

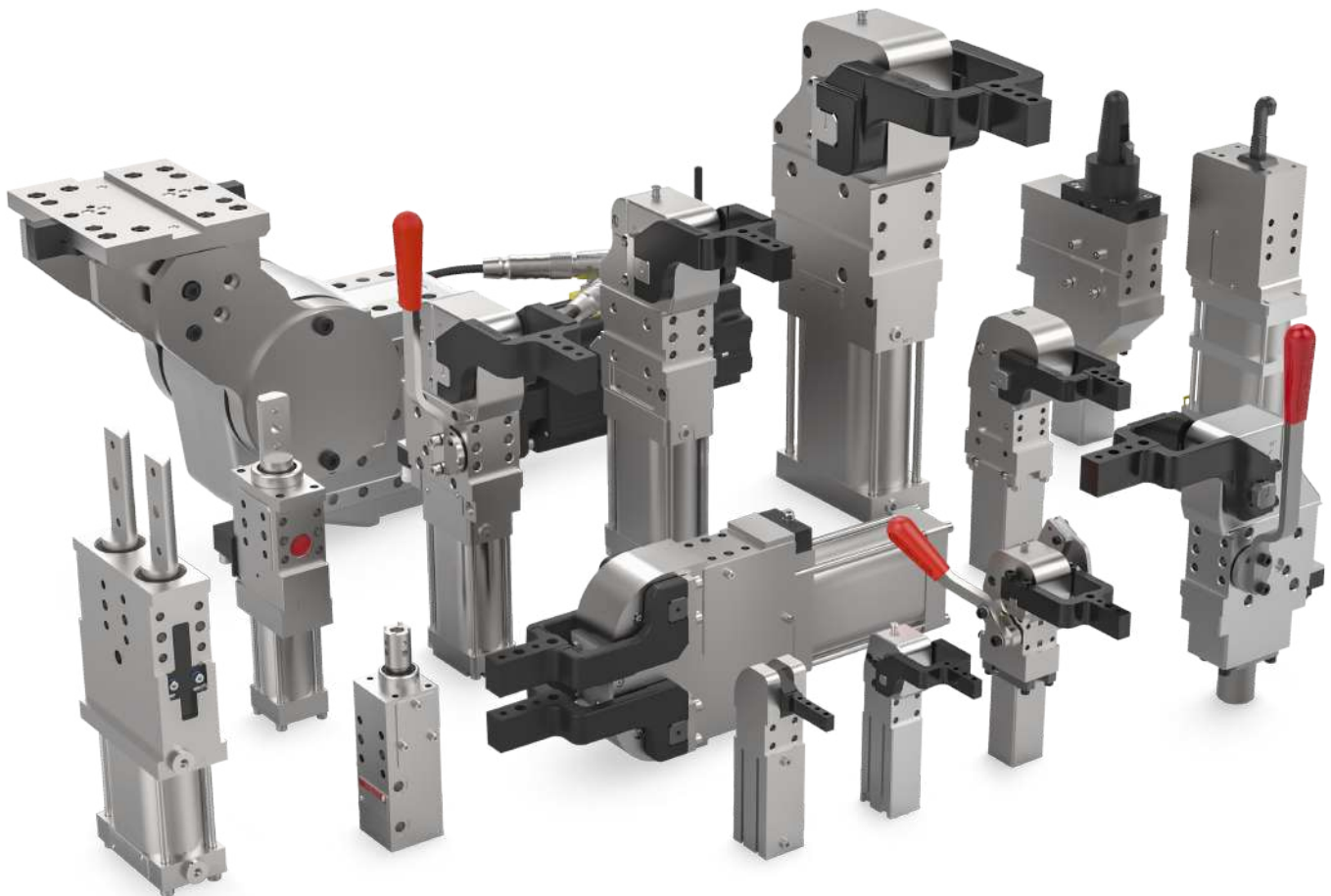
Power Clamps

01/28/2025



info@cesehsa.com.mx

cesehsa.com.mx



Power Clamps

01/28/2025

This catalog is a custom document and the products included is based on your unique selection from portions of complete catalogs that already exist. Please refer to our full catalogs for more information on products not included in this customized document.

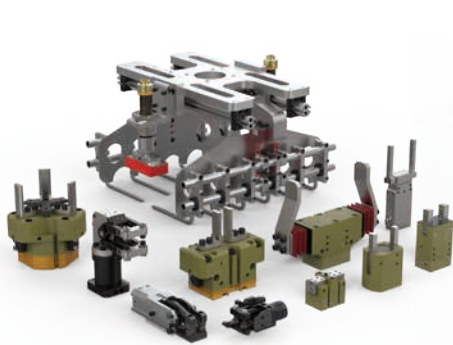
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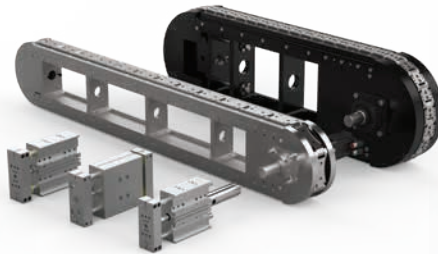
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ABOUT DESTACO

Built on a Strong Foundation



Gripping Solutions



Linear Positioning Solutions



Rotary Positioning Solutions



Clamping Solutions



CRL Central Research Laboratories
a DESTACO company

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

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 & Electric 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



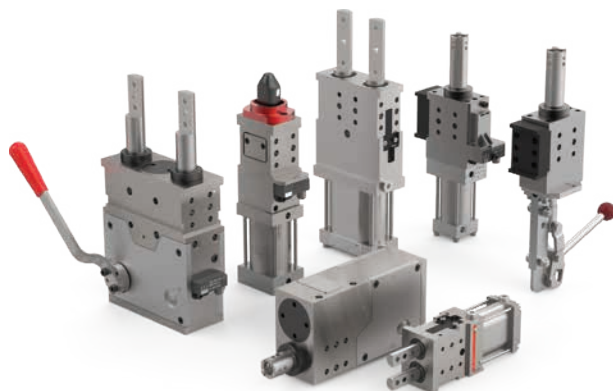
CNC/Machining



Electric Products



Pneumatic Power Clamps



Pneumatic Pin Clamps and Packages



Pneumatic Pivot Units



Body-in-White EcoSmart Solutions

PNEUMATIC CLAMPING SOLUTIONS

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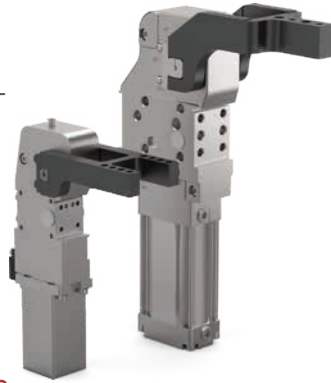
FEATURED NEW PRODUCTS

82L-3E /82M-3E Power Clamps

Adjustable Light and Heavy-weight Enclosed Power Clamps

- Field adjustable arm opening angle
- Enclosed aluminum body
- Optional U-Arms and lateral arms available

See Pages PC-PPC-13 & 33

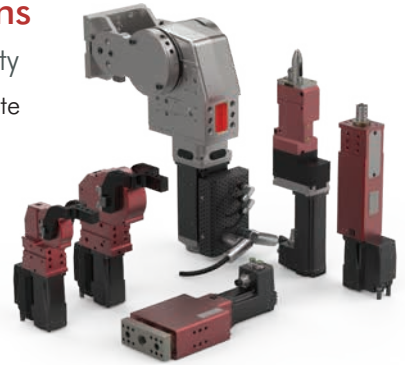


Body-in-White EcoSmart Solutions

Evolution in Productivity

- Complete Body-in-White Product Portfolio
- Smart & Economy Line
- Plug & Play solution - fast start up
- Integrated position & hold down control

See Page PC-ELC-1



TCC Series

Tolerance Compensation
Heavyweight Enclosed
Power Clamps

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

See Pages PC-PPC-29



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 PC-PPC-83



85P50-1800 Series

Tolerance Compensation
Centering Pin Clamp

- Tolerance compensation
- Self-locking mechanism in clamping position
- Variety of pins and hook sizes
- Integrated sensing
- Enclosed aluminum body

See Pages PC-HPC-19



86P30-5 Series

Single Pin Packages

- Available with 20 mm or 40 mm strokes
- Compact design with lateral and front-face mounting areas
- Enclosed aluminum body

See Page PC-PKG-1



RCM/RFM Series

Pneumatic Pivot Units

- Field adjustable opening angle
- Integrated (SBI) Lock System (RFM Series)
- Fixed inductive sensor
- Four cylinder bore sizes, one cylinder length
- Pneumo-hydraulic motion control

See Page PC-PVT-1



85D5-2 Series

Double Pin Package

- Optional hand lever for manual control
- Compact design with lateral and front-face mounting areas
- Sensors can be mounted on either side of unit
- Flexible hand lever mounting positions

See Pages PC-PKG-29



PNEUMATIC & ELECTRIC POWER CLAMPS

Sizing and Application Chart



Series	Holding Torque at 5 bar Nm [ft-lb]					Clamping Torque at 5 bar Nm [ft-lb]					Piston Diameter mm [in]								
	Page PC-ELC-#	Page PC-PPC-#	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]
92W	1		●					●●											
81L		1	●					●					●						
82L-4		5	●					●					●●						
82L-3E		13	●●					●●						●●●●					
TCC-2		29	●●					●●									●●●●		
82M-3E		33		●		●●			●●								●●●●●●		
52H-3E		59				●													
870/871		71		●				●									●		
860/861		73			●				●									●	
890/891		73				●			●										●
1000/1001		73				●				●								●●	●●
82D		75		●				●●	●●								●		●
84A		83	●●					●●	●●								●●	●●	

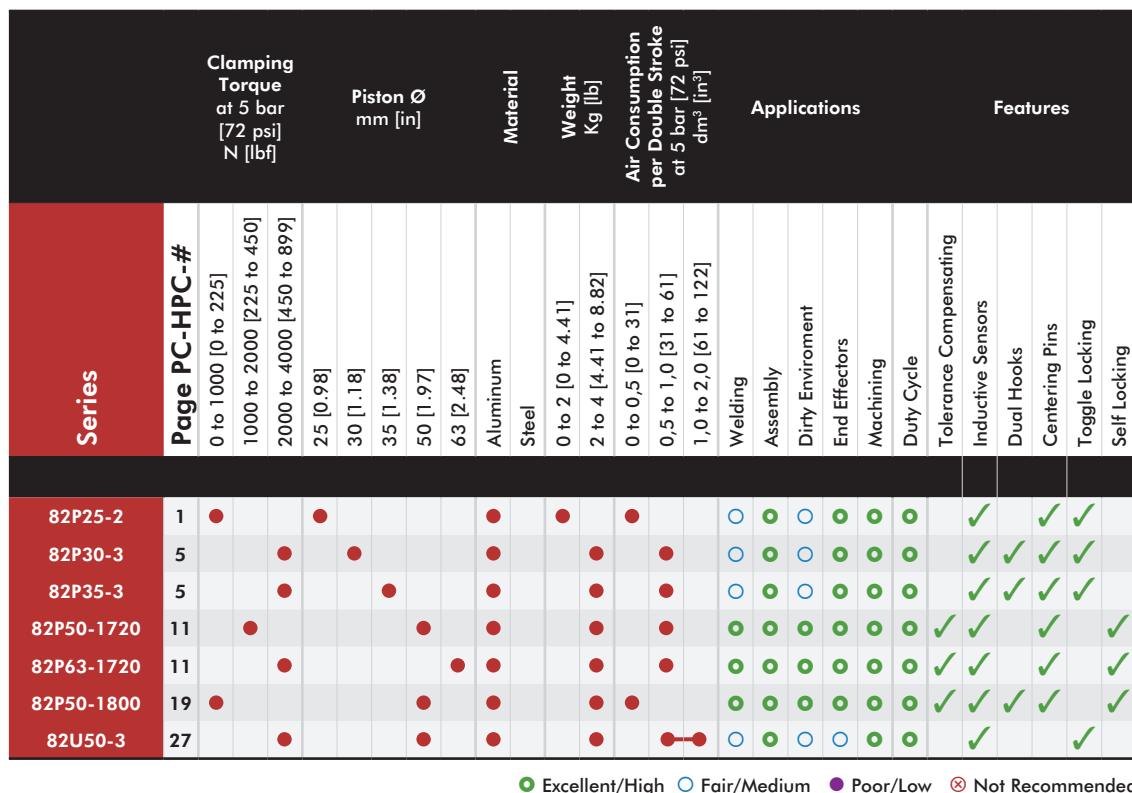
PNEUMATIC & ELECTRIC POWER CLAMPS

Sizing and Application Chart

Material		Weight Kg [lbs]	Suitable Application Areas										Features													
Aluminum	Steel	Electric	Pneumatic	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

Sizing and Application Chart

[illegible]

PNEUMATIC & ELECTRIC PIN PACKAGES

Sizing and Application Chart



Series	Page PC-ELC-#	Page PC-PKG-#	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]					30 [1.18]	40 [1.57]	50 [1.97]	63 [2.48]	20 [0.79]	40 [1.57]	60 [2.36]	80 [3.15]	Electric	Pneumatic	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]	Welding	Assembly	Machining	Duty Cycle
96W-1	15			●					●						●		●	●						●			●	●	●	●				✓
86P30-5		1	●						●							●		●	●								●	●	●	●				
86P40-2		5		●						●								●	●	●							●	●	●	●				✓
86P60-2		5			●						●							●	●	●							●	●	●	●				✓
56H40-2		15														●		●	●								●	●	●	●				✓
85P5-1		23			●					●							●		●	●							●	●	●	●				✓
85D5-2		29									●						●		●	●						●	●	●	●			✓		✓
86D40-1		33		●						●						●		●	●								●	●	●	●		✓	✓	
86D60-1		33			●						●						●		●	●							●	●	●	●		✓	✓	
56D60-1		39														●		●	●								●	●	●	●		✓	✓	

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

PNEUMATIC & ELECTRIC PIVOT UNITS



Series	Maximum Torque at 5 bar [72 psi]													Applications	Features																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	Opening Angles			Cylinder Ø mm [in]	Power	Opening Angle°	Weight Kg [lb]																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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	Nm [lb-ft]																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Page PC-ELC-#	Page PC-PVT-#	0 to 250 [0 to 184]	250 to 500 [184 to 369]	500 to 800 [369 to 590]	0 to 250 [0 to 185]	250 to 500 [185 to 369]	500 to 800 [369 to 590]	0 to 250 [0 to 185]	250 to 500 [185 to 369]	500 to 800 [369 to 590]	100 [3.94]	125 [4.92]	160 [6.30]	200 [7.87]	Electric	Pneumatic	29° to 121° (see datasheet)	15° to 129° (see datasheet)	0° to 135°	25 to 50 [55.12 to 110.23]	50 to 75 [110.23 to 165.35]	75 to 100 [165.35 to 220.46]	Welding	Fixture/Testing	Food and Packaging	Duty Cycle	Infinite Adj. Opening Angle	Adjustable Opening Angle	Sensors	Brake	Locking																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
98W	21		●*		●			●						●					●	●			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○</

*Max. Torque at 400 VAC

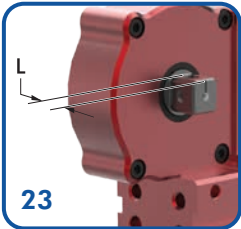
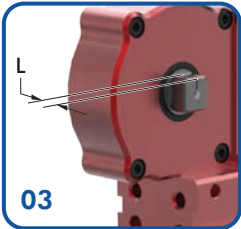
● Excellent/High ○ Fair/Medium ● Poor/Low ⊗ Not Recommended

92W-1

Enclosed Electric Power Clamps | Smart Clamp | How to Order

92W-1 23 00 02 02

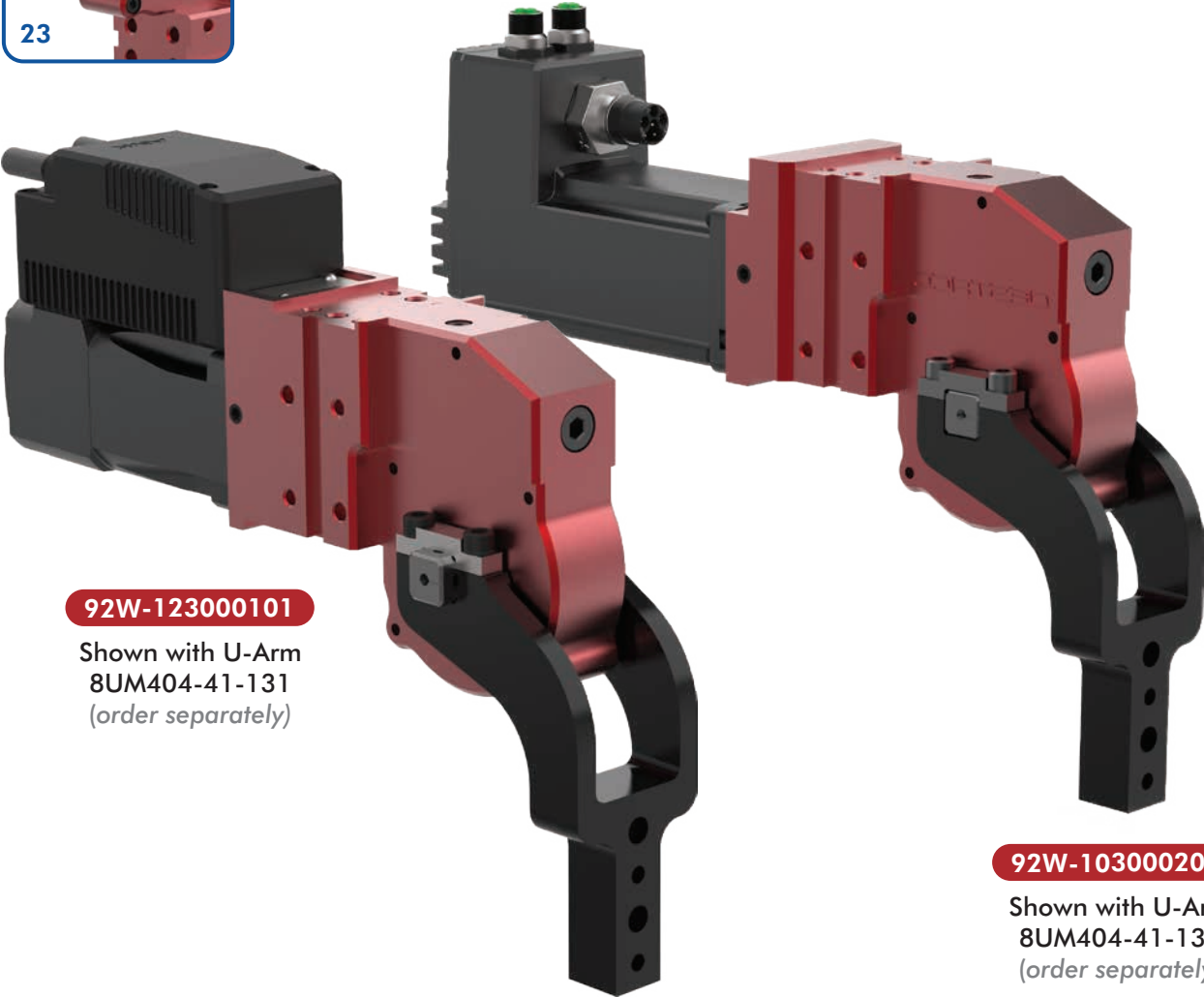
Clamp Arm Shaft	Shaft Length (L)
03	10 mm [0.39 in]
23	16 mm [0.63 in]



Body Style
for 400 V Motor Option 01 only
01 Compact Clamp Design
for 48 V Motor Option 02 only
02 Compact Clamp Design

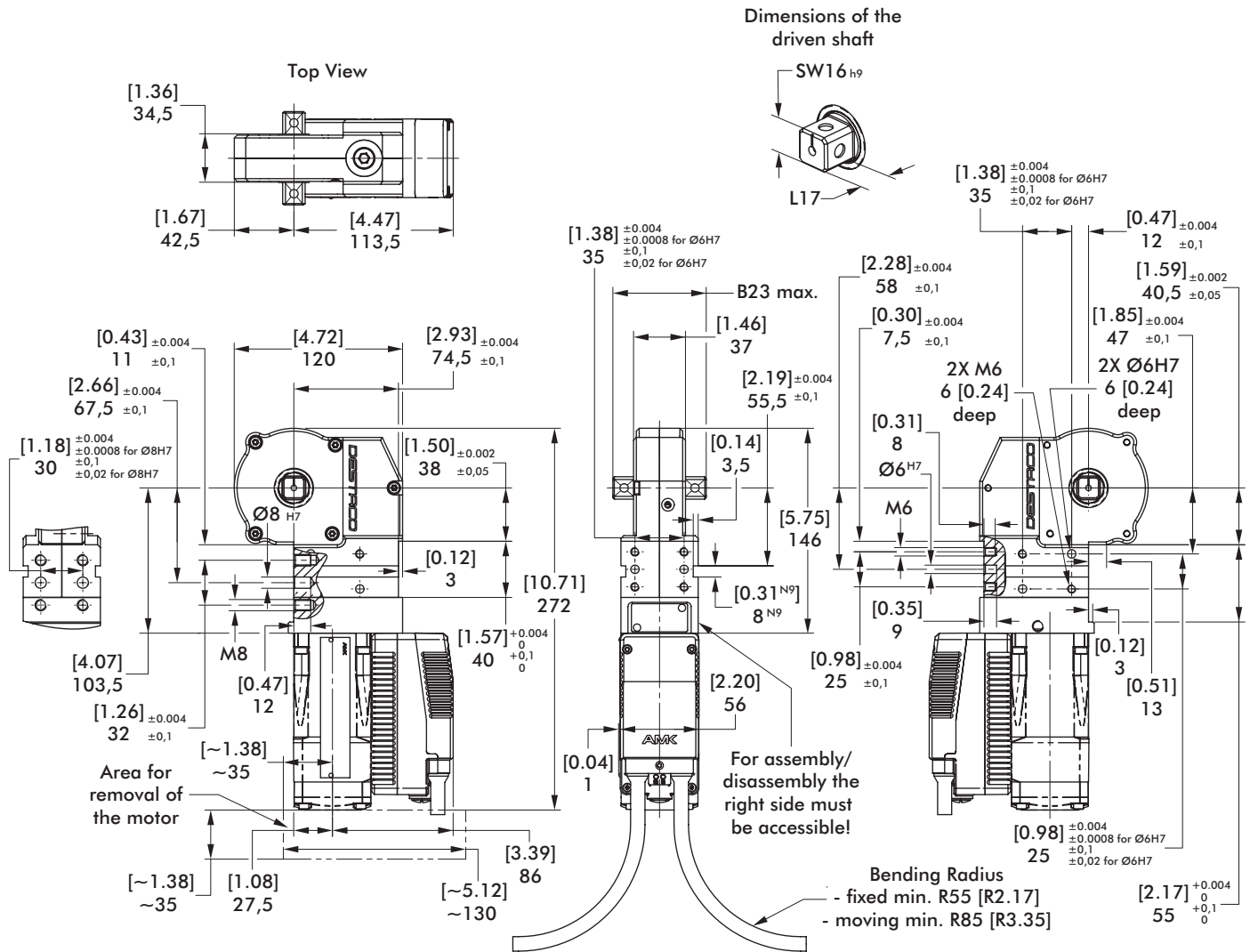


Motor
for Body Style Option 01 only
01 Servo Drive, Decentral 400 V
for Body Style Option 02 only
02 Servo Drive, Decentral 48 V

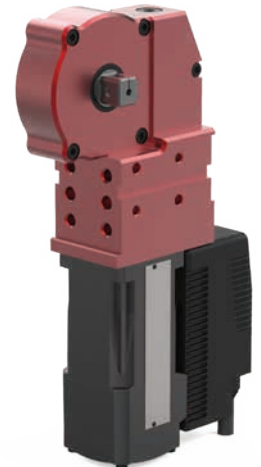
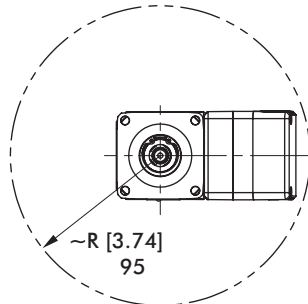
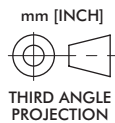


92W-123000101
Shown with U-Arm
8UM404-41-131
(order separately)

92W-103000202
Shown with U-Arm
8UM404-41-131
(order separately)



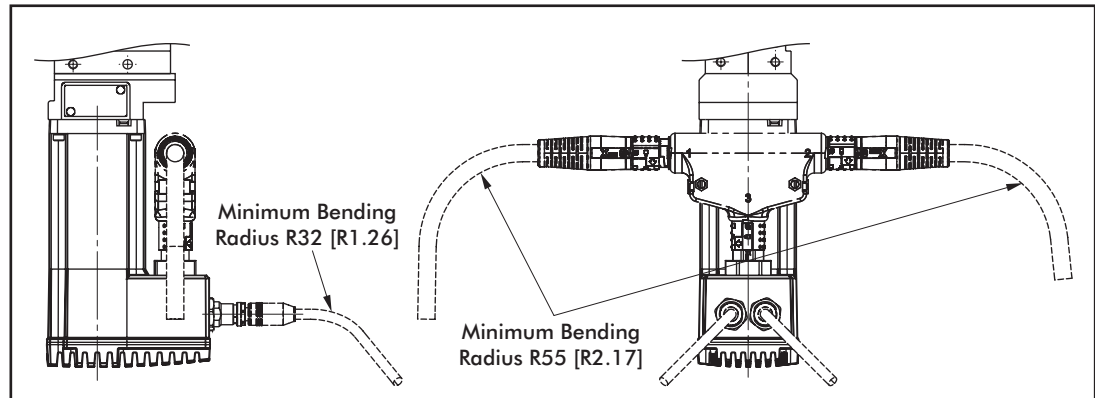
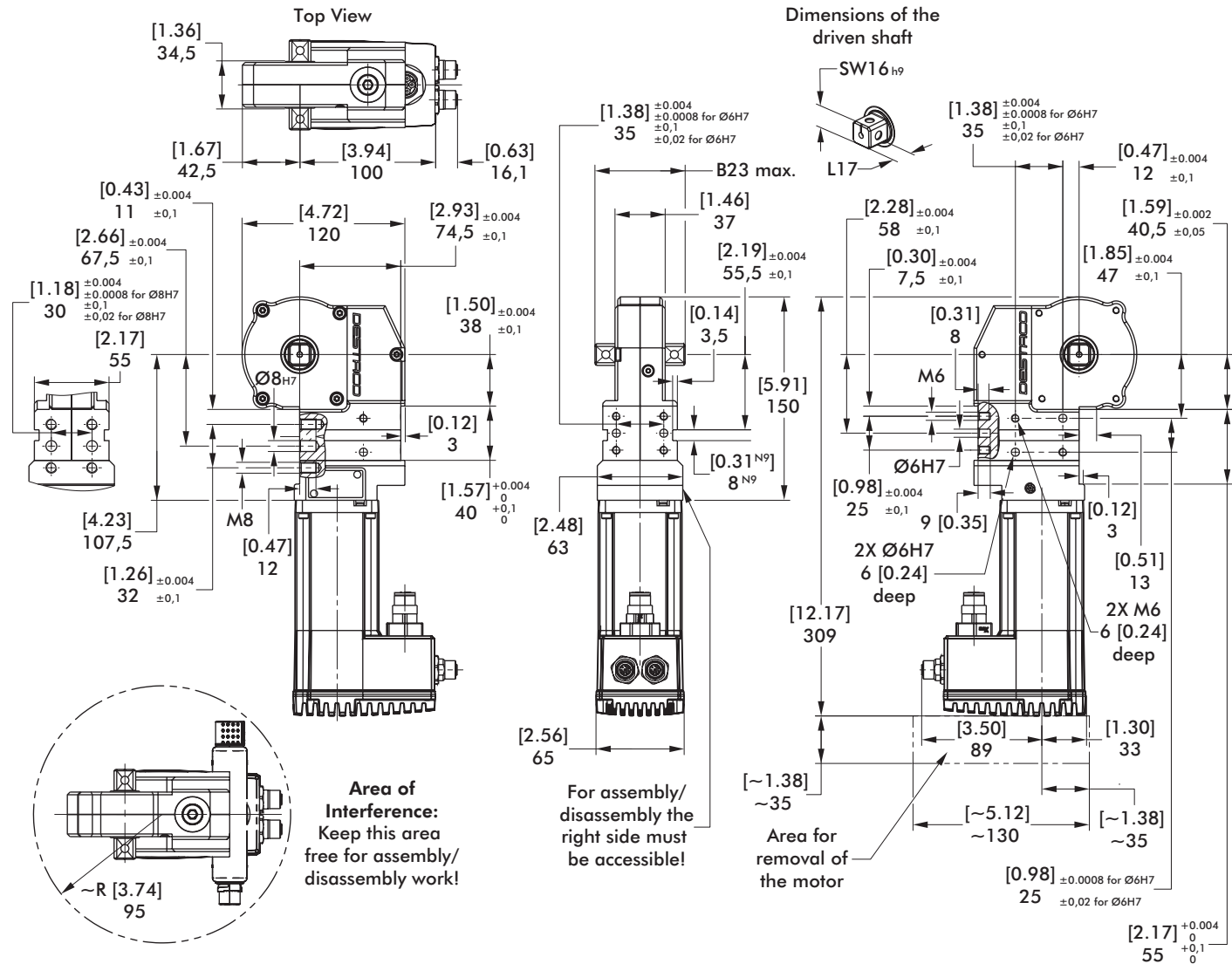
Area of Interference:
Keep this area free for
assembly/disassembly work!



Model	Max. Holding Torque Nm [ft-lb]	Max. Clamping Torque Nm [ft-lb]	Weight kg [lbs]	B23 Max.	L17
92W-103000101	[332] 450	[7.4-74] 10-100	[7.72] 3,5	54,5 [2.15]	10 [0.39]
92W-123000101				66,5 [2.62]	16 [0.63]

92W-1....0202

Enclosed Electric Power Clamps | Smart Clamp | Dimensions | Technical Specifications

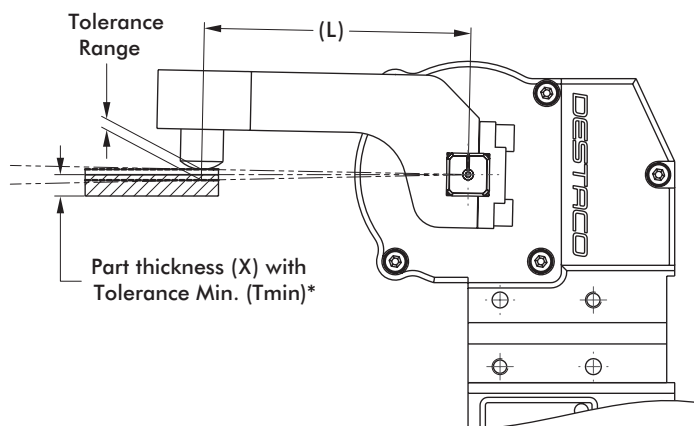


Model	Max. Holding Torque Nm [ft-lb]	Max. Clamping Torque Nm [ft-lb]	Weight kg [lbs]	B23 Max.	L17
92W-103000202	[332] 450	[7.4-89] 10-120	[7.93] 3,6	54,5 [2.15]	10 [0.39]
92W-123000202				66,5 [2.62]	16 [0.63]

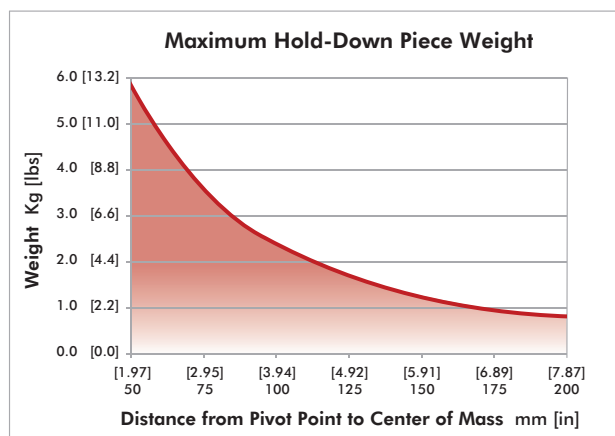
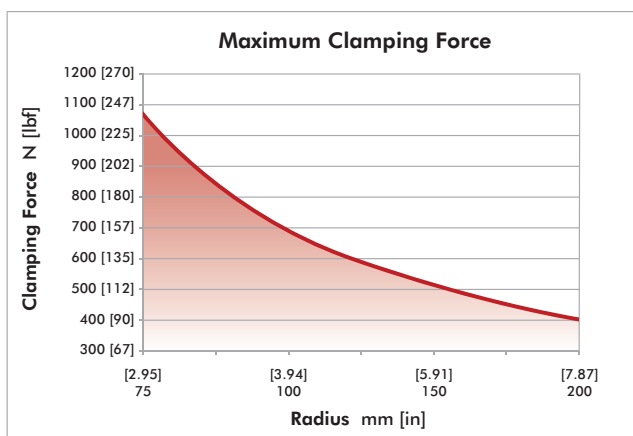
Part Present Control and Tolerance Compensation

Distance (L) [in] mm	Part Thickness (X) Min. Tolerance (Tmin)* [in] mm	Tolerance Range [in] mm
[3.94 ±0.004] 100 ±0,1	[±0.0098] ±0,25	[0.019] 0,5
[5.91 ±0.004] 150 ±0,1	[±0.0138] ±0,35	[0.027] 0,7
[7.87 ±0.004] Max. 200 ±0,1 Max.	[±0.0177] ±0,45	[0.031] 0,9

*Specification only as a guideline



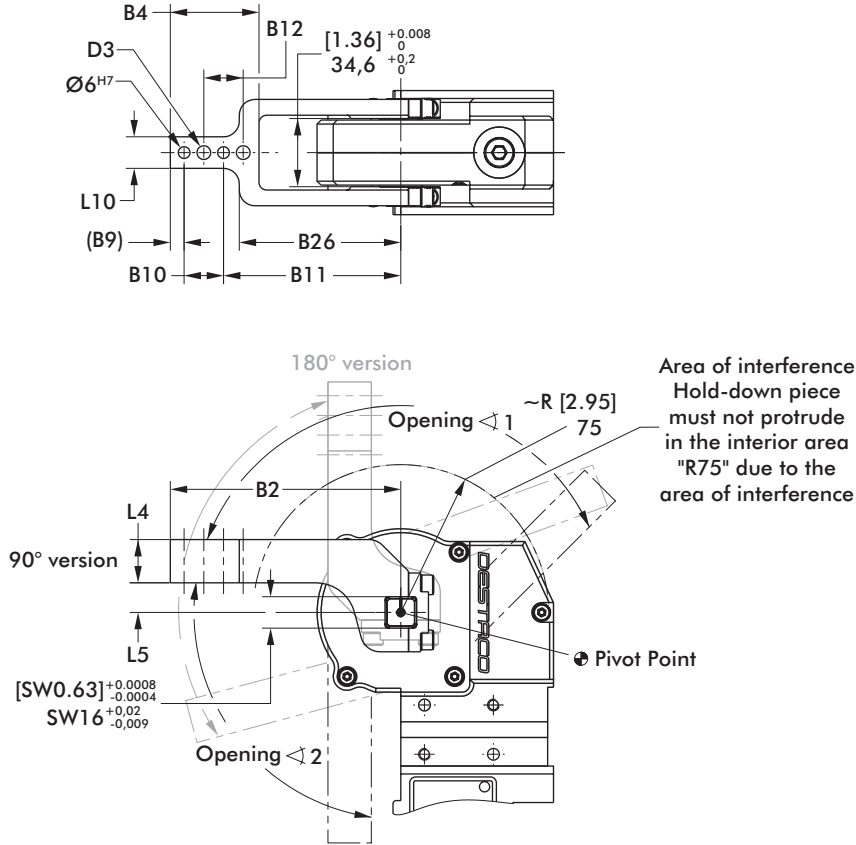
Technical Specifications



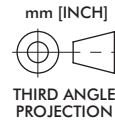
92W-1 U-ARMS CENTER (ALUMINUM)

Enclosed Electric Power Clamps | Dimensions | Technical Specifications

U-Clamp Arm, Center



8UM404-00-117
8UM404E-15-117
8UM404E-15-144
8UM404E-25-117
8UM404E-45-107
8UM404-41-131



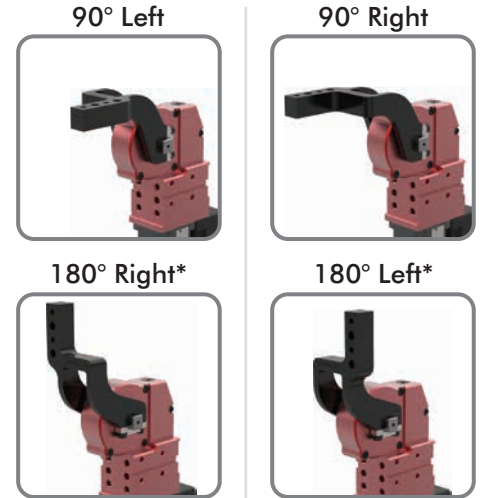
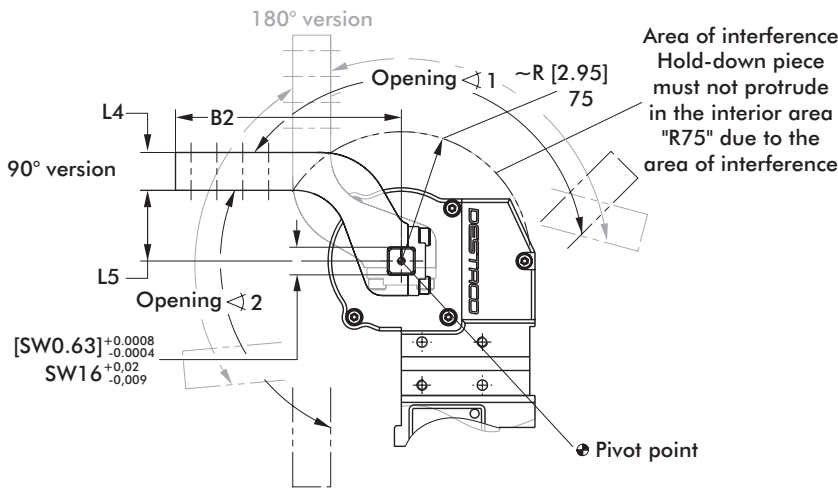
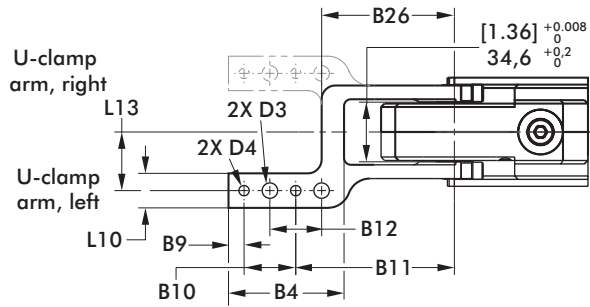
Arm Model No.	Max. Opening Angle for 90° Version		Max. Opening Angle for 180° Version		Weight kg [lbs]	B2	B4	B9	B10	B11	B12	B26	D3	L4	L5	L10
	$\angle 1$	$\angle 2$	$\angle 1$	$\angle 2$					$\begin{smallmatrix} [\pm 0.0008] \\ \pm 0,02 \end{smallmatrix}$	$\begin{smallmatrix} [\pm 0.004] \\ \pm 0,1 \end{smallmatrix}$	$\begin{smallmatrix} [\pm 0.008] \\ \pm 0,2 \end{smallmatrix}$			$\begin{smallmatrix} [\pm 0.004] \\ \pm 0,1 \end{smallmatrix}$		
8UM404-00-117	135°	85°	55°	140°	[0.49] 0,22	[4.61] 117	[1.77] 45	[0.28] 7	[0.79] 20	[3.54] 90	[0.79] 20		[0.28] 7	[0.87] 22	0	[0.63] 16
8UM404E-15-117		90°	70°	105°	[0.51] 0,23	[5.67] 144	[2.83] 72	[0.35] 9	[1.18] 30	[4.13] 105	[1.18] 30	[3.23] 82	[0.35] 9	[1.10] 28	[0.59] 15	[0.79] 20
8UM404E-15-144			90°	100°	[0.73] 0,33	[4.61] 117	[1.77] 45	[0.28] 7	[0.79] 20	[3.54] 90	[0.79] 20		[0.28] 7		[0.98] 25	[0.63] 16
8UM404E-25-117			110°	95°	[0.53] 0,24	[4.21] 107				[3.15] 80	[2.83] 72		[0.87] 22	[1.77] 45		
8UM404E-45-107		130°	105°		[0.64] 0,29	[5.16] 131	[2.64] 67	[0.35] 9	[1.18] 30	[3.62] 92	[1.18] 30	[3.03] 77	[0.35] 9		[1.61] 41	[0.79] 20
8UM404-41-131	135°															

Dimensions = [in] mm

92W-1 U-ARMS OFFSET (ALUMINUM)

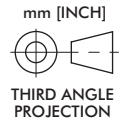
Enclosed Electric Power Clamps | Dimensions | Technical Specifications

U-Clamp Arm, Offset



8UL404-00-117 8UR404-00-117
 8UL404E-15-117 8UR404E-15-117
 8UL404E-25-117 8UR404E-25-117
 8UL404E-45-107 8UR404E-45-107
 8UL404E-15-144 8UR404E-15-144
 8UL404-41-131 8UR404-41-131

*90° left/180° right uses same clamp arm.
 90° right/180° left uses same clamp arm.



THIRD ANGLE
PROJECTION

Arm Model No. Left 90° / Right 180°	Arm Model No. Right 90° / Left 180°	Max. Opening Angle for 90° Version		Max. Opening Angle for 180° Version		Weight kg [lbs]
		< 1	< 2	< 1	< 2	
8UL404-00-117	8UR404-00-117	135°	85°	55°	140°	0,22 [0.49]
8UL404E-15-117	8UR404E-15-117		90°	70°	105°	0,23 [0.51]
8UL404E-25-117	8UR404E-25-117			90°	100°	0,24 [0.53]
8UL404E-45-107	8UR404E-45-107			110°	95°	
8UL404E-15-144	8UR404E-15-144			70°	105°	0,35 [0.77]
8UL404-41-131	8UR404-41-131			105°	95°	0,30 [0.66]

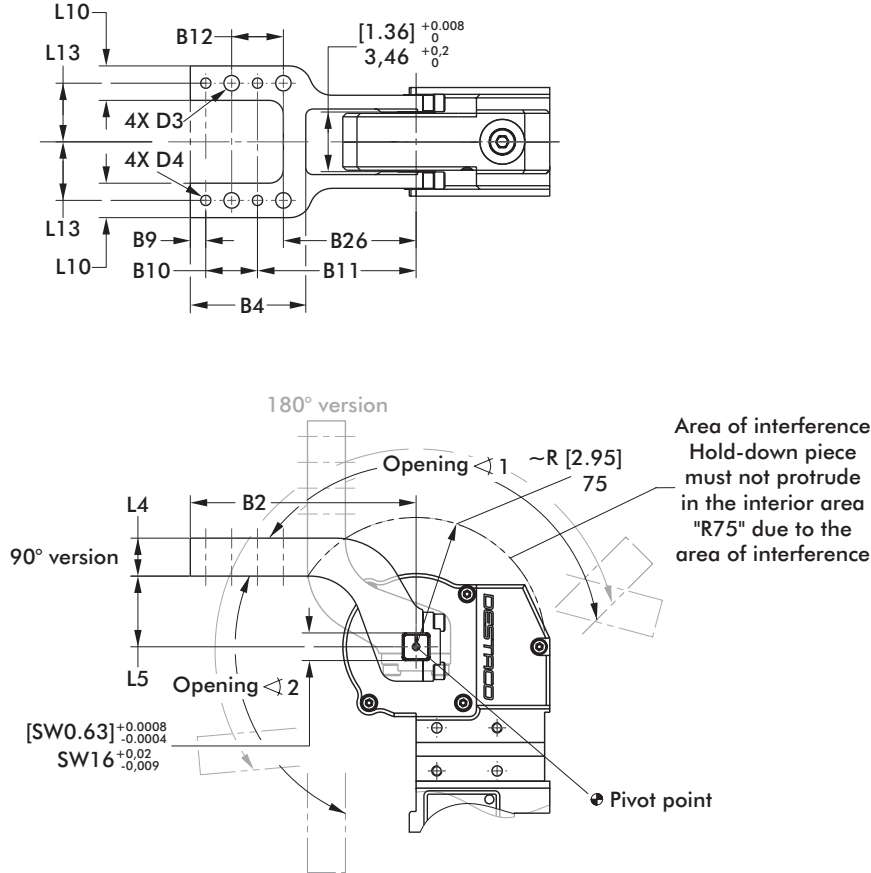
Arm Model No. Left 90° / Right 180°	Arm Model No. Right 90° / Left 180°	B2	B4	B9	B10	B11	B12	B26	L4	L5	Ø D3	Ø D4	L10	L13
					[±0.0008] ±0,02	[±0.004] ±0,1	[±0.008] ±0,2		[±0.004] ±0,1			H7		[±0.004] ±0,1
8UL404-00-117	8UR404-00-117									0				
8UL404E-15-117	8UR404E-15-117	[4.61] 117	[1.77] 45	[0.28] 7	[0.79] 20	[3.54] 90	[0.79] 20	[3.23] 82	[0.87] 22	[0.59] 15	[0.28] 7		[0.63] 16	[0.91] 23
8UL404E-25-117	8UR404E-25-117									[0.98] 25				
8UL404E-45-107	8UR404E-45-107	[4.21] 107				[3.15] 80		[2.83] 72		[1.77] 45		[0.24] 6		
8UL404E-15-144	8UR404E-15-144	[5.67] 144	[2.83] 72	[0.35] 9	[1.18] 30	[4.13] 105	[1.18] 30	[3.23] 82	[1.10] 28	[0.59] 15	[0.35] 9		[0.79] 20	[1.46] 37
8UL404-41-131	8UR404-41-131	[5.16] 131	[2.64] 67			[3.62] 92		[3.03] 77	[0.87] 22	[1.61] 41				[1.34] 34

Dimensions = [in] mm

92W-1 H-ARMS (ALUMINUM)

Enclosed Electric Power Clamps | Dimensions | Technical Specifications

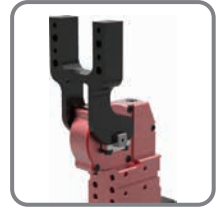
H-Clamp Arms



90°



180°

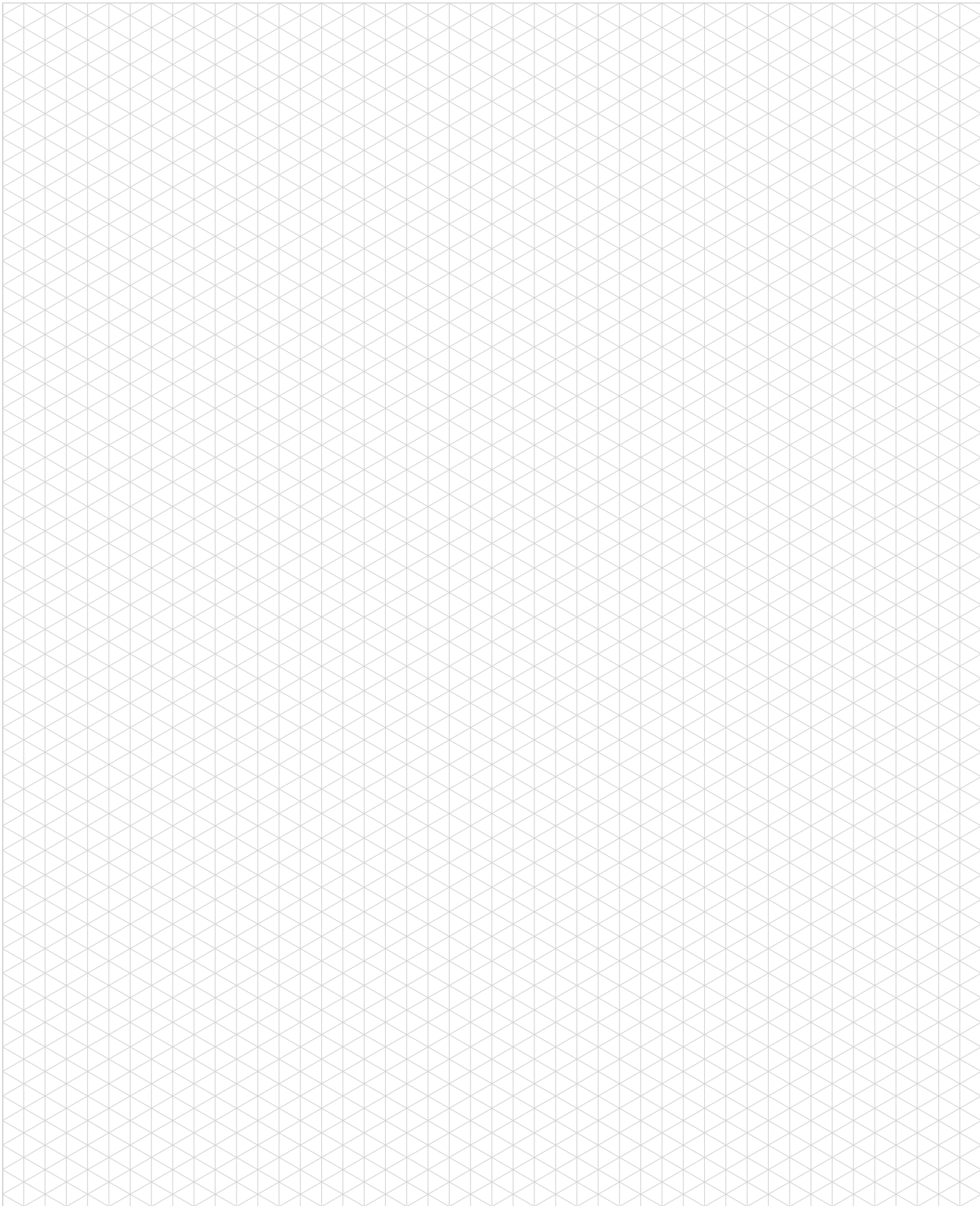


8UH404E-15-117
8UH404E-15-144
8UH404-41-131

Arm Model No.	Max. Opening Angle for 90° Version		Max. Opening Angle for 180° Version		Weight kg [lbs]
	<1	<2	<1	<2	
8UH404E-15-117					[0.57] 0,26
8UH404E-15-144	135°	90°	70°	105°	[1.01] 0,46
8UH404-41-131			105°	95°	[0.82] 0,37

Arm Model No.	B2	B4	B9	B10	B11	B12	B26	L4	L5	D3	D4	L10	L13
				±0.0008 ±0,02	±0.004 ±0,1	±0.008 ±0,2		±0.004 ±0,1			H7		±0.004 ±0,1
8UH404E-15-117	[4.61] 117	[1.77] 45	[0.28] 7	[0.79] 20	[3.54] 90	[0.79] 20	[3.23] 82	[0.87] 22	[0.59] 15	[0.28] 7		[0.63] 16	[0.91] 23
8UH404E-15-144	[5.67] 144	[2.83] 72	[0.35] 9	[1.18] 30	[4.13] 105	[1.18] 30	[3.03] 77	[1.10] 28		[0.35] 9	[0.24] 6	[0.79] 20	[1.46] 37
8UH404-41-131	[5.16] 131	[2.64] 67			[3.62] 92			[0.87] 22	[1.61] 41				[1.34] 34

Dimensions = [in] mm



95W-1

Electric Smart Guides/Lifters | How to Order

95W-1

01

02

10

60

Motor Connection	Description
00	Straight, without Drive
01	Straight, Rear Connections
02	Straight, Connections on Right
03	Straight, Connections on Left
10	Redirected, without Drive
11	Redirected, Rear Connections
12	Redirected, Connections on Right
13	Redirected, Connections on Left

Motor	Description
01	Servo Drive, Decentral 400 V
02	Servo Drive, Decentral 48 V

Stroke	Description
60	0-60 mm Stroke, Standard

Mounting Plate	Description
10	Mounting Plate, Standard

00

01

02

03

10

11

12

13

01

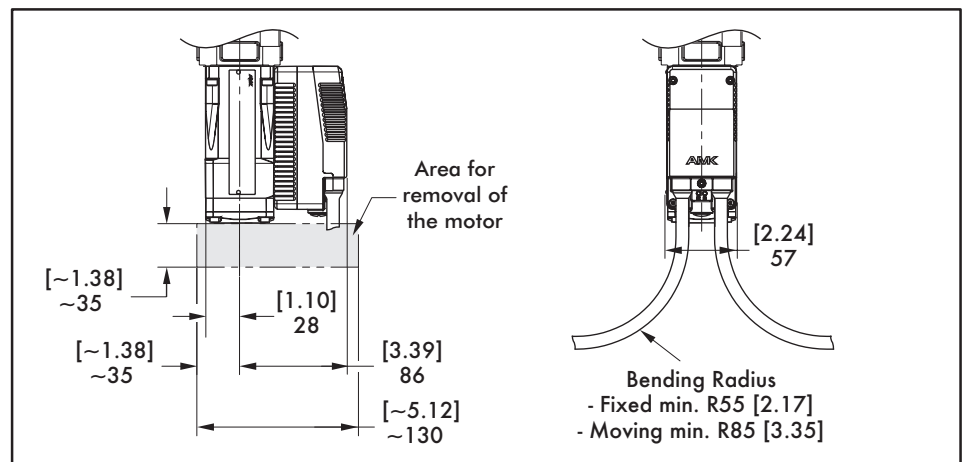
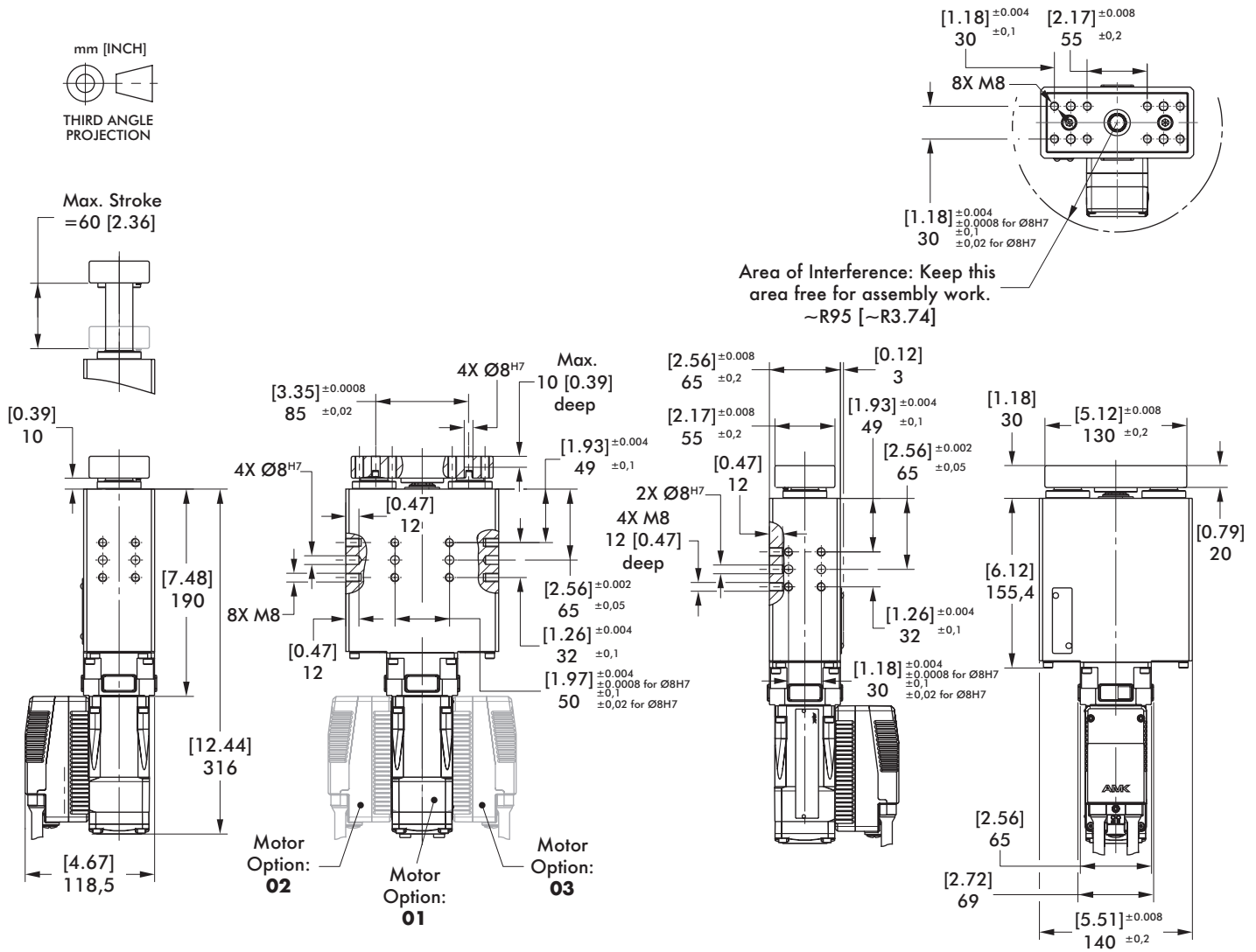
02

60

10

95W-111021060

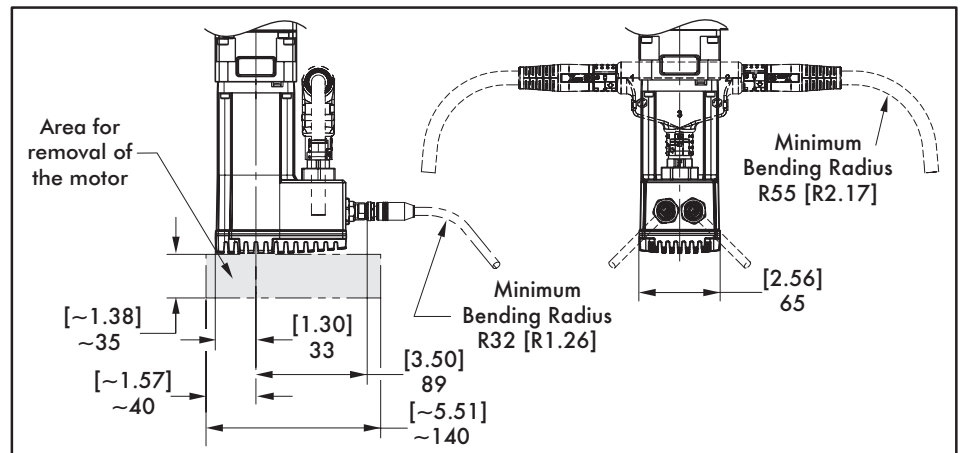
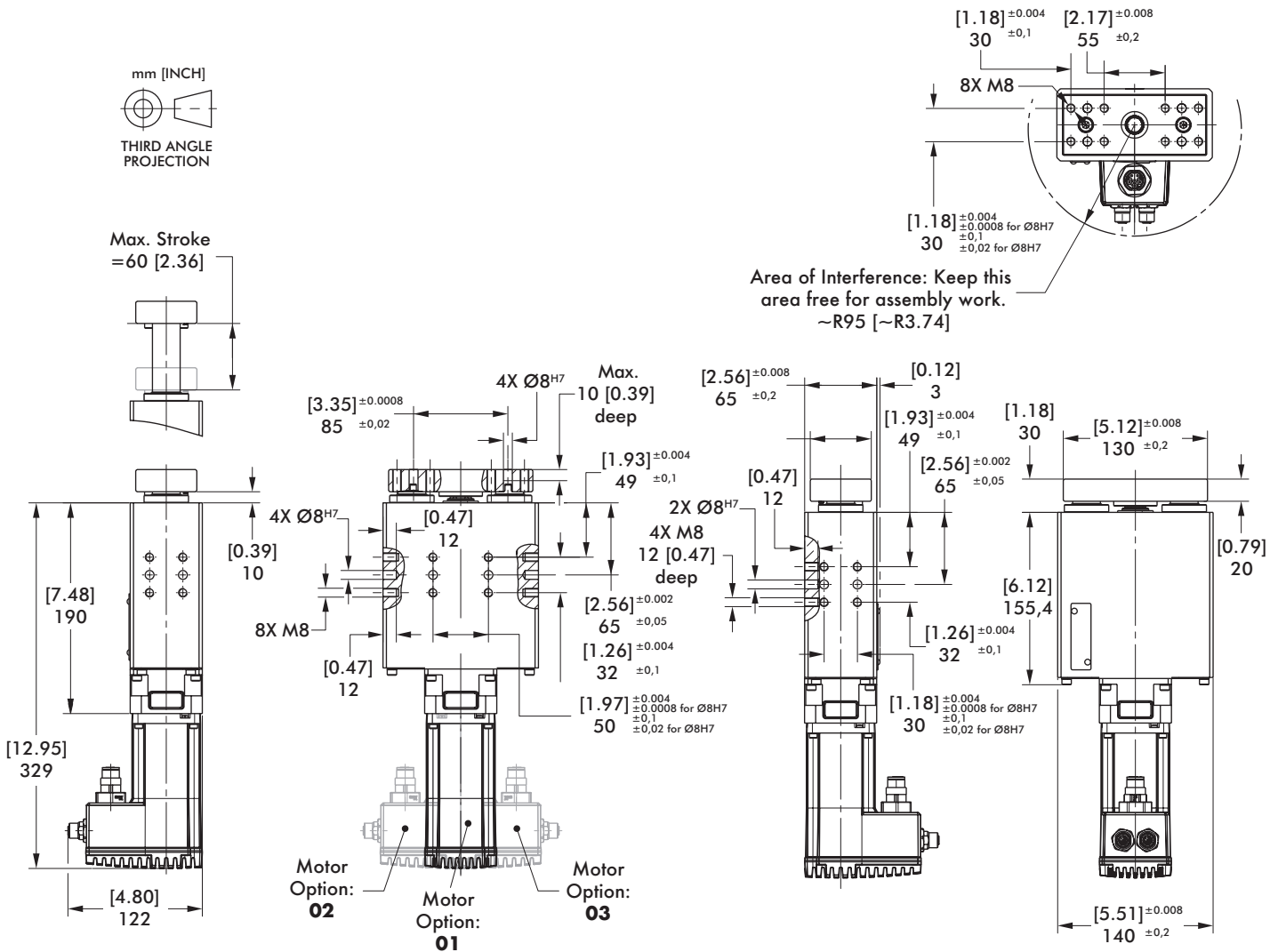
95W-101011060



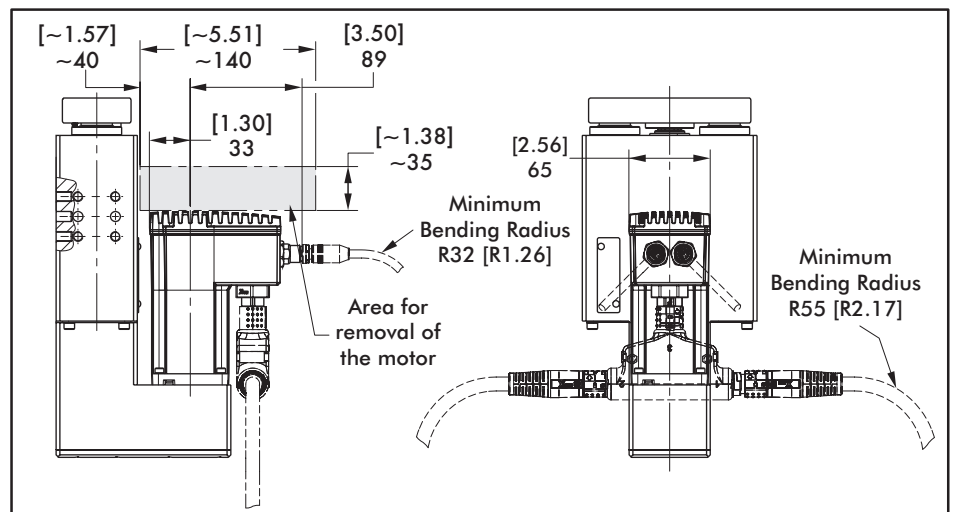
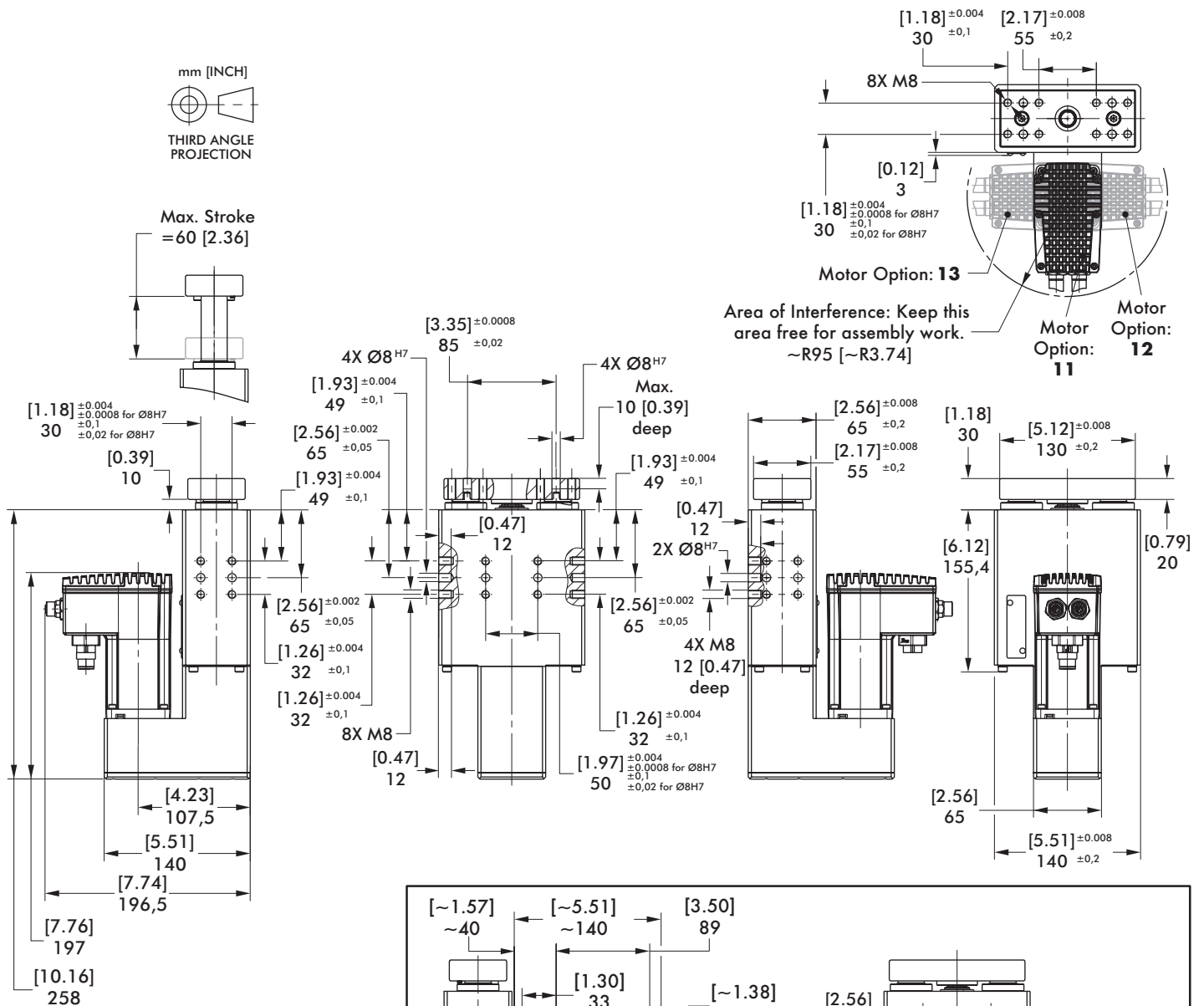
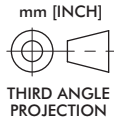
Base Model	Stroke mm [in]	Lifting Force N [lbf]	Holding Force N [lbf]	Speed Max. mm/s [in/s]	Weight Kg [lbs]
95W-10.011060	[0-2.36] 0-60	[225] 1000	[225] 1000	[2.36] 60	[16.31] 7,4

95W-10.021060

Electric Smart Guides/Lifters | Dimensions | Technical Specifications



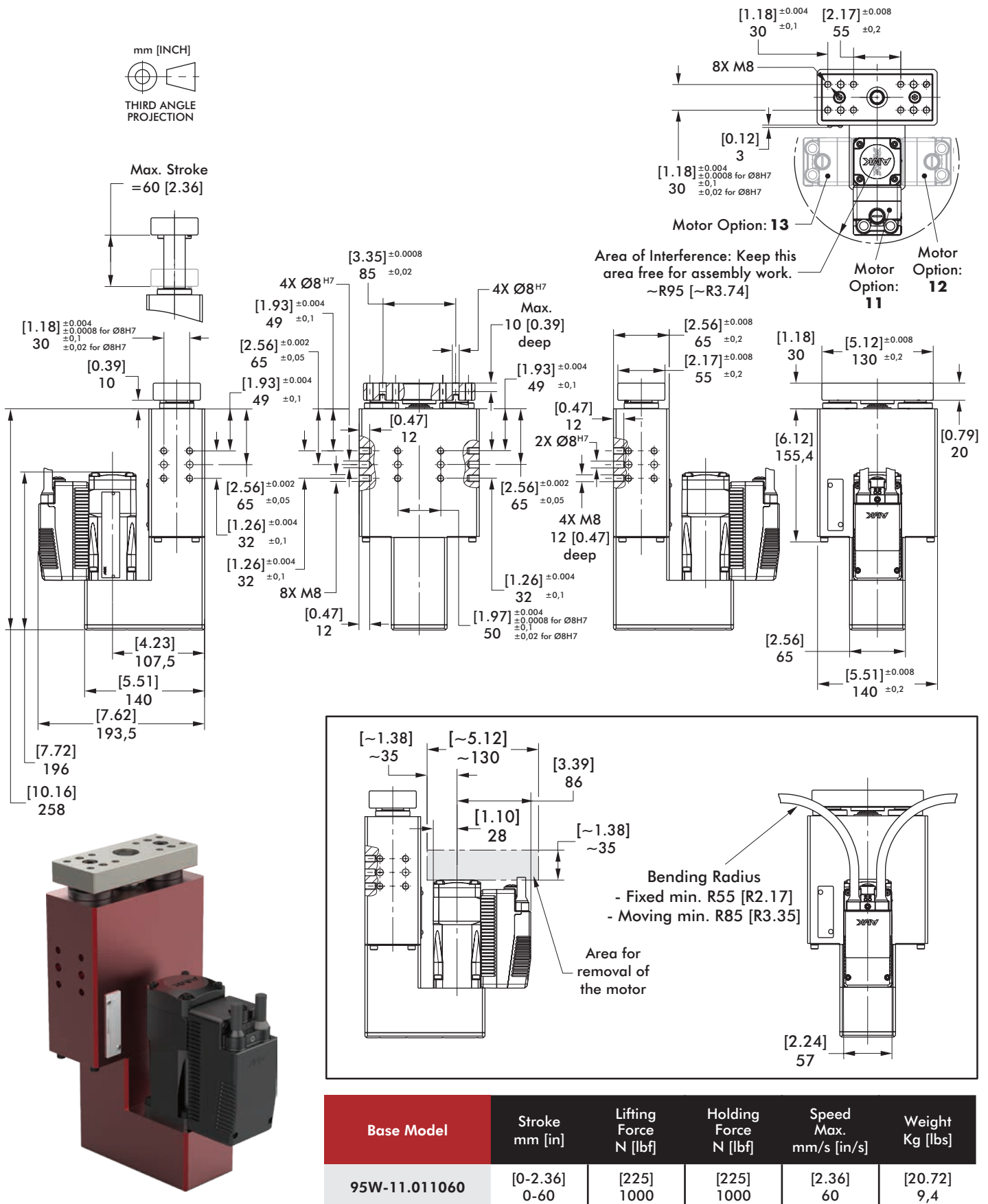
Base Model	Stroke mm [in]	Lifting Force N [lbf]	Holding Force N [lbf]	Speed Max. mm/s [in/s]	Weight Kg [lbs]
95W-10.021060	[0-2.36] 0-60	[225] 1000	[225] 1000	[2.36] 60	[16.09] 7,3

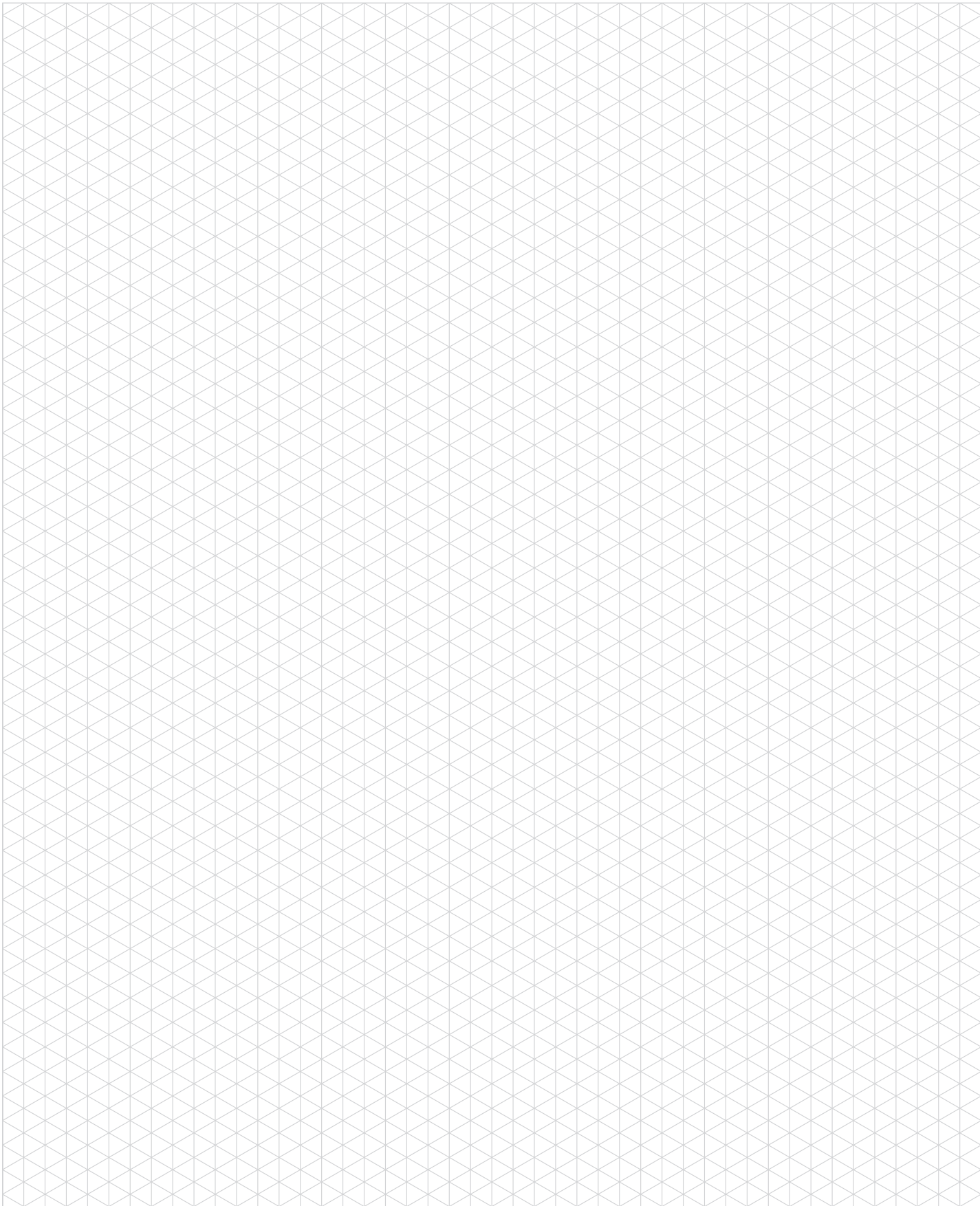


Base Model	Stroke mm [in]	Lifting Force N [lbf]	Holding Force N [lbf]	Speed Max. mm/s [in/s]	Weight Kg [lbs]
95W-11.021060	[0-2.36] 0-60	[225] 1000	[225] 1000	[2.36] 60	[19.62] 8,9

95W-11.011060

Electric Smart Guides/Lifters | Dimensions | Technical Specifications





96W-1

Electric Pin Package | Smart Pin Package | How to Order

96W-1

01

02

A4

60

Motor Connection	Description
00	Straight, without Drive
01	Straight, Rear Connections
02	Straight, Connections on Right
03	Straight, Connections on Left
10	Redirected, without Drive
11	Redirected, Rear Connections
12	Redirected, Connections on Right
13	Redirected, Connections on Left

Motor	Description
01	Servo Drive, Decentral 400 V
02	Servo Drive, Decentral 48 V

Stroke	Description
40*	0-40 mm Stroke
60	0-60 mm Stroke

*Straight motor option only.

