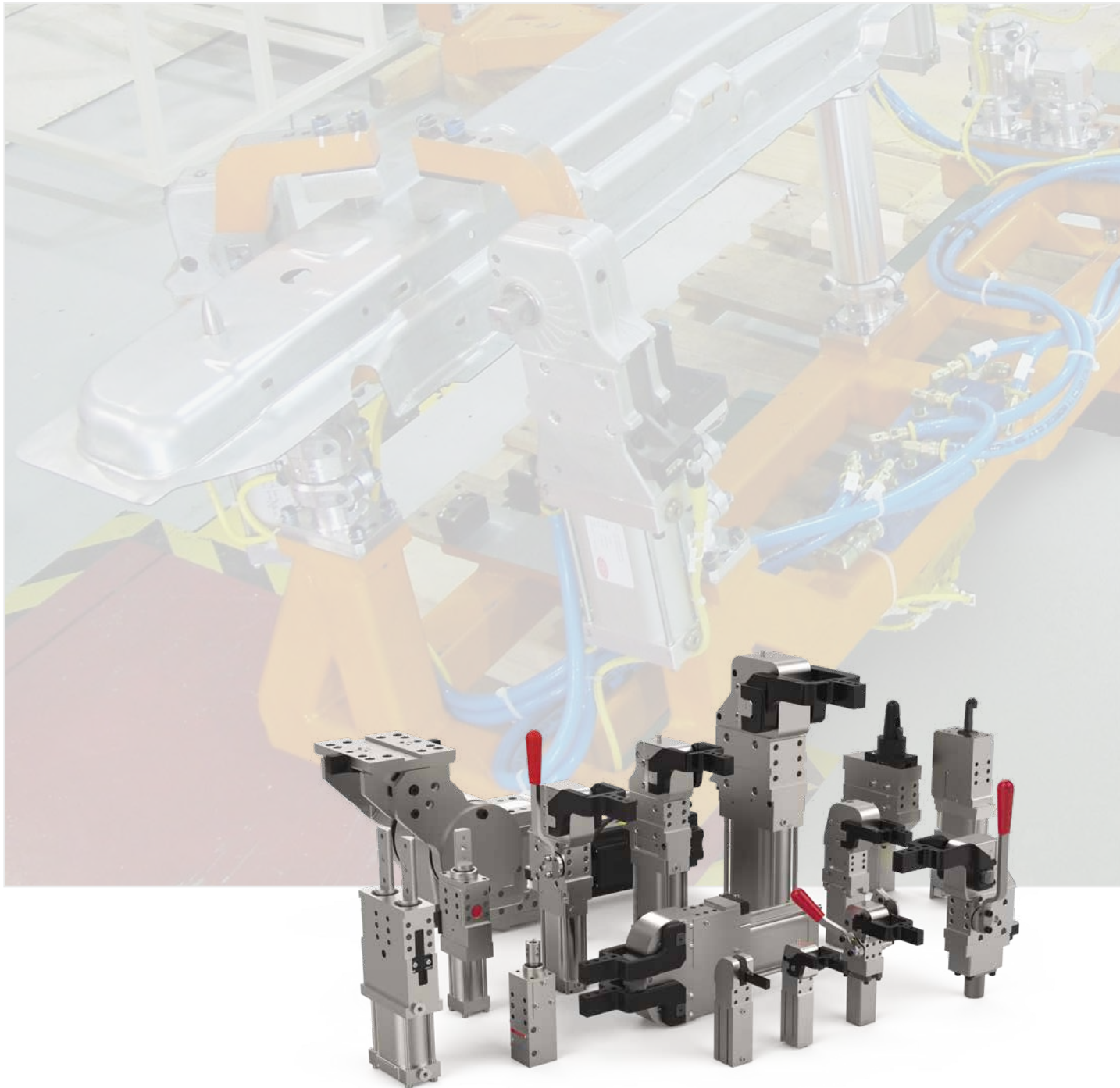


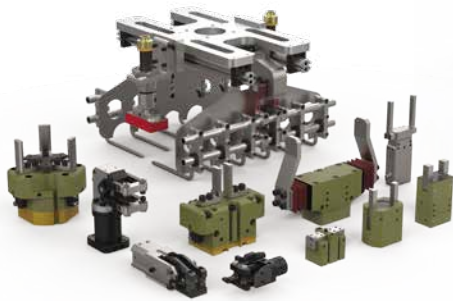
Visual Selection Guide

Clamping Technology | Vol.2: Power Clamping & Locating



ABOUT DESTACO

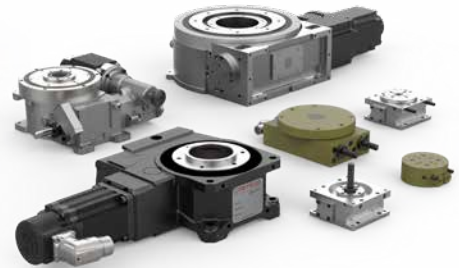
Built on a Strong Foundation



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.

Built on a legacy of more than 100 years, Destaco offers a comprehensive portfolio of products designed to engineer precise movement, placement and control solutions that drive productivity and uptime for manufacturers around the world. The Destaco family of products consists of industry-leading brands such as Destaco Manual Clamps, Power Clamps, and End Effectors; CAMCO™ and Ferguson™ Indexers; Robohand™ Grippers; and CRL™ Manipulators and Transfer Ports.

Destaco is based in Auburn Hills, Michigan, U.S.A. The company has more than 800 employees with 13 locations, in 9 countries, across the Americas, Europe and Asia.

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 and dovercorporation.com

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Customer Service and Technical Support

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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

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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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these products



		Holding Torque at 5 bar Nm [ft-lb]					Clamping Torque at 5 bar Nm [ft-lb]					Piston Diameter mm [in]						
Series	Page #	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] dm³ [in³]				Suitable Application Areas							Features							
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

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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] dm³ [in³]	Applications		Features											
		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													
82P25-2	30	●		●		●		●		○	●	○	●	●	●	●	✓		✓	✓	
82P30-3	31		●		●		●	●		○	●	○	●	●	●	●	✓	✓	✓	✓	
82P35-3	31		●			●		●		○	●	○	●	●	●	●	✓	✓	✓	✓	
82P50-720	32	●				●		●		●	●	●	●	●	●	●	✓	✓		✓	✓
82P63-720	32		●			●		●		●	●	●	●	●	●	●	✓	✓	✓		✓
82P50-800	34	●				●		●	●	●	●	●	●	●	●	●	✓	✓	✓	✓	✓
82U50-3	36		●			●		●	●	○	●	○	●	●	●	●	✓			✓	

●

 Excellent/High

○

 Fair/Medium

●

 Poor/Low

⊗

 Not Recommended



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 ³ [in ³]	Applications
VV85G-15020	35	20 [0.79]	0 to 500 [0 to 112.4]	0 to 4000 [0 to 899]	13.2 [29.1]	0.7 [42.7]	Welding
VV85G-15040	35	40 [1.57]			0.7 [42.7]	1.1 [67]	Assembly
							Dirty Environment
							End Effectors
							Machining
							Duty Cycle

● Excellent/High

○ Fair/Medium

● Poor/Low

⊗ Not Recommended

ELECTRIC AND PNEUMATIC PIVOT UNITS

Sizing and Application Chart

Pin Packages



Series	Page #	Pushing Force at 5 bar [72 psi] N [lbf]					Retracting Force at 5 bar [72 psi] N [lbf]					Piston Ø mm [in]	Stroke mm [in]	Weight Kg [lb]	Applica- tions	Features
		0 to 500 [0 to 112]	500 to 1000 [112 to 225]	1000 to 2000 [225 to 450]	2000 to 3000 [450 to 674]	3000 to 4000 [674 to 899]	0 to 500 [0 to 112]	500 to 1000 [112 to 225]	1000 to 2000 [225 to 450]	2000 to 3000 [450 to 674]	3000 to 4000 [674 to 899]					
86P30-5	37	●					●					30 [1.18]	20 [0.79]	0 to 2 [0 to 4.41]	Welding	Toggle Locking (Extended)
86P40-2	38		●					●				40 [1.57]	40 [1.57]	2 to 4 [4.41 to 8.82]	Assembly	
86P60-2	38			●					●			50 [1.97]	60 [2.36]	4 to 6 [8.82 to 13.23]	Machining	
56H40-2	40											63 [2.48]	80 [3.15]	6 to 8 [13.23 to 17.64]	Duty Cycle	
85P5-1	42		●					●								Dual Pin
85D5-2	43					●			●							Ceramic Coated Pin
86D40-1	44	●						●								
86D60-1	44		●						●							
56D60-1	45															

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

Pivot Units



Maximum Torque at 5 bar [72 psi]																
Series	Page #	Opening Angles			Cylinder Ø mm [in]	Power	Opening Angle°	Weight Kg [lb]	Applica- tions	Features						
		≤92°	>90° to ≤121°	>121°						Infinite Adj. Opening Angle	Adjustable Opening Angle	Sensors	Brake	Locking		
		Nm [lb-ft]														
98W	46	●*		●		●		●	●		●	●	✓	✓	✓	✓
RCM100	48	●		●		●	●		●	●	●	●	✓	✓	✓	✓
RCM125	48	●		●		●		●		●	●	●	✓	✓		✓
RCM160	48		●		●		●		●	●	●	●	✓	✓		✓
RCM200	48		●		●			●		●	●	●	✓	✓		✓
RFM100	48	●		●		●	●		●	●	●	●	✓	✓	✓	✓
RFM125	48	●		●		●		●		●	●	●	✓	✓	✓	✓
RFM160	48		●		●		●			●	●	●	✓	✓	✓	✓
RFM200	48		●			●	●			●	●	●	✓	✓	✓	✓

*Max. Torque at 400 VAC

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

81L

12-1

01

00

Size	Description	Arm Style	Description	Design	Description
12-1	12 mm Cylinder (M5 Port)	01	Clamping arm, horizontal	00	Standard design
16-1	16 mm Cylinder (M5 Port)	41	Clamping arm, vertical		
20-1	20 mm Cylinder (M5 Port)		See below for further details		
25-1	20 mm Cylinder (M5 Port)				

01

41



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	Order No.	Description (order separately)
81L12-1....	81L12-1-00	8EA-109-1	Sensor, 3-wire cable, M8x1 connector, 3-pin
81L16-1....	81L16-1-00	82ZB-004-1	Adapter for mounting 81L20-1, 81L25-1 to 25mm dia. bar
81L20-1....	81L20-1-00		
81L25-1....	81L20-1-00		



