146-4-B)
<b>N8</b>	NPN Sensor with In-line M12x1 Connector (8EA-154-4-B)
<b>L9</b>	PNP Sensor with 90° M12x1 Connector (8EA-147-4-B)
<b>N9</b>	NPN Sensor with 90° M12x1 Connector (8EA-155-4-B)
<b>K8</b>	PNP Sensor with M12x1 Cable Connector (8EA-158-4-B)
<b>K9</b>	NPN Sensor with M12x1 Cable Connector (8EA-167-4-B)



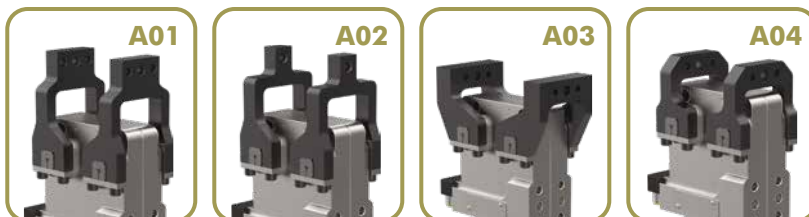
**Sensor Cables** Order separately

Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector w/5 m [16 ft.] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector w/5 m [16 ft.] Cable

### U-Arm Styles for 84A40



### U-Arm Styles for 84A50



**84A40-1**

Max Holding/  
Clamping Torque  
29 Nm [21 ft-lb]  
at 5 bar [72 psi]

**84A50-1**

Max Holding/  
Clamping Torque  
136 Nm [100 ft-lb]  
at 5 bar [72 psi]

# 82P25-2

## Pneumatic Pin Clamps

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**82P25-2** - **00** **D8** **XX**

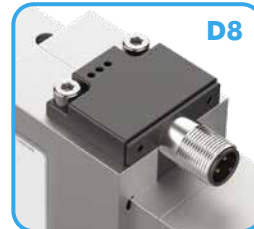
Size	Description
<b>82P25-2</b>	25 mm Cylinder (G1/8 and NPT 1/8 Ports)

Tip	Description
<b>00</b>	without centering pin
<b>08-22</b>	with customer specified round centering pin from Ø8-22 mm

Serial Number	Description
<b>XX</b>	Customer specified Base, Clamping Hook and Centering Pin  <i>Must contact factory with specifications to complete order number</i>



Sensor	Description
<b>D8</b>	Inductive Sensing System with M12x1 Connector (8EA-161-1)



**Sensor Cables** Order separately

Order No.	Description
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable



**82P25-2XX**

Max Clamping Force  
550 N [124 lbf]  
at 5 bar [72 psi]



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# 82P30-3/82P35-3

## Pneumatic Pin Clamps

- 82P
- 30-3
- 20
- B8
- 00

### Clamping Hook

- 00
- D0

### Description

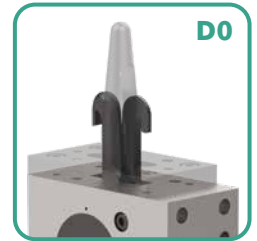
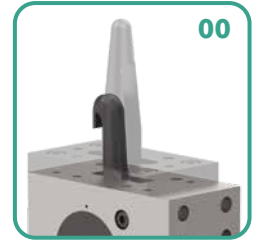
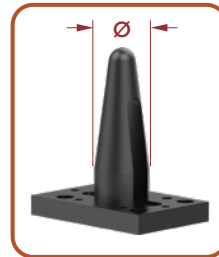
- 00 Single Hook (Standard)
- D0 Double Hook

Size	Description
30-3	30 mm Cylinder (G1/8 Port)
35-3	35 mm Cylinder (G1/8 Port)

### Centering Pin

	Ø Range for 82P30-3
20	20,0 - 23,0 mm
25	23,1 - 28,0 mm
30	28,1 - 33,0 mm
	Ø Range for 82P35-3
40	33,1 - 45,0 mm

Order separately. 82P3X-3XX-XX,X  
ex. 82P30-320-21,1



### 82P30-3

Max Clamping Force  
2000 N [450 lbf]  
at 6 bar [87 psi]

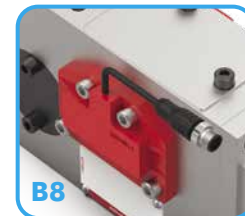
### 82P35-3

Max Clamping Force  
3500 N [787 lbf]  
at 6 bar [87 psi]

### Sensor

### Description

- 00 Without Sensing System
- C0 Inductive Sensing System with M8x1 Connector (8EA-012-2)
- B8 Inductive Sensing System with M12x1 Connector (8EA-030-1)



### Sensor Cables

 Order separately

Order No.	Description
8EL-009-1	M8x1, Straight, 4-pin Connector with 5 m [16 ft.] Cable
8EL-007-1	M8x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable
8EL-002-1	M12x1, Straight, 5-pin Connector with 5 m [16 ft.] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable

# 82P50-720, 82P63-720

Pneumatic Pin Clamps | Tolerance Compensation

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**82P50-720** **D8** **A** **0** **01** **00**

**Base Model**

**82P50-720**  
**82P63-720**

**Description**

50 mm Tandem Cylinder (G1/8 Port)  
63 mm Tandem Cylinder (G1/8 Port)

**Tolerance**

**A**

**Description**

0-6 mm [0-0.236 in]  
tolerance compensation

**Sensor**

**Description**

**D8**

Inductive Sensing System with  
M12x1 Connector (8EA-151-1)



**D8**



**82P50-720**

Max Clamping Force  
1500 N [337 lbf]  
at 5 bar [72 psi]

**82P63-720**

Max Clamping Force  
2500 N [562 lbf]  
at 5 bar [72 psi]

**Sensor Cables** Order separately

Order No.	Description
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable





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# 82P50-720, 82P63-720

Pneumatic Pin Clamps | Tolerance Compensation

**Hooks** For 82P50  
**01** for Flange Hole  
**03** for Flat Hole



**Hooks** For 82P63  
**02** for Flange Hole  
**04** for Flat Hole



**Centering Pin** For 82P50 with Hook  
**00** None **01** or **03**  
**01** 18 mm Round **01** or **03**  
**02** 20 mm Round **01** or **03**  
**06** 19,9 mm Round **01** or **03**  
**07** 19,9 mm Diamond **01** or **03**



**Centering Pin** For 82P63 with Hook  
**00** None **02** or **04**  
**03** 30 mm Round **02**  
**04** 30 mm Diamond **02**  
**05** 25 mm Round **02**  
**08** 23 mm Round **02**  
**09** 28 mm Round **02**  
**10** 40 mm Round **04**  
**11** 40 mm Diamond **04**



# 82P50-800

## Pneumatic Pin Clamp | Tolerance Compensation

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**82P50-800**

**L10**

**A**

**01**

**00**

**0**

Base Model	Description
<b>82P50-800</b>	Tolerance Compensation 0 - 5 mm [0 - 0.197 in]

Blanks	Description
<b>A</b>	Flat Blanks

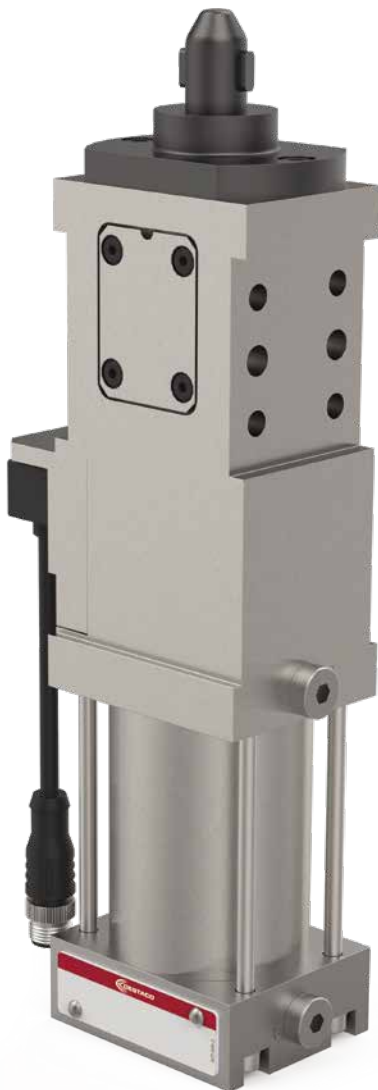
Finger Direction	Description
<b>0</b>	Two Fingers Standard Direction
<b>1</b>	Two Fingers Perpendicular to Standard Direction