00

01

02

03

10

11

12

13

01

02

40

60

Piston Rod	Description
02*	Ø16 mm Cross Groove (*with M6 Threaded Inside Hole for Redirected Motor Connections 10, 11, 12, 13 see page 20)
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

02

04

A4

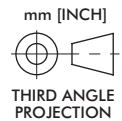
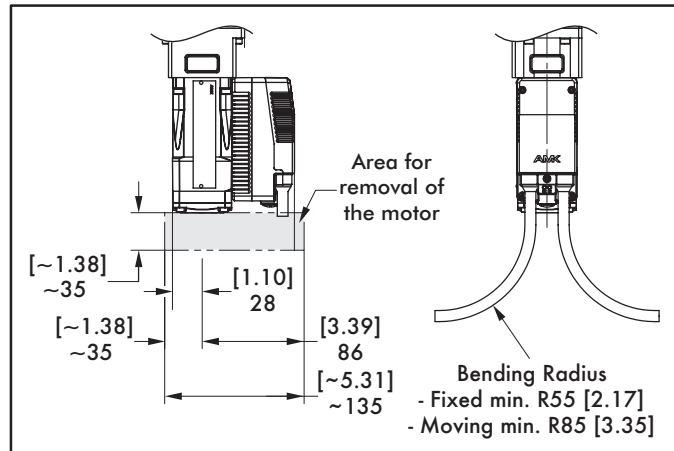
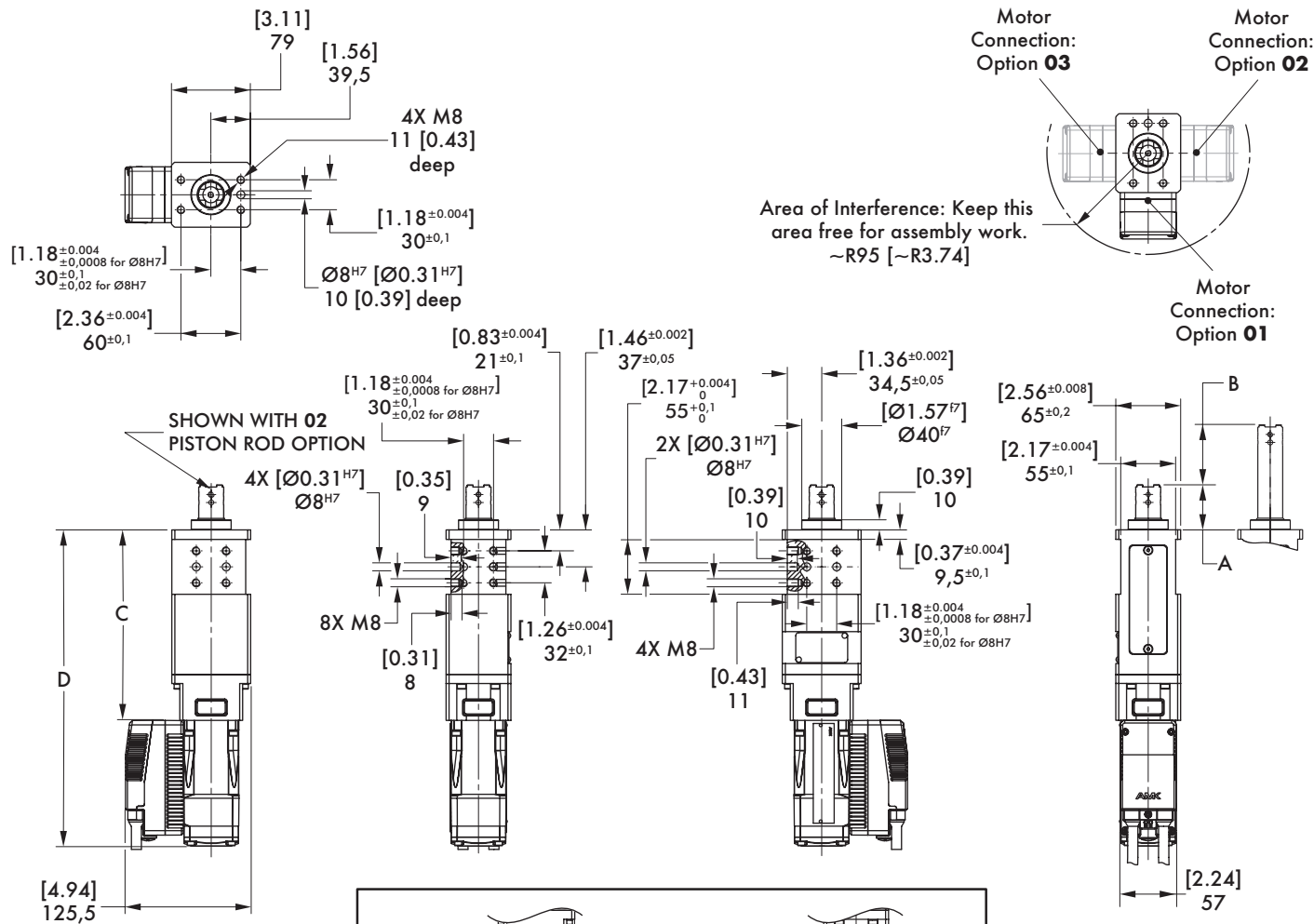
B4

C4

05

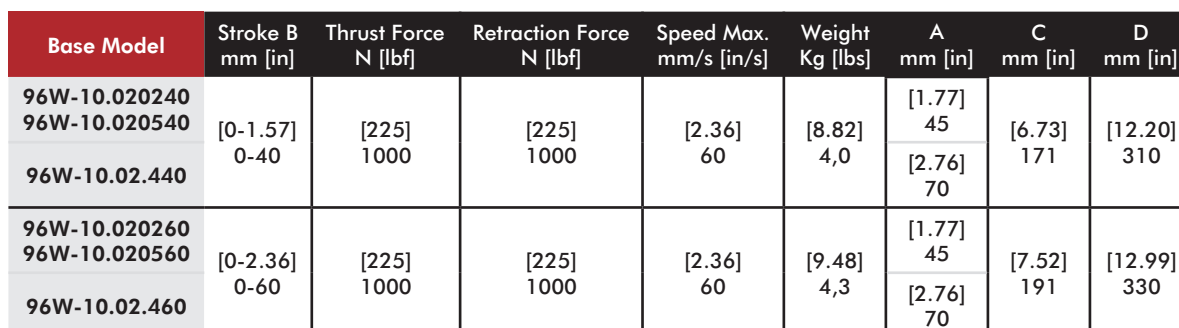
96W-111010260

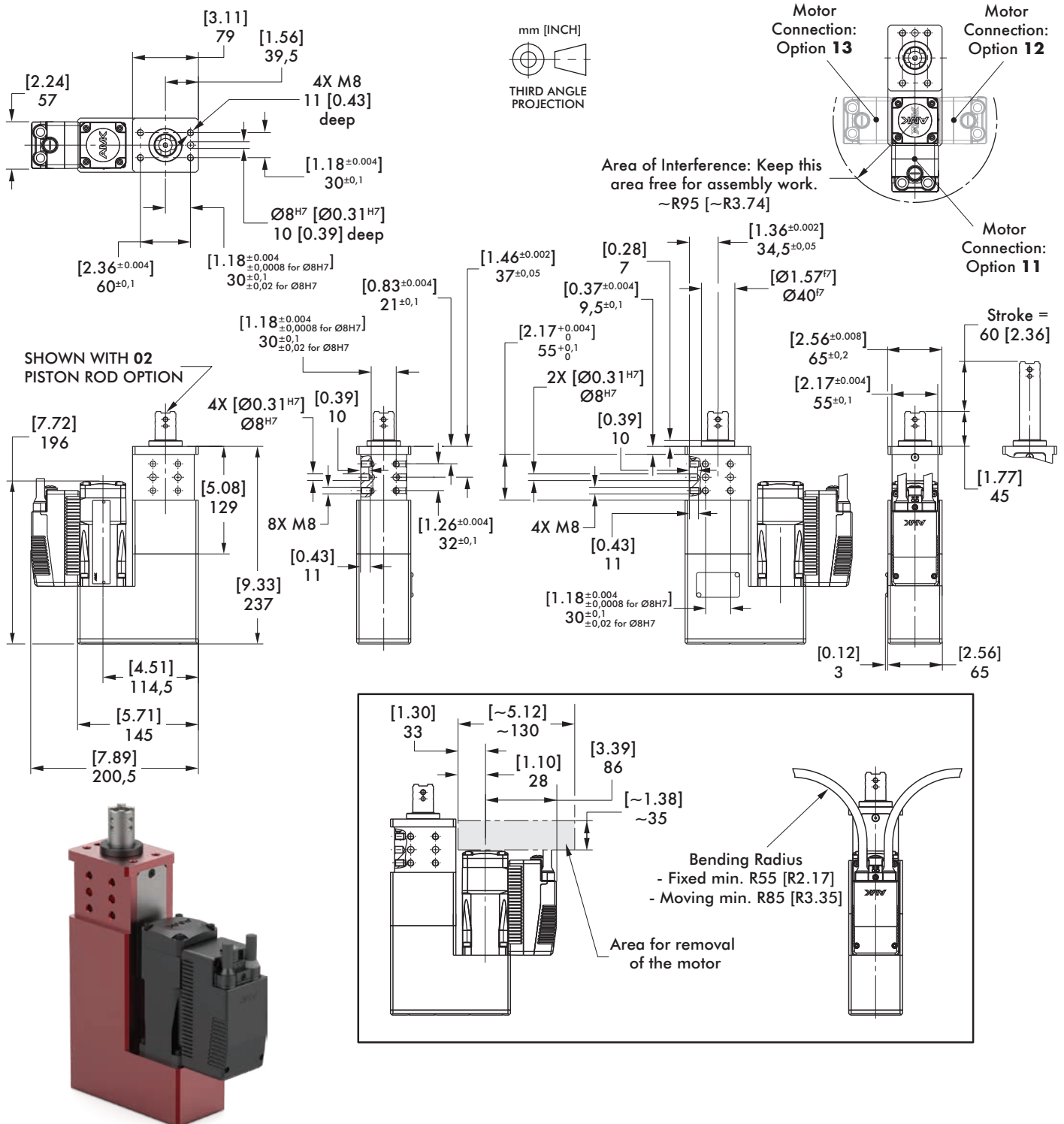
96W-10102A460



Base Model	Stroke B mm [in]	Thrust Force N [lbf]	Retraction Force N [lbf]	Speed Max. mm/s [in/s]	Weight Kg [lbs]	A mm [in]	C mm [in]	D mm [in]
96W-10.010240 96W-10.010540	[0-1.57] 0-40	[225] 1000	[225] 1000	[2.36] 60	[9.48] 4,3	[1.77] 45	[6.73] 171	[11.69] 297
96W-10.01.440						[2.76] 70		
96W-10.010260 96W-10.010560	[0-2.36] 0-60	[225] 1000	[225] 1000	[2.36] 60	[10.14] 4,6	[1.77] 45	[7.52] 191	[12.48] 317
96W-10.01.460						[2.76] 70		

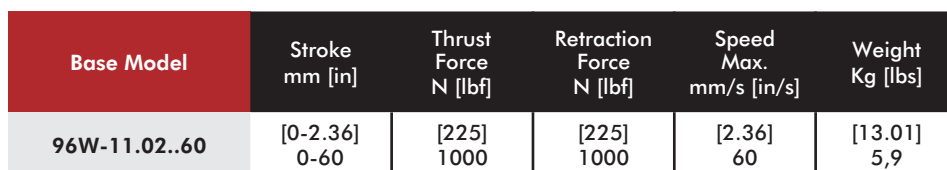
Electric Pin Package | Smart Pin Package | Dimensions | Technical Specifications





Base Model	Stroke mm [in]	Thrust Force N [lbf]	Retraction Force N [lbf]	Speed Max. mm/s [in/s]	Weight Kg [lbs]
96W-11.01..60	[0-2.36] 0-60	[225] 1000	[225] 1000	[2.36] 60	[14,33] 6,5

Electric Pin Package | Smart Pin Package | Dimensions | Technical Specifications

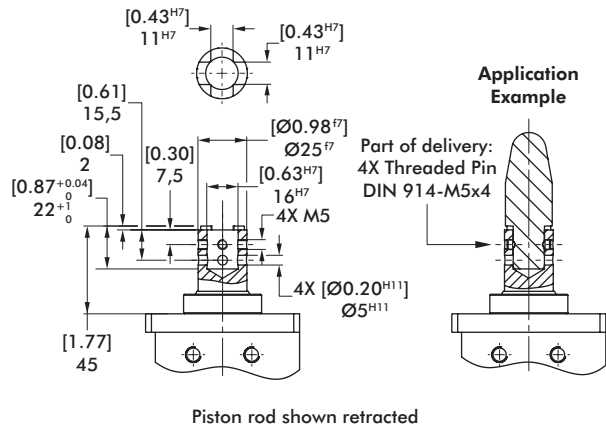


96W-1 PISTON RODS

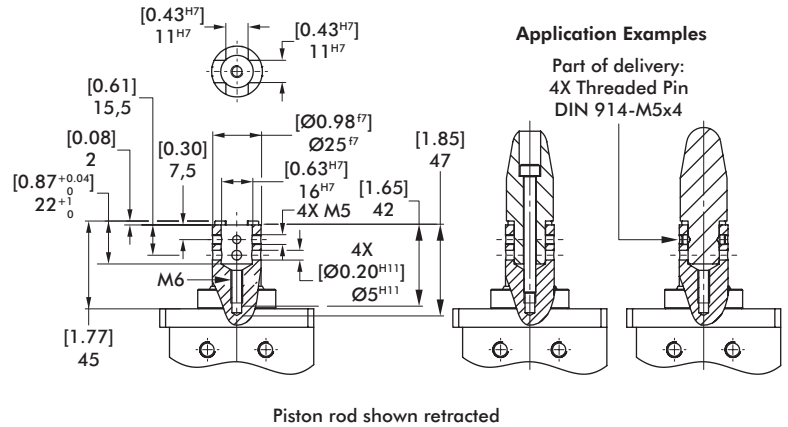
Electric Pin Package | Smart Pin Package | Dimensions

02 Ø16 mm, Cross Groove

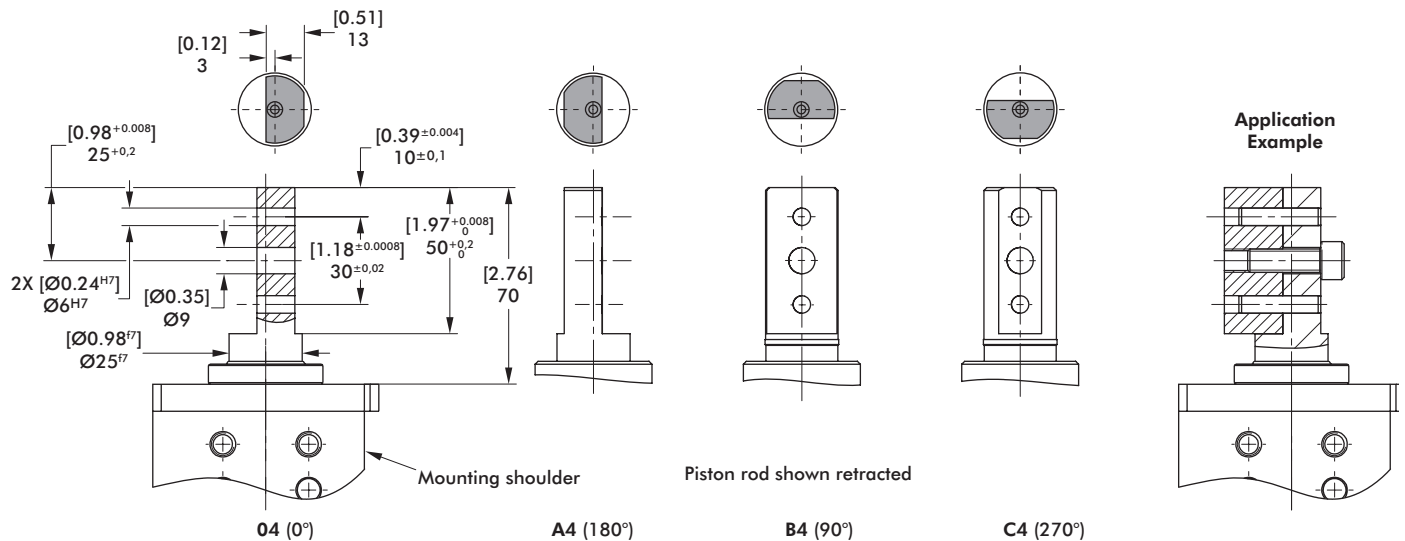
for Straight Motor Option 00, 01, 02 or 03 only



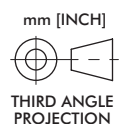
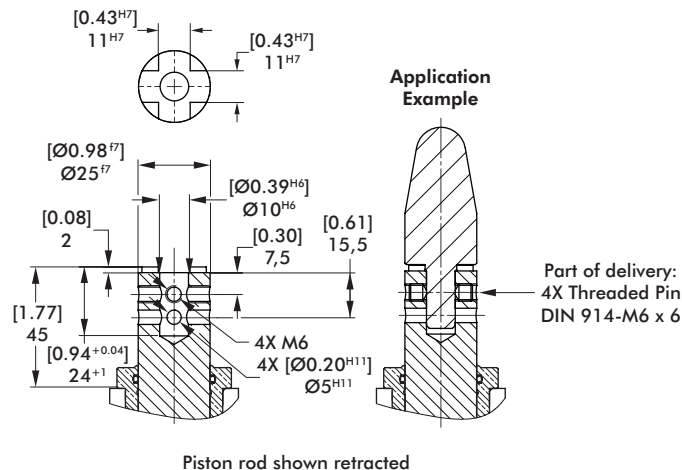
with M6 Threaded Inside Hole for Redirected Motor Option 10, 11, 12 or 13 only



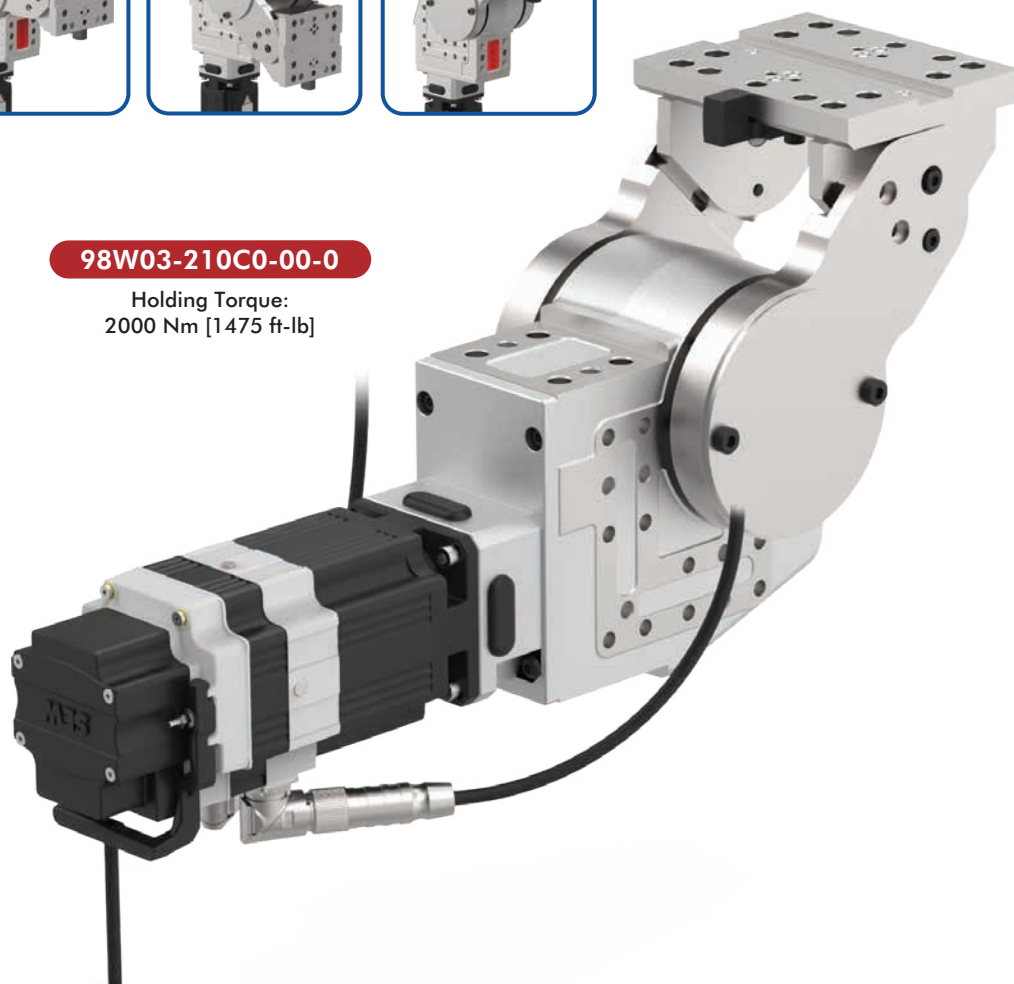
04, A4, B4, C4 NAAMS Standard



05 Ø10 mm Inside Hole, Cross Groove



Electric Pivot Unit | Ordering Information



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



98W03

Ø100

Ø125

Ø160

Ø200

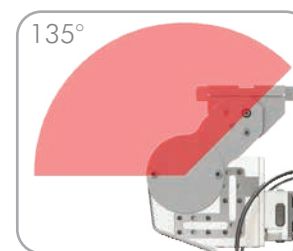
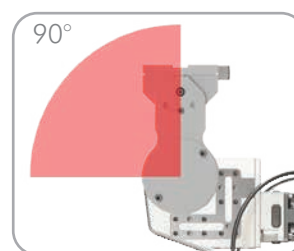
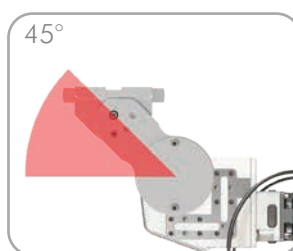
Electric Pivot Unit

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°.

With out the saddle arm, the pivot unit can be used as a rotate with 360° rotation.

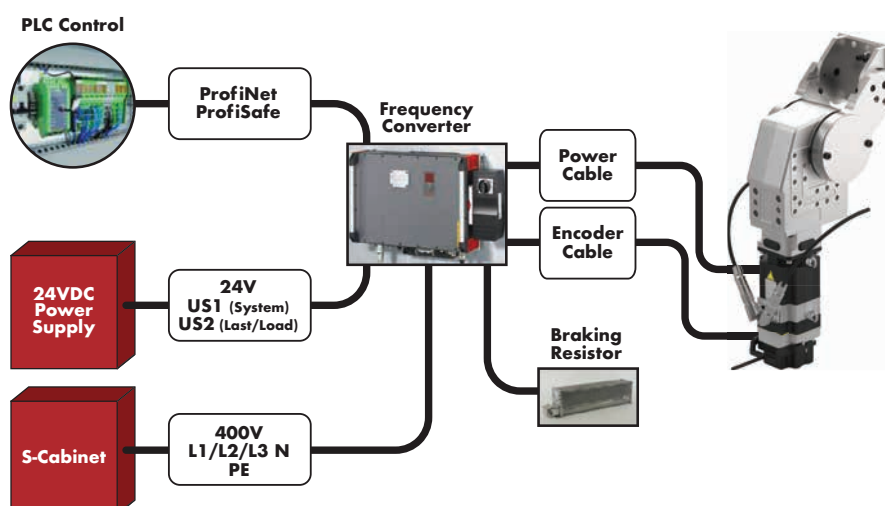


Application Example

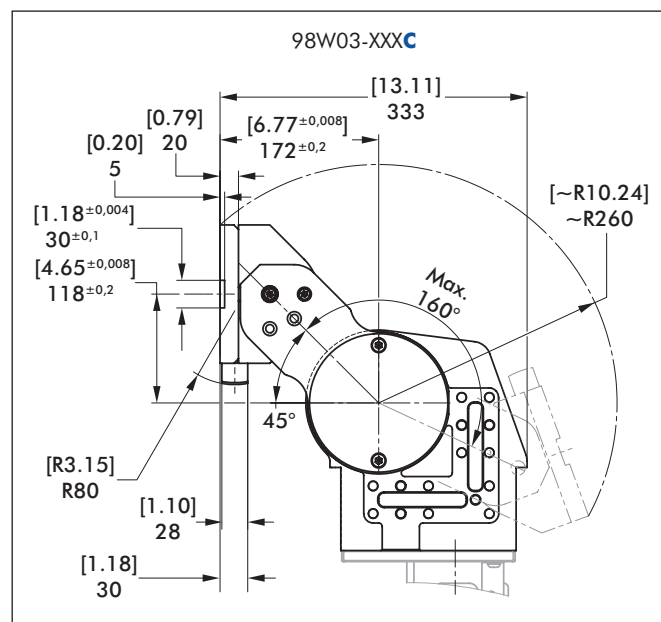
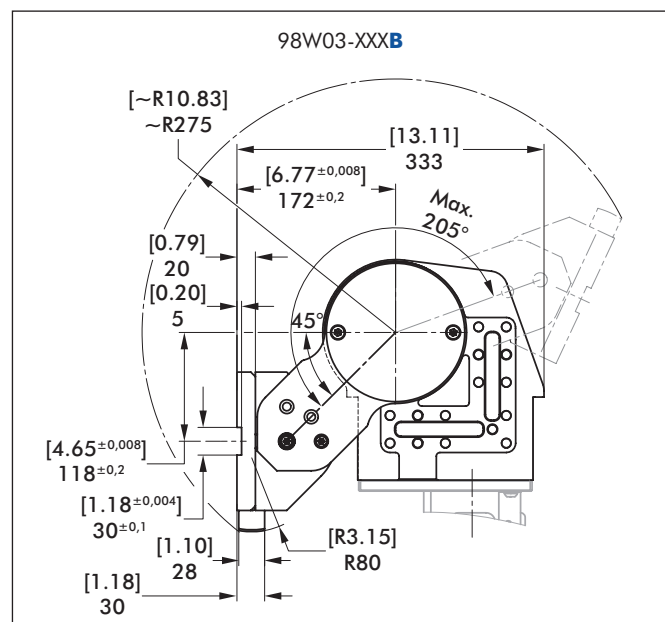
98W Series shown with a holding fixture mounted to the saddle mount.



Operating Principle



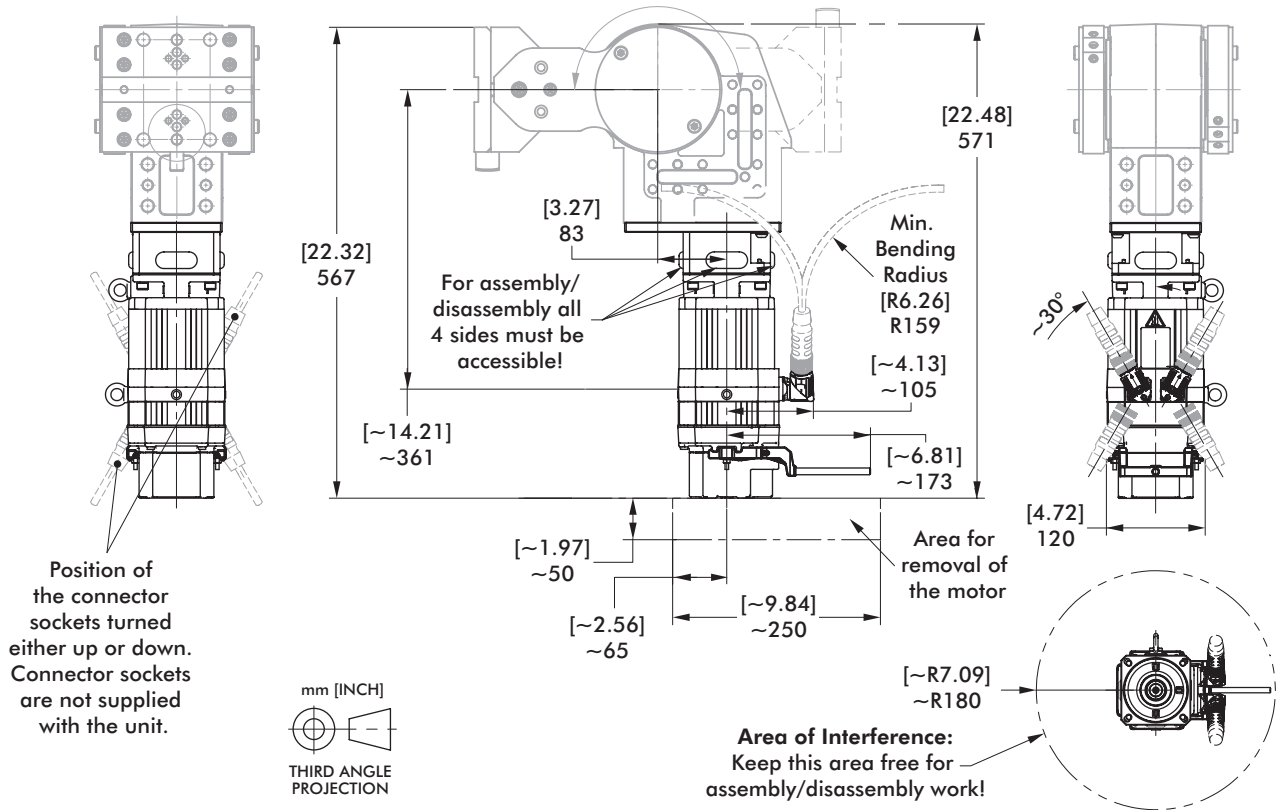
Electric Pivot Unit | Basic Unit Dimensions



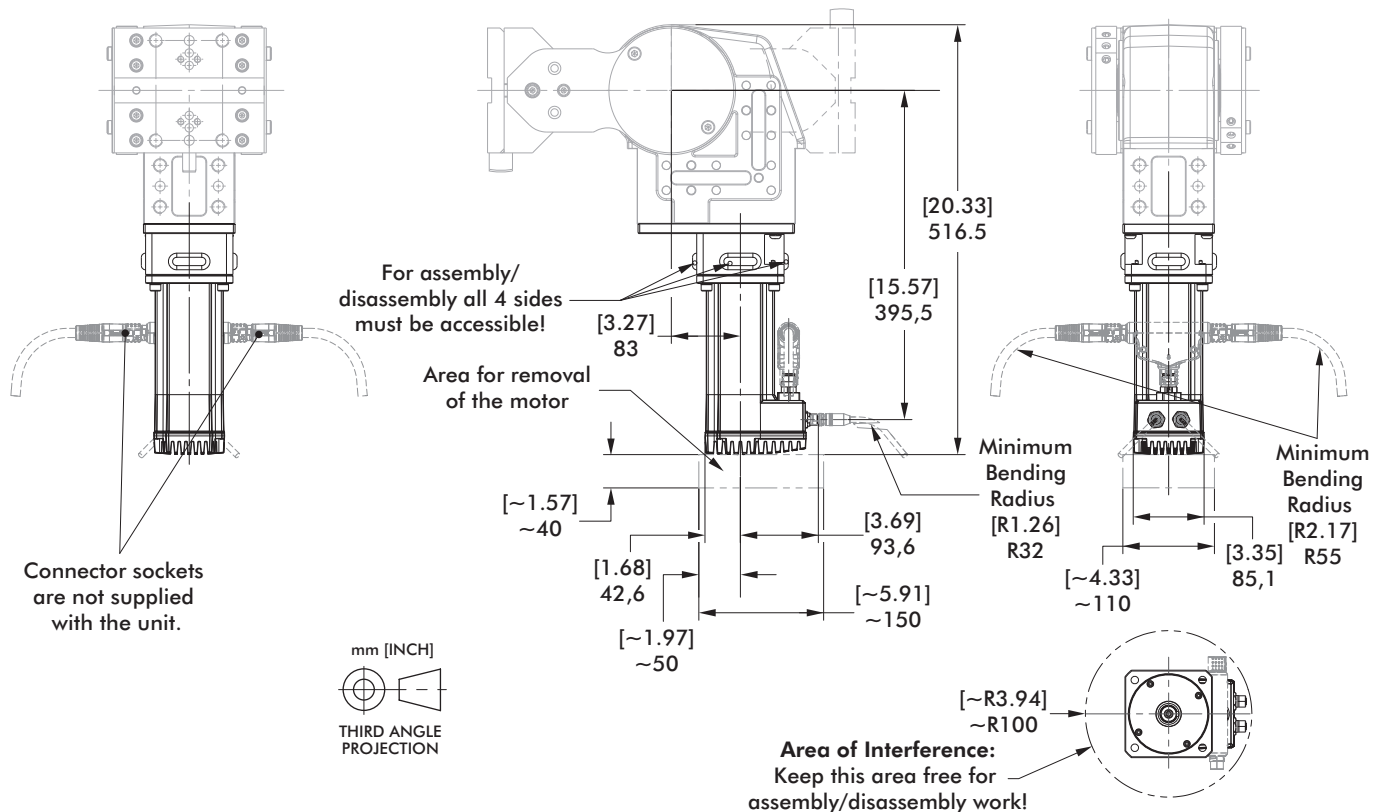
98W03-XXX MOTOR OPTIONS

Electric Pivot Unit | Motor Dimensions

98W03-210 SEW 400 V for MOVIPRO



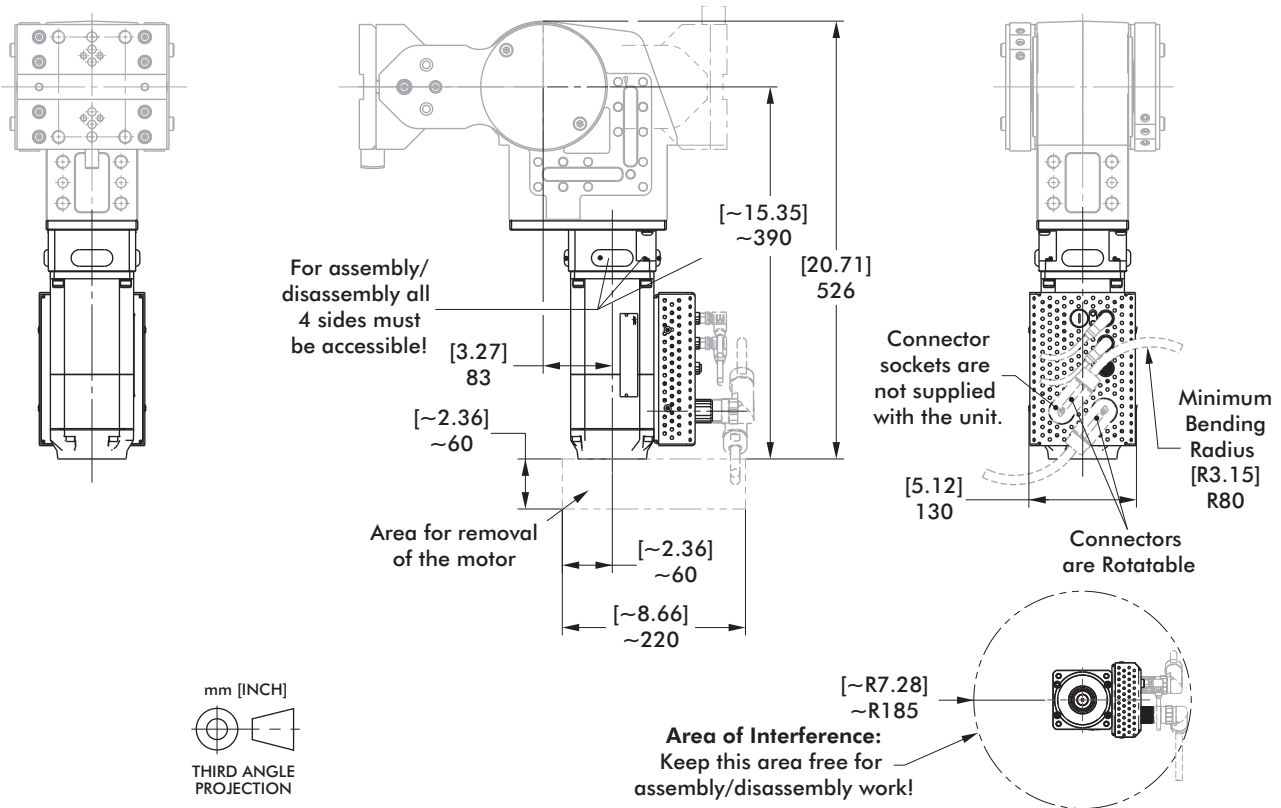
98W03-220 HEIDRIVE Servo Drive, Decentral 48 V



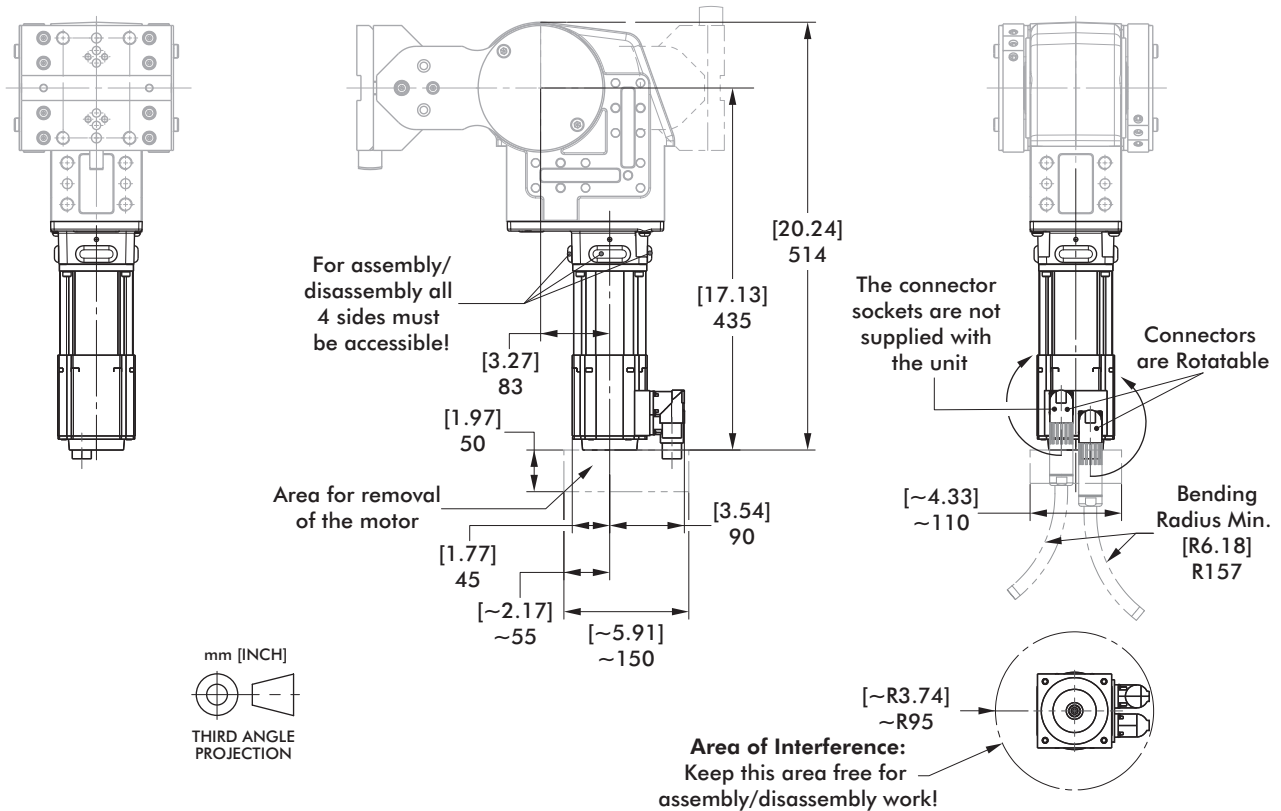
98W03-XXX MOTOR OPTIONS

Electric Pivot Unit | Motor Dimensions

98W03-260 AMK Decentral 400 V



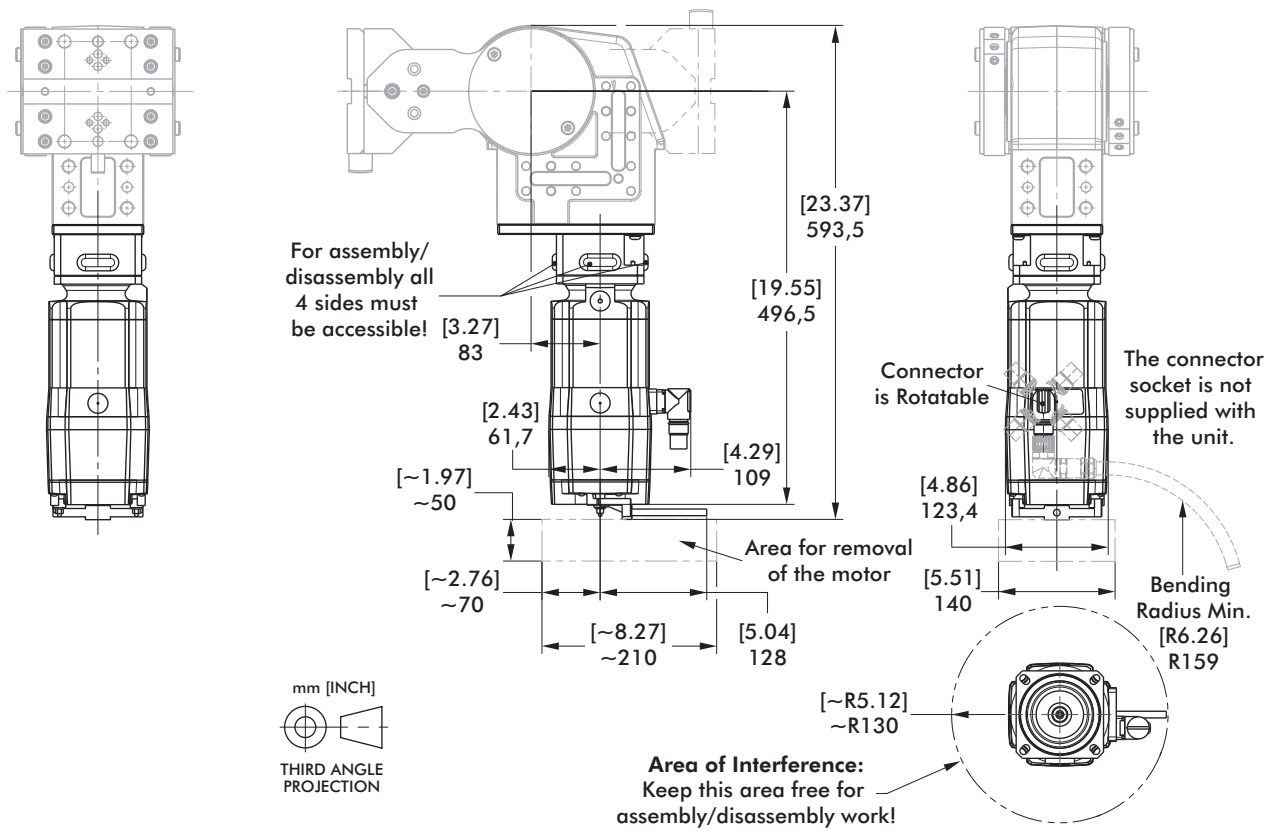
98W03-270 LENZE 400 V



98W03-XXX MOTOR OPTIONS

Electric Pivot Unit | Motor Dimensions

98W03-310 SEW 400 V for MOVIMOT



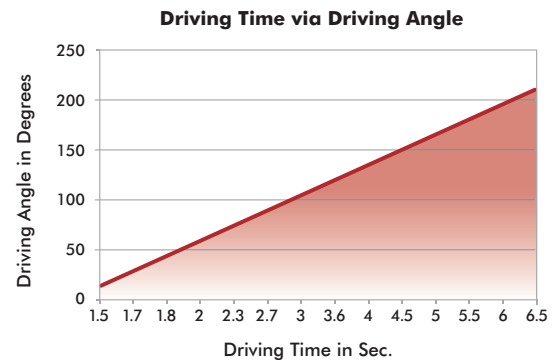
98W03-XXX

Electric Pivot Unit | Technical Specifications

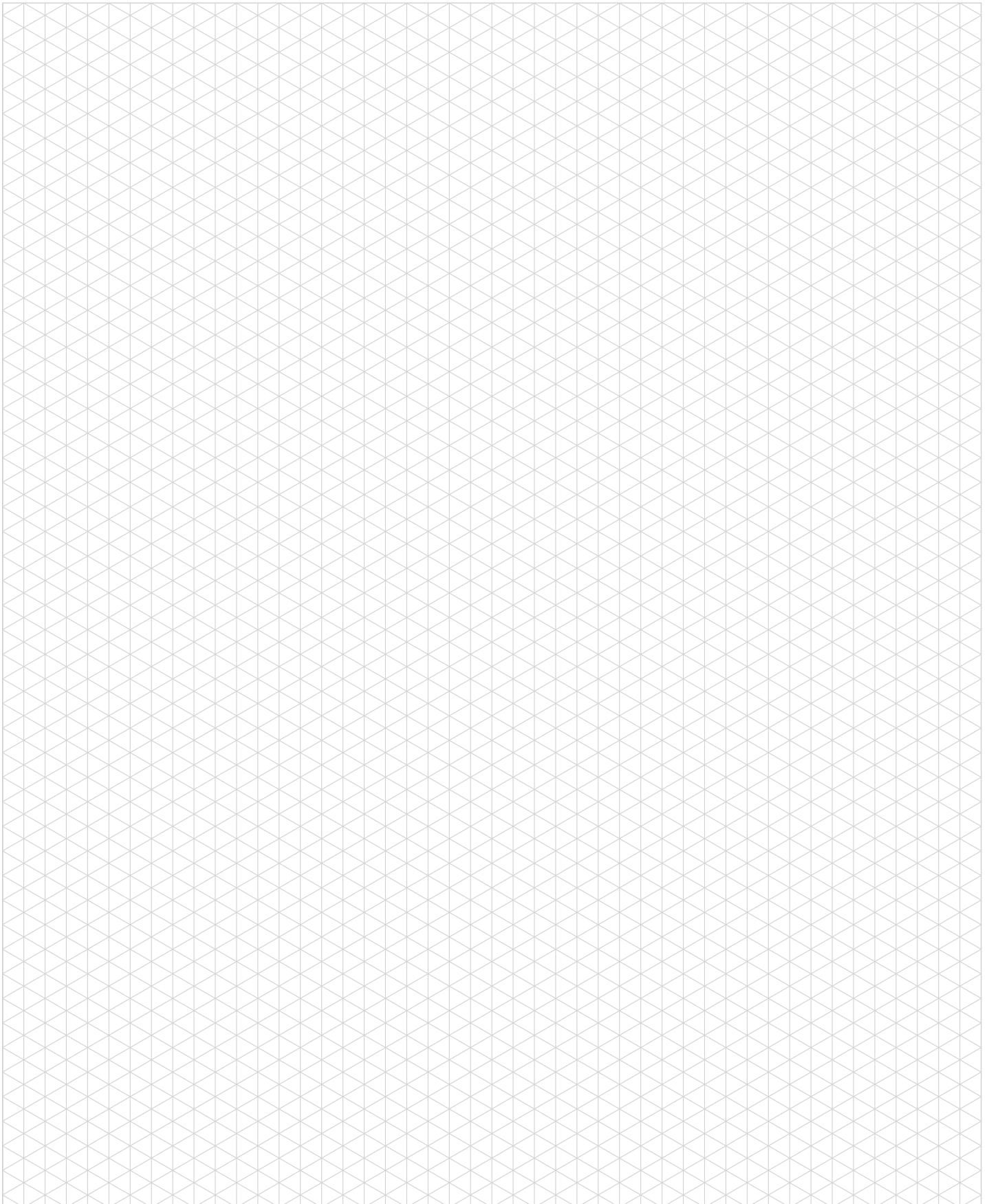
Specifications	Units	98W03-210	98W03-220	98W03-260	98W03-270	98W03-310
Brake	V	400	24	400	24	400
Temperature	°C [°F]	0°-60° [32°-140°]				
Weight	kg [lbs]	~51,5 [~113.54]	~38,3 [~84.44]	~43 [~94.80]	~38,6 [~85.10]	48,2 [~106.26]
Connection Voltage of Control Control signals from external PLC Return signal to external PLC		400 VAC	48 VDC	400 VAC	400 VAC	400 VAC
Logic		N/A	24 VDC	N/A	N/A	N/A
Speeds:						
Drive from 135° to 0°	sec.	3.1 sec / 135°				
Drive from 0° to 135°	sec.					
Maximum Output Torque	Nm [ft-lbs]	500 [369]				
Maximum Holding Torque	Nm [ft-lbs]	2000 [1475]				
Gear Ratio		420:1				
Permissible Motor Torque (Motor torque must be limited on the control side)	Nm [ft-lbs]	6 [4.4]				
Permissible Motor Speed	RPM	6000 1/min Max.				
Switch On Time		70%				
Permissible Output Speed:						
Radial	N [lbf]	2000 [449.6]				
Axial	N [lbf]	5000 [1124]				
Below 45°	N [lbf]	1500 [337]				
Duty Cycle		70%				
E-Stop	N [lbf]	0.4 sec @ 500 [0.4 sec @ 112] = ca. 10°				
Acceleration	sec	2				
Slow down	sec	2				
Repeatability with Hard Stop	mm [in]	± 0,01 @ 500 [± 0.0004 @ 19.69]				
Repeatability w/o Hard Stop	mm [in]	± 0,05 @ 500 [± 0.002 @ 19.69]				

Driving Time and Angle Guidelines

Driving Angle	Driving Time	Max Speed	Jolt Time	Acceleration Ramp	Braking Ramp	Amplification X-Controller
Degrees	Sec.	RPM	Sec.	ms	ms	
15	1.4	4017	0.1	500	500	2.23
30	1.7	5862				
45	1.8	6000		400	400	
60	2.0					
75	2.3					
90	2.7			500	500	
105	3.0					
120	3.6			600	600	
135	4.0			800	800	
150	4.5			600	600	
165	5.0	5700	0.1	700	700	2.23
180	5.5	5600				
195	6.0	4500				
210	6.5			800	800	



Note:
Maximum speed should not exceed 6000 rpm.
Velocity must never be in a trapezoidal profile.
The velocity must have a triangular or sinusoidal shape. Acceleration ramps or jolt tiles must be adjusted corresponding to the driving angle.



81L

Pneumatic Power Clamps | Miniature | Ordering Information

81L

12-1

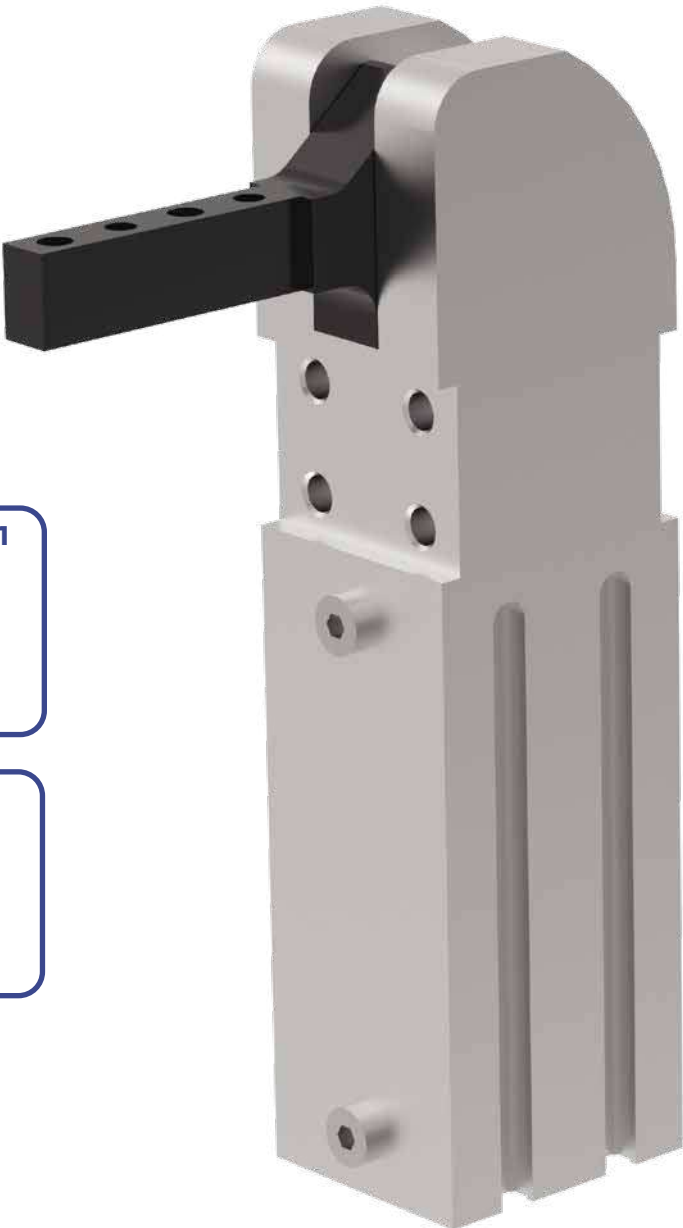
01

00

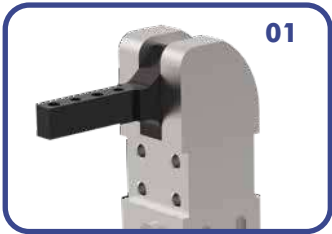
Size	Description
12-1	12 mm Cylinder (M5 Port)
16-1	16 mm Cylinder (M5 Port)
20-1	20 mm Cylinder (M5 Port)
25-1	20 mm Cylinder (M5 Port)

Arm Style	Description
01	Clamping arm, horizontal
41	Clamping arm, vertical
See below for further details	

Design	Description
00	Standard design



Arm Style



Accessories

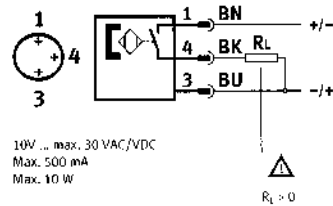
8EA-109-1

Description (order separately)

Sensor, 3-wire cable, M8x1 connector, 3-pin

82ZB-004-1

Adapter for mounting 81L20-1, 81L25-1 to 25mm dia. bar



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

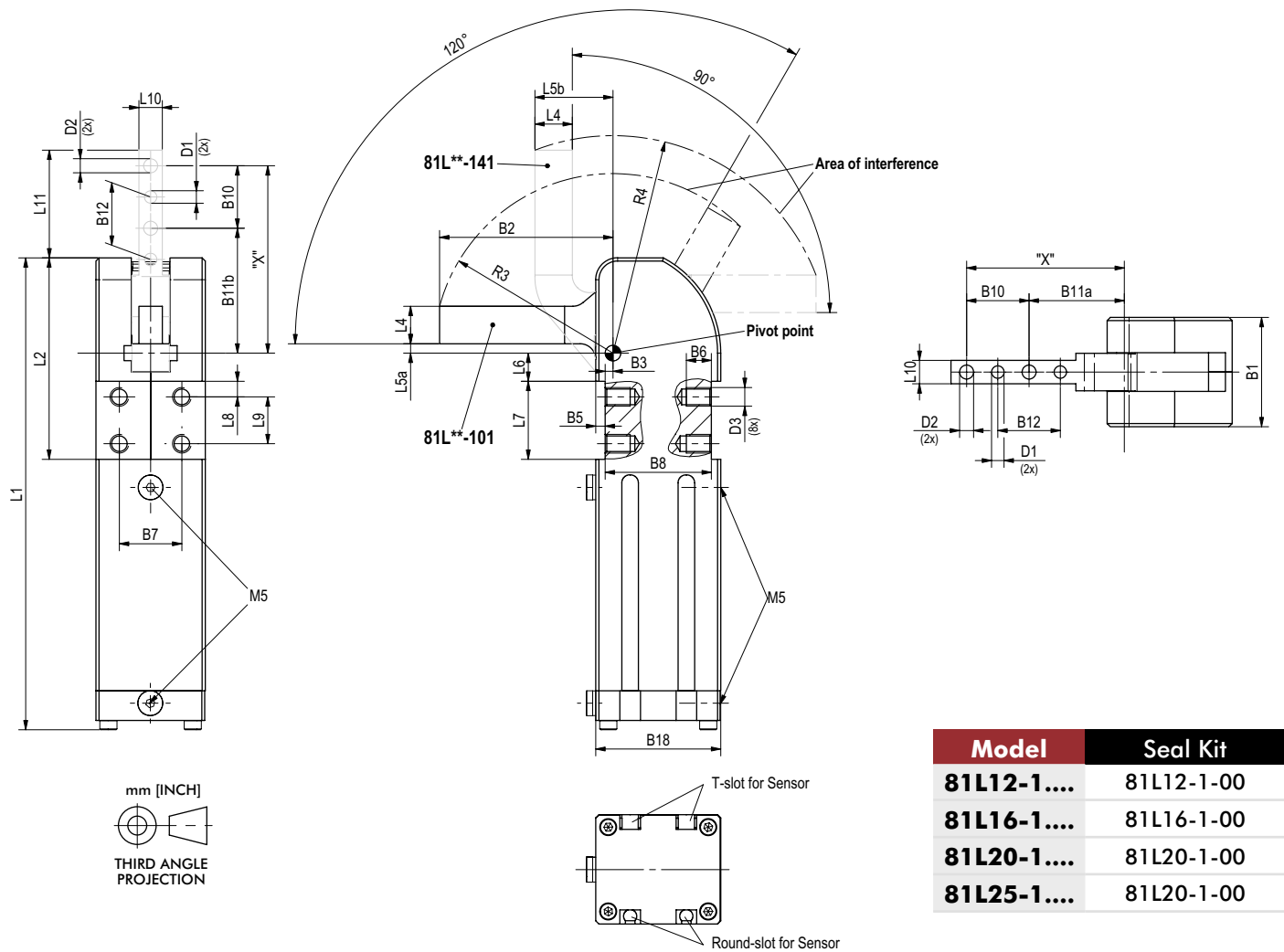
Max Holding Torque
60 Nm [44.3 ft-lb]
Max Clamping Torque
7 Nm [5.2 ft-lb]
at 5 bar [72 psi]

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]



Power by compressed air, max. 6 bar Operation with oil-free air is permissible.

Model	D1 Ø [H7]	D2 Ø	D3 Ø	B1	B2	B3 ±0,1	B5 ±0,2	B6	B7 ±0,1	B8 ±0,1	B10 ±0,2	B11a	B11b	B12
81L12-1....	[0.12] 3	[0.13] 3,3	M4	[0.94] 24	[1.57] 40	[0.10] 2,5	[0.06] 1,5	[0.24] 6	[0.59] 15	[0.98] 25	[0.35] 9	[1.06] 27	[1.24] 31,5	[0.35] 9
81L16-1....	[0.12] 3	[0.17] 4,3	M5	[1.12] 30	[1.97] 50	[0.08] 2	[0.08] 2	[0.19] 5	[0.79] 20	[1.02] 26	[0.59] 15	[1.18] 30	[1.56] 39,5	[0.59] 15
81L20-1....	[0.16] 4	[0.18] 4,5	M6	[1.38] 35	[2.12] 55,5	[0.10] 2,5	[0.12] 3	[0.28] 7	[0.79] 20	[1.34] 34	[0.79] 20	[1.20] 30,5	[1.57] 40	[0.79] 20
81L25-1....	[0.16] 4	[0.26] 6,5	M6	[1.38] 35	[2.58] 65,5	[0.10] 2,5	[0.12] 3	[0.28] 7	[0.79] 20	[1.34] 34	[0.79] 20	[1.59] 40,5	[1.97] 50	[0.79] 20

Model	B18	L1 ~	L2	L4	L5a	L5b	L6	L7 ±0,1	L8	L9	L10	L11	R3 ~	R4 ~
81L12-1....	[1.10] 28	[4.09] 104	[1.59] 40,5	[0.28] 7	[0.10] 2,5	[0.7] 17,5	[0.18] 4,5	[0.59] 15	[0.12] 3	[0.35] 9	[0.24] 6	[0.93] 23,5	[1.61] 41	[1.89] 48
81L16-1....	[1.18] 30	[4.69] 119	[1.95] 49,5	[0.35] 9	[0.09] 2,25	[0.8] 20,5	[0.23] 5,75	[0.79] 20	[0.16] 4	[0.47] 12	[0.31] 8	[1.41] 35,75	[2.00] 51	[2.48] 63
81L20-1....	[1.57] 40	[5.94] 151	[2.54] 64,5	[0.47] 12	[0.12] 3	[0.98] 25	[0.35] 9	[0.98] 25	[0.19] 5	[0.59] 15	[0.29] 7,5	[1.36] 34,5	[2.26] 57,5	[2.75] 70
81L25-1....	[1.57] 40	[5.94] 151	[2.54] 64,5	[0.47] 12	[0.12] 3	[0.98] 25	[0.35] 9	[0.98] 25	[0.19] 5	[0.59] 15	[0.47] 12	[1.75] 44,5	[2.64] 67	[3.11] 79

Pneumatic Power Clamps | Miniature | Technical Specifications

Model	Max. Holding Torque Nm [ft-lb]	Max. Clamping Torque at 5 bar [72 psi] Nm [ft-lb]	Weight kg [lbs]	Air Consumption per double stroke at 5 bar [72 psi] dm ³ [ft ³]	Max. Added Load (at Position, "X") g [oz]
81L12-101..	25 [18.4]	4,5 [3.3]	0,16 [0.4]	0,25 [0.01]	50 [1.8]
81L12-141..	20 [14.8]	4,5 [3.3]	0,17 [0.4]	0,25 [0.01]	50 [1.8]
81L16-101..	60 [44]	6,5 [4.8]	0,25 [0.6]	0,27 [0.01]	80 [2.8]
81L16-141..	40 [29.5]	7,0 [5.23]	0,27 [0.6]	0,26 [0.01]	80 [2.8]
81L20-101..	100 [73.8]	18 [13.3]	0,50 [1.1]	0,40 [0.02]	90 [3.2]
81L20-141..	80 [59]	17 [12.5]	0,52 [1.2]	0,35 [0.01]	90 [3.2]
81L25-101..	100 [73.8]	18 [13.3]	0,52 [1.2]	0,40 [0.02]	100 [3.5]
81L25-141..	80 [59]	17 [12.5]	0,54 [1.25]	0,35 [0.01]	100 [3.5]

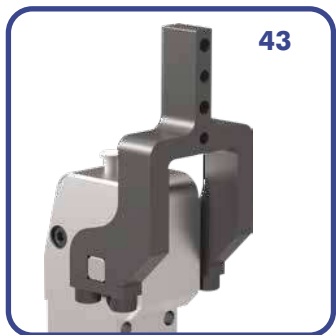
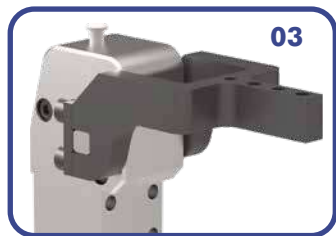
82L...-4...

Enclosed Pneumatic Power Clamps | Miniature | Ordering Information

82L		16-4		03	0
Size	Description	Arm Style	Description	Opening Angle	Description
12-4	12 mm Cylinder (M5 Port)	00	No clamping arm	0	105° (Standard)
16-4	16 mm Cylinder (M5 Port)	03	U-bar, central 90°	3	90°
20-4	20 mm Cylinder (M5 Port)	43	U-bar, central 180°	4	75°
25-4	25 mm Cylinder (M5 Port)	See below for further details		5	60°
				6	45°
				7	30°
				8	15°



Arm Style



Accessories

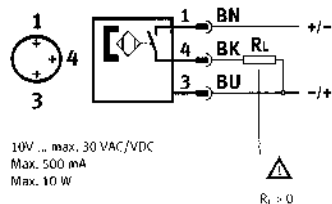
8EA-109-1

82ZB-004-1

Description (order separately)

Sensor, 3-wire cable, M8x1 connector, 3-pin

Adapter for mounting 82L20-4, 82L25-4 to 25mm dia. bar



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]



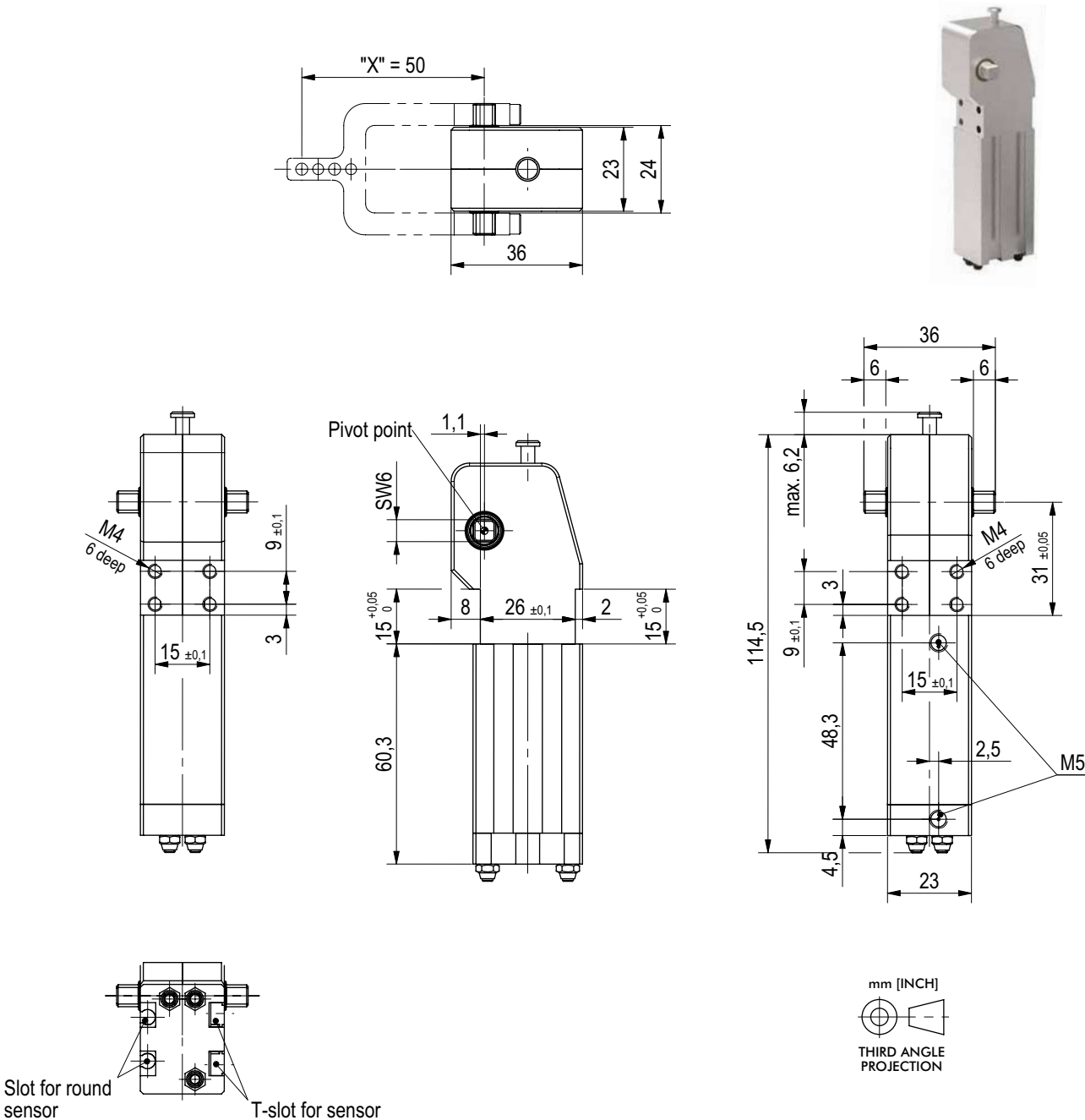
25

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]

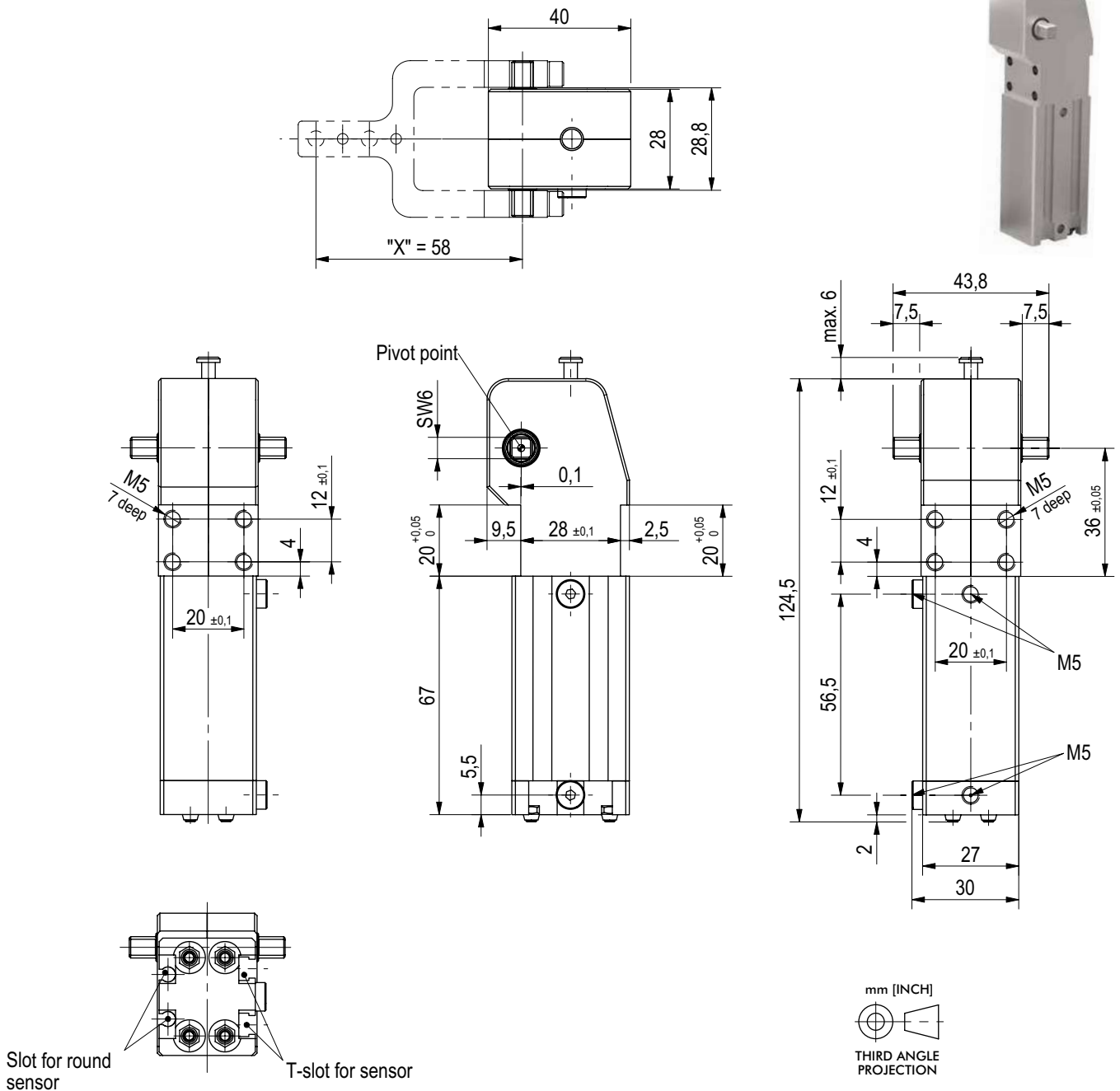
82L12-4

Enclosed Pneumatic Power Clamps | Miniature | Dimensions and Technical Specifications



Power by compressed air, max. 6 bar Operation with oil-free air is permissible.

Model	Max. Holding Torque Nm [ft-lb]	Max. Clamping Torque at 5 bar [72 psi] Nm [ft-lb]	Weight [with arm] kg [lbs]	Air Consumption per double stroke at 5 bar [72 psi] dm ³ [ft ³]	Max. Added Load (at Position "X") g [oz]
82L12-4030	35 [25.8]	10,4 [7.8]	0,23 [0.5]	0,25 [0.01]	50 [1.8]
82L12-4430	35 [25.8]	8,7 [6.4]	0,23 [0.5]	0,25 [0.01]	50 [1.8]

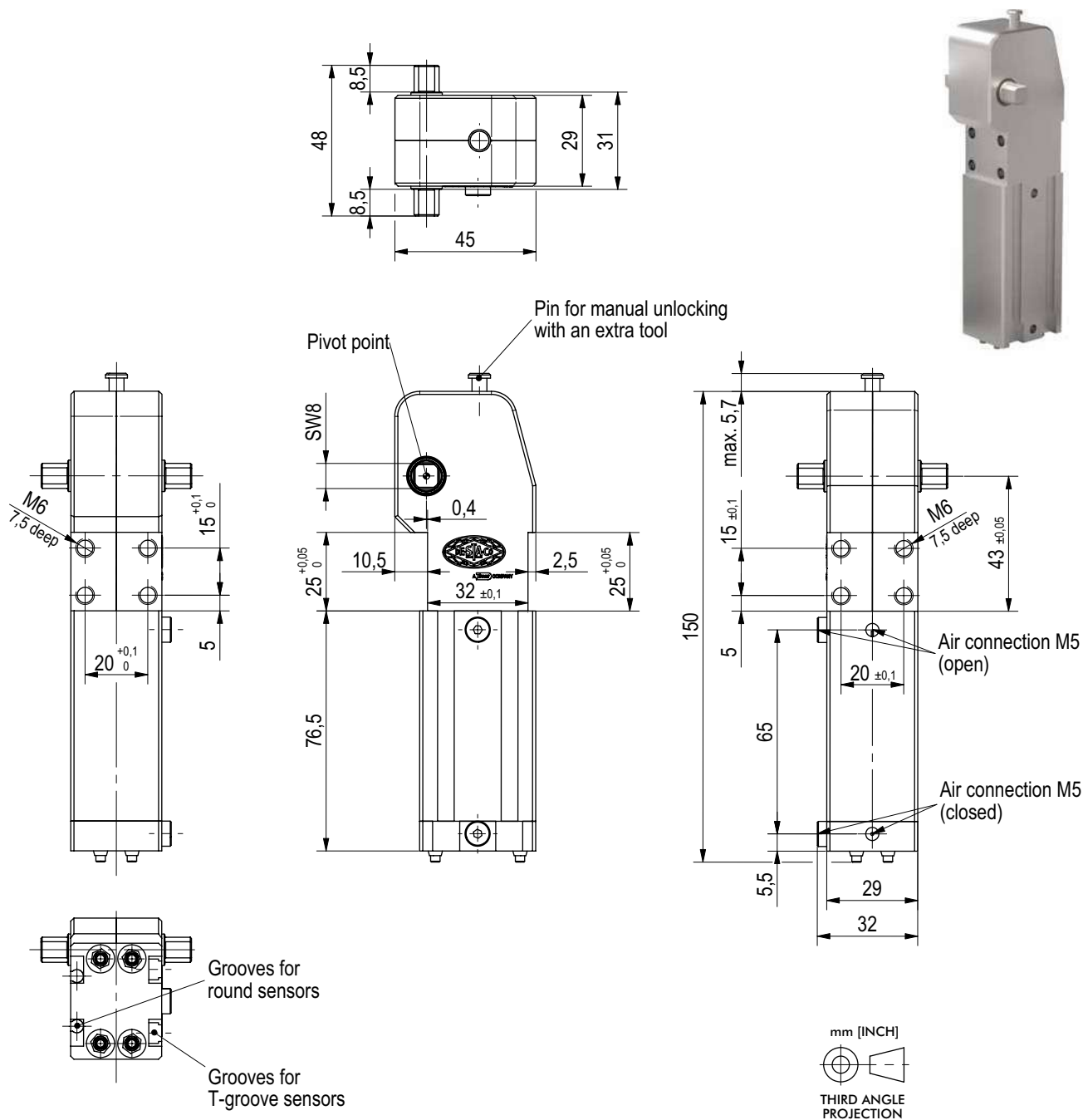


Power by compressed air, max. 6 bar Operation with oil-free air is permissible.

Model	Max. Holding Torque Nm [ft-lb]	Max. Clamping Torque at 5 bar [72 psi] Nm [ft-lb]	Weight [with arm] kg [lbs]	Air Consumption per double stroke at 5 bar [72 psi] dm ³ [ft ³]	Max. Added Load (at Position "X") g [oz]
82L16-4030	40 [29.5]	12,4 [9.4]	0,33 [0.7]	0,27 [0.01]	80 [2.8]
82L16-4430	40 [29.5]	11,0 [8.1]	0,33 [0.7]	0,27 [0.01]	80 [2.8]

82L20-4

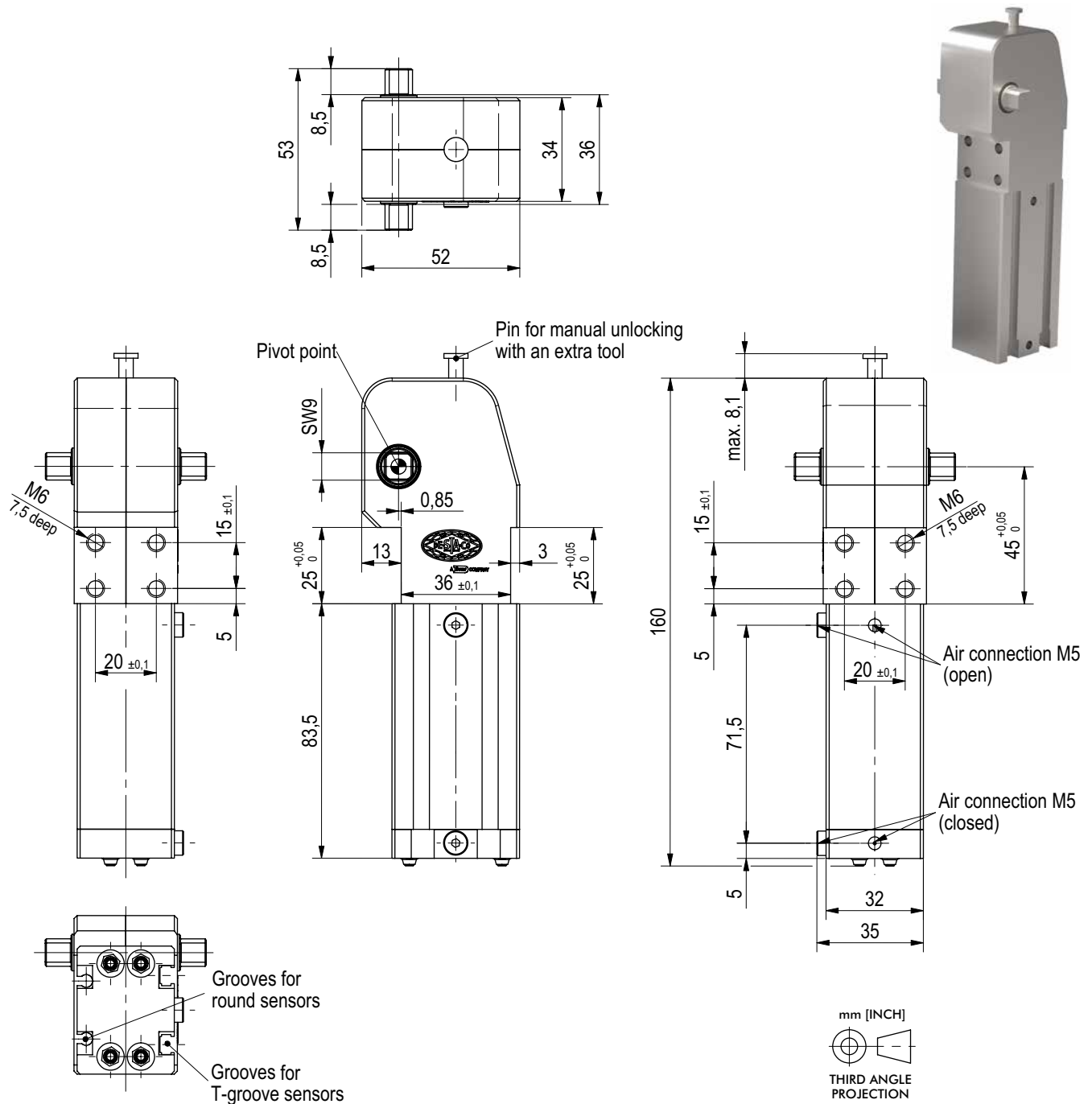
Enclosed Pneumatic Power Clamps | Miniature | Dimensions and Technical Specifications



Power by compressed air, max. 6 bar Operation with oil-free air is permissible.

Model	Max. Holding Torque Nm [ft-lb]	Max. Clamping Torque at 5 bar [72 psi] Nm [ft-lb]	Weight [with arm] kg [lbs]	Air Consumption per double stroke at 5 bar [72 psi] dm ³ [ft ³]	Max. Added Load (at Position "X") g [oz]
82L20-4030	50 [36.9]	21,0 [15.5]	0,42 [0.9]	0,35 [0.01]	90 [3.2]
82L20-4430	50 [36.9]	19,3 [14.3]	0,42 [0.9]	0,35 [0.01]	90 [3.2]

Enclosed Pneumatic Power Clamps | Miniature | Dimensions and Technical Specifications

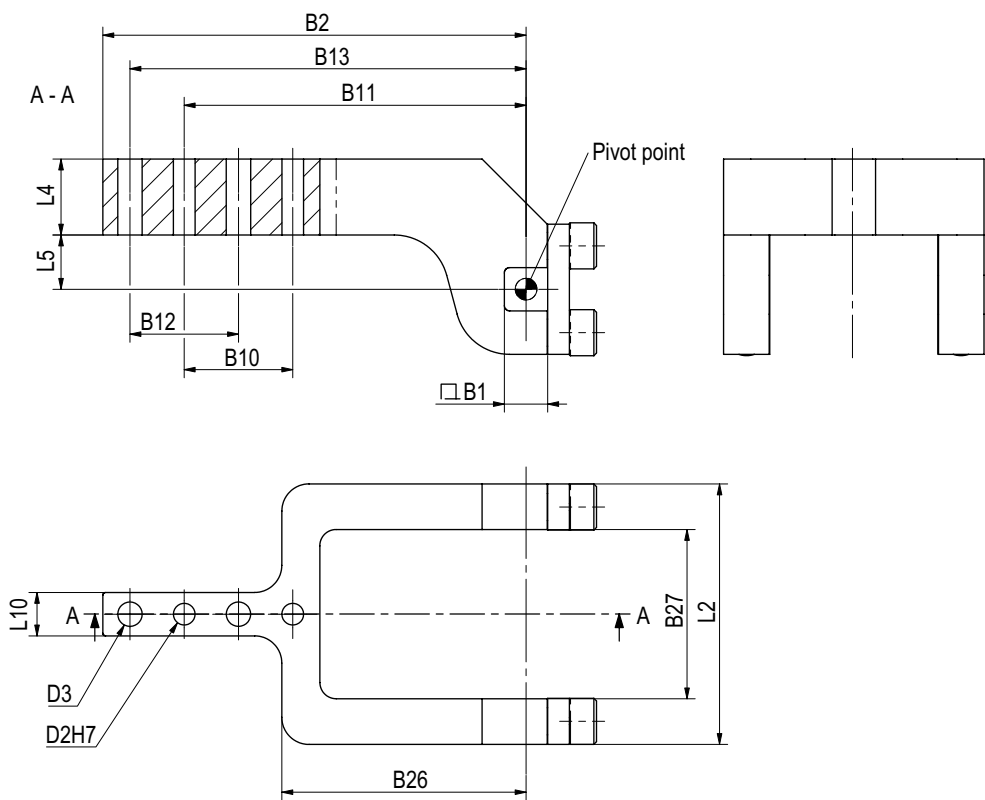


Power by compressed air, max. 6 bar Operation with oil-free air is permissible.

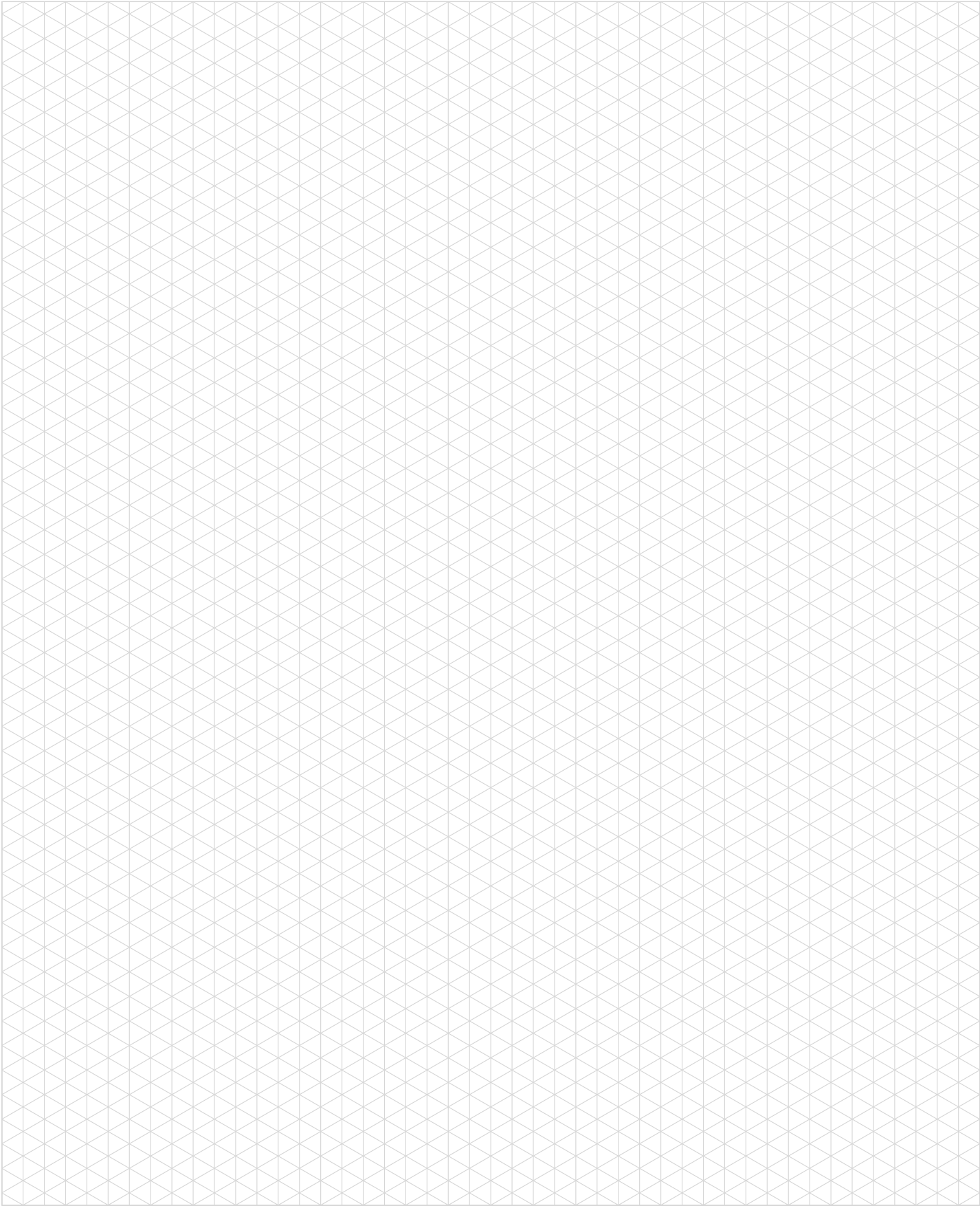
Model	Max. Holding Torque Nm [ft-lb]	Max. Clamping Torque at 5 bar [72 psi] Nm [ft-lb]	Weight [with arm] kg [lbs]	Air Consumption per double stroke at 5 bar [72 psi] dm ³ [ft ³]	Max. Added Load (at Position "X") g [oz]
82L25-4030	80 [59]	31,8 [23.5]	0,66 [1.5]	0,40 [0.01]	100 [3.5]
82L25-4430	80 [59]	28,5 [12.5]	0,66 [1.5]	0,40 [0.01]	100 [3.5]

82L...-4...

Enclosed Pneumatic Power Clamps | Miniature | Clamp Arm Dimensions



Model	Order no. for Arm	Max. Opening angle	B1	B2	B10 ±0,02	B11 ±0,02	B12 ±0,1	B13 ±0,1	B26	B27	D2 H7	D3	L2	L4	L5	L10
82L12-4...	8JG-401-1-01	105°	6	54	9	45.5	9	50	38,5	24	3	3.3	36	7	10	6
82L16-4...	8JG-402-1-01	105°	6	63	15	50.5	15	58	36,5	29	3	4.5	44	9.5	10	10
82L20-4...	8JG-403-1-01	105°	8	78	20	63	20	73	45	31,2	4	4.5	48	14	10	8
82L25-4...	8JG-404-1-01	105°	9	81	20	66	20	76	48	36	4	6.4	53	16	10	12



82L-3E

Enclosed Pneumatic Power Clamps | Lightweight Modular | Ordering Information

82L-3E

23

H0

40

B7

Clamp Arm Shaft

23

Description for Arms

See below for further details

Hand Lever

00

H0

HG

Description

No Hand lever

Red Hand lever

Green Hand lever

See below for further details

Cylinder (Standard)

25

2N

32

3N

40

4N

25 mm Cylinder (G1/8 Port)

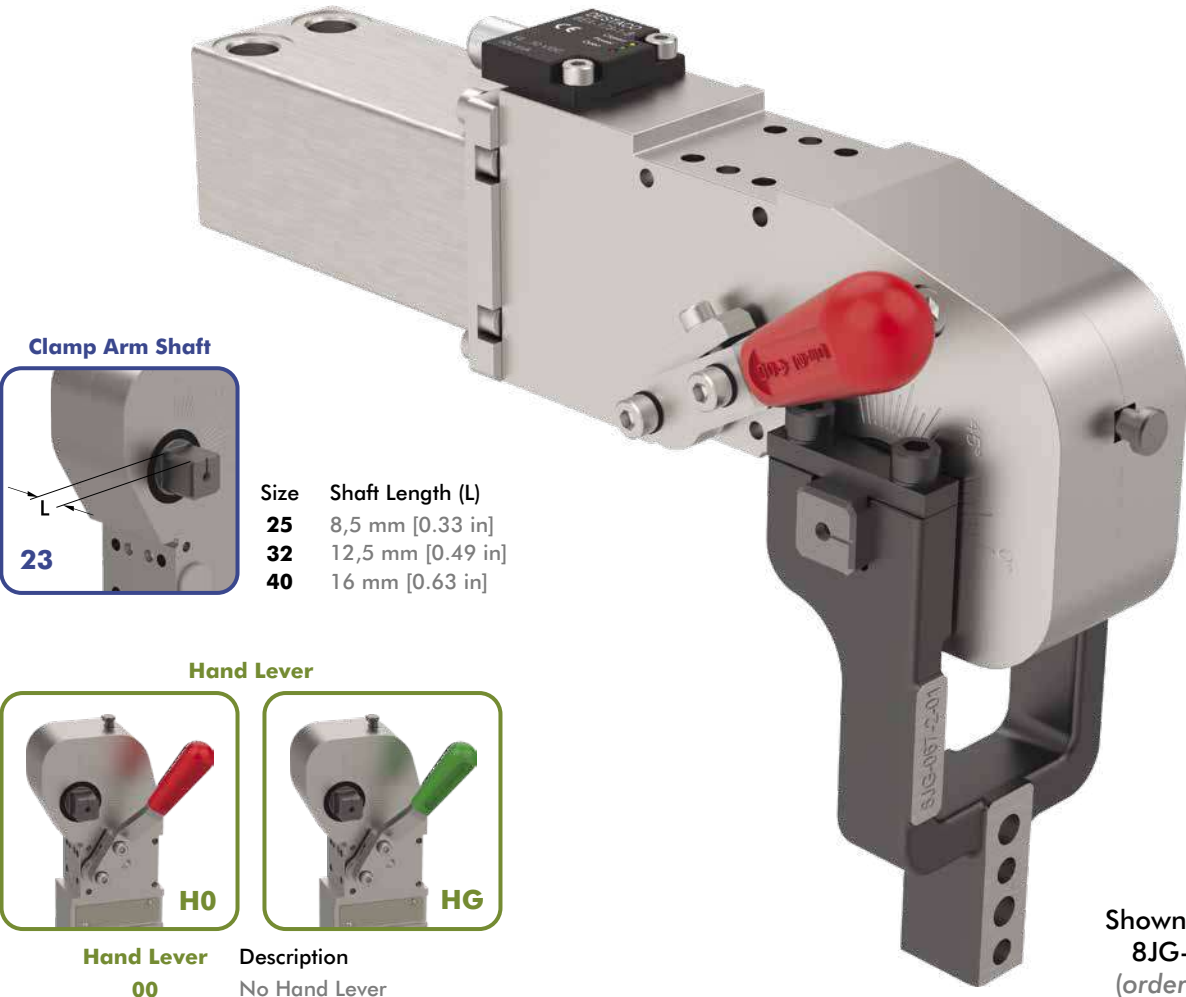
25 mm Cylinder (1/8-18 NPT Port)

32 mm Cylinder (G1/8 Port)

32 mm Cylinder (1/8-18 NPT Port)

40 mm Cylinder (G1/4 Port)

40 mm Cylinder (1/4-18 NPT Port)



Clamp Arm Shaft

23

Size

25

32

40

Shaft Length (L)

8,5 mm [0.33 in]

12,5 mm [0.49 in]

16 mm [0.63 in]

Hand Lever

H0

HG

Hand Lever

00

H0

HG

Description

No Hand Lever

Red Hand Lever

Green Hand Lever

Shown with U-Arm
8JG-067-2-01
(order separately)

Enclosed Pneumatic Power Clamps | Lightweight Modular | Ordering Information

Sensor	Description
00	Without Sensing System
C8	Inductive Sensing System with In-Line M8x1 Connector (Size 25: 8EA-174-1-B, Size 32/40: 8EA-177-1-B)
B7	Inductive Sensing System with In-Line M12x1 Connector (Size 25: 8EA-175-1-B, Size 32/40: 8EA-178-1-B)
B8	Inductive Sensing System with M12x1 Connector with Cable (Size 25: 8EA-176-1-B, Size 32/40: 8EA-179-1-B)



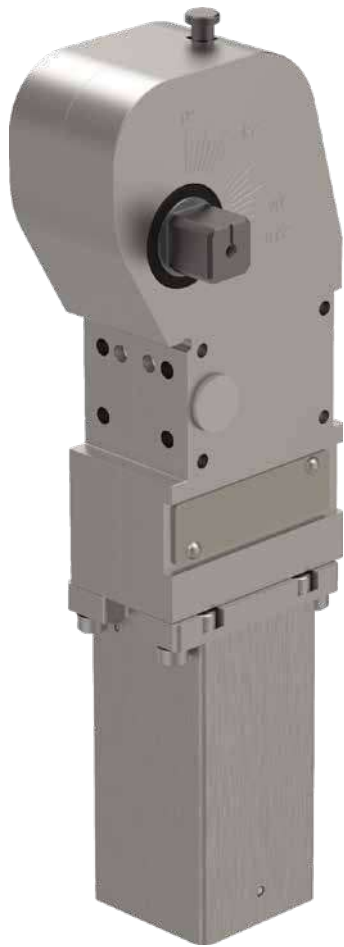
25/N

Max Holding Torque
75 Nm [55 ft-lb]
Max Clamping Torque
25 Nm [18 ft-lb]
at 5 bar [72 psi]



32/N

Max Holding Torque
180 Nm [133 ft-lb]
Max Clamping Torque
55 Nm [41 ft-lb]
at 5 bar [72 psi]

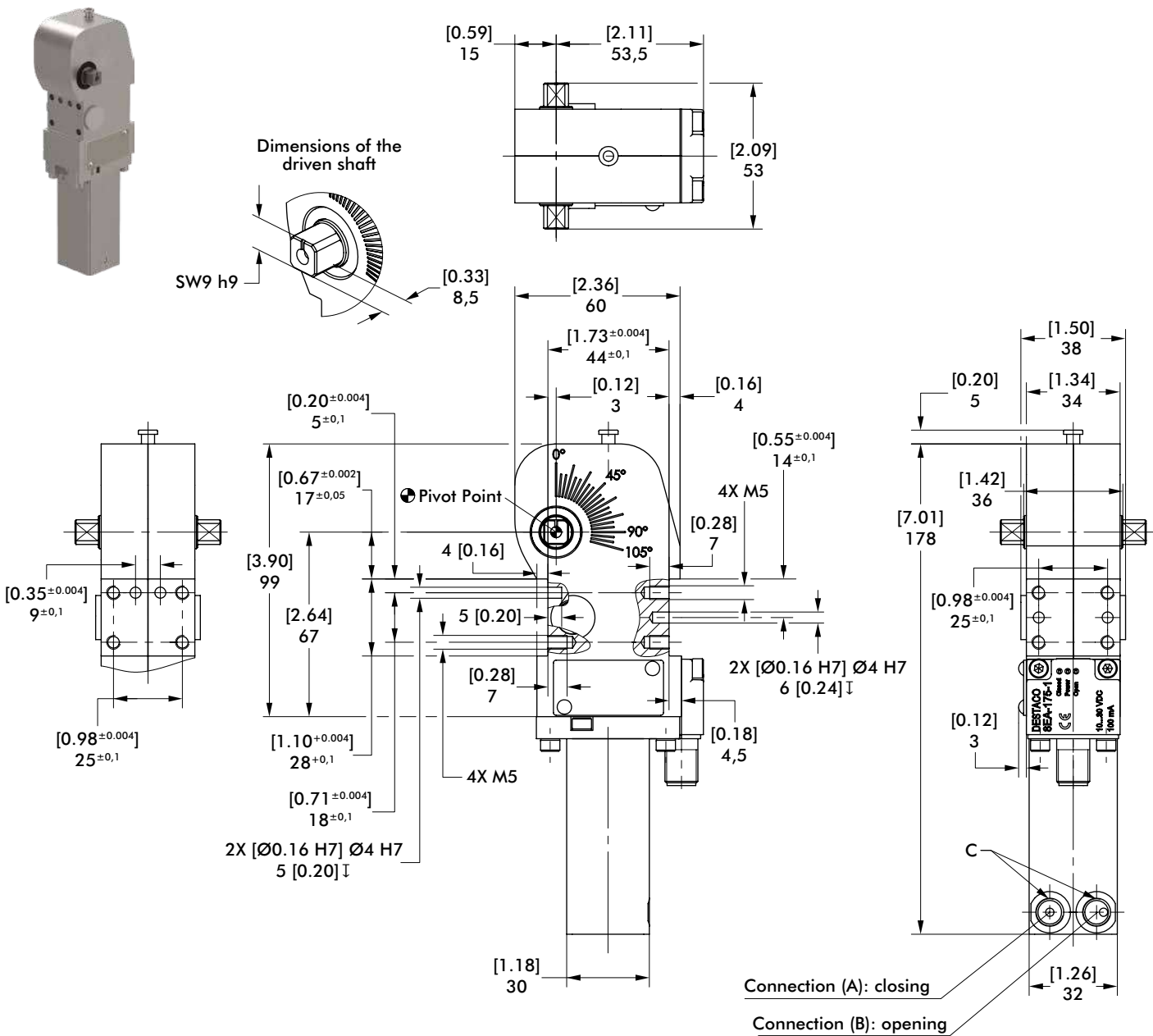


40/N

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

82L-3E

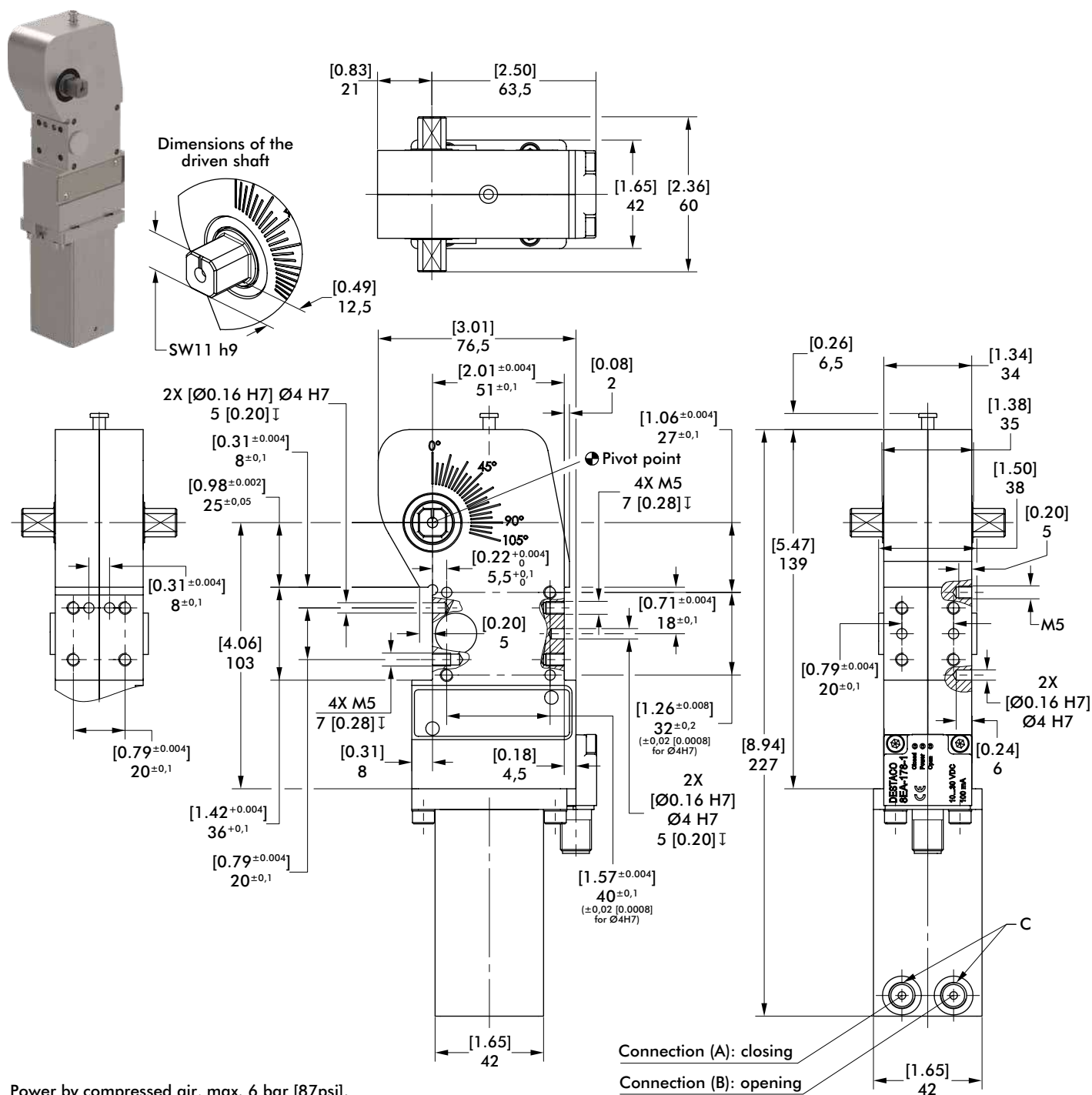
Enclosed Pneumatic Power Clamps | Lightweight Modular | Dimensions and Technical Specifications



Power by compressed air, max. 6 bar [87psi].
Operation with oil-free air is permissible.
The connector socket and the cable are not supplied with the unit.
Clamping arms sold separately.