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82L

Enclosed Pneumatic Power Clamps | Miniature

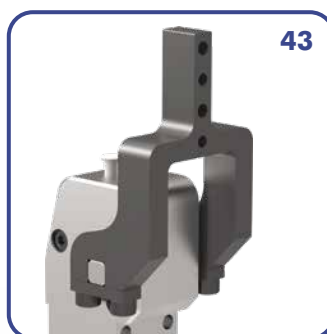
82L **16-4** **03** **0**

Size	Description
12-4	12 mm Cylinder (M5 Port)
16-4	16 mm Cylinder (M5 Port)
20-4	20 mm Cylinder (M5 Port)
25-4	25 mm Cylinder (M5 Port)

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

See below for further details

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



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



12

Max Holding Torque
35 Nm [25.8 ft-lb]
Max Clamping Torque
90° version: 10,4 Nm [7.7 ft-lb]
180° version: 8,7 Nm [6.4 ft-lb]
at 5 bar [72 psi]

16

Max Holding Torque
40 Nm [29.5 ft-lb]
Max Clamping Torque
12,4 Nm [9.1 ft-lb]
11 Nm [8.1 ft-lb]
at 5 bar [72 psi]

20

Max Holding Torque
50 Nm [36.9 ft-lb]
Max Clamping Torque
21 Nm [15.5 ft-lb]
19,3 Nm [14.2 ft-lb]
at 5 bar [72 psi]

25

Max Holding Torque
80 Nm [59.0 ft-lb]
Max Clamping Torque
31,8 Nm [23.4 ft-lb]
28,5 Nm [21.0 ft-lb]
at 5 bar [72 psi]

Accessories

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

82LG, 82LN

Enclosed Pneumatic Power Clamps | Lightweight Modular

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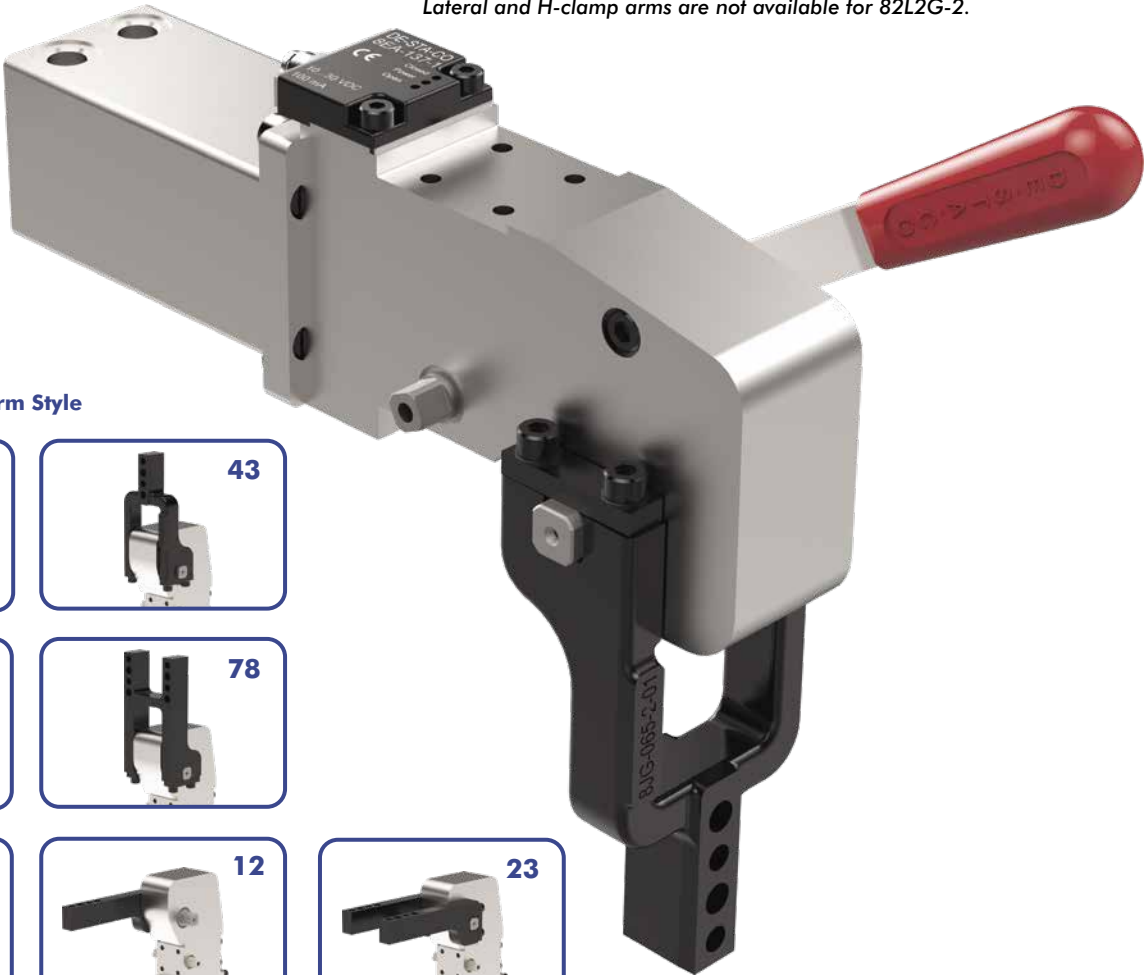


- 82L
- 2G-2
- 03
- B8
- H
- 0
- B

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

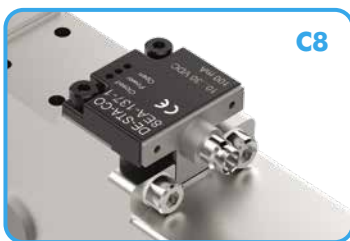
Base Model	Description
B	Power clamp without clamping arm. To be marked with an additional "B". Only with clamping arm "03"

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

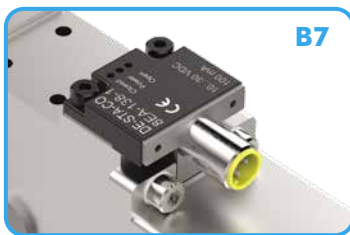
H



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



C8



B7



B8



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

Enclosed Pneumatic Power Clamps | Lightweight Modular

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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..



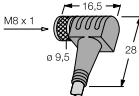
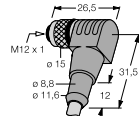
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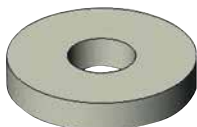
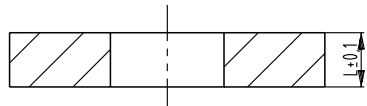
82LG, 82LN ACCESSORIES

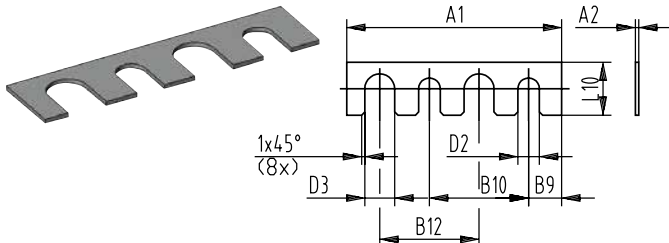
Enclosed Pneumatic Power Clamps | Lightweight Modular

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	8EL-009-1
Connector socket M8x1 angular 4-pin		8EL-007-1	8EL-007-1	8EL-007-1
Connector socket M12x1 straight 5-pin		8EL-002-1	8EL-002-1	8EL-002-1
Connector socket M12x1 angular 4-pin		8EL-003-1	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	20	11,8
	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

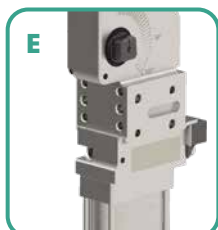
Enclosed Pneumatic Power Clamps | Heavy-Duty, Tolerance Compensation

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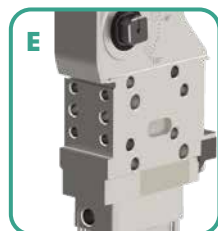


TCC-2		E		03		00		6A		L8	
Mounting	Description	Clamp Arm Shaft		Description		Handle		Description			
E	Standard Mounting	03		for U-Arms		00		No Hand lever			
B	Common Front Mount for Size 40 only (same mount pattern as size 50 & 63)	23		for Lateral Arms							
N	NAAMS Side Mounting for Size 63 only			See below for further details							