Sensor	Description
<b>L10</b>	PNP Sensor with M12x1 Cable Connector (8EA-158-4 and 8EA-163-4)

**Sensor Cables** Order separately

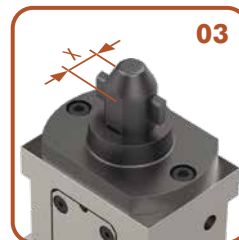
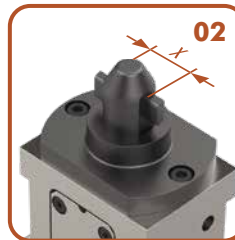
Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector with 5 m [16 ft.] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable

Centering Pin	Ø Range
<b>01</b>	15,8 -0,05 mm
<b>02</b>	19,8 -0,05 mm
<b>03</b>	20,3 -0,05 mm
<b>04</b>	29,8 -0,05 mm



Pin Shape	Description
<b>00</b>	Standard
<b>01*</b>	Pin Clipping
<b>02*</b>	Pin Release on Flat Perpendicular of Finger
<b>03*</b>	Pin Release on Flat Parallel of Finger

*Pin Clipping/Release Dimension X
Ø15,8 = 14,5 mm
Ø19,8 = 18,0 mm
Ø20,3 = 18,0 mm
Ø29,8 = 27,5 (Pin Shape 01, 02)
Ø29,8 = 25,0 (Pin Shape 03)



**82P50-8**

Max Clamping Force  
550 N [123 lbf]  
at 5 bar [72 psi]



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# VV85G-150

## Precision Guide

**VV85G-150**

**40**

**L8**

Stroke	Description
<b>20</b>	20 mm Stroke
<b>40</b>	40 mm Stroke

Sensor	Description
<b>00</b>	Without Sensing System
<b>L8</b>	PNP Sensor with In-line M12x1 Connector (8EA-146-4-B)
<b>N8</b>	NPN Sensor with In-line M12x1 Connector (8EA-154-4-B)
<b>L9</b>	PNP Sensor with 90° M12x1 Connector (8EA-147-4-B)
<b>N9</b>	NPN Sensor with 90° M12x1 Connector (8EA-155-4-B)
<b>K8</b>	PNP Sensor with M12x1 Cable Connector (8EA-158-4-B)
<b>K9</b>	NPN Sensor with M12x1 Cable Connector (8EA-167-4-B)



**Sensor Cables** Order separately

Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector with 5 m [16 ft.] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable

Model	Stroke mm [in]	Max. Load Nm [ft-lb] ±0,2 mm [0.008 in.]			Lifting Force N [lbf]	Holding Force N [lbf]	Weight Kg [lbs]	Air Consumption per double stroke at 5 bar [72 psi] dm <sup>3</sup> [in <sup>3</sup> ]
		Mtx	Mty	Mtz				
<b>VV85G-15020**</b>	20 [0.79]	[74]	[74]	[37]	500 [112]	[899] 4000	[29.1] 13,2	0,7 [42.7]
<b>VV85G-15040**</b>	40 [1.57]	100	100	50				1,1 [67.1]

# 82U50

## Pneumatic Pin Clamp | Pallet Clamp

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**82U50** - **300** **L1** **00**

Size	Description	Accessories	Description
<b>300</b>	Front, top or bottom mounting	<b>00</b>	No Accessories
<b>330</b>	Top or bottom mounting only		

Sensor	Description
<b>L1</b>	Without Sensing System
<b>C8</b>	Inductive Sensing System with M8x1 Connector (8EA-023-2)
<b>B7</b>	Inductive Sensing System, M12x1 Connector (8EA-060-1)
<b>B8</b>	Inductive Sensing System with M12x1 Cable Connector (8EA-031-1)



### 82U50-300

Max Holding/Clamping Force  
4000 N [899 lbf] 5 bar [72 psi]

### 82U50-330

Max Holding/Clamping Force  
4000 N [899 lbf] 5 bar [72 psi]

### Sensor Cables Order separately

Order No.	Description
8EL-009-1	M8x1, Straight, 4-pin Connector with 5 m [16 ft.] Cable
8EL-007-1	M8x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable
8EL-002-1	M12x1, Straight, 5-pin Connector with 5 m [16 ft.] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable



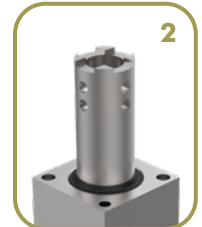
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# 86P30-5

## Pneumatic Pin Package | Single Shaft

<b>86P30-5</b>	<b>02</b>	<b>L8</b>	<b>00</b>	<b>4</b>
			<b>Accessories</b> 00	
			<b>Description</b> No Accessories	
			<b>Stroke</b> 2 4	<b>Description</b> 20 mm Stroke 40 mm Stroke

Piston Rod	Description
<b>02</b>	Ø16 mm M6 Threaded Inside Hole, Cross Groove
<b>05</b>	Ø10 mm M8 Threaded Inside Hole, Cross Groove



Sensor	Description
<b>L8</b>	PNP Sensor with In-line M12x1 Connector (8EA-146-4-B)
<b>N8</b>	NPN Sensor with In-line M12x1 Connector (8EA-154-4-B)
<b>L9</b>	PNP Sensor with 90° M12x1 Connector (8EA-147-4-B)
<b>N9</b>	NPN Sensor with 90° M12x1 Connector (8EA-155-4-B)
<b>K8</b>	PNP Sensor with M12x1 Cable Connector (8EA-158-4-B)
<b>K9</b>	NPN Sensor with M12x1 Cable Connector (8EA-167-4-B)



**Sensor Cables** Order separately

Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector with 5 m [16 ft.] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable

### 86P30-5

<b>Stroke Option:</b>	<b>2, 4</b>
<b>Max Pushing Force at 5 bar [72 psi]:</b>	340 N [76 lbf]
<b>Max Retracting Force at 5 bar [72 psi]:</b>	250 N [56 lbf]

# 86P40, 86P60

Pneumatic Pin Package | Single Shaft

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**86P40** **-2** **02** **C8** **G1** **A** **-K**

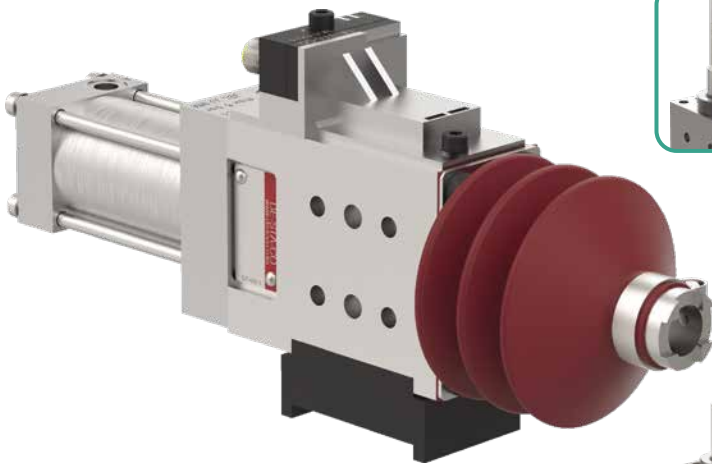
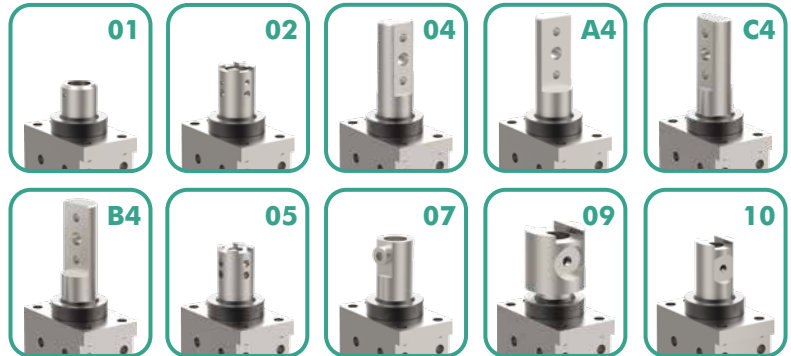
Ceramic Option  
for Piston Rod  
K