Model	Max. Holding Torque Nm [ft-lb]	Clamping Torque at 5 bar [72 psi] Nm [ft-lb]	Piston Ø mm	Weight kg [lbs]	Air consumption per double stroke at 5 bar [72 psi] dm³ [ft³]	Connection C
82L-3E230025..	[55] 75	[18] 25	25	[1.32] 0,6	[0.01] 0,4	G1/8
82L-3E23002N..						1/8-18 NPT

Enclosed Pneumatic Power Clamps | Lightweight Modular | Dimensions and Technical Specifications



Power by compressed air, max. 6 bar [87psi].

Operation with oil-free air is permissible.

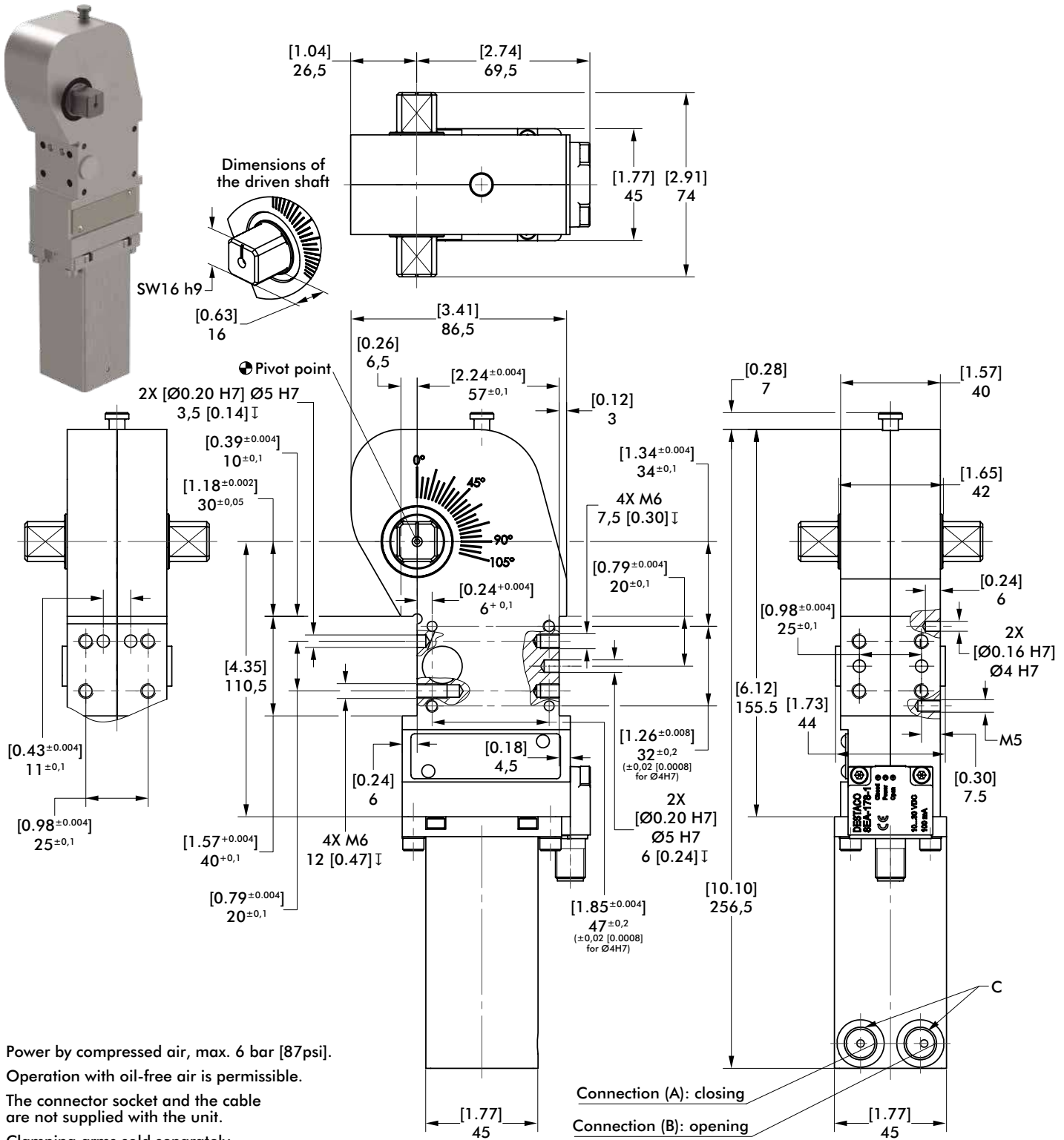
The connector socket and the cable are not supplied with the unit.

Clamping arms sold separately.

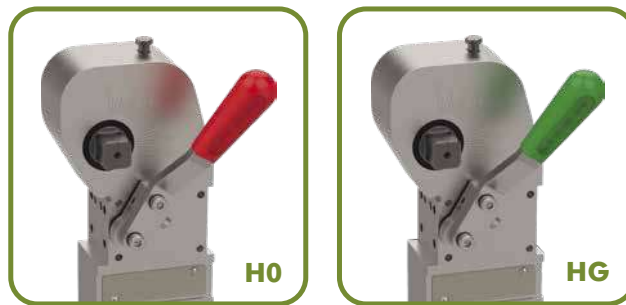
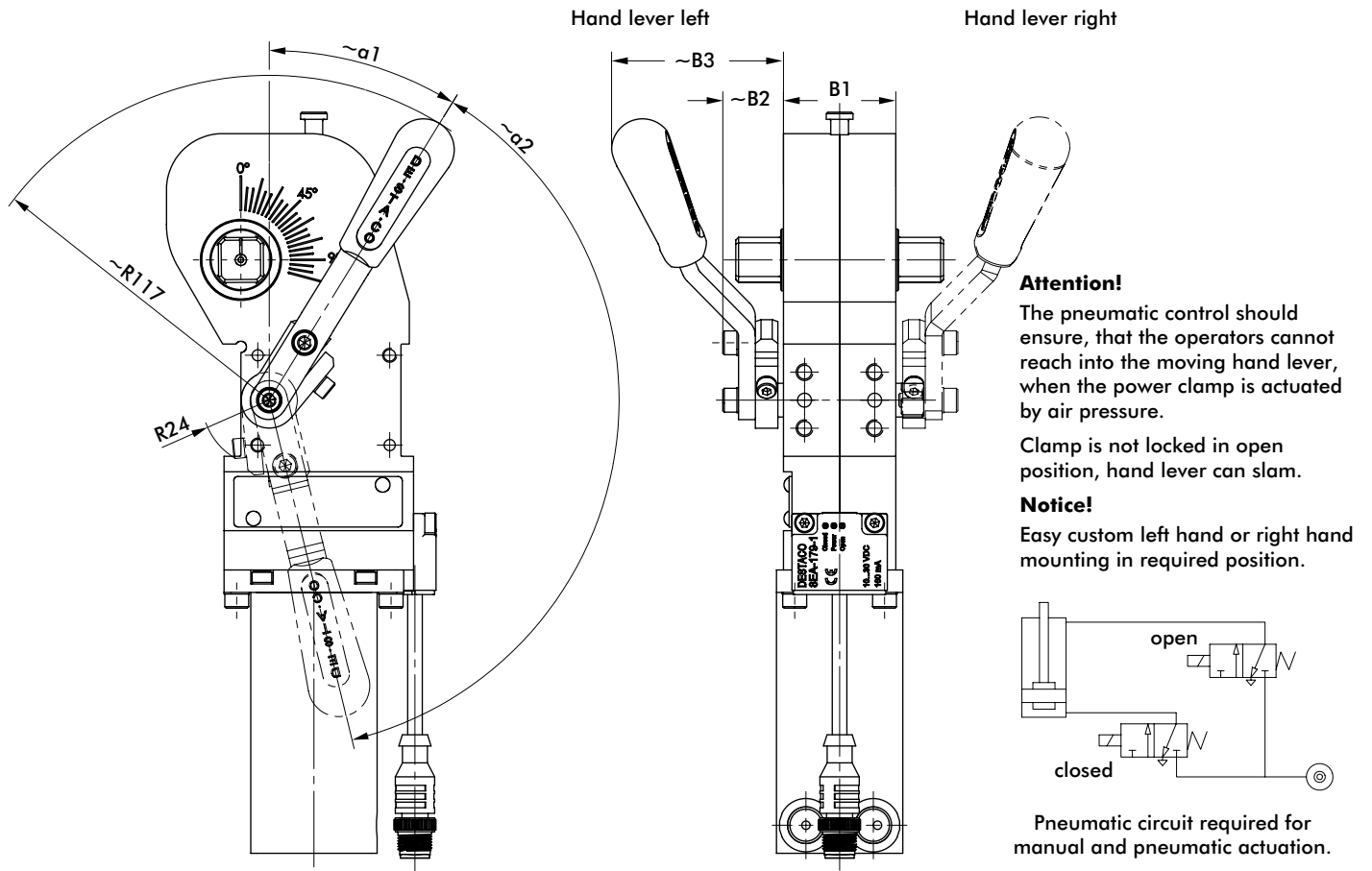
Model	Max. Holding Torque Nm [ft-lb]	Clamping Torque at 5 bar [72 psi] Nm [ft-lb]	Piston Ø mm	Weight kg [lbs]	Air consumption per double stroke at 5 bar [72 psi] dm³ [ft³]	Connection C
82L-3E230032..	[133] 180	[41] 55	32	[2.43] 1,1	[0.03] 0,8	G1/8
82L-3E23003N..						1/8-18 NPT

82L-3E

Enclosed Pneumatic Power Clamps | Lightweight Modular | Dimensions and Technical Specifications



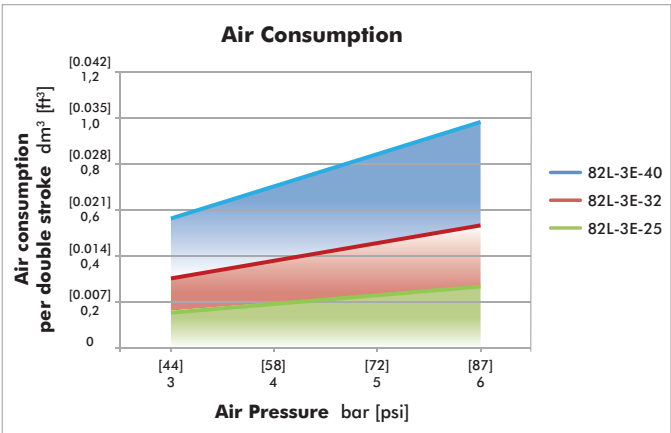
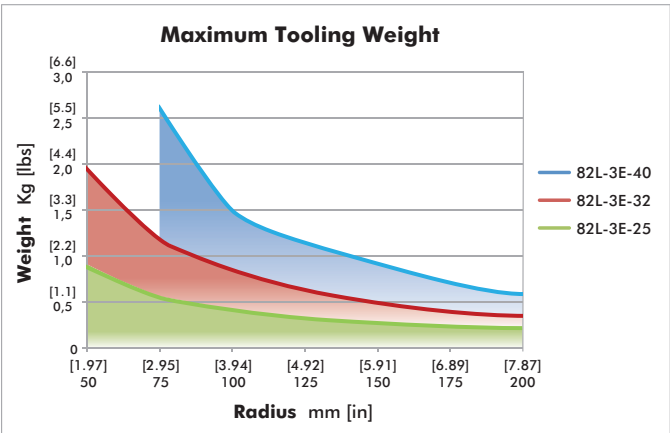
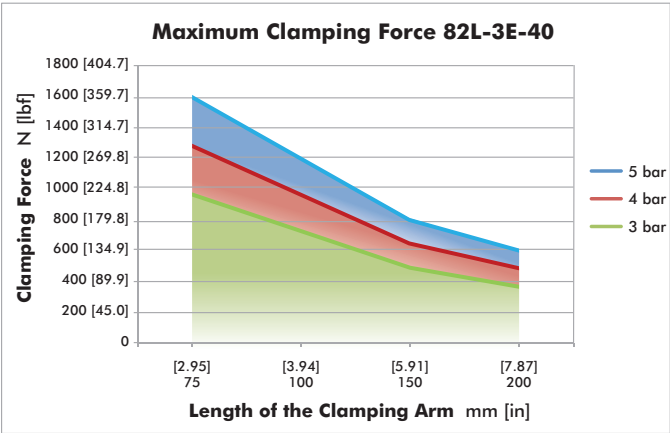
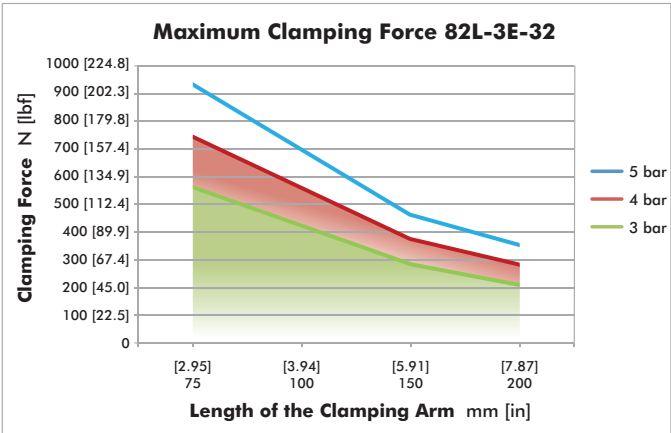
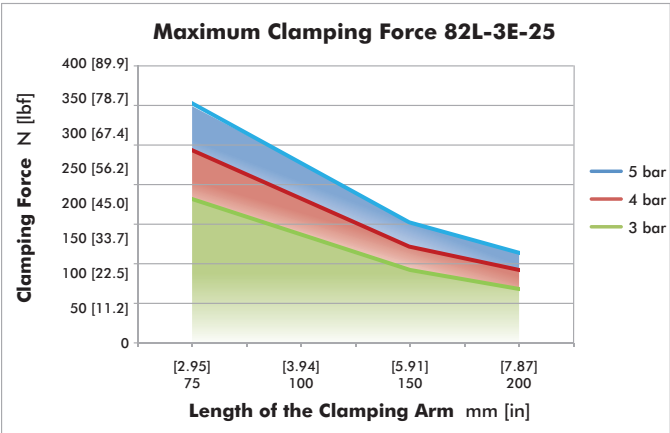
Model	Max. Holding Torque Nm [ft-lb]	Clamping Torque at 5 bar [72 psi] Nm [ft-lb]	Piston Ø mm	Weight kg [lbs]	Air consumption per double stroke at 5 bar [72 psi] dm³ [ft³]	Connection C
82L-3E230040..	[280] 380	[89] 120	40	[3.53] 1,6	[0.04] 1,2	G1/4
82L-3E23004N..						1/4-18 NPT



Model No.	Weight Kg [lbs]	Swivel Angle ~a2 (with reference to opening angle of clamp arm)										
		B1	~B2	~B3	~a1	15°	30°	45°	60°	75°	90°	105°
82L-3E23H.2...	0,8 [1.76]	[1.34] 34	[0.85] 21,5	[2.40] 61	32°	39°	52°	64°	76°	90°	109°	130°
82L-3E23H.3...	1,3 [2.87]		[0.87] 22	[2.44] 62	31°			62°	74°	87°	103°	124°
82L-3E23H.4...	1,8 [3.97]	[1.57] 40			32°	47°	60°	71°	83°	97°	114°	135°

82L-3E

Enclosed Pneumatic Power Clamps | Lightweight Modular | Technical Specifications

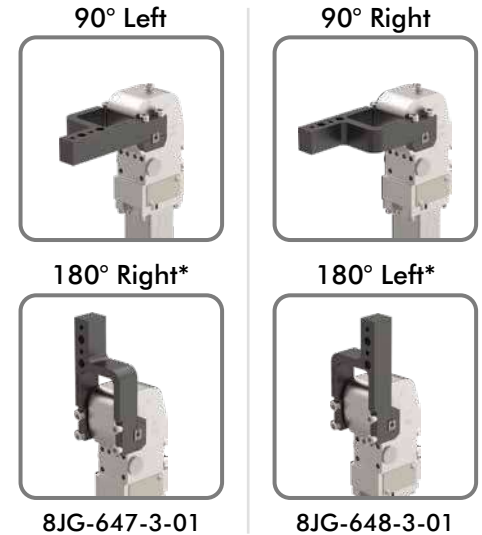
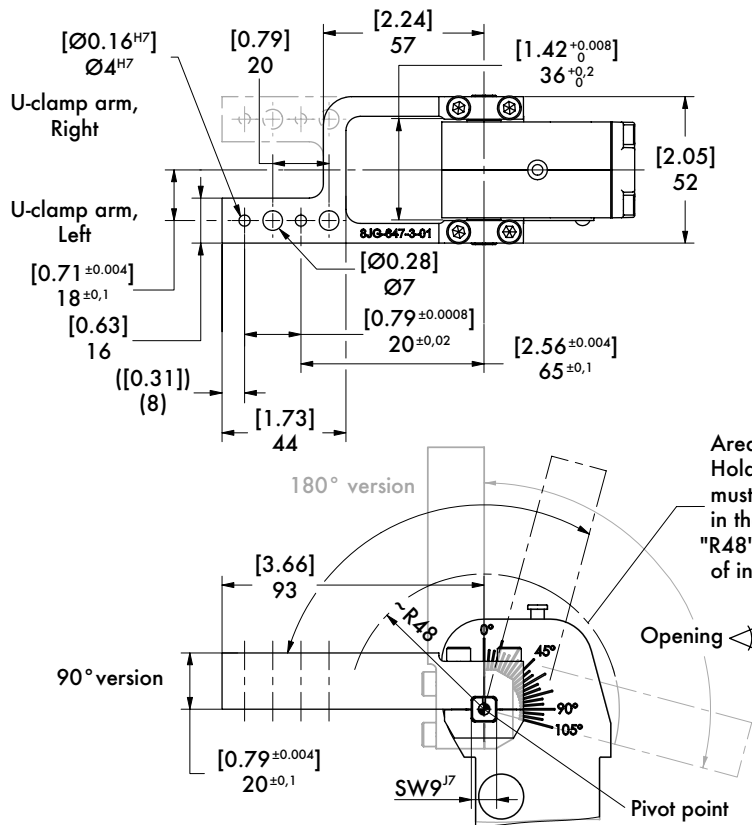


All data refers to a pneumatic pressure of 6 bar [87 psi] and to an opening or closing time of 1 second, as well as to the center of gravity of the complete construction directly attached to the clamp arm related to the fixed fulcrum.

82L-3E U-ARMS OFFSET, U-ARMS CENTER (STEEL)

Enclosed Pneumatic Power Clamps | Lightweight Modular | Dimensions and Technical Specifications

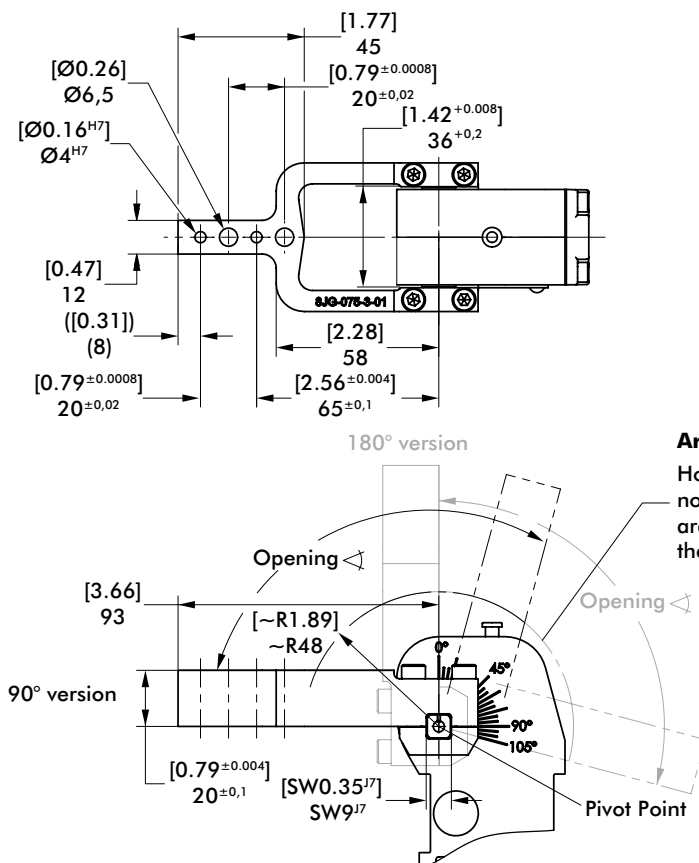
For Size 25mm



*90° left/180° right uses same clamp arm.
90° right/180° left uses same clamp arm.

Clamp arm sets consists of clamp arm, links and screws.

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight kg [lbs]
8JG-647-3-01	105°	105°	[0.66] 0,3
8JG-648-3-01			



For Size 25mm



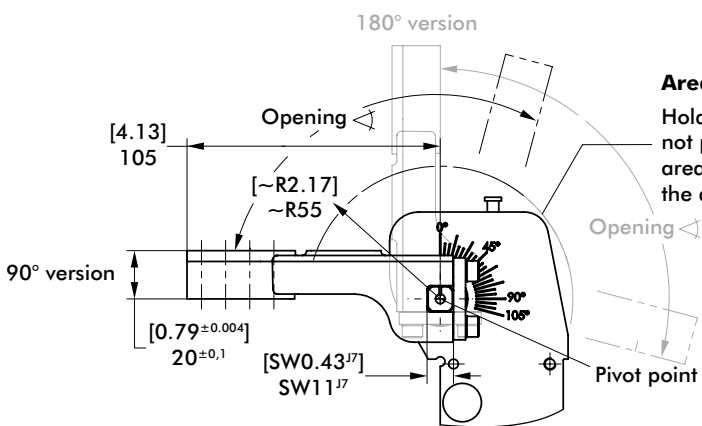
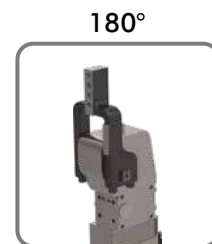
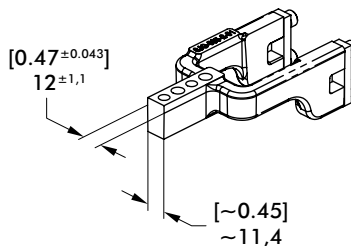
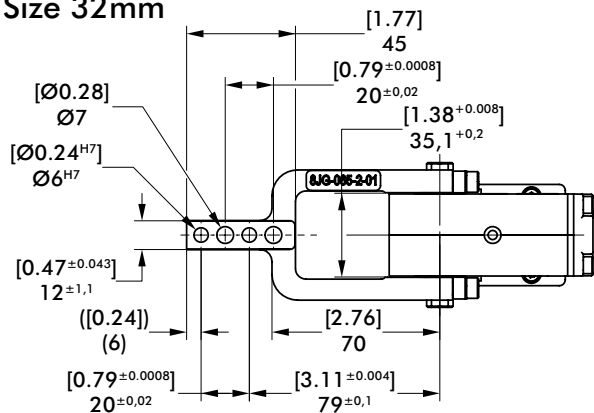
Clamp arm sets consists of clamp arm, links and screws.

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight kg [lbs]
8JG-075-3-01	105°	105°	[0.66] 0,3

82L-3E U-ARMS CENTER (STEEL)

Enclosed Pneumatic Power Clamps | Lightweight Modular | Dimensions and Technical Specifications

For Size 32mm



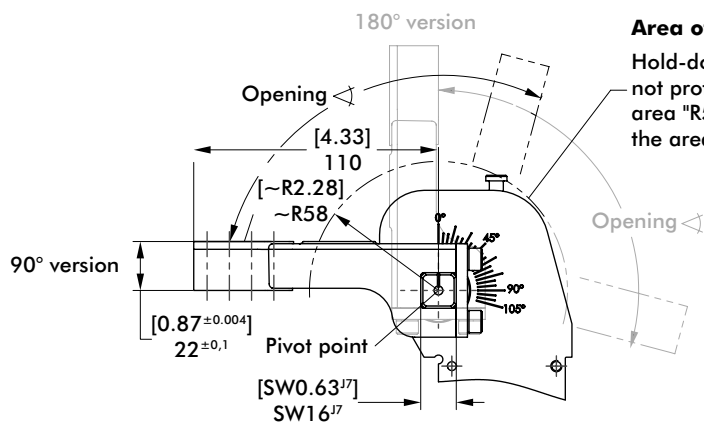
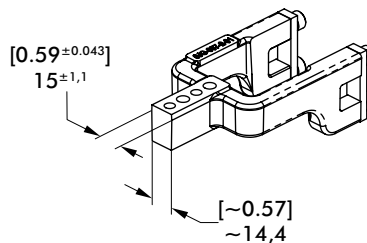
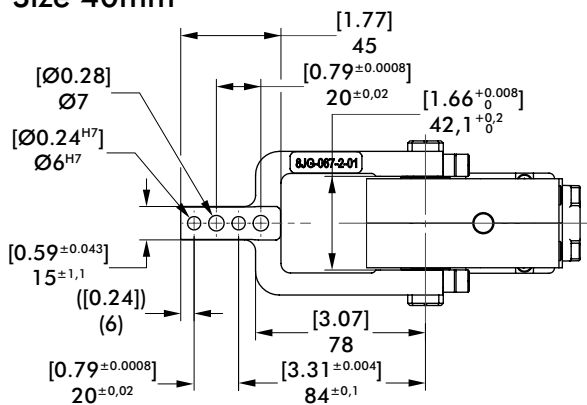
Area of interference

Hold-down piece must not protrude in the interior area "R55 [R2.17]" due to the area of interference.

Clamp arm sets consists of clamp arm, links and screws.

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight kg [lbs]
8JG-065-2-01	105°	105°	[0.82] 0,37

For Size 40mm



Area of interference

Hold-down piece must not protrude in the interior area "R58 [R2.28]" due to the area of interference.

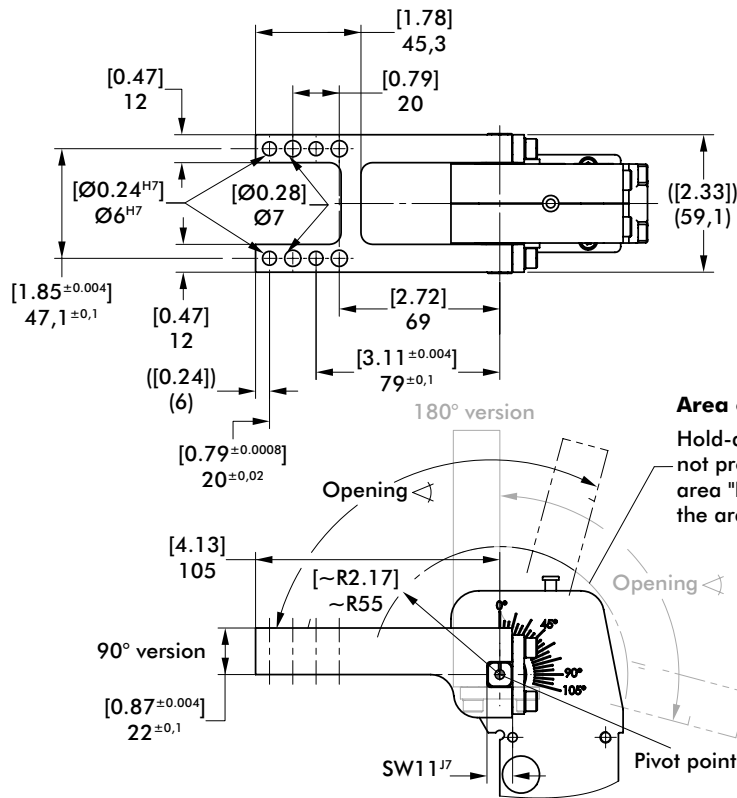
Clamp arm sets consists of clamp arm, links and screws.

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight kg [lbs]
8JG-067-2-01	105°	105°	[1.10] 0,5

82L-3E H-ARMS (STEEL)

Enclosed Pneumatic Power Clamps | Lightweight Modular | Dimensions and Technical Specifications

For Size 32mm



Area of interference

Hold-down piece must not protrude in the interior area "R55 [R2.17]" due to the area of interference.

90°



180°

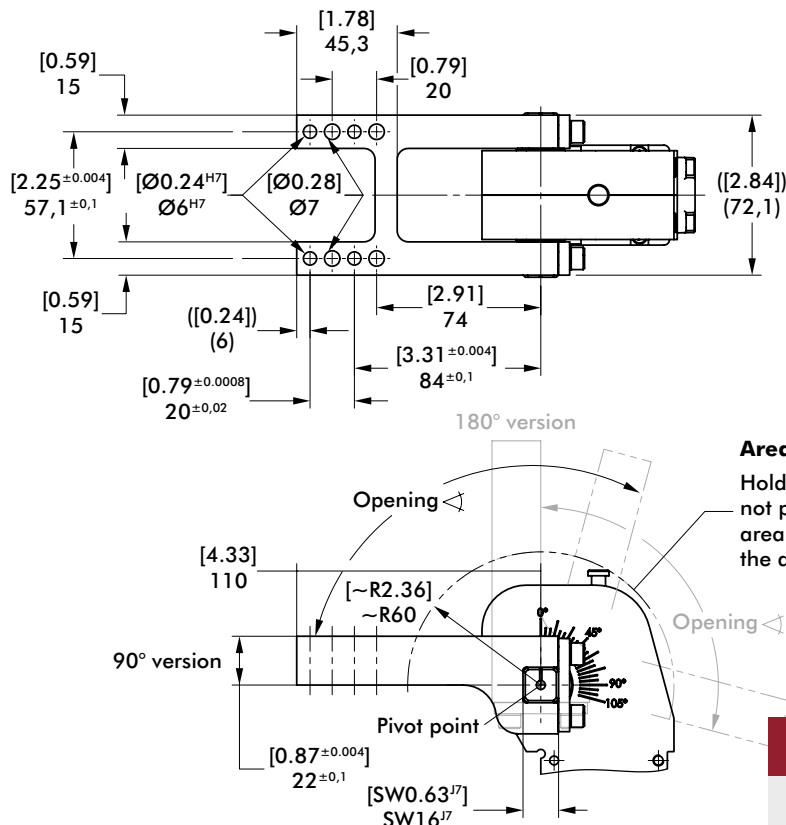


8JG-363-1-01

Clamp arm sets consists of clamp arm, links and screws.

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight kg [lbs]
8JG-363-1-01	105°	105°	[1.15] 0,52

For Size 40mm



Area of interference

Hold-down piece must not protrude in the interior area "R60 [R2.36]" due to the area of interference.

90°



180°



8JG-364-1-01

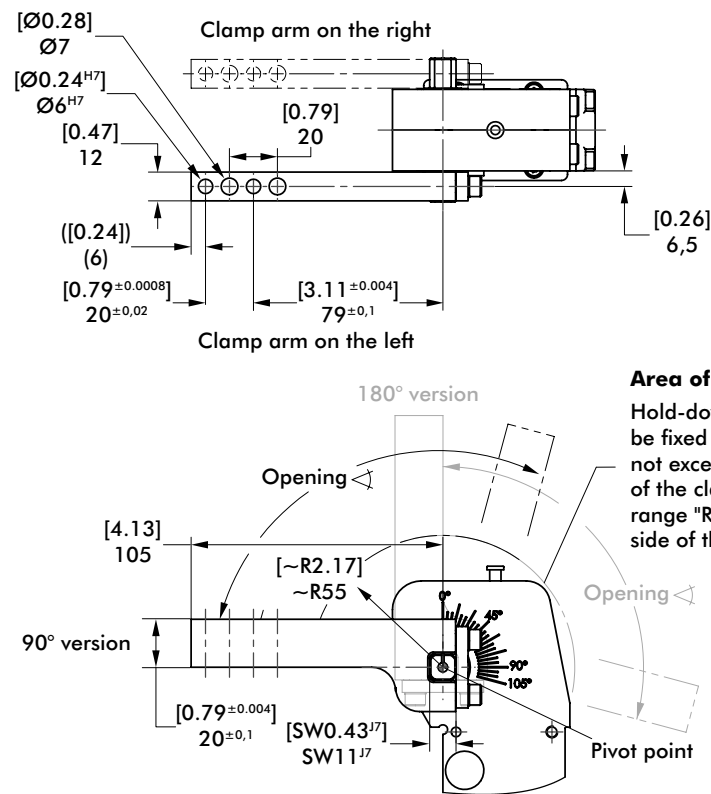
Clamp arm sets consists of clamp arm, links and screws.

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight kg [lbs]
8JG-364-1-01	105°	105°	[1.70] 0,77

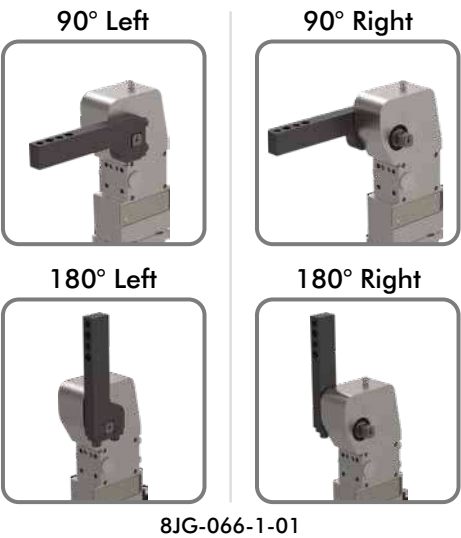
82L-3E LATERAL ARMS (STEEL)

Enclosed Pneumatic Power Clamps | Lightweight Modular | Dimensions and Technical Specifications

For Size 32mm



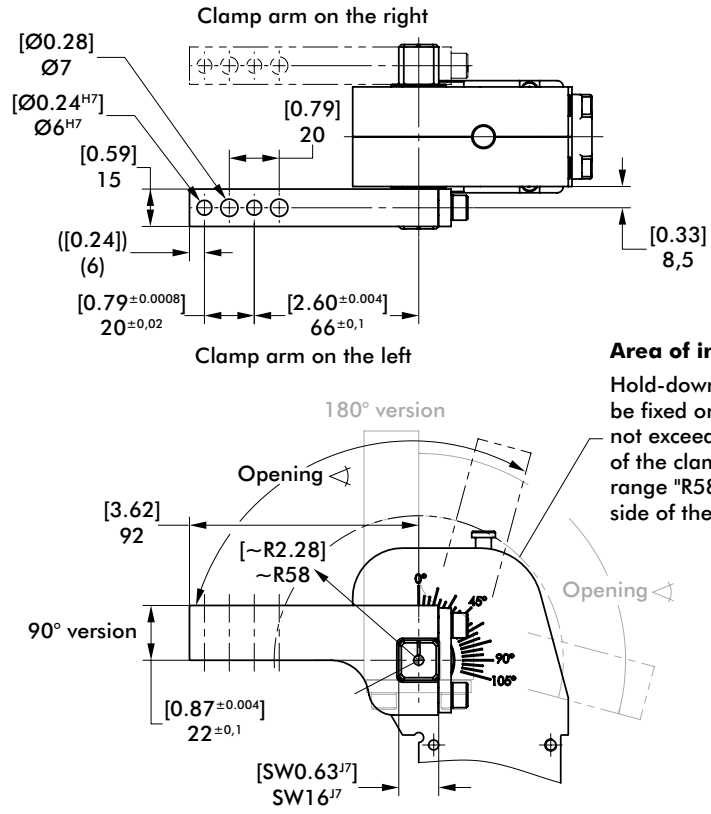
Area of interference
Hold-down pieces which must be fixed on the clamp arm must not exceed the width "12 [0.47]" of the clamp arm in the swivelling range "R55 [R2.17]" on the inner side of the clamp arm.



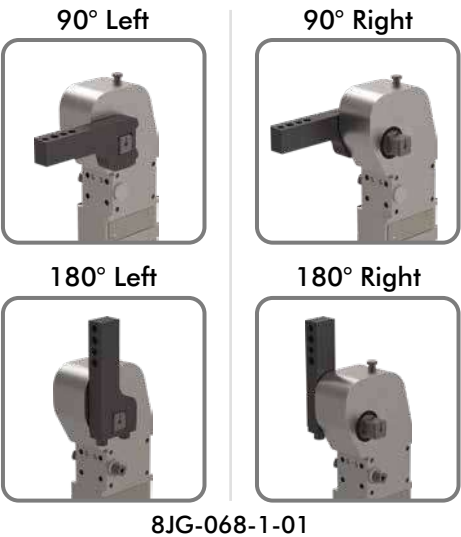
Clamp arm sets consists of clamp arm, links and screws.

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight kg [lbs]
8JG-066-1-01	105°	105°	[0.55] 0,25

For Size 40mm



Area of interference
Hold-down pieces which must be fixed on the clamp arm must not exceed the width "15 [0.59]" of the clamp arm in the swivelling range "R58 [R2.28]" on the inner side of the clamp arm.



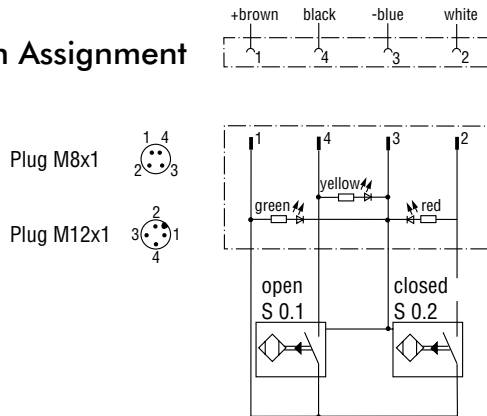
Clamp arm sets consists of clamp arm, links and screws.

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight kg [lbs]
8JG-068-1-01	105°	105°	[0.66] 0,3

82L-3E ACCESSORIES

Enclosed Pneumatic Power Clamps | Lightweight Modular | Dimensions and Technical Specifications

Pin Assignment



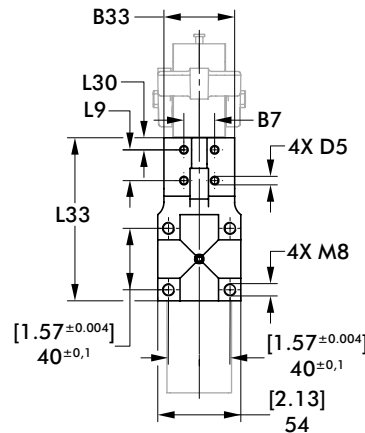
Wiring diagram of electrical sensing system

Sensing system immune to interference from d.c. arc welding and a.c. arc welding

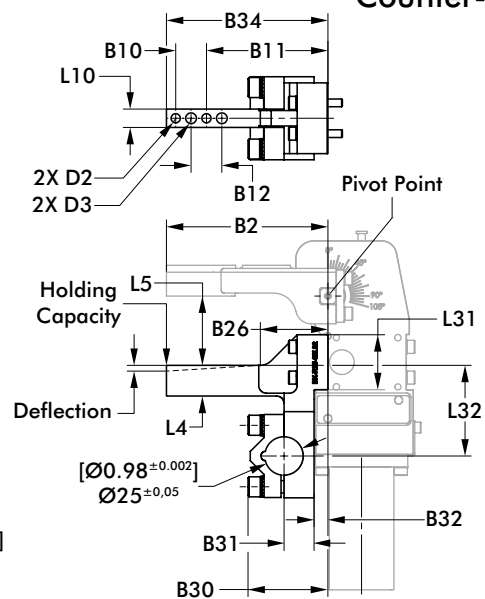
Inductive version: B8, B7, C8



View Counter-support without bracket and screws



Counter-Support



* = Tolerance for distance to dowel holes $\pm 0,02$ [± 00.001 in]

** = distance from pivot point

Model	Fit for Model	Max. Holding Capacity	Deflection	Weight	B2	B7*	B10	B11	B12	B26**	B30**	B31**	B32**
		N [lbf]	mm [in]	kg [lbs]		$[\pm 0.004] \pm 0,1$	$[\pm 0.0008] \pm 0,02$						
BK-R25-82L25-1	82L-3E23..2...	[206] 914	[0.008] 0,2	[0.88] 0,4	[3.66] 93	[0.98] 25		[2.44] 62		[1.65] 42	[2.17] 55	[1.24] 31,5	[0.43] 11
BK-R25-82L32-1	82L-3E23..3...	[148] 660	[0.006] 0,16	[1.1] 0,5	[4.13] 105	[0.79] 20	[0.79] 20	[3.11] 79	[0.79] 20	[1.73] 44	[2.05] 52	[1.12] 28,5	[0.35] 9
BK-R25-82L40-1	82L-3E23..4...	[450] 2000	[0.015] 0,37	[1.23] 0,56	[4.33] 110	[0.98] 25		[3.31] 84		[1.61] 41			[0.30] 7,5

Model	B33	B34	D2	D3	D5	L4	L5	L9	L10	L30	L31	L32	L33
			$\varnothing$ H7	$\varnothing$	$\varnothing$	$[\pm 0.004] \pm 0,1$		$[\pm 0.004] \pm 0,1$			$[-0.004] -0,1$		
BK-R25-82L25-1	[1.38] 35	[3.54] 90	[0.16] 4	[0.26] 6,5	[0.22] 5,5	[0.79] 20		[0.71] 18	[0.47] 12	[0.19] 4,95	[1.10] 27,9	[2.00] 50,9	[4.17] 106
BK-R25-82L32-1	[1.81] 46	[4.13] 105	[0.24] 6	[0.28] 7	[0.26] 6,6	[0.87] 22	[1.77] 45	[0.79] 20		[0.31] 7,85	[1.41] 35,7	[2.32] 59	
BK-R25-82L40-1	[1.57] 40	[4.33] 110							[0.59] 15	[0.39] 9,85	[1.56] 39,7	[2.60] 66	[4.25] 108

82L-3E ACCESSORIES

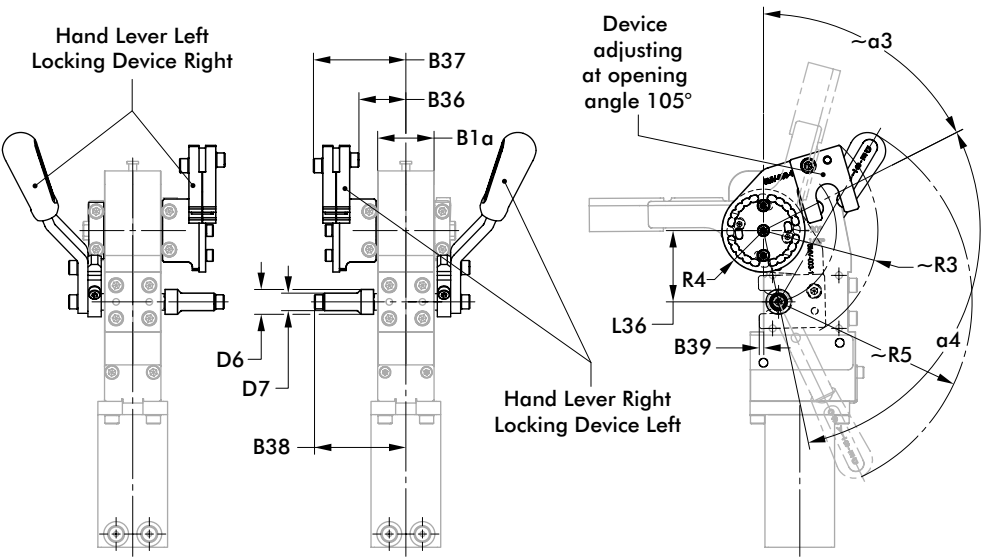
Enclosed Pneumatic Power Clamps | Lightweight Modular | Dimensions and Technical Specifications

Hold Open Device



Clamping position

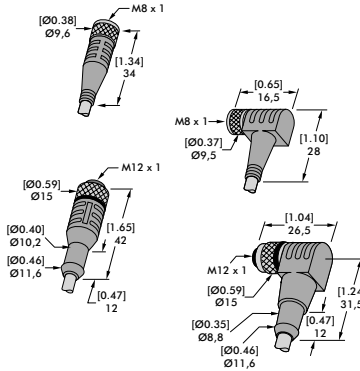
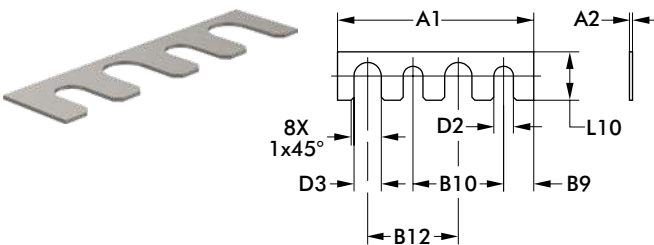
Open position locked



Model	Fit for Model	B1α	B36	B37	B38	B39	D6	D7	L36	~R3	R4	~R5	~α3	α4
82ZB-036-1	82L-3E23H.2...	[1.34] 34	[0.98] 25	[1.85] 47	[1.85] 47	[0.12] 3	[0.59] 15	[0.39] 10	[1.22] 31	[2.09] 53	[0.73] 18,5	[4.61] 117	64°	105°
82ZB-037-1	82L-3E23H.3...		[1.10] 28	[2.20] 56	[2.19] 55,5			[0.41] 10,5	[1.69] 43	[2.72] 69	[0.98] 25		63°	
82ZB-038-1	82L-3E23H.4...		[1.57] 40	[1.18] 30	[2.28] 58			[2.24] 57	[1.97] 50	[2.99] 76	[1.06] 27			

82L-3E ACCESSORIES

Enclosed Pneumatic Power Clamps | Lightweight Modular | Dimensions and Technical Specifications

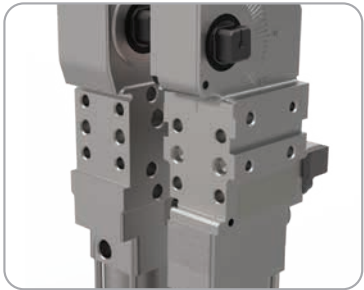
Clamping Arms		Order No. for Set 82L-3E23..2...	Order No. for Set 82L-3E23..3...	Order No. for Set 82L-3E23..4...						
U-Offset 90° Left/180° Right		8JG-647-3-01	--	--						
U-Offset 180° Left/90° Right		8JG-648-3-01	--	--						
U-central		8JG-075-3-01	8JG-065-2-01	8JG-067-2-01						
Lateral		--	8JG-066-1-01	8JG-068-1-01						
H-Shape		--	8JG-363-1-01	8JG-364-1-01						
Sensor Cables (1 Connector Socket & 5 m [16.4 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						
										
Shim for Clamping Arm		Order No.	A1	A2	D2	D3	B9	B10	B12	L10
		82ZB-SH4001	[1.65] 42	[0.004] 0,1						
		82ZB-SH4002		[0.008] 0,2						
		82ZB-SH4005		[0.02] 0,5	[0.26] 6,5	[0.28] 7	[0.24] 6	[0.79] 20	[0.79] 20	[0.46] 11,8
		82ZB-SH4010		[0.04] 1,0						
		82ZB-SH4020		[0.08] 2,0						
		82ZB-SH4050		[0.20] 5,0						
Spare Parts		Order No. for Set		Order No. for Set		Order No. for Set				
		82L-3E23..25..	82L-3E23..2N..	82L-3E23..32..	82L-3E23..3N..	82L-3E23..40..	82L-3E23..4N..			
Cylinder		82L-3E000025	82L-3E00002N	82L-3E000032	82L-3E00003N	82L-3E000040	82L-3E00004N			
Sensor Kit										
C8 Connector Plug, with In-Line M8x1		8EA-174-1-B			8EA-177-1-B					
B7 Connector Plug, with In-Line M12x1		8EA-175-1-B			8EA-178-1-B					
B8 Connector Plug, M12x1 with Cable		8EA-176-1-B			8EA-179-1-B					
Spare Parts		Order No. for Set		Order No. for Set		Order No. for Set				
		82L-3E23H02...	82L-3E23HG2...	82L-3E23H03...	82L-3E23HG3...	82L-3E23H04...	82L-3E23HG4...			
Hand Lever		8KB-031-1	8KB-091-1	8KB-031-1	8KB-091-1	8KB-032-1	8KB-092-1			

82M AND TCC

Enclosed Pneumatic Power Clamps | Heavy-Duty, Tolerance Compensation | Product Overview

82M Series Enclosed Power Clamp

Shown with optional U-Arms and Cylinders with Internal Hold Open Device



"B" Front Mount available for 82M and TCC size 40mm

Same mounting pattern as size 50 and 63mm



NAAMS Lateral Mounting available on 82M and TCC in addition to narrow, wide and NAAMS Clamp Arm Shafts

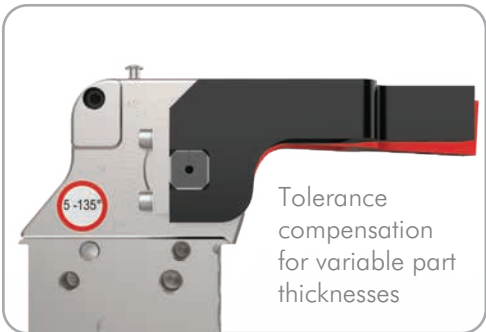
80mm	63mm	50mm	40mm
Max Holding Torque 3000 Nm	Max Holding Torque 1800 Nm	Max Holding Torque 1300 Nm	Max Holding Torque 380 Nm
Max Clamping Torque 850 Nm at 5bar	Max Clamping Torque 420 Nm at 5bar	Max Clamping Torque 270 Nm at 5bar	Max Clamping Torque 120 Nm at 5bar

TCC Tolerance Compensating Power Clamp

Shown with optional U-Arms and Cylinders with Internal Hold Open Device

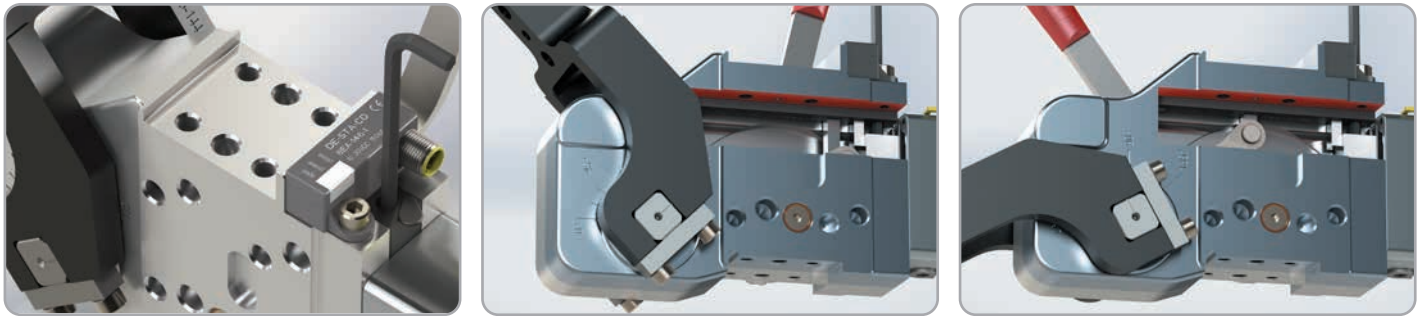


63mm	50mm	40mm
Max Holding Torque 295 Nm	Max Holding Torque 175 Nm	Max Holding Torque 85 Nm
Max Clamping Torque 295 Nm at 5bar	Max Clamping Torque 175 Nm at 5bar	Max Clamping Torque 85 Nm at 5bar



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

Adjusting the Arm Opening Angle

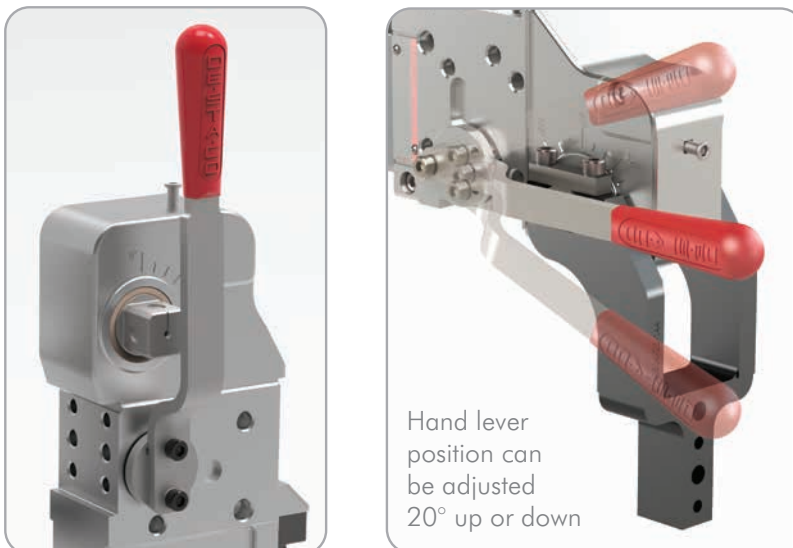


Easily adjust arm opening angle with an M5 Allen wrench.

- Move clamp arm to full open position.
- Using Allen wrench, release mechanism (leave Allen wrench in place).
- Move clamp arm to desired opening.
- Tighten to 10-15 Nm.

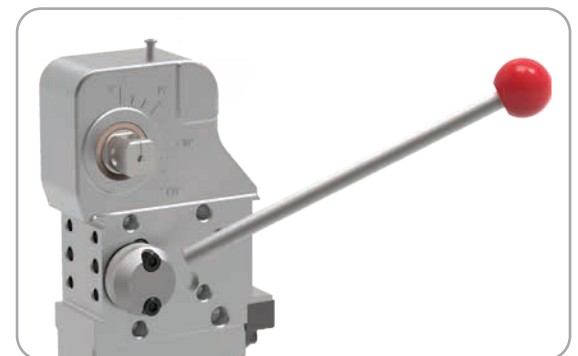
Enclosed Power Clamp Hand Lever (82M-3E Models Only)

Standard Adjustable Hand Lever



- Hand lever position is adjustable for improved ergonomics
- Handle can be mounted on the left or right side

Weldable Hand Lever

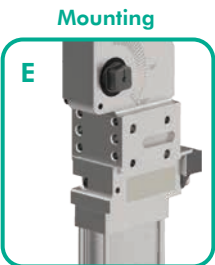


- Hand lever can be welded into a permanent position.
- Handle can be mounted on the left or right side

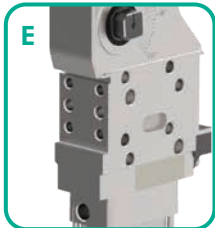
TCC-2

Enclosed Pneumatic Power Clamps | Heavy-Duty, Tolerance Compensation | Ordering Information

TCC-2		E		03		00		6A		L8	
Mounting	Description	Clamp Arm Shaft		Description		Hand Lever		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							



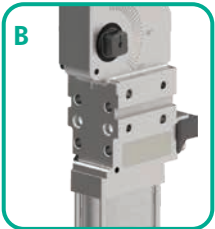
Size 40



Size 50



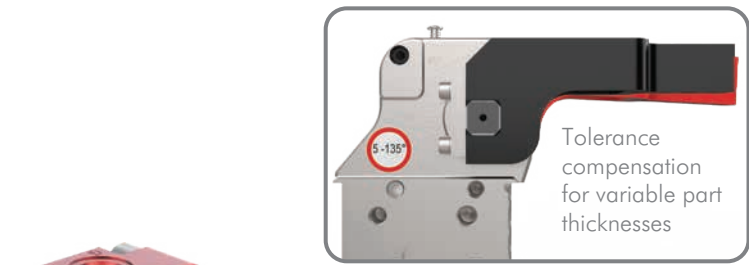
Size 63



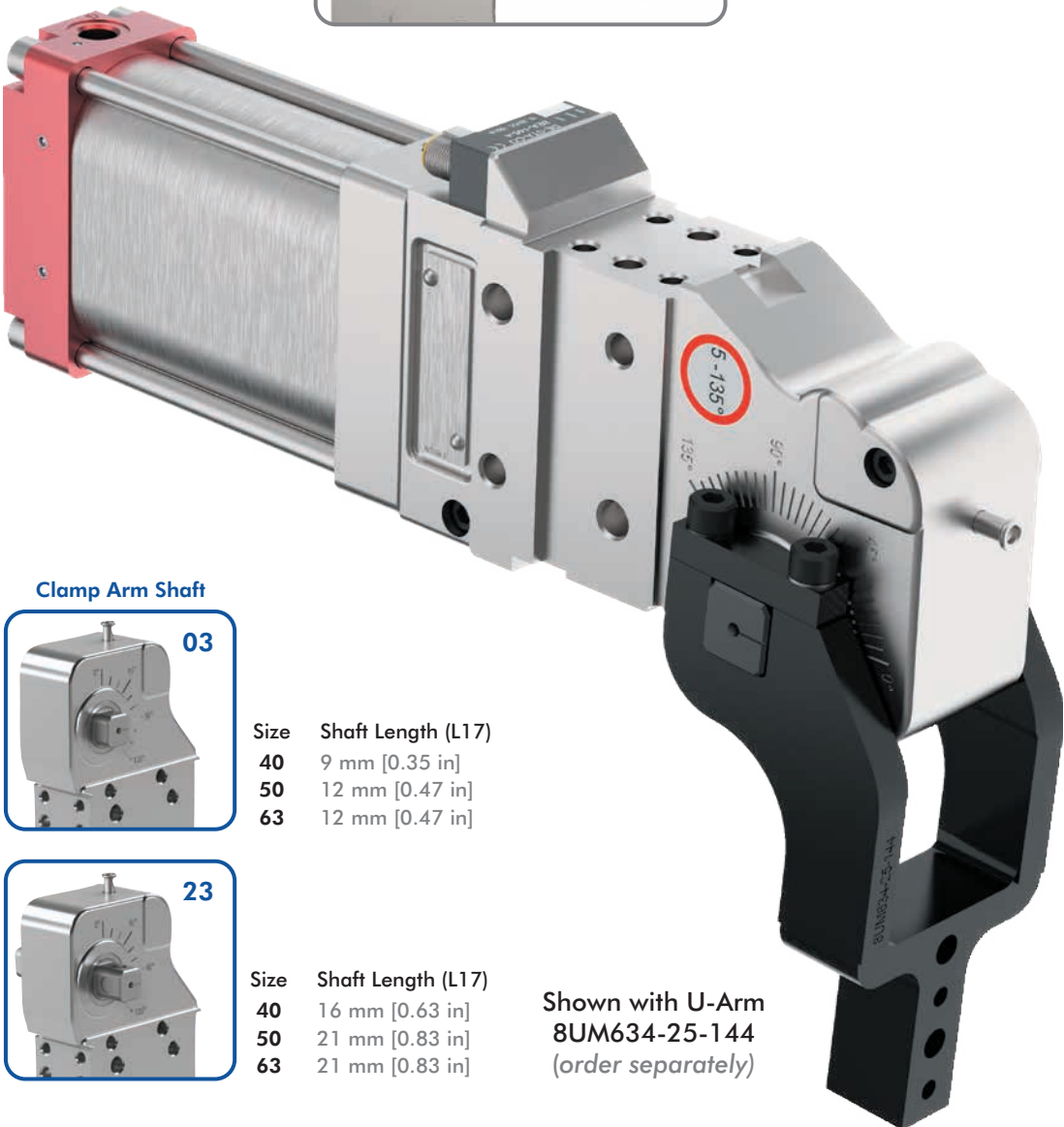
Size 40 Only



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)

Enclosed Pneumatic Power Clamps | Heavy-Duty, Tolerance Compensation | Ordering Information

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.
See page 69 for replacement sensor kits and components.



L8/N8



L9/N9

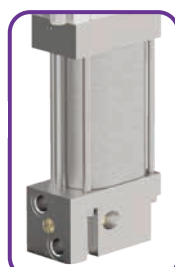


K8/K9



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]



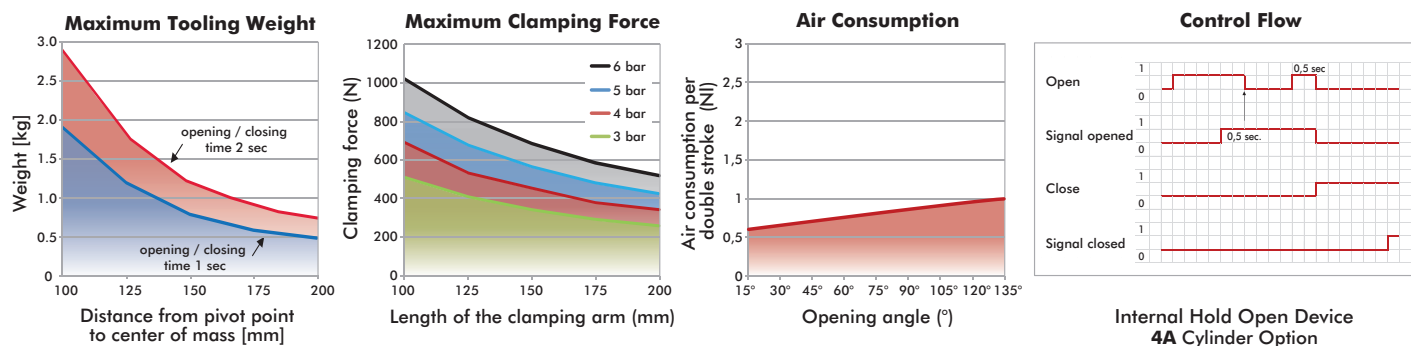
63

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

TCC-2

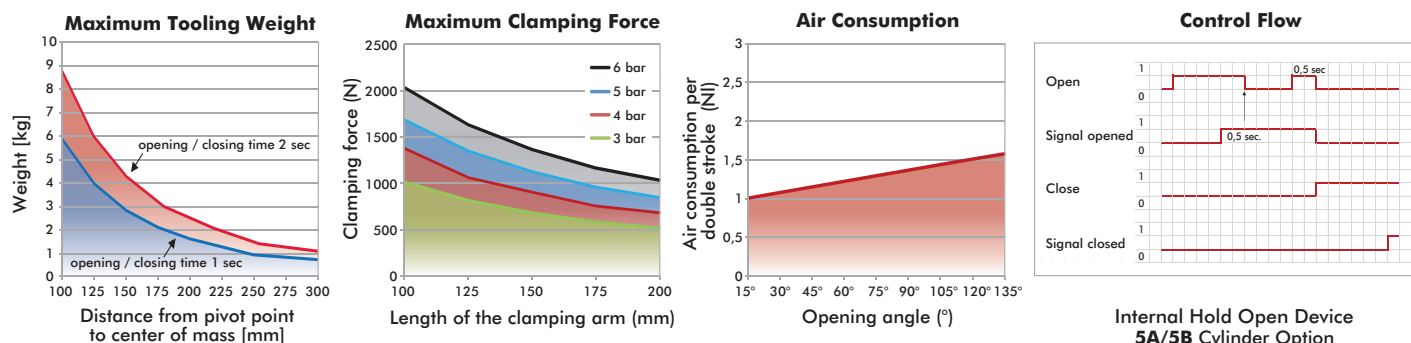
Enclosed Pneumatic Power Clamps | Heavy-Duty, Tolerance Compensation | Technical Specifications

Model	Max. Holding Torque (Nm)	Clamping Torque at 5 bar (Nm)	Cylinder Ø (mm)	Weight (kg)	Air Consumption per double stroke at 5 bar (liter)
TCC-2.....40..	85	85	40	1,6	0,9
TCC-2.....4A..				1,7	
TCC-2.....4B..				1,6	
TCC-2.....4V..				1,6	



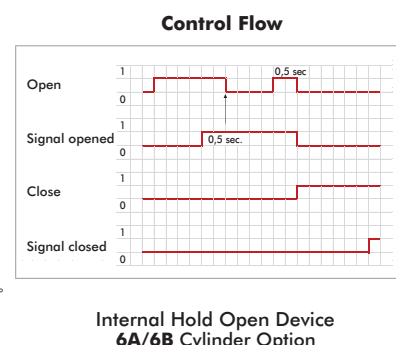
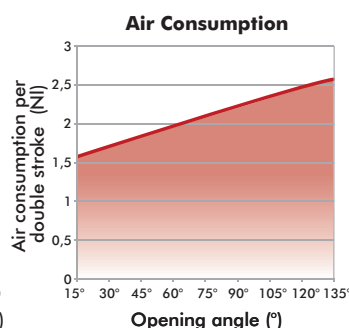
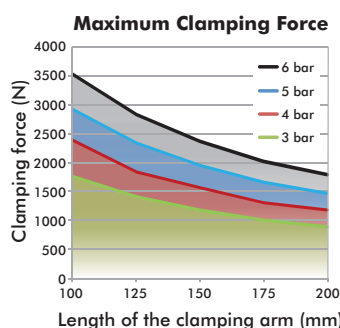
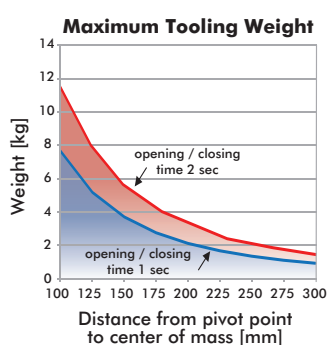
ATTENTION: Calculation tool available. Please consult factory.

Model	Max. Holding Torque (Nm)	Clamping Torque at 5 bar (Nm)	Cylinder Ø (mm)	Weight (kg)	Air Consumption per double stroke at 5 bar (liter)
TCC-2E....50..	175	175	50	2,8	1,6
TCC-2E....5N..				2,8	
TCC-2E....5A..				2,8	
TCC-2E....5B..				2,8	
TCC-2E....5C..				3,0	
TCC-2E....5D..				3,0	
TCC-2E....5V..				2,9	



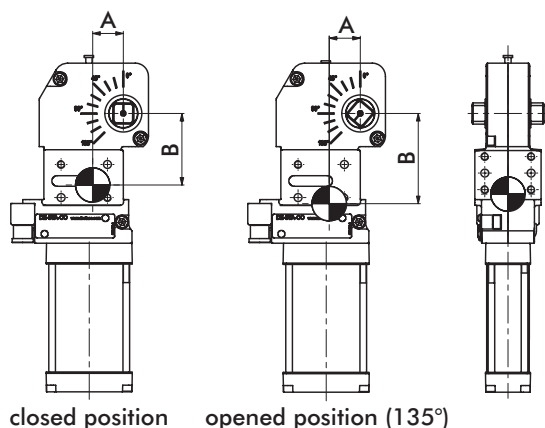
ATTENTION: Calculation tool available. Please consult factory.

Model	Max. Holding Torque (Nm)	Clamping Torque at 5 bar (Nm)	Cylinder Ø (mm)	Weight (kg)	Air Consumption per double stroke at 5 bar (liter)
TCC-2.....63..	295	295	63	3,8	2,6
TCC-2.....6N..				4,0	
TCC-2.....6A..				4,6	
TCC-2.....6B..				4,2	
TCC-2.....6C..					
TCC-2.....6D..					
TCC-2.....6V..					



ATTENTION: Calculation tool available. Please consult factory.

Center of Mass



Model	A		B		Weight
	Closed	Open	Closed	Open	
TCC-2E....40..	23	24	55	69	1,5
TCC-2B....40..	24		54	68	
TCC-2E....4A..	22	23	72	86	1,6
TCC-2B....4A..	23		72	85	
TCC-2E....4C..	25	26	77	89	1,7
TCC-2B....4C..	26		76	88	
TCC-2E....4V..	24	24	66	80	1,6
TCC-2B....4V..			66	79	
TCC-2E....50..			70	87	2,6
TCC-2E....5N..	24	25			
TCC-2E....5A..			83	99	2,8
TCC-2E....5B..					
TCC-2E....5C..	27	27	96	110	3,0
TCC-2E....5D..					
TCC-2E....5V..	25	26	84	99	2,9
TCC-2.....63..			89	105	3,7
TCC-2.....6N..	27	28			
TCC-2.....6A..			98	114	3,9
TCC-2.....6B..					
TCC-2.....6C..	30	30	116	130	4,4
TCC-2.....6D..					
TCC-2.....6V..	28	28	103	119	3,9

82M-3

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Ordering Information

82M-3 E 23 H0 50 L8

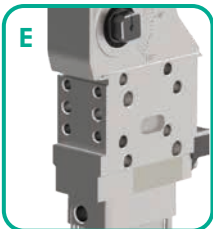
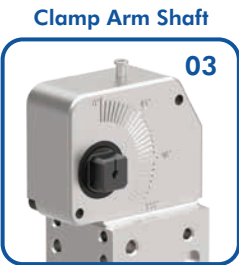
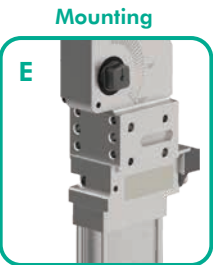
Mounting	Description
E	Standard Mounting
B	Common Front Mount for Size 40 only (same mount pattern as size 50 & 63)
N	NAAMS Side Mounting for Size 40 & 63 only

Clamp Arm Shaft	Description
03	for U-Arms
13	for U-Arms (required for 40 NAAMS N only)
23	for Lateral Arms
D0	for Lateral Arms (size 63 NAAMS N only)

See below for further details

Hand Lever	Description
00	No Hand lever
H0	Hand Lever
HS	Weldable

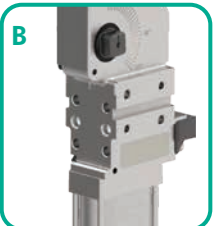
See below for further details



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



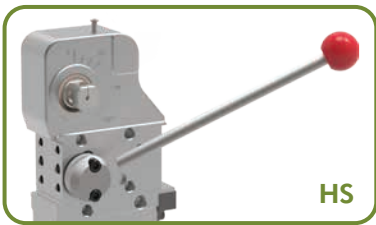
Size	Shaft Length
40	9 mm [0.35 in]



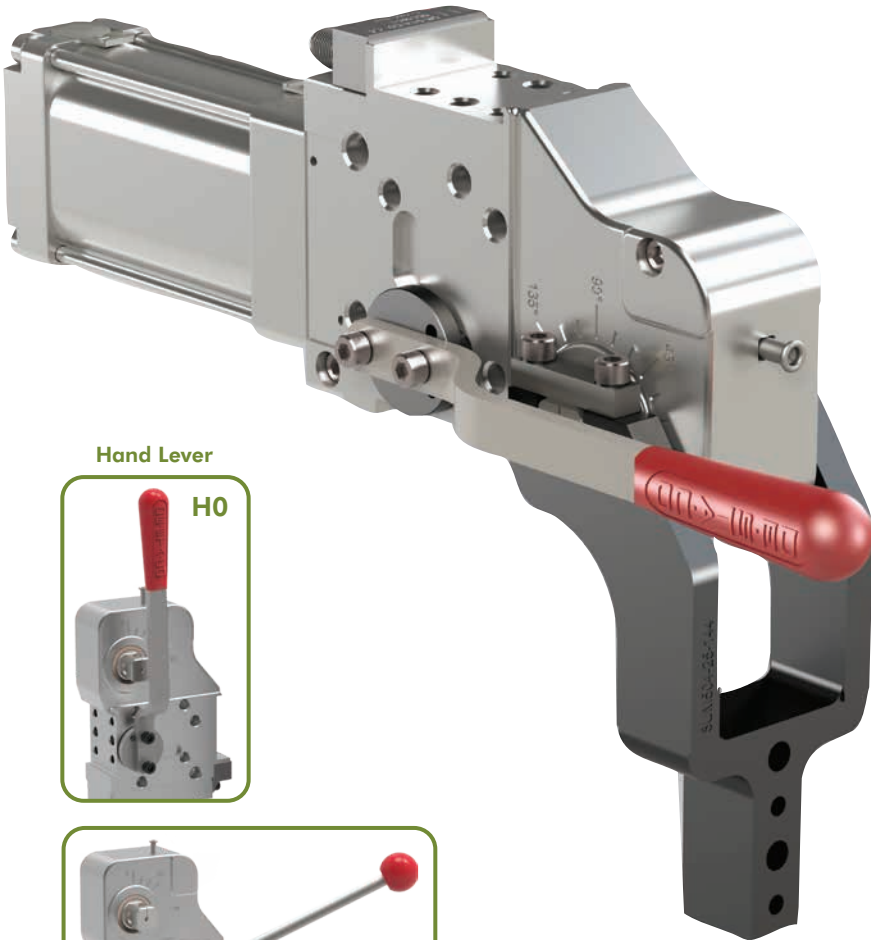
Size	Shaft Length (L17)
40	16 mm [0.63 in]
50	21 mm [0.83 in]
63	21 mm [0.83 in]
80	32 mm [1.26 in]



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



Hand Lever	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)

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Ordering Information

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)

See page 69 for replacement sensor kits and components.



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)
- 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]

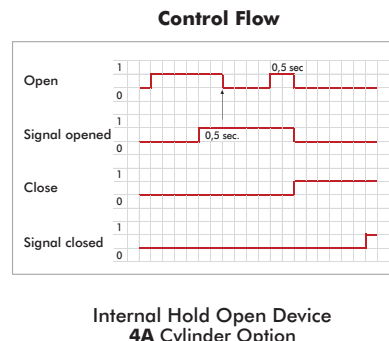
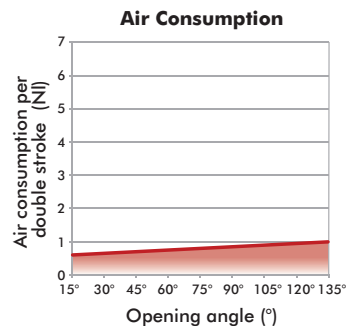
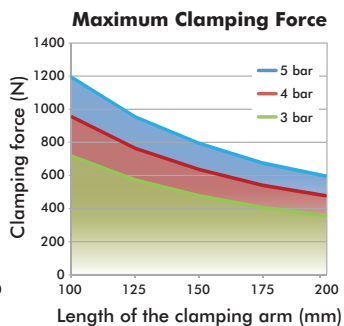
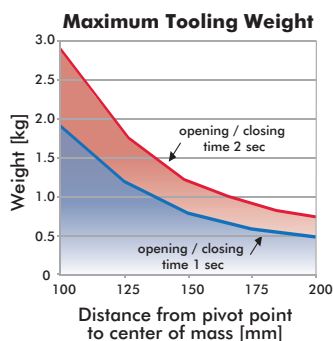
80

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

82M-3

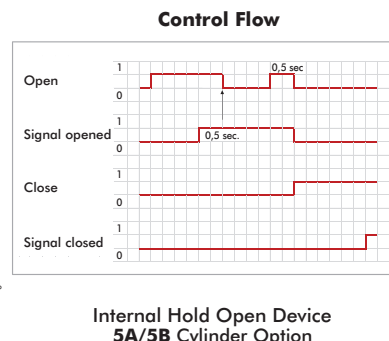
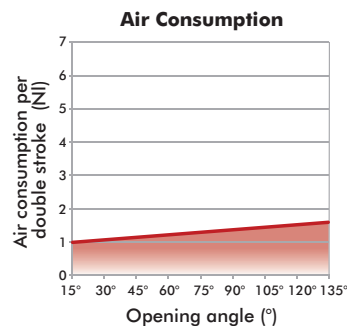
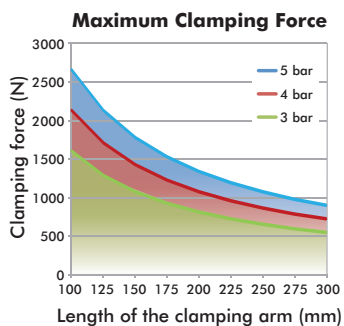
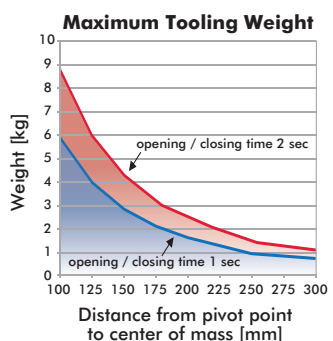
Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Technical Specifications

Model	Max. Holding Torque (Nm)	Clamping Torque at 5 bar (Nm)	Cylinder Ø (mm)	Weight (kg)	Air Consumption per double stroke at 5 bar (liter)
82M-3E...4...	380	120	40	1,5	0,9
82M-3B...4...					
82M-3N...4...					



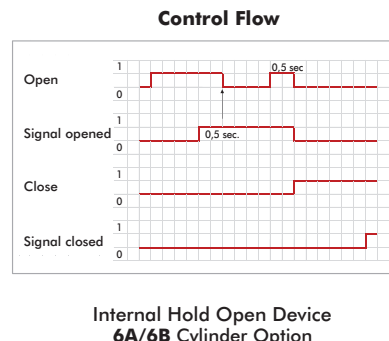
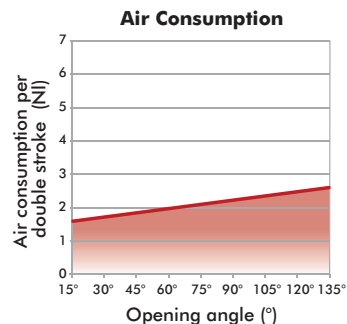
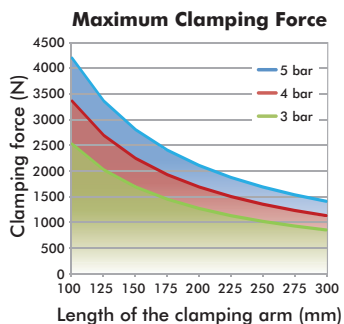
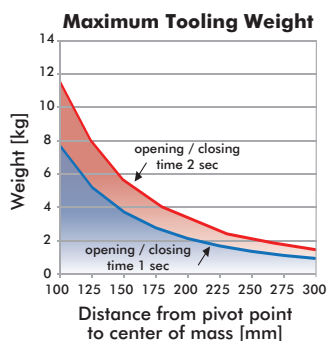
ATTENTION: Calculation tool available. Please consult factory.

Model	Max. Holding Torque (Nm)	Clamping Torque at 5 bar (Nm)	Cylinder Ø (mm)	Weight (kg)	Air Consumption per double stroke at 5 bar (liter)
82M-3E...5...	1300	270	50	2,8	1,6



ATTENTION: Calculation tool available. Please consult factory.

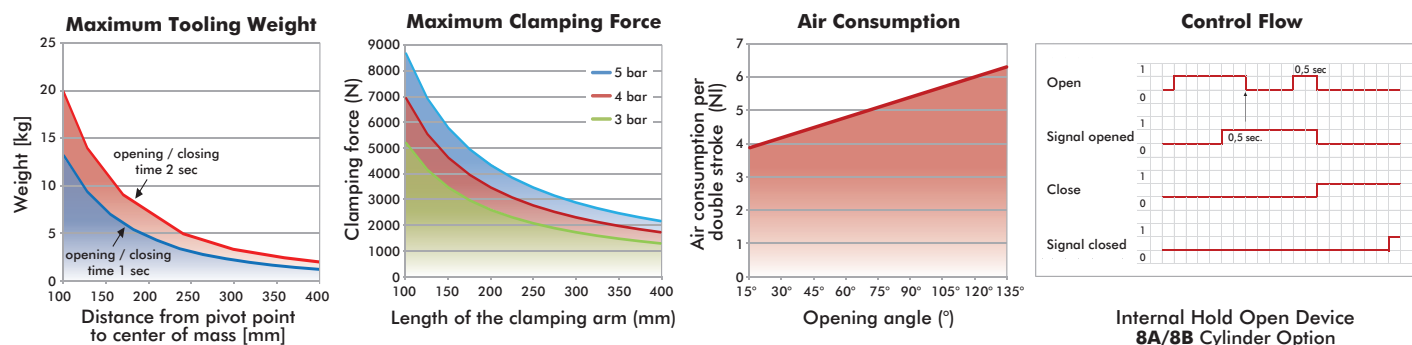
Model	Max. Holding Torque (Nm)	Clamping Torque at 5 bar (Nm)	Cylinder Ø (mm)	Weight (kg)	Air Consumption per double stroke at 5 bar (liter)
82M-3E...6...	1800	420	63	3,8	2,6
82M-3N...6...					