Mounting



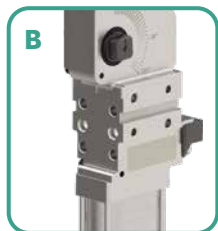
Size 40



Size 50



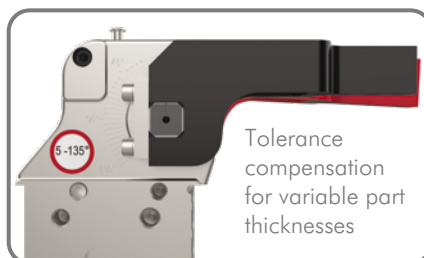
Size 63



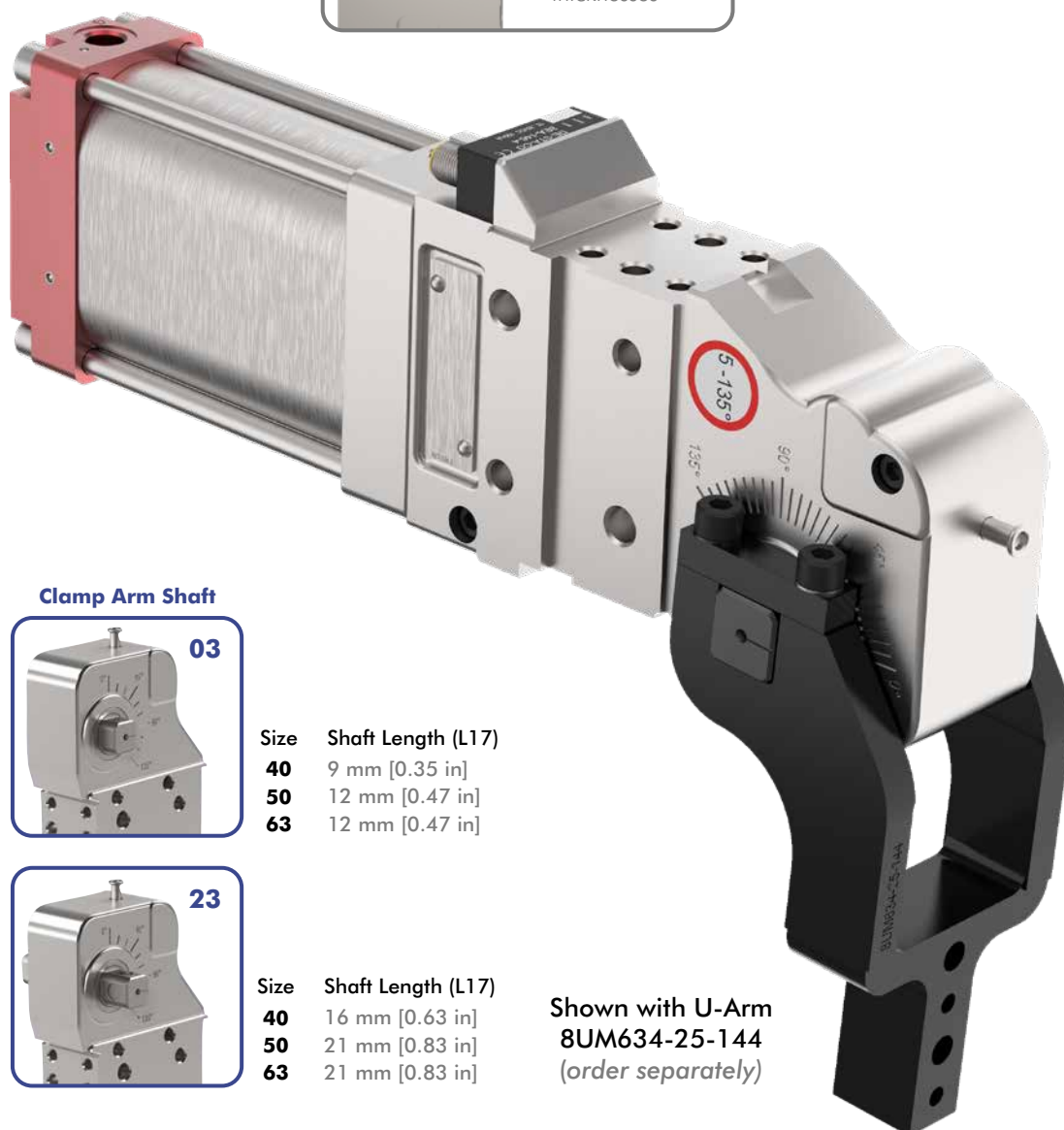
Size 40 Only



Size 63 Only



- 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)
40	9 mm [0.35 in]
50	12 mm [0.47 in]
63	12 mm [0.47 in]



23

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

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



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TCC-2

Enclosed Pneumatic Power Clamps | Heavy-Duty, Tolerance Compensation

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)

*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



L8/N8



L9/N9



K8/K9



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

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

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

Handle	Description
00	No Hand lever
H0	Hand Lever
HS	Weldable

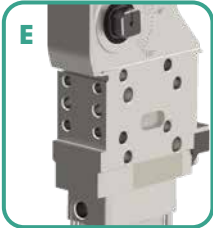
See below for further details

See below for further details

Mounting



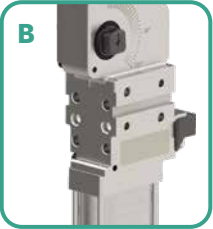
Size 40



Size 50



Size 63



Size 40 Only

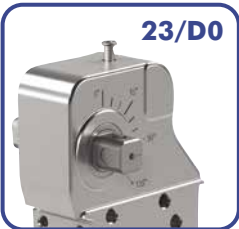


Size 63 Only

Clamp Arm Shaft



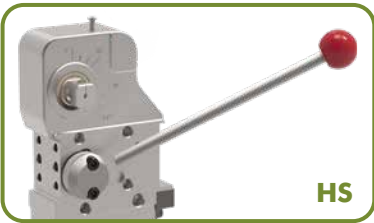
Size	Shaft Length (L17)
40	9 mm [0.35 in]
50	12 mm [0.47 in]
63	12 mm [0.47 in]



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

Size	Shaft Length (L17)
63	26 mm [1.02 in]

Hand Lever



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

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

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



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82M-3

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular

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



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

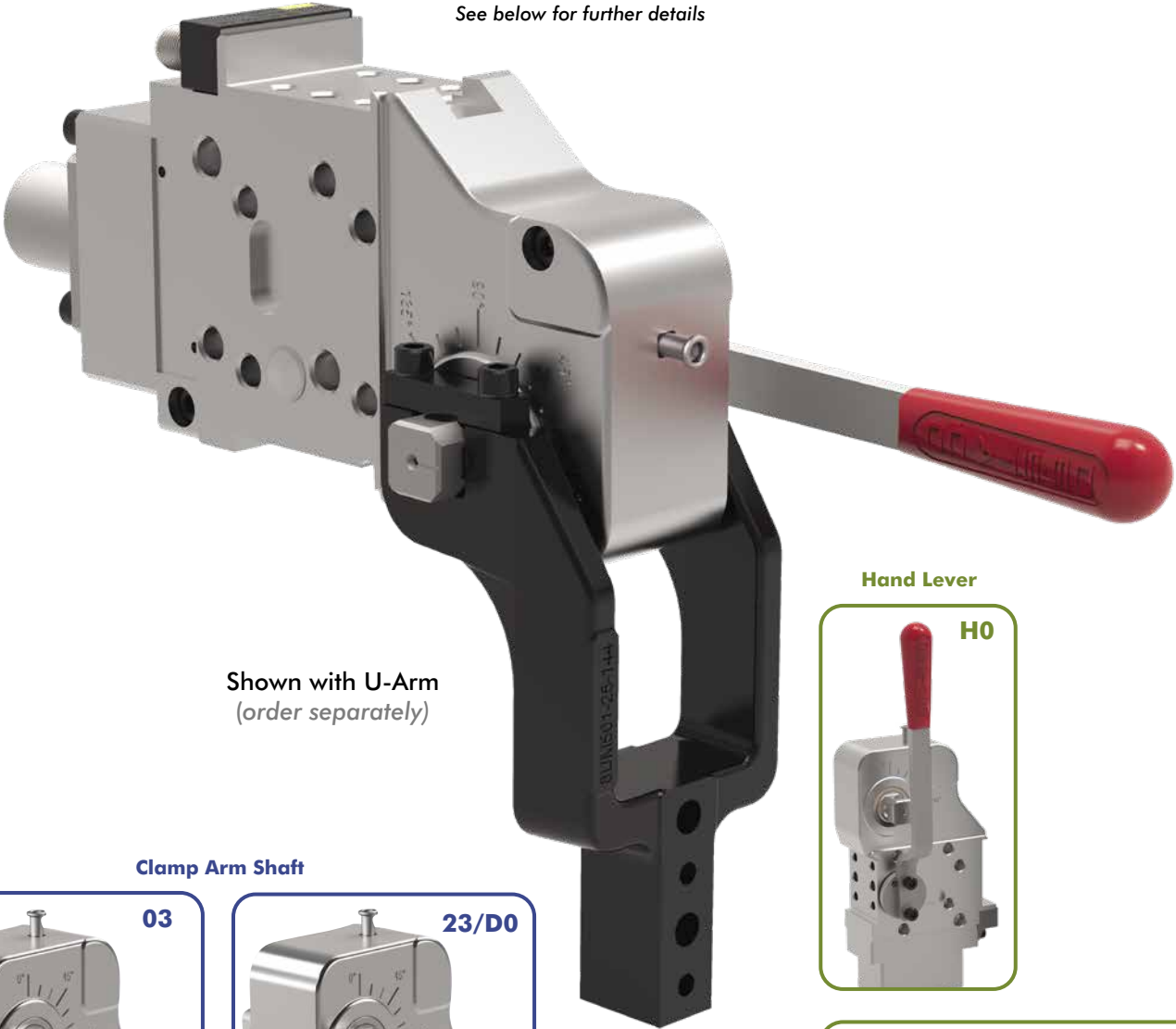
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52H-3		E	23	H0	50	L8
Mounting	Description	Clamp Arm Shaft	Description	Handle	Description	
E	Standard	03	for U-Arms	H0	Hand lever	
N	NAAMS (Size 63 only)	23	for Lateral Arms	HS	Hand Lever (Weldable)	
		D0	for Lateral Arms (size 63 only)			

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

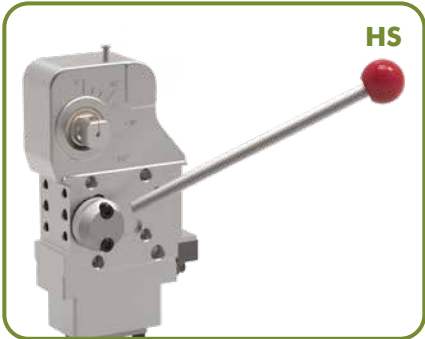
Size	Shaft Length (L17)
50	21 mm [0.83 in]
63	21 mm [0.83 in]

D0	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



L8/N8



L9/N9



K8/K9

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		Fits 82M-3....5... and 52H-3E....5...	Max. Opening	
	for 90°	for 180°		for 90°	for 180°
8UM404-00-117		105°	8UM504-15-144		105°
8UM404-15-117	135°	120°	8UM504-25-144	135°	120°
8UM404-25-117		135°	8UM504-45-144		135°
8UM404-45-107	130°				

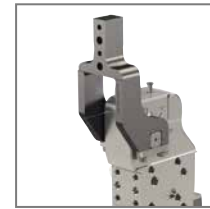
Fits 82M-3....6... and 52H-3E....6...	Max. Opening		Fits 82M-3....8...	Max. Opening	
	for 90°	for 180°		for 90°	for 180°
8UM634-15-144		105°	8JG-169-2-01*		105°
8UM634-25-144	135°	120°	8UM801-45-204*	135°	135°
8UM634-45-144		135°			
8UM631-75-204*					

* only steel version available.