Base Model	Description
<b>86P40</b>	40 mm Cylinder (G1/8 Port)
<b>86P60</b>	63 mm Cylinder (G1/4 Port)

Hand Lever	Description
<b>-2</b>	No Handle
<b>H2</b>	Handle for Manual Control for 86P60 only (excludes <b>F, 8</b> stroke option)



Piston Rod	Description
<b>01</b>	Ø16 mm Inside Hole (Standard)
<b>02</b>	Ø16 mm M6 Threaded Inside Hole, Cross Groove
<b>04</b>	NAAMS Standard
<b>A4</b>	NAAMS Standard Rotated 180°
<b>B4</b>	NAAMS Standard Rotated 90°
<b>C4</b>	NAAMS Standard Rotated 270°
<b>05</b>	Ø10 mm Inside Hole, Cross Groove
<b>07</b>	Ø16 mm Inside Hole, NAAMS
<b>09</b>	Ø20 mm Straight Groove
<b>10</b>	Ø12 mm Straight Groove



	86P40			86P60		
Stroke Option:	A, B, 2, 4	C, 6	F, 8	A, B, 2, 4	C, 6	F, 8
Max Pushing Force at 5 bar [72 psi]:	620 N [139 lbf]			1550 N [348 lbf]		
Max Retracting Force at 5 bar [72 psi]:	520 N [117 lbf]			1400 N [315 lbf]		



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# 86P40, 86P60

## Pneumatic Pin Package | Single Shaft

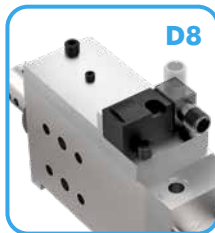
Accessories	Description
<b>00</b>	No Accessories
<b>H1</b>	Adaptor (86P0-20000H1)
<b>E1</b>	External Guide for <b>A, B</b> (82ZB-009-2, Ceramic 82ZB-181-1)
<b>E2</b>	External Guide for <b>C</b> (82ZB-090-1, Ceramic 82ZB-105-1)
<b>E4</b>	External Guide for <b>F</b> (82ZB-180-1, Ceramic 82ZB-179-1)
<b>J1</b>	External Guide for <b>A, B</b> (82ZB-184-1, Ceramic 82ZB-183-1) + Adaptor (86P0-20000H1)
<b>F1</b>	Bellows for piston rods <b>02, 05, 07, 10</b> in strokes <b>A, B, 2, 4</b> (82ZB-013-3)
<b>G1</b>	Bellows <b>F1</b> + Adaptor <b>H1</b> for piston rods <b>02, 05, 07, 10</b> in strokes <b>A, B, 2, 4</b>



Stroke	Description
	<b>Anti-Twist Device/Low Accuracy</b>
<b>B</b>	20 mm Stroke (8MF-071-1)
<b>A</b>	40 mm Stroke (8CE-231-1)
<b>C</b>	60 mm Stroke (8CE-231-1)
<b>F</b>	80 mm Stroke (8CE-231-1)
	<b>Anti-Twist Device</b>
<b>2</b>	20 mm Stroke (86P0-20000002)
<b>4</b>	40 mm Stroke (86P0-20000004)
<b>6</b>	60 mm Stroke (86P0-20000006)
<b>8</b>	80 mm Stroke (86P0-20000008)



Sensor	Description
<b>L4</b>	Cover Plate for <b>A, B, 2, 4</b> (86P0-200L4)
<b>L6</b>	Cover Plate for <b>C, 6</b> (86P0-200L6)
<b>L8</b>	Cover Plate for <b>F, 8</b> (86P0-200L8)
<b>C8</b>	Inductive Sensing System with M12x1 Connector for <b>A, B, 2, 4</b> (86P0-200C8), for <b>C, 6</b> (86P0-200C8006), for <b>F, 8</b> (86P0-200C8008)
<b>D8</b>	Inductive Sensing System with 90° M12x1 Swivel Connector for <b>A, B, 2, 4</b> (86P0-200D8), for <b>C, 6</b> (86P0-200D8006), for <b>F, 8</b> (86P0-200D8008)



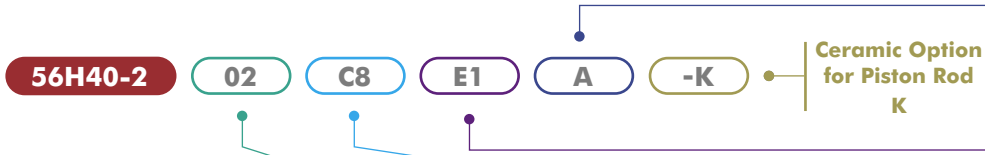
**Sensor Cables** Order separately

Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector with 5 m [16 ft.] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable

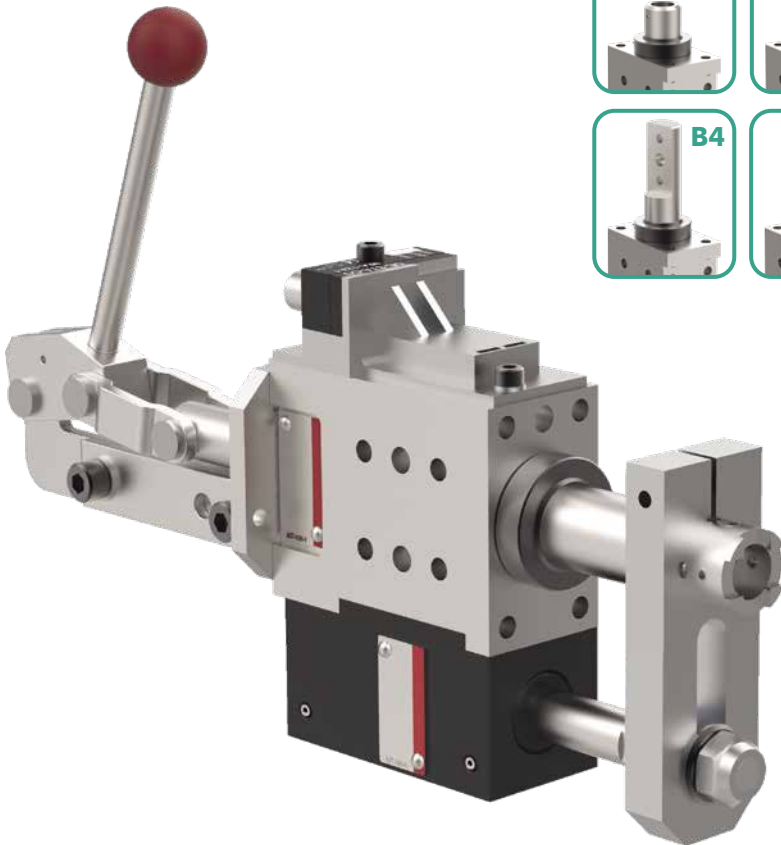
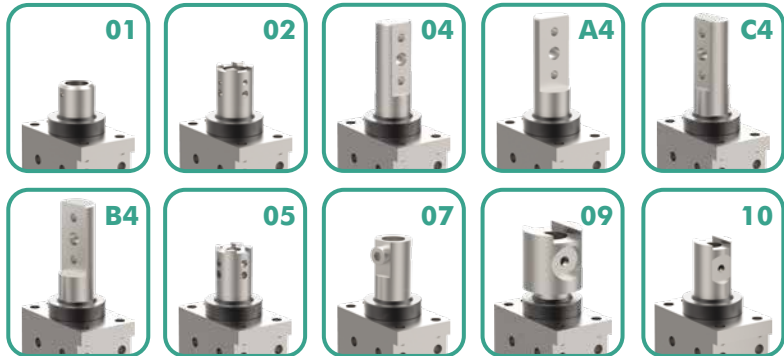
# 56H40-2