ATTENTION: Calculation tool available. Please consult factory.

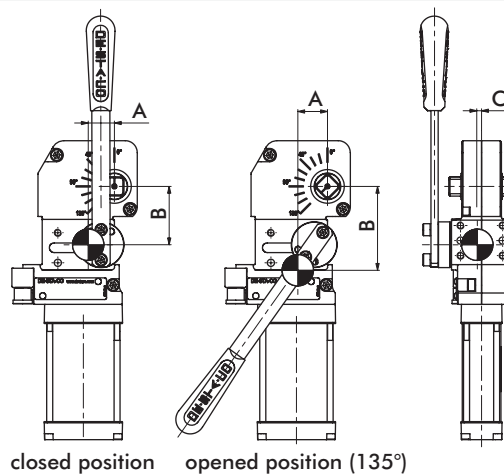
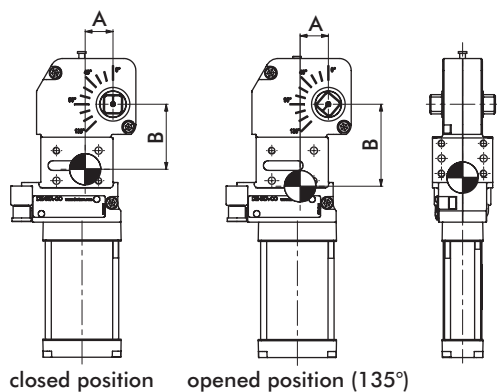
Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Technical Specifications

Model	Max. Holding Torque (Nm)	Clamping Torque at 5 bar (Nm)	Cylinder Ø (mm)	Weight (kg)	Air Consumption per double stroke at 5 bar (liter)
82M-3E....80..	3000	850	80	8,7	6,3
82M-3E....8N..				8,8	
82M-3E....8A..					
82M-3E....8B..					



ATTENTION: Calculation tool available. Please consult factory.

Center of Mass



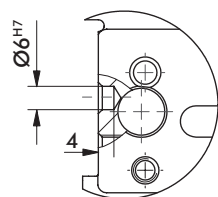
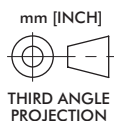
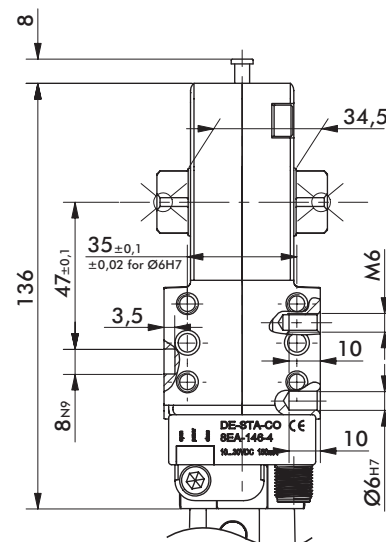
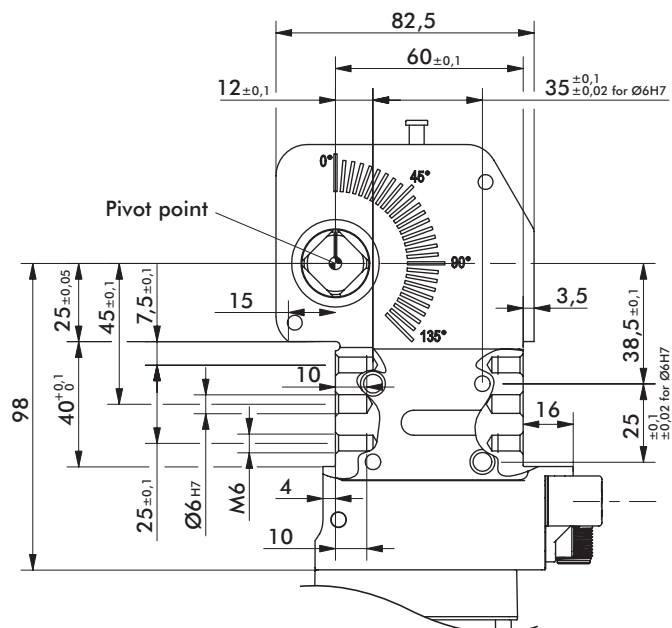
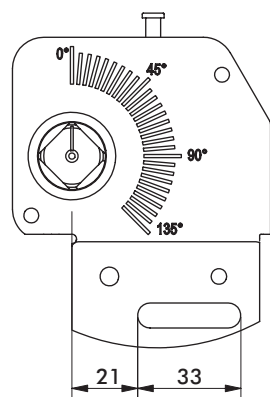
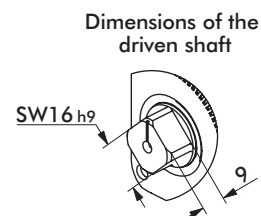
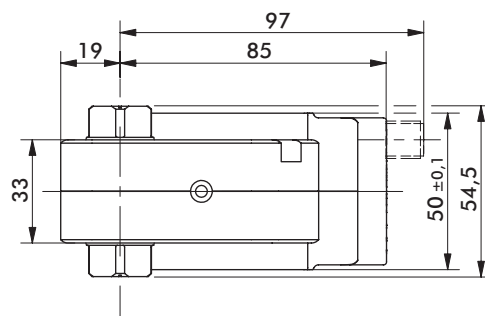
Model	Without Handle				Weight
	A Closed	A Open	B Closed	B Open	
82M-3E....40..	23	24	55	69	1,5
82M-3N....40..					
82M-3B....40..	24		54	68	1,6
82M-3E....4A..	22	23	72	86	
82M-3B....4A..	23			85	2,8
82M-3E....50..			70	87	
82M-3E....5N..	24	25	83	99	3,8
82M-3E....5A..					
82M-3E....5B..					3,9
82M-3....63..			88	103	
82M-3....6N..	27	28	98	114	8,7
82M-3....6A..					
82M-3....6B..					8,9
82M-3E....80..			98	123	
82M-3E....8N..	36	37	104	129	8,9
82M-3E....8A..					
82M-3E....8B..					

Model	With Handle				C	Weight
	A Closed	A Open	B Closed	B Open		
82M-3E....40..	22	25	49	70	4	1,6
82M-3B....40..	24	27	46	67		
82M-3E....50..	23	30	62	85	3	3,1
82M-3E....5N..						
82M-3....63..	26	30	80	102	2	4,2
82M-3....6N..						
82M-3E....80..	35	38	93	122	2	9,2
82M-3E....8N..						

82M-3N13, 40MM

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions

82M-3N13..40..



with Handle Option
82M-3N13H*40**

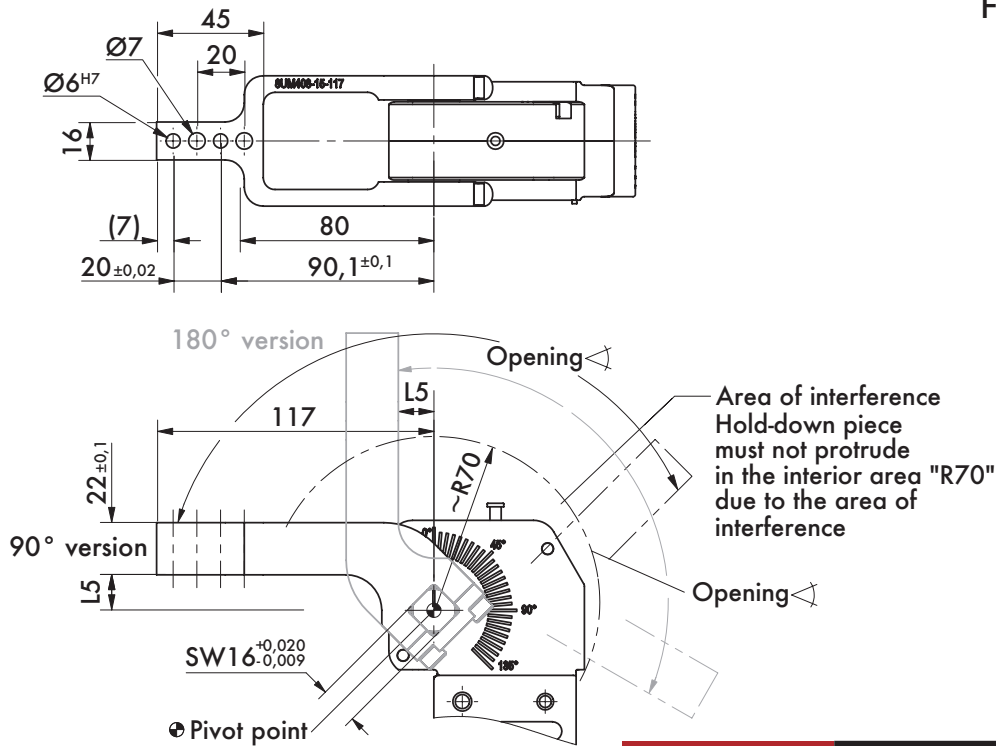
See page PC-PPC-40 for
cylinder options **40** and **4A**.

Power by compressed air, max. 6 bar operation with oil-free air is permissible.
The connector socket and the cable are not supplied with the unit.

82M-3N13, 40MM ACCESSORIES

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions and Technical Specifications

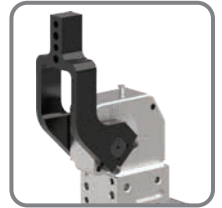
For Size 40mm NAAMS*
U-Arm (Steel)



90° Right



180° Right



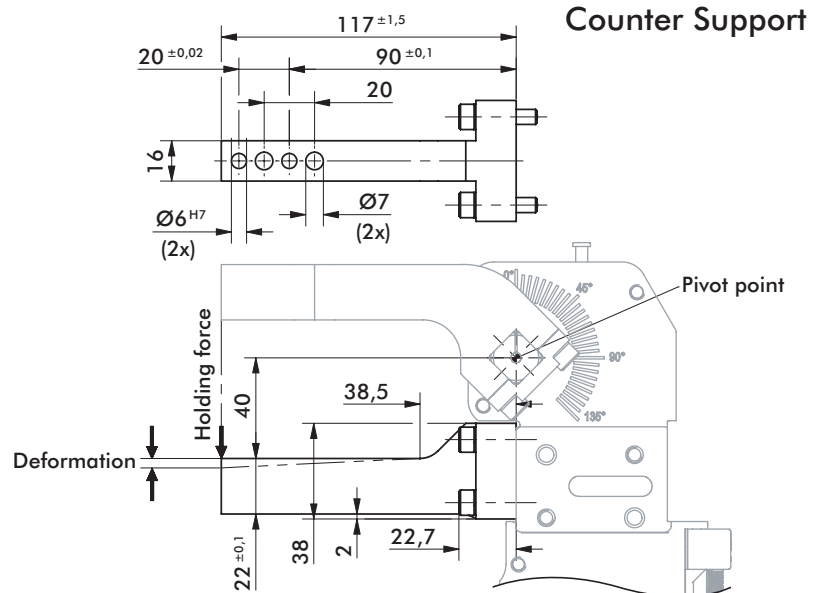
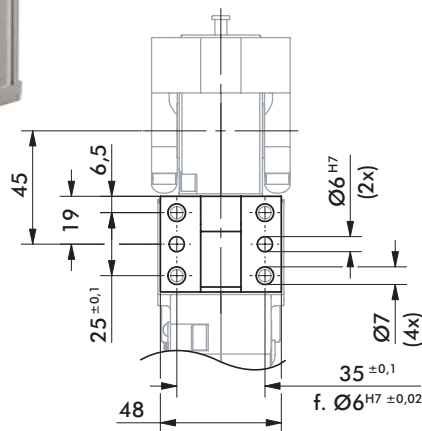
8UM408-00-117
8UM408-15-117
8UM408-25-117
8UM408-45-117

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	L5
8UM408-00-117	135°	105°	0,46	0
8UM408-15-117		120°	0,51	15
8UM408-25-117		135°	0,52	25
8UM408-45-117	130°		0,58	45

*Compatible with NAAMS Clamp Arm Shaft option 13 only.



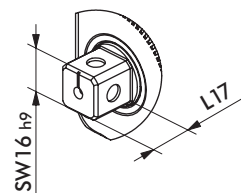
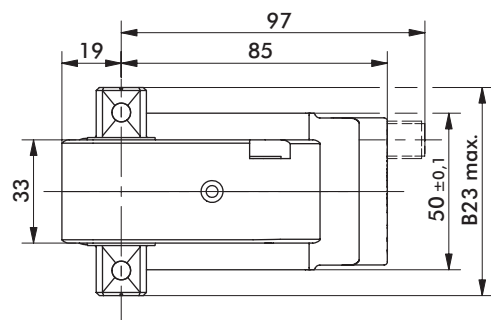
View:
Counter support
without screws and pins



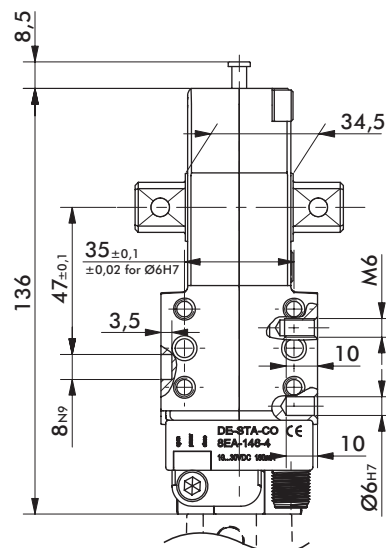
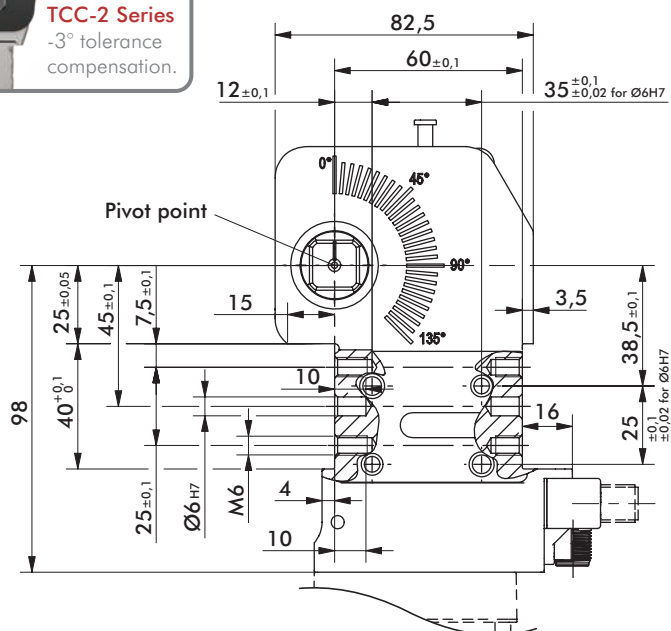
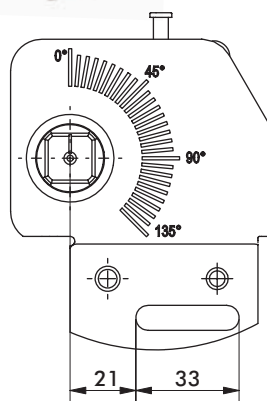
Arm Model No.	Holding Force (N)	Deformation (mm)	Weight (kg)
82ZB-190-1	2000	0,4	0,22

For Handle and Anti-Ramming device Accessories see pages PC-PPC-47 & 48.

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions



Model	B23 Max.	L17
82M-3.03/TCC-2.03..4...	54,5	9
82M-3.23/TCC-2.23..4...	66,5	16



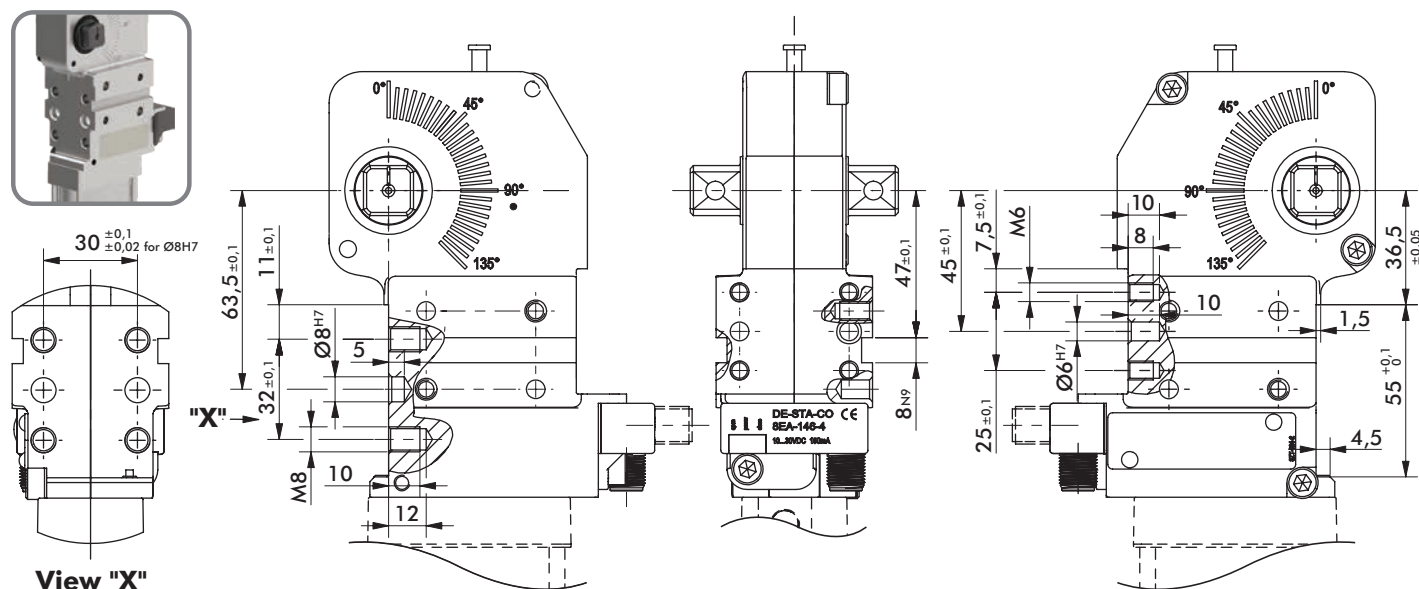
mm [INCH]



THIRD ANGLE
PROJECTION

Power by compressed air, max. 6 bar operation with oil-free air is permissible.
The connector socket and the cable are not supplied with the unit.
Safe "holding/clamping" only under pressurization (for TCC models only).

Dimensions below for "B" mounting surfaces. See above for additional base unit dimensions.

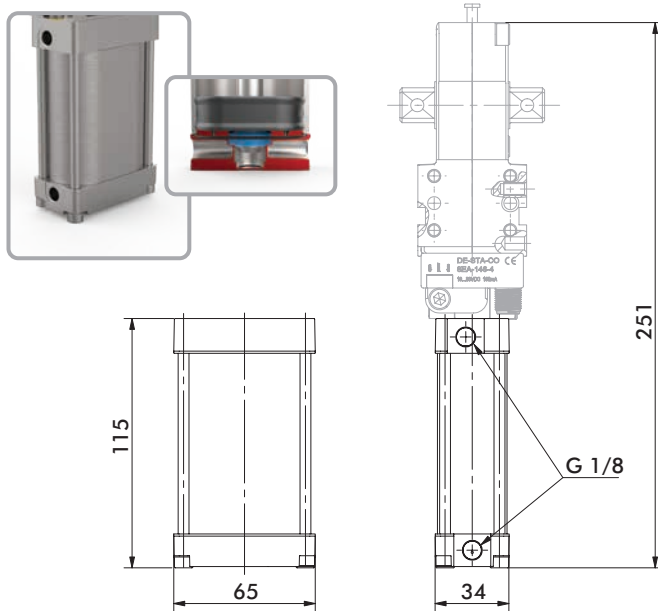


82M-3./TCC-2, 40MM

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Cylinder Options Dimensions

82M-3/TCC-2.....40

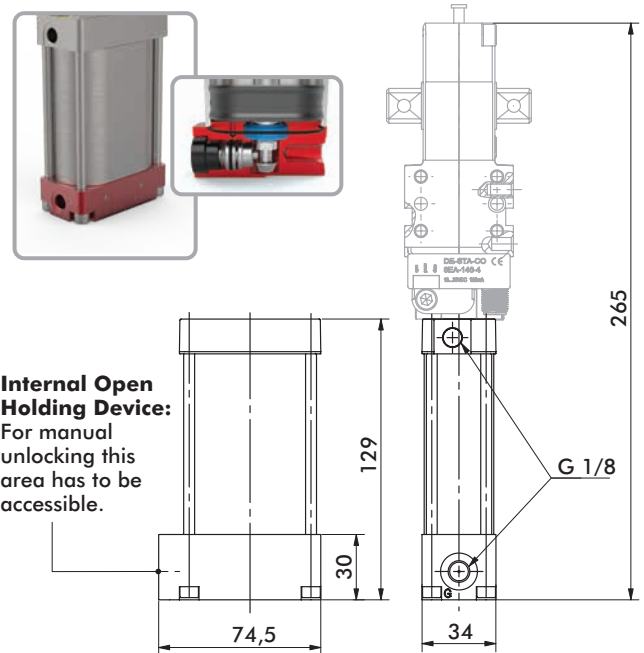
Standard Cylinder



82M-3/TCC-2.....4A

Cylinder with Internal Hold Open Device

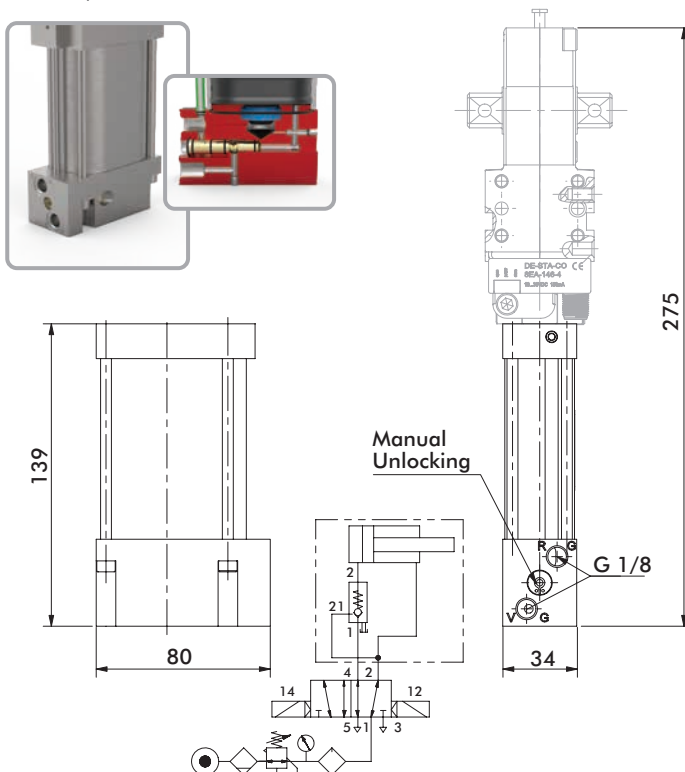
Securely holds clamp in the open position.



TCC-2.....4C

Cylinder with Unlock-able Return Valve

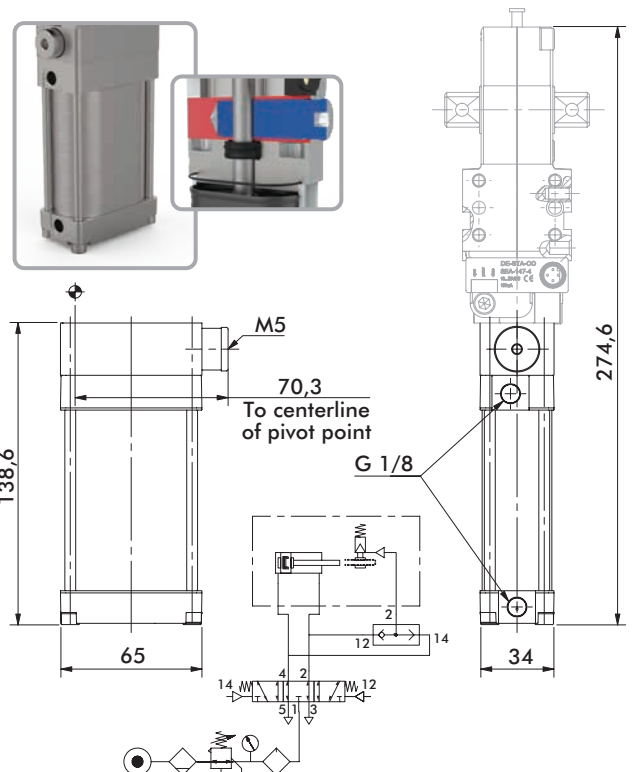
Pneumatically holds clamp arm in the closed position when air is released.



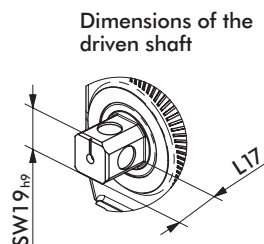
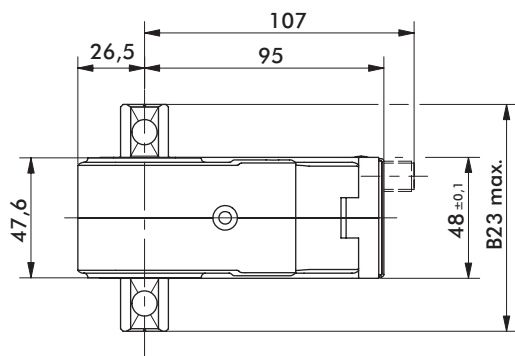
TCC-2.....4V

Cylinder with Rod Locking Device

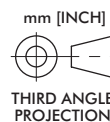
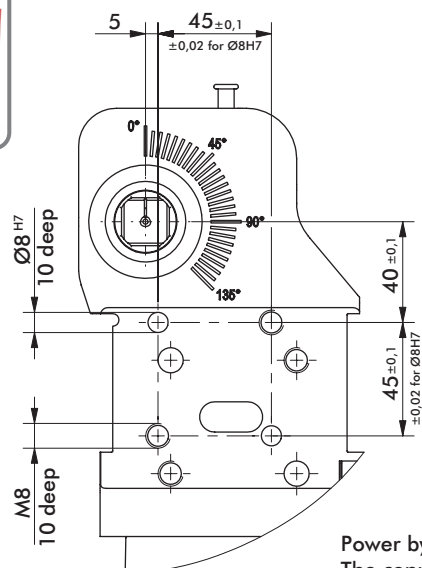
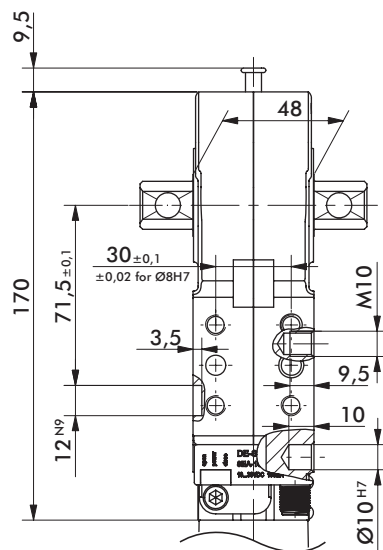
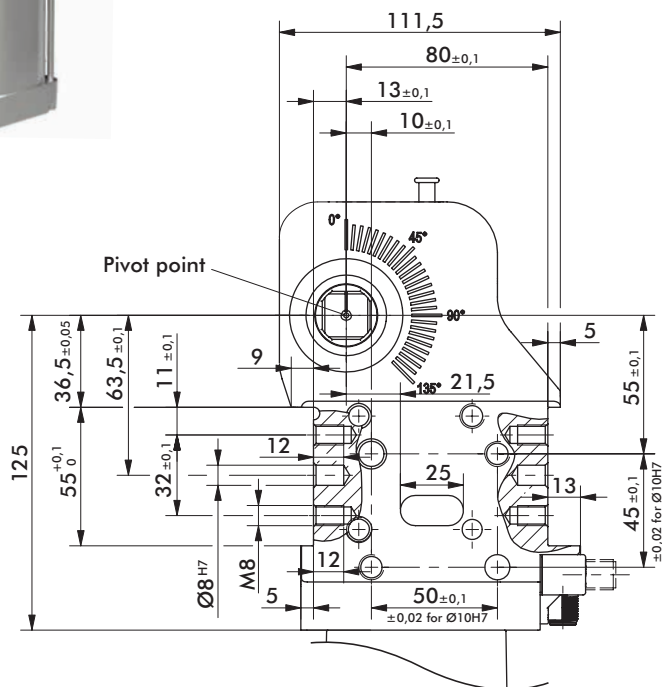
Uses friction to clamp rod at any point between open and closed positions.



Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions



Model	B23 Max.	L17
82M-3E03/TCC-2E03..5...	72	12
82M-3E23/TCC-2E23..5...	90	21



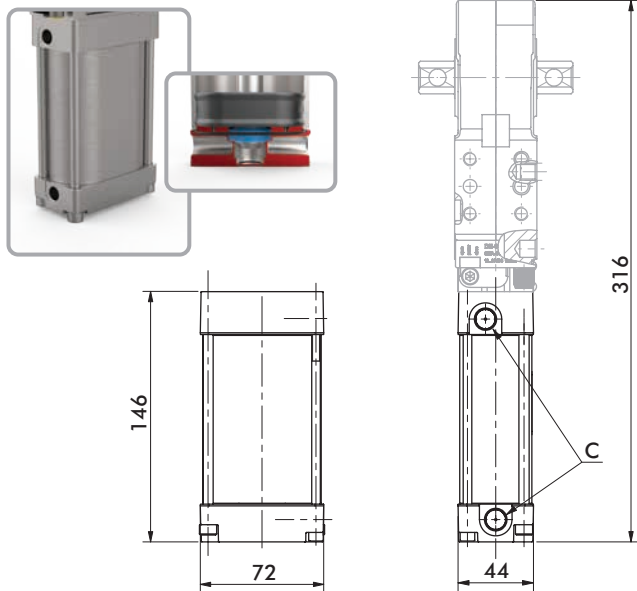
Power by compressed air, max. 6 bar operation with oil-free air is permissible.
The connector socket and the cable are not supplied with the unit.
Safe "holding/clamping" only under pressurization (for TCC models only).

82M-3/TCC-2, 50MM

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Cylinder Options Dimension

82M-3E/TCC-2E...50/5N

Standard Cylinder



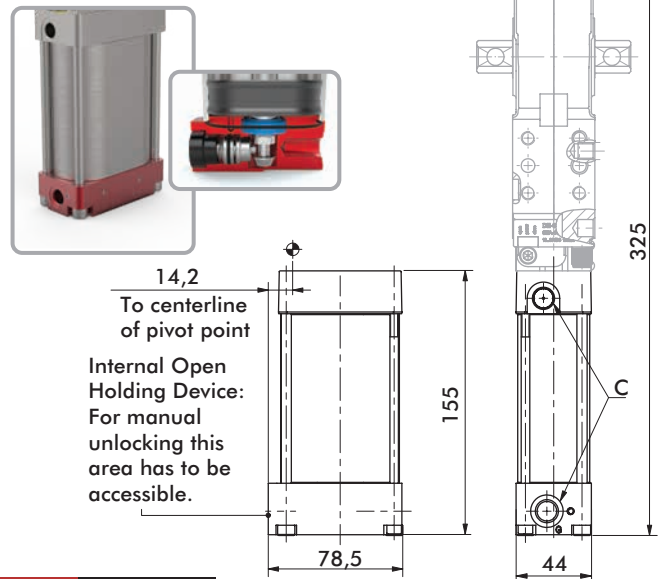
Ports	C
50	G1/4
5N	1/4-18 NPT

Important! For optimal cushioning, external pneumatic one-way flow control valves should be used.

82M-3E/TCC-2E...5A/5B

Cylinder with Internal Hold Open Device

Securely holds clamp in the open position.



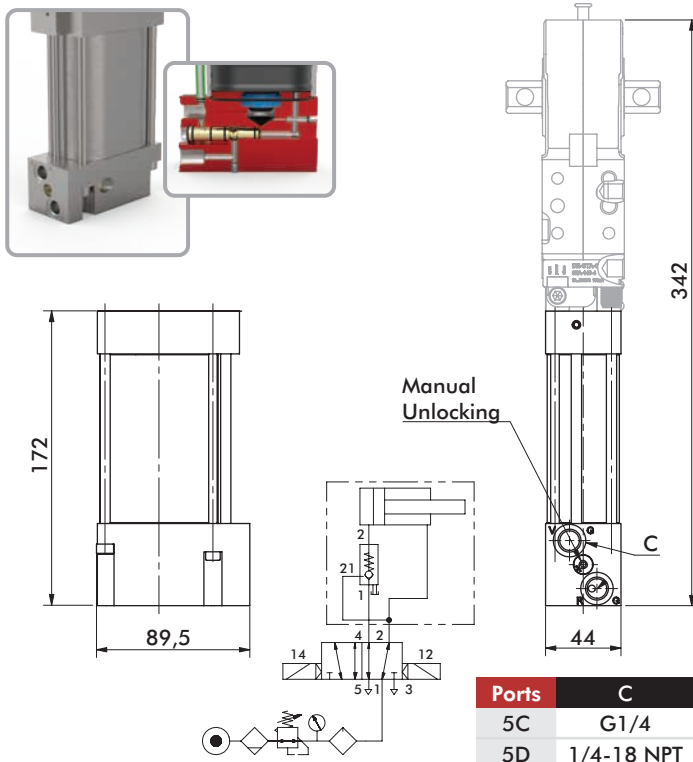
Ports	C
5A	G1/4
5B	1/4-18 NPT

Important! For optimal cushioning, external pneumatic one-way flow control valves should be used.

TCC-2E...5C/5D

Cylinder with Unlock-able Return Valve

Pneumatically holds clamp arm in the closed position when air is released.

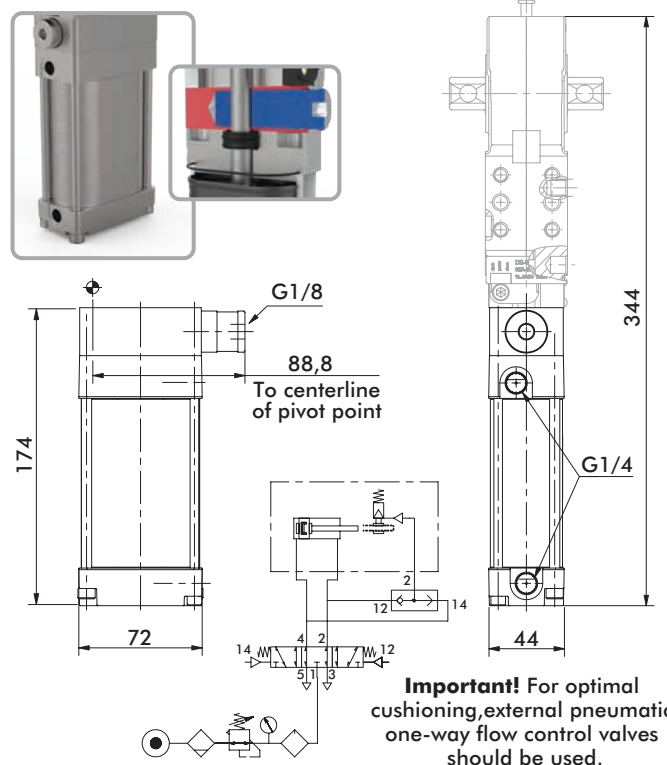


Ports	C
5C	G1/4
5D	1/4-18 NPT

TCC-2E...5V

Cylinder with Rod Locking Device

Uses friction to clamp rod at any point between open and closed positions.

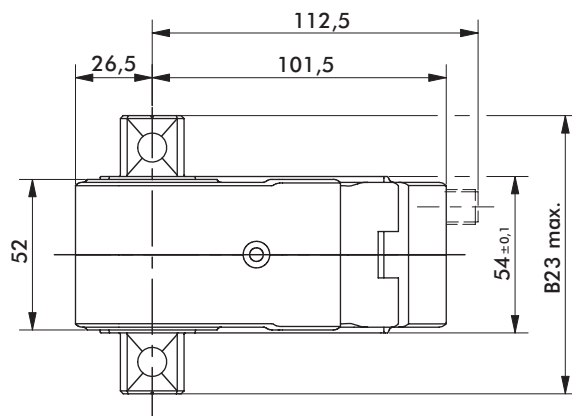


Important! For optimal cushioning, external pneumatic one-way flow control valves should be used.

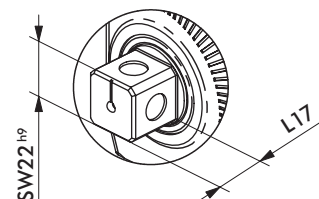
82M-3./TCC-2, 63MM

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions

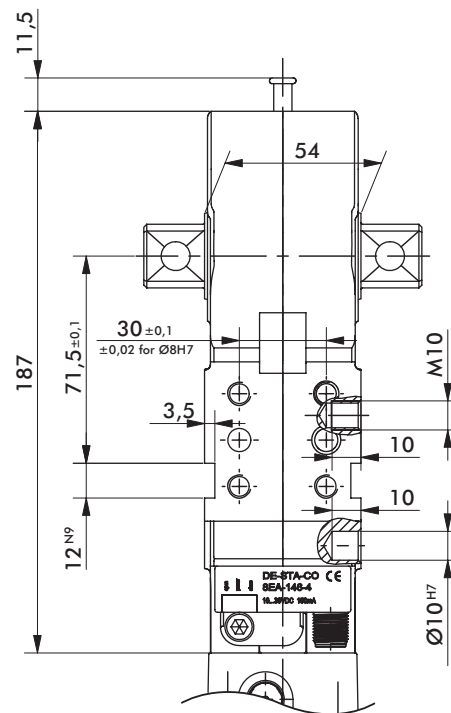
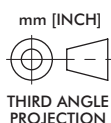
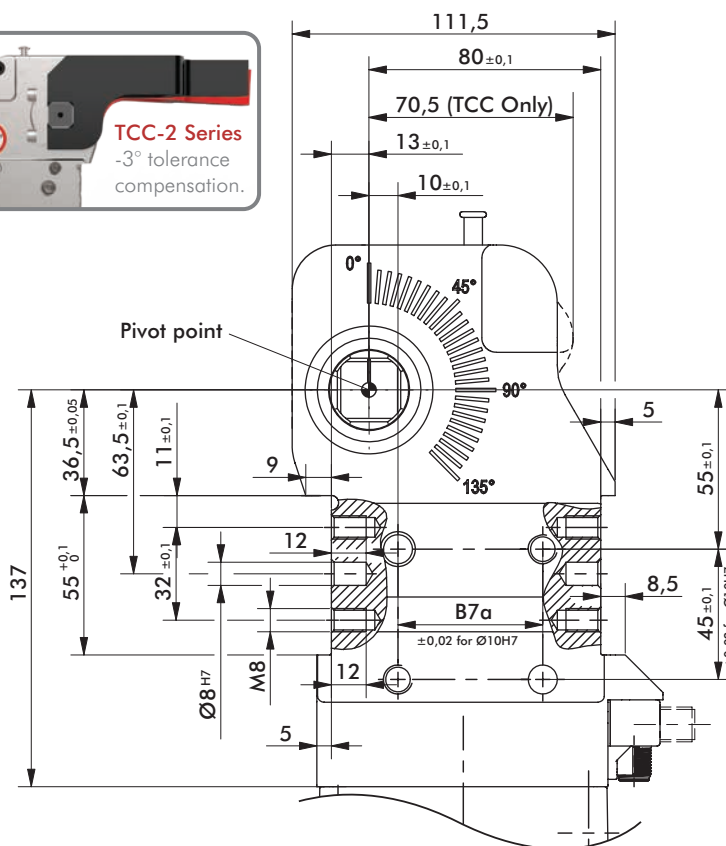
82M-3/TCC-2.....6.



Dimensions of the driven shaft



Model	B7a ±0,1	B23 Max.	L17
82M-3E03/TCC-2E03..6...	50	78	12
82M-3N03/TCC-2N03..6...	55		
82M-3E23/TCC-2E23..6...	50	96	21
82M-3N23/TCC-2N23..6...	55		
82M-3ND0..6...	55	106	26



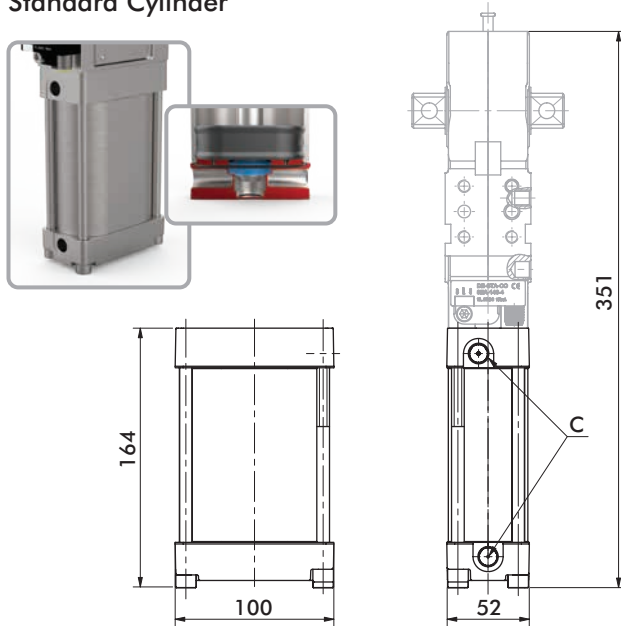
Power by compressed air, max. 6 bar operation with oil-free air is permissible.
The connector socket and the cable are not supplied with the unit.
Safe "holding/clamping" only under pressurization (for TCC models only).

82M-3./TCC-2, 63MM

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Cylinder Options Dimension

82M-3/TCC-2.....63/6N

Standard Cylinder



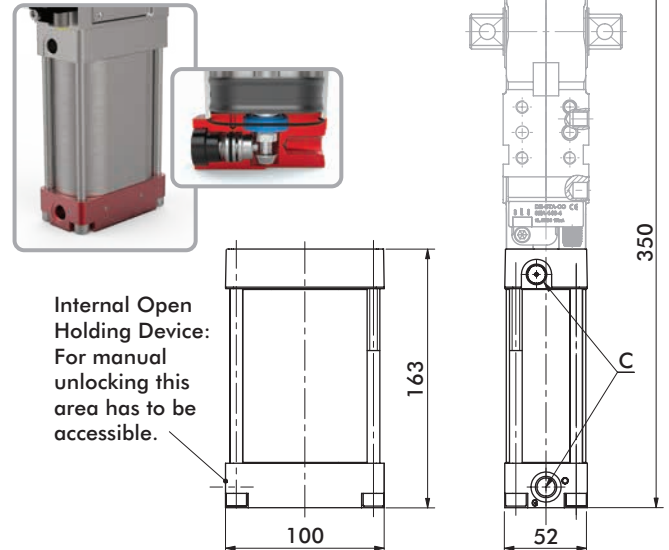
Ports	C
63	G1/4
6N	1/4-18 NPT

Important! For optimal cushioning, external pneumatic one-way flow control valves should be used.

82M-3/TCC-2.....6A/6B

Cylinder with Internal Hold Open Device

Securely holds clamp in the open position.



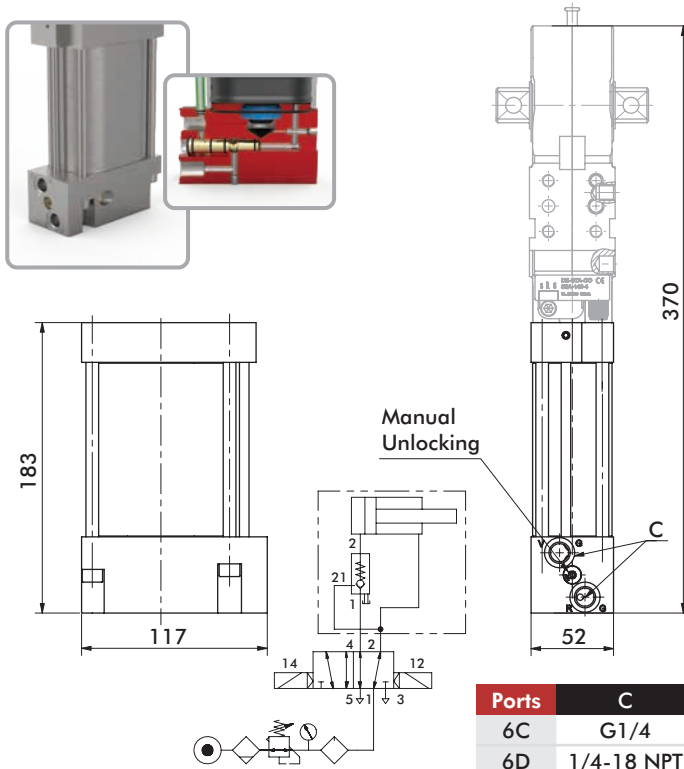
Ports	C
6A	G1/4
6B	1/4-18 NPT

Important! For optimal cushioning, external pneumatic one-way flow control valves should be used.

TCC-2.....6C/6D

Cylinder with Unlock-able Return Valve

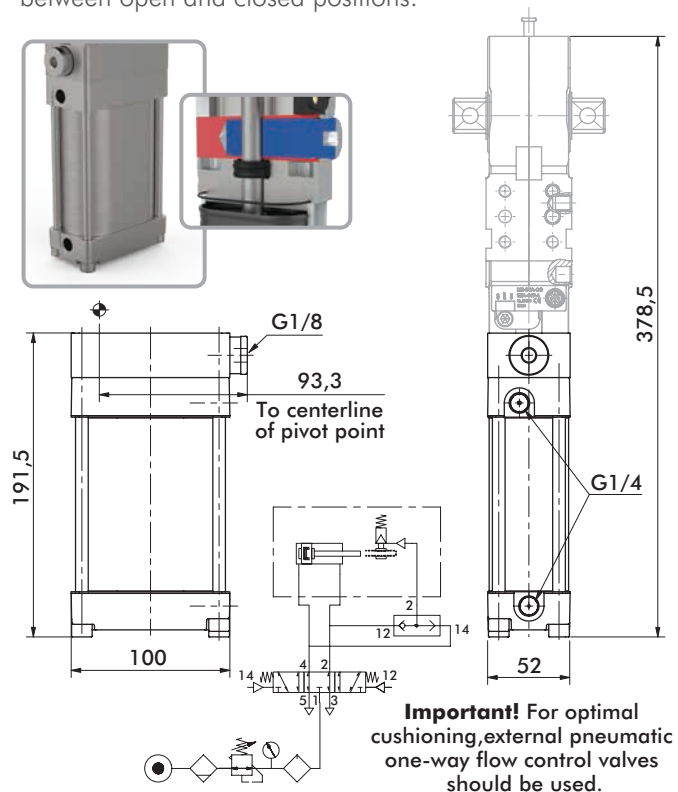
Pneumatically holds clamp arm in the closed position when air is released.



TCC-2.....6V

Cylinder with Rod Locking Device

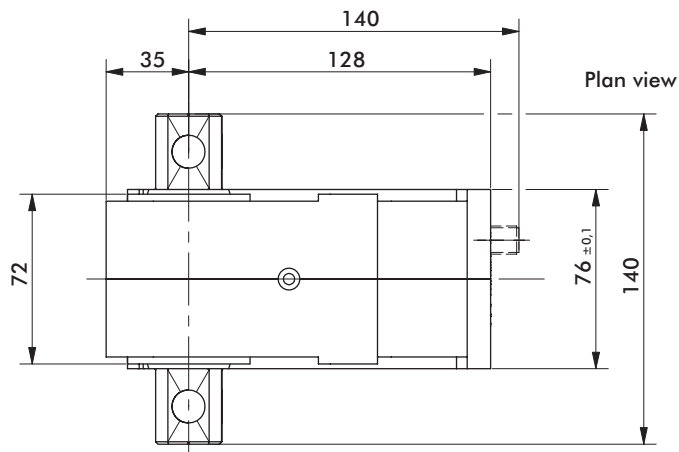
Uses friction to clamp rod at any point between open and closed positions.



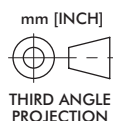
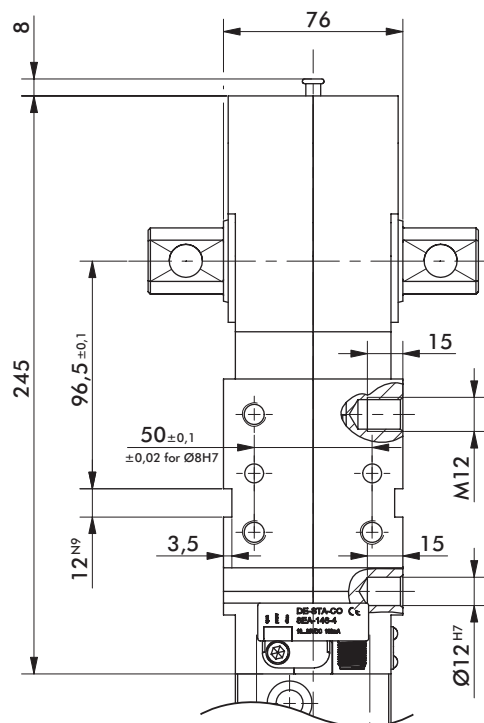
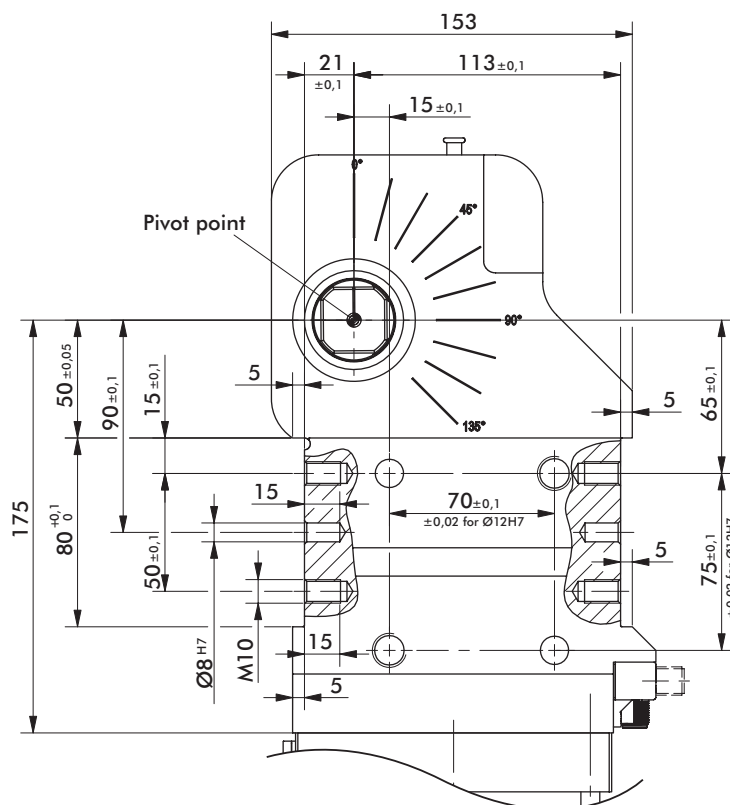
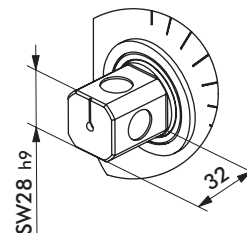
Important! For optimal cushioning, external pneumatic one-way flow control valves should be used.

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions

82M-3E....8.



Dimensions of the driven shaft



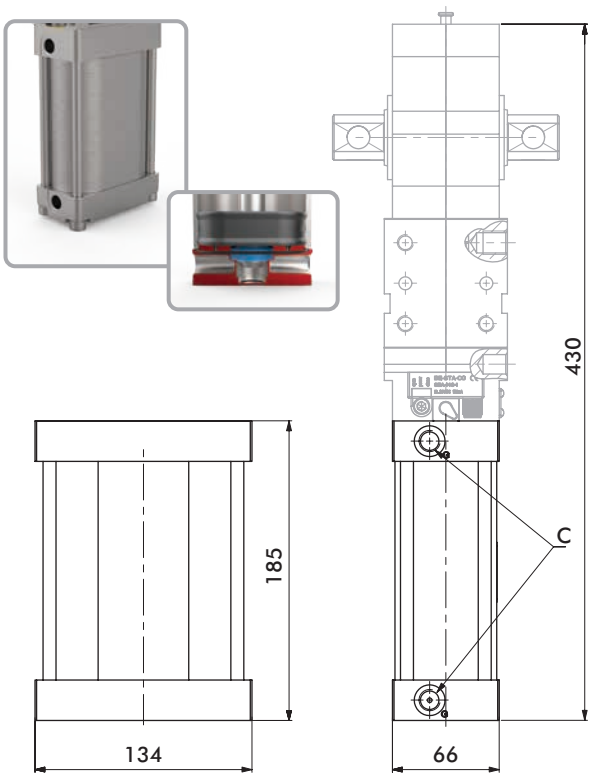
Power by compressed air, max. 6 bar operation with oil-free air is permissible.
The connector socket and the cable are not supplied with the unit.

82M-3., 80MM

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Cylinder Options Dimension

82M-3E...80/8N

Standard Cylinder



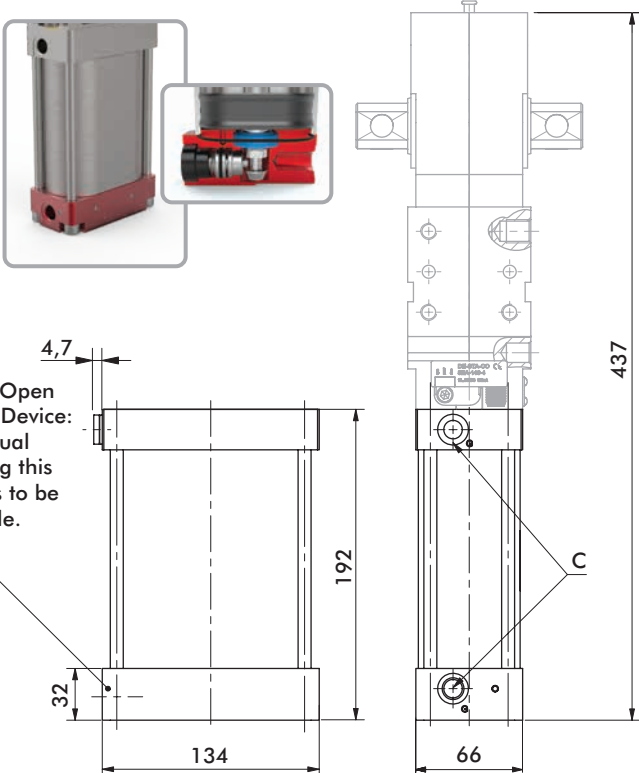
Ports	C
80	G1/4
8N	1/4-18 NPT

Important! For optimal cushioning, external pneumatic one-way flow control valves should be used.

82M-3E...8A/8B

Cylinder with Internal Hold Open Device

Securely holds clamp in the open position.



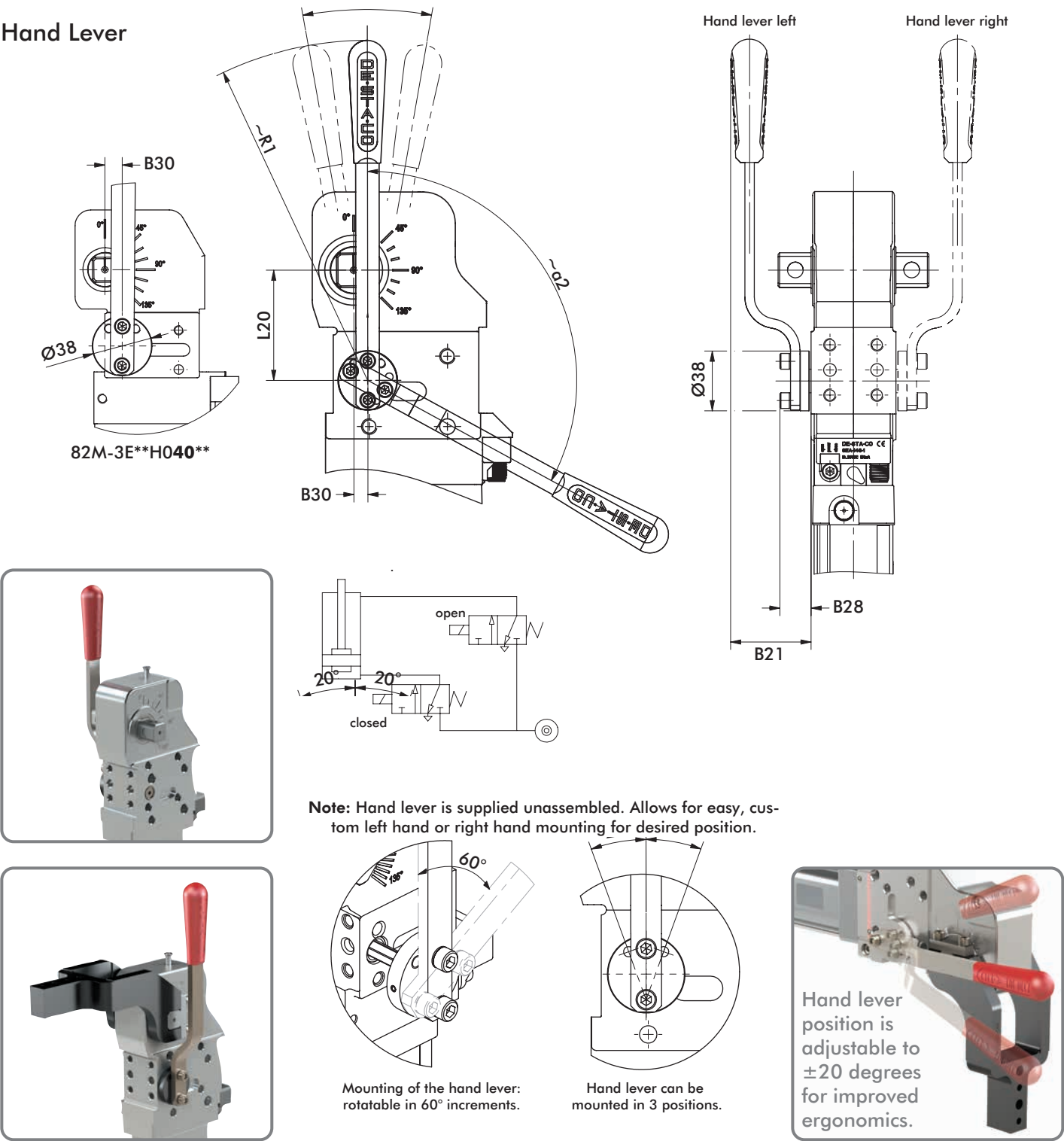
Ports	C
8A	G1/4
8B	1/4-18 NPT

Important! For optimal cushioning, external pneumatic one-way flow control valves should be used.

82M-3. ACCESSORIES

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions and Technical Specifications

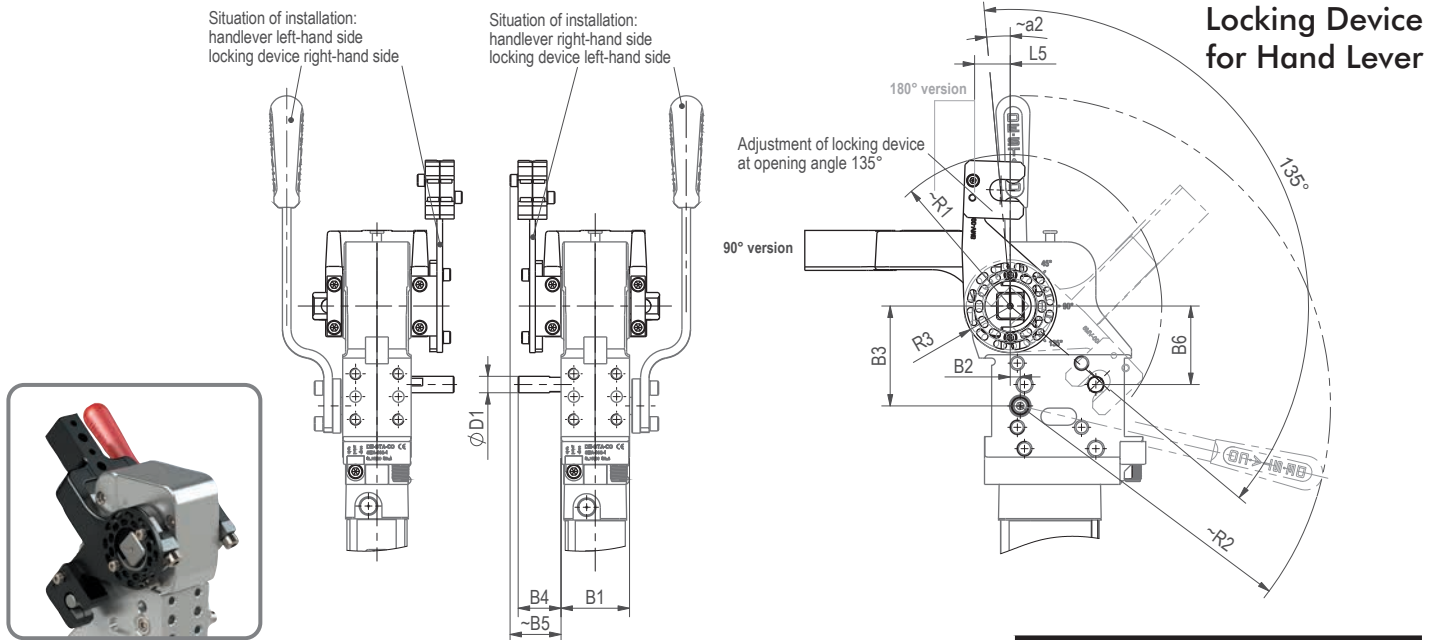
Hand Lever



Model No.					Swivel Angle $\alpha 2$ (with reference to opening angle of clamp arm)									
	B21	B28	L20	~R1	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°
82M-3...H040..	27	24	48,5	160	0°	31°	41°	49°	58°	69°	88°	113°	134°	144°
82M-3...H05...	52	20	70	218	-1°	30°	39°	46°	53°	61°	70°	81°	92°	103°
82M-3...H06..	52	20	70,5	218	0°	30°	39°	47°	56°	66°	79°	94°	108°	119°
82M-3...H08..	56	24	82	268	-1°	28°	37°	45°	53°	63°	75°	92°	107°	117°

82M-3. ACCESSORIES

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions and Technical Specifications



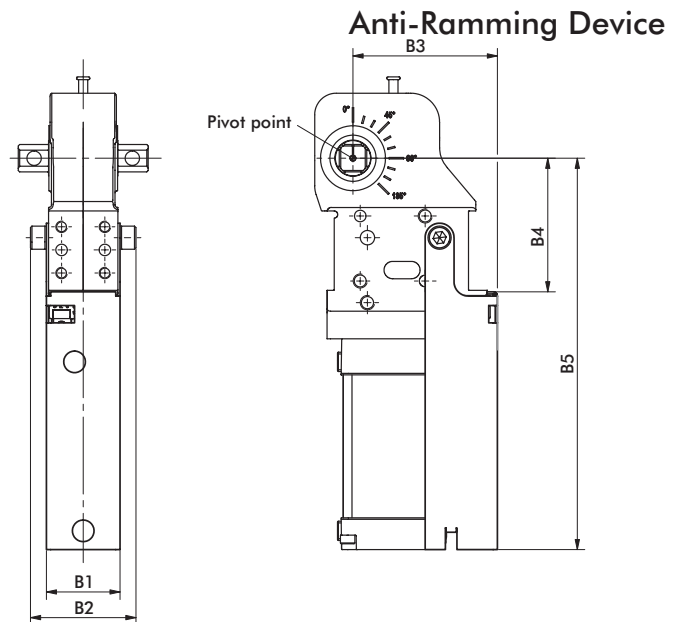
Order No.	For Model	B1	B2	B3	B4	B5	B6	ØD1	R1	R2	R3	α2	Limited Setting Options					
													Height of the clamping arm: L5 max.					
													90° version		180° version			
													45	75	00	15	25	45
82ZB-162-1	82M-3...H040..*	50	11	48,5	25	31	38,5	10,5	81	160	27	6	120°	—	105°	120°	120°	120°
82ZB-084-1	82M-3...H05...	48	7	70	30	36	55	11,5	107	218	32,5	6	120°	—	—	105°	120°	—
82ZB-039-1	82M-3...H06...	54	9	70,5	30	36	55	11,5	107	210	32,5	6	110°	105°	—	105°	120°	—

*Not compatible with Size 40 Option N NAAMS Side Mounting.

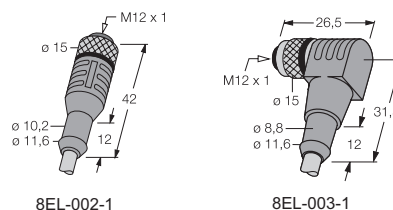


Anti-ramming device is only available for standard cylinder with 82M-3...00..00 and 82M-3...00..L8

Order No.	For Model	B1	B2	B3	B4	B5
8AB-151-1	82M-3.....40..	53	66,5	89,5	65,5	210,5
8AB-152-1	82M-3.....5...	51	73	100	92,5	271
8AB-153-1	82M-3.....6...	57	79	120	104,5	296
8AB-154-1	82M-3.....8...	79	105,5	148	142,5	360



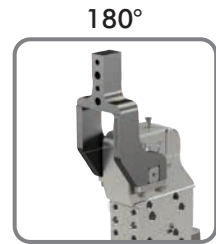
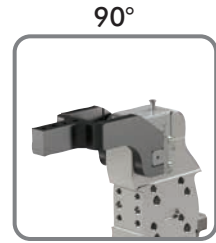
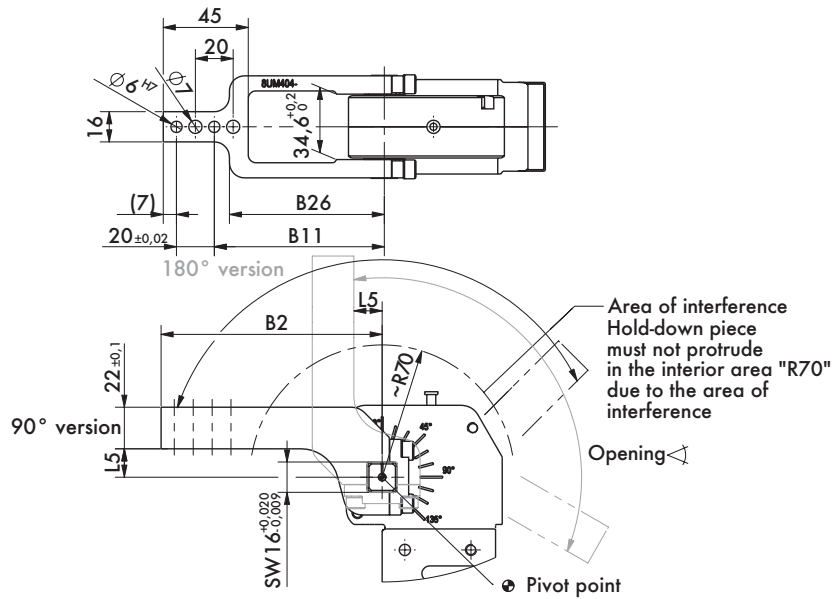
Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector with 5m Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5m Cable



U-ARMS CENTER (ALUMINUM)

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions and Technical Specifications

For Size 40mm*

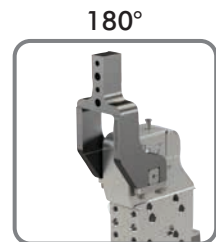
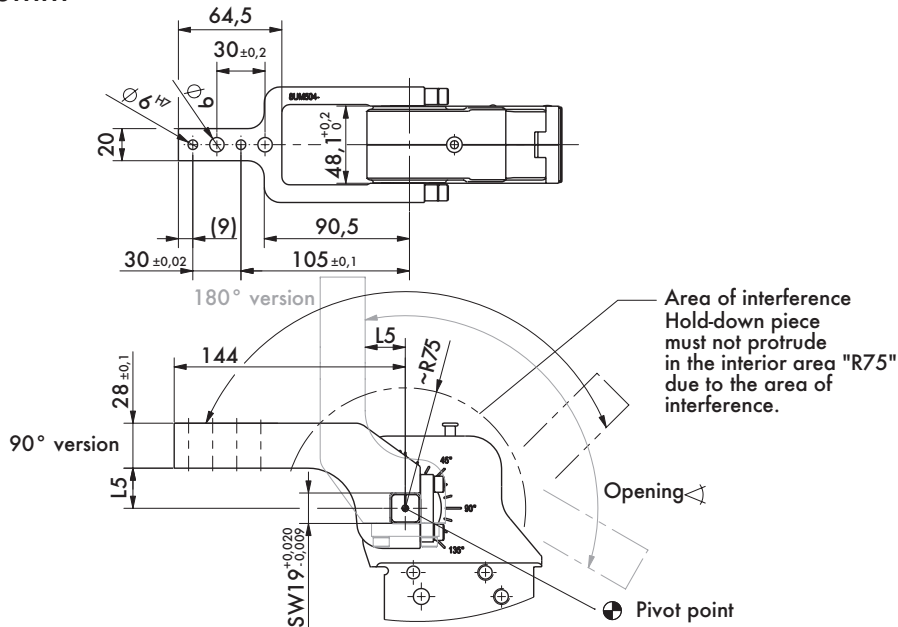


8UM404-00-117
8UM404-15-117
8UM404-25-117
8UM404-45-107

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B11 ±0,1	B26	L5
8UM404-00-117	135°	105°	0,23	117	90	82	0
8UM404-15-117		120°	0,24				15
8UM404-25-117		135°	0,25				25
8UM404-45-107	130°		0,24	107	80	72	45

*Not compatible with NAAMS Clamp Arm Shaft option 13. See page PC-PPC-38.

For Size 50mm



8UM504-15-144
8UM504-25-144
8UM504-45-144

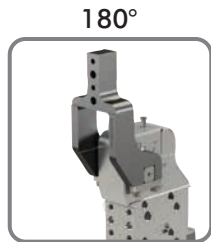
Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	L5
8UM504-15-144	135°	105°	0,44	15
8UM504-25-144		120°	0,45	25
8UM504-45-144		135°	0,48	45

U-ARMS CENTER (ALUMINUM)

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions and Technical Specifications

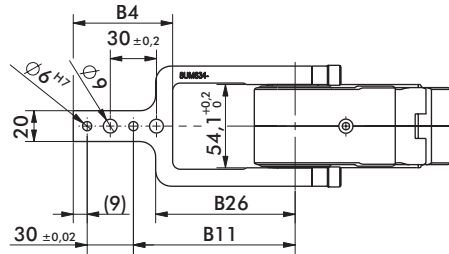


90°

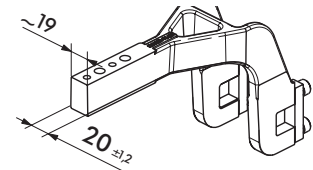


180°

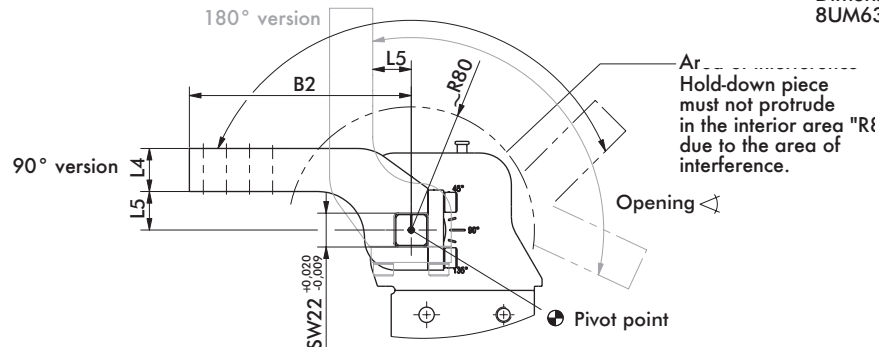
8UM634-15-144
8UM634-25-144
8UM634-45-144
8UM631-75-204*



For Size 63mm



Dimensions are only for 8UM631-75-204

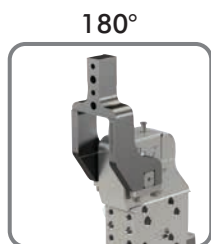


Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B4	B11 ±0,1	B26	L4 ±0,1	L5
8UM634-15-144	135°	105°	0,50						15
8UM634-25-144		120°	0,53	144	64,5	105	90,5	28	25
8UM634-45-144		135°	0,56						45
8UM631-75-204*			1,7	204	82	165	107	30	75

*only steel version available.

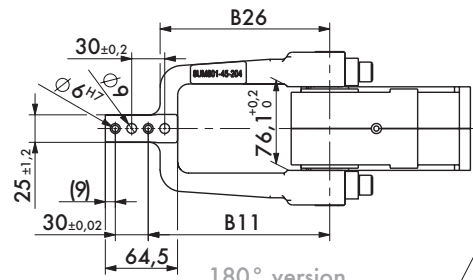


90°

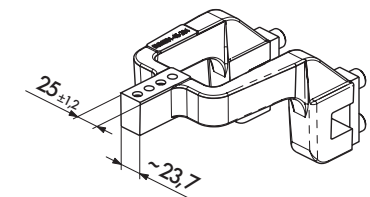
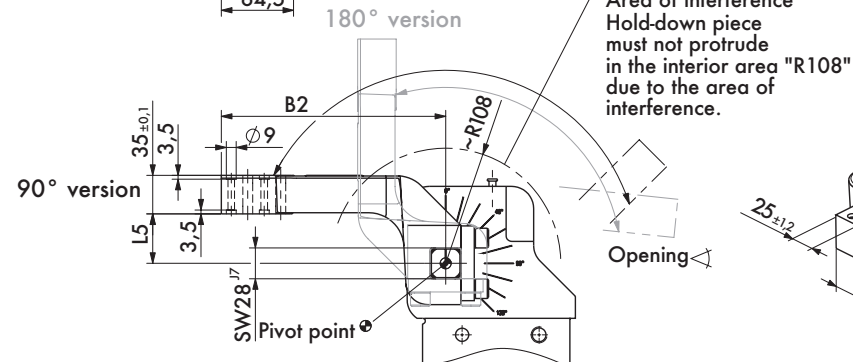


180°

8JG-169-2-01*
8UM801-45-204*



For Size 80mm



Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B11 ±0,1	B26	L5** ±0,2
8JG-169-2-01*	135°	105°	3,5	179	140	129	20
8UM801-45-204*		135°	4,1	204	165	154	45

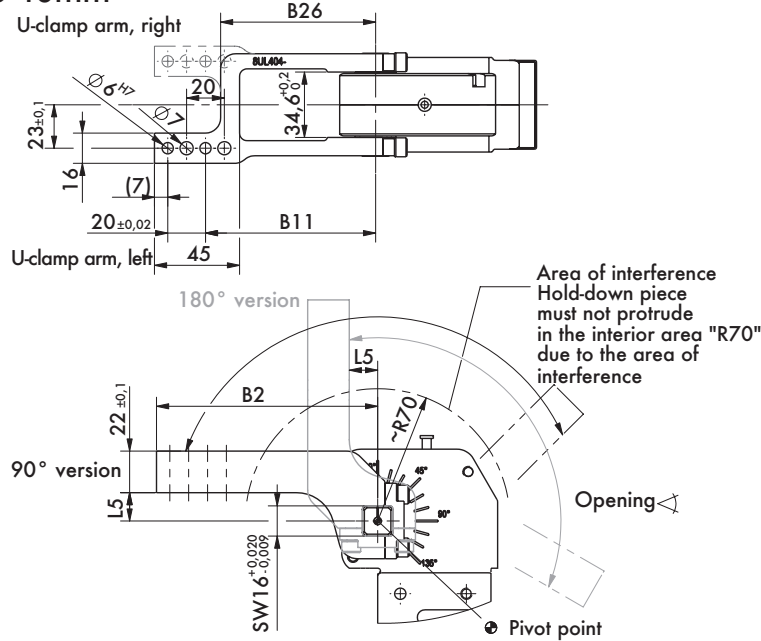
*only steel version available.

** Tolerance measured 80mm from pivot point.

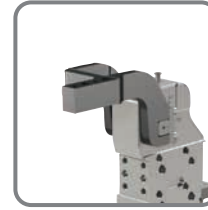
U-ARMS OFFSET (ALUMINUM)

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions and Technical Specifications

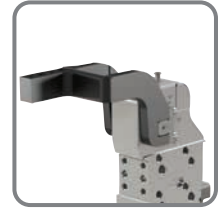
For Size 40mm*



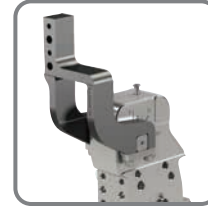
90° Left



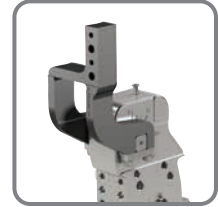
90° Right



180° Right*



180° Left*



8UL404-00-117
8UL404-15-117
8UL404-25-117
8UL404-45-107

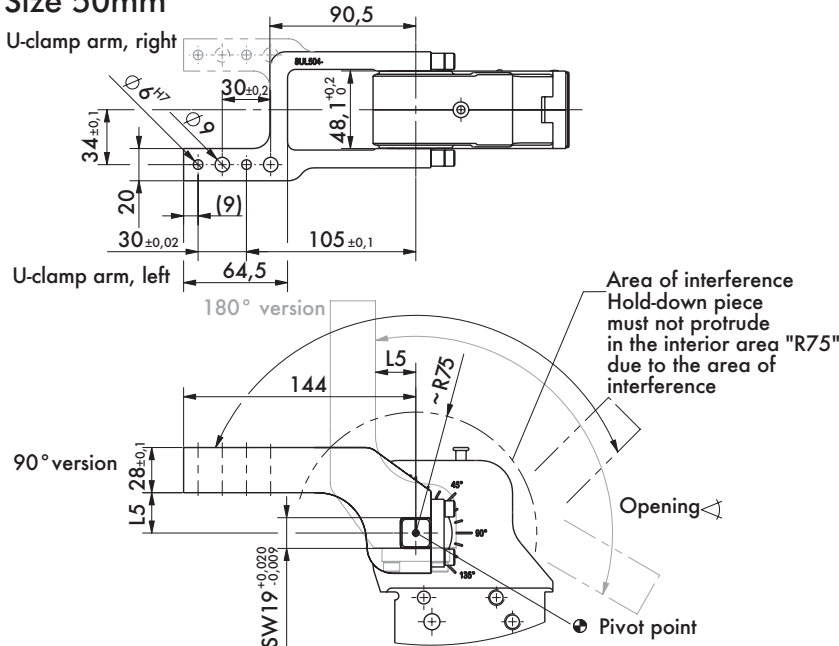
8UR404-00-117
8UR404-15-117
8UR404-25-117
8UR404-45-107

*90° left/180° right uses same clamp arm.
90° right/180° left uses same clamp arm.

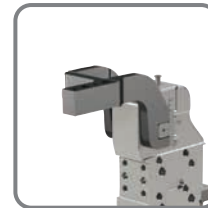
Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B11 ±0,1	B26	L5
8U(•)404-00-117	135°	105°	0,23	117	90	82	0
8U(•)404-15-117		120°	0,24				15
8U(•)404-25-117		135°	0,25				25
8U(•)404-45-107	130°		0,25	107	80	72	45

*Not compatible with NAAMS Clamp Arm Shaft option 13.

For Size 50mm



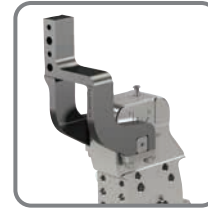
90° Left



90° Right



180° Right*



180° Left*



8UL504-15-144
8UL504-25-144
8UL504-45-144

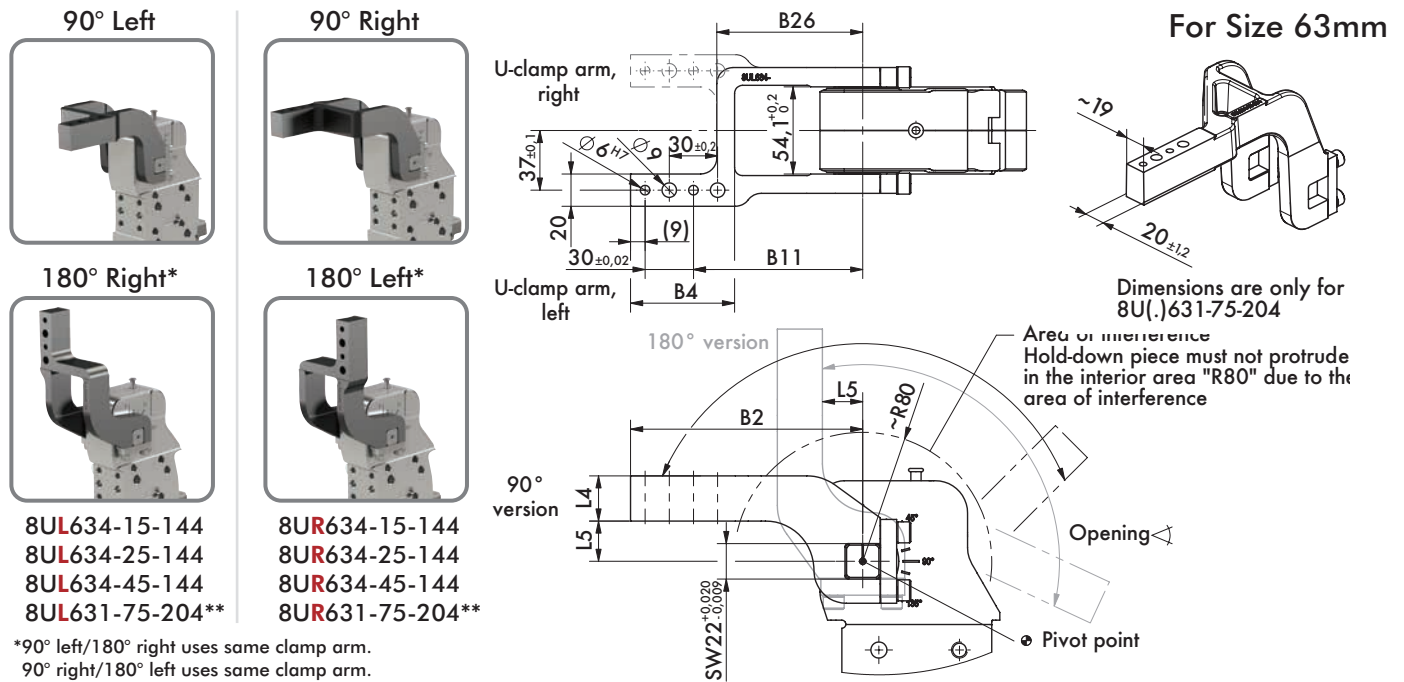
8UR504-15-144
8UR504-25-144
8UR504-45-144

*90° left/180° right uses same clamp arm.
90° right/180° left uses same clamp arm.