90°



180°



U-Arms Offset (Aluminum)

(•) = **L** for Left, **R** for Right

Fits 82M-3E....40..	Max. Opening		Fits 82M-3....5... and 52H-3E....5...	Max. Opening	
	for 90°	for 180°		for 90°	for 180°
8U(•)404-00-117		105°	8U(•)504-15-144		105°
8U(•)404-15-117	135°	120°	8U(•)504-25-144	135°	120°
8U(•)404-25-117		135°	8U(•)504-45-144		135°
8U(•)404-45-107	130°				

Fits 82M-3....6... and 52H-3E....6...	Max. Opening		Fits 82M-3....8...	Max. Opening	
	for 90°	for 180°		for 90°	for 180°
8U(•)634-15-144		105°	8JG-17(•)-2-01*	135°	105°
8U(•)634-25-144	135°	120°	(•) = 0 for Left, 1 for Right		
8U(•)634-45-144		135°			
8U(•)631-75-204*					

* only steel version available.

90° Left



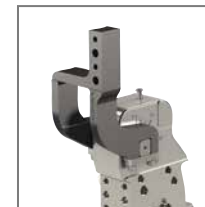
8UL...
8JG-17**0**-2-01

90° Right



8UR...
8JG-17**1**-2-01

180° Left



8UR...
8JG-17**1**-2-01

180° Right



8UL...
8JG-17**0**-2-01

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

Lateral (Steel)

Fits 82M-3E....40..	Max. Opening		Fits 82M-3....5... and 52H-3E....5...	Max. Opening	
	for 90°	for 180°		for 90°	for 180°
8S401-15-117	135°	120°	8JG-070-1-01		
			8S501-25-144	135°	135°

Fits 82M-3....6... and 52H-3E....6...	Max. Opening		Fits 82M-3....8...	Max. Opening	
	for 90°	for 180°		for 90°	for 180°
8JG-080-1-01			8JG-1179-1-01		
8S631-25-144	135°	135°	8S801-45-204	135°	135°
8S631-45-144					
8S631-75-204					

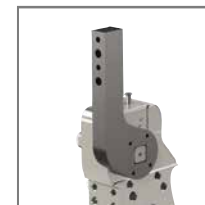
90° Left



90° Right



180° Left



180° Right



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

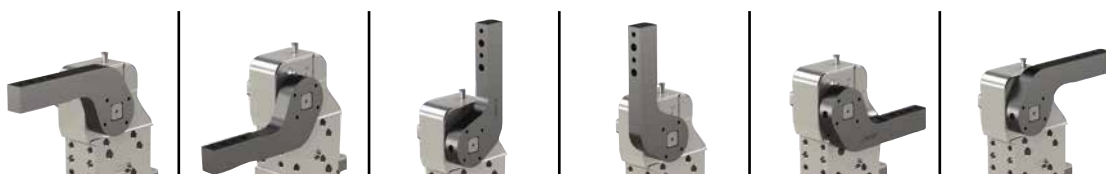
Series	Arm Style	Model
50 Offset	▲ • 1226	B8JG-1226-1
25 Offset	▲ • 1216	B8JG-1216-1
0 Offset	▲ • 1206	B8JG-1206-1

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

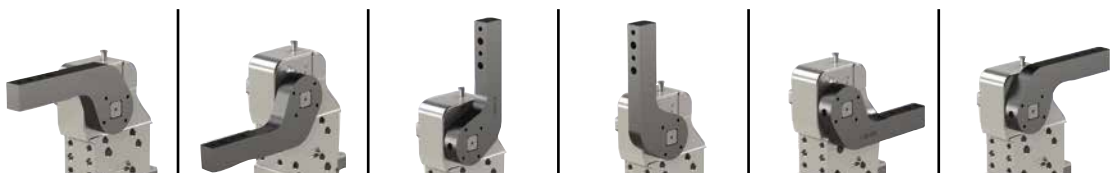
Series	Arm Style	Model
120 Offset	▲ 1547	B8JG-1547-1
70 Offset	▲ 1535	B8JG-1535-1
25 Offset	▲ 1523	B8JG-1523-1
0 Offset	▲ 1511	B8JG-1511-1

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	▲ ① 1044	B8JG-1044-1	120 Offset	▲ ① 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	▲ ① 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	▲ ① 1046	B8JG-1046-1	120 Offset	▲ ① 1047	B8JG-1047-1	120 Offset	▲ ① 1048	B8JG-1048-1
70 Offset	▲ • 1034	B8JG-1034-1	70 Offset	▲ • 1035	B8JG-1035-1	70 Offset	▲ ① 1036	B8JG-1036-1
25 Offset	▲ ① 1022	B8JG-1022-1	25 Offset	▲ ① 1023	B8JG-1023-1	25 Offset	▲ ① 1024	B8JG-1024-1
0 Offset	▲ ① 1010	B8JG-1010-1	0 Offset	▲ ① 1011	B8JG-1011-1	0 Offset	▲ ① 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	▲ ① 1170	B8JG-1170-1	120 Offset	▲ ① 1171	B8JG-1171-1	120 Offset	▲ ① 1172	B8JG-1172-1
70 Offset	▲ • 1150	B8JG-1150-1	70 Offset	▲ ① 1151	B8JG-1151-1	70 Offset	▲ ① 1152	B8JG-1152-1
25 Offset	▲ ① 1130	B8JG-1130-1	25 Offset	▲ ① 1131	B8JG-1131-1	25 Offset	▲ ① 1132	B8JG-1132-1
0 Offset	▲ ① 1110	B8JG-1110-1	0 Offset	▲ ① 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	▲ ① 1173	B8JG-1173-1	120 Offset	▲ ① 1174	B8JG-1174-1	120 Offset	▲ ① 1175	B8JG-1175-1
70 Offset	▲ ① 1153	B8JG-1153-1	70 Offset	▲ ① 1154	B8JG-1154-1	70 Offset	▲ • 1155	B8JG-1155-1
25 Offset	▲ ① 1133	B8JG-1133-1	25 Offset	▲ • 1134	B8JG-1134-1	25 Offset	▲ ① 1135	B8JG-1135-1
0 Offset	▲ ① 1113	B8JG-1113-1	0 Offset	▲ ① 1114	B8JG-1114-1	0 Offset	▲ ① 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	▲ ① 1176	B8JG-1176-1	120 Offset	▲ ① 1177	B8JG-1177-1	120 Offset	▲ ① 1178	B8JG-1178-1
70 Offset	▲ ① 1156	B8JG-1156-1	70 Offset	▲ ① 1157	B8JG-1157-1	70 Offset	▲ • 1158	B8JG-1158-1
25 Offset	▲ ① 1136	B8JG-1136-1	25 Offset	▲ ① 1137	B8JG-1137-1	25 Offset	▲ ① 1138	B8JG-1138-1
0 Offset	▲ ① 1116	B8JG-1116-1	0 Offset	▲ ① 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

① NON-STANDARD ARM OFFERING (extended leadtimes apply)



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870-2, 871-2

Pneumatic Power Clamps

870-2

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

Sensors

BIM-IKE-AP

810151

810153

810155

810157

Description (order separately)

Magnetic Sensor, 2 pieces required

Magnetic Sensor, 2 pieces required

Magnetic Sensor, 2 pieces required

Magnetic Sensor, 2 pieces required

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
BIM-IKE-AP	Tie Rod	No connector cord	2m [6.6 ft.]	PNP	10-30 V DC	200 mA	2.3V
810151			2.7m [9ft.]	Reed	5-120 V AC/DC	500 mA	3.5V
810153				Reed	24-240 V AC	4 A	1.0V
810155				PNP	6-24 V DC	500 mA	1.0V
810157				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
860	50,8 mm [2 in.] Cylinder with Vertical Clamp Arm
861	50,8 mm [2 in.] Cylinder with Horizontal Clamp Arm
890	63,5 mm [2.5 in.] Cylinder with Vertical Clamp Arm
891	63,5 mm [2.5 in.] Cylinder with Horizontal Clamp Arm
1000	82,5 mm [3.25 in.] Cylinder with Vertical Clamp Arm
1001	82,5 mm [3.25 in.] Cylinder with Horizontal Clamp Arm

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

See page 25 for sensor specifications.

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

Cylinder	Description (order separately)
865133-MR	Replacement Cylinder for Model 860
865132-MR	Replacement Cylinder for Model 861
895133-MR	Replacement Cylinder for Model 890
895132-MR	Replacement Cylinder for Model 891
1005134-MR	Replacement Cylinder for Model 1000
1005133-MR	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]



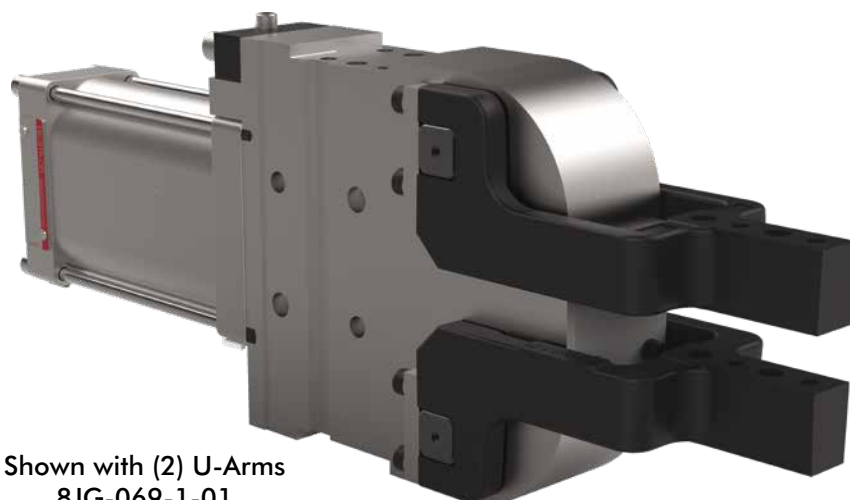
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82D40, 82D63

Enclosed Pneumatic Power Clamps | Dual Arm

Base Model		Clamp Arms		Hand Lever		Opening Angle	
82D40-2	40 mm Cylinder (G1/4 Port)	23	B	0	Description Hand Lever not available	0	180° (standard)
82D63-5	63 mm Cylinder (G1/4 Port)					1	160°
						2	140°
						3	120°
						4	100°
						5	80°
						6	60°
						7	40°
						8	20°

Reduced opening angles available upon request.