Manual Pin Package | Single Shaft

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Piston Rod	Description
01	Ø16 mm Inside Hole (Standard)
02	Ø16 mm M6 Threaded Inside Hole, Cross Groove
04	NAAMS Standard
A4	NAAMS Standard Rotated 180°
B4	NAAMS Standard Rotated 90°
C4	NAAMS Standard Rotated 270°
05	Ø10 mm Inside Hole, Cross Groove
07	Ø16 mm Inside Hole, NAAMS
09	Ø20 mm Straight Groove
10	Ø12 mm Straight Groove



**56H40-2**

Stroke Option: **A, B, 2, 4** **C, 6**





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# 56H40-2

## Manual Pin Package | Single Shaft

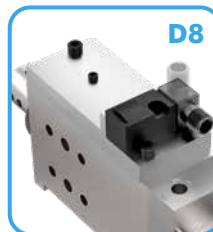
Accessories	Description
<b>00</b>	No Accessories
<b>E1</b>	External Guide for <b>A, B</b> (82ZB-009-2, Ceramic 82ZB-181-1)
<b>E2</b>	External Guide for <b>C</b> (82ZB-090-1, Ceramic 82ZB-105-1)
<b>F1</b>	Bellows for piston rods <b>02, 05, 07, 10</b> in strokes <b>A, B, 2, 4</b> (82ZB-013-3)



Stroke	Description
	<b>Anti-Twist Device/Low Accuracy</b>
<b>B</b>	20 mm Stroke (8MF-071-1)
<b>A</b>	40 mm Stroke (8CE-231-1)
<b>C</b>	60 mm Stroke (8CE-231-1)
	<b>Anti-Twist Device</b>
<b>2</b>	20 mm Stroke (86P0-20000002)
<b>4</b>	40 mm Stroke (86P0-20000004)
<b>6</b>	60 mm Stroke (86P0-20000006)



Sensor	Description
<b>L4</b>	Cover Plate for <b>A, B, 2, 4</b> (86P0-200L4)
<b>L6</b>	Cover Plate for <b>C, 6</b> (86P0-200L6)
<b>C8</b>	Inductive Sensing System with M12x1 Connector for <b>A, B, 2, 4</b> (86P0-200C8), for <b>C, 6</b> (86P0-200C8006)
<b>D8</b>	Inductive Sensing System with 90° M12x1 Swivel Connector for <b>A, B, 2, 4</b> (86P0-200D8), for <b>C, 6</b> (86P0-200D8006)



**Sensor Cables** Order separately

Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector with 5 m [16 ft.] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable

# 85P5-1

## Pneumatic Pin Package | Single Shaft

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85P5-1

04

B8

E1

H

0

-K

### Plunger

#### Description

**K** Ceramic Coated Plunger

### Stroke

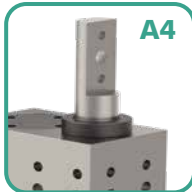
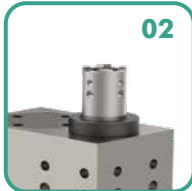
#### Description

**0** without Stroke Limiter

### Piston Rod

#### Description

- 02** Ø16 mm M6 Threaded Inside Hole, Cross Groove
- 04** NAAMS Standard
- A4** NAAMS Standard Rotated 180°
- 05** Ø10 mm Inside Hole, Cross Groove



### Accessories

#### Description

- 00** No Accessories
- E1\*** External Guide (82ZB-010-2)  
\*External Guide can be mounted to front or sides of unit by customer.



### Hand Lever

#### Description

- 0** No Hand Lever
- H** Hand Lever  
\*Hand Lever can be attached on either side of unit.



### Sensor

#### Description

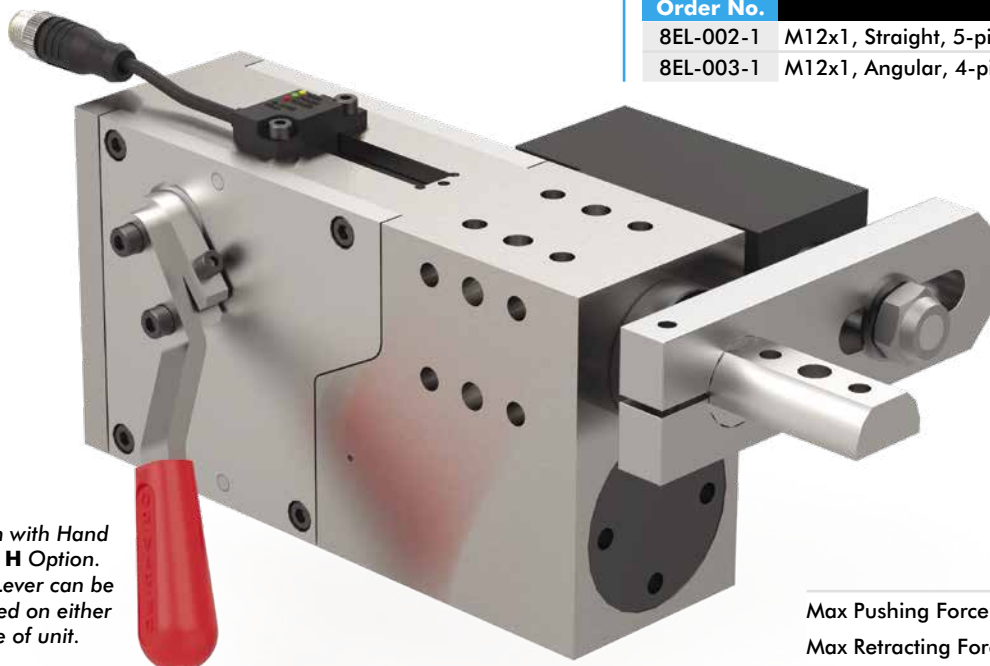
- 00** Without Sensing System
- B8** Inductive Sensing System with M12x1 Cable Connector (8EA-033-2)



### Sensor Cables

Order separately

Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector with 5 m [16 ft.] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable



Shown with Hand Lever H Option. Hand Lever can be attached on either side of unit.

External Guide E1 option shown. Can be mounted to front or sides of unit by customer.