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	L5
8U(•)504-15-144	135°	105°	0,45	15
8U(•)504-25-144		120°	0,46	25
8U(•)504-45-144		135°	0,49	45

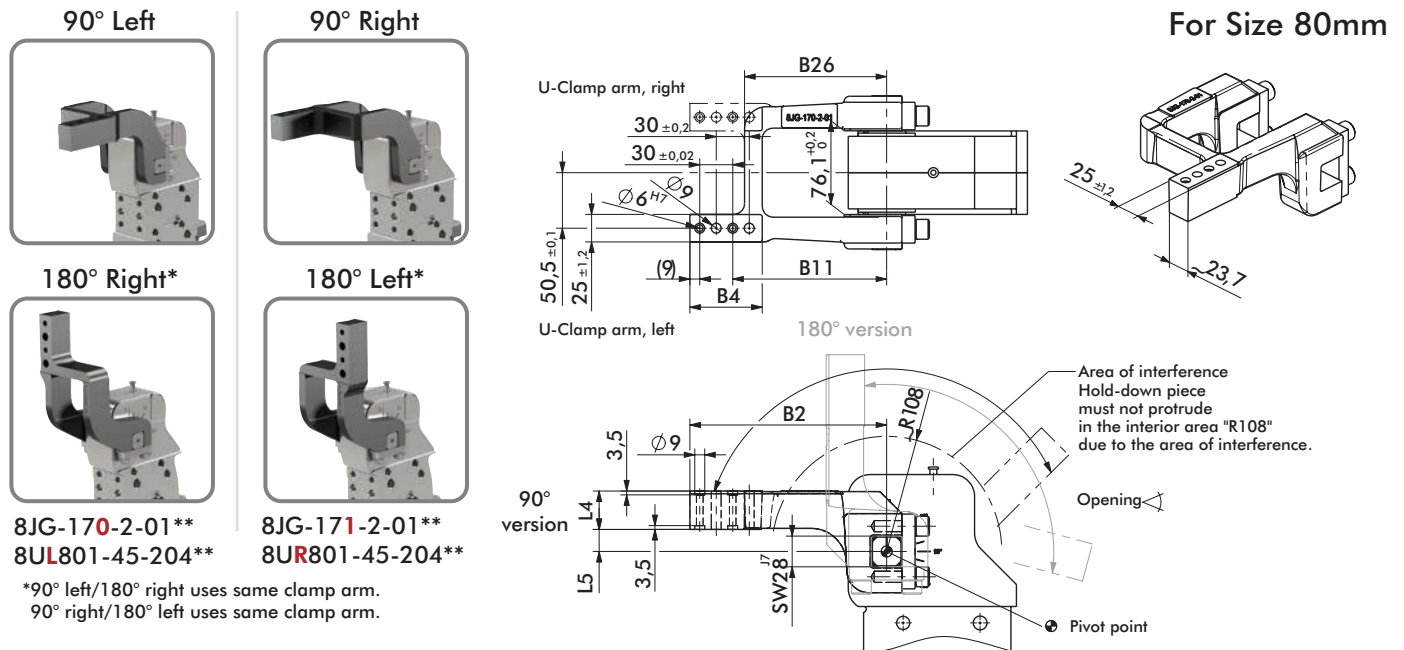
U-ARMS OFFSET (ALUMINUM)

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions and Technical Specifications



Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B4	B11 ±0,1	B26	L4 ±0,1	L5
8U(•)634-15-144	135°	105°	0,52	144	64,5	105	90,5	28	15
8U(•)634-25-144		120°	0,54						25
8U(•)634-45-144		135°	0,58						45
8U(•)631-75-204**			1,9						75

**only steel version available.



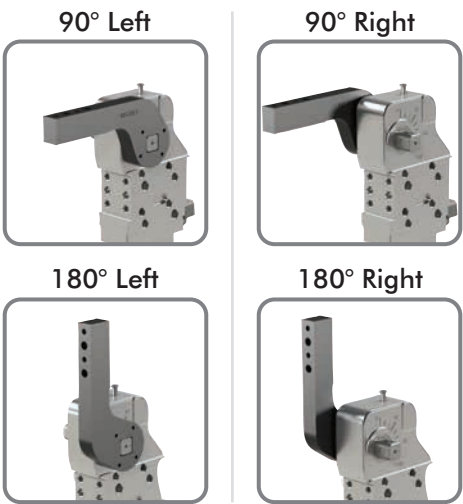
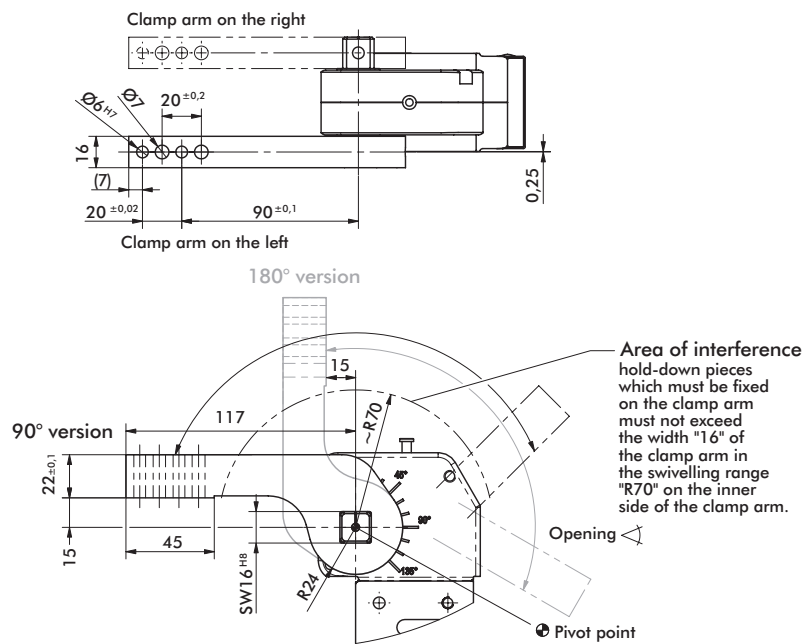
Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B4	B11 ±0,1	B26	L4 ±0,1	L5
8JG-17(•)-2-01**	135°	135°	3,5	179	65	140	129	35	20
8U(•)801-45-204**			4,3	204	66	165	154		45

**only steel version available.

LATERAL (SIDE) ARMS

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions and Technical Specifications

For Size 40mm*

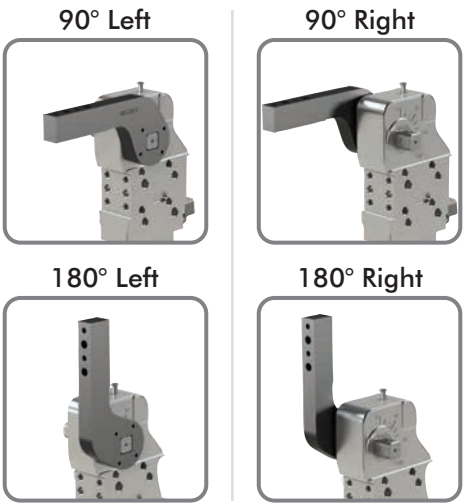
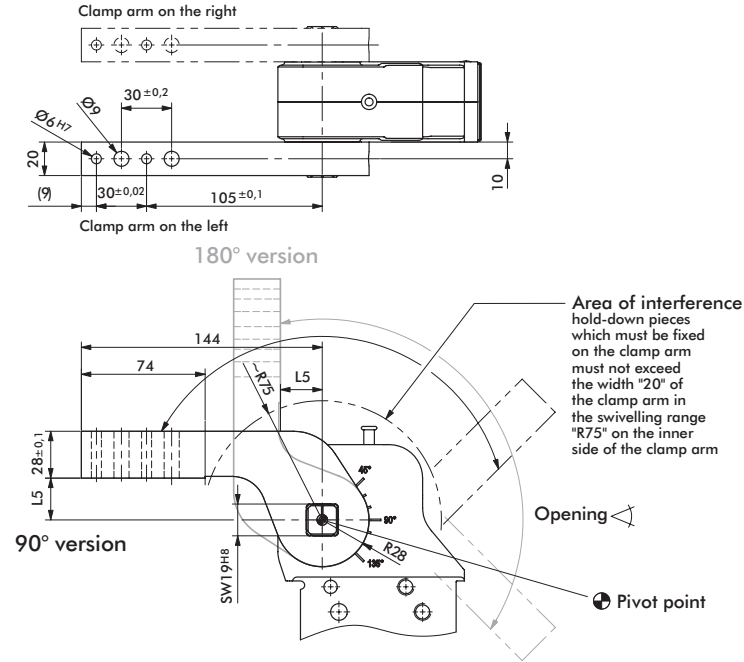


8S401-15-117

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)
8S401-15-117	135°	120°	0,5

1 clamp arm per set. Models with 2 lateral clamp arms requires 2 clamp arm sets.
*Not compatible with NAAMS Clamp Arm Shaft option 13.

For Size 50mm



8JG-070-1-01
8S501-25-144

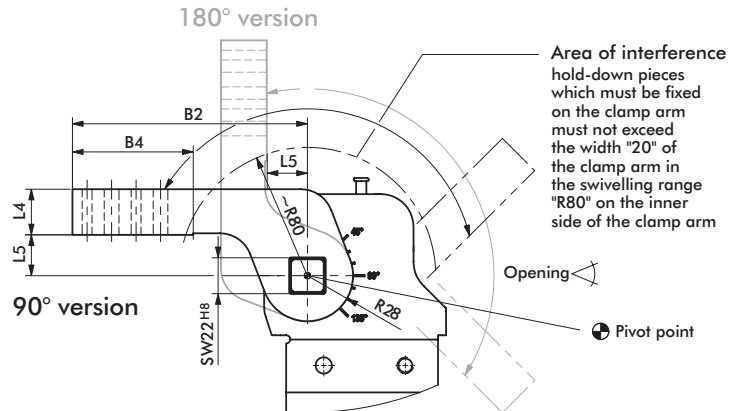
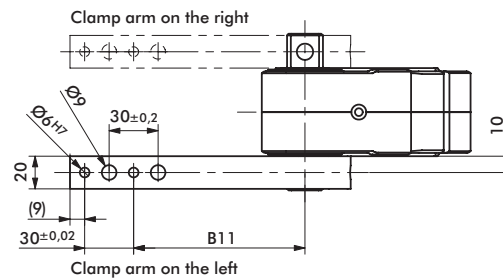
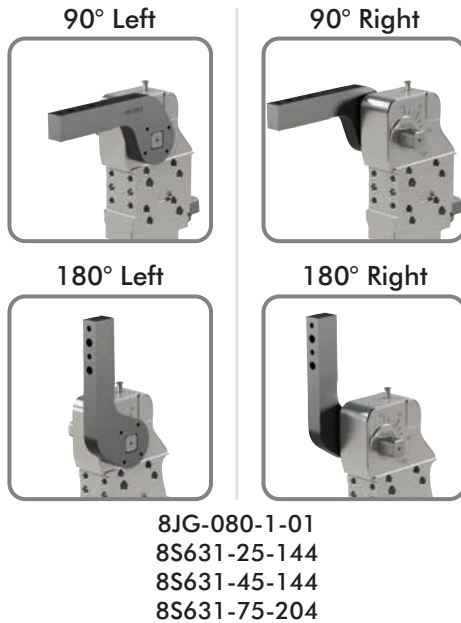
Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	L5
8JG-070-1-01	135°	135°	0,9	15
8S501-25-144			1,0	25

1 clamp arm per set. Models with 2 lateral clamp arms requires 2 clamp arm sets.

LATERAL (SIDE) ARMS

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions and Technical Specifications

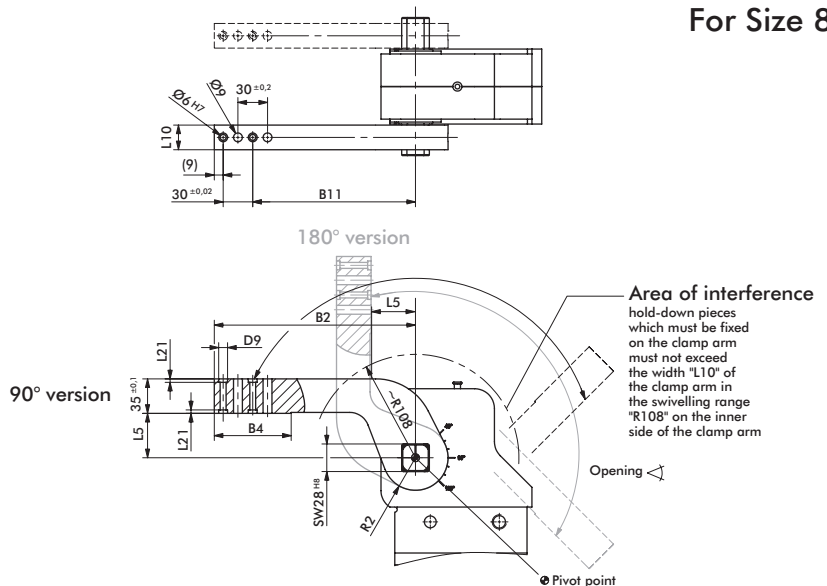
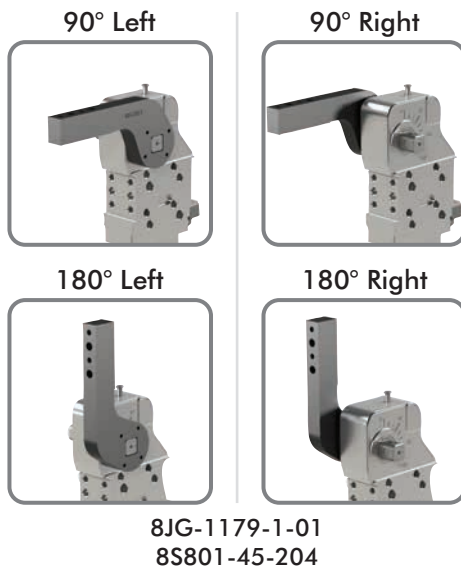
For Size 63mm



Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B4	B11 ±0,1	L4 ±0,1	L5
8JG-080-1-01	135°	135°	0,9	144	74	105	28	15
8S631-25-144			1,0					25
8S631-45-144			1,1					45
8S631-75-204			1,5					75

1 clamp arm per set. Models with 2 lateral clamp arms requires 2 clamp arm sets.

For Size 80mm



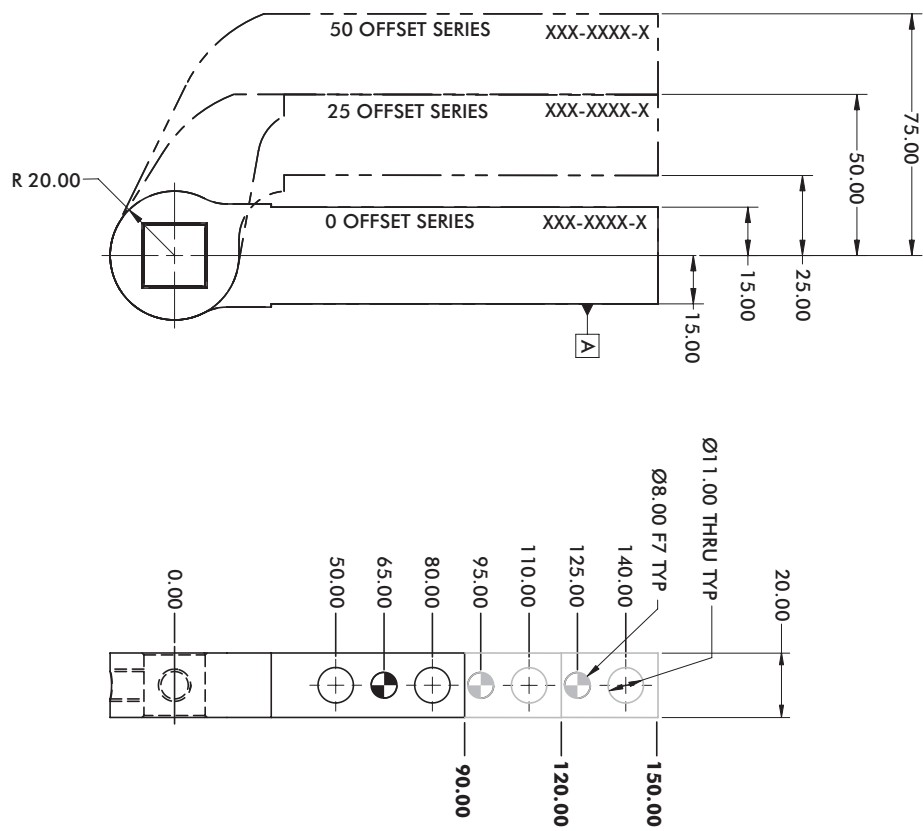
Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B4	D9	B11 ±0,1	L5	L10	L21	R2
8JG-1179-1-01	135°	135°	2,1	179	74	-	140	20	30	-	35
8S801-45-204				204	78	9	165	45	25	3,5	33

1 clamp arm per set. Models with 2 lateral clamp arms requires 2 clamp arm sets.

LATERAL (SIDE) ARMS, NAAMS-STYLE

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions and Technical Specifications

For Size 50mm



9mm Thru Hole (6.00 H7 Dowel)

90mm [3.54"] Arm Length			120mm [4.72"] Arm Length			150mm [5.90"] Arm Length		
Series	Arm Style	Model	Series	Arm Style	Model	Series	Arm Style	Model
50 Offset	▲ • 3256	B8JG-3256-1	50 Offset	▲ • 3257	B8JG-3257-1	50 Offset	▲ • 3258	B8JG-3258-1
25 Offset	▲ • 3246	B8JG-3246-1	25 Offset	▲ • 3247	B8JG-3247-1	25 Offset	▲ • 3248	B8JG-3248-1
0 Offset	▲ • 3236	B8JG-3236-1	0 Offset	▲ • 3237	B8JG-3237-1	0 Offset	▲ • 3238	B8JG-3238-1

11mm Thru Hole (8.00 F7 Dowel)

90mm [3.54"] Arm Length			120mm [4.72"] Arm Length			150mm [5.90"] Arm Length		
Series	Arm Style	Model	Series	Arm Style	Model	Series	Arm Style	Model
50 Offset	▲ • 1226	B8JG-1226-1	50 Offset	▲ • 1227	B8JG-1227-1	50 Offset	▲ • 1228	B8JG-1228-1
25 Offset	▲ • 1216	B8JG-1216-1	25 Offset	▲ • 1217	B8JG-1217-1	25 Offset	▲ • 1218	B8JG-1218-1
0 Offset	▲ • 1206	B8JG-1206-1	0 Offset	▲ • 1207	B8JG-1207-1	0 Offset	▲ • 1208	B8JG-1208-1

▲ Common in North America

(•) STANDARD ARM OFFERING

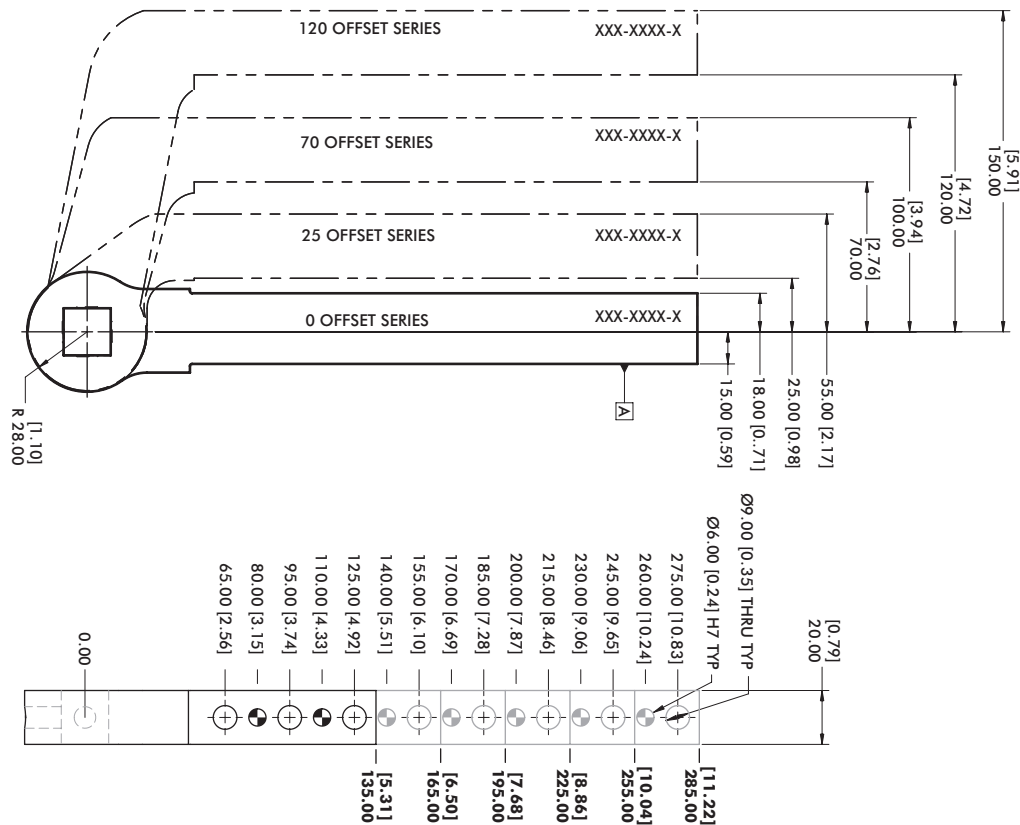
Maximum Opening Angle (shown in locked position)

Arm Styles						
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 (SIDE) ARMS, NAAMS-STYLE

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions and Technical Specifications

For Size 63mm with 23 Clamp Arm Shaft Option



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

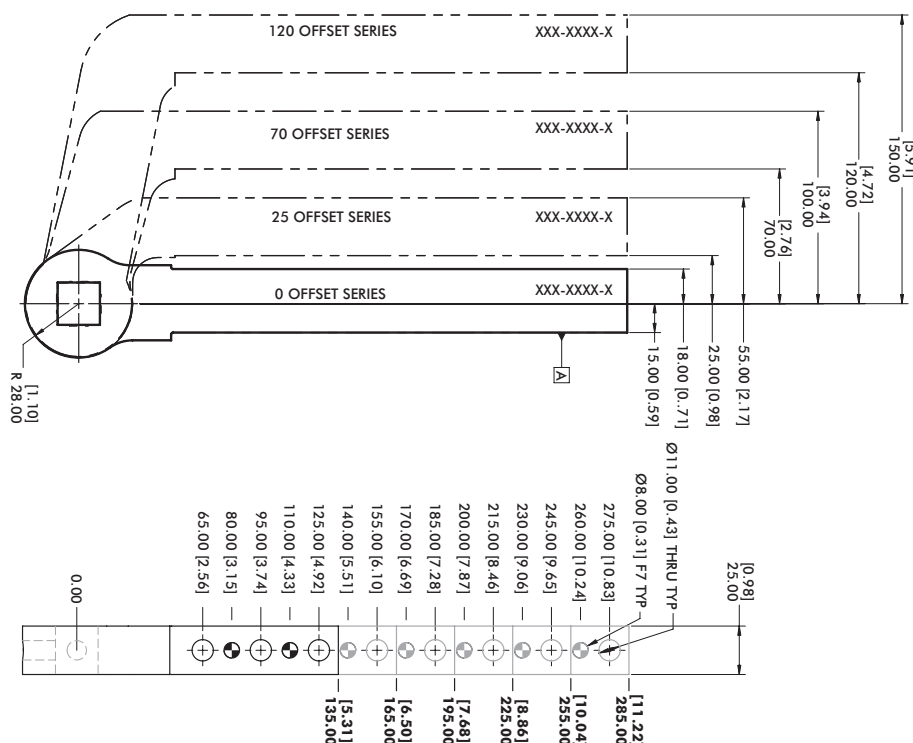
Maximum Opening Angle (shown in locked position)

Arm Styles	1510-1512/1507-1509	1522-1524/1519-1521	1534-1536/1531-1533	1546-1548/1543-1545
	135°	135°	100°	100°
	135°	N/A	50°	130°
	115°	N/A	25°	135°
	110°	N/A	20°	135°
				N/A
				N/A
				N/A
				N/A

LATERAL (SIDE) ARMS, NAAMS-STYLE

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions and Technical Specifications

For Size 63mm with D0 Clamp Arm Shaft Option



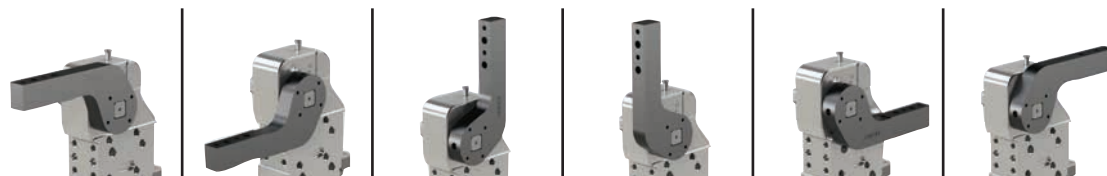
135mm [5.31"] Arm Length			165mm [6.50"] Arm Length			195mm [7.68"] Arm Length		
Series	Arm Style	Model	Series	Arm Style	Model	Series	Arm Style	Model
120 Offset	▲ • 1043	B8JG-1043-1	120 Offset	▲ ① 1044	B8JG-1044-1	120 Offset	▲ ① 1045	B8JG-1045-1
70 Offset	▲ • 1031	B8JG-1031-1	70 Offset	▲ • 1032	B8JG-1032-1	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

▲ Common in North America

(•) STANDARD ARM OFFERING

NON-STANDARD ARM OFFERING (extended leadtimes apply)

Maximum Opening Angle (shown in locked position)

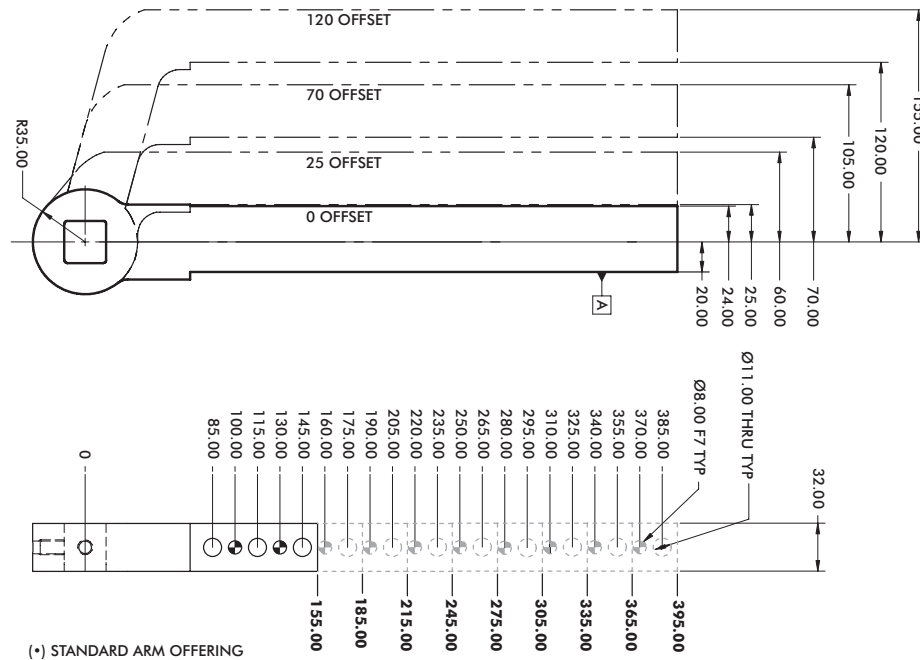


Arm Styles						
1010-1012/1007-1009	135°	135°	100°	100°	N/A	N/A
1022-1024/1019-1021	135°	N/A	50°	130°	N/A	40°
1034-1036/1031-1033	115°	N/A	25°	135°	N/A	75°
1046-1048/1043-1045	110°	N/A	20°	135°	N/A	85°

LATERAL (SIDE) ARMS, NAAMS-STYLE

Enclosed Pneumatic Power Clamps | Heavy-Duty Modular | Dimensions and Technical Specifications

For Size 80mm



155mm [4.53"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 1170	B8JG-1170-1
70 Offset	▲ • 1150	B8JG-1150-1
25 Offset	▲ ⓘ 1130	B8JG-1130-1
0 Offset	▲ ⓘ 1110	B8JG-1110-1

185mm [7.28"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 1171	B8JG-1171-1
70 Offset	▲ ⓘ 1151	B8JG-1151-1
25 Offset	▲ ⓘ 1131	B8JG-1131-1
0 Offset	▲ ⓘ 1111	B8JG-1111-1

215mm [8.46"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 1172	B8JG-1172-1
70 Offset	▲ ⓘ 1152	B8JG-1152-1
25 Offset	▲ ⓘ 1132	B8JG-1132-1
0 Offset	▲ • 1112	B8JG-1112-1

245mm [9.65"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 1173	B8JG-1173-1
70 Offset	▲ ⓘ 1153	B8JG-1153-1
25 Offset	▲ ⓘ 1133	B8JG-1133-1
0 Offset	▲ ⓘ 1113	B8JG-1113-1

275mm [10.83"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 1174	B8JG-1174-1
70 Offset	▲ ⓘ 1154	B8JG-1154-1
25 Offset	▲ • 1134	B8JG-1134-1
0 Offset	▲ ⓘ 1114	B8JG-1114-1

305mm [12.00"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 1175	B8JG-1175-1
70 Offset	▲ • 1155	B8JG-1155-1
25 Offset	▲ ⓘ 1135	B8JG-1135-1
0 Offset	▲ ⓘ 1115	B8JG-1115-1

335mm [13.19"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 1176	B8JG-1176-1
70 Offset	▲ ⓘ 1156	B8JG-1156-1
25 Offset	▲ ⓘ 1136	B8JG-1136-1
0 Offset	▲ ⓘ 1116	B8JG-1116-1

365mm [14.37"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 1177	B8JG-1177-1
70 Offset	▲ ⓘ 1157	B8JG-1157-1
25 Offset	▲ ⓘ 1137	B8JG-1137-1
0 Offset	▲ ⓘ 1117	B8JG-1117-1

395mm [15.55"] Arm Length

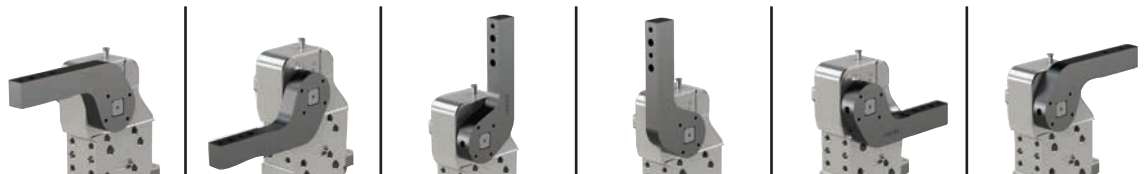
Series	Arm Style	Model
120 Offset	▲ ⓘ 1178	B8JG-1178-1
70 Offset	▲ • 1158	B8JG-1158-1
25 Offset	▲ ⓘ 1138	B8JG-1138-1
0 Offset	▲ • 1118	B8JG-1118-1

▲ Common in North America

(*) STANDARD ARM OFFERING

ⓘ NON-STANDARD ARM OFFERING (extended leadtimes apply)

Maximum Opening Angle (shown in locked position)



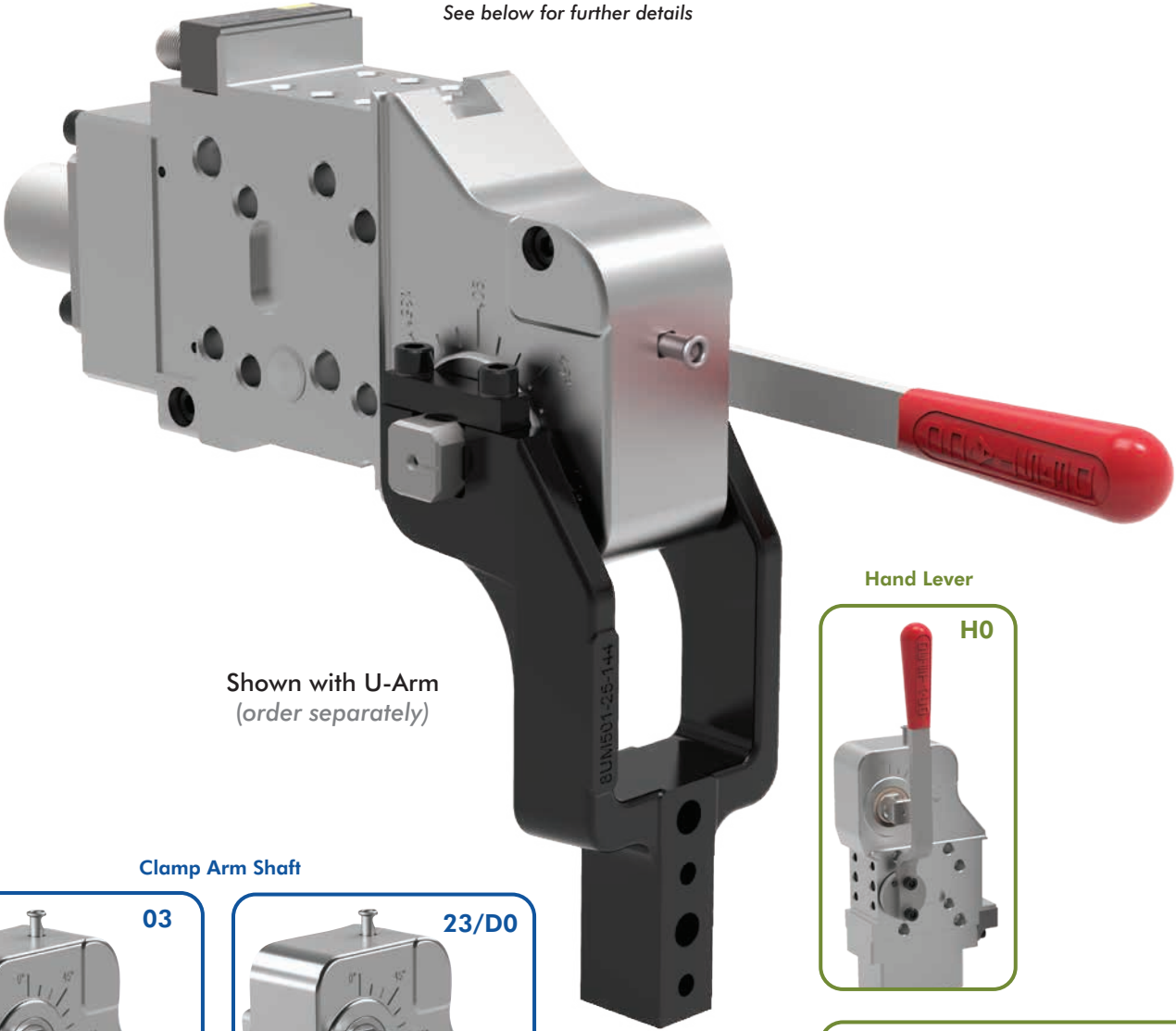
Arm Styles						
1110 - 1118	135°	135°	100°	100°	N/A	N/A
1130 - 1138	135°	N/A	60°	120°	N/A	30°
1150 - 1158	125°	N/A	35°	135°	N/A	55°
1170 - 1178	115°	N/A	25°	135°	N/A	80°

52H-3

Enclosed Modular Manual Power Clamps | Heavy-Duty | Ordering Information

52H-3		E		23		H0		50		L8	
Mounting	Description	Clamp Arm Shaft	Description	Handle Lever	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



23/D0

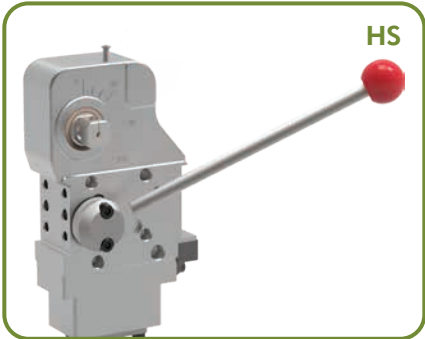
Size	Shaft Length (L17)
50	12 mm [0.47 in]
63	12 mm [0.47 in]

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

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



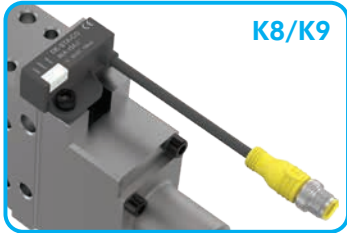
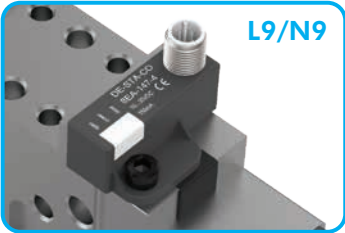
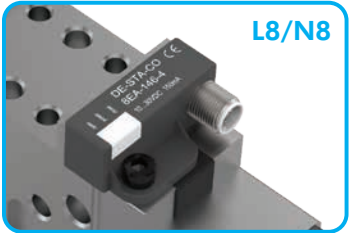
H0



HS

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)

See page 69 for replacement sensor kits and components.



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]



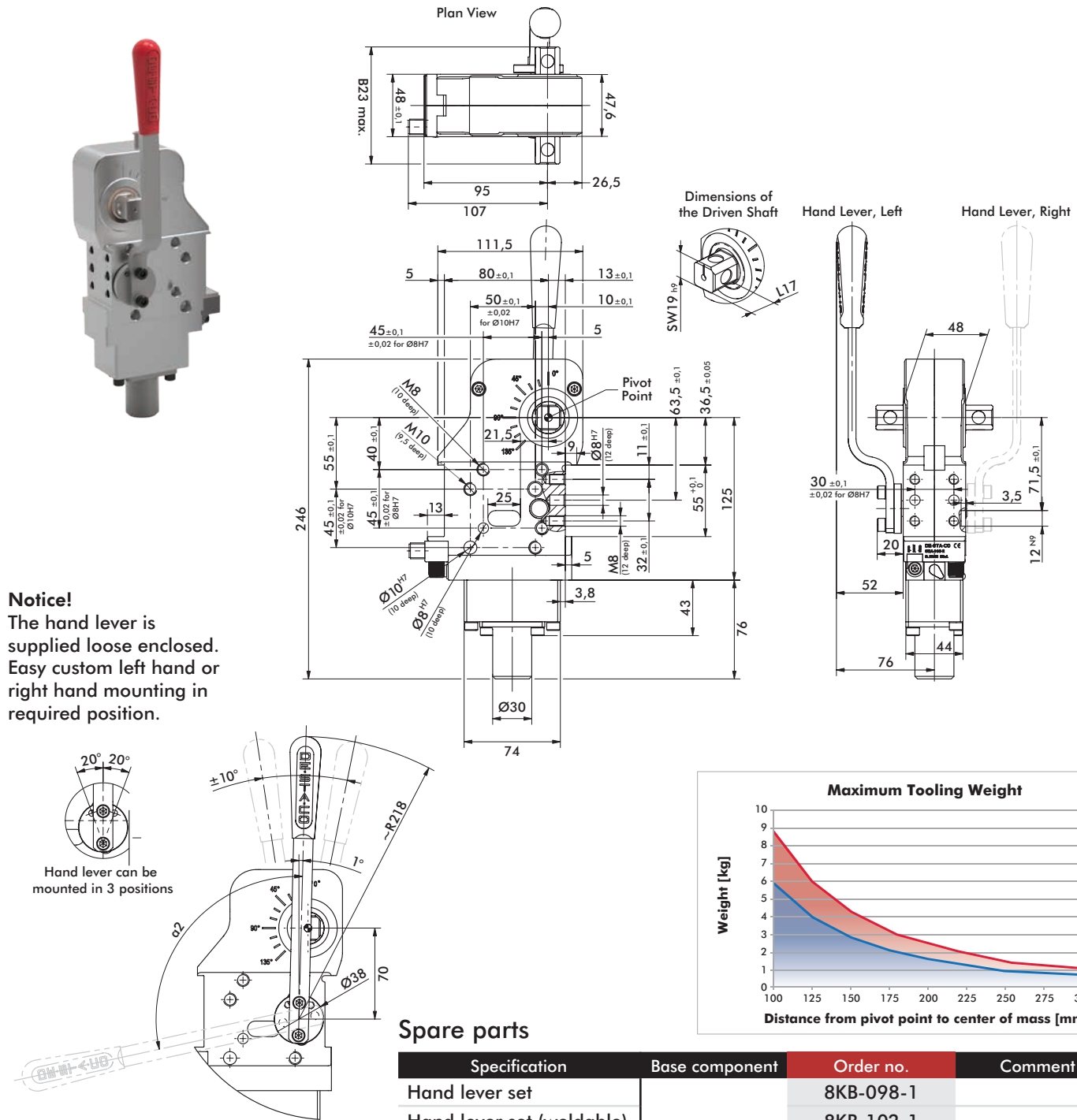
63

Max Holding Torque
1800 Nm [1328 ft-lb]

52H-3E 50MM

Enclosed Modular Manual Power Clamps | Heavy-Duty | Dimensions and Technical Specifications

Model	Max. Holding Torque (Nm)	Weight (kg)	B23 max.	L17	Swivel Angle α_2 (with reference to opening angle of clamping arm)									
					0°	15°	30°	45°	60°	75°	90°	105°	120°	135°
52H-3E03H050..	1300	2,75	72	12	-1°	30°	39°	46°	53°	61°	70°	81°	92°	103°
52H-3E23H050..		2,79	90	21										



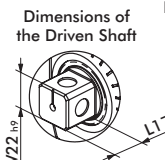
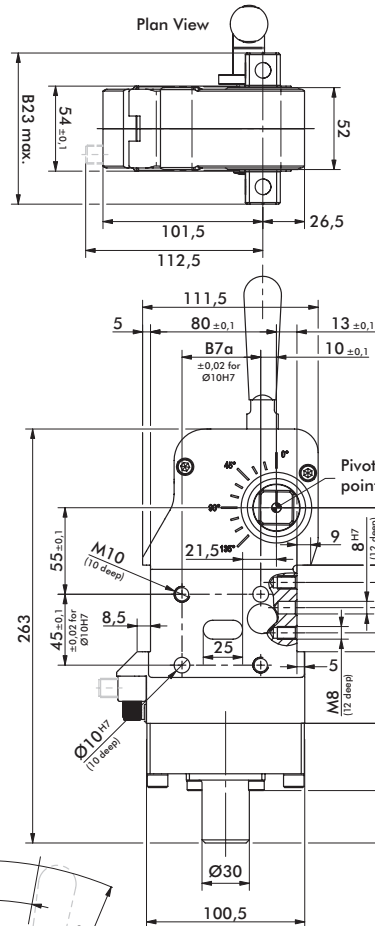
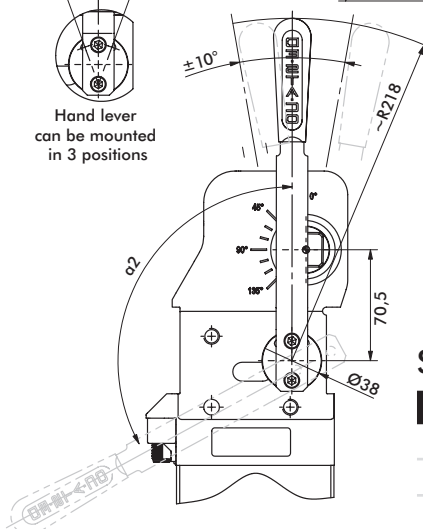
Spare parts

Specification	Base component	Order no.	Comment
Hand lever set	52H-3E...50	8KB-098-1	
Hand lever set (weldable)		8KB-102-1	
Sensor box		8EA-146-2 (L8)	Connector 180°
		8EA-147-2 (L9)	Connector 90°
		8EA-158-2 (K8)	Cable Connection

Model	Max. Holding Torque (Nm)	Weight (kg)	B7a	B23 max.	L17	Swivel Angle α_2 (with reference to opening angle of clamping arm)									
						0°	15°	30°	45°	60°	75°	90°	105°	120°	135°
52H-3E03H06...	1800	3,5	50	78	12	0°	30°	39°	47°	56°	66°	79°	94°	108°	119°
52H-3N03H06...			55		21										
52H-3E23H06...		3,6	50	96	12										
52H-3N23H06...			55		21										
52H-3ND0H06...			55	106	26										

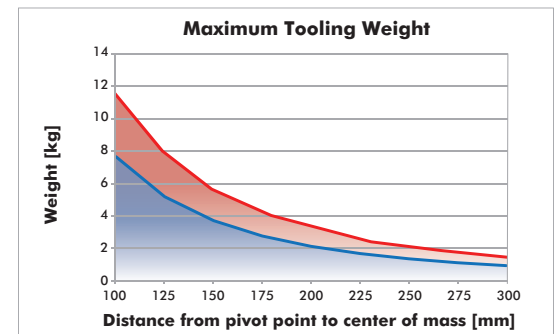
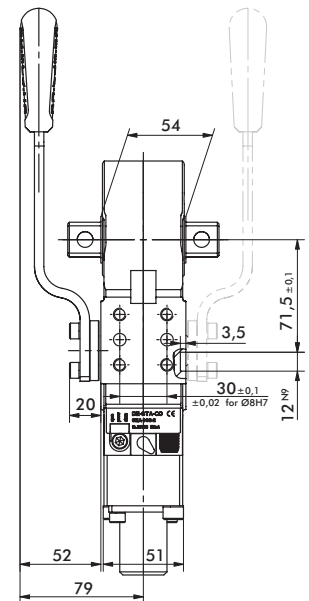


Notice!
The hand lever is supplied loose enclosed. Easy custom left hand or right hand mounting in required position.



Hand lever, Left

Hand lever, Right



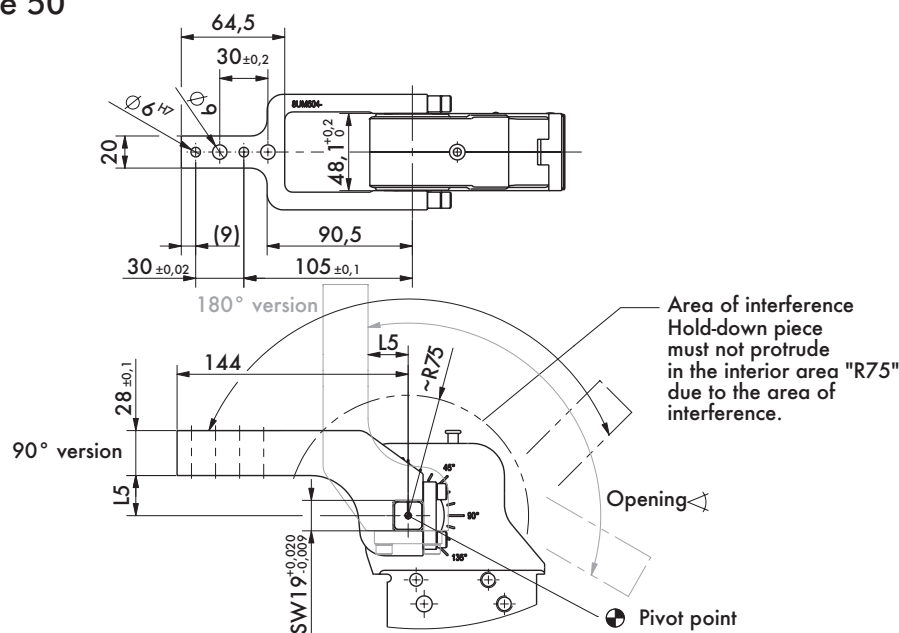
Spare parts

Specification	Base component	Order no.	Comment
Hand lever set	52H-3E...63	8KB-099-1	
Hand lever set (weldable)		8KB-103-1	
Sensor box		8EA-146-2 (L8)	Connector 180°
		8EA-147-2 (L9)	Connector 90°
		8EA-158-2 (K8)	Cable Connection

U-ARMS CENTER (ALUMINUM)

Enclosed Modular Manual Power Clamps | Heavy-Duty | Dimensions and Technical Specifications

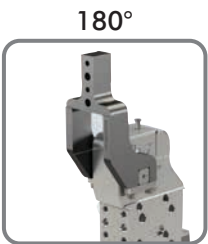
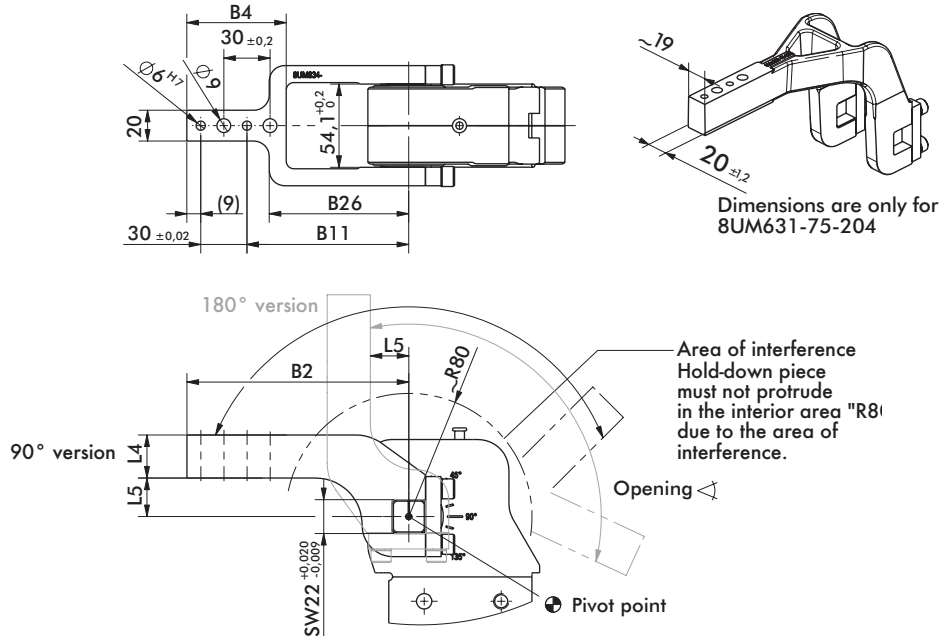
For Size 50



8UM504-15-144
8UM504-25-144
8UM504-45-144

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight	L5
8UM504-15-144	135°	105°	0,44	15
8UM504-25-144		120°	0,45	25
8UM504-45-144		135°	0,48	45

For Size 60



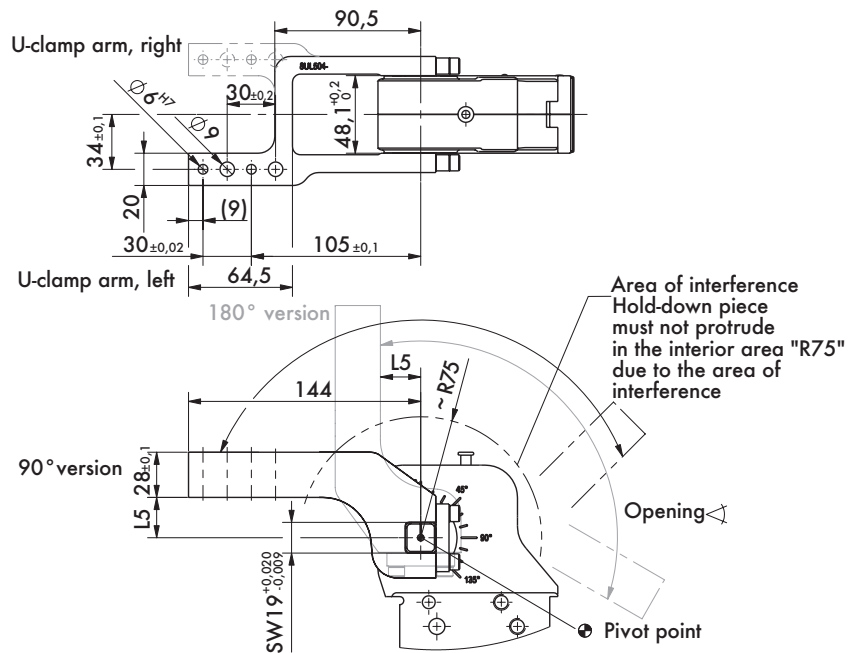
8UM634-15-144
8UM634-25-144
8UM634-45-144
8UM631-75-204**

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight	B2	B4	B11 ±0,1	B26	L4 ±0,1	L5
8UM634-15-144	135°	105°	0,50						15
8UM634-25-144		120°	0,53	144	64,5	105	90,5	28	25
8UM634-45-144			0,56						45
8UM631-75-204**		135°	1,7	204	82	165	107	30	75

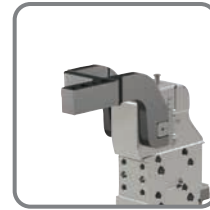
** only steel version available.

U-ARMS OFFSET (ALUMINUM)

Enclosed Modular Manual Power Clamps | Heavy-Duty | Dimensions and Technical Specifications



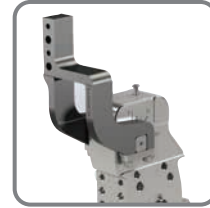
90° Left



For Size 50
90° Right



180° Right*



180° Left*

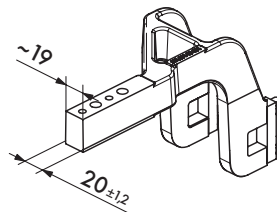
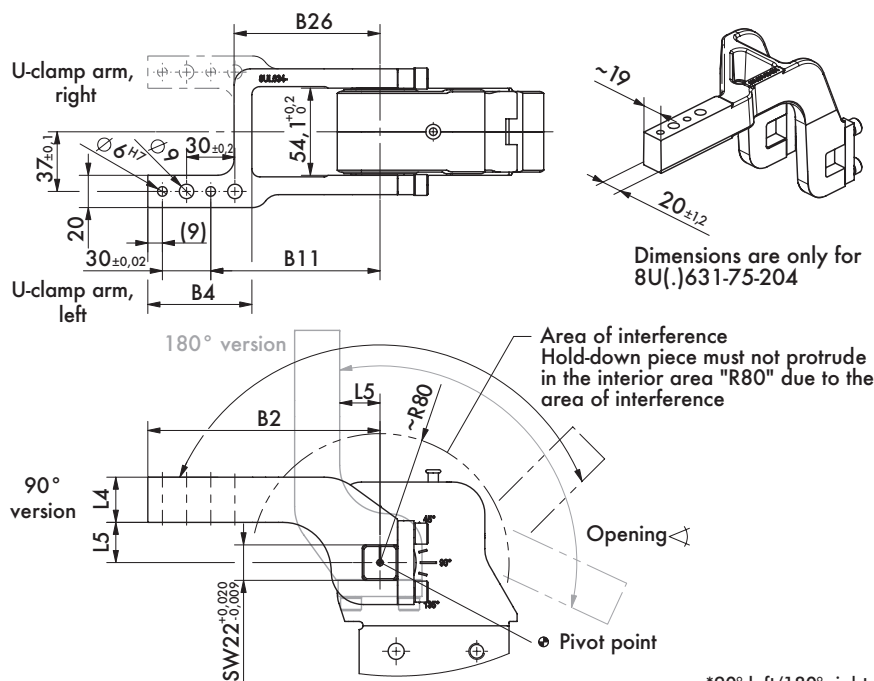


8UL504-15-144
8UL504-25-144
8UL504-45-144

8UR504-15-144
8UR504-25-144
8UR504-45-144

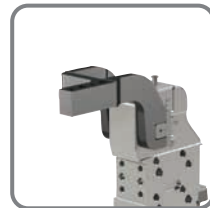
*90° left/180° right uses same clamp arm. 90° right/180° left uses same clamp arm.

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight	L5
8U(•)504-15-144	135°	105°	0,45	15
8U(•)504-25-144		120°	0,46	25
8U(•)504-45-144		135°	0,49	45



Dimensions are only for 8U(•)631-75-204

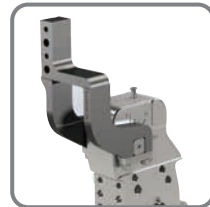
90° Left



90° Right



180° Right*



180° Left*



8UL634-15-144
8UL634-25-144
8UL634-45-144
8UL631-75-204**

8UR634-15-144
8UR634-25-144
8UR634-45-144
8UR631-75-204**

*90° left/180° right uses same clamp arm. 90° right/180° left uses same clamp arm.

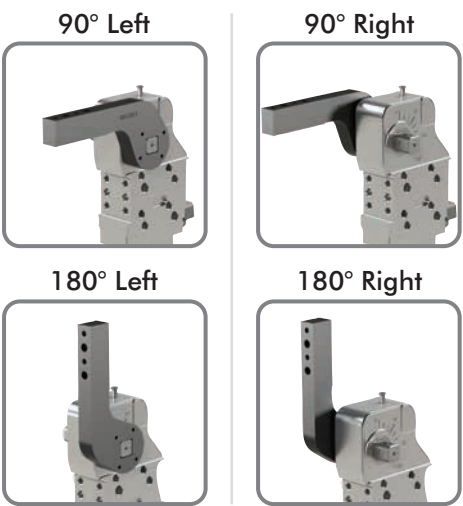
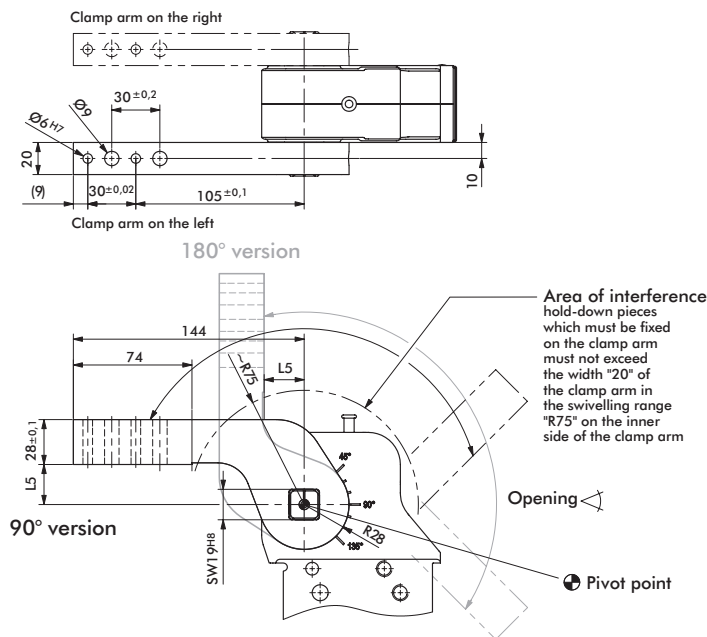
Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight	B2	B4	B11 ±0,1	B26	L4 ±0,1	L5
8U(•)634-15-144	135°	105°	0,52	144	64,5	105	90,5	28	15
8U(•)634-25-144		120°	0,54						25
8U(•)634-45-144		135°	0,58						45
8U(•)631-75-204**		135°	1,9	204	82	165	119	30	75

** only steel version available.

LATERAL (SIDE) ARMS

Enclosed Modular Manual Power Clamps | Heavy-Duty | Dimensions and Technical Specifications

For Size 50

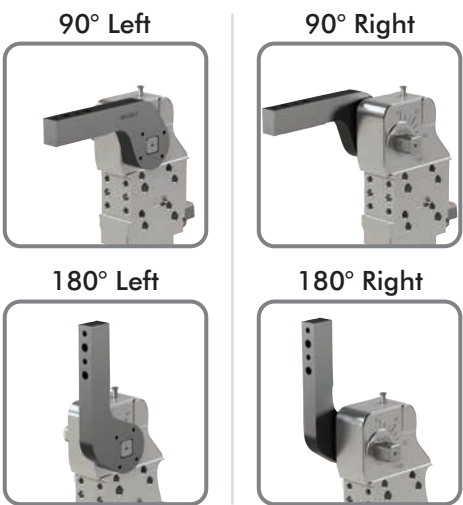
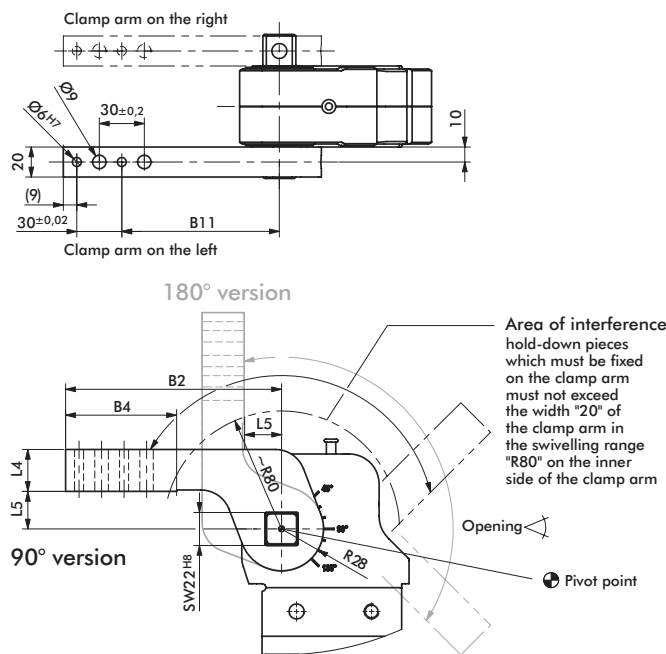


8JG-070-1-01
8S501-25-144

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	L5
8JG-070-1-01	135°	135°	0,9	15
8S501-25-144			1,0	25

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

For Size 63



8JG-080-1-01
8S631-25-144
8S631-45-144
8S631-75-204

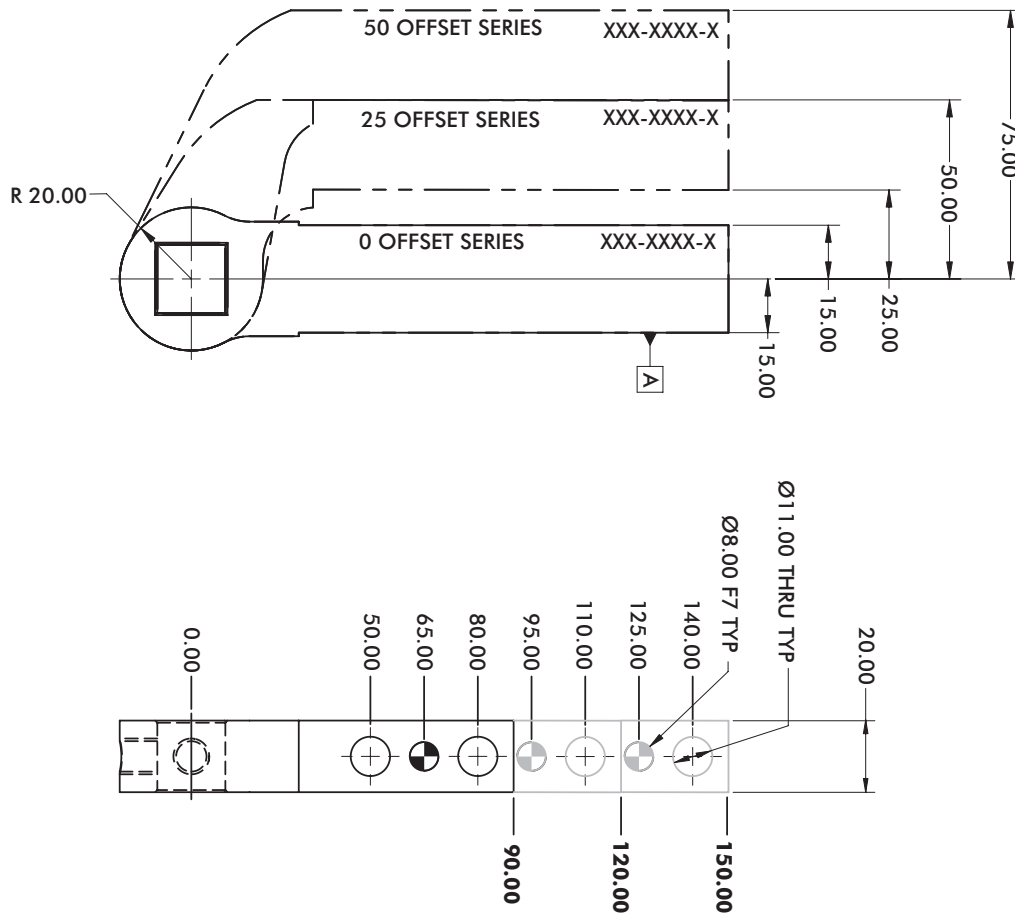
Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B4	B11 ±0,1	L4 ±0,1	L5
8JG-080-1-01	135°	135°	0,9	144	74	105	28	15
8S631-25-144			1,0					25
8S631-45-144			1,1					45
8S631-75-204			1,5					75

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

LATERAL (SIDE) ARMS, NAAMS-STYLE

Enclosed Modular Manual Power Clamps | Heavy-Duty | Dimensions and Technical Specifications

For Size 50



9mm Thru Hole (6.00 H7 Dowel)

90mm [3.54"] Arm Length			120mm [4.72"] Arm Length			150mm [5.90"] Arm Length		
Series	Arm Style	Model	Series	Arm Style	Model	Series	Arm Style	Model
50 Offset	▲ • 3256	B8JG-3256-1	50 Offset	▲ • 3257	B8JG-3257-1	50 Offset	▲ • 3258	B8JG-3258-1
25 Offset	▲ • 3246	B8JG-3246-1	25 Offset	▲ • 3247	B8JG-3247-1	25 Offset	▲ • 3248	B8JG-3248-1
0 Offset	▲ • 3236	B8JG-3236-1	0 Offset	▲ • 3237	B8JG-3237-1	0 Offset	▲ • 3238	B8JG-3238-1

11mm Thru Hole (8.00 F7 Dowel)

90mm [3.54"] Arm Length			120mm [4.72"] Arm Length			150mm [5.90"] Arm Length		
Series	Arm Style	Model	Series	Arm Style	Model	Series	Arm Style	Model
50 Offset	▲ • 1226	B8JG-1226-1	50 Offset	▲ • 1227	B8JG-1227-1	50 Offset	▲ • 1228	B8JG-1228-1
25 Offset	▲ • 1216	B8JG-1216-1	25 Offset	▲ • 1217	B8JG-1217-1	25 Offset	▲ • 1218	B8JG-1218-1
0 Offset	▲ • 1206	B8JG-1206-1	0 Offset	▲ • 1207	B8JG-1207-1	0 Offset	▲ • 1208	B8JG-1208-1

▲ Common in North America

(•) STANDARD ARM OFFERING

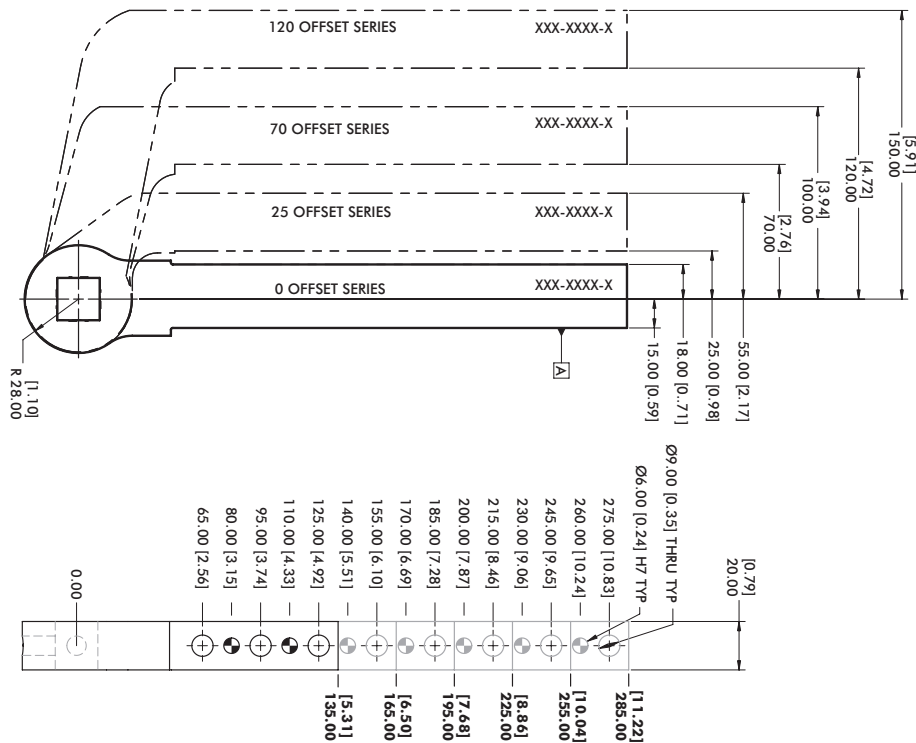
Maximum Opening Angle (shown in locked position)

Arm Styles	1206-1208/3236-3238	1216-1218/3246-3248	1226-1228/3256-3258	1206-1208/3236-3238	1216-1218/3246-3248	1226-1228/3256-3258
	135°	135°	100°	100°	N/A	N/A
	135°	N/A	50°	125°	N/A	30°
	125°	N/A	35°	135°	N/A	50°

LATERAL (SIDE) ARMS, NAAMS-STYLE

Enclosed Modular Manual Power Clamps | Heavy-Duty | Dimensions and Technical Specifications

For Size 63mm for 23 Clamp Arm Shaft Option



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

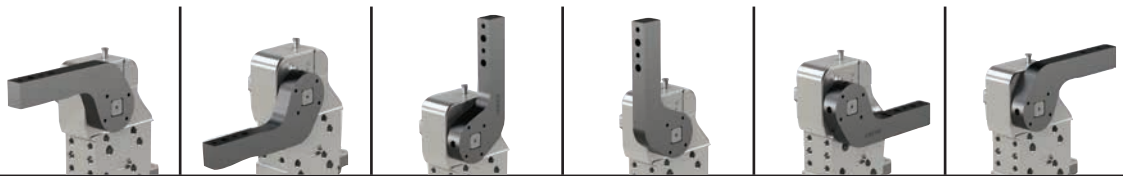
Series	Arm Style	Model
120 Offset	▲ 1547	B8JG-1547-1
70 Offset	▲ 1535	B8JG-1535-1
25 Offset	▲ 1523	B8JG-1523-1
0 Offset	▲ 1511	B8JG-1511-1

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

Maximum Opening Angle (shown in locked position)

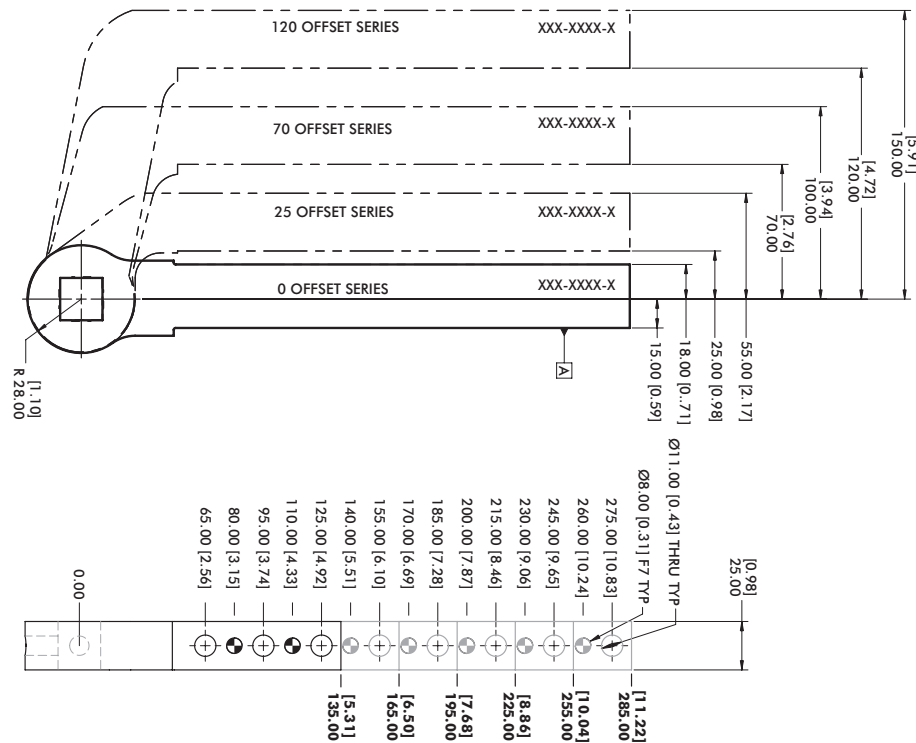


Arm Styles						
1510-1512/1507-1509	135°	135°	100°	100°	N/A	N/A
1522-1524/1519-1521	135°	N/A	50°	130°	N/A	40°
1534-1536/1531-1533	115°	N/A	25°	135°	N/A	75°
1546-1548/1543-1545	110°	N/A	20°	135°	N/A	85°

LATERAL (SIDE) ARMS, NAAMS-STYLE

Enclosed Modular Manual Power Clamps | Heavy-Duty | Dimensions and Technical Specifications

For Size 63mm for DO Clamp Arm Shaft Option



135mm [5.31"] Arm Length

Series	Arm Style	Model
120 Offset	▲ • 1043	B8JG-1043-1
70 Offset	▲ • 1031	B8JG-1031-1
25 Offset	▲ • 1019	B8JG-1019-1
0 Offset	▲ • 1007	B8JG-1007-1

165mm [6.50"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 1044	B8JG-1044-1
70 Offset	▲ • 1032	B8JG-1032-1
25 Offset	▲ • 1020	B8JG-1020-1
0 Offset	▲ • 1008	B8JG-1008-1

195mm [7.68"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 1045	B8JG-1045-1
70 Offset	▲ • 1033	B8JG-1033-1
25 Offset	▲ ⓘ 1021	B8JG-1021-1
0 Offset	▲ • 1009	B8JG-1009-1

225mm [8.86"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 1046	B8JG-1046-1
70 Offset	▲ • 1034	B8JG-1034-1
25 Offset	▲ ⓘ 1022	B8JG-1022-1
0 Offset	▲ ⓘ 1010	B8JG-1010-1

255mm [10.04"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 1047	B8JG-1047-1
70 Offset	▲ • 1035	B8JG-1035-1
25 Offset	▲ ⓘ 1023	B8JG-1023-1
0 Offset	▲ ⓘ 1011	B8JG-1011-1

285mm [11.22"] Arm Length

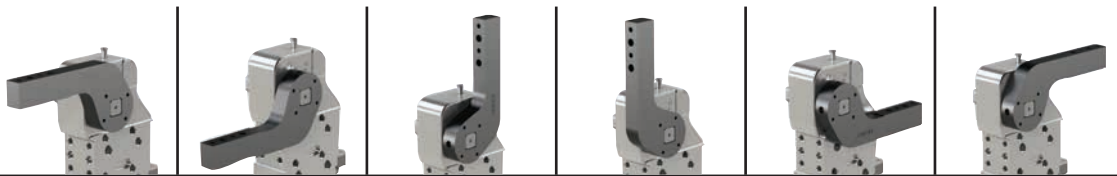
Series	Arm Style	Model
120 Offset	▲ ⓘ 1048	B8JG-1048-1
70 Offset	▲ ⓘ 1036	B8JG-1036-1
25 Offset	▲ ⓘ 1024	B8JG-1024-1
0 Offset	▲ ⓘ 1012	B8JG-1012-1

▲ Common in North America

(•) STANDARD ARM OFFERING

ⓘ NON-STANDARD ARM OFFERING (extended leadtimes apply)

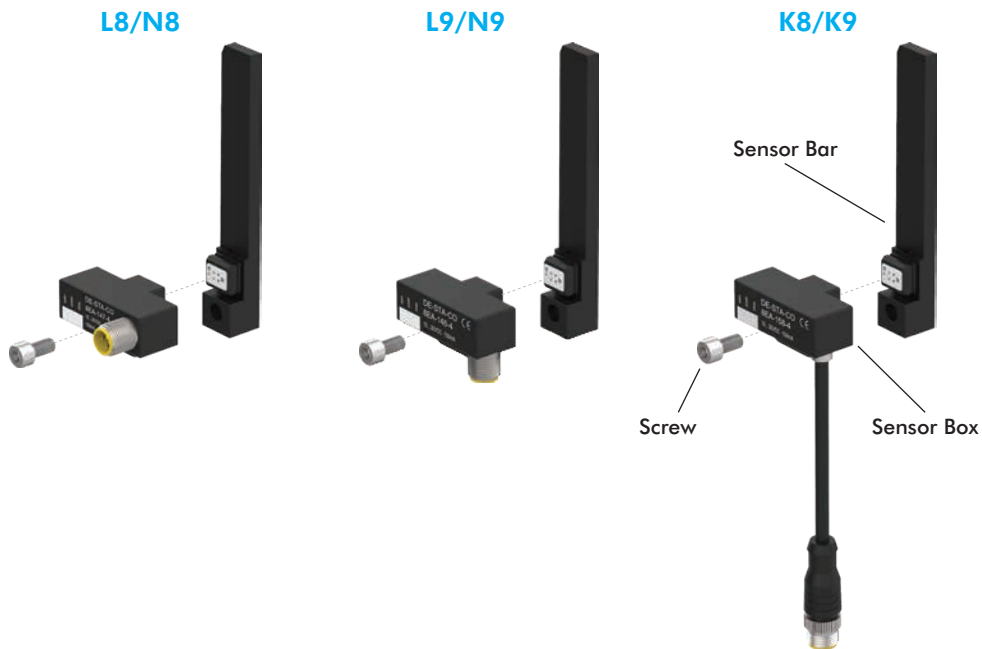
Maximum Opening Angle (shown in locked position)



Arm Styles	135°	135°	100°	100°	N/A	N/A
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°

TCC-2, 82M-3, 52H-3 SENSORS

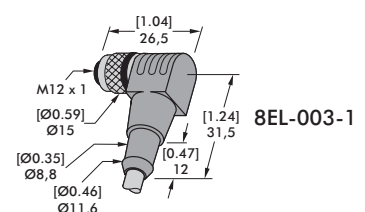
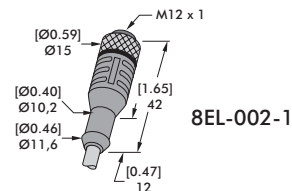
Replacement Sensor Kits and Components

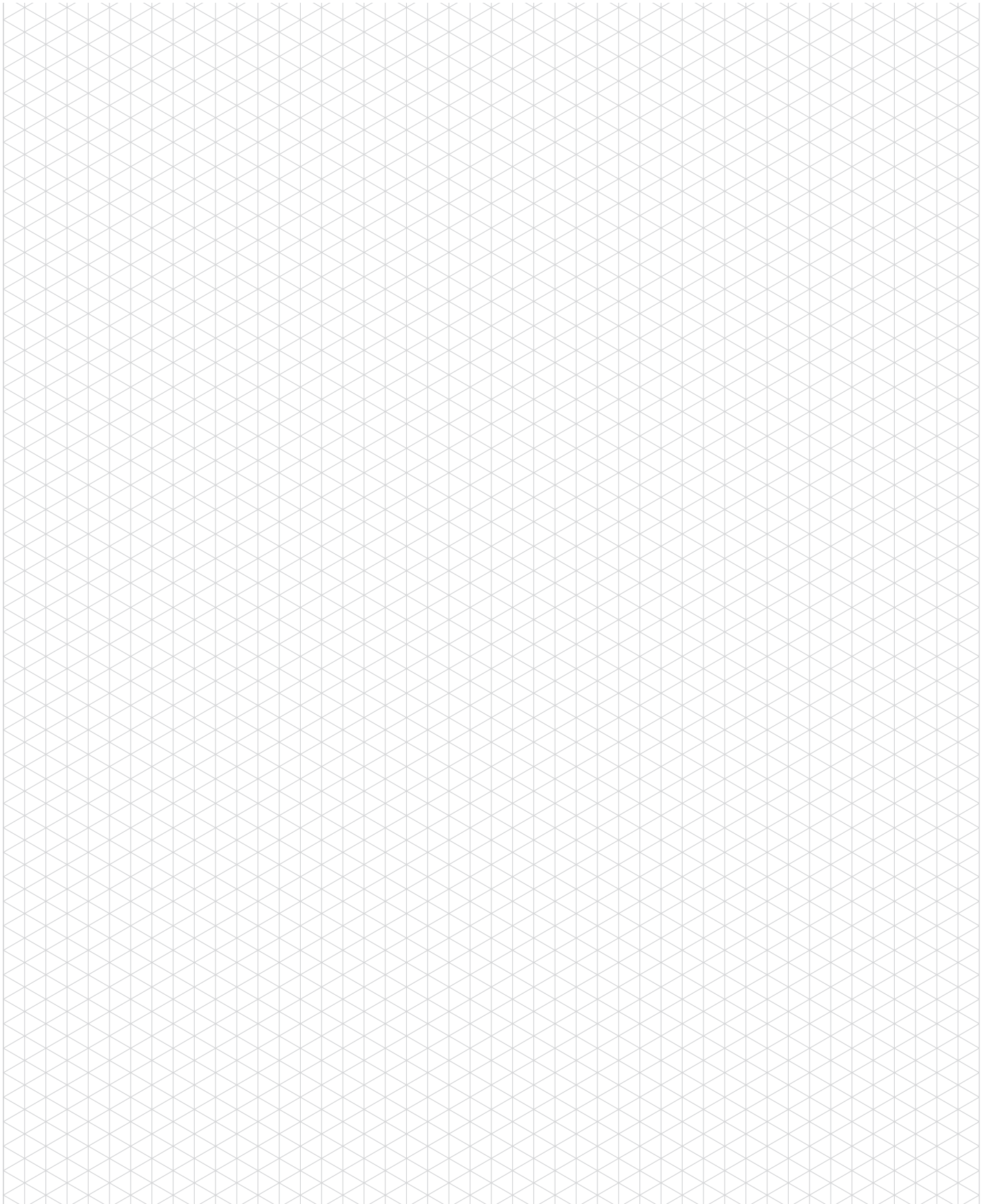


Fits Base Models	Complete Sensor Kits (Includes Sensor Box, Sensor Bar, Screw)			Component Part No.		
	Order No.	Description	Replacement Kit	Sensor Box	Sensor Bar	Screw
TCC-2.....4.	L8	PNP w/In-line M12x1 Connector	8EA-146-4-B-03	8EA-146-4-B	8EA-168-4-G	M6X12-912-ZN
	N8	NPN w/In-line M12x1 Connector	8EA-154-4-B-03	8EA-154-4-B		
	L9	PNP w/90° M12x1 Connector	8EA-147-4-B-03	8EA-147-4-B		
	N9	NPN w/90° M12x1 Connector	8EA-155-4-B-03	8EA-155-4-B		
	K8	PNP w/M12x1 Cable Connector	8EA-158-4-B-03	8EA-158-4-B		
	K9	NPN w/M12x1 Cable Connector	8EA-167-4-B-03	8EA-167-4-B		
TCC-2.....5., 6. 82M-3.....4., 5., 6. 52H-3.....50, 63	L8	PNP w/In-line M12x1 Connector	8EA-146-4-B-01	8EA-146-4-B	8EA-148-4-G	M6X12-912-ZN
	N8	NPN w/In-line M12x1 Connector	8EA-154-4-B-01	8EA-154-4-B		
	L9	PNP w/90° M12x1 Connector	8EA-147-4-B-01	8EA-147-4-B		
	N9	NPN w/90° M12x1 Connector	8EA-155-4-B-01	8EA-155-4-B		
	K8	PNP w/M12x1 Cable Connector	8EA-158-4-B-01	8EA-158-4-B		
	K9	NPN w/M12x1 Cable Connector	8EA-167-4-B-01	8EA-167-4-B		
82M-3.....8.	L8	PNP w/In-line M12x1 Connector	8EA-146-4-B-02	8EA-146-4-B	8EA-149-4-G	M6X12-912-ZN
	N8	NPN w/In-line M12x1 Connector	8EA-154-4-B-02	8EA-154-4-B		
	L9	PNP w/90° M12x1 Connector	8EA-147-4-B-02	8EA-147-4-B		
	N9	NPN w/90° M12x1 Connector	8EA-155-4-B-02	8EA-155-4-B		
	K8	PNP w/M12x1 Cable Connector	8EA-158-4-B-02	8EA-158-4-B		
	K9	NPN w/M12x1 Cable Connector	8EA-167-4-B-02	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





82D40-2/82D63-5

Enclosed Pneumatic Power Clamps | Dual Arm | Features and Benefits | Technical Information

82D63-5

23

C9

0

0

B

Base Model

82D40-2

82D63-5

Description

40 mm Cylinder (G1/4 Port)

63 mm Cylinder (G1/4 Port)

Clamp Arm Shaft

23

Description

includes long drive shaft ends on both sides fit for all clamping arms (standard)

Hand Lever

0

Description

Hand Lever not available

Sensor

C9

Description

includes Sensing System with M12x1 Connector (8EA-024-2) Standard

Clamp Arms

B

Description

Base model only. Order clamps arms separately. See below.

Opening Angle

0

1

2

3

4

5

6

7

8

180° (standard)

160°

140°

120°

100°

80°

60°

40°

20°

Reduced opening angles available upon request.