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

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

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

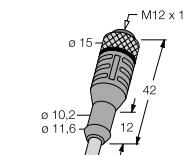
82D ACCESSORIES

Enclosed Pneumatic Power Clamps | Dual Arm

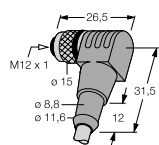
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Clamping Arms		Order No. for Set		Comment
Clamping are variant	Clamping position	82D40-223C900B	82D63-523C900B	
U-central	vertical	8JG-065-1-01	8JG-069-1-01	sets of U-type clamping arms consist of clamping arm, links and screws you need 2 sets of clamping arms
lateral right/left	vertical	8JG-066-1-01¹⁾	8JG-070-1-01²⁾	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	8JG-066-1-01¹⁾	8JG-070-1-01²⁾	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
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

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	8CE-342-1	14,4 mm	8CE-362-1
160°	15,1 mm	8CE-340-1	20,0 mm	8CE-360-1
140°	18,5 mm	8CE-338-1	24,8 mm	8CE-358-1
120°	22,2 mm	8CE-336-1	29,6 mm	8CE-356-1
100°	25,8 mm	8CE-334-1	34,3 mm	8CE-354-1
80°	28,0 mm	8CE-332-1	39,0 mm	8CE-352-1
60°	33,0 mm	8CE-330-1	43,8 mm	8CE-350-1
40°	37,0 mm	8CE-328-1	49,1 mm	8CE-348-1
20°	41,8 mm	8CE-326-1	56,2 mm	8CE-346-1

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
	82ZB-SH4001		0,1							82ZB-SH5001		0,1						
	82ZB-SH4002		0,2							82ZB-SH5002		0,2						
	82ZB-SH4005	42	0,5	6,5	7	6	20	20	12	82ZB-SH5005	65	0,5	6,5	9	10	30	30	15,8
	82ZB-SH4010		1,0							82ZB-SH5010		1,0						
	82ZB-SH4020		2,0							82ZB-SH5020		2,0						
	82ZB-SH4050		5,0							82ZB-SH5050		5,0						

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



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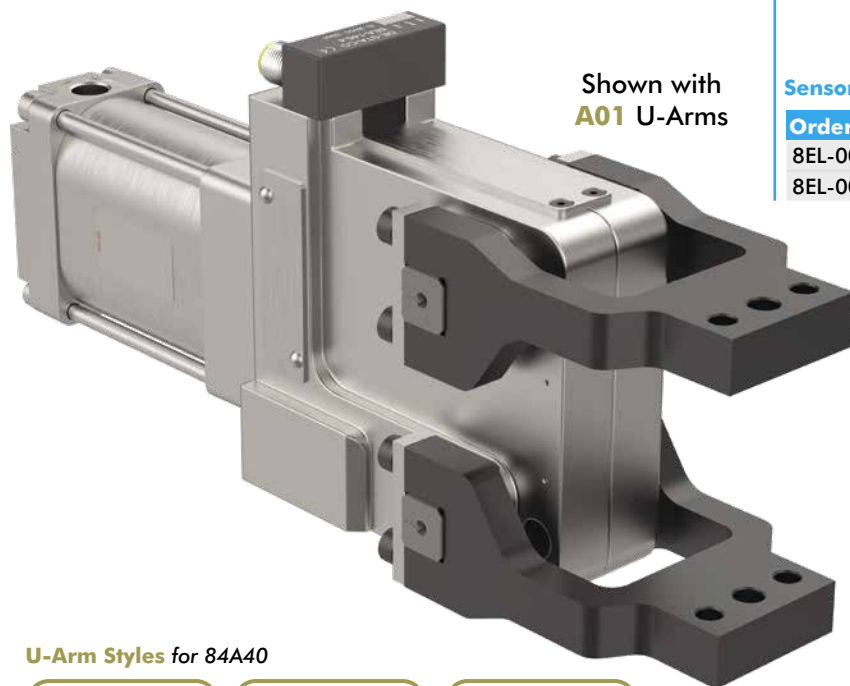
84A40, 84A50

Enclosed Pneumatic Power Clamps | Dual Arm, Tolerance Compensation

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

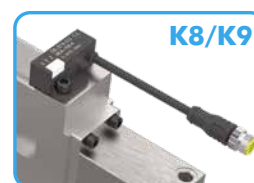
Size	Description
40-1	32 mm Cylinder (G1/8 Port)
50-1	50 mm Cylinder (G1/4 Port)

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



Shown with
A01 U-Arms

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)



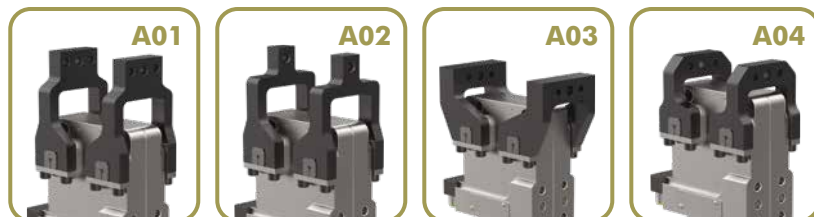
Sensor Cables Order separately

Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector 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	Tip	Description	Serial Number	Description
82P25-2	25 mm Cylinder (G1/8 and NPT 1/8 Ports)	00 08-22	without centering pin with customer specified round centering pin from Ø8-22 mm	XX	Customer specified Base, Clamping Hook and Centering Pin Must contact factory with specifications to complete order number

00

08-22

Sensor D8

Inductive Sensing System with M12x1 Connector (8EA-161-1)

D8

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

Single Hook (Standard)
Double Hook

Size Description

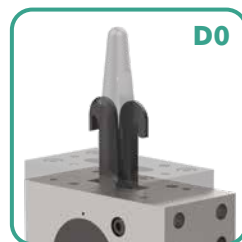
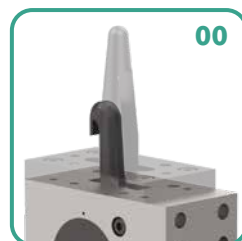
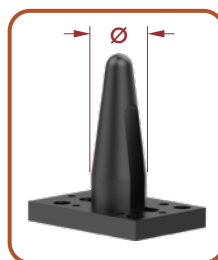
30-3 30 mm Cylinder (G1/8 Port)
35-3 35 mm Cylinder (G1/8 Port)

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

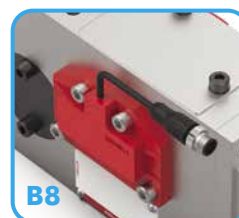
Order separately. 82P3X-3XX-XX,X
ex. 82P30-320-21,1



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)



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]

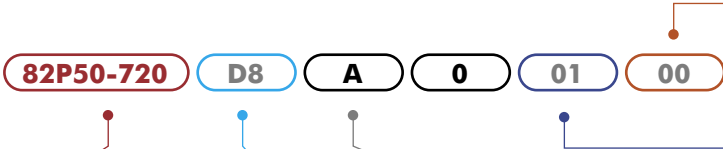
Sensor Cables Order separately

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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Base Model	Description
82P50-720	50 mm Tandem Cylinder (G1/8 Port)
82P63-720	63 mm Tandem Cylinder (G1/8 Port)

Tolerance	Description
A	0-6 mm [0-0.236 in] tolerance compensation

Sensor	Description
D8	Inductive Sensing System with M12x1 Connector (8EA-151-1)



Sensor Cables Order separately

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



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]



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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
82P50-800 Tolerance Compensation
0 - 5 mm [0 - 0.197 in]

Sensor Description
L10 PNP Sensor with M12x1 Cable Connector
(8EA-158-4-B 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

Blanks Description
A Flat Blanks

Finger Direction Description
0 Two Fingers Standard Direction
1 Two Fingers Perpendicular to Standard Direction

Centering Pin Ø Range

01	15,8 -0,05 mm
02	19,8 -0,05 mm
03	20,3 -0,05 mm
04	29,8 -0,05 mm

Pin Shape Description

00	Standard
01*	Pin Clipping
02*	Pin Release on Flat Perpendicular of Finger
03*	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)

00

01

02

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
20	20 mm Stroke
40	40 mm Stroke

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

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] dm³ [in³]
		Mtx	Mty	Mtz				
VV85G-15020**	20 [0.79]	[74] 100	[74] 100	[37] 50	500 [112]	[899] 4000	[29.1] 13,2	0,7 [42.7]
VV85G-15040**	40 [1.57]							1,1 [67.1]

82U50

Pneumatic Pin Clamp | Pallet Clamp

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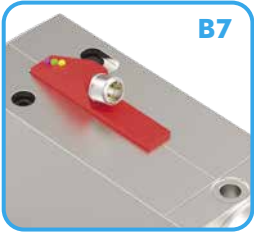


82U50 - 300 L1 00

Accessories
00 Description
No Accessories

Size	Description
300	Front, top or bottom mounting
330	Top or bottom mounting only

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

86P30-5 **02** **L8** **00** **4**

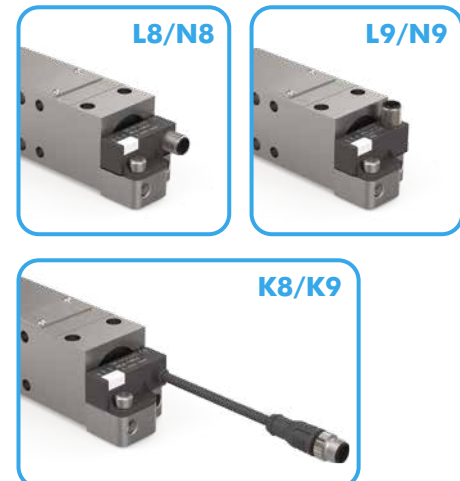
Accessories	Description	Stroke	Description
00	No Accessories	2	20 mm Stroke
		4	40 mm Stroke

Piston Rod

	Description
02	Ø16 mm M6 Threaded Inside Hole, Cross Groove
05	Ø10 mm M8 Threaded Inside Hole, Cross Groove