85P5-1

Max Pushing Force at 6 bar [87 psi]: 2000 N [449 lbf]  
Max Retracting Force at 6 bar [87 psi]: 1000 N [225 lbf]



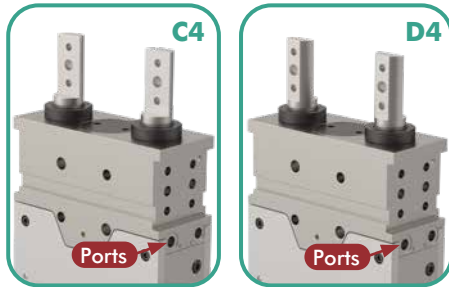
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# 85D5-2

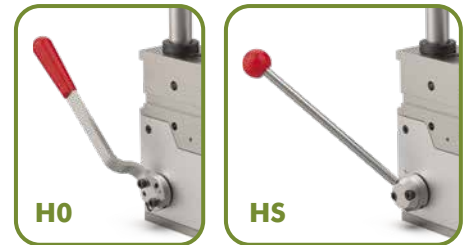
## Pneumatic Pin Package | Dual Shaft

**85D5-2** **C4** **L8** **10** **H0** **4** **Stroke** 4 **Description** 40 mm Stroke

Piston Rod	Description
<b>C4</b>	NAAMS Standard
<b>D4</b>	NAAMS Standard Rotated 180°

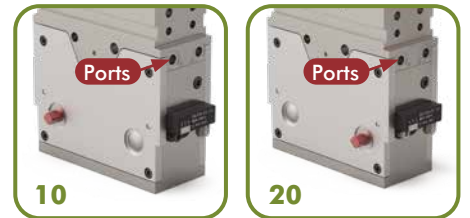


Hand Lever	Description
<b>00</b>	No Hand Lever
<b>H0</b>	Standard Hand Lever
<b>HS</b>	Weldable Hand Lever

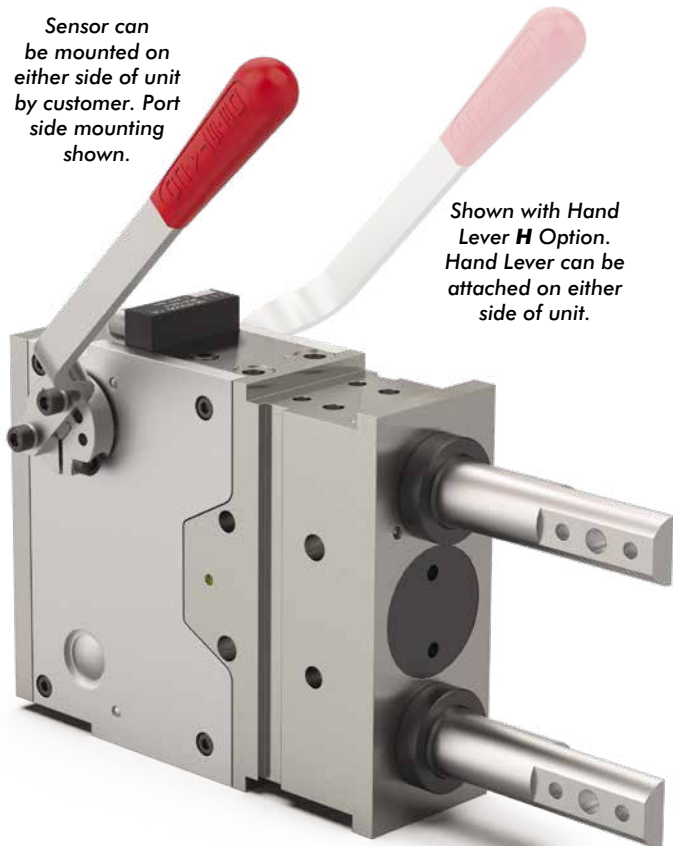


Hand Lever Shafts*	Description
<b>10</b>	Non-port side
<b>20</b>	Port side

\*Hand Lever can be attached on either side of unit.



Sensor can be mounted on either side of unit by customer. Port side mounting shown.



Shown with Hand Lever H Option. Hand Lever can be attached on either side of unit.

**85D5-2**

Max Pushing Force at 6 bar [87 psi]: 3000 N [674 lbf]

Max Retracting Force at 6 bar [87 psi]: 3000 N [674 lbf]

**Sensor Cables** Order separately

Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector with 5 m [16 ft.] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable

Sensor	Description
<b>00</b>	Without Sensing System
<b>L8</b>	PNP Sensor with In-line M12x1 Connector (8EA-146-4-B)
<b>N8</b>	NPN Sensor with In-line M12x1 Connector (8EA-154-4-B)
<b>L9</b>	PNP Sensor with 90° M12x1 Connector (8EA-147-4-B)
<b>N9</b>	NPN Sensor with 90° M12x1 Connector (8EA-155-4-B)
<b>K8</b>	PNP Sensor with M12x1 Cable Connector (8EA-158-4-B)
<b>K9</b>	NPN Sensor with M12x1 Cable Connector (8EA-167-4-B)

\*Sensors can be mounted on opposite side by customer.



# 86D40, 86D60

## Pneumatic Pin Package | Dual Shaft

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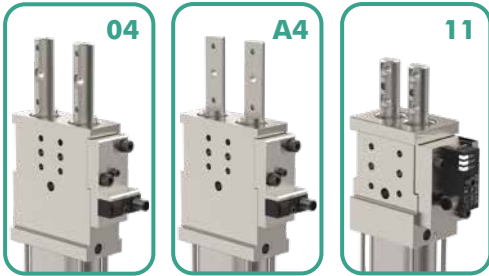
**86D40** **-1** **A4** **D8** **00** **A** **K** **Plunger** Description  
**K** Ceramic Option for Piston Rod

Base Model	Description
<b>86D40</b>	40 mm Cylinder (G1/8 Port)
<b>86D60</b>	63 mm Cylinder (G1/4 Port)



Hand Lever	Description
<b>-1</b>	No Hand Lever
<b>H1</b>	Handle for Manual Control (86D60 only)

Piston Rod	Description
<b>04</b>	NAAMS Standard
<b>A4</b>	NAAMS Standard Rotated 180°
<b>11</b>	Dual Bolt Mounting (86D40-1 Only)

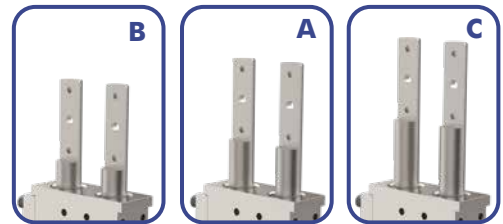


Accessories	Description
<b>00</b>	No Accessories
<b>01</b>	Locking Device for Retracted Position. Mountable on both sides (H1 only) (86D60H1000001)



Stroke	for 86D40
<b>B</b>	20 mm Stroke (86D40-1000000B)
<b>A</b>	40 mm Stroke (86D40-1000000A)

Stroke	for 86D60
<b>B</b>	20 mm Stroke (86D0-1000000B)
<b>A</b>	40 mm Stroke (86D0-1000000A)
<b>C</b>	60 mm Stroke (86D0-1000000C)



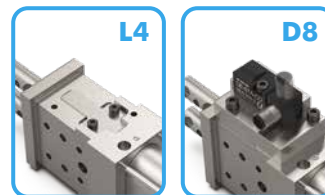
86D40 shown with sensor mounted on opposite side of unit.



**86D40-1** **86D60-1**

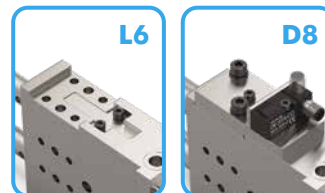
Sensor*	for 86D40
<b>L4</b>	Cover Plate (86D0-100L4)
<b>D8</b>	with 90° M12x1 Swivel Connector (86D40-100D8)

\*Sensors can be mounted on opposite side by customer.



Sensor*	for 86D60
<b>L6</b>	Cover Plate (86D0-100L6)
<b>D8</b>	with 90° M12x1 Swivel Connector (86D0-100D8)

\*Sensors can be mounted on opposite side by customer.