Shown with (2) U-Arms

8JG-069-1-01

(order separately)

82D63-5

Max Holding

400 Nm [295 ft-lb]

Max Clamping Torque

120 Nm [88 ft-lb]

at 5 bar [72 psi]

82D40-2

Max Holding

140 Nm [103 ft-lb]

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

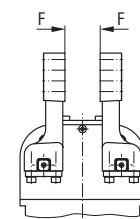
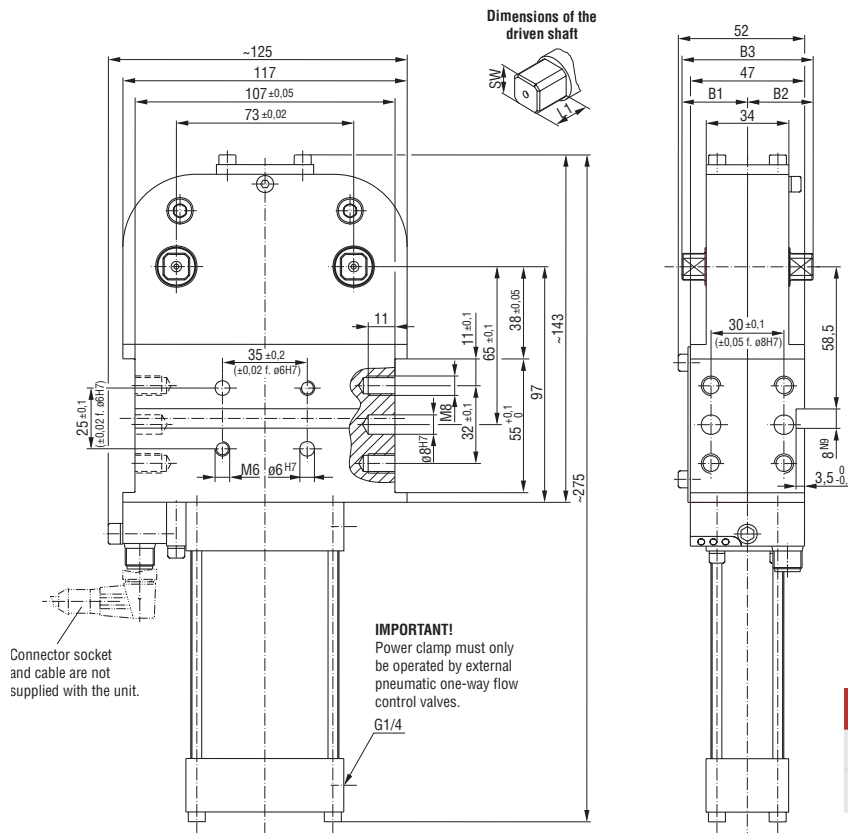
8JG-070-1-01

82D40-2/82D63-5

Enclosed Pneumatic Power Clamps | Dual Arm | Dimensions

Model	Clamping position	Standard opening angle	Driveshaft	Max. holding torque Nm [ft-lb]	Clamping torque at 5 bar Nm [ft-lb]	Cylinder Ø mm [in]	Air consumption per double stroke at 5 bar dm³ [ft³]	Weight ~ kg [lbs]
82D40-223C900B	vertical	180°	lateral, both sides U-type clamping arms	55 [40]	55 [40]	40 [1.57]	1,2 [0.04]	2,5 [5.50]
82D63-523C900B				120 [88]	120 [88]	63 [2.48]	3,8 [0.13]	4,5 [9.90]

82D40-223C900B



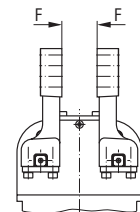
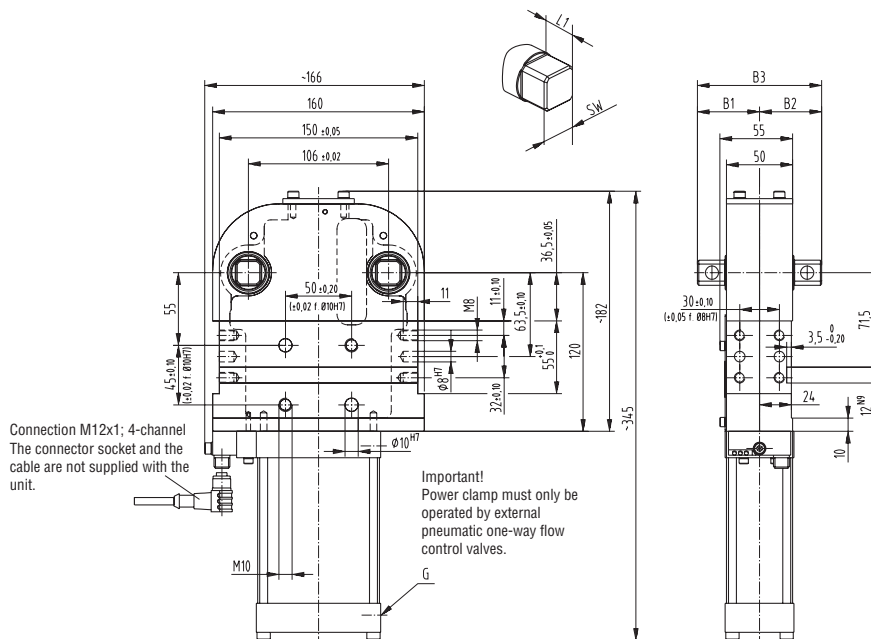
Safety notice:

The load on the clamping arms must always point towards the clamping direction. Single load of one arm is prohibited

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

Model	B1	B2	B3	L1	SW	G
82D40-223C900B	30	30	60	12,5	11	1/4
82D63-523C900B	47	47	94	21	19	

82D63-523C900B



Safety notice:

The load on the clamping arms must always point towards the clamping direction. Single load of one arm is prohibited

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

U-ARMS CENTER (STEEL)

Enclosed Pneumatic Power Clamps | Dual Arm | Dimensions and Technical Specifications

- Clamping arm variants for **82D40-2**

Clamping arm variant U-type central clamping arm

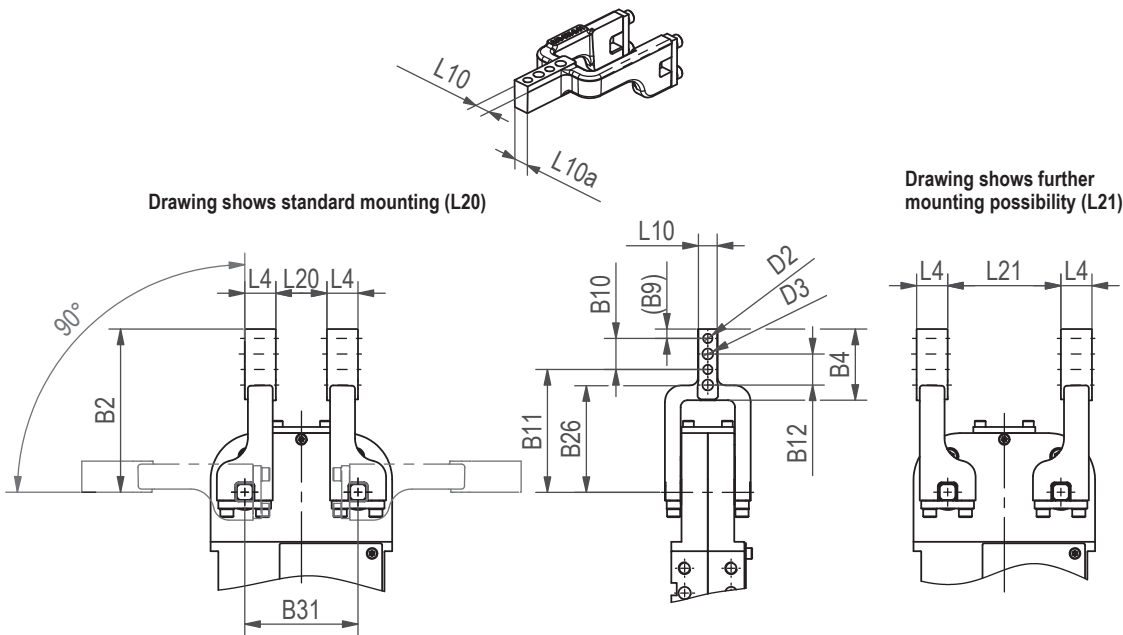


Base model with 2 U-type clamping arms, small gap between clamping arms

U-type central clamping arm | Technical Information

Model	Order no. for U-type clamping arm set (1 clamping arm)	Clamping position	Standard opening angle	B2	B4	B9	B10	B11	B12	B26
							±0,02	+0,1	±0,2	
82D40-223C900B	8JG-065-2-01	vertical	180°	105	45,3	6	20	79	20	68,2

Model	Order no. for U-type clamping arm set (1 clamping arm)	B31	D2	D3	L4	L10	L10a	L20	L21
		±0,02	H7 ø	ø		±1,1	~		
82D40-223C900B	8JG-065-2-01	73	6	7	20	12	11,3	33	73

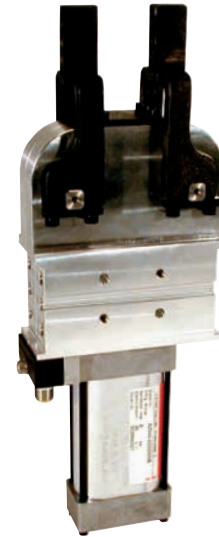


U-ARMS CENTER (STEEL)

Enclosed Pneumatic Power Clamps | Dual Arm | Dimensions and Technical Specifications

- Clamping arm variants for **82D63-5**

Clamping arm variant U-type central clamping arm

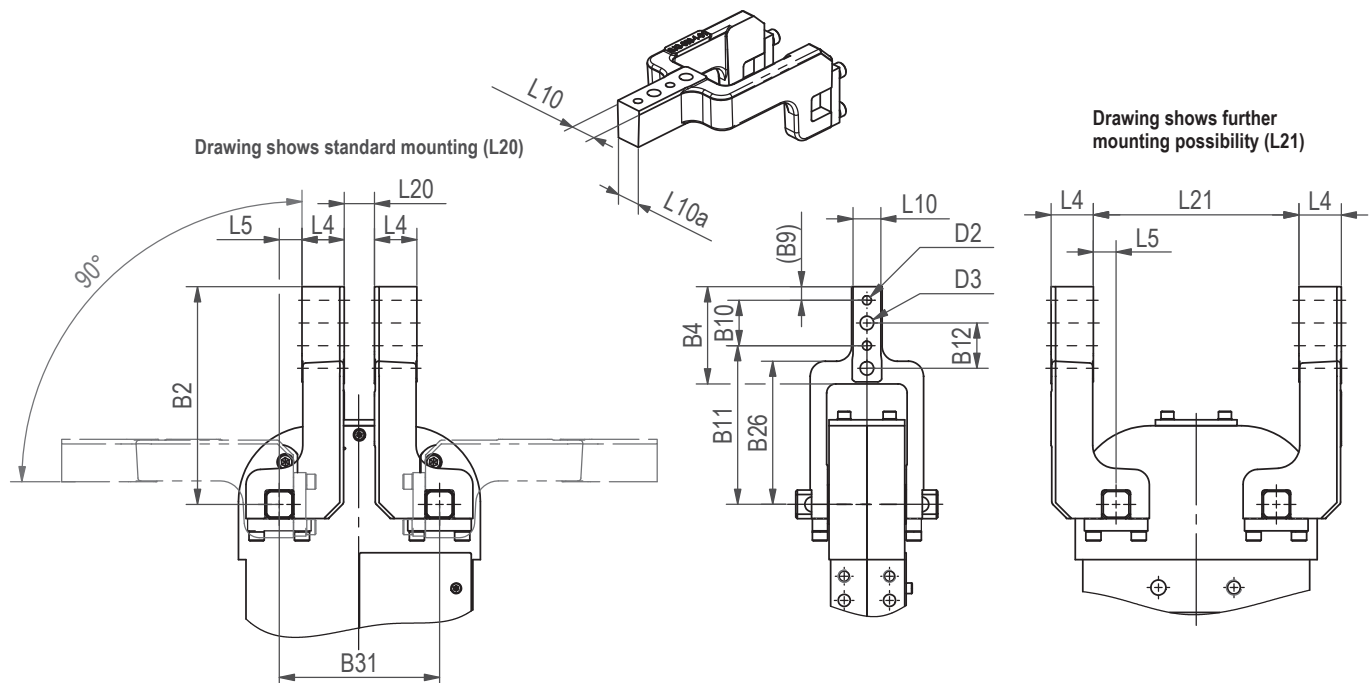


Base model with 2 U-type clamping arms, small gap between clamping arms

U-type central clamping arms | Technical Information

Model	Order no. for U-type clamping arm set (1 clamping arm)	Clamping position	Standard opening angle	B2	B4	B9	B10	B11	B12	B26
							±0,02	+0,1	±0,2	
82D63-523C900B	8JG-069-1-01	vertical	180°	144	64,3	9	30	105	30	95

Model	Order no. for U-type clamping arm set (1 clamping arm)	B31	D2	D3	L4	L5	L10	L10a	L20	L21
		±0,02	H7 Ø	Ø			±1,2	~		
82D63-523C900B	8JG-069-1-01	106	6	9	28	15	20	18	20	136



LATERAL (SIDE) ARMS

Enclosed Pneumatic Power Clamps | Dual Arm | Dimensions and Technical Specifications

- Clamping arm variants for 82D40-2

Clamping arm variant

Lateral clamping arm	left
Lateral clamping arm	right
Lateral clamping arm	both sides



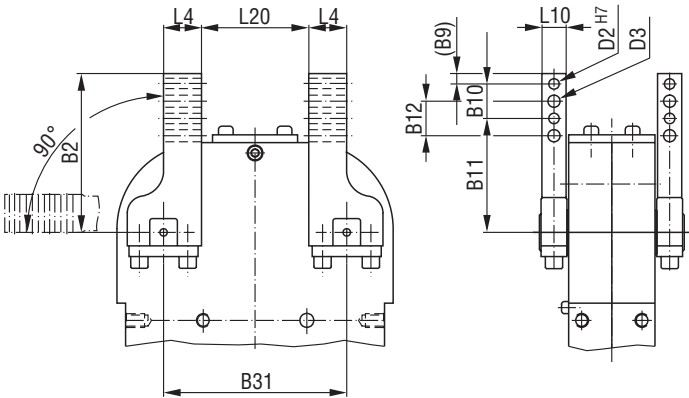
Base model with 4 lateral clamping arms, large gap between clamping arms

Lateral clamping arm | Technical Information

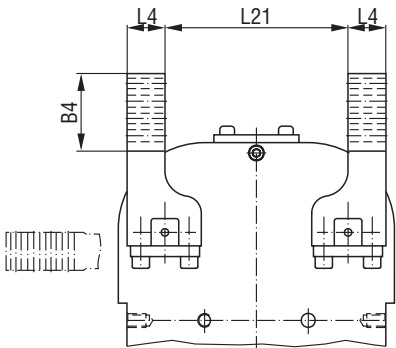
Model	Clamping arm variant	Order no. for 1 set of lateral clamping arms (1 clamping arm)	Clamping position	Standard opening angle	B2	B4	B9	B10	B11	B12
								±0,02	+0,1	±0,2
82D40-223C900B	lateral, left lateral, right lateral, both sides	8JG-066-1-01	vertical	180°	105	45	6	20	79	20

Model	Clamping arm variant	Order no. for 1 set of lateral clamping arms (1 clamping arm)	B31	D2	D3	L4	L10	L20	L21
			±0,02	H7 Ø	Ø		-0,1		
82D40-223C900B	lateral, left lateral, right lateral, both sides	8JG-066-1-01	73	6	7	20	12	33	73

Drawing shows standard mounting (L20) with four lateral clamp arms



Drawing shows further mounting possibility (L21)



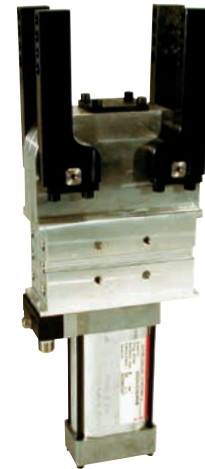
LATERAL (SIDE) ARMS

Enclosed Pneumatic Power Clamps | Dual Arm | Dimensions and Technical Specifications

• Clamping arm variants for 82D63-5

Clamping arm variant

Lateral clamping arm	left
Lateral clamping arm	right
Lateral clamping arm	both sides



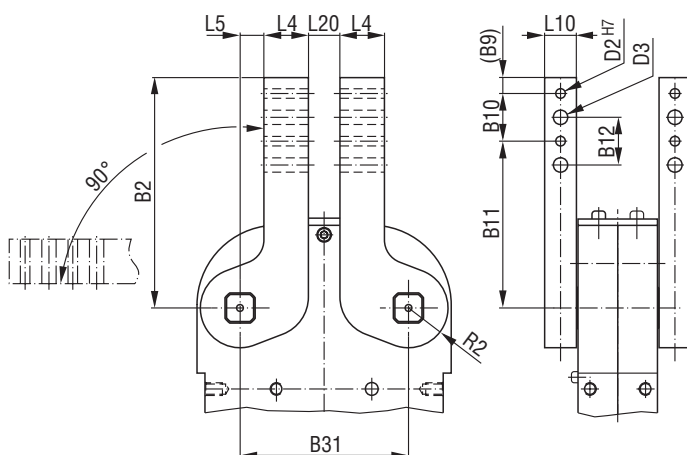
Base model with 4 lateral clamping arms, large gap between clamping arms

Lateral clamping arms | Technical Information

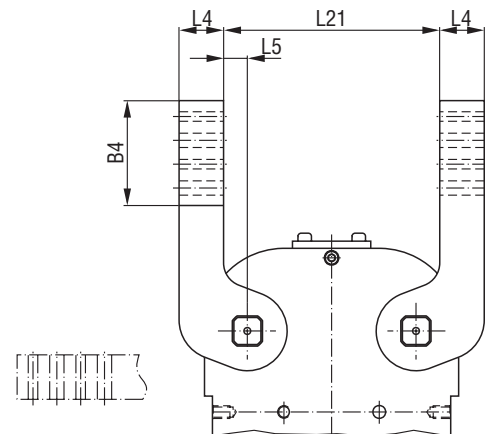
Model	Clamping arm variant	Order no. for 1 set of lateral clamping arms (1 clamping arm)	Clamping position	Standard opening angle	B2	B4	B9	B10	B11	B12
								±0,02	+0,1	±0,2
82D63-523C900B	lateral, left lateral, right lateral, both sides	8JG-070-1-01	vertical	180°	144	74	9	30	105	30

Model	Clamping arm variant	Order no. for 1 set of lateral clamping arms (1 clamping arm)	B31	D2	D3	L4	L5	L10	L20	L21	R2
			±0,02	H7 Ø	Ø			-0,1			
82D63-523C900B	lateral, left lateral, right lateral, both sides	8JG-070-1-01	106	6	9	28	15	20	20	136	28

Drawing shows standard mounting (L20) with four lateral clamp arms



Drawing shows further mounting possibility (L21)

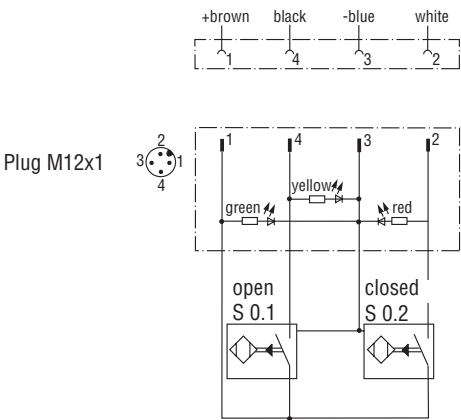


82D40-2/82D63-5

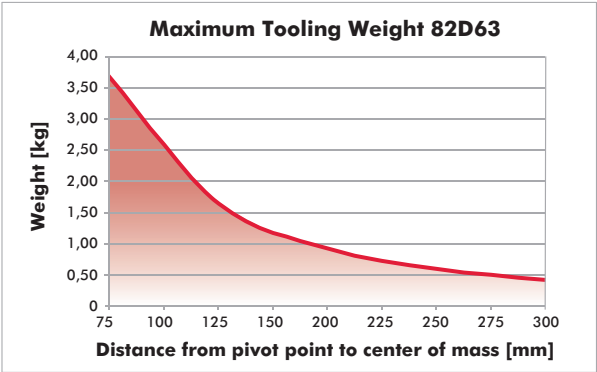
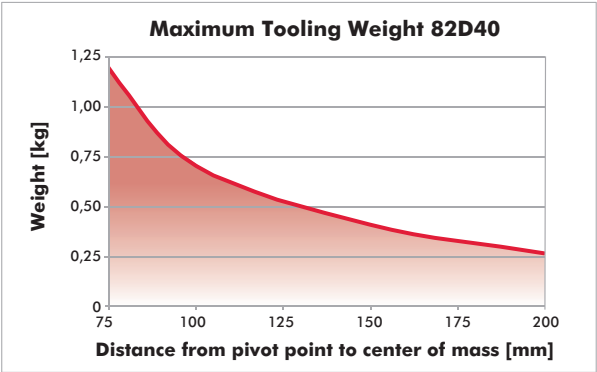
Enclosed Pneumatic Power Clamps | Dual Arm | Technical Specifications

Wiring diagram of electrical sensing system

Sensing system immune to interference from d.c. arc welding and a.c. arc welding

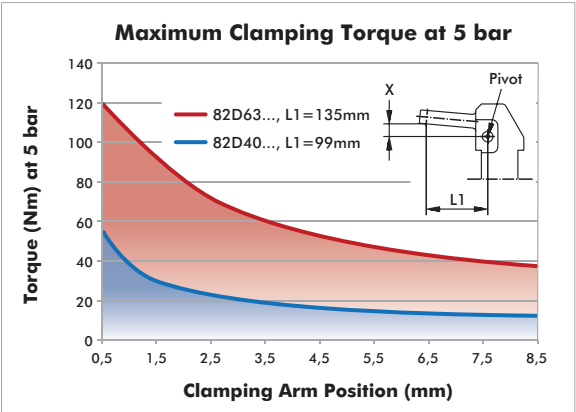


Concept guideline (with reference to axis of clamping arm rotation)



All details apply under an air pressure of 6 bar and opening and closure times of 1 second each

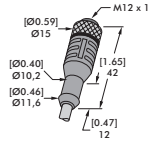
Diagram of clamping torque



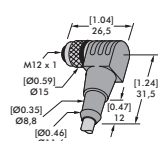
82D40-2/82D63-5 ACCESSORIES

Enclosed Pneumatic Power Clamps | Dual Arm | Ordering Information

Clamping Arms		Order no. for Structural component		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
lateral right/left	vertical	8JG-066-1-01 ¹⁾	8JG-070-1-01 ²⁾	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-066-1-01 ¹⁾	8JG-070-1-01 ²⁾	you need 4 sets of clamping arms



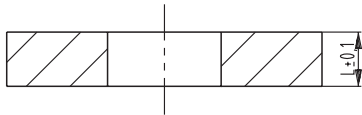
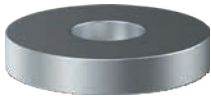
Connector socket
M12x1 straight, 5-pin

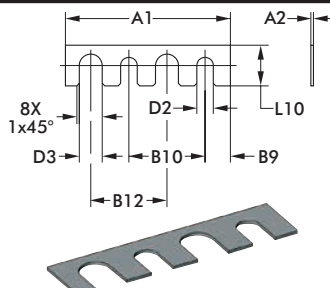


Connector socket
M12x1 angular, 4-pin

Connector Cable (includes 1 connector socket & 5 m cable)	Order no. for Structural component	
	82D40-223C900	82D63-523C900
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 Limiter	Order no. for Structural component			
	82D40-223C900		82D63-523C900	
Angle	Length	Order No.	Length	Order No.
180° (Standard)	11,4mm	8CE-342-1	14,4mm	8CE-362-1
160°	15,1mm	8CE-340-1	20,0mm	8CE-360-1
140°	18,5mm	8CE-338-1	24,8mm	8CE-358-1
120°	22,2mm	8CE-336-1	29,6mm	8CE-356-1
100°	25,8mm	8CE-334-1	34,3mm	8CE-354-1
80°	28,0mm	8CE-332-1	39,0mm	8CE-352-1
60°	33,0mm	8CE-330-1	43,8mm	8CE-350-1
40°	37,0mm	8CE-328-1	49,1mm	8CE-348-1
20°	41,8mm	8CE-326-1	56,2mm	8CE-346-1



Shim Plates (for clamping arm)	Fit for model 82D40-2									Fit for model 82D63-5								
	Model	A1	A2	D2	D3	B9	B10	B12	L10	Model	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	16
	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 Structural component	
	82D40-2	82D63-5
Cylinder	8PW-016-1	8PW-024-2
Integrated sensing system C9 Connector plug M12x1	8EA-024-2	8EA-024-2

84A

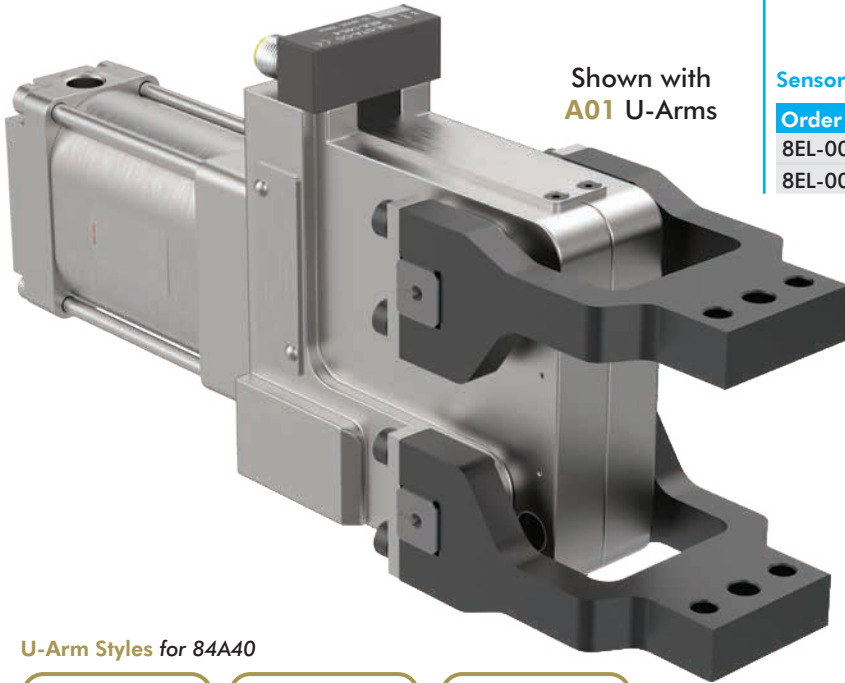
Enclosed Pneumatic Power Clamps | Dual Arm, Tolerance Compensation | Ordering Information

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

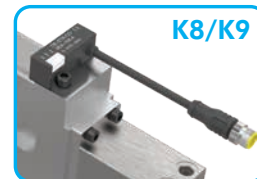
Size	Description
40-1	32 mm Cylinder (G1/8 Port)
50-1	50 mm Cylinder (G1/4 Port)

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 for 84A50 only

Shown with
A01 U-Arms

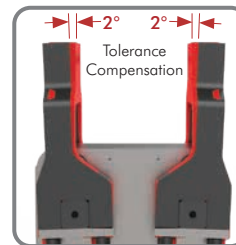


Sensor	Description
00	Without Sensing System
L8	PNP Sensor with In-line M12x1 Connector (8EA-146-4-B)
N8	NPN Sensor with In-line M12x1 Connector (8EA-154-4-B)
L9	PNP Sensor with 90° M12x1 Connector (8EA-147-4-B)
N9	NPN Sensor with 90° M12x1 Connector (8EA-155-4-B)
K8	PNP Sensor with M12x1 Cable Connector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



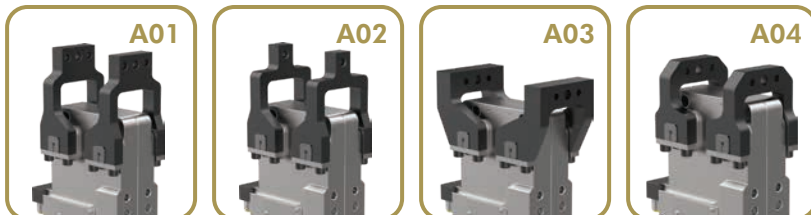
Dual Arm Compensation

- 2° of tolerance compensation per clamp arm
- Compensates for variable sheet metal thicknesses
- There is no need for shimming

U-Arm Styles for 84A40



U-Arm Styles for 84A50

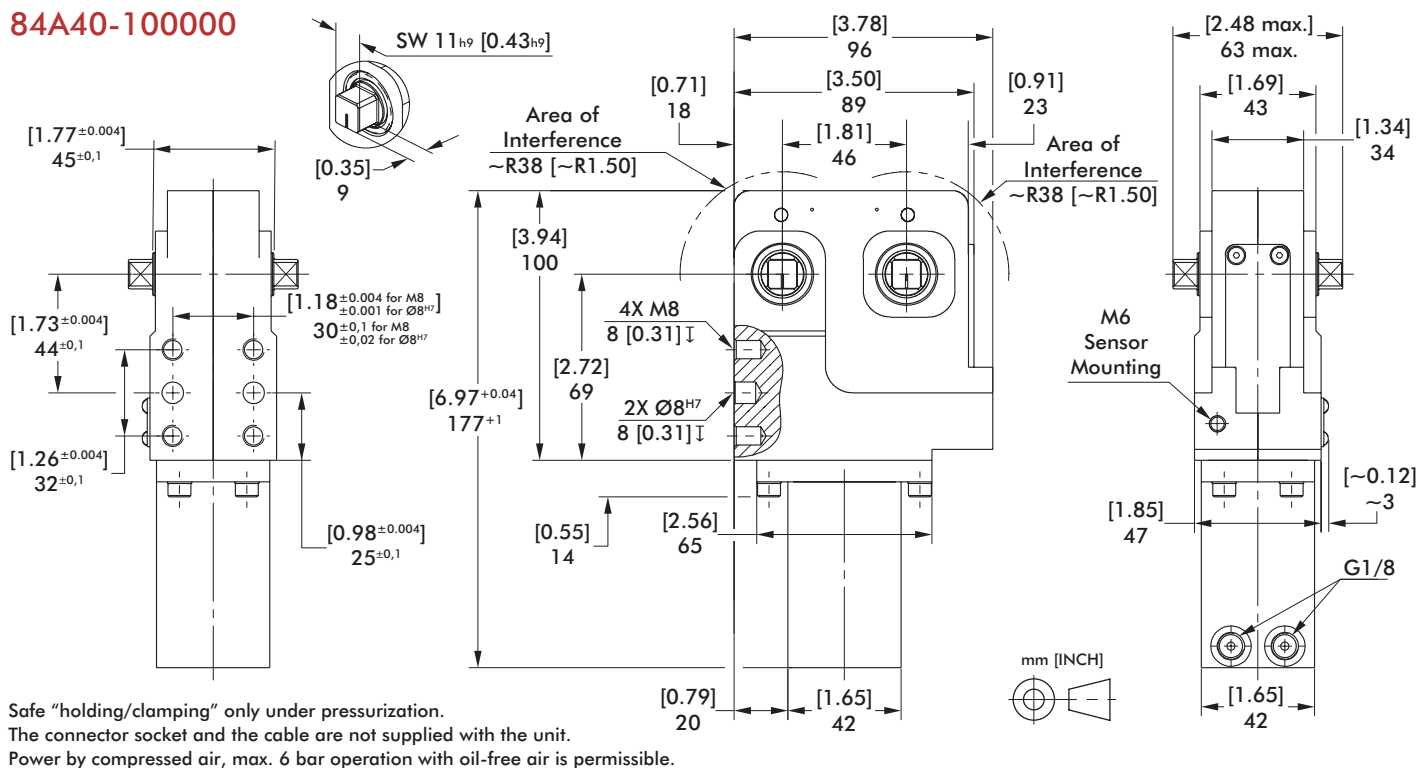


84A40-1

84A50-1

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

84A40-100000

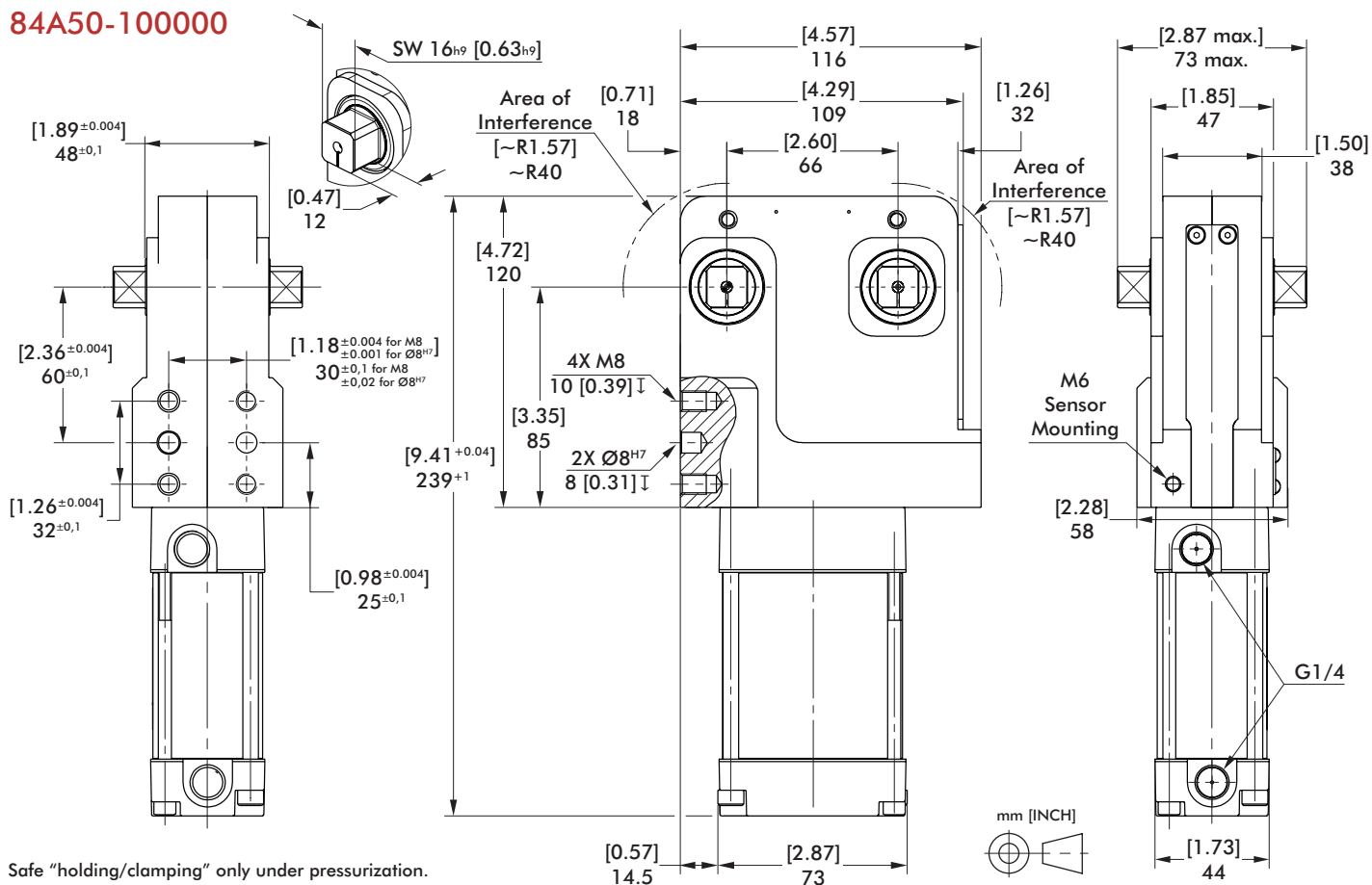


Safe "holding/clamping" only under pressurization.

The connector socket and the cable are not supplied with the unit.

Power by compressed air, max. 6 bar operation with oil-free air is permissible.

84A50-100000

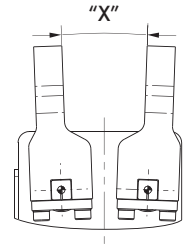
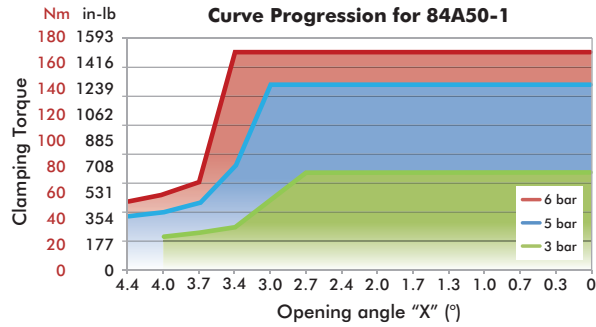
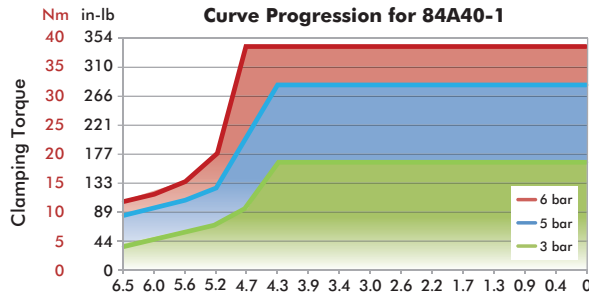


Safe "holding/clamping" only under pressurization.

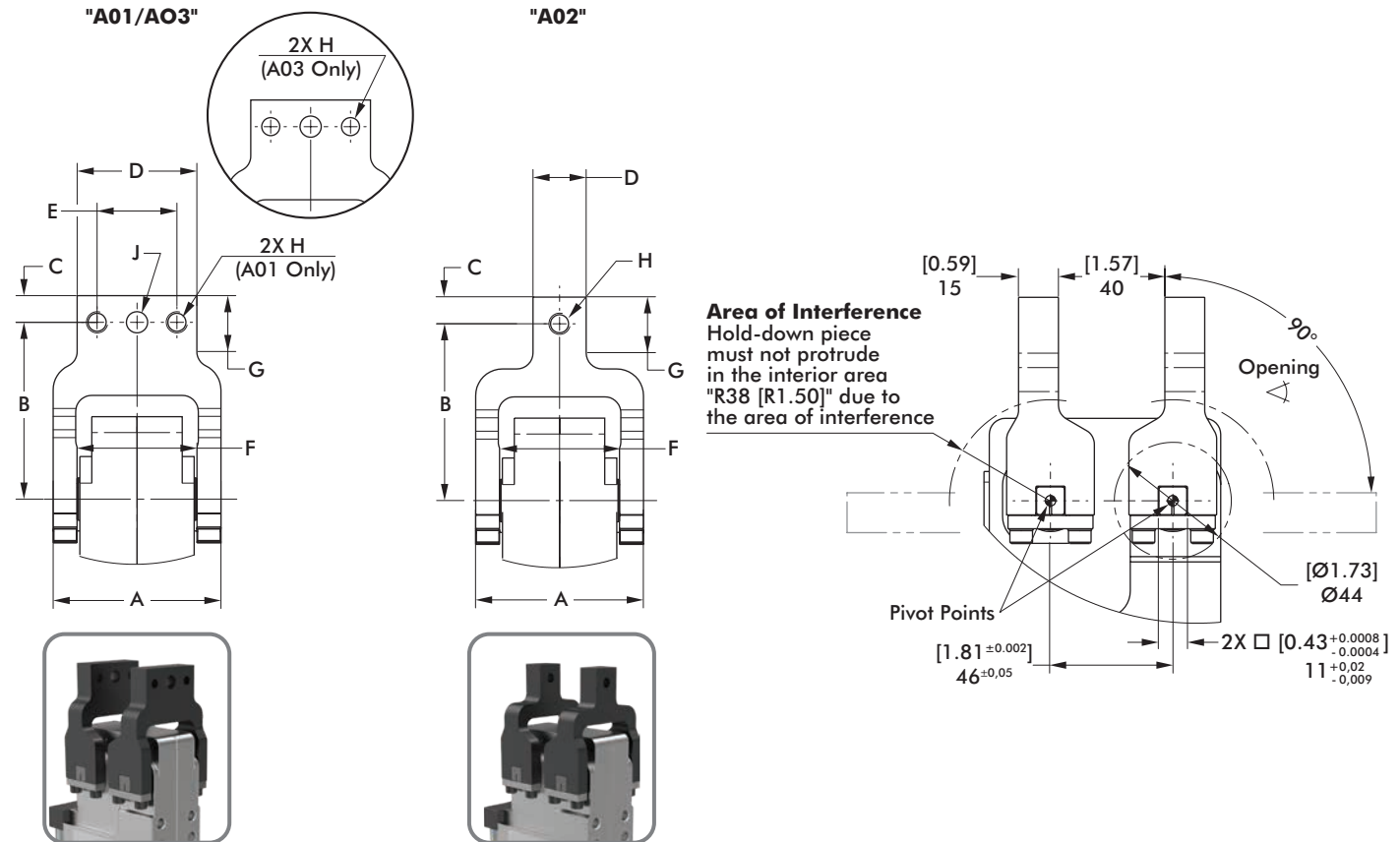
The connector socket and the cable are not supplied with the unit.

Power by compressed air, max. 6 bar operation with oil-free air is permissible.

Model	Connection	Max. Holding Torque at 5 bar [72psi] Nm [in-lb]	Max. Clamping Torque at 5 bar [72psi] Nm [in-lb]	Piston Ø mm [in]	~Weight kg [lbs]	Air Consumption per double stroke at 5 bar [72 psi] liter [in ³]
84A40-1.....	G1/8	29 [257]	29 [257]	40 [1.57]	1,5 [3.31]	0,45 [27]
84A50-1.....	G1/4	136 [1200]	136 [1200]	50 [1.97]	2,4 [5.29]	0,72 [44]

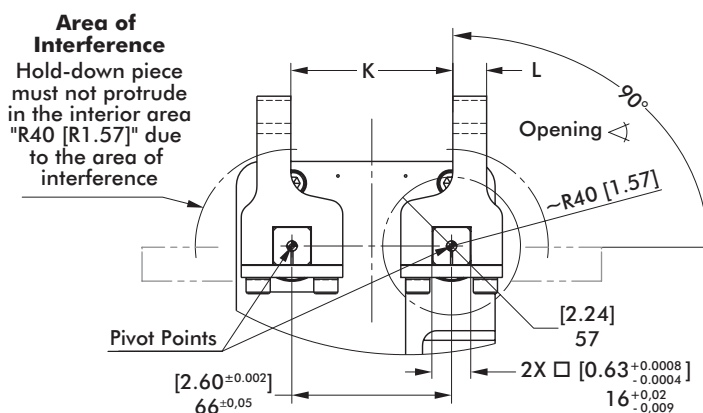
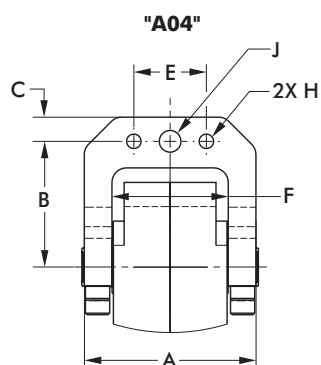
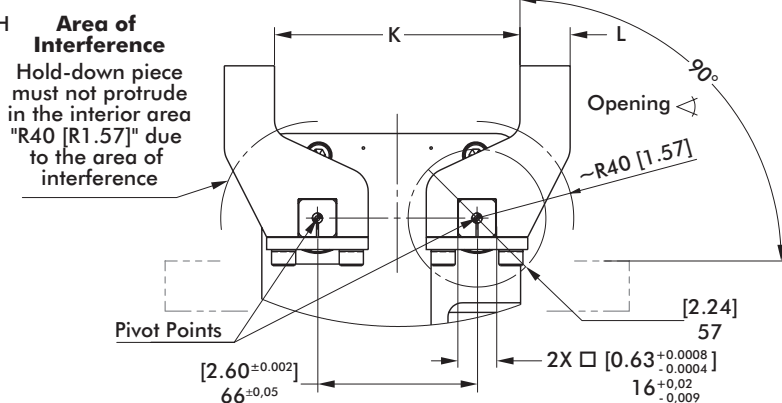
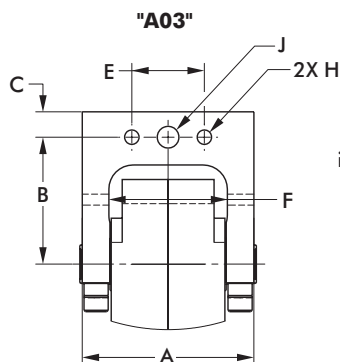
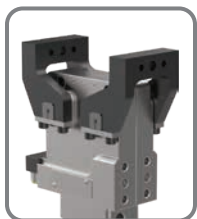
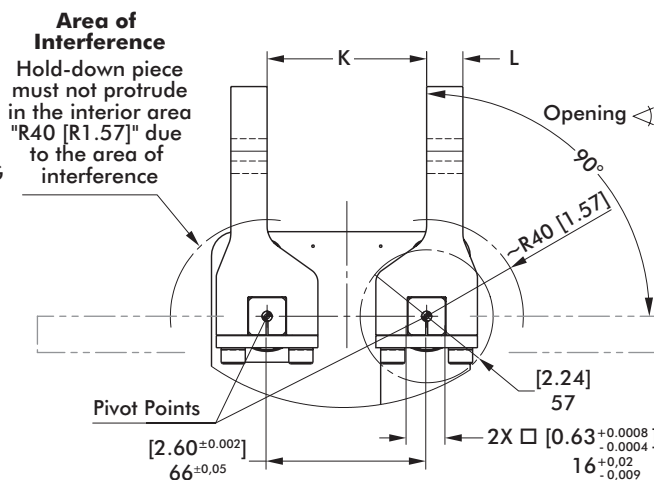
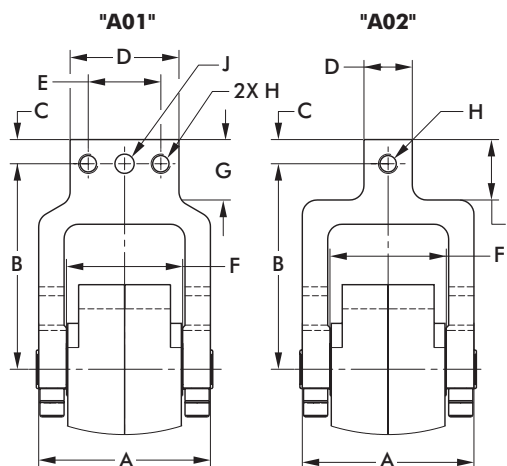


U-Type Central Clamping Arms (Aluminum) - For Size 84A40



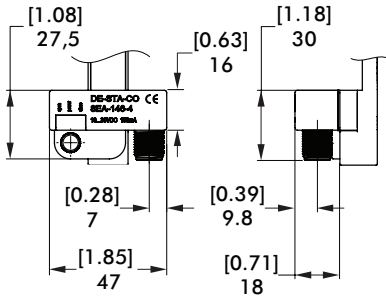
Arm Model No.	Arm Order No.	Weight kg [lbs]	A ±0,5 [±0.02]	B ±0,1 [±0.004]	C -0,05 [-0.002]	D	E	F +0,2 [+0.008]	G	ØH	ØJ
A01	8AM801-40-066	0,17 [0.37]	[2.48]	[2.62]	[0.39]	45 [1.77]	30 [1.18] ±0,1 [±0.004]			M8	8 ^{H7} [0.31 ^{H7}]
A03	8AM803-40-001		63,1	66,5	10		30 [1.18] ±0,02 [±0.008]	[1.78] 45,1	[0.83] 21	[0.24 ^{H7}] 6 ^{H7}	9 [0.35]
A02	8AM802-40-066	0,14 [0.31]				20 [0.79]	--			M8	--

U-Type Central Clamping Arms (Aluminum) - For Size 84A50

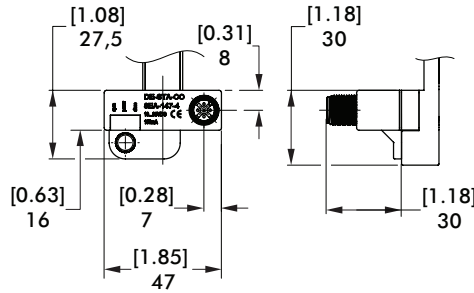


Arm Model No.	Arm Order No.	Weight kg [lbs]	A ±0,5 [±0.02]	B ±0,1 [±0.004]	C -0,05 [-0.002]	D	E +0,2 [±0.008]	F	G	ØH	ØJ	K	L
A01	8AM801-50-085	[0.97] 0,44	[2.80] 71	[3.35] 85	[0.39] 10	[1.77] 45	30 [1.18] ±0,1 [±0.004]	[1.89] 48,1	[0.98] 25	M8	[0.31] 8 ^{H7}	[2.60] 66	[0.59] 15
A02	8AM802-50-085	[0.9] 0,41		85	10	[0.79] 20	--		--		--		
A03	8AM803-50-001	[1.1] 0,5		[2.07] 52,5	[0.41] 10,5	--	30 [1.18] ±0,02 [±0.008]		--	[0.24 ^{H7}] 6 ^{H7}	[0.35] 9	[4.00] 101.5	[0.82] 20.75
A04	8AM804-50-001	[0.79] 0,36		[2.05] 52	[0.39] 10	--	--		--			[2.64] 67	[0.55] 14

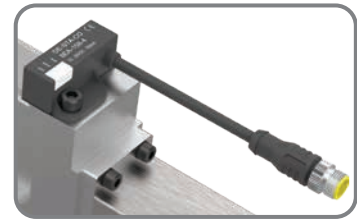
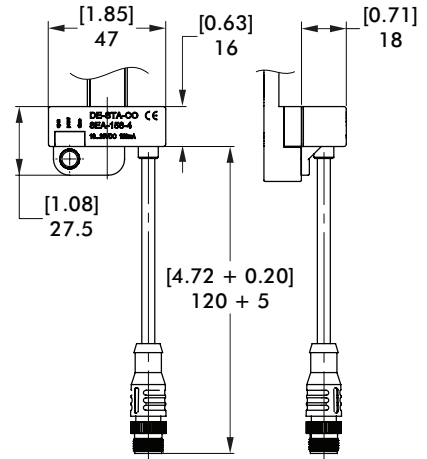
L8, N8 Inductive Sensing System



L9, N9 Inductive Sensing System with 90° Connector

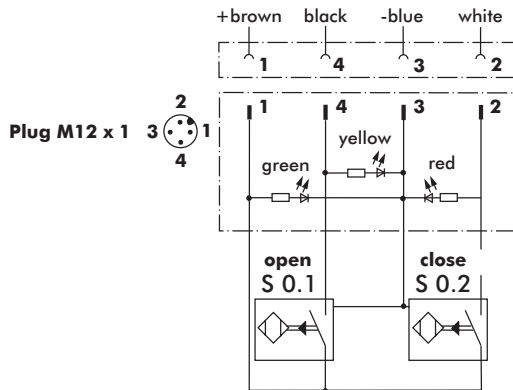


K8, K9 Inductive Sensing System with Pigtail Connector



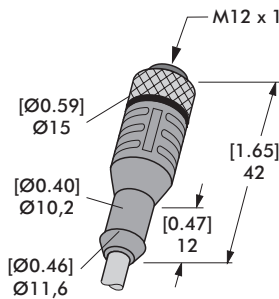
Inductive Sensor Wiring Diagram

Sensing system immune to interference from AC / DC arc welding.

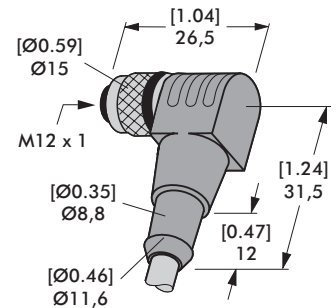


Sensor Cable Accessories

Sensor Cables (1 connector & 5m cable)	Order no.
M12x1 connector, straight, 5-pin	8EL-002-1
M12x1 connector, 90° angular, 4-pin	8EL-003-1



Straight Cable
8EL-002-1



Angular Cable
8EL-003-1



870-2, 871-2

Pneumatic Power Clamps | Ordering Information

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

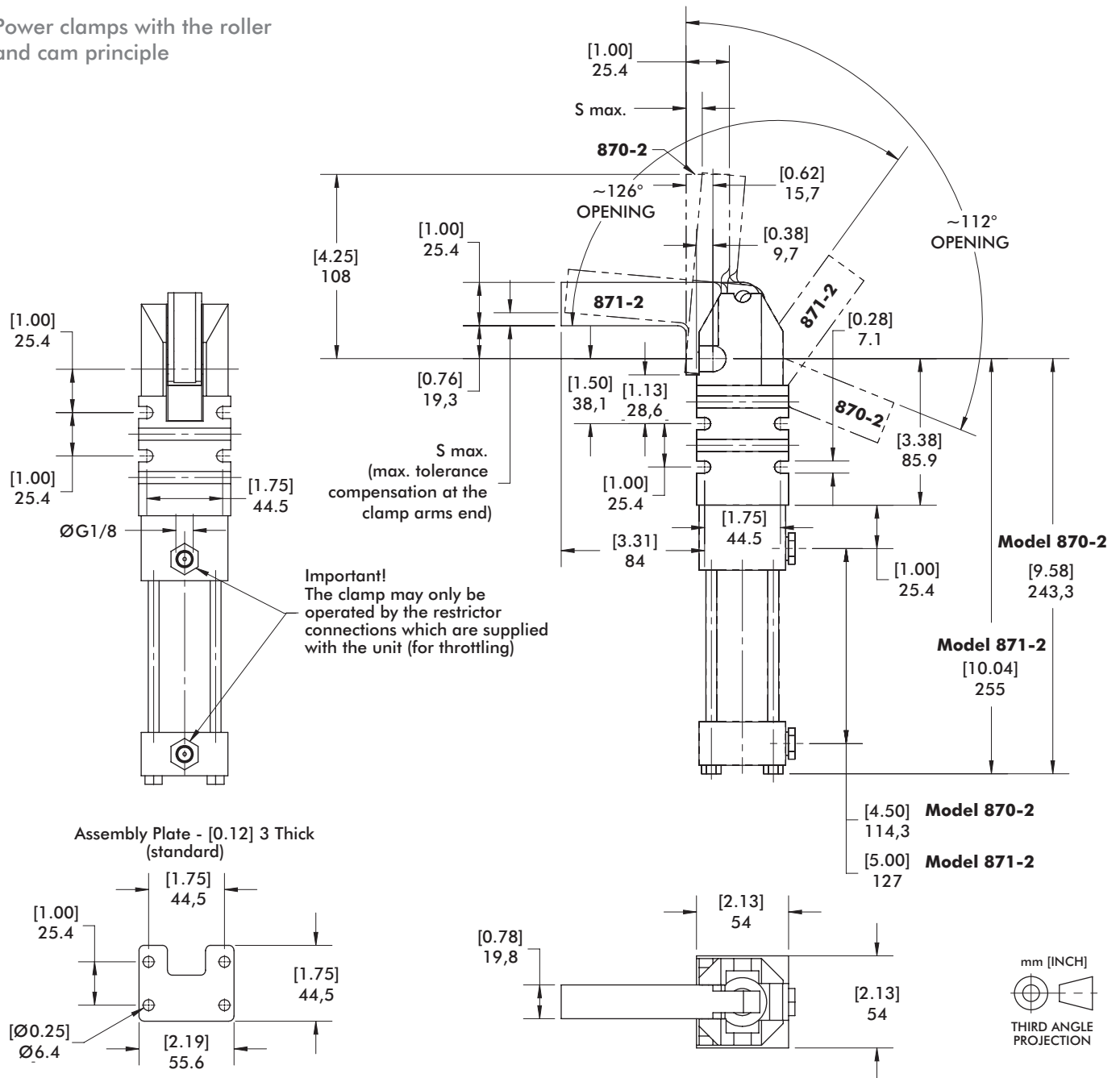
Sensors	Description (order separately)
BIM-IKE-AP	Magnetic Sensor, 2 pieces required
810151	Magnetic Sensor, 2 pieces required
810153	Magnetic Sensor, 2 pieces required
810155	Magnetic Sensor, 2 pieces required
810157	Magnetic Sensor, 2 pieces required

See page 72 for sensor specifications.



Pneumatic Power Clamps | Dimensions and Technical Specifications

Power clamps with the roller and cam principle



Model	Connection	S Max. Max. Tolerance Compensation at the Clamp Arms End [ft lb] Nm	Max. Operating Pressure [psi] bar	Cylinder Ø [in.] mm	Opening Angle	Weight [lbs] kg	Air Consumption per double stroke at 5 bar dm ³ [ft ³]
870-2	G 1/8	[3] 4,5	[145]	[1.50]	112°	[6.60]	0,95 [0.03]
871-2		[3] 3,5	10	38,1	118°	3	

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

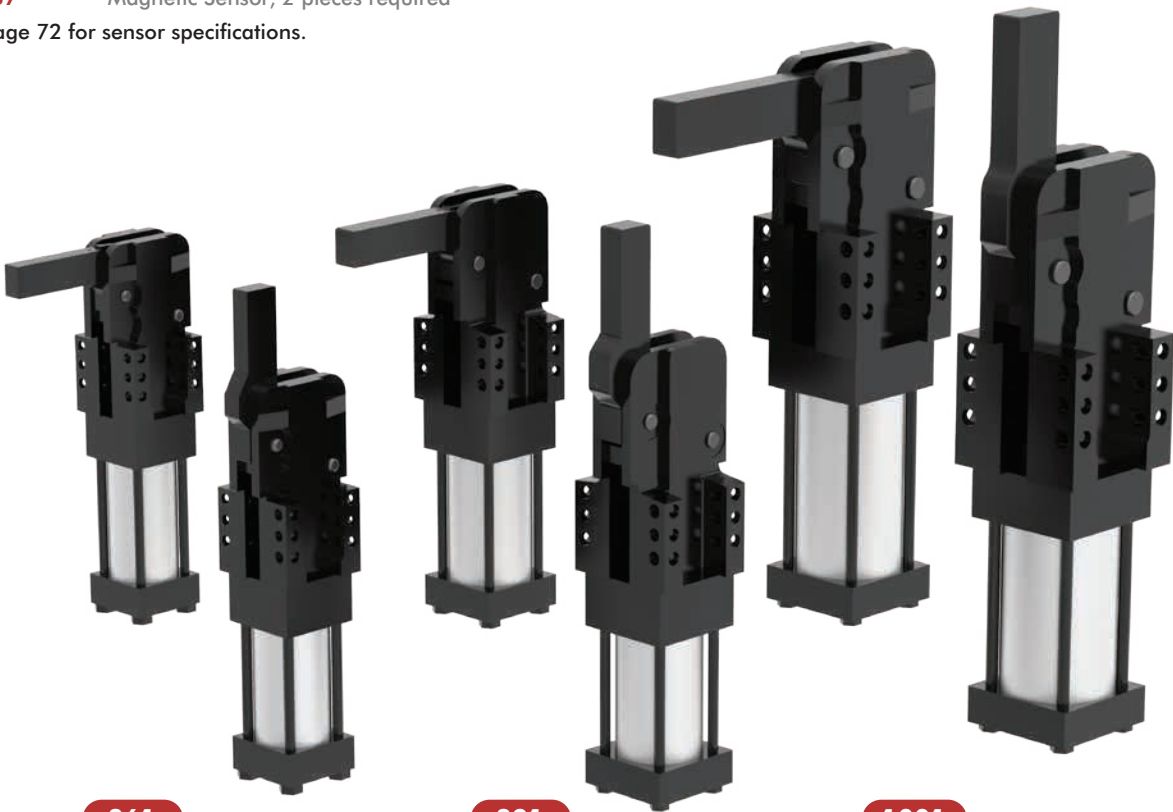
860, 861, 890, 891, 1000, 1001

Pneumatic Power Clamps | Ordering Information

860

Base Model	Description	Seal Kit	Description (order separately)
860	50,8 mm [2 in.] Cylinder with Vertical Clamp Arm	8610100	Seal Kit for Model 860, 861
861	50,8 mm [2 in.] Cylinder with Horizontal Clamp Arm	8910100	Seal Kit for Model 890, 891
890	63,5 mm [2.5 in.] Cylinder with Vertical Clamp Arm	10010100	Seal Kit for Model 1000, 1001
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 72 for sensor specifications.



861

Max Holding Torque
1017 Nm [750 ft-lb]
Max Clamping Torque
256 Nm [180 ft-lb]
at 5 bar [72 psi]

891

Max Holding Torque
1695 Nm [1250 ft-lb]
Max Clamping Torque
553 Nm [408 ft-lb]
at 5 bar [72 psi]

1001

Max Holding Torque
3390 Nm [2500 ft-lb]
Max Clamping Torque
1229 Nm [906 ft-lb]
at 5 bar [72 psi]

860

Max Holding Torque
1017 Nm [750 ft-lb]
Max Clamping Torque
256 Nm [180 ft-lb]
at 5 bar [72 psi]

890

Max Holding Torque
1695 Nm [1250 ft-lb]
Max Clamping Torque
553 Nm [408 ft-lb]
at 5 bar [72 psi]

1000

Max Holding Torque
3390 Nm [2500 ft-lb]
Max Clamping Torque
1229 Nm [906 ft-lb]
at 5 bar [72 psi]

82P25-2

Pneumatic Pin Clamp | Ordering and Technical Information

82P25-2

00

D8

XX

Size	Description	Tip	Description
82P25-2	25 mm Cylinder (G1/8 and NPT 1/8 Ports)	00	without centering pin
		08-22	with customer specified round centering pin from Ø8-22 mm

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

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



00



08-22



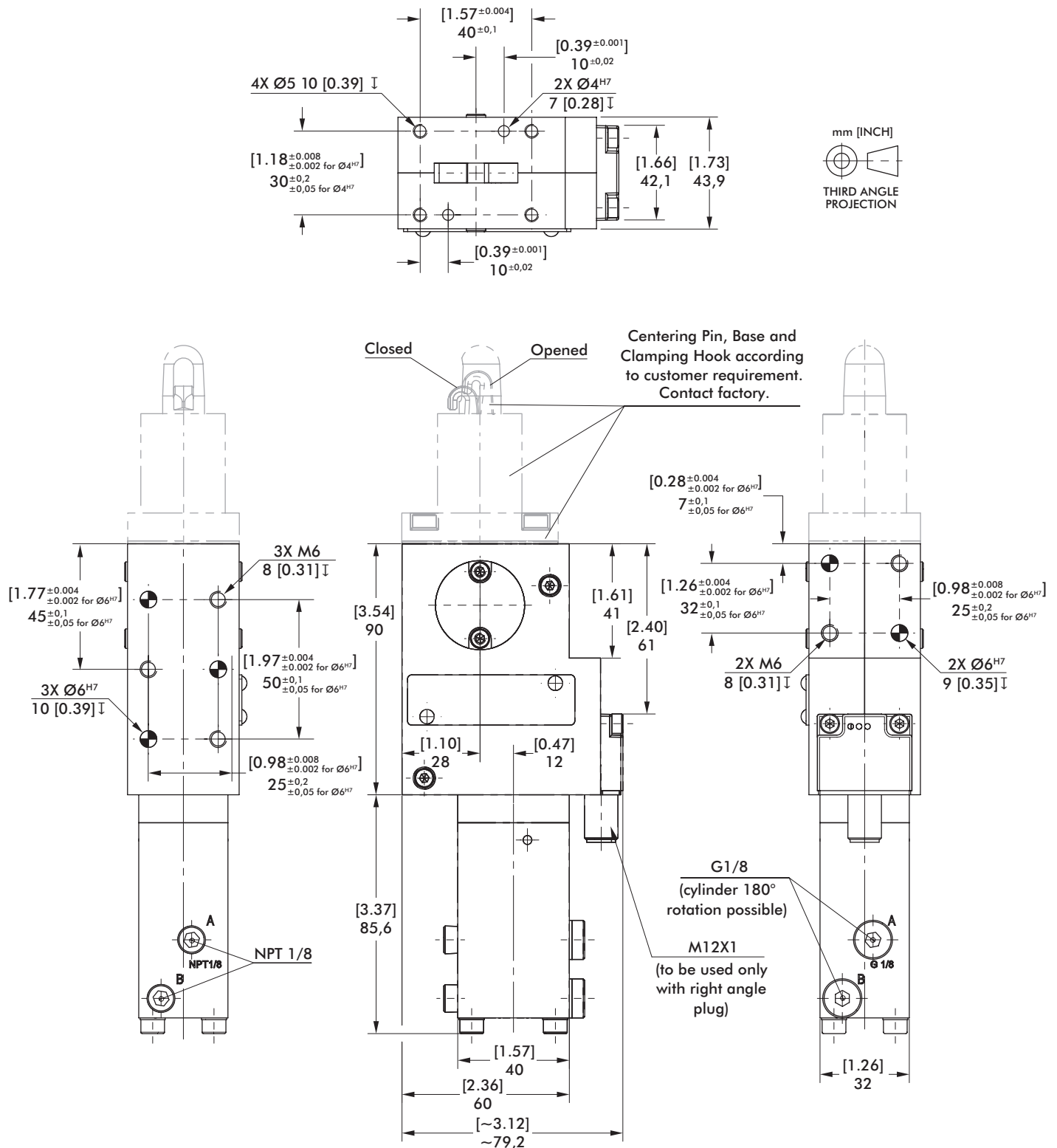
D8



XX



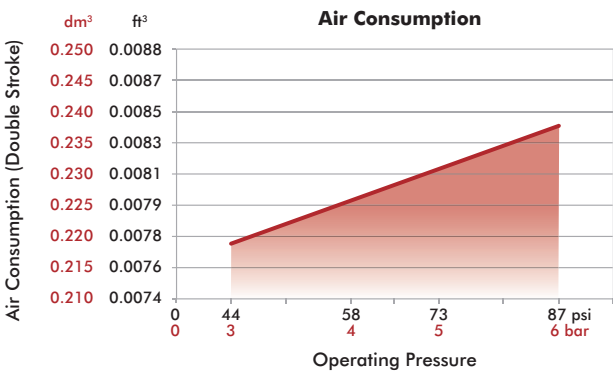
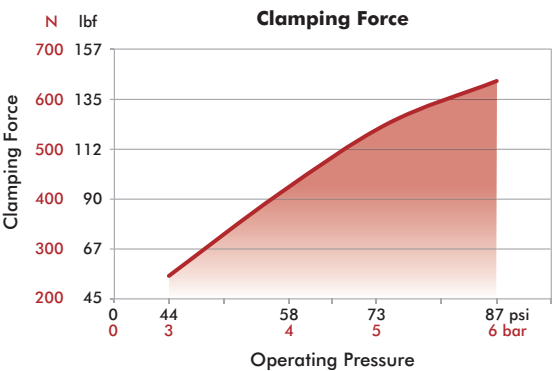
Specification	Unit	82P25-2
Max. Clamping Force @ 5 bar	[lbf] N	[124] 550
Max. Operating Pressure	bar [psi]	[87] 6
Piston Diameter	[in] mm	[1.57] 40
Air Consumption per Double Stroke @ 6 bar [87psi]	[in³] liter	[15.26] 0,25
Weight	[lb] kg	[2.07] 0,94



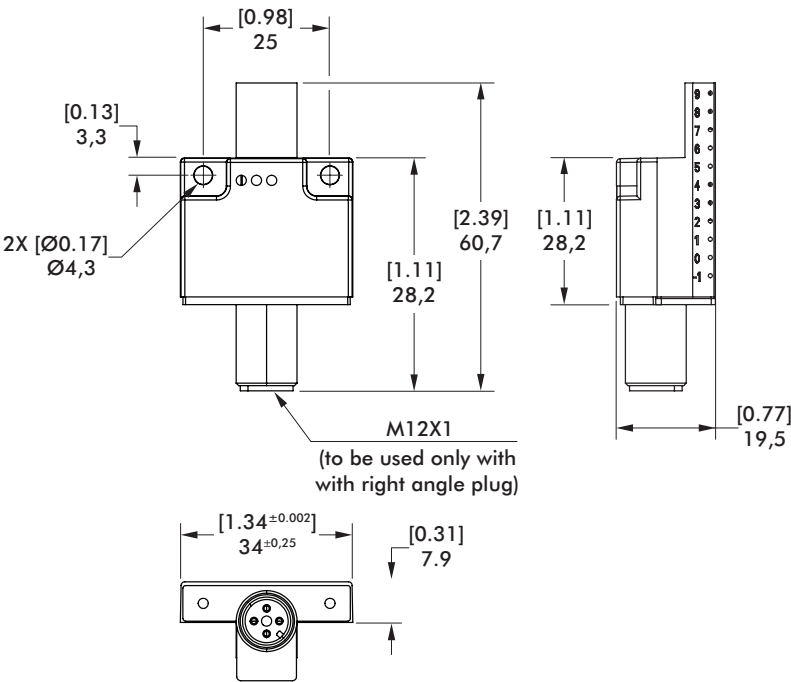
82P25-2 SENSORS

Pneumatic Pin Clamp | Dimensions and Technical Specifications

Clamping Force and Air Consumption

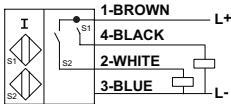
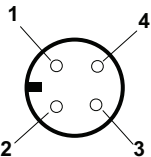


D8 Inductive Sensing System



Inductive Sensor Wiring Diagram

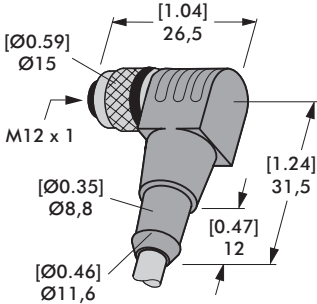
Sensing system immune to interference from AC / DC arc welding.



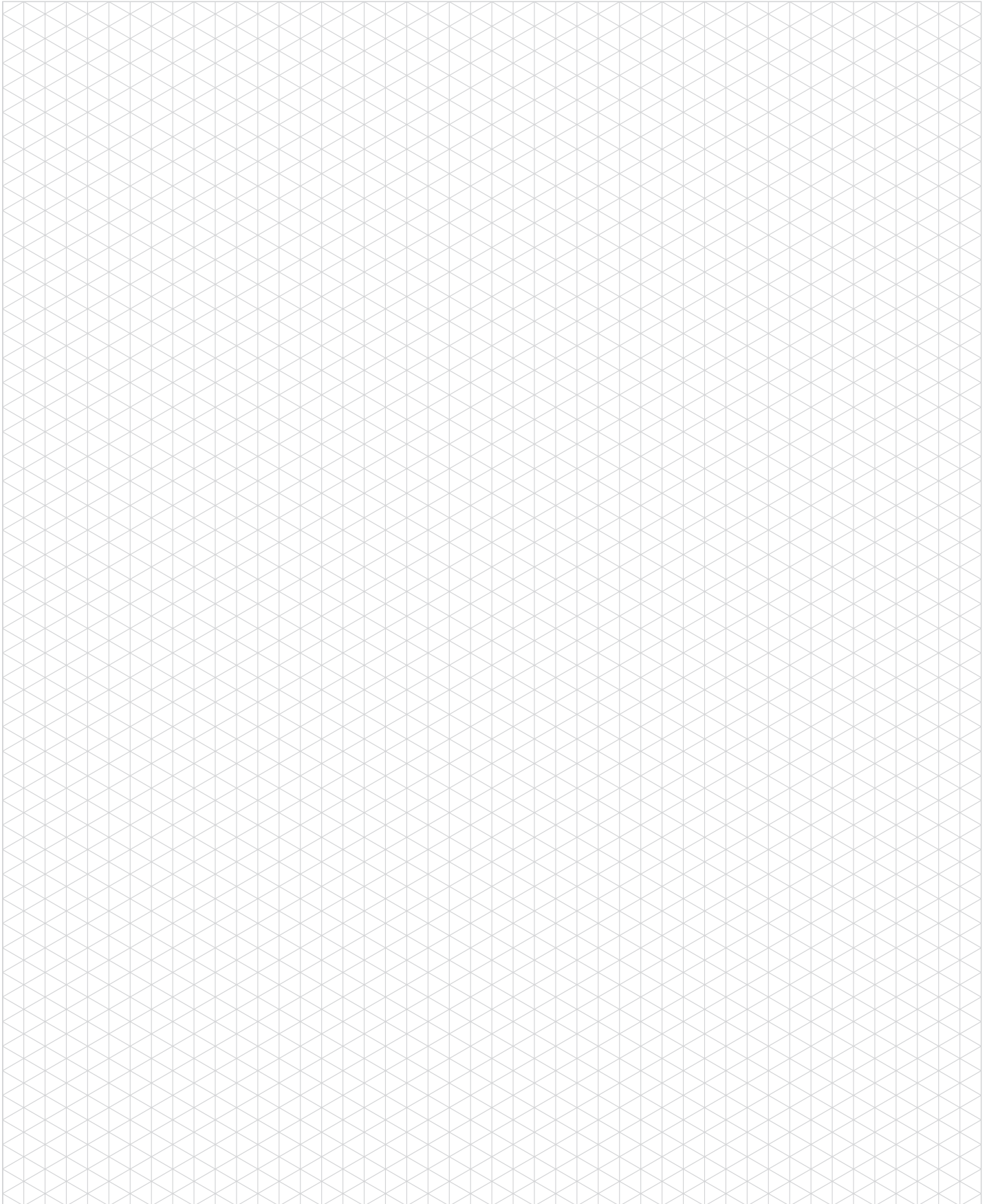
1-Common +
2-Open
3-Common -
4-Closed

Sensor Cable Accessories

Sensor Cables (1 connector & 5m cable)	Order no.
M12x1 connector, 90° angular, 4-pin	8EL-003-1



Angular Cable
8EL-003-1



82P30-3/82P35-3

Pneumatic Pin Clamp | Ordering and Technical Information

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

00

D0

00

C0

B8

Specification

Unit

82P30-3

82P35-3

Max. Clamping Force @ 6 bar

[lbf]

2000

[790]

3500

Max. Operating Pressure

bar

[87]

[87]

6

6

Piston Diameter

[in]

[1.18]

[1.38]

30

35

Air Consumption per Double Stroke @ 6 bar [87psi]

[in³]

[48.82]

[48.82]

0,8

0,8

Weight

[lb]

[6.61]

[7.50]

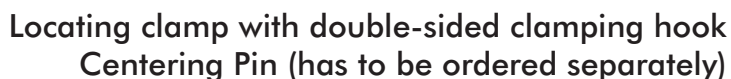
3

3,4

82P30-3

82P35-3

Pneumatic Pin Clamp | Dimensions and Technical Specifications



See page 8 for
Centering Pin dimensions

ØD

L1 max.

L2

B

L7

L6

[1.26 ± 0.001]
32 ± 0.02

[1.26 ± 0.004]
32 ± 0.01

[1.18 ± 0.001 for M8
± 0.002 for Ø8^{H7}]
30 ± 0.02 for M8
± 0.05 for Ø8^{H7}

Important!
Locating pin clamp
must only be operated
by external pneumatic
one-way flow control
valves.

G1/8

mm [INCH]

THIRD ANGLE
PROJECTION

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

Technical Data

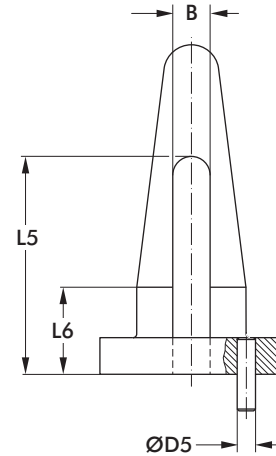
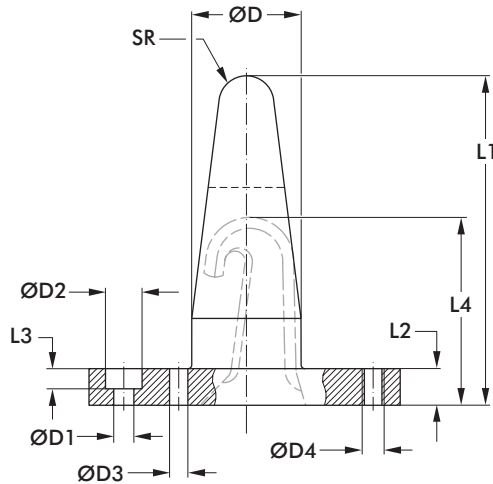
Model	B10 [±0.004] ±0,1	B11 [±0.004] ±0,1	B12* [±0.002] ±0,05	B13 max.	B14 max.	B15* [±0.001] ±0,025	B23 max.	B24	L1 max.	L2 [±0.004] ±0,1	L4 ~	L5	L6 [±0.002] ±0,5	L7 [±0.004] ±0,1
82P30-32000D0									[11.97] 304		[1.57] 40			
82P30-32500D0	[1.38] 35	[1.00] 25,5	[1.18] 30			[0.59] 15	[2.97] 75,4			[0.39] 10	[1.73] 44	[0.45] 11,5	[1.57] 40	[0.94] 24
82P30-33000D0				[4.49] 114	[4.21] 107			[4.21] 107	[12.05] 306		[1.77] 45			
82P35-34000D0	[1.46] 37	[1.22] 31	[1.57] 40			[0.79] 20	[3.36] 85.4		[12.99] 330	[0.47] 12	[2.20] 56	[0.55] 14	[1.50] 38	[0.87] 22



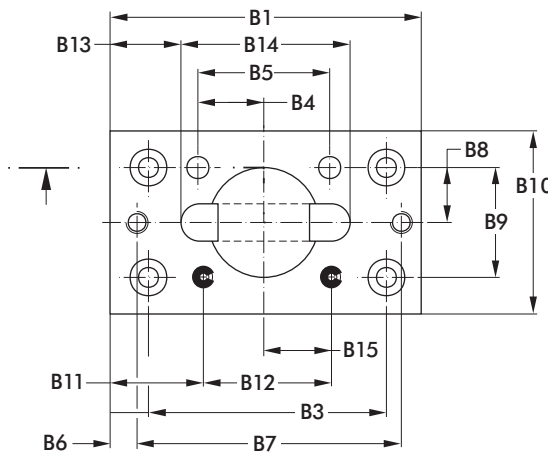
82P30-3/82P35-3 CENTERING PINS

Pneumatic Pin Clamp | Dimensions and Technical Specifications

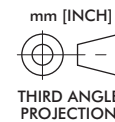
Centering Pin (has to be ordered separately)



Centering pin
(accessory part)



Locating pin clamp with
single-sided clamping
hook and centering pin



Base locating clamp model	Order no.	ØD [-0.002 -0,05]	ØD1	ØD2	ØD3 H7	ØD4	ØD5 H11	SR	L1	L2 [+0.004 +0,1]	L3	L4	L5	L6	B	B1
82P30-320....	82P30-3-___.1)	[0.79-0.91] 20,0-23,0						[0.20] 5	[3.15] 80			[2.05] 52				
82P30-325....	82P30-3-___.1)	[0.91-1.10] 23,1-28,0	[0.22] 5.5	[0.39] 10	[0.24] 6	M6	[0.20] 5	[0.30] 7.5	[3.54] 90	[0.39] 10	[0.24] 6	[2.13] 54	[2.34] 59.5	[0.98] 25	[0.40] 10.2	[3.35] 85
82P30-330....	82P30-3-___.1)	[1.10-1.30] 28,1-33,0						[0.31] 8	[4.02] 102	[0.47] 12		[2.17] 55	[2.68] 68	[1.18] 30	[0.48] 12.2	[3.54] 90
82P35-340....	82P35-3-___.1)	[1.30-1.77] 33,1-45,0														

Base locating clamp model	Order no.	B2 [±0.004 ±0,1]	B3 [±0.001 ±0,2]	B4 [±0.0001] ±0,02	B5 [±0.0001] ±0,02	B6	B7 [±0.001] ±0,2	B8* [±0.001] ±0,025	B9* [±0.002] ±0,05	B10	B11 [±0.004] ±0,1	B12 [±0.004] ±0,1	B13	B14	B15 [±0.002] ±0,05
82P30-320....	82P30-3-___.1)														
82P30-325....	82P30-3-___.1)	[0.41] 10.5	[2.56] 65	[0.71] 18	[1.42] 36	[0.41] 10.5	[2.56] 65	[0.59] 15	[1.18] 30	[1.97] 50	[1.00] 25.5	[1.38] 35	[0.76] 19.4	[1.82] 46.2	[0.73] 18.5
82P30-330....	82P30-3-___.1)														
82P35-340....	82P35-3-___.1)	[0.75] 19	[2.40] 61			[0.28] 7	[2.99] 76	[0.79] 20	[1.57] 40	[2.36] 60	[1.22] 31	[1.46] 37	[0.63] 16	[2.44] 62	[0.83] 21

* Tolerance for dowel hole

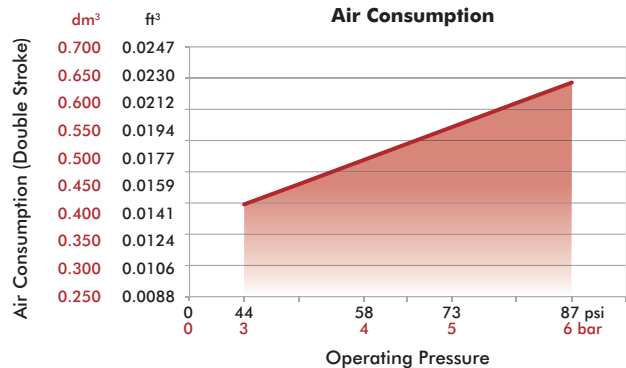
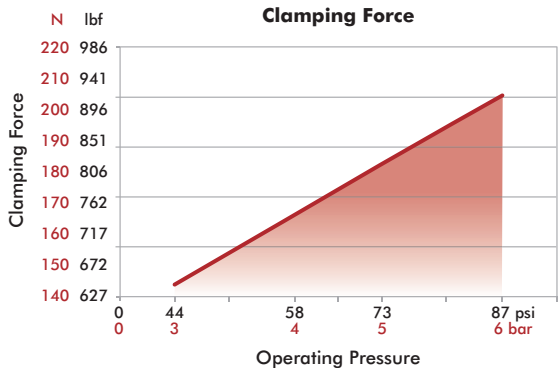
1) ___.1) = centering pin diameter "D"

Ordering example: To order the centering pin for locating pin clamp 82P30-325C000 with pin diameter "D" = 26.5 mm: "82P30-3-26.5"

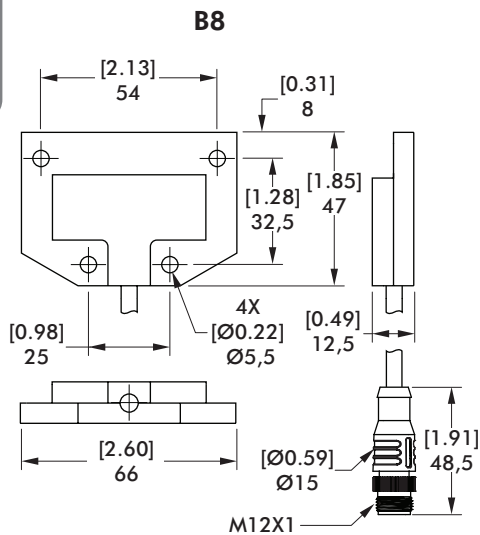
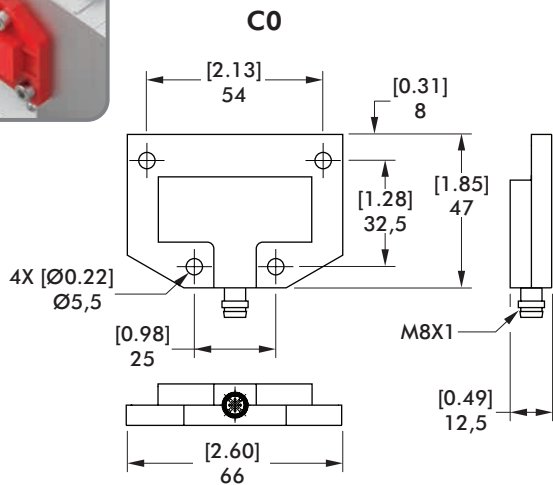
82P30-3/82P35-3 SENSORS

Pneumatic Pin Clamp | Dimensions and Technical Specifications

Clamping Force and Air Consumption

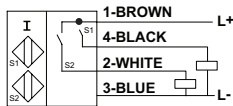
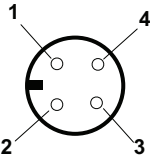


C0 and B8 Inductive Sensing Systems



Inductive Sensor Wiring Diagram

Sensing system immune to interference from A.C./D.C. arc welding.



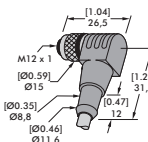
1-Common +
2-Open
3-Common -
4-Closed

Sensor Cable Accessories

Description	Order no.
B8 Sensor Cables (1 connector & 5 m cable)	
M12x1 connector, straight, 5-pin	8EL-002-1
M12x1 connector, 90° angular, 4-pin	8EL-003-1
C0 Sensor Cables (1 connector & 5 m cable)	
M8x1 connector, straight, 5-pin	8EL-009-1
M8x1 connector, 90° angular, 4-pin	8EL-007-1



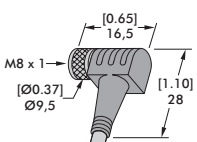
M12x1
Straight
Cable



M12x1
Angular
Cable



M8x1
Straight
Cable

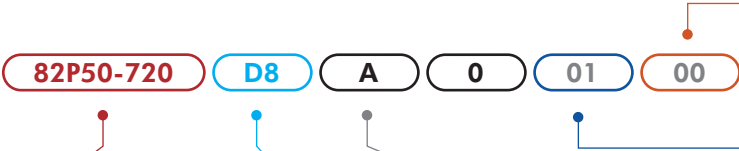


M8x1
Angular
Cable



82P50/82P63

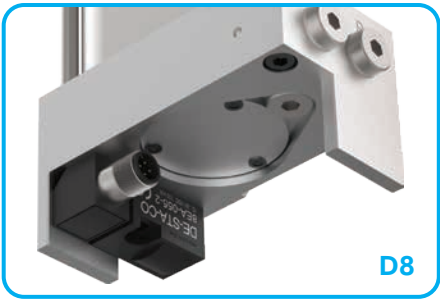
Pneumatic Pin Clamp | Tolerance Compensating | Ordering and Technical Information



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)



Specification	Unit	82P50	82P63
Clamping Force @ 5 bar	N [lbf]	1500 [337]	2500 [562]
Max. Operating Pressure	bar [psi]	6 [87]	6 [87]
Air Consumption			
Clamping @ 6 bar	liter [in³]	0,66 [40.28]	0,92 [56.14]
Opening @ 6 bar	liter [in³]	0,33 [20.13]	0,46 [28.07]
Weight	kg [lb]	3,2 [7.05]	3,9 [8.59]
Time:			
Clamping	sec	0.3	0.3
Opening	sec	0.3	0.3

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**

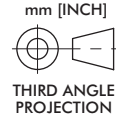
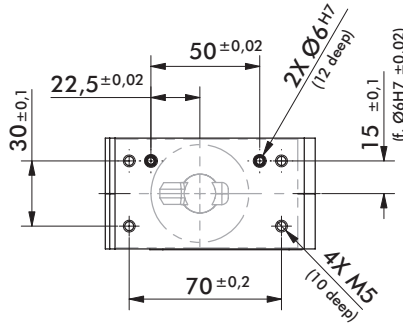
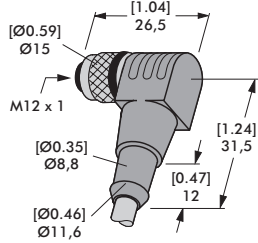


82P50

Pneumatic Pin Clamp | Tolerance Compensating | Dimensions and Technical Specifications

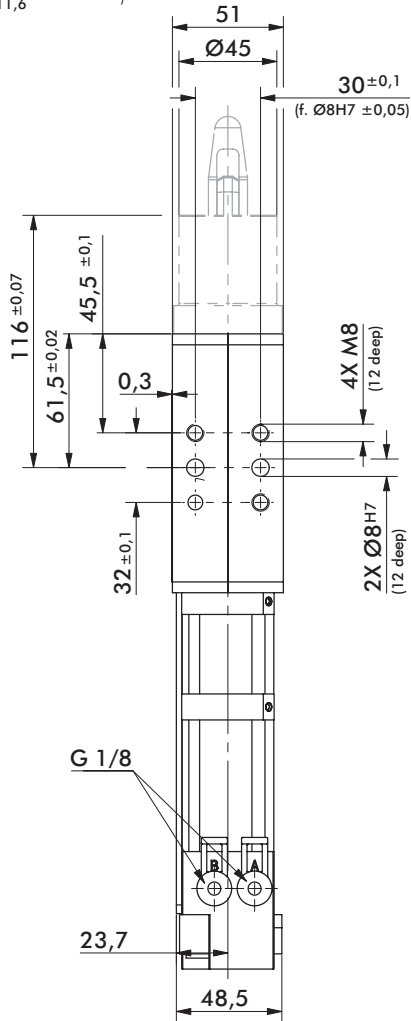
Sensor Cables Order separately

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

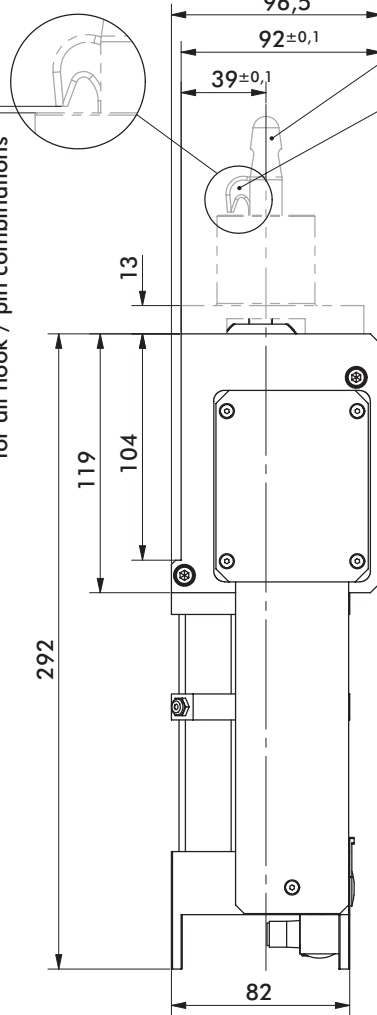


See page 14 for Centering Pin dimensions

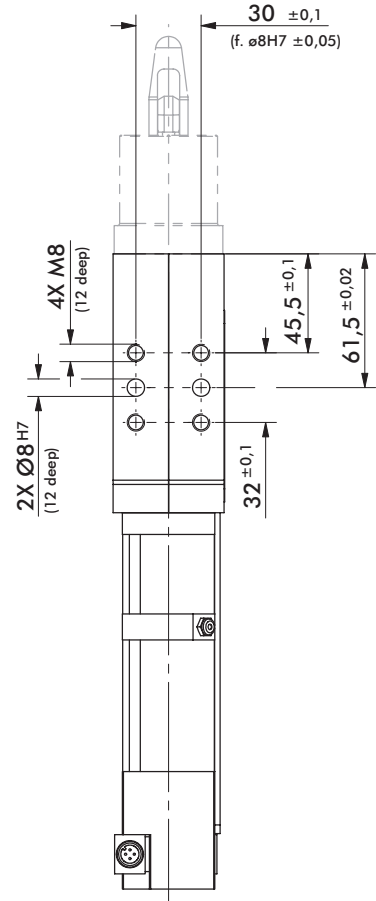
See page 18 for Clamp Hook specifications



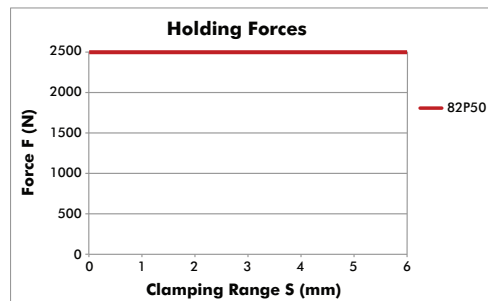
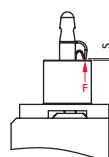
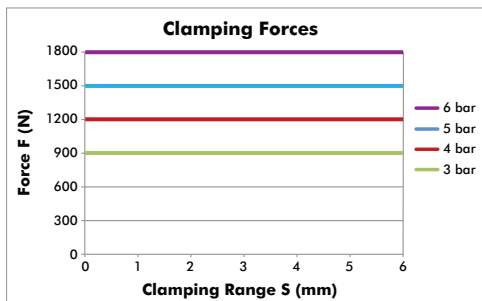
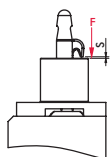
0 - 6 mm clamping range for all hook / pin combinations



30 ±0.1 (f. Ø8H7 ±0.05)

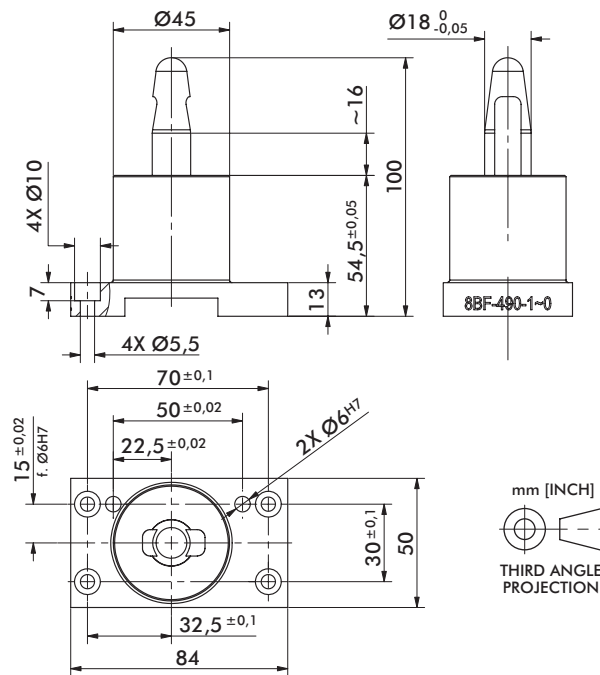


Operation with oil-free air is permissible.