Sensor	Description
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

86P30-5

Stroke Option: **2, 4**

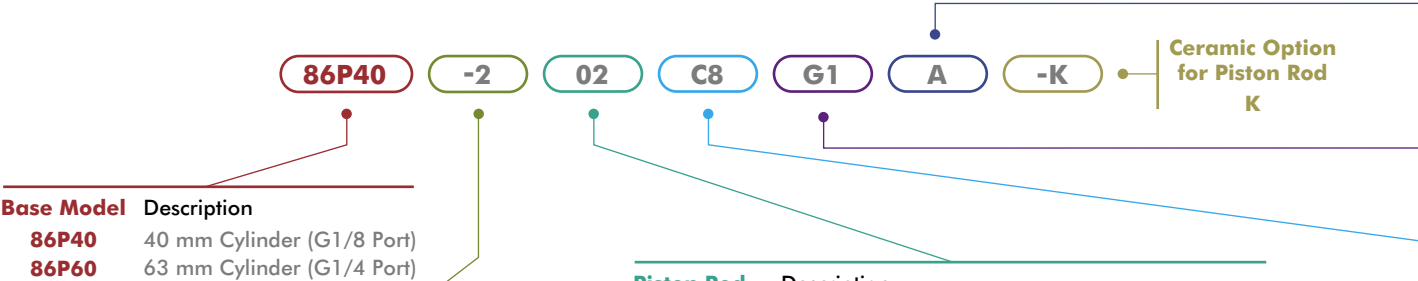
Max Pushing Force at 5 bar [72 psi]: 340 N [76 lbf]

Max Retracting Force at 5 bar [72 psi]: 250 N [56 lbf]

86P40, 86P60

Pneumatic Pin Package | Single Shaft

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

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



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



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



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



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



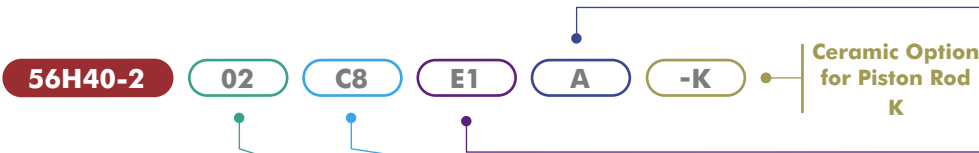
Sensor Cables Order separately

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

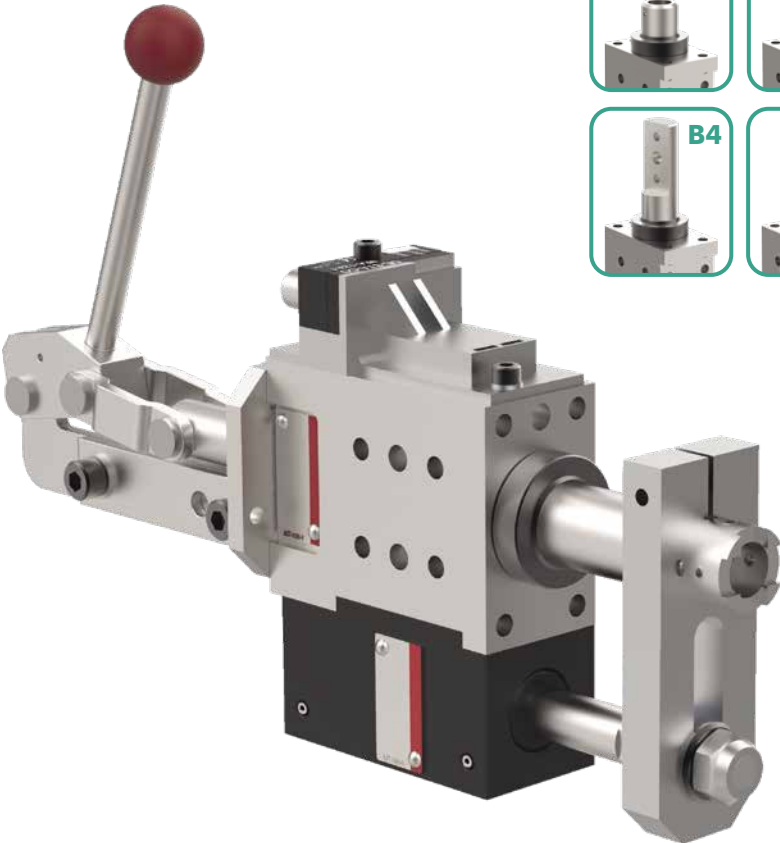
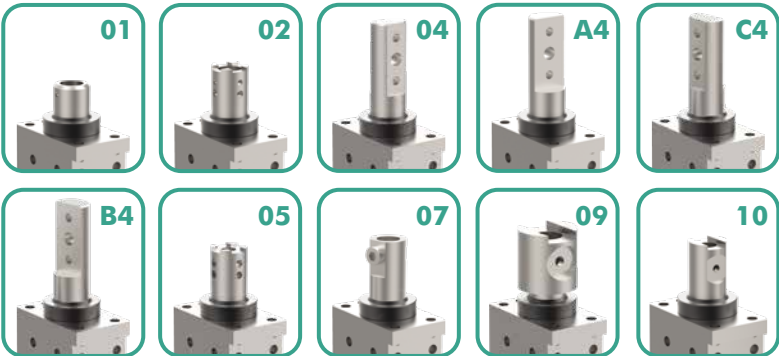
56H40-2

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

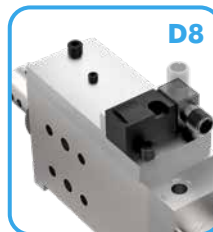
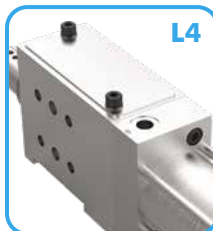
Accessories

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



Sensor

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

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



85P5-1

Pneumatic Pin Package | Single Shaft

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85P5-1 **04** **B8** **E1** **H** **0** **-K**

Plunger **K** Description
Ceramic Coated Plunger

Stroke **0** Description
without Stroke Limiter

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.

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

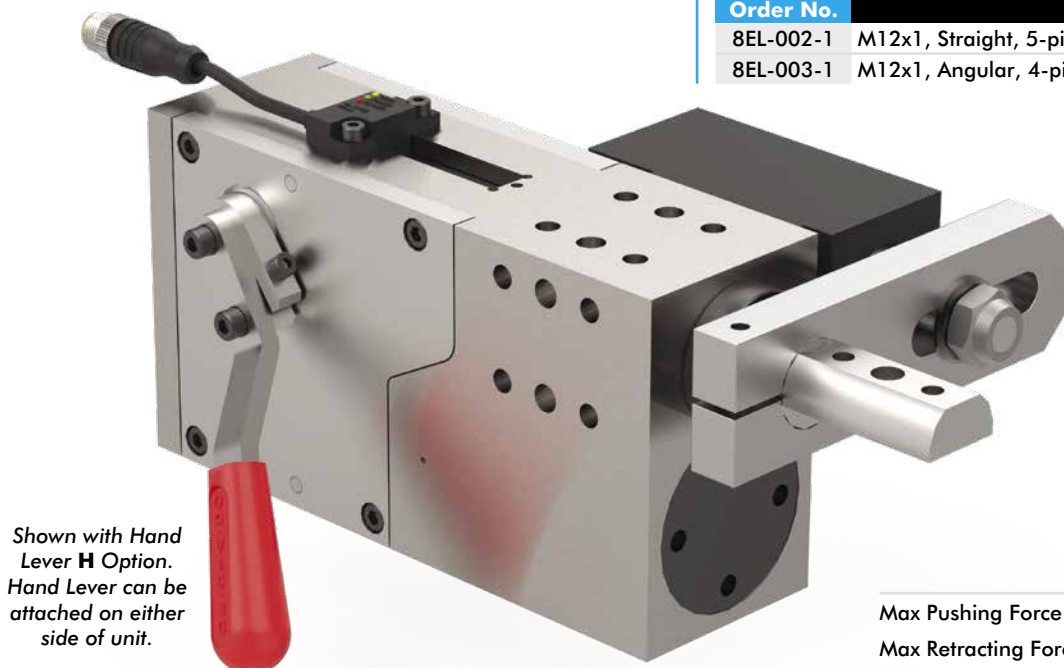
Sensor Description

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]



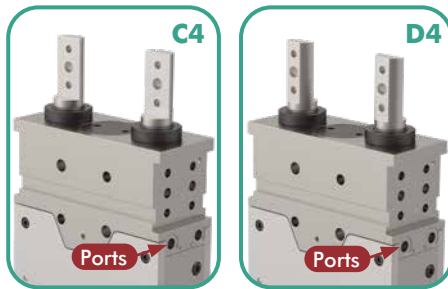
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85D5-2

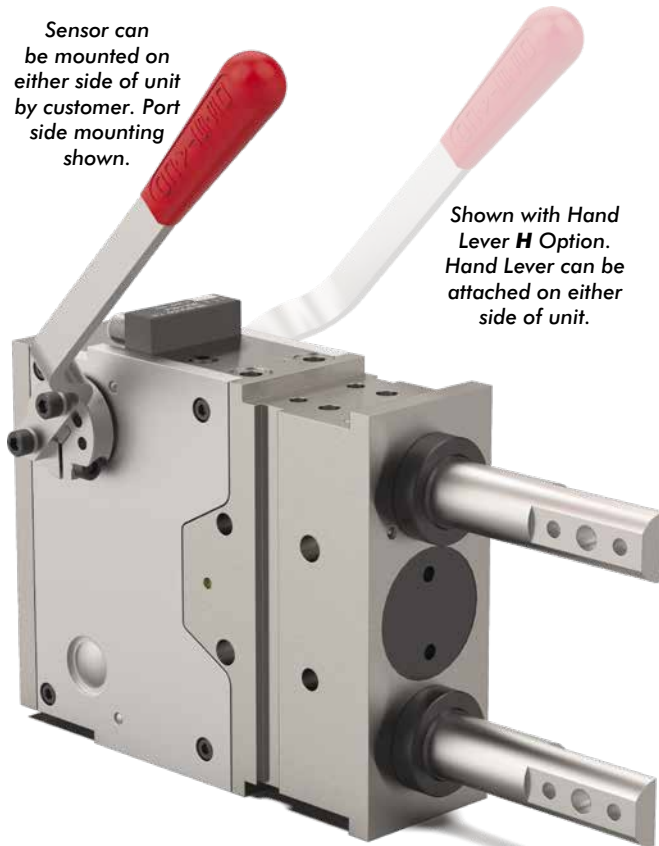
Pneumatic Pin Package | Dual Shaft

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

Piston Rod **Description**
C4 NAAMS Standard
D4 NAAMS Standard Rotated 180°



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

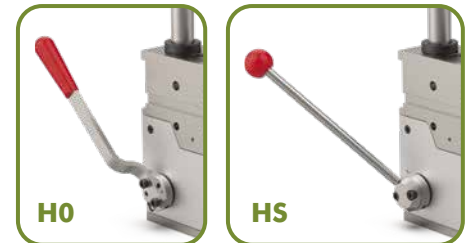
Max Pushing Force at 6 bar [87 psi]: 3000 N [674 lbf]

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

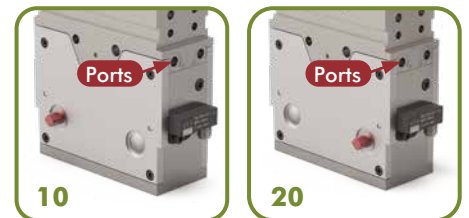
Sensor Cables Order separately

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

Hand Lever **Description**
00 No Hand Lever
H0 Standard Hand Lever
HS Weldable Hand Lever

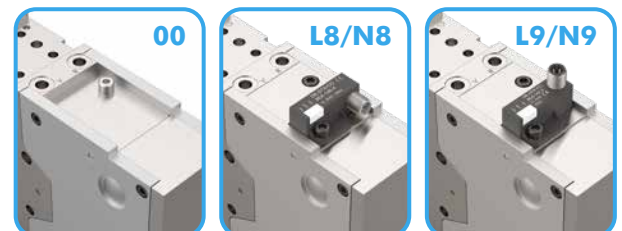


Hand Lever **Description**
Shfts*
10 Non-port side
20 Port side
*Hand Lever can be attached
on either side of unit.