Sensor Cables Order separately

Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector w/5 m [16 ft.] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector w/5 m [16 ft.] Cable



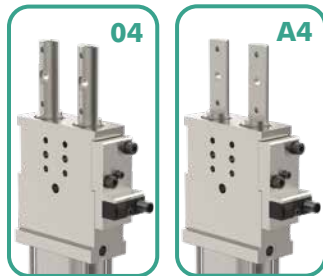
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# 56D60-1

## Manual Pin Package | Dual Shaft

**56D60-1** **04** **D8** **01** **A** **K** **Plunger** Description  
**K** Ceramic Option for Piston Rod

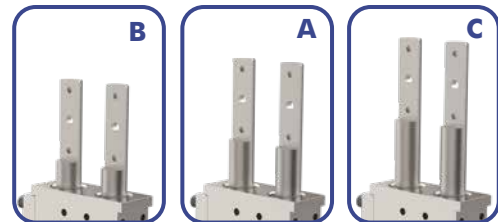
**Piston Rod** Description  
**04** NAAMS Standard  
**A4** NAAMS Standard Rotated 180°



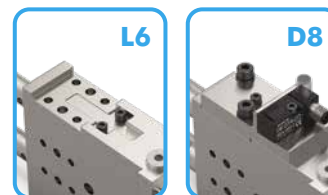
**Accessories** Description  
**00** No Accessories  
**01** Locking Device for Retracted Position. Mountable on both sides (86D60H1000001)



**Stroke** Description  
**B** 20 mm Stroke (86D0-1000000B)  
**A** 40 mm Stroke (86D0-1000000A)  
**C** 60 mm Stroke (86D0-1000000C)



**Sensor\*** Description  
**L6** Cover Plate (86D0-100L6)  
**D8** with 90° M12x1 Swivel Connector (86D0-100D8)  
\*Sensors can be mounted on opposite side by customer.



**Sensor Cables** Order separately

Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector w/5 m [16 ft.] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector w/5 m [16 ft.] Cable

**56D60-1**

Stroke Option: **A, B, C**

# 98W

## Electric Pivot Unit

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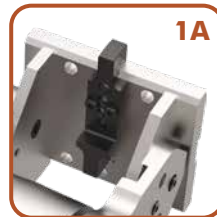
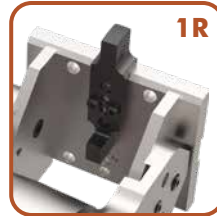
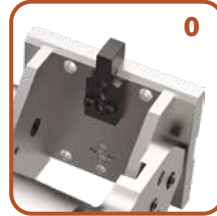
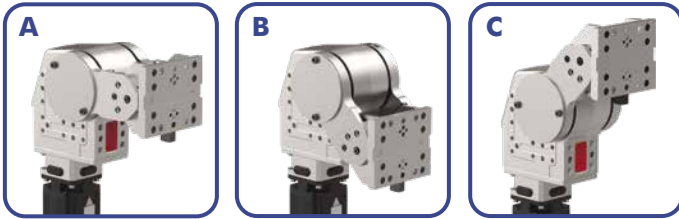


**98W03-2** **10** **A** **0** - **00** - **0**

**Motor** Description  
**10** SEW 400V-Brake

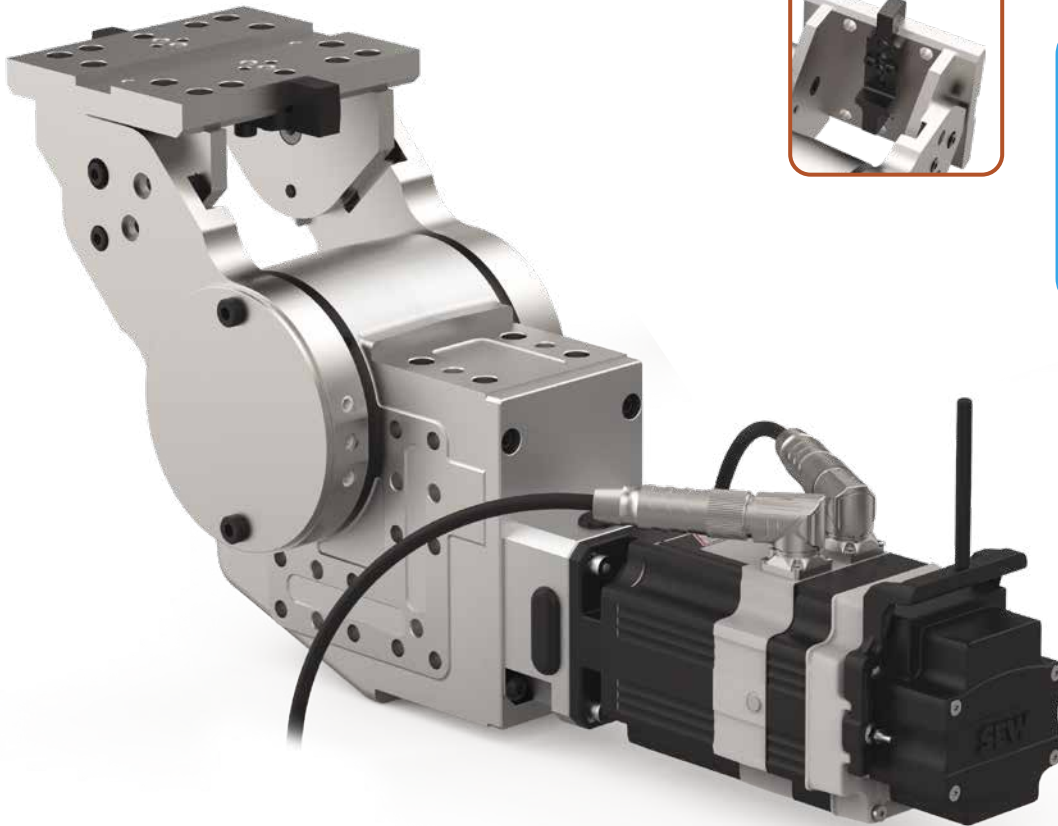
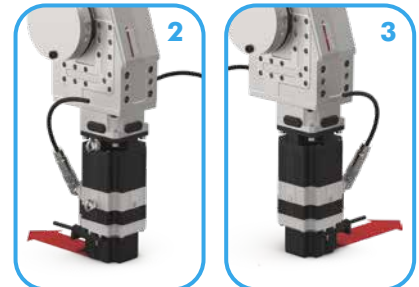
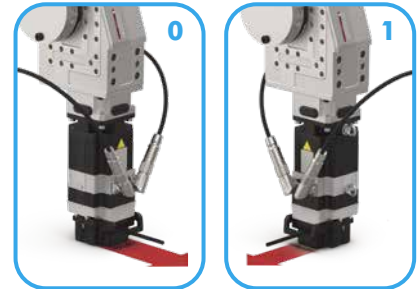
**Hard Stop** Description  
**0** Standard Stop  
**1R** Audi-Standard Reference Position  
**1A** Audi-Standard Working Position 0°

**Swivel Arm** Description  
**A** Center of Pivot Point  
**B** Below Pivot Point  
**C** Above Pivot Point



### Connections

- 0** Facing Back
- 1** Facing Left
- 2** Facing Front
- 3** Facing Right



**98W03-210**

Holding Torque:  
2000 Nm [1475 ft-lb]