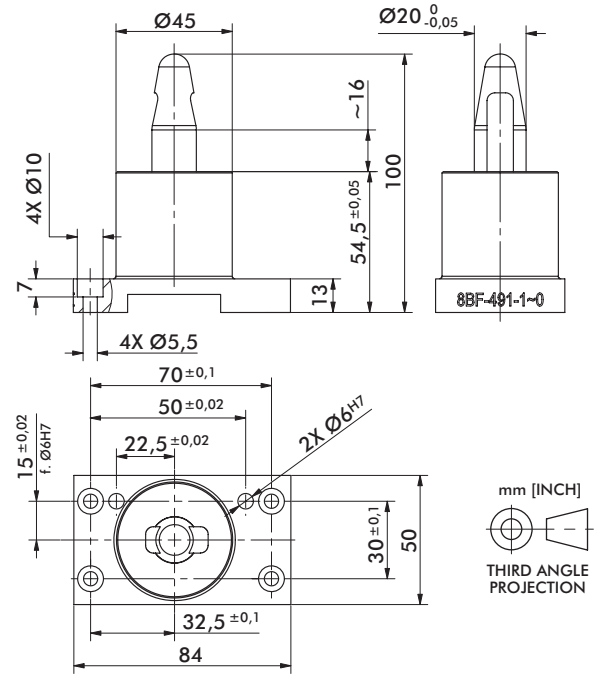


82P50 CENTERING PINS

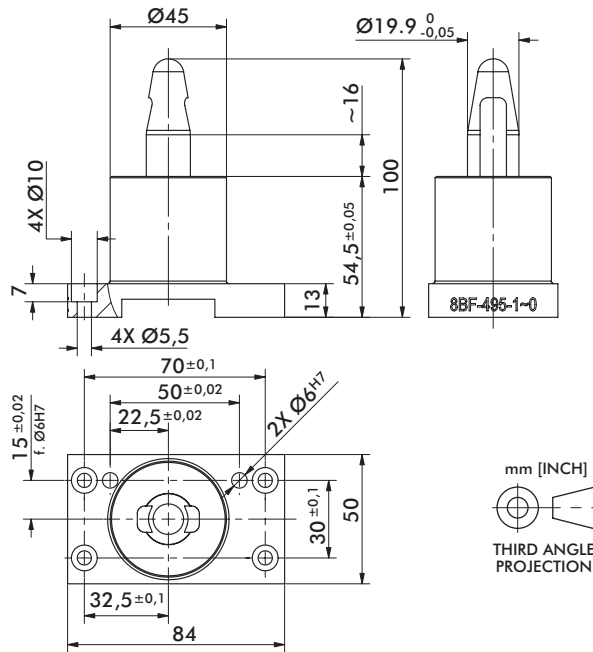
Pneumatic Pin Clamp | Tolerance Compensating | Dimensions and Technical Specifications



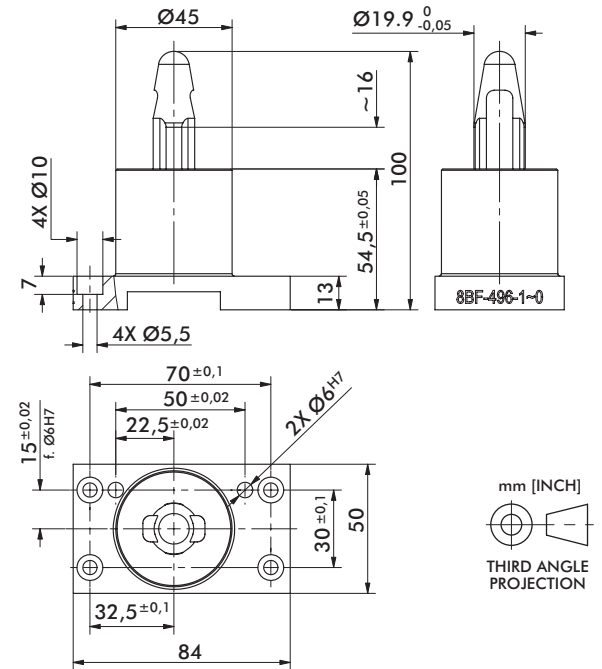
Specification	8BF-490-1
Weight	~0,60 kg
Diameter and Tolerance	Ø18 -0.05
Shape	Round



Specification	8BF-491-1
Weight	~0,60 kg
Diameter and Tolerance	Ø20 -0.05
Shape	Round



Specification	8BF-495-1
Weight	~0,60 kg
Diameter and Tolerance	Ø19,90 -0.05
Shape	Round



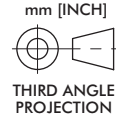
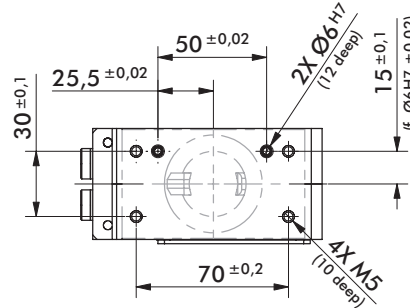
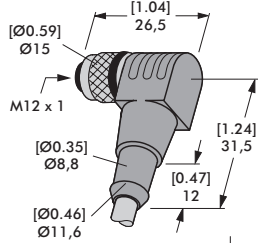
Specification	8BF-496-1
Weight	~0,60 kg
Diameter and Tolerance	Ø19,90 -0.05
Shape	Diamond

82P63

Pneumatic Pin Clamp | Tolerance Compensating | Dimensions and Technical Specifications

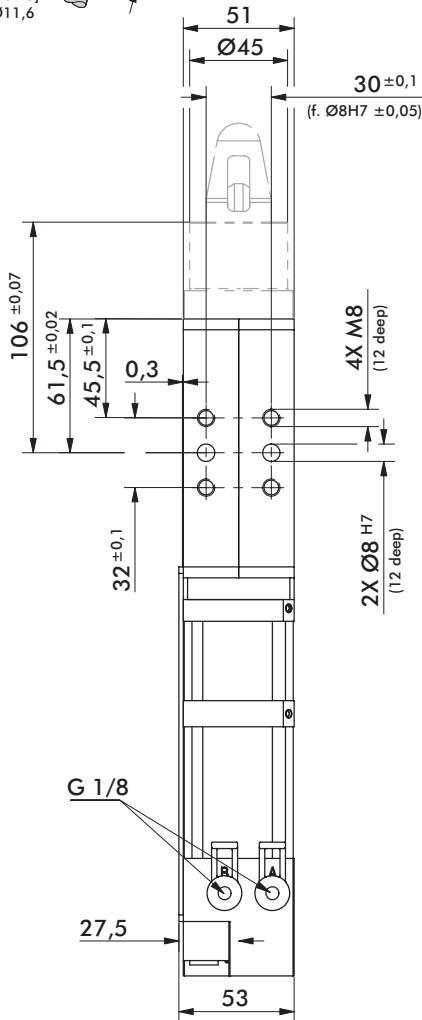
Sensor Cables Order separately

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

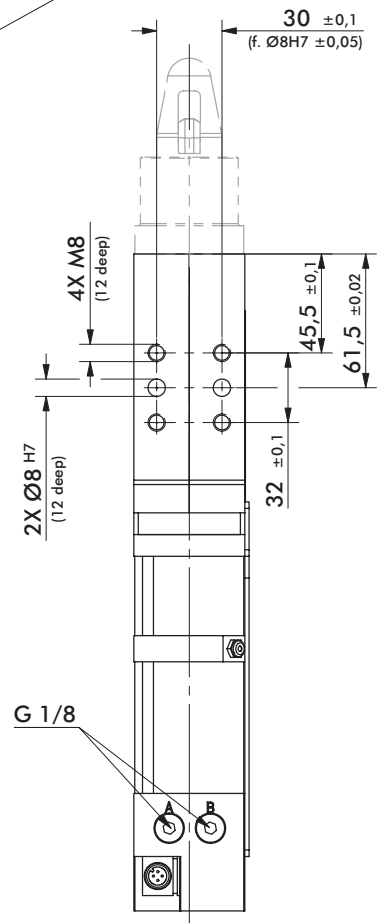
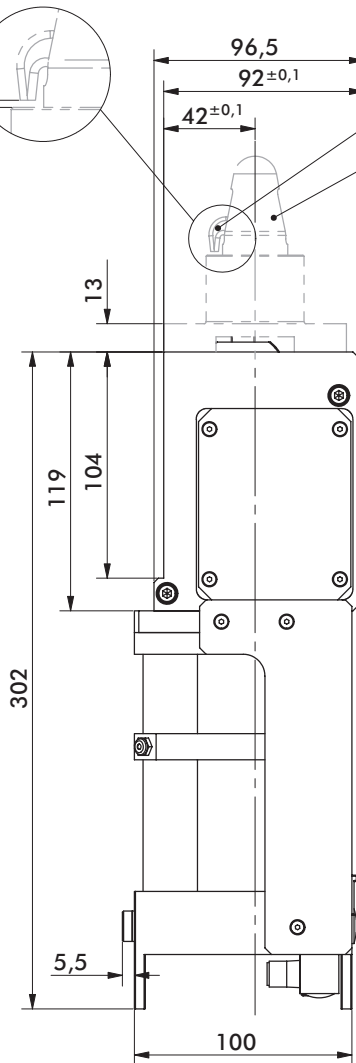


See page 18 for
Clamp Hook specifications

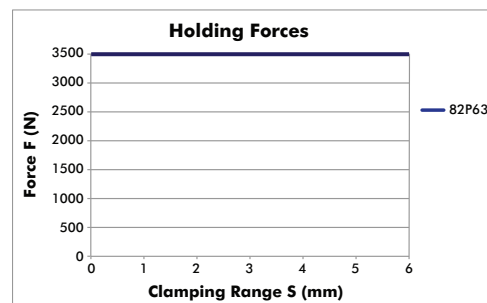
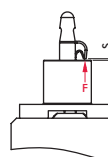
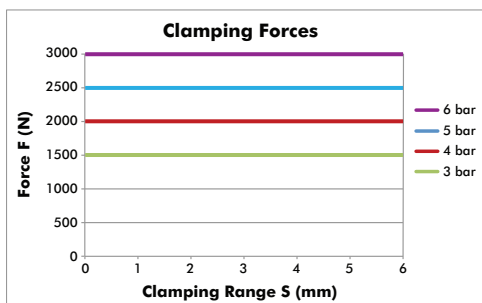
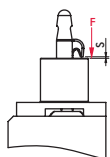
See page 16-17 for
Centering Pin dimensions



0 - 6 mm clamping range
for all hook / pin combinations

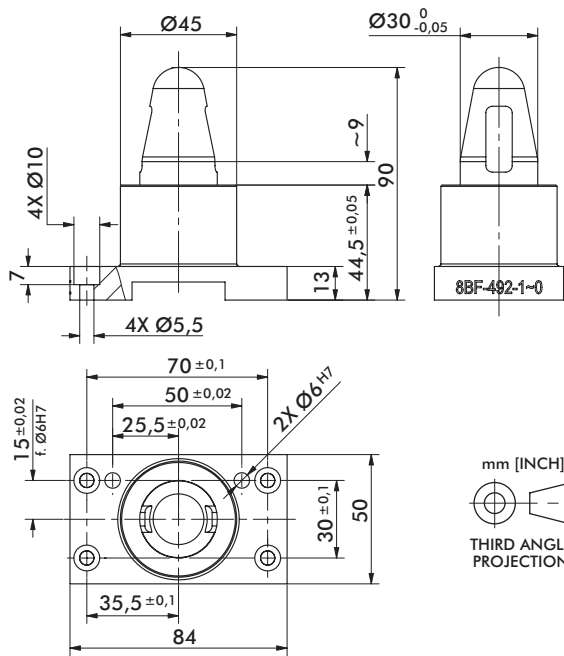


Operation with oil-free air is permissible.

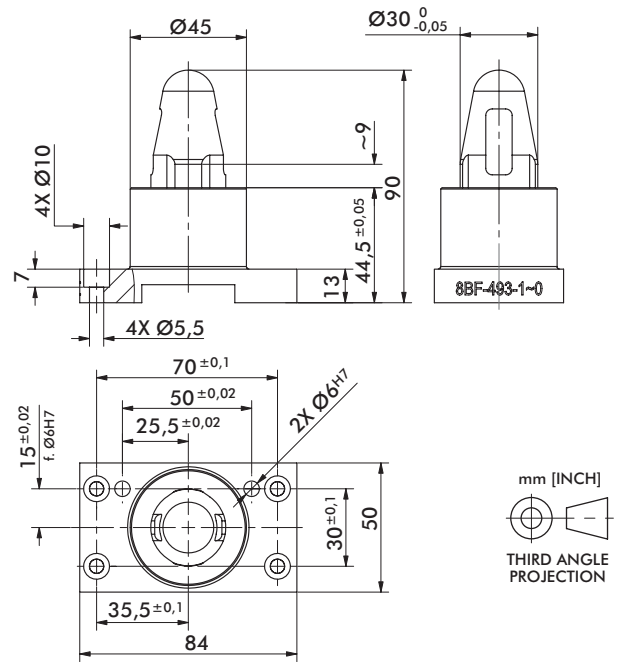


82P63 CENTERING PINS

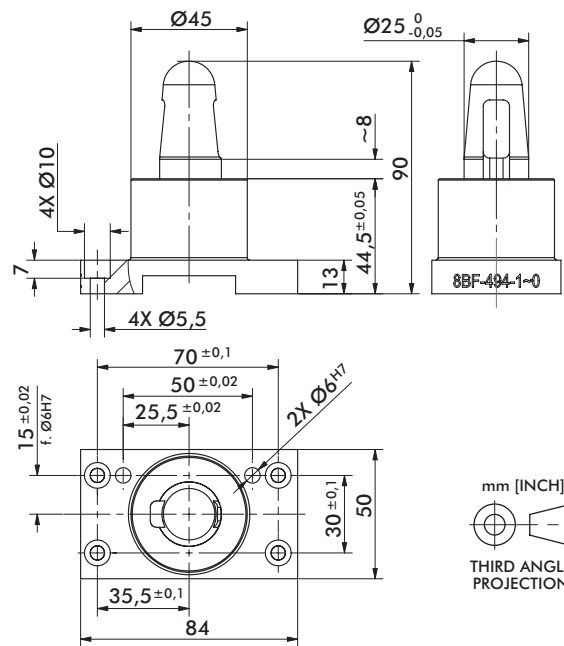
Pneumatic Pin Clamp | Tolerance Compensating | Dimensions and Technical Specifications



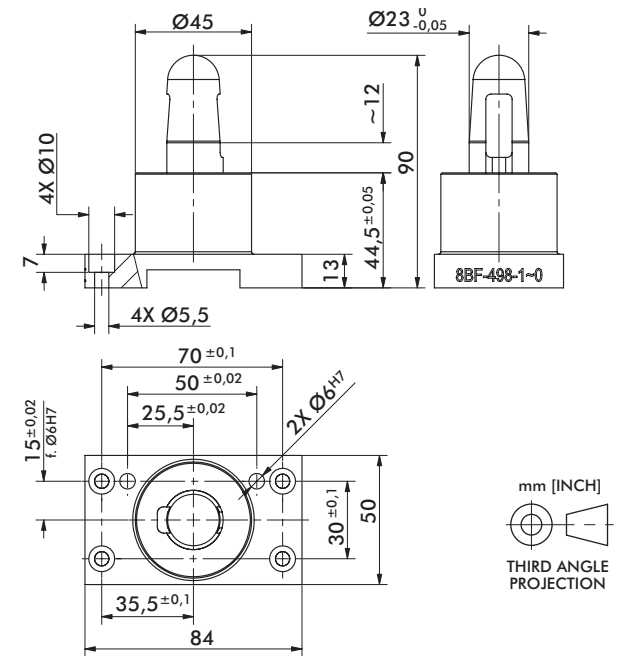
Specification	8BF-492-1
Weight	~0,57 kg
Diameter and Tolerance	Ø30 -0.05
Shape	Round



Specification	8BF-493-1
Weight	~0,57 kg
Diameter and Tolerance	Ø30 -0.05
Shape	Diamond



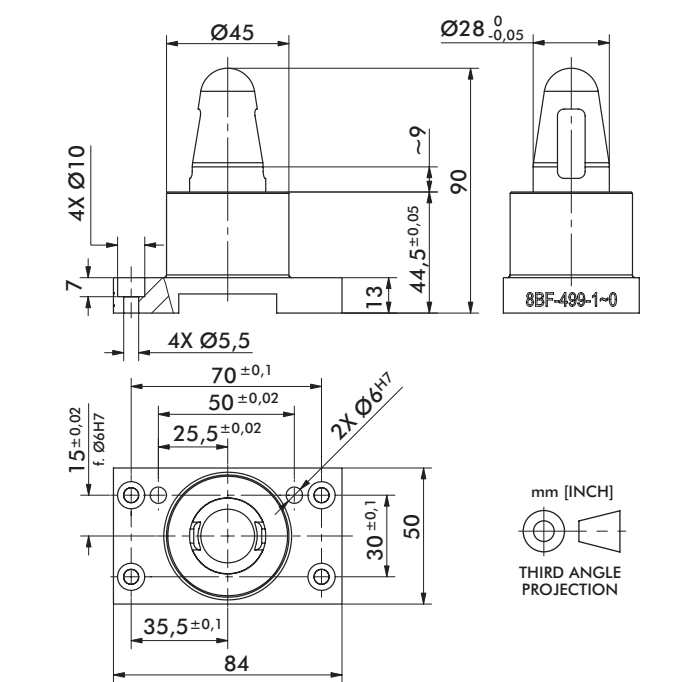
Specification	8BF-494-1
Weight	~0,54 kg
Diameter and Tolerance	Ø25 -0.05
Shape	Round



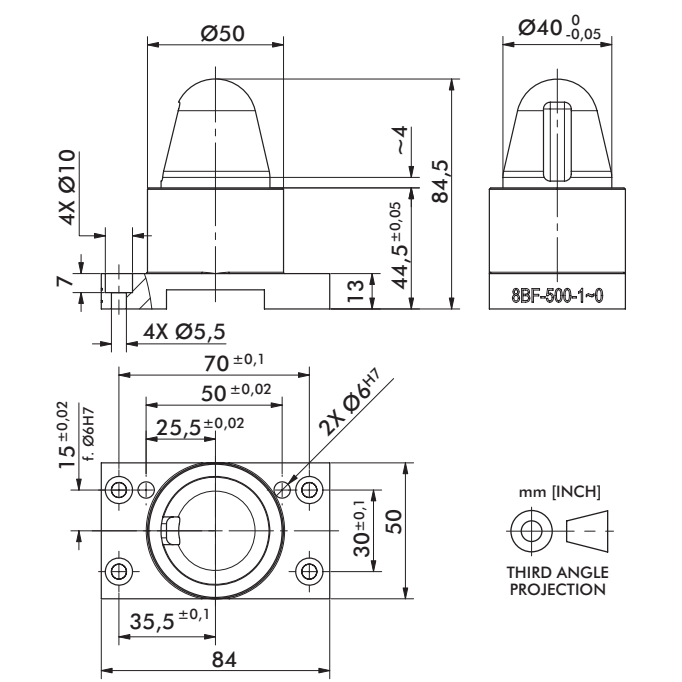
Specification	8BF-498-1
Weight	~0,53 kg
Diameter and Tolerance	Ø23 -0.05
Shape	Round

82P63 CENTERING PINS

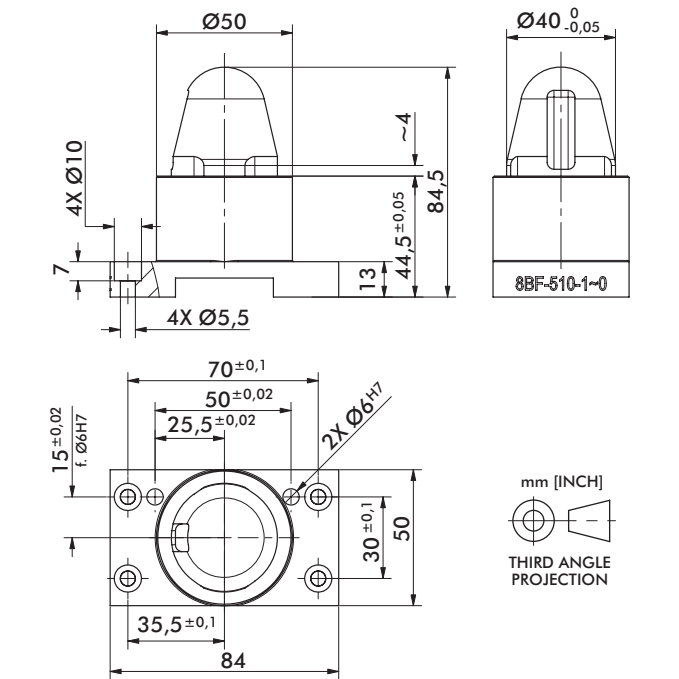
Pneumatic Pin Clamp | Tolerance Compensating | Dimensions and Technical Specifications



Specification	8BF-499-1
Weight	~0,56 kg
Diameter and Tolerance	Ø28 -0.05
Shape	Round



Specification	8BF-500-1
Weight	~0,68 kg
Diameter and Tolerance	Ø40 -0.05
Shape	Round

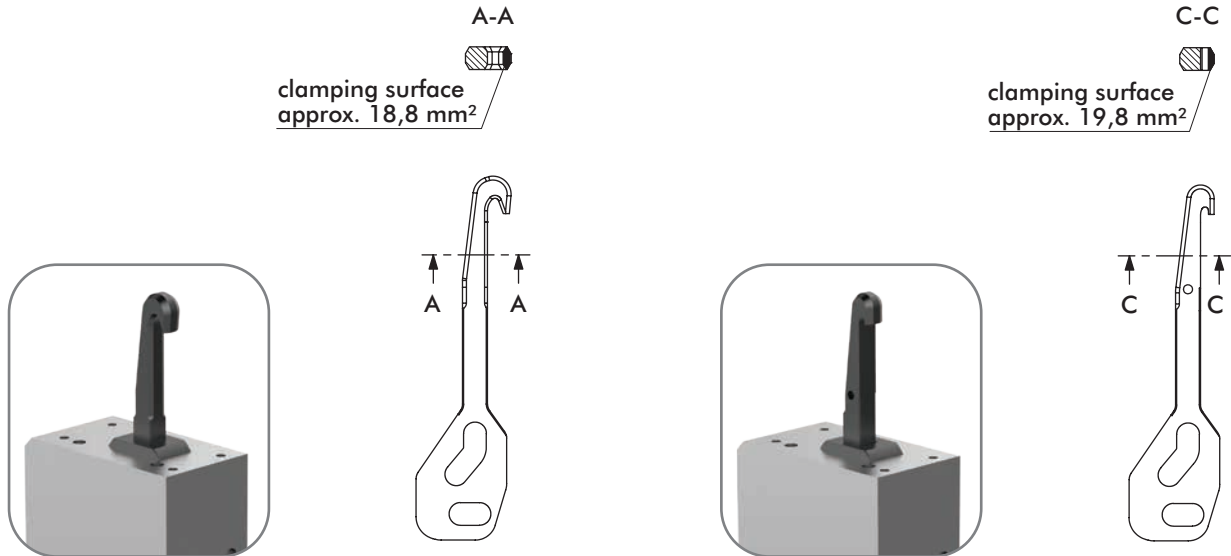


Specification	8BF-510-1
Weight	~0,68 kg
Diameter and Tolerance	Ø40 -0,05
Shape	Diamond

82P50/82P63 CLAMPING HOOKS

Pneumatic Pin Clamp | Tolerance Compensating | Surface Pressure of Clamping Hooks

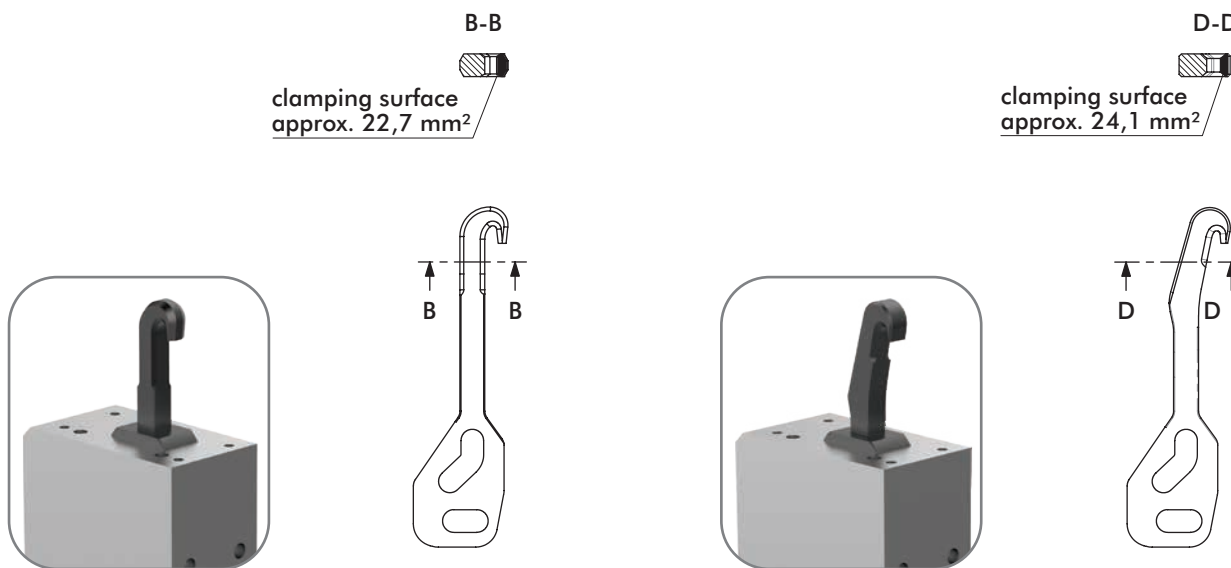
82P50



Specification	8JH-162-1			
Pressure [bar]	3.0	4.0	5.0	6.0
Clamping Force [N]	900	1200	1500	1800
Surface Pressure [N/mm²]	48	64	80	96

Specification	8JH-164-1			
Pressure [bar]	3.0	4.0	5.0	6.0
Clamping Force [N]	900	1200	1500	1800
Surface Pressure [N/mm²]	45	61	76	91

82P63



Specification	8JH-163-1			
Pressure [bar]	3.0	4.0	5.0	6.0
Clamping Force [N]	1500	2000	2500	3000
Surface Pressure [N/mm²]	66	88	110	132

Specification	8JH-165-1			
Pressure [bar]	3.0	4.0	5.0	6.0
Clamping Force [N]	1500	2000	1500	1800
Surface Pressure [N/mm²]	62	83	104	124

82P50-1732

Pneumatic Centering Pin Clamp | Tolerance Compensation | Ordering Information

82P50-1732

K8

B

03

XX

Base Model

Description

82P50-1732

50 mm Tandem Cylinder

Sensor

Description

K8

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

Tolerance

Description

B

7 mm Tolerance Compensation

Clamping Hooks

for Component Thicknesses

03

1,5 – 8,5 [0.06 – 0.33]

09

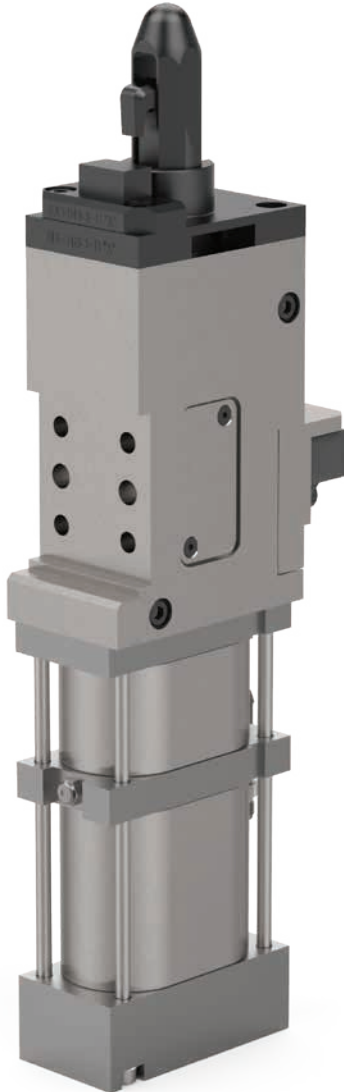
2,5 – 9,5 [0.10 – 0.37]

03

8JH-187-2

09

8JH-221-1



Centering Pin/Support	Pin Diameter and Tolerance	Centering Pin Shape	Component Material
19	N/A	Support Only	Steel/Aluminum
11	Ø 24,85 -0,05	Diamond Pin	Steel
13	Ø 22,00 -0,05	Round Pin	
40	Ø 24,85 -0,05		
41	Ø 22,00 -0,05		Aluminum
43	Ø 24,85 -0,05	Diamond Pin	

19

8BF-619-1

11

8BF-611-1

13

8BF-613-1

40

8BF-751-1-01

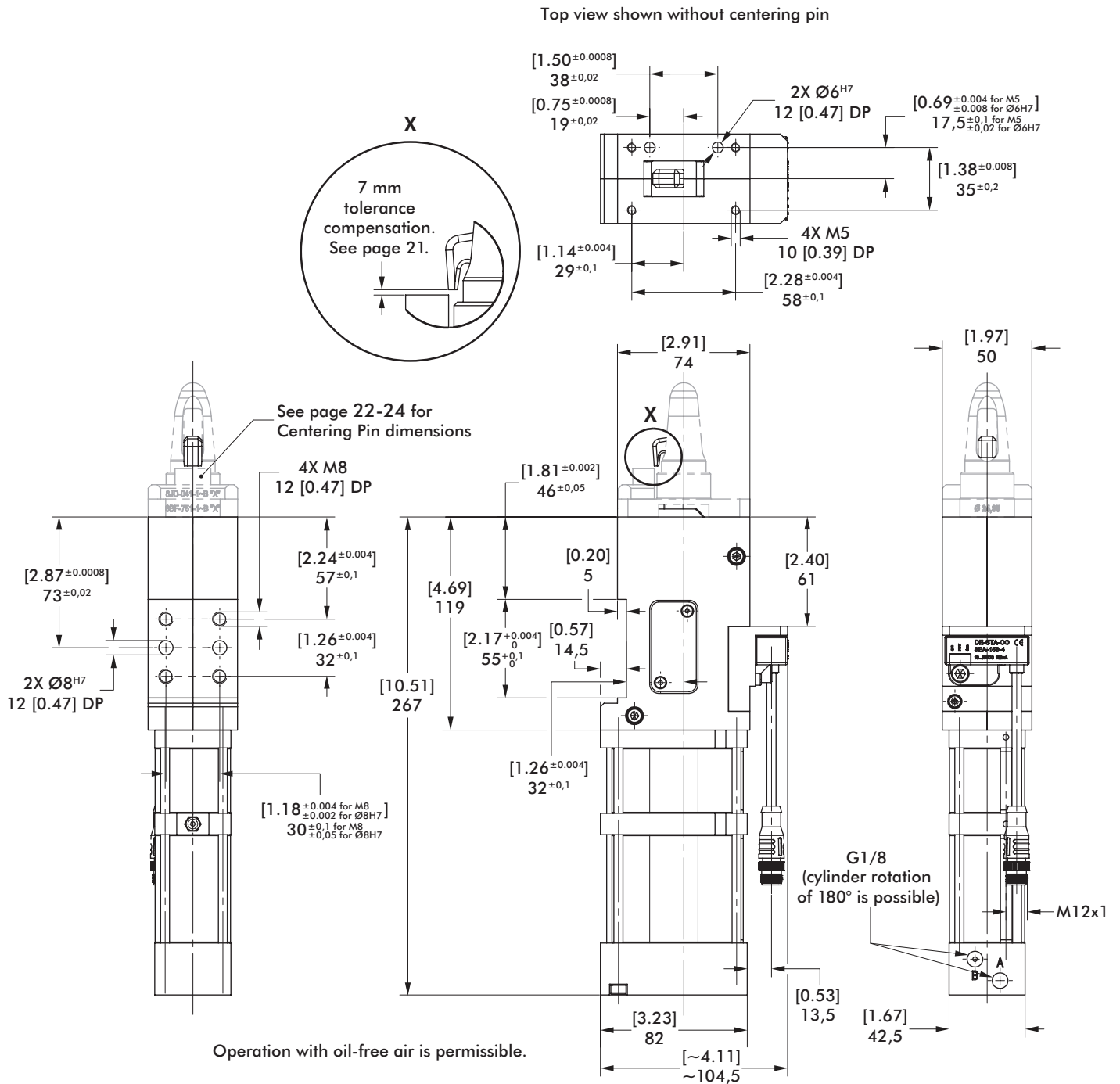
41

8BF-752-1-01

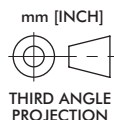
43

8BF-763-1-01

Pneumatic Centering Pin Clamp | Tolerance Compensation | Dimensions and Specifications



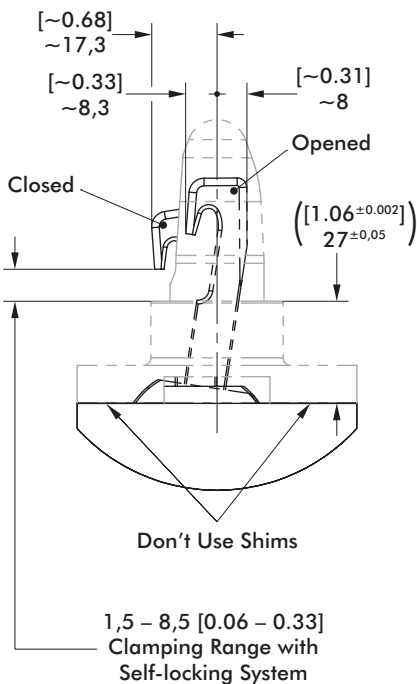
Specification	Unit	82P50-1732
Max. Clamping Force @ 5 bar [72psi]	N [lbf]	~1500 [~337]
Max. Operating Pressure	bar [psi]	6 [87]
Actuation Time: Open/Close	sec	0.3
Air Consumption @ 6 bar [87psi]:		
Clamping Stroke	liter [in³]	0,66 [40.28]
Opening Stroke	liter [in³]	0,33 [20.14]
Weight	kg [lb]	~2,6 [~5.73]



82P50-1732 CLAMPING HOOKS

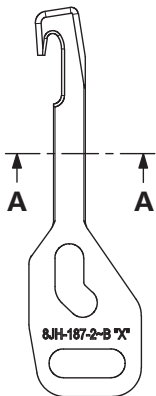
Pneumatic Centering Pin Clamp | Tolerance Compensation | Dimensions and Specifications

03 Clamping Hook



A-A
1:1

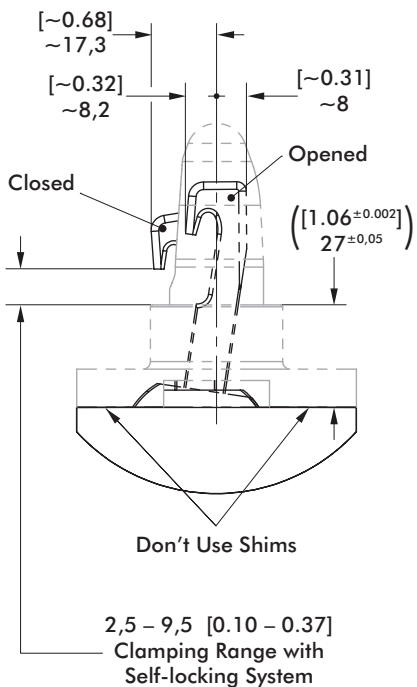
Clamping Surface ca.
20,11 mm² [0.031 in²]



Surface Pressure of Clamping Hook

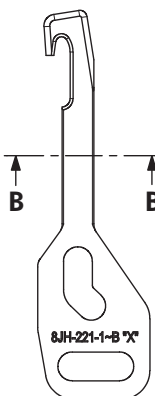
Specification	Units	8JH-187-2			
Pressure	[psi] bar	[44] 3,0	[58] 4,0	[72] 5,0	[87] 6,0
Clamping Force	[lbf] N	[202] 900	[270] 1200	[337] 1500	[405] 1800
Surface Pressure	[lbf/in ²] N/mm ²	[6516] 45	[8710] 60	[10871] 75	[13065] 90

09 Clamping Hook



B-B
1:1

Clamping Surface ca.
22,13 mm² [0.034 in²]



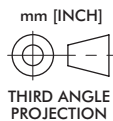
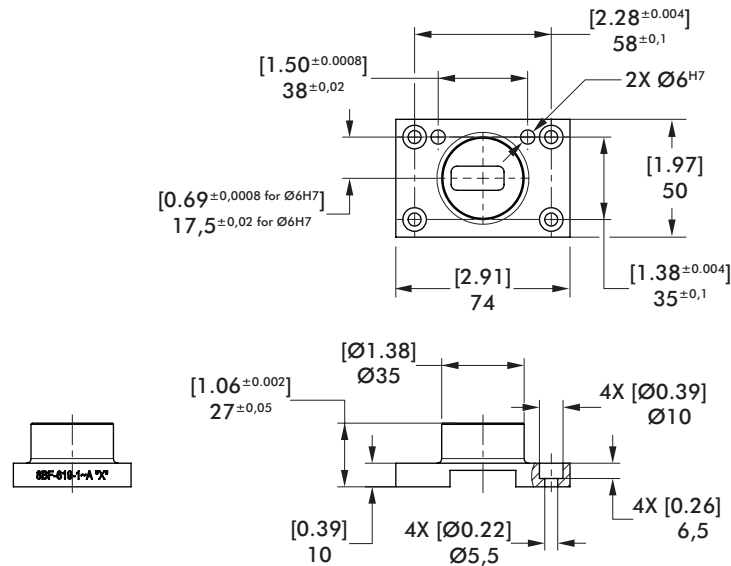
Surface Pressure of Clamping Hook

Specification	Units	8JH-221-1			
Pressure	[psi] bar	[44] 3,0	[58] 4,0	[72] 5,0	[87] 6,0
Clamping Force	[lbf] N	[202] 900	[270] 1200	[337] 1500	[405] 1800
Surface Pressure	[lbf/in ²] N/mm ²	[5941] 41	[7941] 54	[9912] 68	[11912] 81

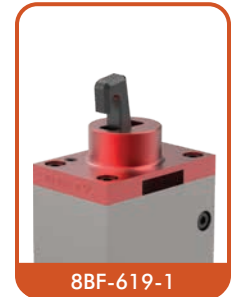
82P50-1732 PIN SUPPORT AND CENTERING PIN

Pneumatic Centering Pin Clamp | Tolerance Compensation | Dimensions and Specifications

19 Pin Support - Steel/Aluminum

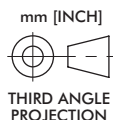
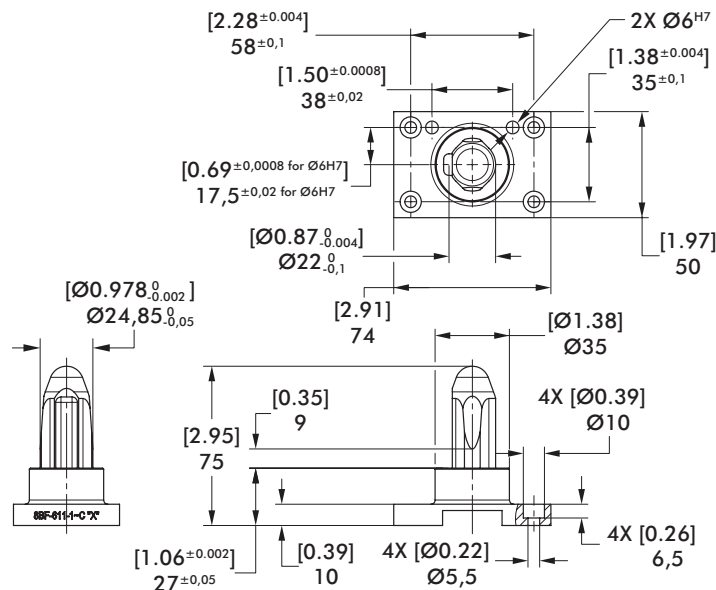


Specification	Units	8BF-619-1
Weight	kg [lb]	~0,25 kg [~55 lb]



8BF-619-1

11 Centering Pin - Steel



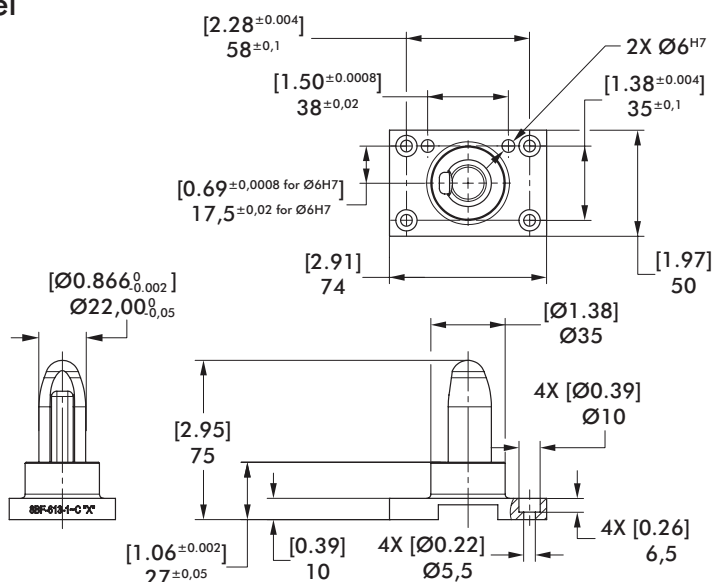
Specification	Units	8BF-611-1
Weight	kg [lb]	~0,33 [~0.73]
Diameter and Tolerance	mm [in]	Ø24,85 ^{+0,05} [Ø0.978 ^{+0,002}]
Shape		Diamond



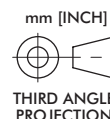
8BF-611-1

Pneumatic Centering Pin Clamp | Tolerance Compensation | Dimensions and Specifications

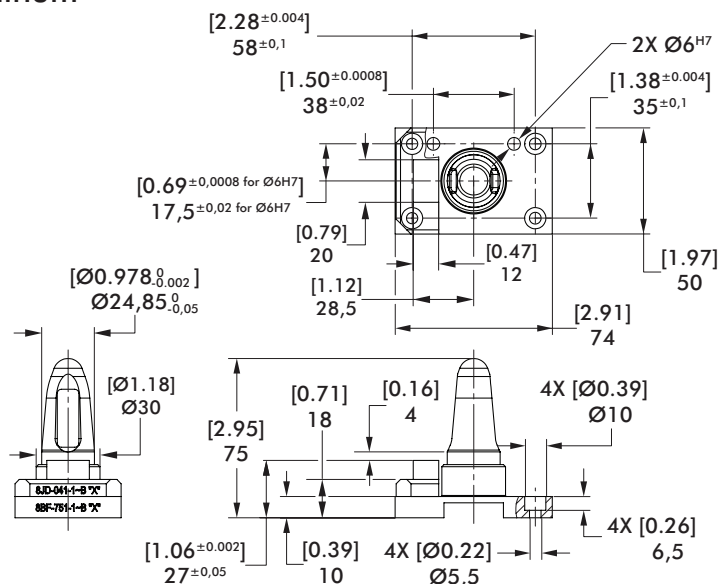
8BF-613-1



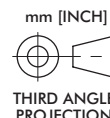
Specification	Units	8BF-613-1
Weight	kg [lb]	~0,32 [~0.71]
Diameter and Tolerance	mm [in]	Ø22,00 ^{-0,05} [Ø0.866 ^{-0.002}]
Shape		Round



8BF-751-1-01



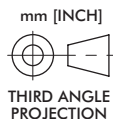
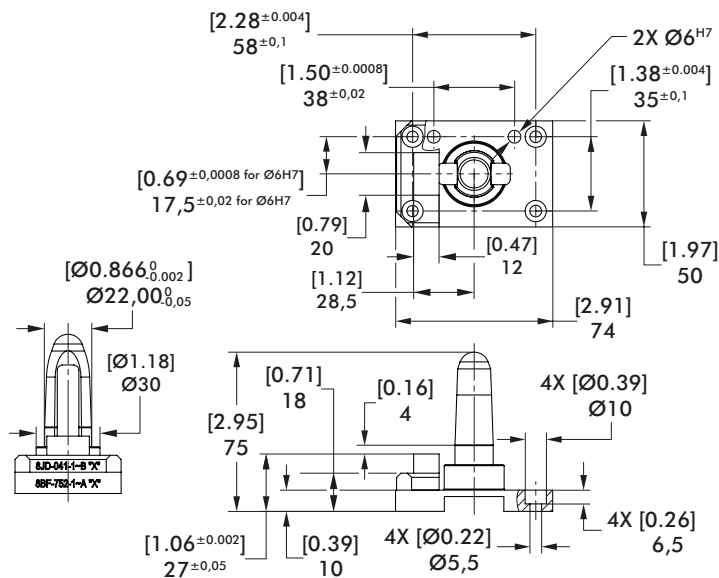
Specification	Units	8BF-751-1-01
Weight	kg [lb]	~0,33 [~0.73]
Diameter and Tolerance	mm [in]	Ø24,85 ^{-0,05} [Ø0.978 ^{-0.002}]
Shape		Round



82P50-1732 CENTERING PINS

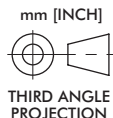
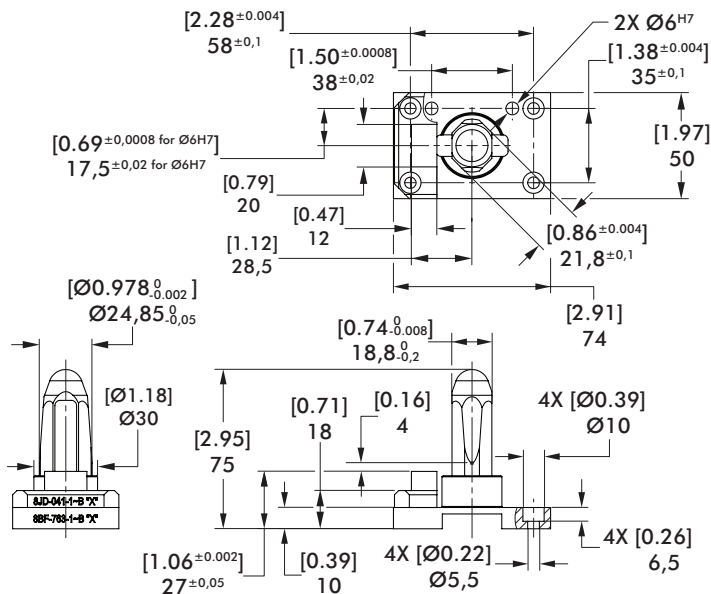
Pneumatic Centering Pin Clamp | Tolerance Compensation | Dimensions and Specifications

41 Centering Pin - Aluminum



Specification	Units	8BF-752-1-01
Weight	kg [lb]	~0,32 [~0.71]
Diameter and Tolerance	mm [in]	Ø22,00 ^{-0,05} [Ø0.866 ^{-0.002}]
Shape		Round

43 Centering Pin - Aluminum

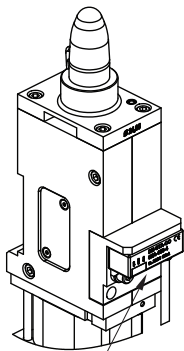
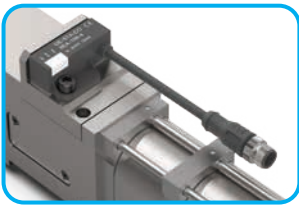


Specification	Units	8BF-763-1-01
Weight	kg [lb]	~0,35 [~0.77]
Diameter and Tolerance	mm [in]	Ø24,85 ^{-0,05} [Ø0.978 ^{-0.002}]
Shape		Diamond

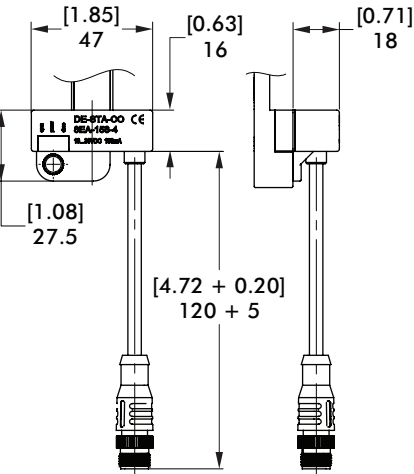
82P50-1732 SENSORS AND SPECIFICATIONS

Pneumatic Centering Pin Clamp | Tolerance Compensation | Technical Specifications

K8 Inductive Sensing System with Pigtail Connector



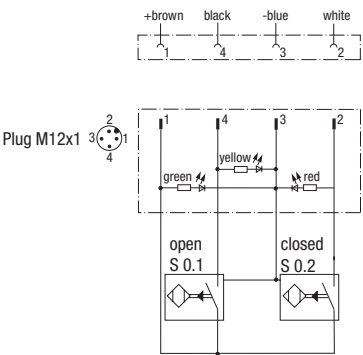
No adjustment of sensing system necessary!



8EA-158-4-B

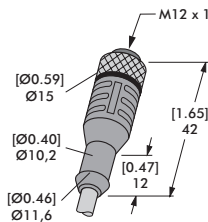
Inductive Sensor Wiring Diagram

Sensing system immune to interference from A.C./D.C. arc welding.

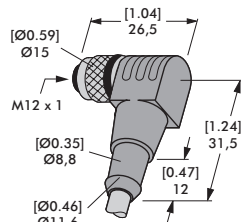


Sensor Cable Accessories

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

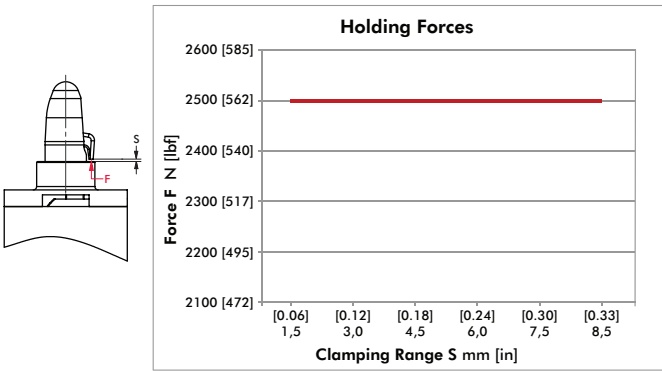
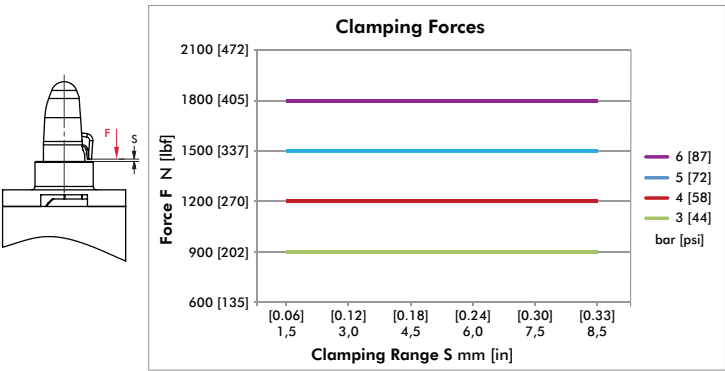


Straight Cable
8EL-002-1



Angular Cable
8EL-003-1

Clamping and Holding Forces





82P50-1800

Pneumatic Centering Pin Clamp | Tolerance Compensation | Ordering Information

82P50-1800

L8

A

01

0

0

0

Base Model

Description

82P50-1800

Tolerance Compensation
0 - 5 mm [0 - 0.197 in]

Sensor

Description

L8

PNP Sensor with
M12x1 In-line Connector
(8EA-146-4-B and 8EA-163-G)



Support Shape

Description

A

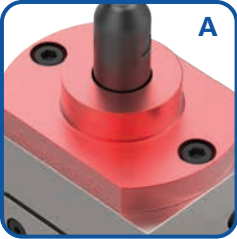
Standard

B

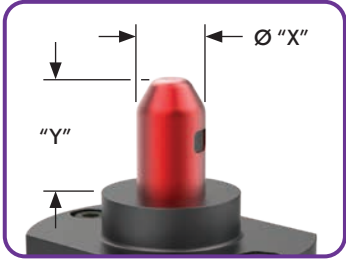
Flange Hole Down

D

Chamfered



Pin Diameter	Pin Ø "X" mm ^{-0,05}	Pin Height "Y" mm
01	15,8	
02	19,8	26
03	20,8	
04	29,8	38
05	15,5	26
06	29,8	38





CNOMO fixing with adaptor shown. Order Separately: 8MA-538-1



Pin Shape	Description	Release Dimension "X"	
0	Round		
1	Pin Clipping	"X" = Pin Ø minus 0.8 mm	
3	Pin Release on Flat Parallel of Finger	Pin Ø	Flat "X"
		Ø15,8	14,5 mm
		Ø29,8	21,0 mm
4	Door Case		



Support Height	Description
0	10 mm
1	50 mm
2	100 mm



Finger Shape	Desc.
0	Full
1	Hook



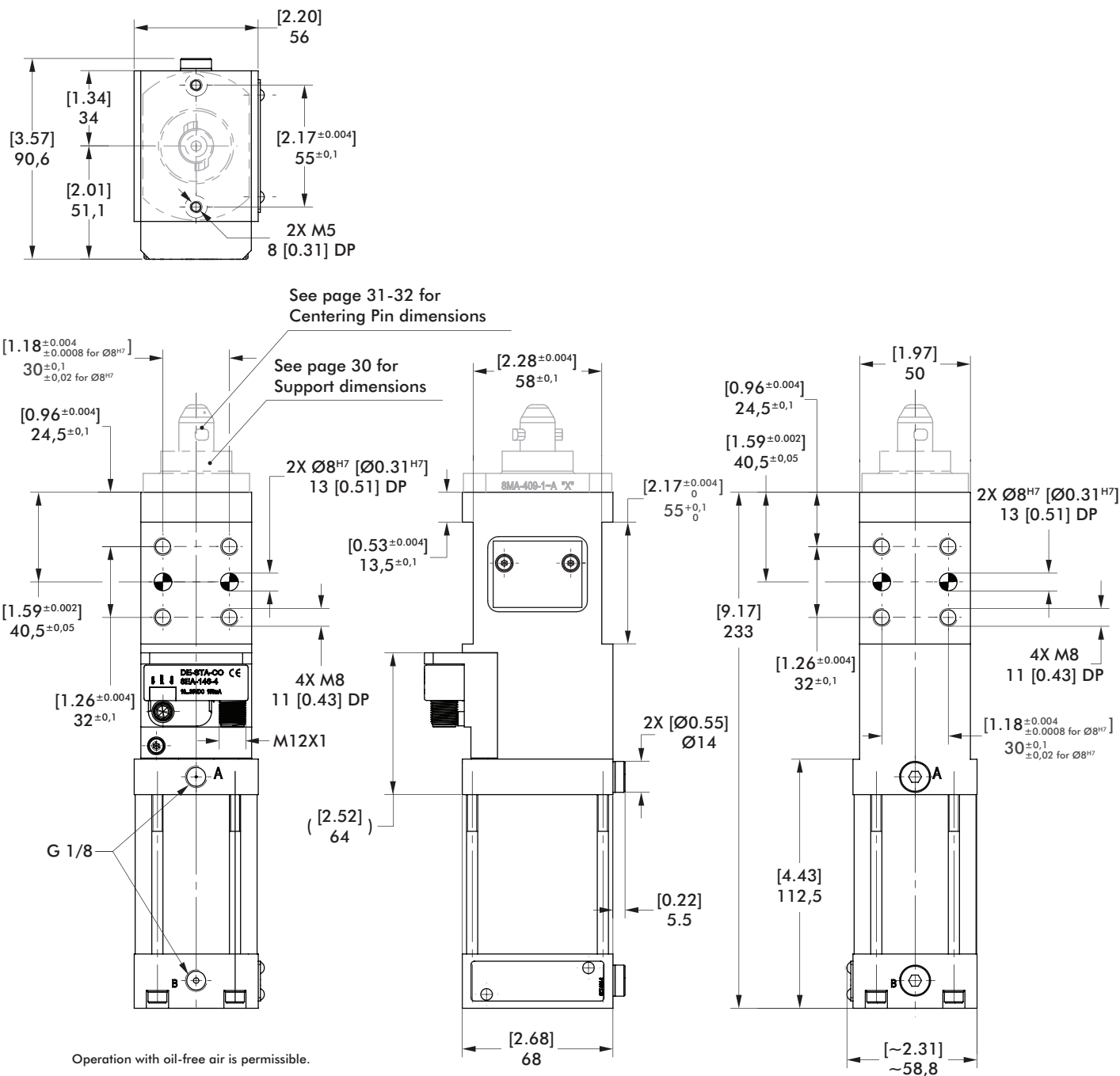
Configuration Compatibility Chart

Determine the most important option, then find compatible combination of options within each row.

Pin Diameter	Support Shape			Pin Shape				Support Height			Finger Shape	
	Standard	Flange Hole Down	Chamfer	Round	Pin Clipping	Flat	Door Case	10 mm	50 mm	100 mm	Full	Hook
	A	B	D	0	1	3	4	0	1	2	0	1
01 Ø15,8	•			•	•	•	•	•			•	
	•			•					•		•	
			•	•	•	•				•	•	
02 Ø19,8	•			•				•			•	
		•			•			•				•
03 Ø20,8	•			•						•	•	
	•				•					•		•
04 Ø29,8	•			•	•			•			•	•
	•					•		•			•	
		•		•				•				•
05 Ø15,5	•			•				•			•	
06 Ø29,8		•				•		•				•

82P50-1800

Pneumatic Centering Pin Clamp | Dimensions and Specifications

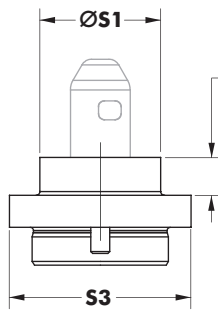
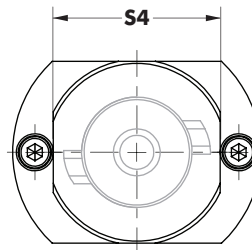
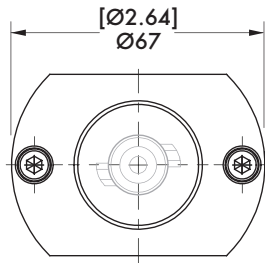
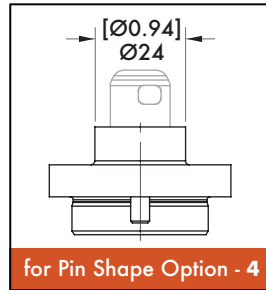


Specification	Unit	82P50-1800
Max. Clamping Force @ 5 bar	[lbf] N	[135] 600
Max. Operating Pressure	[psi] bar	[87] 6
Actuation Time: Open	sec	0.4
Close	sec	0.4
Air Consumption per Double Stroke @ 6 bar [87psi]	[in ³] liter	[42.72] 0,7
Weight	[lb] kg	[5.73] 2,6

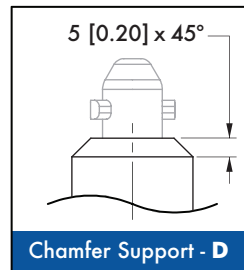
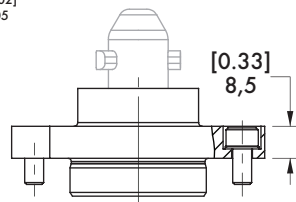
82P50-1800 CENTERING PIN SUPPORTS

Pneumatic Centering Pin Clamps | Dimension

A Standard Support/ **D** Chamfered Support



S2 $\begin{smallmatrix} [\pm 0.002] \\ \pm 0,05 \end{smallmatrix}$

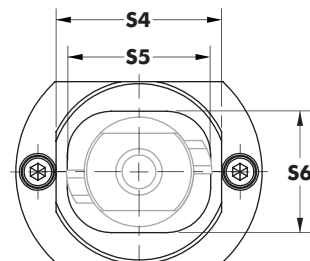
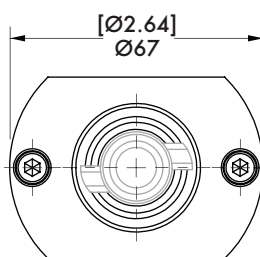


Chamfer Support Option **D** available for Pin Diameter **01** only.

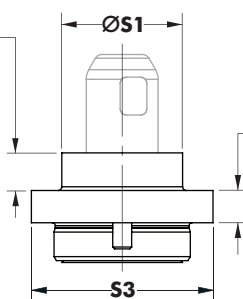


Pin Diameter	S1	S2 - Support Height			S3	S4
		0	1	2		
01						
02	32 [1.26]	10 [0.39]	--	--	48 [1.89]	--
03		--	--	100 [3.94]		
04	48 [1.89]	10 [0.39]	--	--	49 [1.93]	45 [1.77]
05	32 [1.26]		--	--	48 [1.89]	--

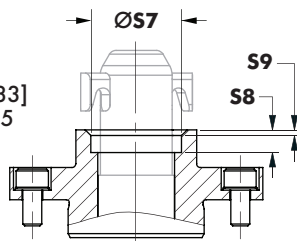
B Drop Down Support



[0.39 ± 0.002]
10 $\pm 0,05$



[0.33]
8,5

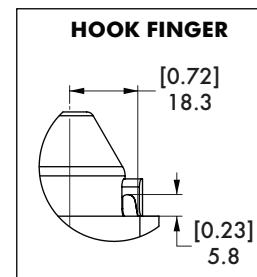
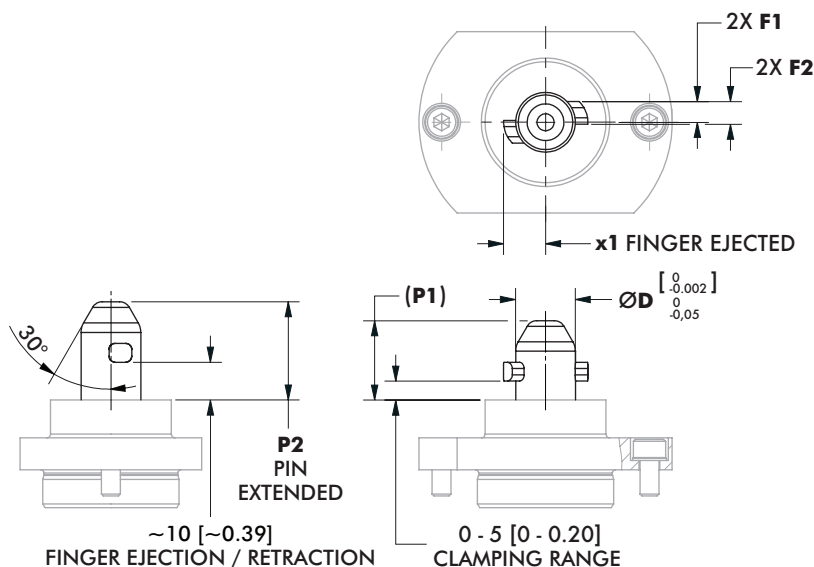


Pin Diameter	S1	S3	S4	S5	S6	S7	S8	S9
02	32 [1.26]	48 [1.89]	--	--	--	24 [0.94]	1,5 [0.06]	6 [0.24]
04	48 [1.89]	49 [1.93]	45 [1.77]	--	--	33,5 [1.32]	x 45°	
06				39 [1.54]	33 [1.30]	--	--	8 [0.31]

82P50-1800 CENTERING PINS

Pneumatic Centering Pin Clamps | Dimension

0 Standard Pin

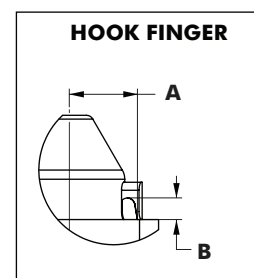
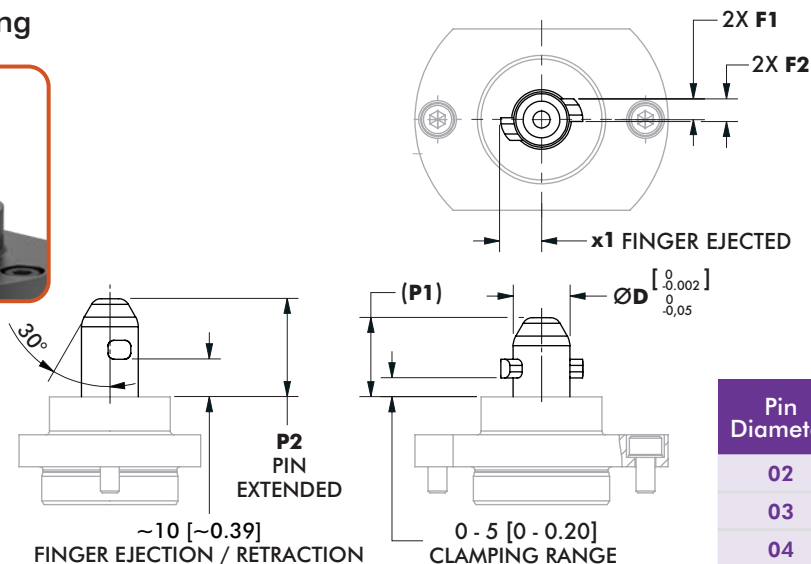


Pin Diameter	Support Shape
04	A, B

Pin Diameter	Support Shape	ØD	P1*	P2	F1	F2	x1
01	A, D	15,8 [0.62]			5,5 [0.22]	6 [0.24]	11,1 [0.44]
02	A	19,8 [0.78]	21 [0.83]	26 [1.02]	6,5 [0.26]	7 [0.28]	14,7 [0.58]
03	A	20,8 [0.82]					15,2 [0.60]
04	A, B	29,8 [1.17]	33 [1.30]	38 [1.50]	8,5 [0.33]	9 [0.35]	19,7 [0.78]
05	A	15,5 [0.61]	21 [0.83]	26 [1.02]	5,5 [0.22]	6 [0.24]	11,1 [0.44]

*retracted position at the start of clamping range (5 [0.20])

1 Pin Clipping



Pin Diameter	Support Shape	A	B
02	B	13,5 [0.53]	
03	A	13,6 [0.54]	6 [0.24]
04	A	18,3 [0.72]	5,8 [0.23]

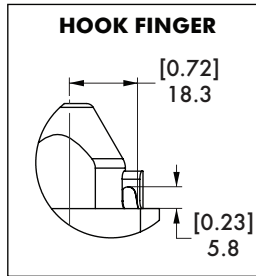
Pin Diameter	Support Shape	ØD	P1*	P2	F1	F2	x1
01	A, D	15 [0.59]			5,5 [0.22]	6 [0.24]	10,8 [0.43]
02	B	19 [0.75]	21 [0.83]	26 [1.02]	6,5 [0.26]	7 [0.28]	14,7 [0.58]
03	A	20 [0.79]					15,2 [0.60]
04	A	29 [1.14]	33 [1.30]	38 [1.50]	8,5 [0.33]	9 [0.35]	19,7 [0.78]

*retracted position at the start of clamping range (5 [0.20])

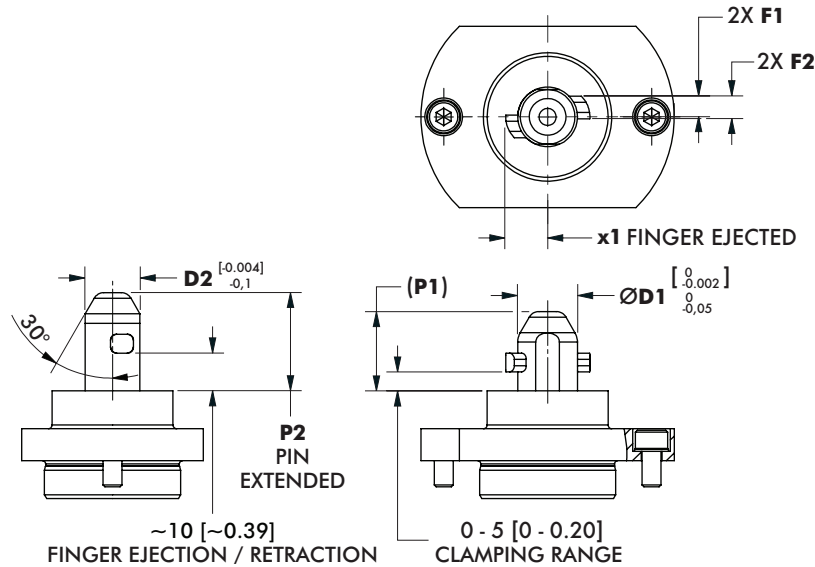
82P50-1800 CENTERING PINS

Pneumatic Centering Pin Clamps | Dimension

3 Pin Release on Flat Parallel of Finger



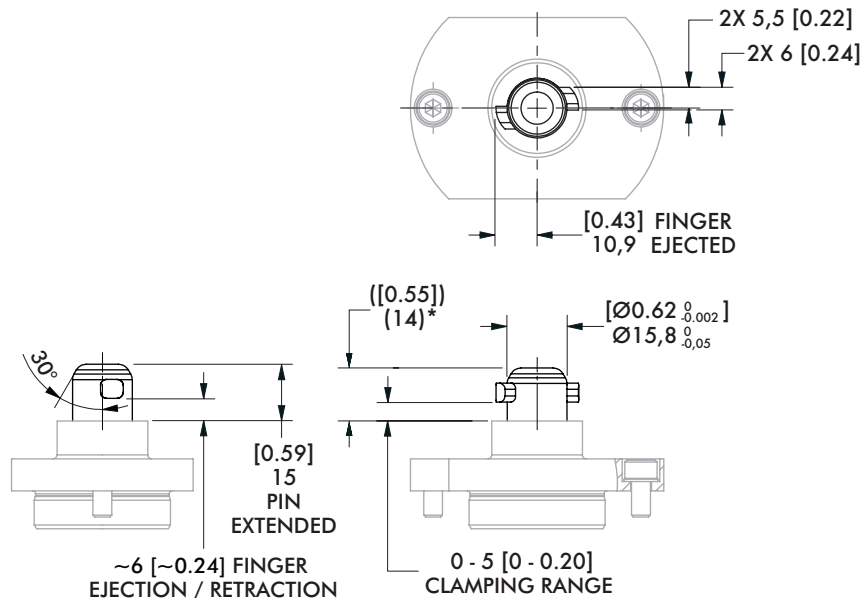
Pin Diameter	Support Shape
06	B



Pin Diameter	Support Shape	ØD1	D2	P1*	P2	F1	F2	x1
01	A, D	15,8 [0.62]	14,5 [0.57]	21 [0.83]	26 [1.02]	5,5 [0.22]	6 [0.24]	11,1 [0.44]
04	A	29,8 [1.17]	21 [0.83]	33 [1.30]	38 [1.50]	8,5 [0.33]	9 [0.35]	19,7 [0.78]
06	B							

*retracted position at the start of clamping range (5 [0.20])

4 Door Case



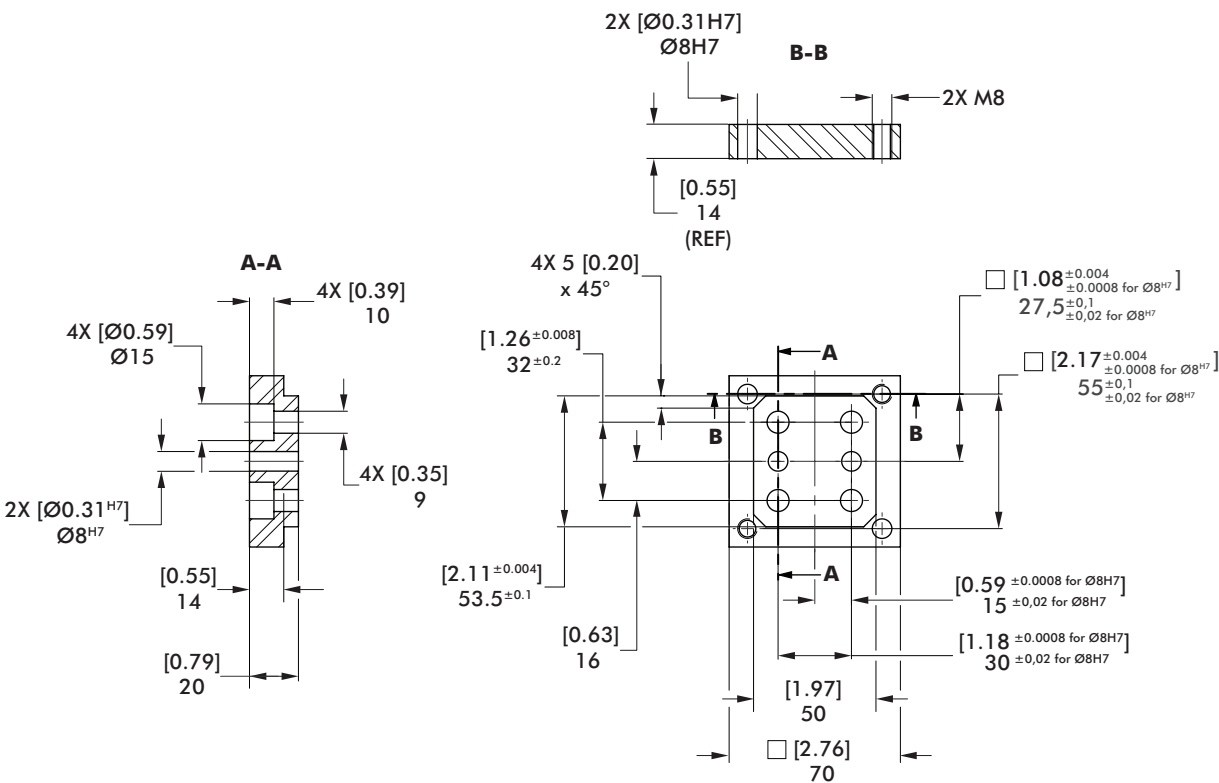
Pin Diameter	Support Shape
01	A

*retracted position at the start of clamping range (5 [0.20])

82P50-1800

Pneumatic Centering Pin Clamp | Tolerance Compensation | Dimensions and How To Order

CNOMO Adapter



Accessory

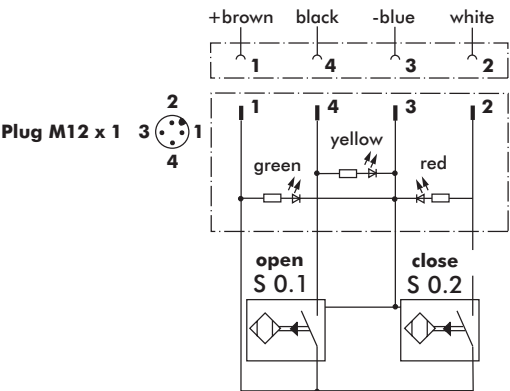
CNOMO Adapter

Order no.

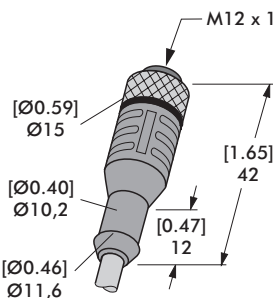
8MA-538-1

Inductive Sensor Wiring Diagram

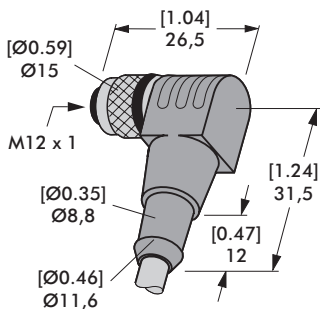
Sensing system immune to interference from AC / DC arc welding.



Sensor Cable Accessories



Straight Cable
8EL-002-1



Angular Cable
8EL-003-1

Sensor Cables (1 connector & 5m cable)

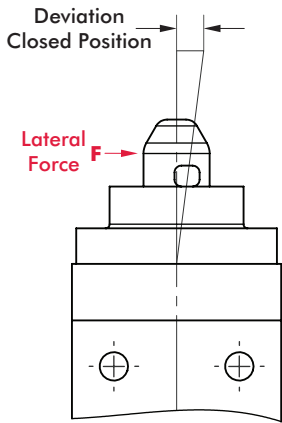
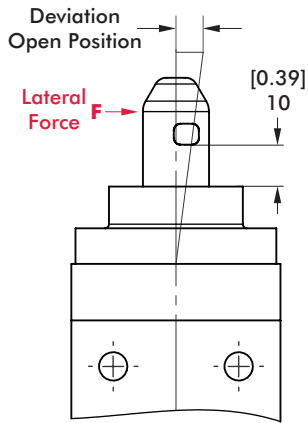
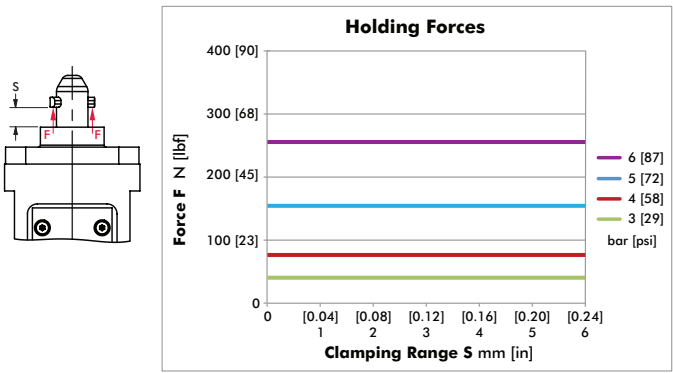
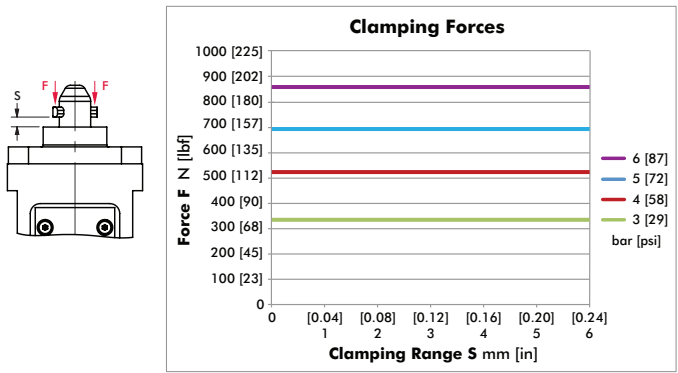
M12x1 connector, straight, 5-pin

M12x1 connector, 90° angular, 4-pin

Order no.

8EL-002-1

8EL-003-1



Max Deviation for Centering Pin

Deviation is at the maximum for support height 10 mm [0.39 in].
Higher supports have an increased guiding length.

Model no.	Position	Lateral Force F N [lbf]	Deviation $\pm$ mm [in]
82P50-1800	Open	100 [23]	0,032 [0.0013]
	Closed		0,023 [0.0009]

VV85G-150

Precision Guide | Ordering and Technical Information

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)



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]

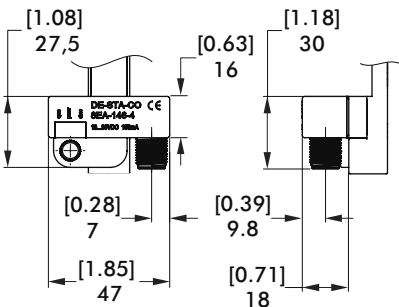
Precision Guide | Dimensions



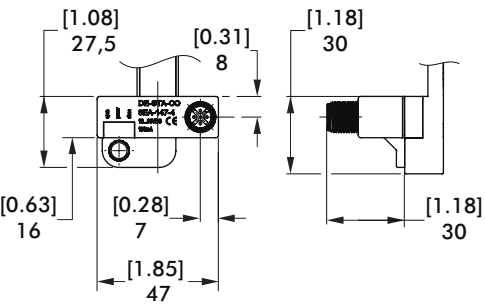
VV85G-150

Precision Guide | Dimensions and Technical Specifications

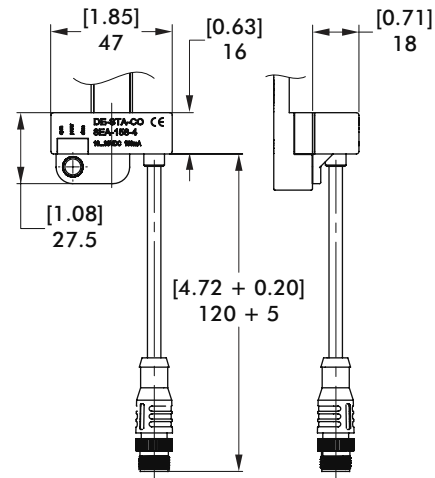
L8, N8 Inductive Sensing System



L9, N9 Inductive Sensing System with 90° Connector

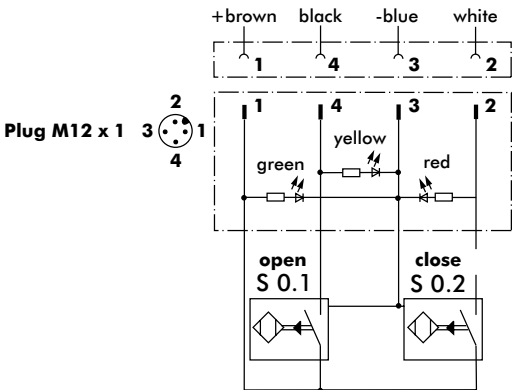


K8, K9 Inductive Sensing System with Pigtail Connector



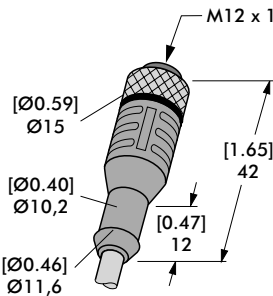
Inductive Sensor Wiring Diagram

Sensing system immune to interference from AC / DC arc welding.