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)

*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**
86D40 40 mm Cylinder (G1/8 Port)
86D60 63 mm Cylinder (G1/4 Port)

Hand Lever **Description**
-1 No Hand Lever
H1 Handle for Manual Control (86D60 only)

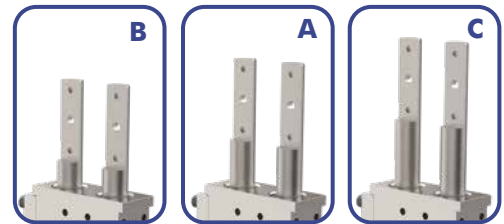
Piston Rod **Description**
04 NAAMS Standard
A4 NAAMS Standard Rotated 180°
11 Dual Bolt Mounting (86D40-1 Only)

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



Stroke	for 86D40
B	20 mm Stroke (86D40-1000000B)
A	40 mm Stroke (86D40-1000000A)

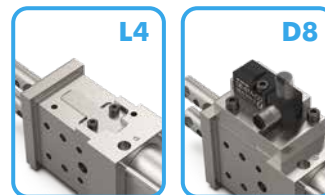
Stroke	for 86D60
B	20 mm Stroke (86D60-1000000B)
A	40 mm Stroke (86D60-1000000A)
C	60 mm Stroke (86D60-1000000C)



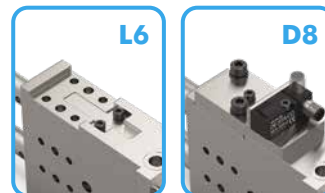
86D40 shown
with sensor
mounted
on opposite
side of unit.



Sensor*	for 86D40
L4	Cover Plate (86D0-100L4)
D8	with 90° M12x1 Swivel Connector (86D40-100D8)
	*Sensors can be mounted on opposite side by customer.



Sensor*	for 86D60
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



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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**



98W03-2

10

A

0

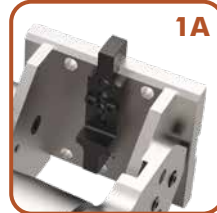
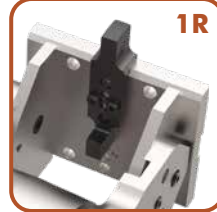
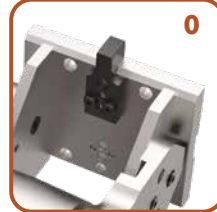
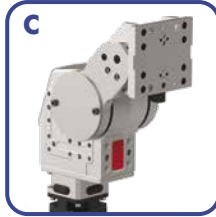
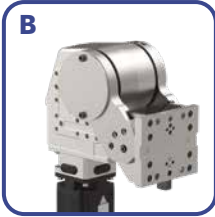
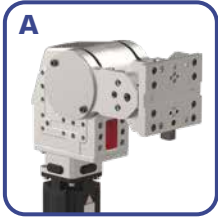
00

0

Motor
10 SEW 400V-Brake

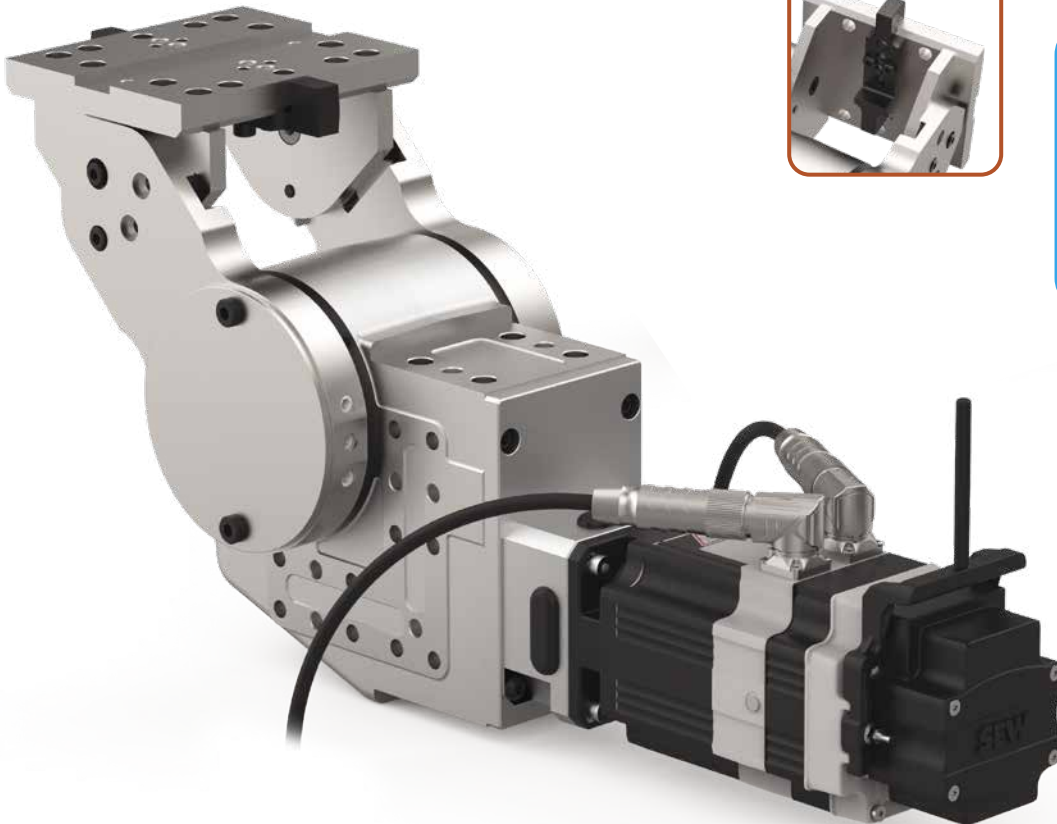
Hard Stop
0 Standard Stop
1R Audi-Standard Reference Position
1A Audi-Standard Working Position 0°

Swivel Arm
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]

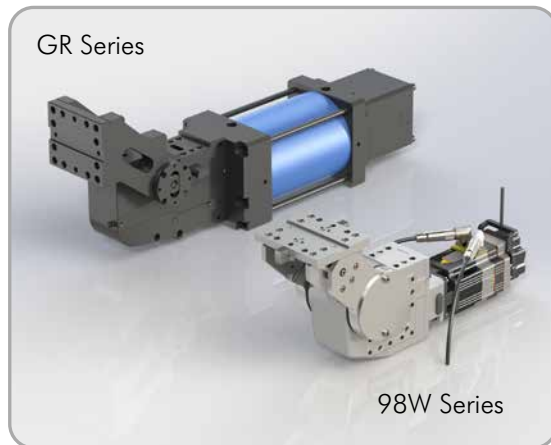


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98W

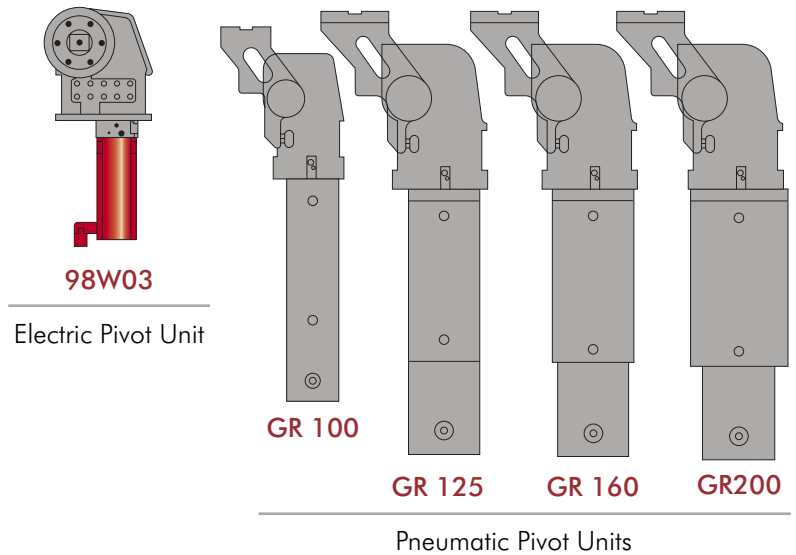
Electric Pivot Unit

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.

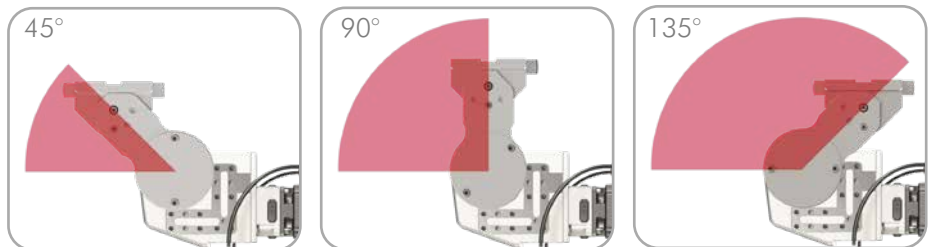
One electric pivot unit replaces four sizes of pneumatic pivot units



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.