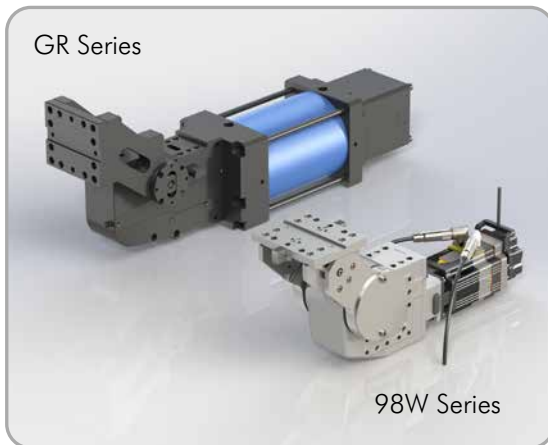


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# 98W

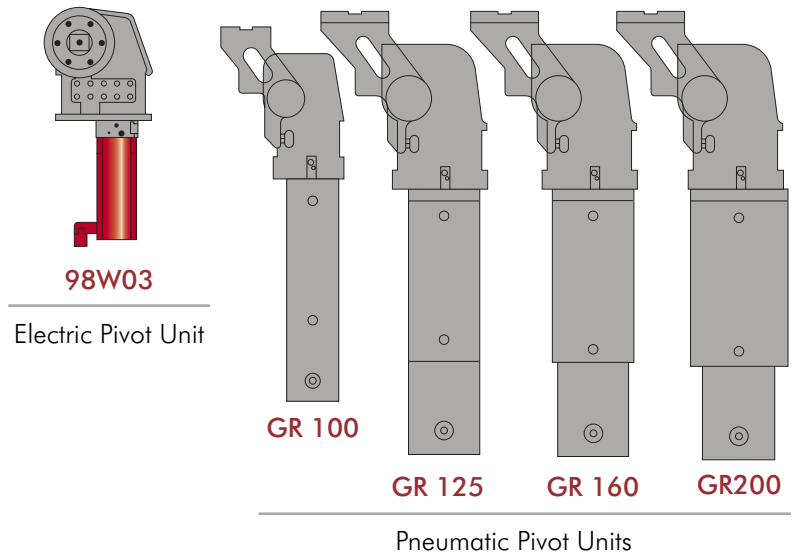
## Electric Pivot Unit

### Compact size and lightweight design



The 98W series electric pivot unit can share the same mounting pattern as the pneumatic pivot units, while providing greater energy savings with reduced size and weight.

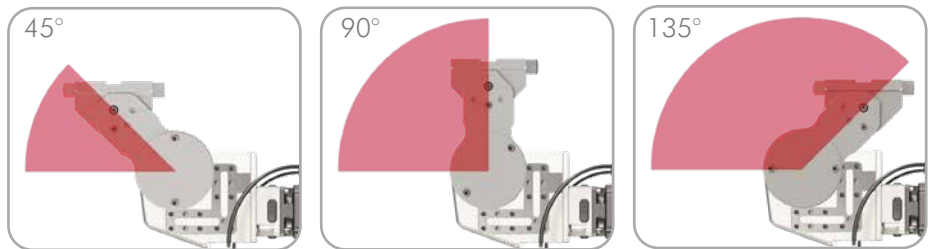
### One electric pivot unit replaces four sizes of pneumatic pivot units



### Easily adjustable saddle arm and mount

The saddle arm of the electric pivot unit can be adjusted into three different starting positions. Each starting position allows the saddle arm to be pivoted from 135° up to 210°.

Without the saddle arm, the pivot unit can be used as a rotate with 360° rotation.

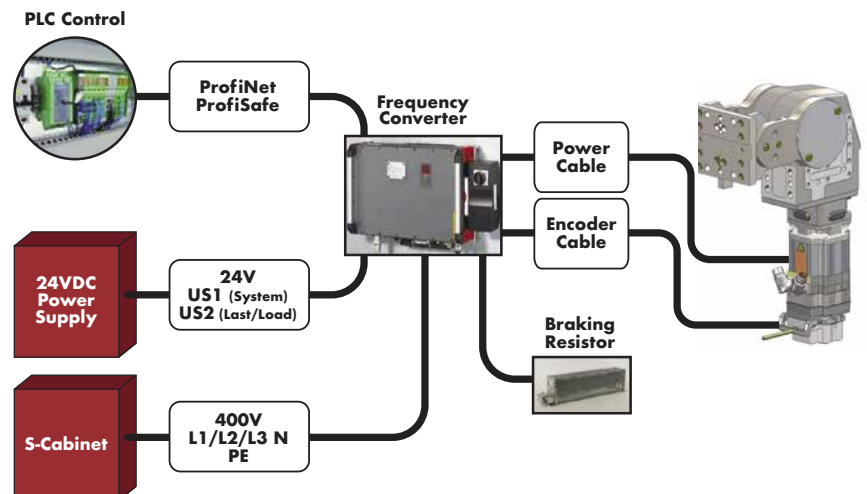


### Application Example

98W Series shown with a holding fixture mounted to the saddle mount.



### Operating Principle



# RCM/RFM

## Pneumatic Pivot Unit | Medium Duty

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**RFM** | **125** | **.2** - **129** | **V/LS** | **PX** | **P** | **N** | **X**

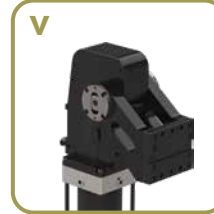
**Base** Description  
**RCM** Standard  
**RFM** Integrated Braking

Cylinder	Description
100	100 mm Bore
125	125 mm Bore
160	160 mm Bore
200	200 mm Bore

Opening Angles					
100			125, 160, 200		
O	O/LS	V	V/LS	O	O/LS
		N/A			15°
		29°			30°
		45°			43°
		61°			61°
		77°			76°
92°	N/A	92°		91°	N/A
104°	N/A	104°		107°	N/A
121°	N/A	121°		N/A	129°

Opening angles are easily field adjustable.

Saddle Orientation	Description
O	Horizontal
V	Vertical
O/LS	Inverted Horizontal
V/LS	Inverted Vertical



**RFM125-V/LS**  
Pivot Unit with  
Integrate (SBI)  
Braking Unit  
Shown

### RCM Series



RCM100-O RCM125-O RCM160-O RCM200-O

### RFM Series



RFM100-V RFM125-V RFM160-V RFM200-V

**RCM125-O**  
Standard Pivot Unit  
without Integrated  
Braking Shown



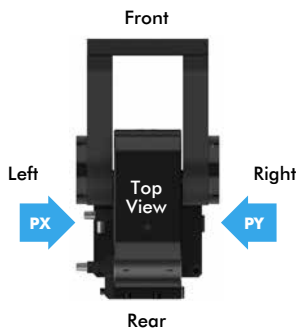


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Ports	Description
N	NPT Ports
G	G Port

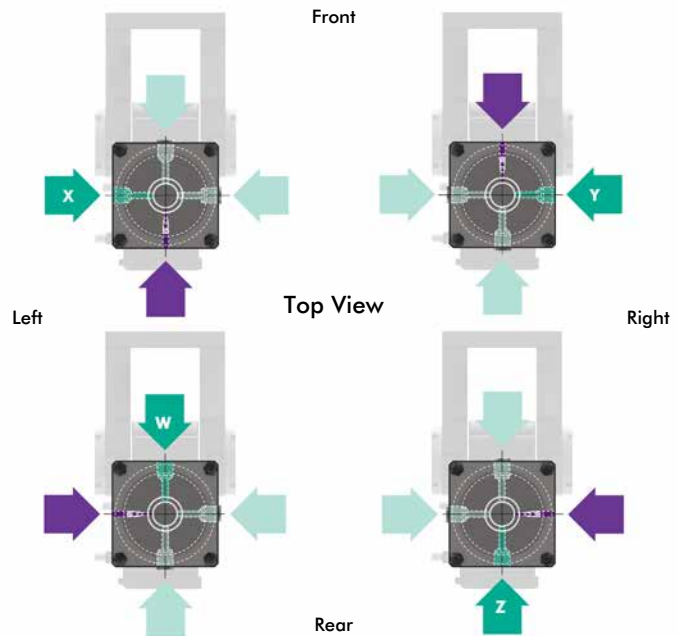
Proximity Switch Type	Description
O	No Proximity Switch
P	Pepper+Fuchs Proximity Switch
T	Turck Proximity Switch

Proximity Switch Location	Description
PO	No Proximity Switch
PX	Proximity Switch on Left-Side
PY	Proximity Switch on Right-Side