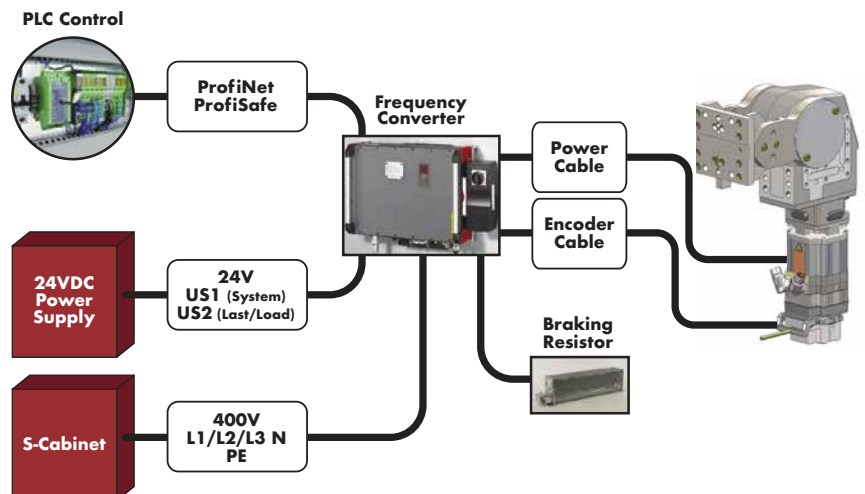


Application Example

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



Operating Principle



Base

RCM

RFM

Description
Standard
Integrated Braking

Cylinder

Description

100

100 mm Bore

125

125 mm Bore

160

160 mm Bore

200

200 mm Bore

RCM

125

.2

129

V/LS

PX

P

N

X

Opening Angles

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

Saddle Orientation

Description

O

Horizontal

V

Vertical

O/LS

Inverted Horizontal

V/LS

Inverted Vertical

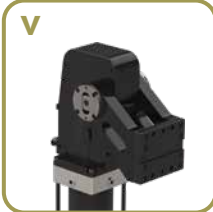
O



O/LS



V



V/LS



Opening angles are easily field adjustable.



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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RCM/RFM

Pneumatic Pivot Unit | Medium Duty

Ports

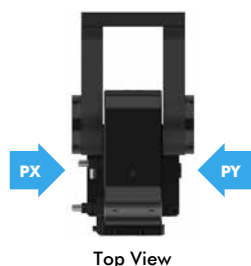
Ports	Description
N	NPT Ports
G	G Port

Proximity Switch Type

Proximity Switch Type	Description
0	No Proximity Switch
P	Pepperl+Fuchs Proximity Switch

Proximity Switch Location

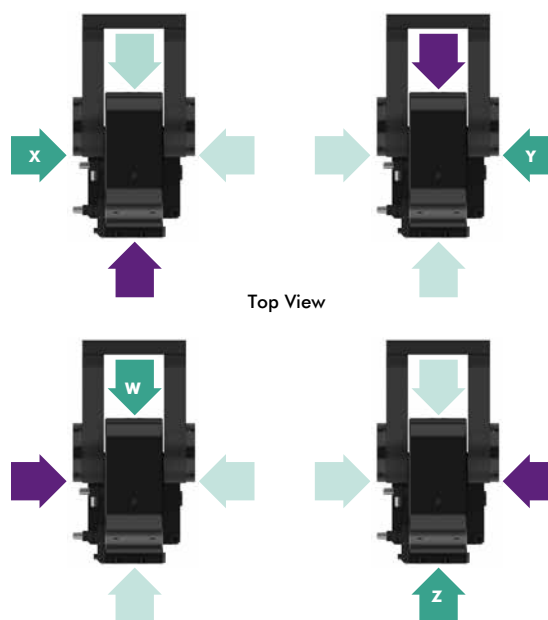
Proximity Switch Location	Description
P0	No Proximity Switch
PX	Proximity Switch on Left-Side
PY	Proximity Switch on Right-Side



Cylinder Orientation

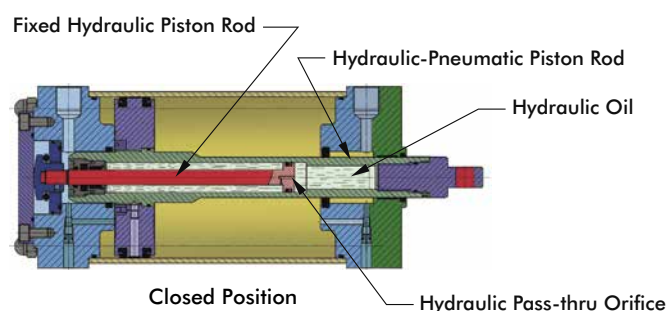
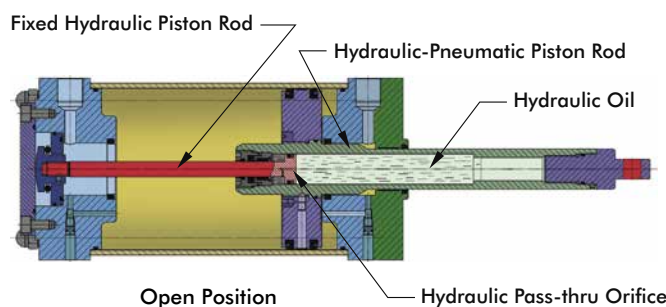
Cylinder Orientation	Description
X	Left-Facing Airport
Y	Right-Facing Airport
W	Front-Facing Airport
Z	Rear-Facing Airport

Air Port
Air Ports Plugged
Cushion Adjustment



Cylinder Operating Principle

The RFM/RCM series pivot units uses 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 motion control in heavy duty applications during opening and closing positioning.



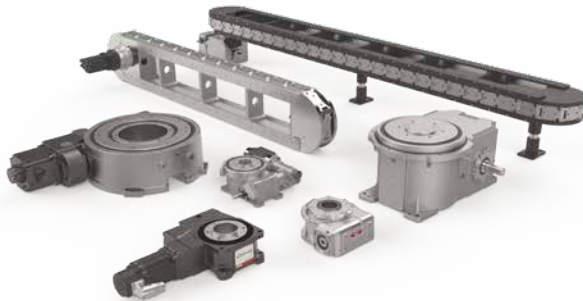
Specifications	Units	100	125	160	200
Max Torque by Load [5 bar] Opening Angle $\leq 92^\circ$	Nm [ft-lbs]	150 [111]	240 [117]	410 [302]	660 [487]
Max Torque by Load [5 bar] Opening Angle $> 92^\circ / \leq 121^\circ$	Nm [ft-lbs]	110 [81]	180 [133]	300 [211]	480 [354]
Max Torque by Load [5 bar] Opening 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]

OUR PORTFOLIO OF PRODUCTS



End Effectors (EE)

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



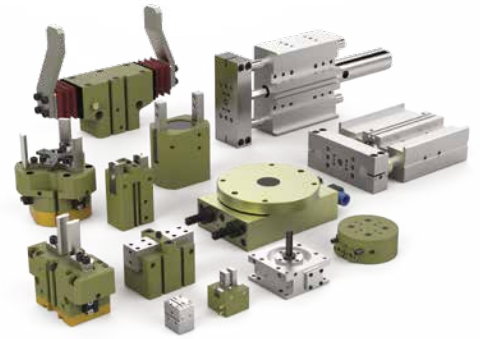
Indexers (IN)

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



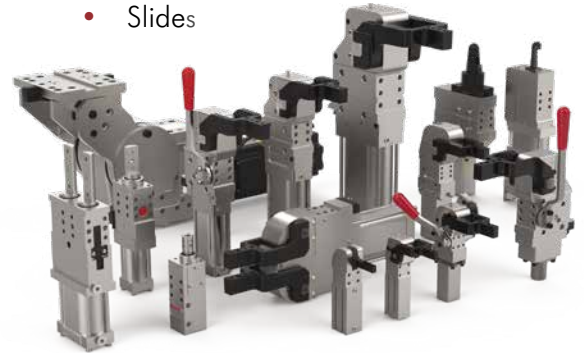
Manual Clamps (MC)

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



Grippers (GR)

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



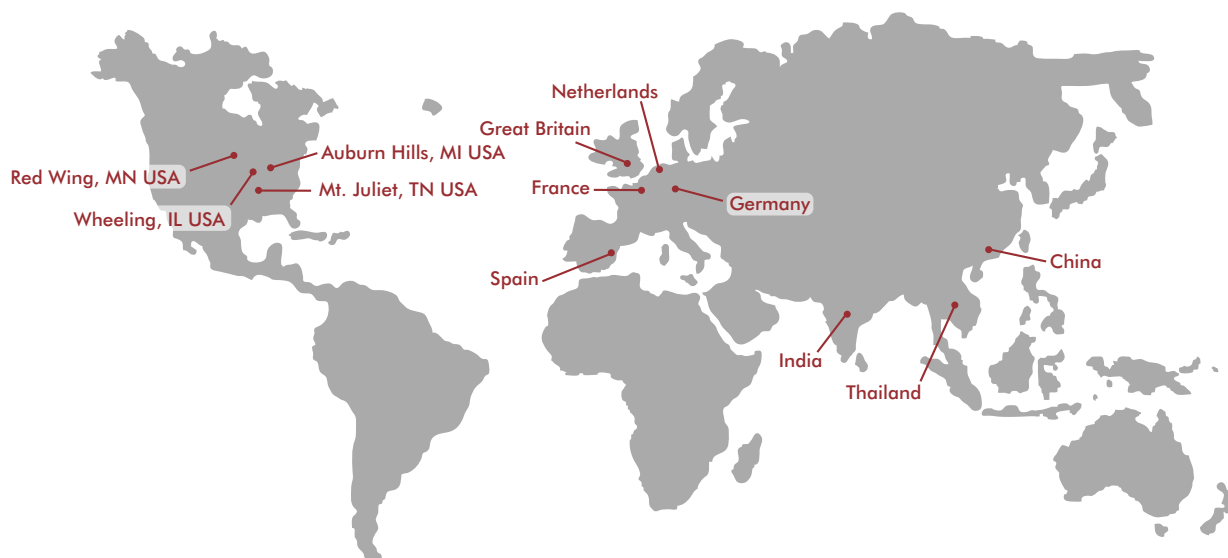
Power Clamps (PC)

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



Sheet Metal Grippers (SM)

- Accelerate® Press Room
- Cam Type
- Toggle Lock



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