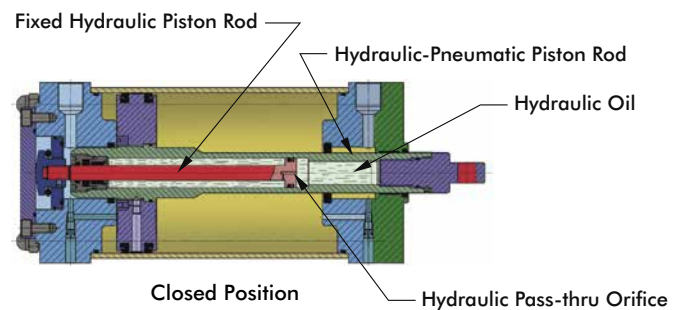
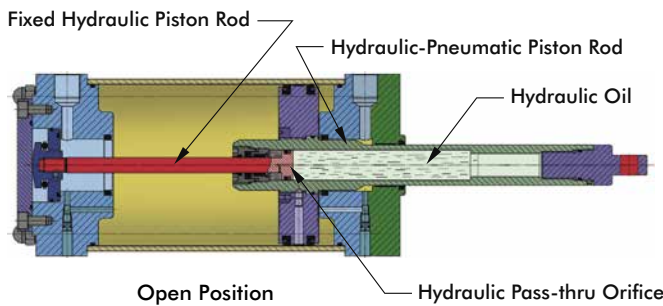
Cylinder Orientation	Description
X	Left-Facing Airport
Y	Right-Facing Airport
W	Front-Facing Airport
Z	Rear-Facing Airport

■ Air Port  
■ Air Ports Plugged  
■ Cushion Adjustment



### Cylinder Operating Principle

The RCM/RFM series pivot units use a combined pneumatic and hydraulic cylinder, using a hydraulic/pneumatic piston rod within the standard pneumatic cylinder structure. This will allow for standard pneumatic operation while providing shock absorption or dampening in heavy duty applications during opening and closing positioning.



Specifications	Units	100	125	160	200
Max Torque by Load [5 bar] Opening Angle $\leq 92^\circ$	Nm [ft-lbs]	150 [111]	240 [171]	410 [302]	660 [487]
Max Torque by Load [5 bar] Opening Angle $> 92^\circ / \leq 121^\circ$	Nm [ft-lbs]	110 [81]	180 [133]	300 [221]	480 [354]
Max Torque by Load [5 bar] Opening angle $> 121^\circ$	Nm [ft-lbs]	55 [41]	65 [48]	100 [74]	175 [129]
Holding Moment	Nm [ft-lbs]	2000 [1475]	3500 [2581]		
RCM Weight	kg [lbs]	~27 [60]	~61 [134]	~74 [163]	~81 [178]
RFM Weight	kg [lbs]	~30 [66]	~64 [141]	~77 [169]	~84 [185]

# NOTES

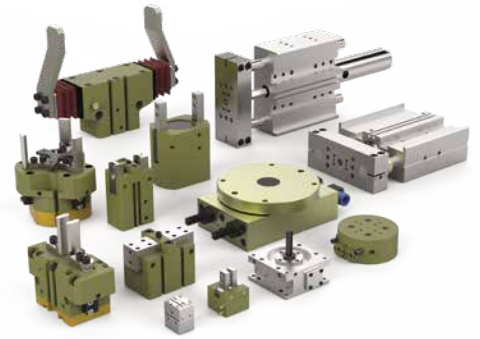
A large grid of small squares, intended for taking notes. The grid consists of approximately 30 columns and 40 rows of small squares, covering most of the page area below the header and above the footer.

# OUR PORTFOLIO OF PRODUCTS



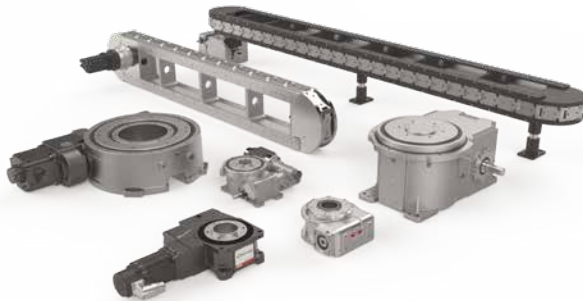
## End Effectors (EE)

- Tool Changers
- End-of-Arm Tooling
- Vacuum Products
- Palletizing Solutions



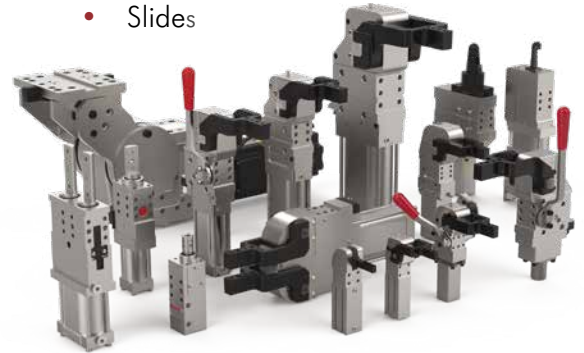
## Grippers (GR)

- Electric Grippers
- Pneumatic and Sheet Metal Grippers
- Rotates
- Slides



## Indexers (IN)

- Precision Conveyors
- Dial Indexers
- Shaft and Flange Indexers
- Part Handlers



## Power Clamps (PC)

- Power Clamps
- Pin Clamps and Packages
- Pivot Units
- Power Cylinders



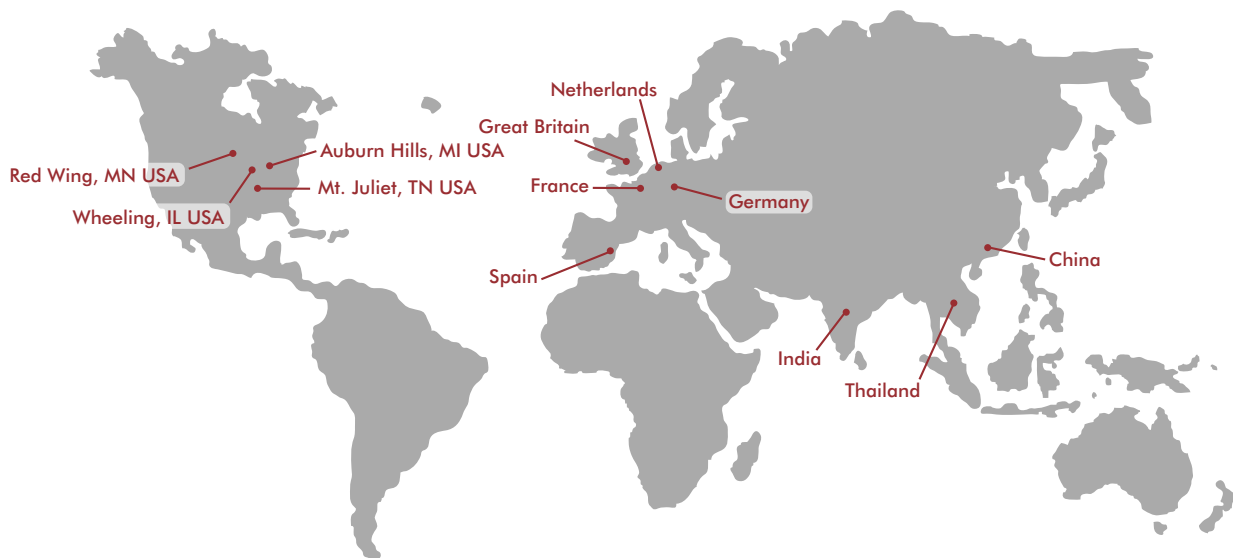
## Manual Clamps (MC)

- Hold Down
- Squeeze Action
- Plunger, Hook and Latch
- Pneumatic Toggle and Swing



## Sheet Metal Grippers (SM)

- Accelerate® Press Room
- Cam Type
- Toggle Lock



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