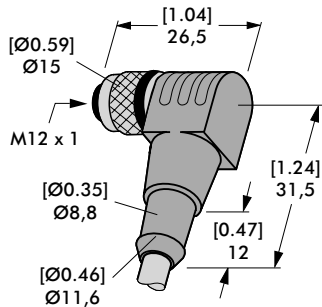


Sensor Cable Accessories

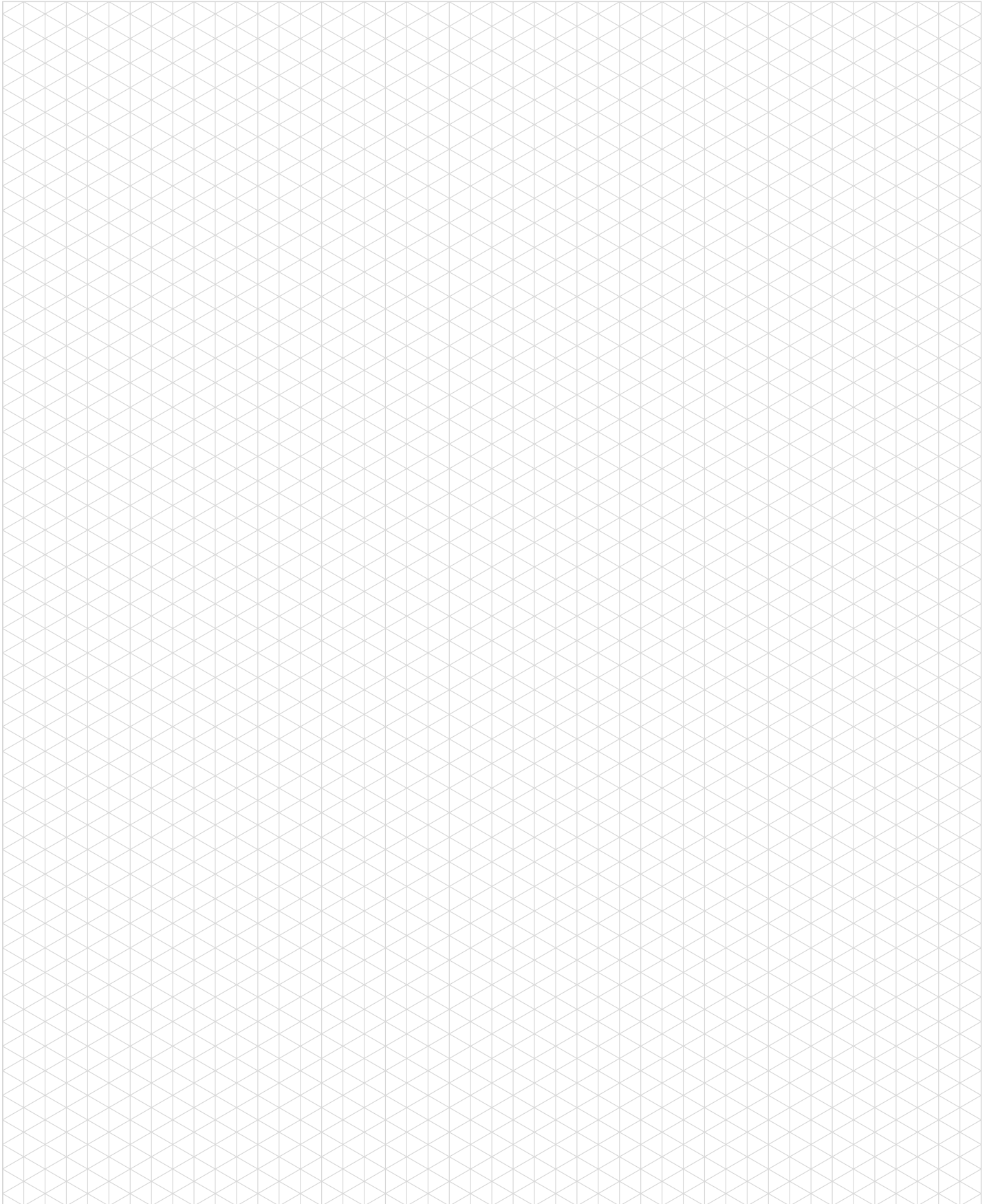
Sensor Cables (1 connector & 5m cable)	Order no.
M12x1 connector, straight, 5-pin	8EL-002-1
M12x1 connector, 90° angular, 4-pin	8EL-003-1



Straight Cable
8EL-002-1



Angular Cable
8EL-003-1



86P30-5

Pneumatic Pin Package | Single Shaft | Ordering and Technical Information

86P30-5

02

L8

00

4

Accessories

00

Description

No Accessories

Stroke

2

4

Description

20 mm Stroke

40 mm Stroke

Piston Rod

Description

02

Ø16 mm M6 Threaded Inside Hole, Cross Groove

05

Ø10 mm M8 Threaded Inside Hole, Cross Groove

02

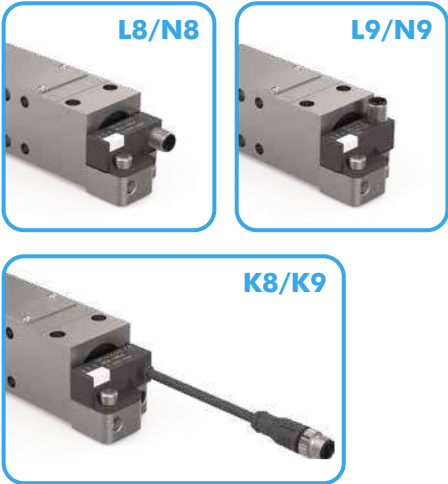
05

2

4



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

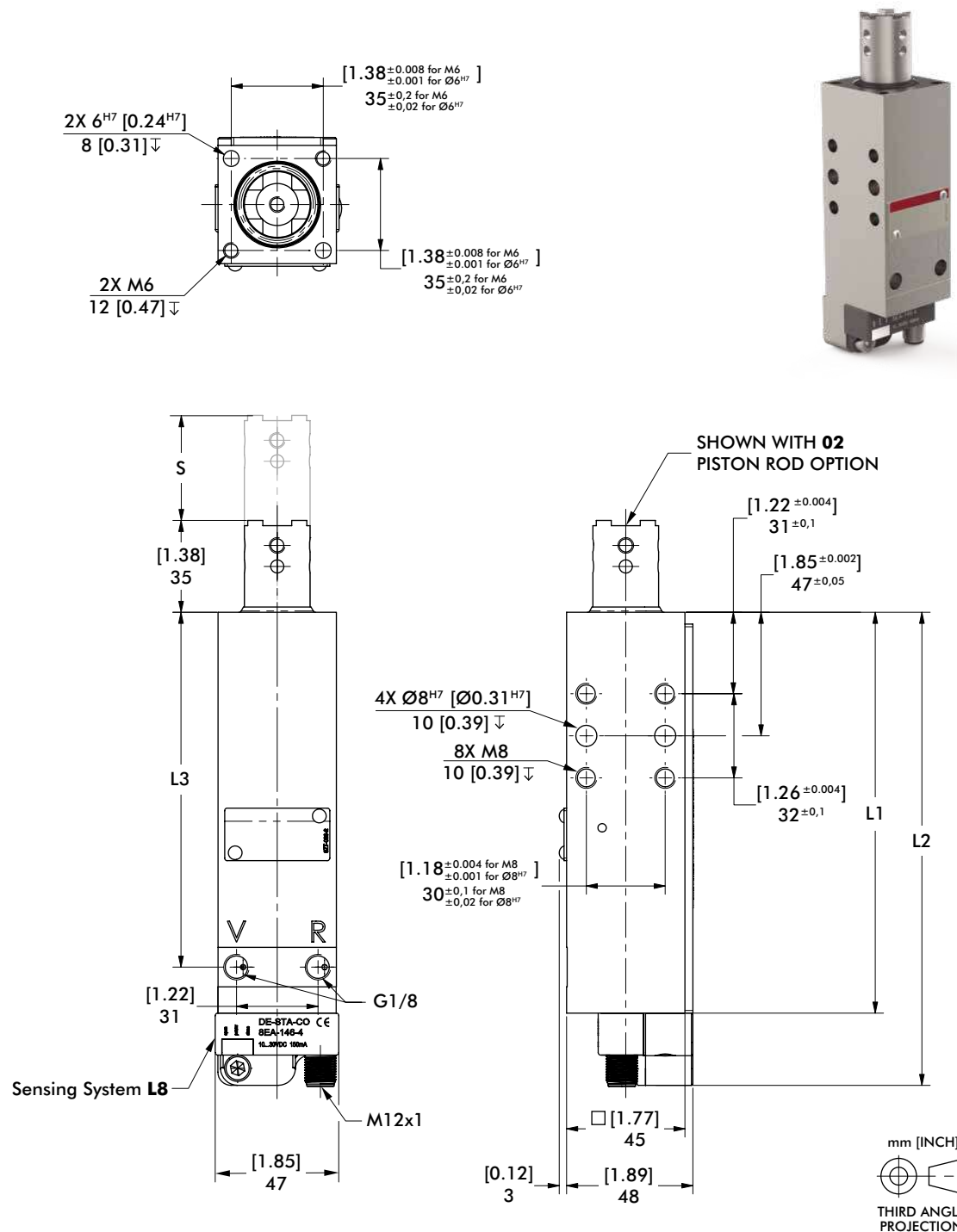
Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector with 5 m [16 ft.] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable

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]

Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications



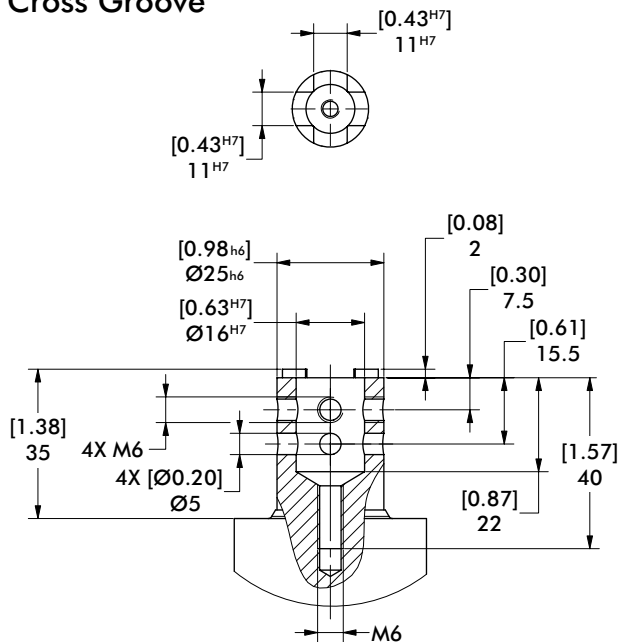
Medium: Operation with oil free air permissible

Base Model	Stroke Option	S Stroke mm [in]	L1 mm [in]	L2 mm [in]	L3 mm [in]	Pushing force at 5 bar N [lbs]	Retraction force at 5 bar N [lbs]	Max. operating pressure bar [psi]	Piston Ø mm [in]	Weight Kg [lbs]	Air consumption per double stroke at 5 bar dm³ [ft³]
86P30-5	2	20 [0.79]	112,5 [4.43]	140 [5.51]	95 [3.74]	340 [76]	250 [56]	6 [87]	30 [1.18]	0,8 [1.76]	0,32 [0.011]
	4	40 [1.57]	152,5 [6.00]	180 [7.09]	135 [5.30]					1 [2.20]	0.45 [0.015]

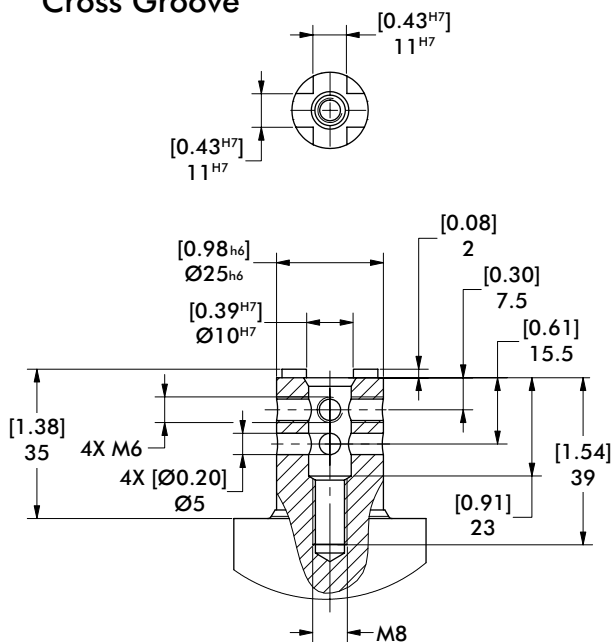
86P30-5 PISTON RODS

Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications

02 Ø16 mm M6 Threaded Inside Hole,
Cross Groove

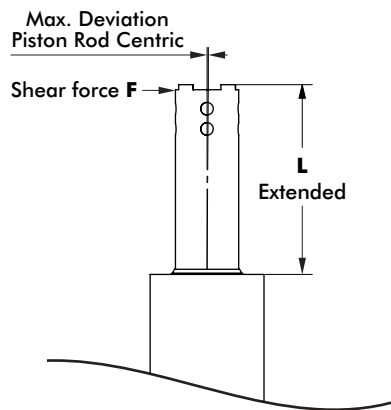


05 Ø10 mm M8 Threaded Inside Hole, Cross Groove

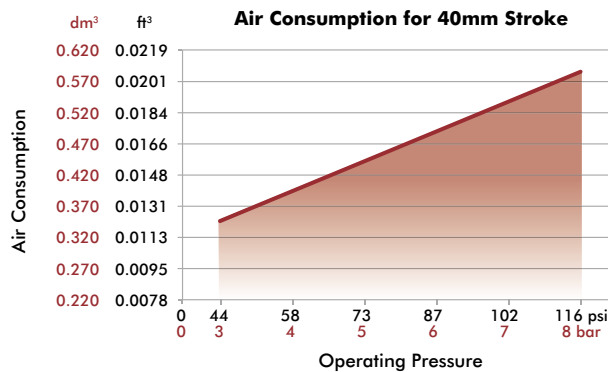
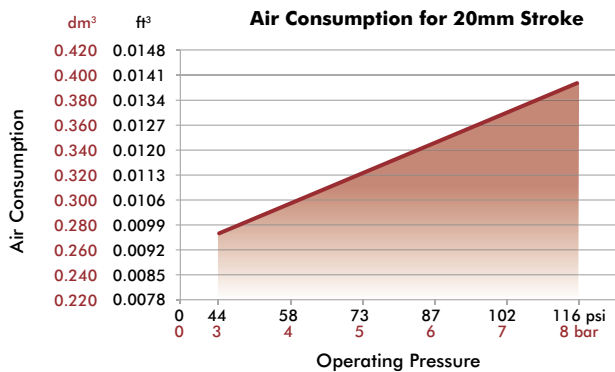


Max Deflection for Centering Pin

Model no.	Shear force N [lbs]	L mm [in]	Stroke mm [in]	Deflection ± mm [in]
86P30-50***004	200 [45]	75 [2.95]	40 [1.58]	0,12 [0.0047]
	150 [34]			0,10 [0.0039]
	100 [22]			0,08 [0.0031]
	75 [17]			0,06 [0.0023]
86P30-50***002	200 [45]	55 [2.17]	20 [0.79]	0,07 [0.0027]
	150 [34]			0,06 [0.0023]
	100 [22]			
	75 [17]			0,05 [0.0019]



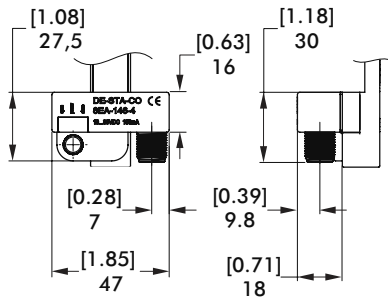
Air Consumption



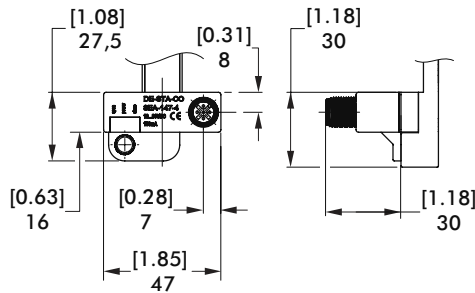
86P30-5 SENSORS

Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications

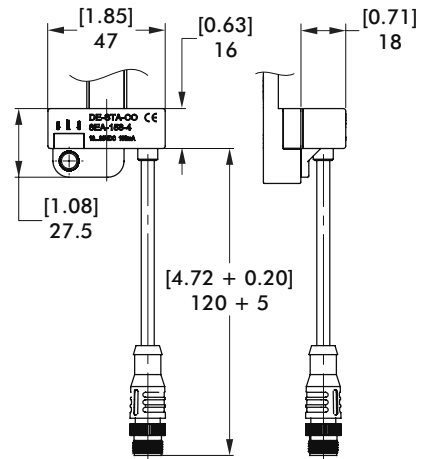
L8, N8 Inductive Sensing System



L9, N9 Inductive Sensing System with 90° Connector

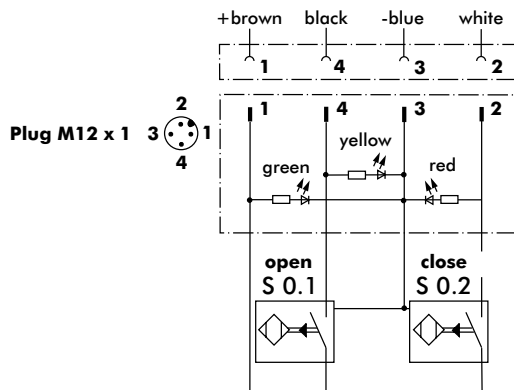


K8, K9 Inductive Sensing System with Pigtail Connector



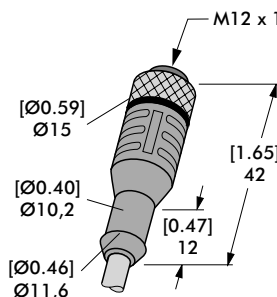
Inductive Sensor Wiring Diagram

Sensing system immune to interference from AC / DC arc welding.

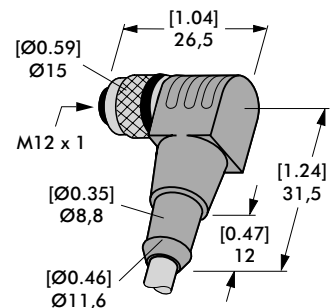


Sensor Cable Accessories

Sensor Cables (1 connector & 5m cable)	Order no.
M12x1 connector, straight, 5-pin	8EL-002-1
M12x1 connector, 90° angular, 4-pin	8EL-003-1



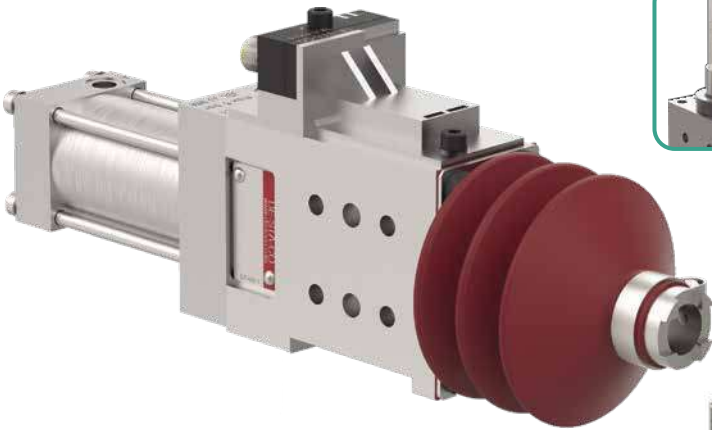
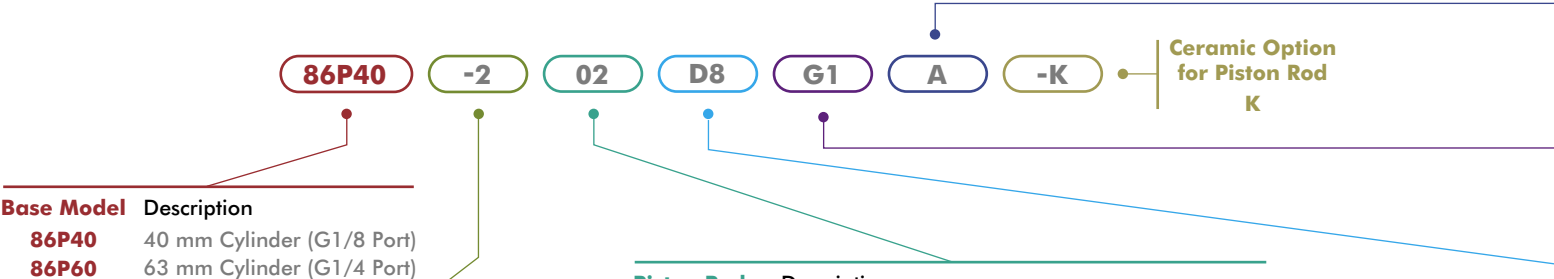
Straight Cable
8EL-002-1



Angular Cable
8EL-003-1

86P40/86P60

Pneumatic Pin Package | Single Shaft | Ordering and Technical Information

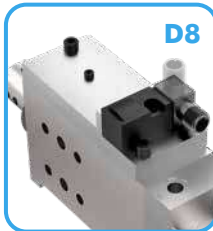


	86P40			86P60		
Stroke Option:	B, A, 2, 4	C, 6	F, 8	B, A, 2, 4	C, 6	F, 8
Max Pushing Force at 5 bar [72 psi]:	620 N [139 lbf]			1550 N [348 lbf]		
Max Retracting Force at 5 bar [72 psi]:	520 N [117 lbf]			1400 N [315 lbf]		

Accessories	Description
00	No Accessories
F1	Bellows for piston rods 02, 05, 07, 10 in strokes B, A, 2, 4 (82ZB-013-3)
R1	Guide Bushing for piston rods 01, 02, 05 (82ZB-192-1)



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



Sensor Cables Order separately

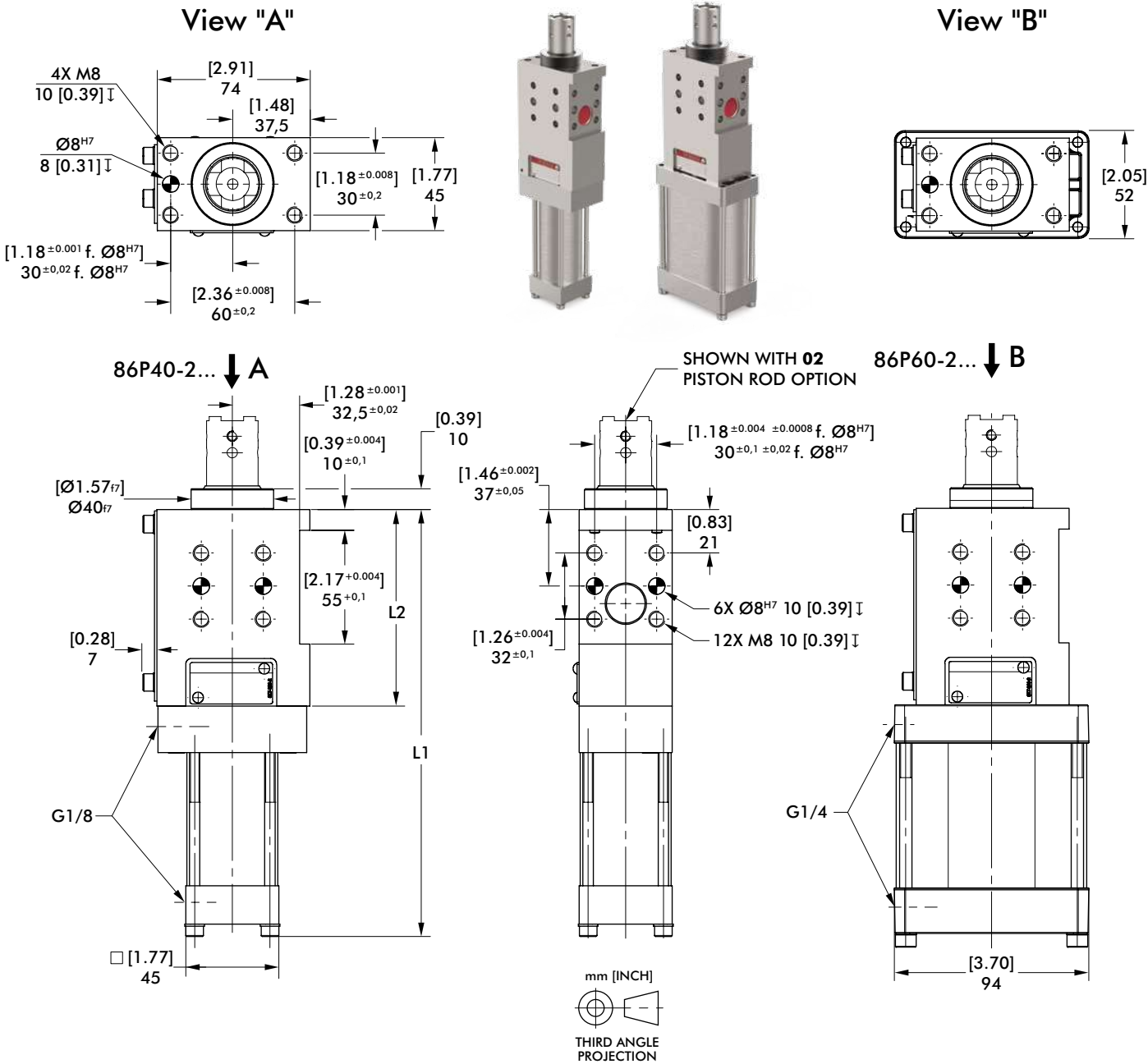
Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector with 5 m [16 ft.] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable

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)



86P40-2/86P60-2

Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications

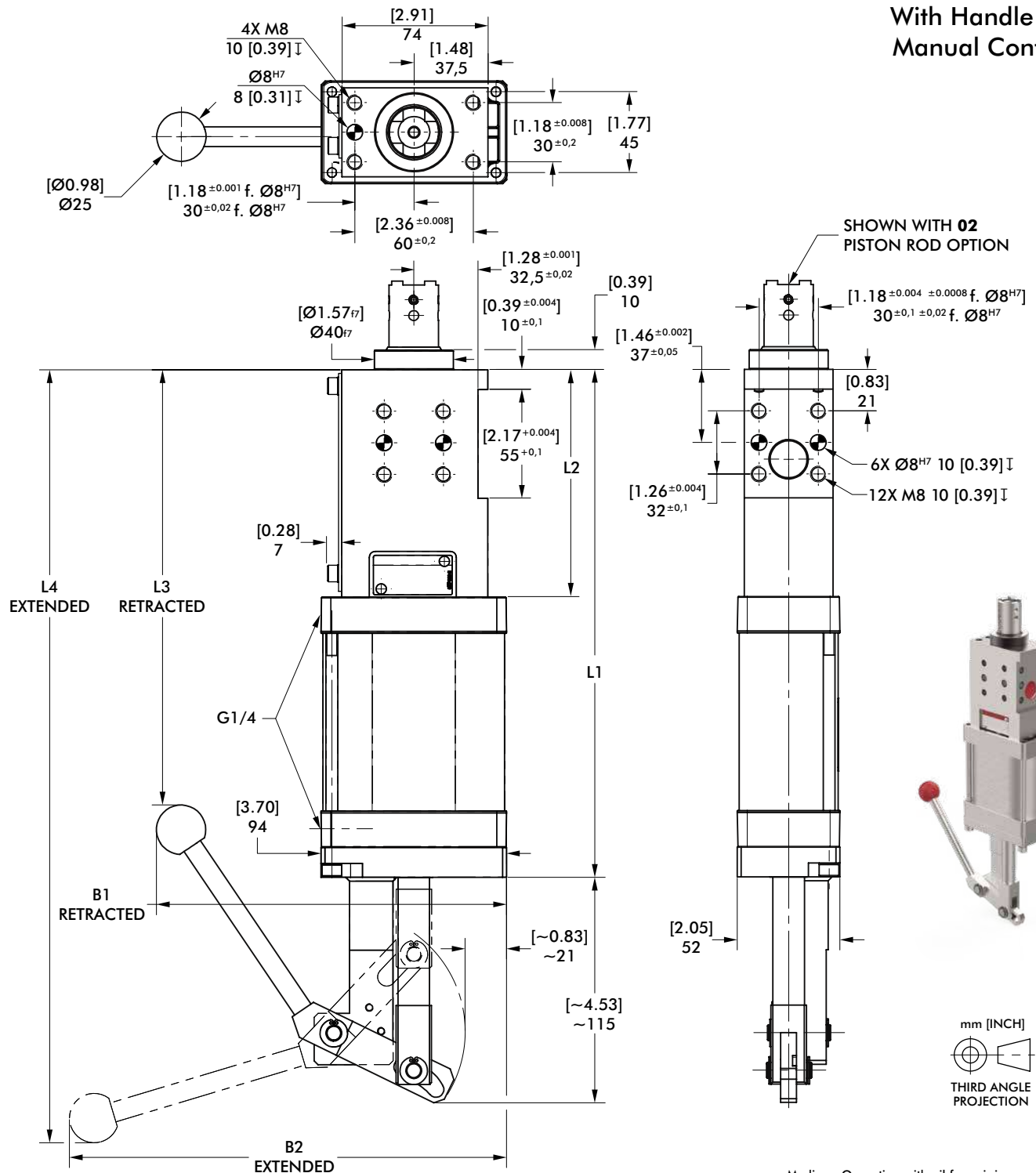


Medium: Operation with oil free air is permissible

Base Model	Stroke Option	Stroke +2 [0.08] mm [in]	L1 mm [in]	L2 mm [in]	Pushing force at 5 bar N [lbs]	Retraction force at 5 bar N [lbs]	Max. operating pressure bar [psi]	Piston Ø mm [in]	Weight Kg [lbs]	Air consumption per double stroke at 5 bar dm ³ [ft ³]
86P40	B, 2	20 [0.79]	207 [8.15]	95 [3.74]	620 [139]	520 [117]	6 [87]	40 [1.57]	1,6 [3.52]	0,5 [0.017]
	A, 4	40 [1.57]								0,7 [0.025]
	C, 6	60 [2.36]								0,9 [0.032]
	F, 8	80 [3.15]								1,0 [0.035]
86P60	B, 2	20 [0.79]	213 [8.39]	95 [3.74]	1550 [348]	1400 [315]	6 [87]	63 [2.48]	2,0 [4.40]	0,8 [0.028]
	A, 4	40 [1.57]								1,4 [0.049]
	C, 6	60 [2.36]								2,0 [0.070]
	F, 8	80 [3.15]								2,5 [0.088]

Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications

With Handle for
Manual Control



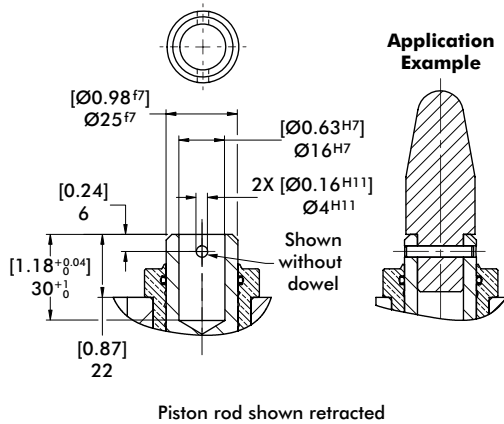
Medium: Operation with oil free air is permissible

Base Model	Stroke Option	Stroke +2 [0.08] mm [in]	B1 (retracted) mm [in]	B2 (extended) mm [in]	L1 mm [in]	L2 mm [in]	L3 (retracted) mm [in]	L4 (extended) mm [in]	Weight Kg [lbs]
86P60H2	B, 2	20 [0.79]	177 [6.97]	216 [8.50]	217 [8.54]	95 [3.74]	179 [7.05]	253 [9.96]	2,3 [5.07]
	A, 4	40 [1.57]		229 [9.02]	217 [8.54]	95 [3.74]	179 [7.05]	306 [12.05]	
	C, 6	60 [2.36]		223 [8.78]	257 [10.12]	115 [4.53]	220 [8.66]	392 [15.43]	

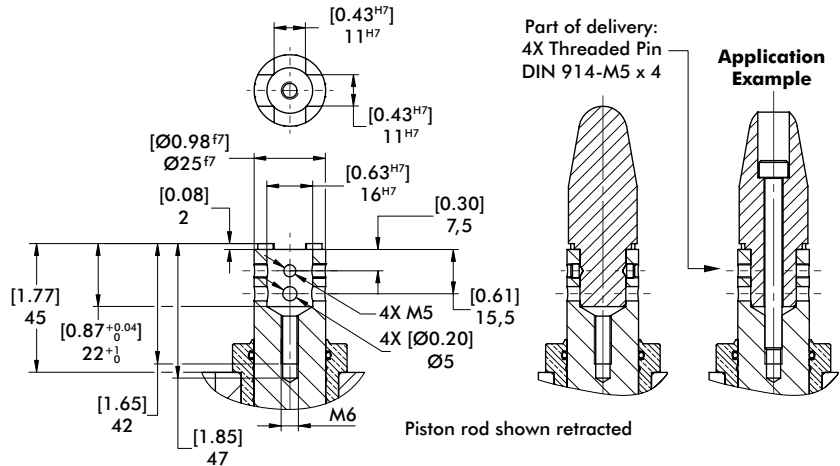
86P40/86P60 PISTON RODS

Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications

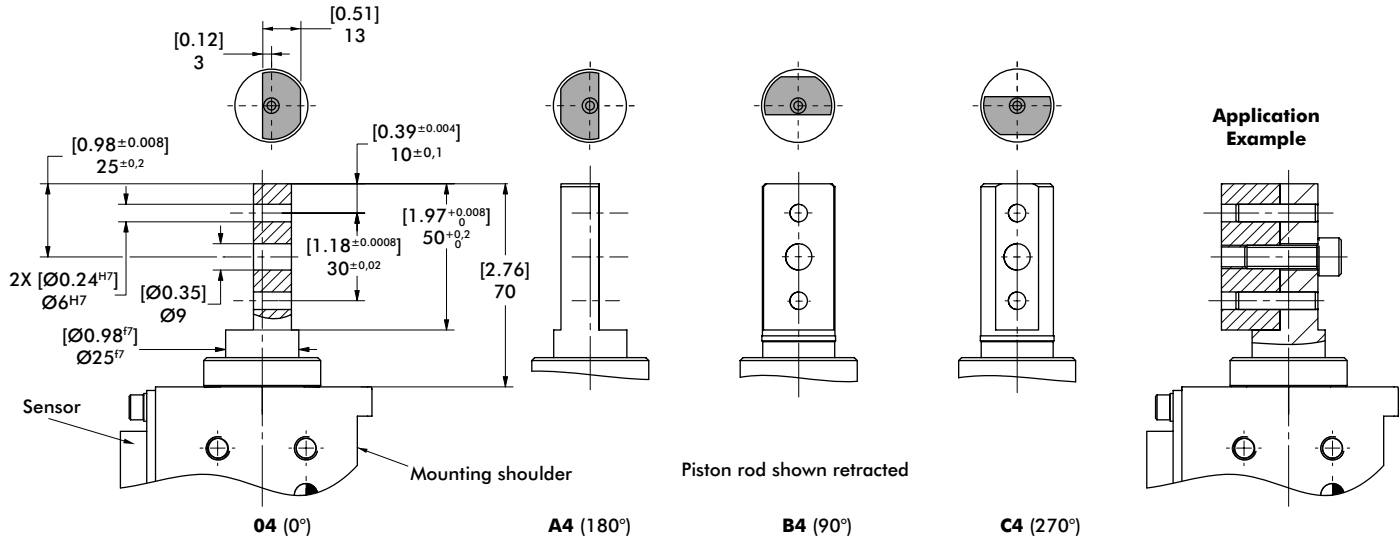
01 Ø16 mm Inside Hole



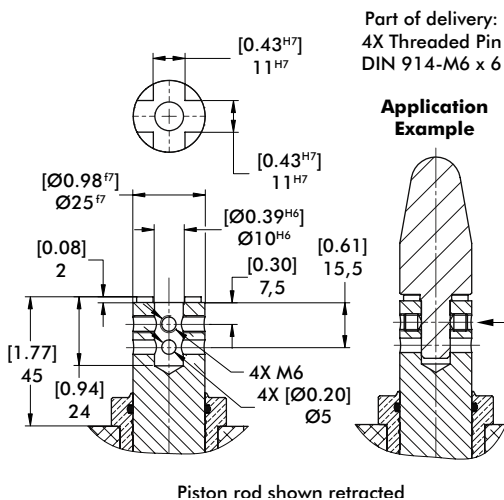
02 Ø16 mm M6 Threaded Inside Hole, Cross Groove



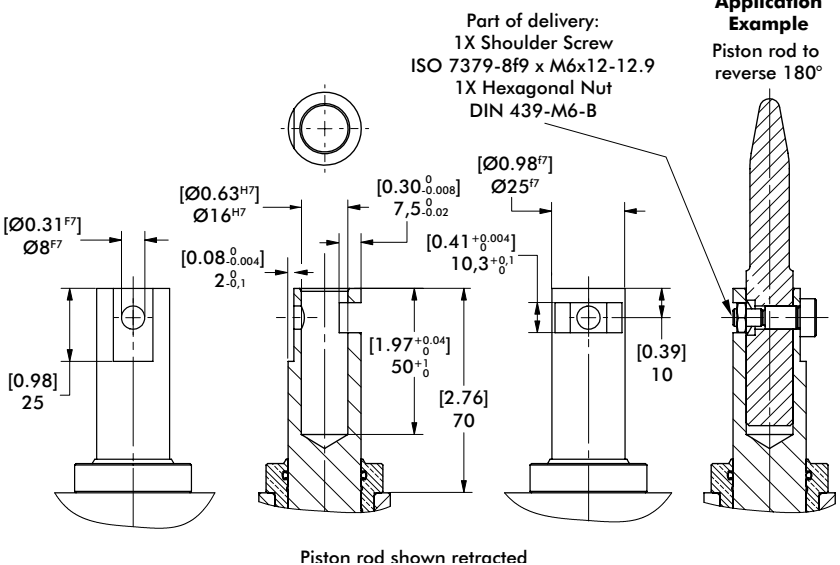
04, A4, B4, C4 NAAMS Standard



05 Ø10 mm Inside Hole, Cross Groove



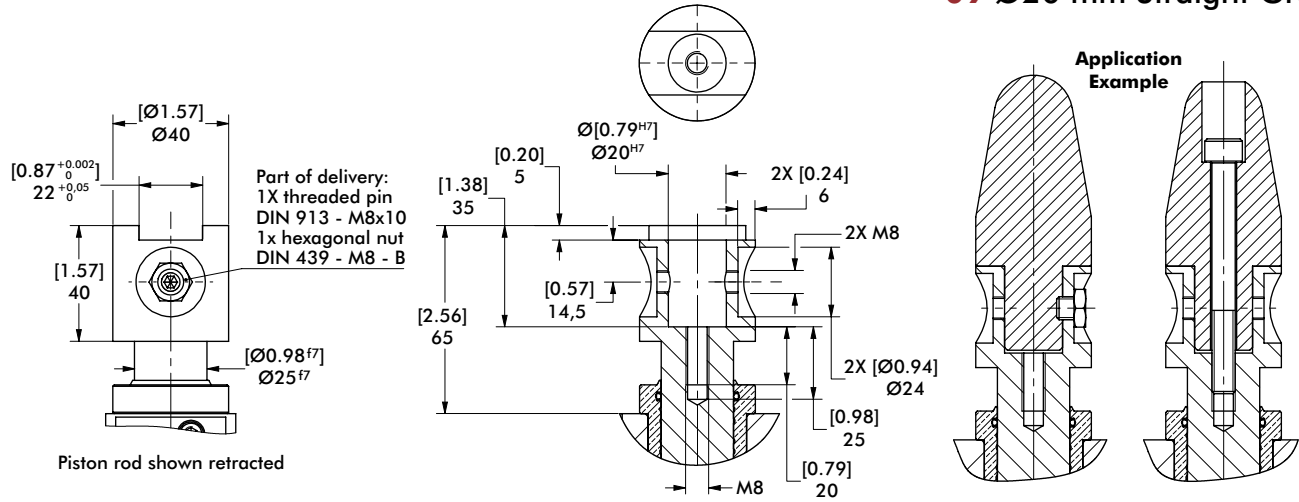
07 Ø16 mm Inside Hole, NAAMS



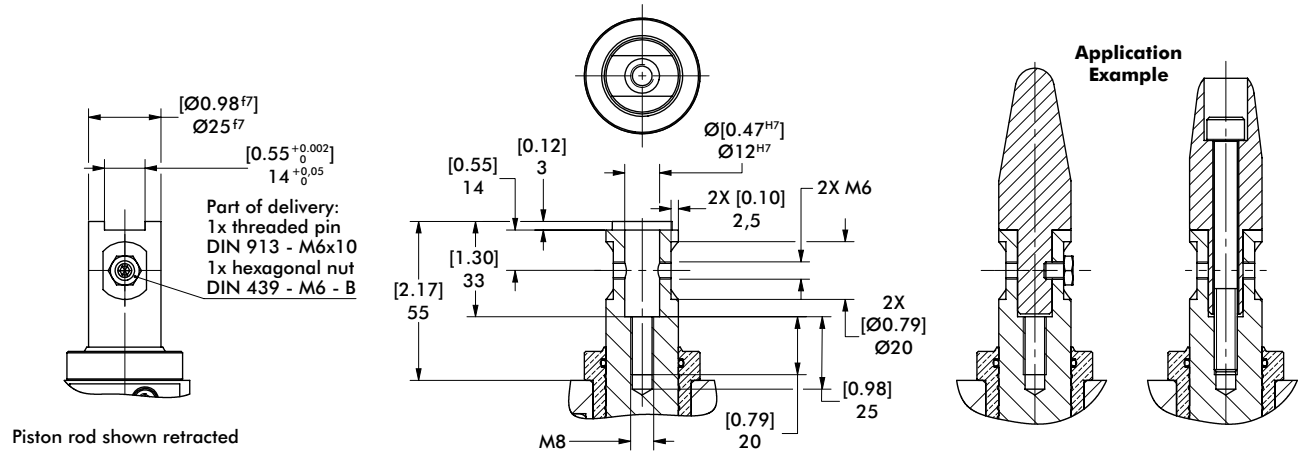
86P40/86P60 PISTON RODS

Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications

09 Ø20 mm Straight Groove



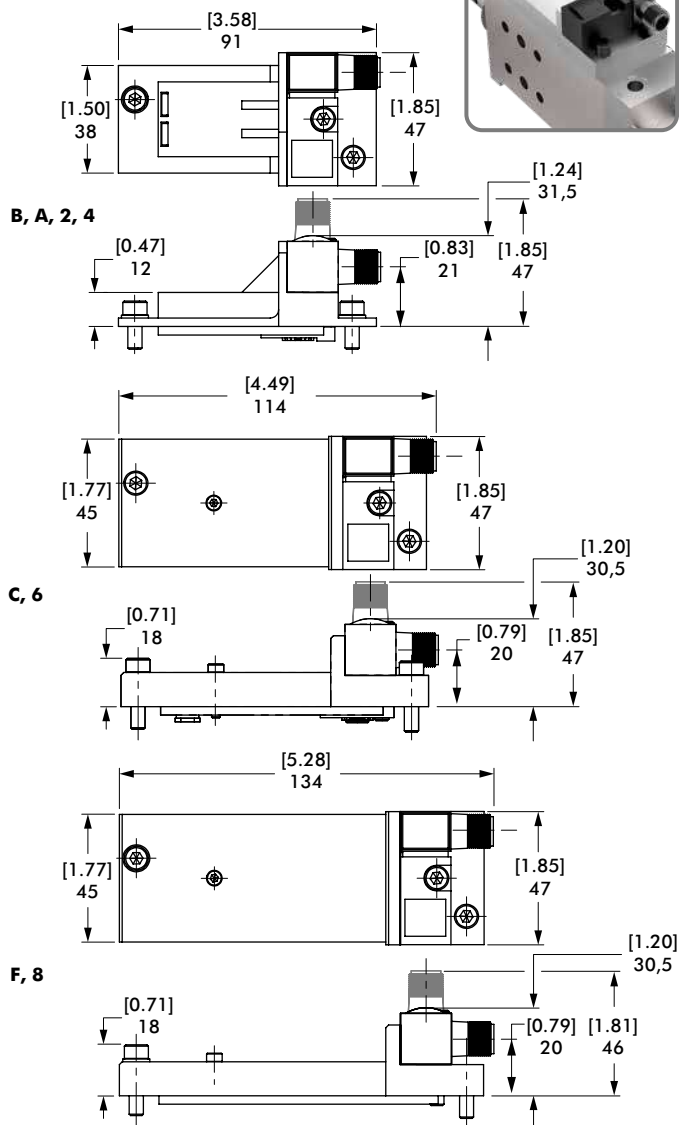
10 Ø12 mm Straight Groove



86P40/86P60 SENSORS

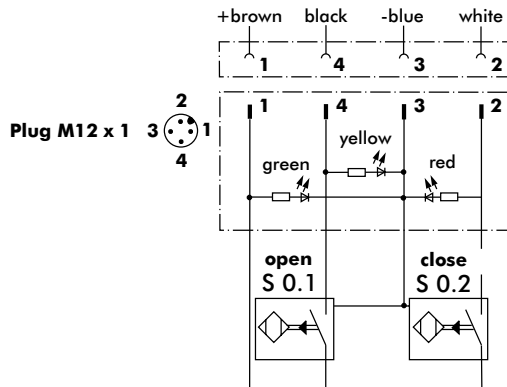
Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications

D8 Inductive Sensing System with 90° Swivel Connector

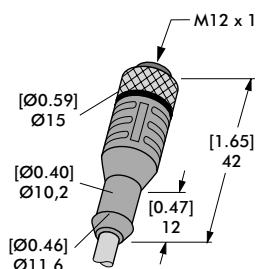


Inductive Sensor Wiring Diagram

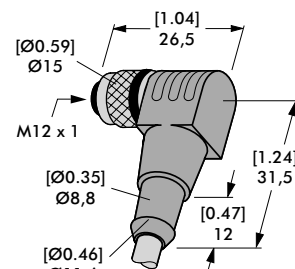
Sensing system immune to interference from AC / DC arc welding.



Sensor Cable Accessories

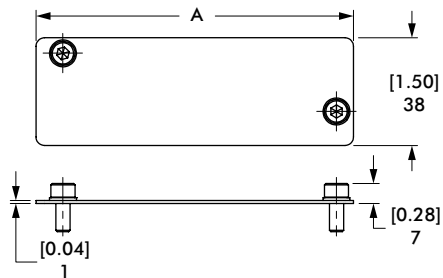


Straight: 8EL-002-1



Angular: 8EL-003-1

L4, L6, L8 Sensor Cover Plate

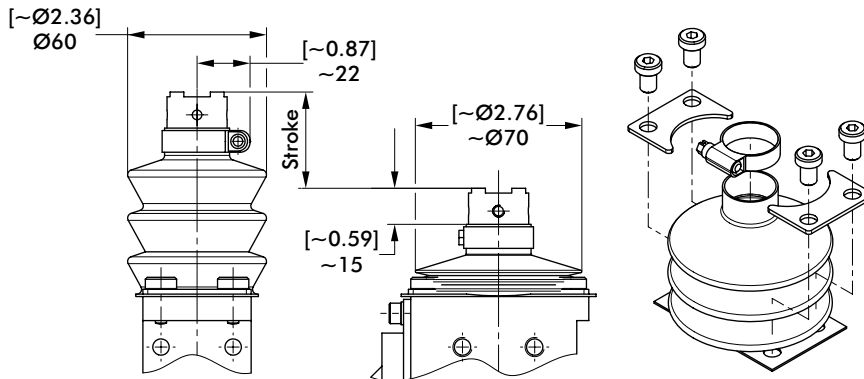


Cover Plate Option	Stroke Option	A mm [in]
L4	B, A, 2, 4	92 [3.62]
L6	C, 6	112 [4.41]
L8	F, 8	132 [5.20]

86P40/86P60 ACCESSORIES

Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications

F1 Bellows (Piston Rod Cover)



Extended

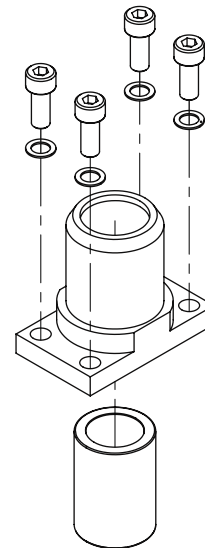
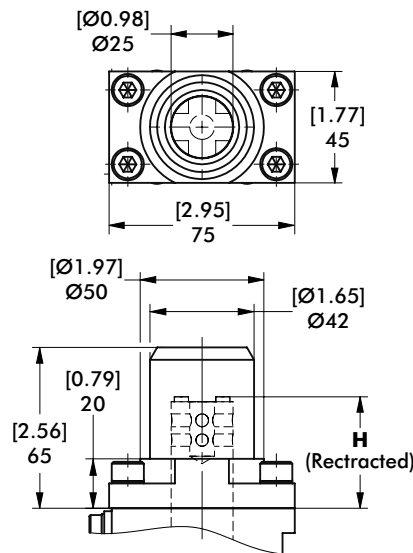
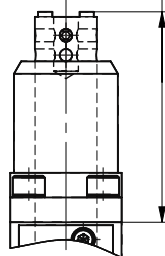


Retracted

R1 Guide Bushing

Piston Rod 05 Shown

STROKE
20/40/60/80
(Extended)

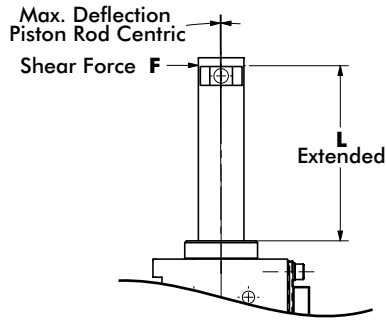


Model No.	Piston Rod Adapter	Stroke				
		H mm [in]	20 mm [in]	40 mm [in]	60 mm [in]	80 mm [in]
86P40-2...	01	22 [0.87]	42 [1.65]	62 [2.44]	82 [3.23]	102 [4.02]
86P60-2...	02	45 [1.77]	65 [2.56]	85 [3.35]	105 [4.13]	125 [4.92]
86P60H2...	02					
56H40-2...	05					

86P40/86P60

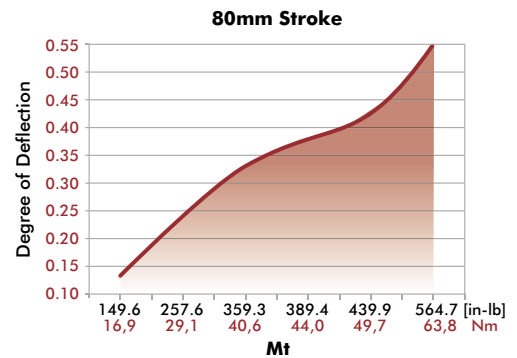
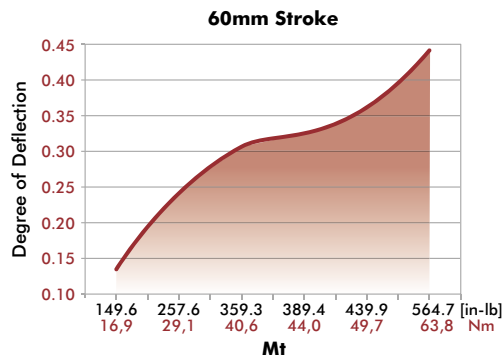
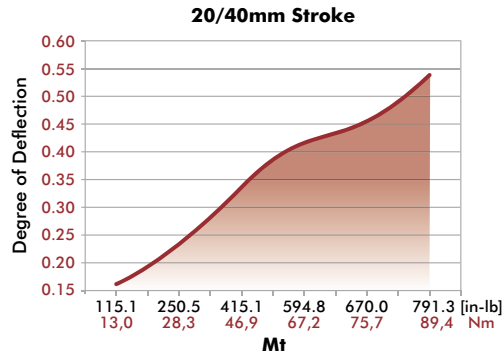
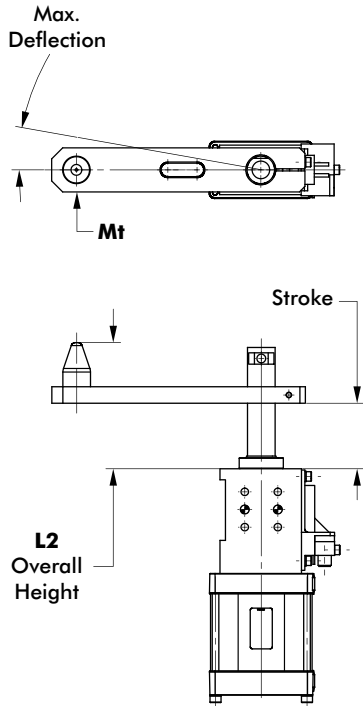
Pneumatic Pin Package | Single Shaft | Technical Specifications

Maximum Deflection for Centering Pin



Model no.	Shear force N [lbs]	L mm [in]	Stroke mm [in]	Deflection mm [in]
86P40 / 60-2...B / 2	200 [45]	52 [2.05]	20 [0.79]	0,06 [0.002]
86P40 / 60-2...A / 4		70 [2.76]	40 [1.58]	0,09 [0.004]
86P40 / 60-2...C / 6		90 [3.54]	60 [2.36]	0,12 [0.005]
86P40 / 60-2...F / 8		115 [4.53]	80 [3.15]	0,15 [0.006]

Caution: Generally we recommend using an external guide when the transverse force is more than 200 N [45 lbs]. Also independently of the stroke, less transverse forces, when the overall height $L2 > 120$ mm [4.7 in] ($L2$ = extended piston rod plus centering pin).

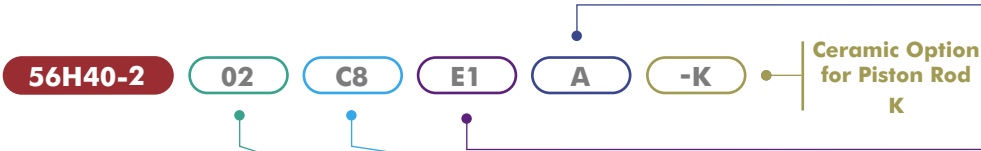


Caution: Generally we recommend using an external guide when the transverse force is more than 200 N [45 lbs]. Also independently of the stroke, less transverse forces, when the overall height $L2 > 120$ mm [4.7 in] ($L2$ = extended piston rod plus centering pin).

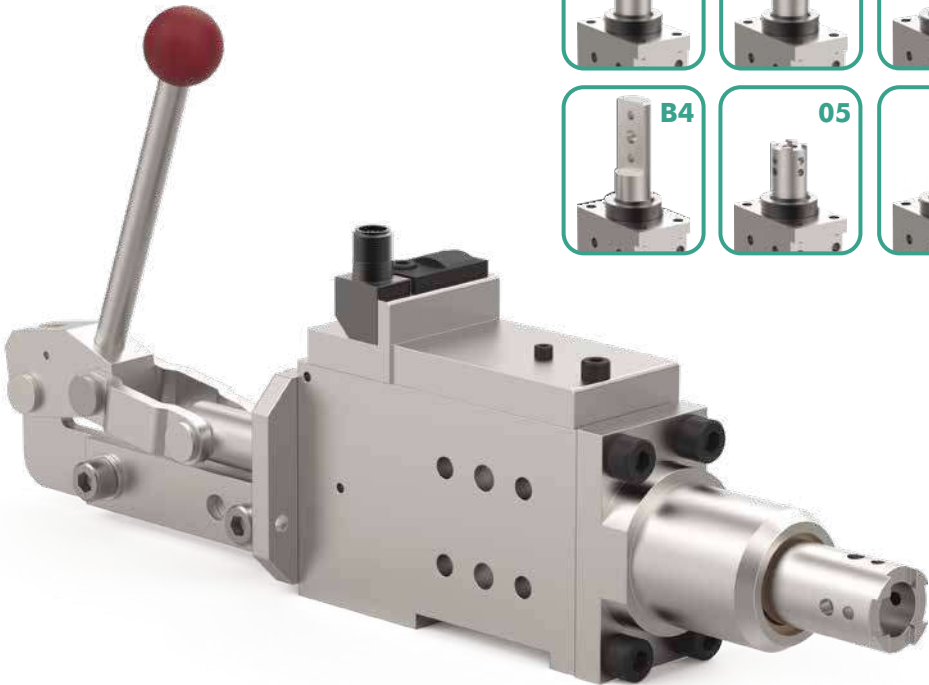


56H40-2

Manual Pin Package | Single Shaft | Ordering Information



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



Accessories	Description
00	No Accessories
F1	Bellows for piston rods 02, 05, 07, 10 in strokes B, A, 2, 4 (82ZB-013-3)
R1	Guide Bushing for piston rods 01, 02, 05 (82ZB-192-1)



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



Sensor Cables Order separately

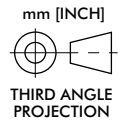
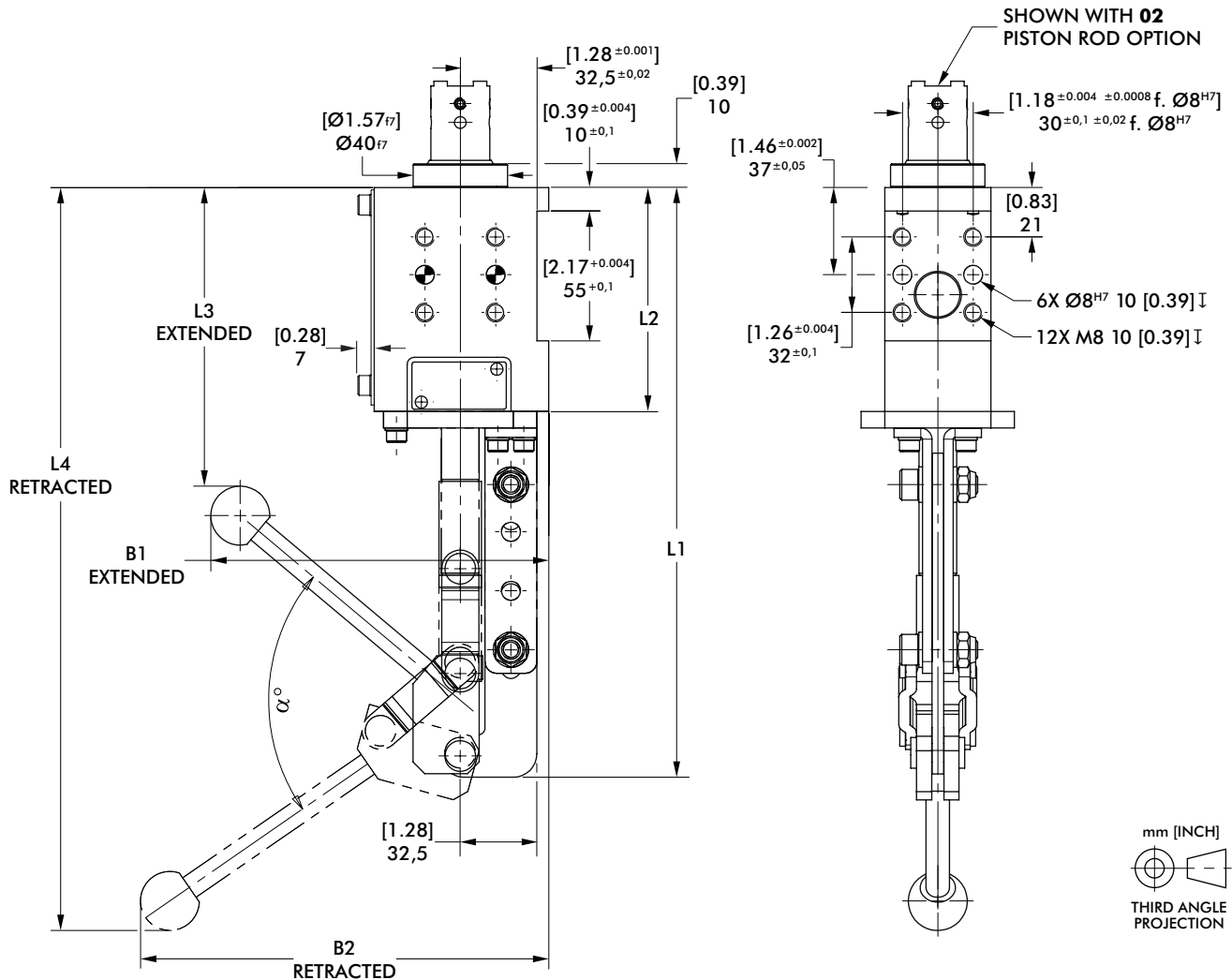
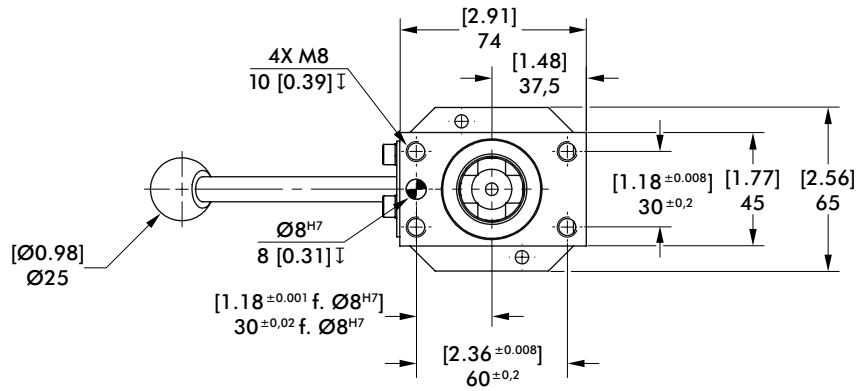
Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector with 5 m [16 ft.] Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5 m [16 ft.] Cable

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)



56H40-2

Manual Pin Package | Single Shaft | Dimensions and Technical Specifications

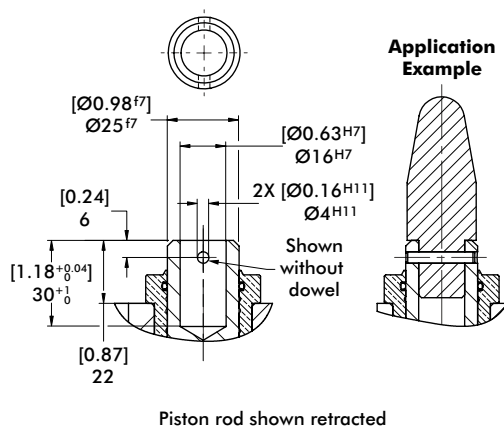


Base Model	Stroke Option	Stroke +2 mm [in]	B1 (extended) mm [in]	B2 (retracted) mm [in]	L1 (max.) mm [in]	L2 mm [in]	L3 (extended) mm [in]	L4 (retracted) mm [in]	Opening Angle α	Weight Kg [lbs]
56H40-2	B, 2	20 [0.79]		188 [7.40]	270 [10.63]		146 [5.75]	277 [10.91]	50°	2,0 [4.41]
	A, 4	40 [1.57]	144 [5.67]	173 [6.81]	250 [9.84]	95 [3.74]	126 [4.96]	315 [12.40]	75°	
	C, 6	60 [2.36]		116 [4.57]	270 [10.63]	115 [4.53]	146 [5.75]	394 [15.51]	109°	2,5 [5.51]

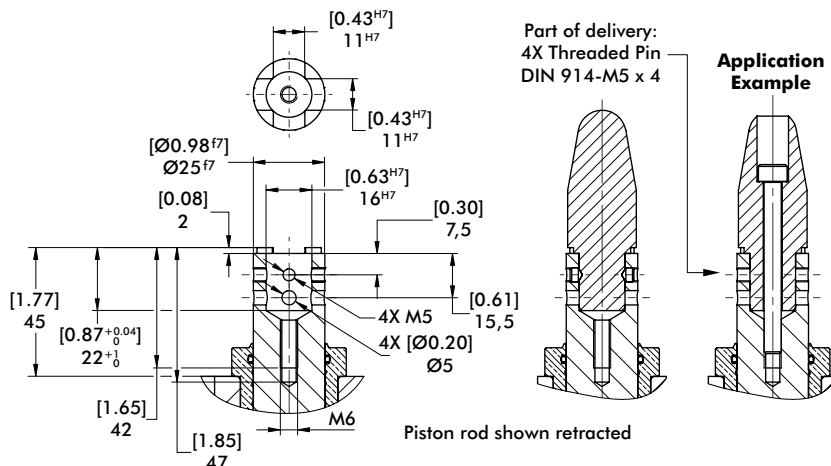
56H40-2 PISTON RODS

Manual Pin Package | Single Shaft | Dimensions and Technical Specifications

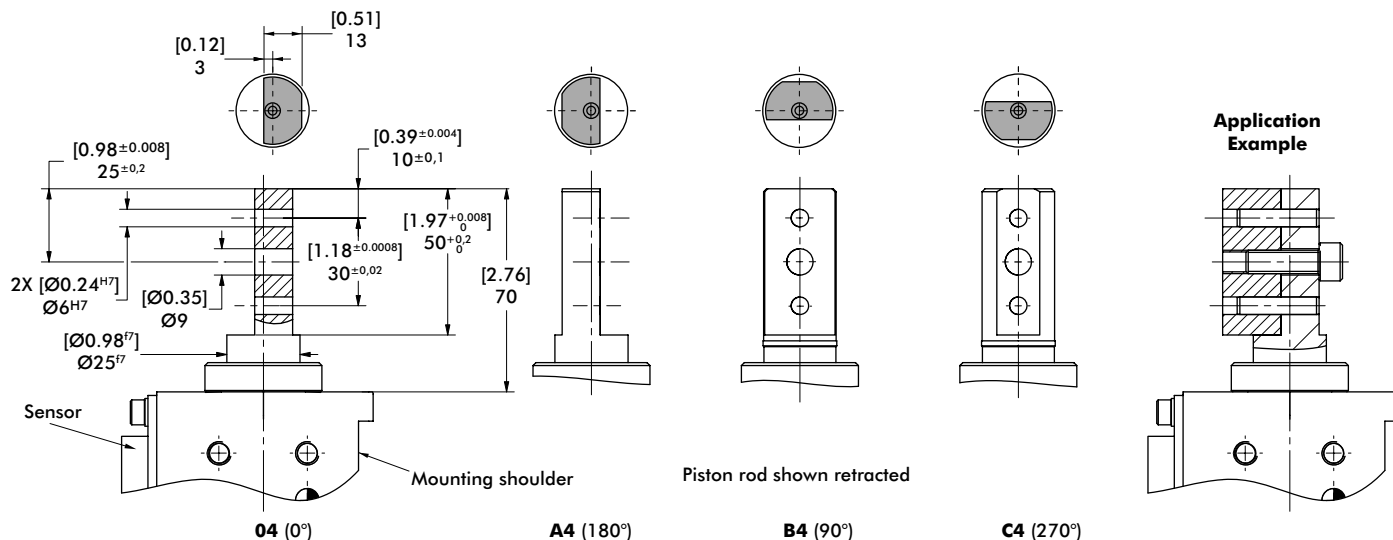
01 Ø16 mm Inside Hole



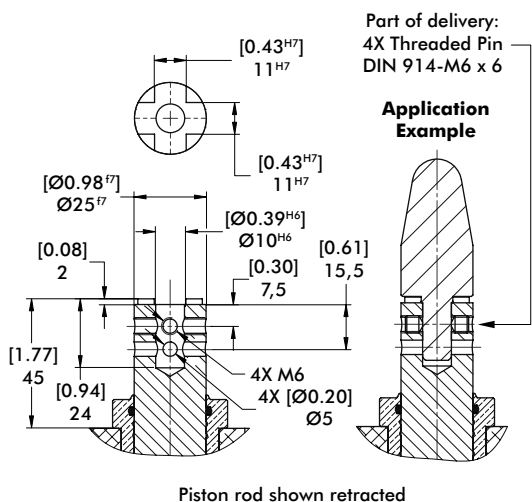
02 Ø16 mm M6 Threaded Inside Hole, Cross Groove



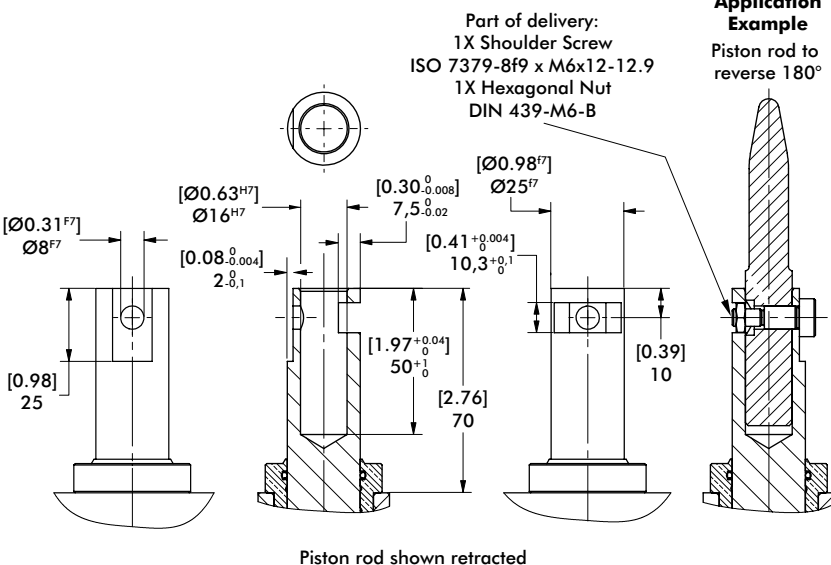
04, A4, B4, C4 NAAMS Standard



05 Ø10 mm Inside Hole, Cross Groove



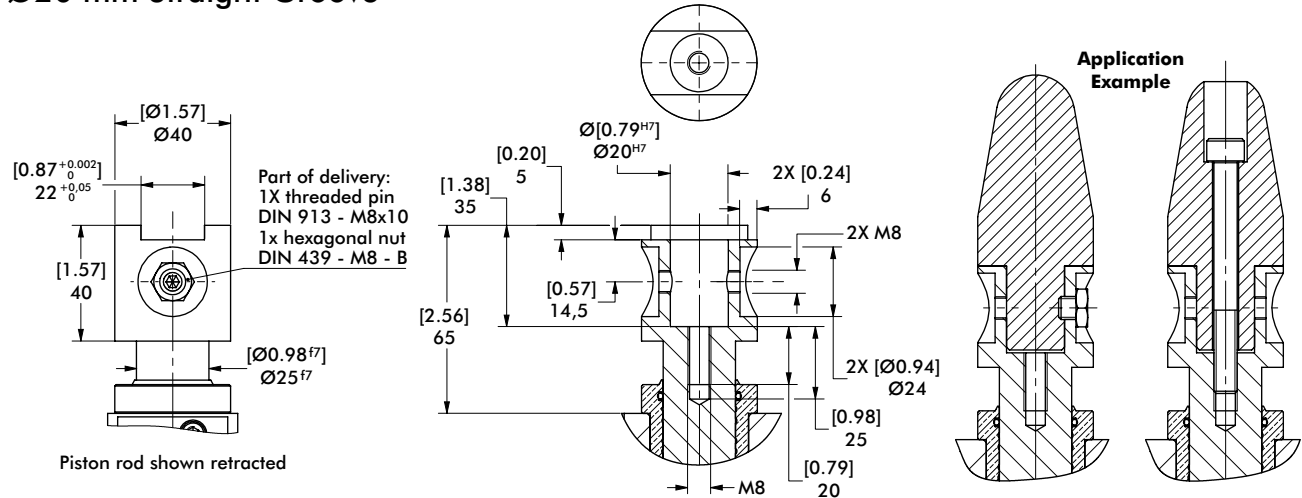
07 Ø16 mm Inside Hole, NAAMS



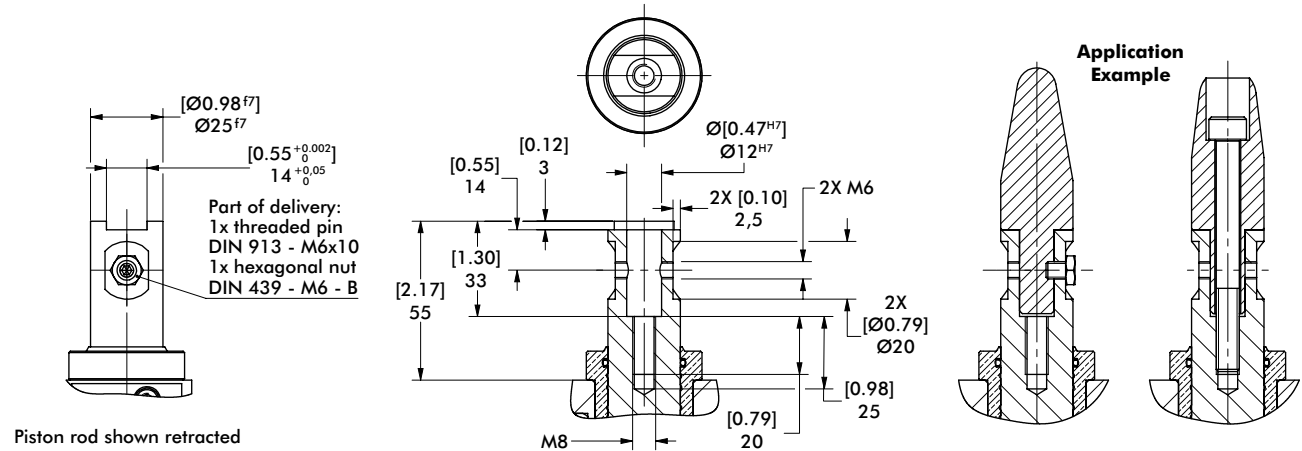
56H40-2 PISTON RODS

Manual Pin Package | Single Shaft | Dimensions and Technical Specifications

09 Ø20 mm Straight Groove



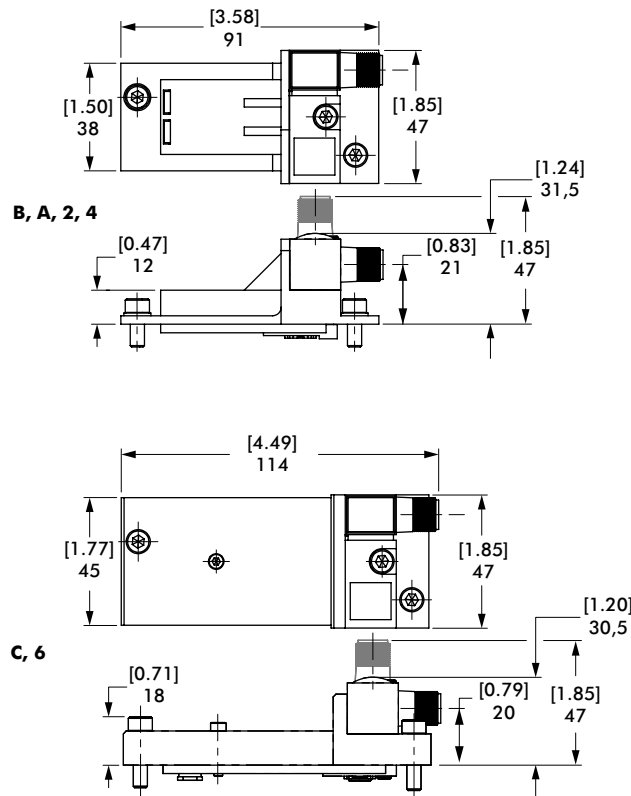
10 Ø12 mm Straight Groove



56H40-2 SENSORS

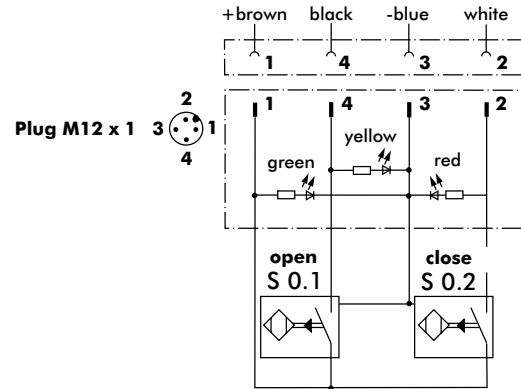
Manual Pin Package | Single Shaft | Dimensions and Technical Specifications

D8 Inductive Sensing System with 90° Swivel Connector

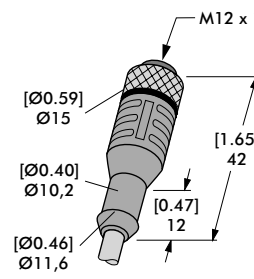


Inductive Sensor Wiring Diagram

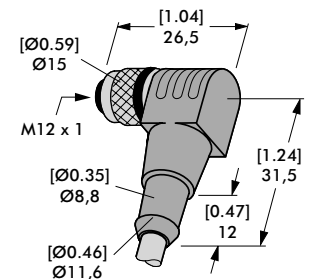
Sensing system immune to interference from AC / DC arc welding.



Sensor Cable Accessories



Straight: 8EL-002-1



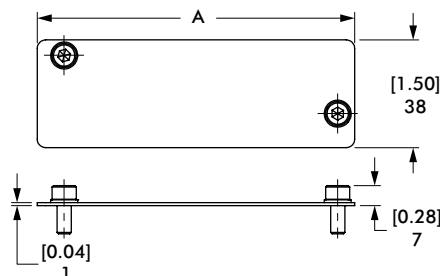
Angular: 8EL-003-1

Order no. Sensor Cables (1 connector & 5m 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

L4, L6 Sensor Cover Plate



Cover Plate Option	Stroke Option	A mm [in]
L4	B, A, 2, 4	92 [3.62]
L6	C, 6	112 [4.41]

56H40-2 ACCESSORIES

Manual Pin Package | Single Shaft | Dimensions and Technical Specifications

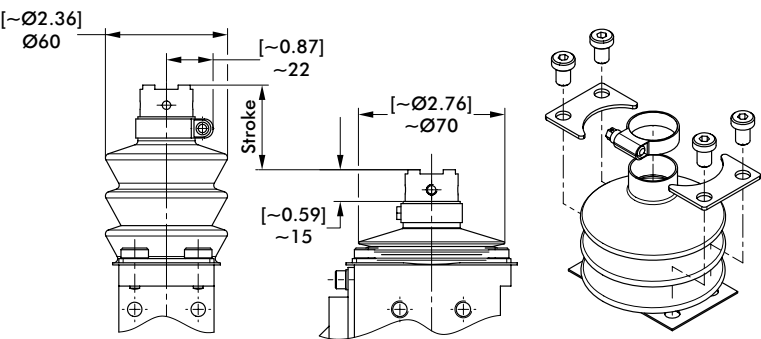
F1 Bellows (Piston Rod Cover)



Extended



Retracted

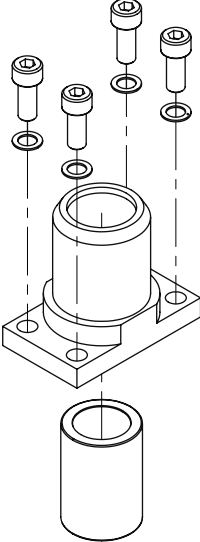
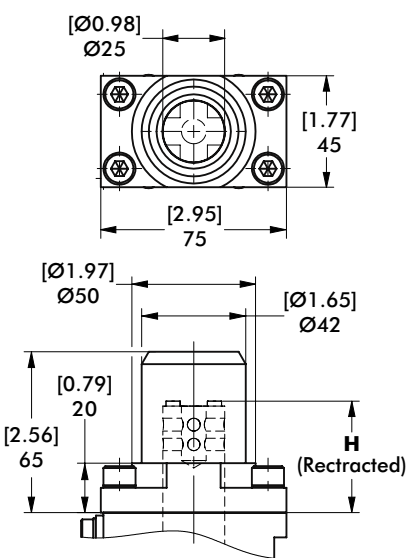
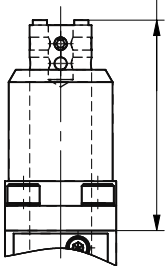


R1 Guide Bushing



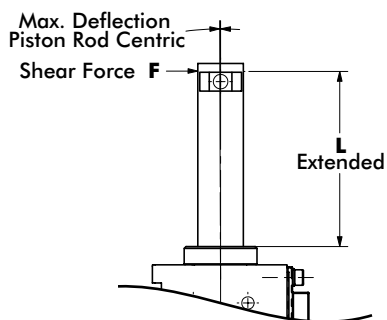
Piston Rod 05 Shown

STROKE
20/40/60/80
(Extended)



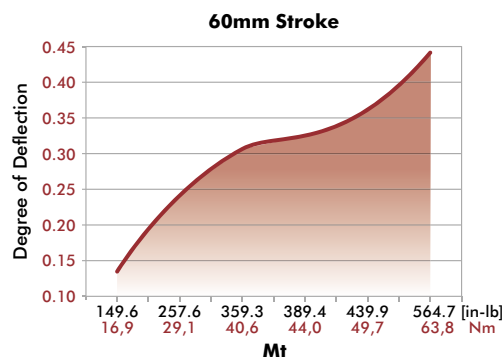
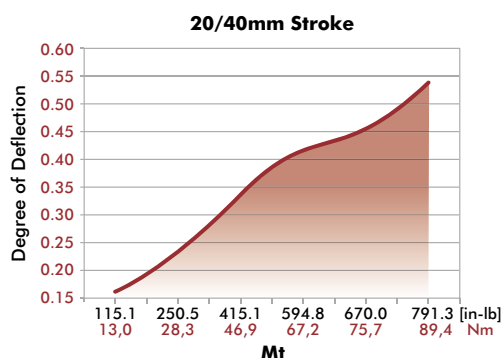
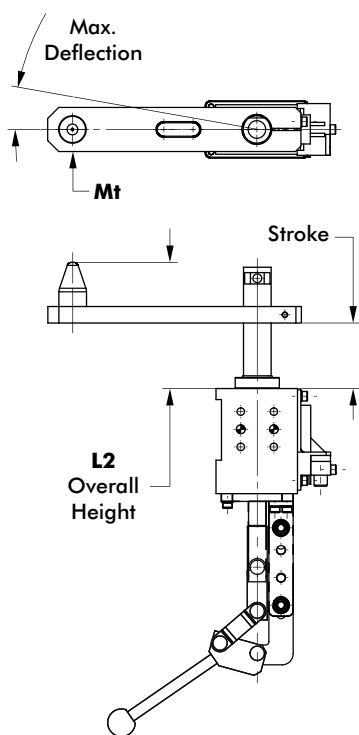
Model No.	Piston Rod Adapter	Stroke				
		H mm [in]	20 mm [in]	40 mm [in]	60 mm [in]	80 mm [in]
86P40-2...	01	22 [0.87]	42 [1.65]	62 [2.44]	82 [3.23]	102 [4.02]
86P60-2...	02	45 [1.77]	65 [2.56]	85 [3.35]	105 [4.13]	125 [4.92]
86P60H2...	03					
56H40-2...	05					

Maximum Deflection for Centering Pin



Model no.	Shear force N [lbs]	L mm [in]	Stroke mm [in]	Deflection mm [in]
56H40-2...B / 2	200 [45]	52 [2.05]	20 [0.79]	0,06 [0.002]
56H40-2...A / 4		70 [2.76]	40 [1.58]	0,09 [0.004]
56H40-2...C / 6		90 [3.54]	60 [2.36]	0,12 [0.005]

Caution: Generally we recommend using an external guide when the transverse force is more than 200 N [45 lbs]. Also independently of the stroke, less transverse forces, when the overall height L2 > 120 mm [4.7 in] (L2 = extended piston rod plus centering pin).



Caution: Generally we recommend using an external guide when the transverse force is more than 200 N [45 lbs]. Also independently of the stroke, less transverse forces, when the overall height L2 > 120 mm [4.7 in] (L2 = extended piston rod plus centering pin).

85P5-1

Pneumatic Pin Package | Single Shaft | Ordering Information

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

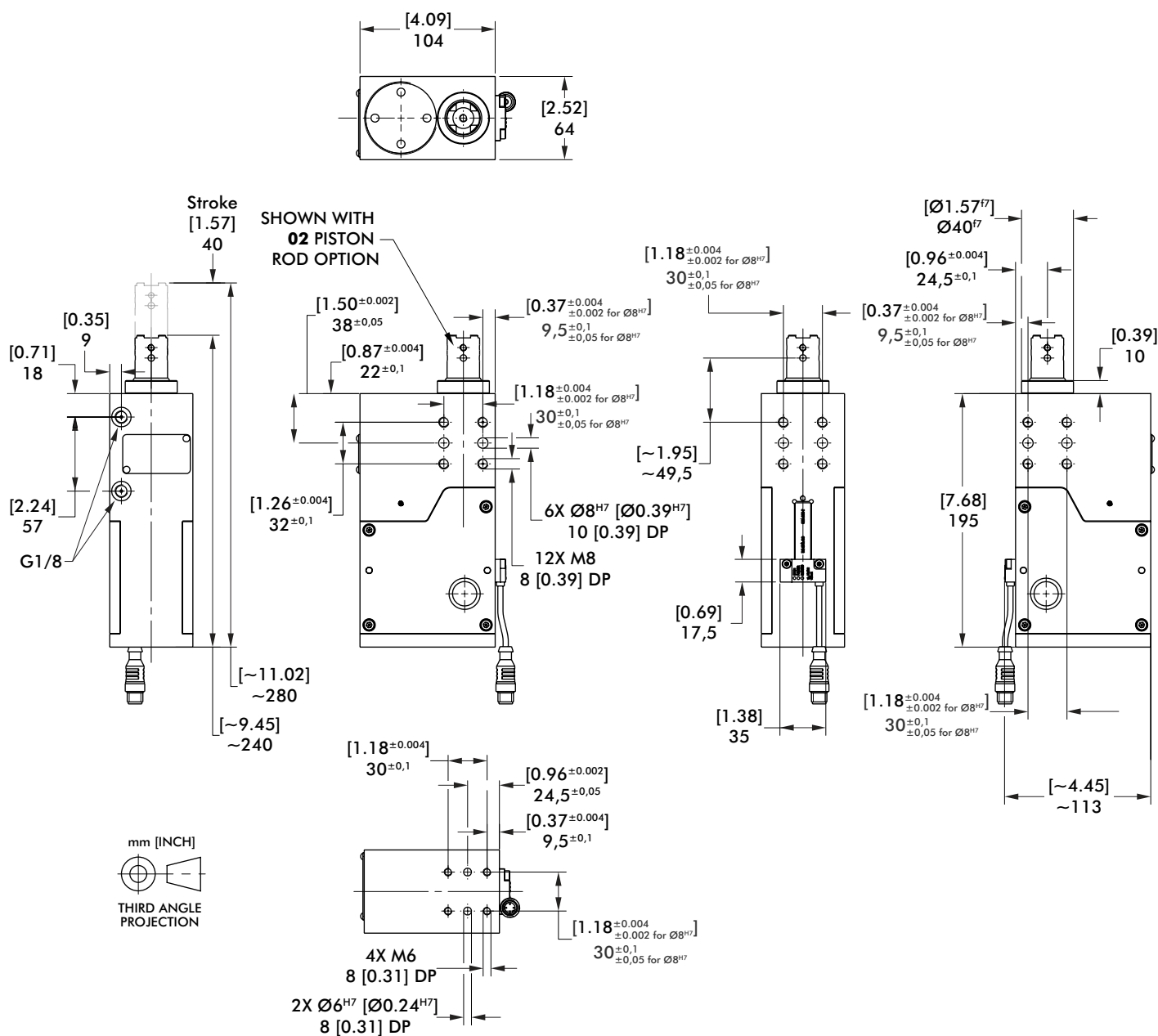
B8 Inductive Sensing System with M12x1
Cable Connector (8EA-033-2)



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.

Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications



Medium: Operation with oil free air is permissible

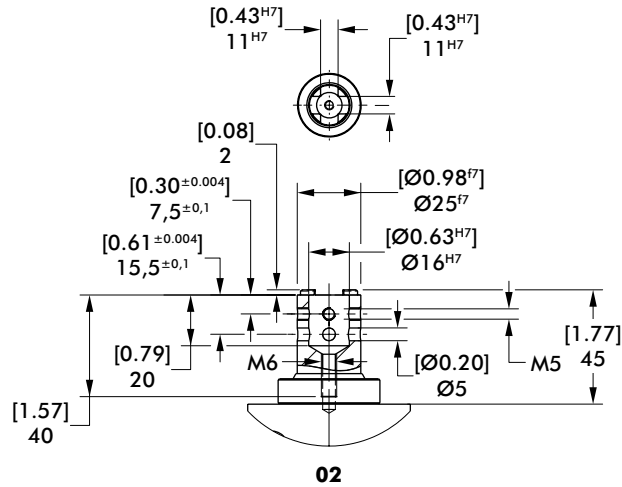
Note: Extracting force and retracting force shown in this chart are only available with the last 2 mm stroke at extracted position. In the other range of the stroke the forces will be approximately 30% of value in the chart.

Base Model	Stroke mm [in]	Pushing Force at 6 bar N [lbf]	Retraction Force at 6 bar N [lbf]	Holding Force at 6 bar N [lbf]	Max. Operating Pressure bar [psi]	Piston Ø mm [in]	Weight Kg [lbs]	Air consumption per double stroke at 5 bar dm³ [ft³]
85P5-1	40 [1.57]	2000 [449]	1000 [225]	5000 [1124]	6 [87]	50 [1.97]	3,8 [8.36]	1,1 [0.04]

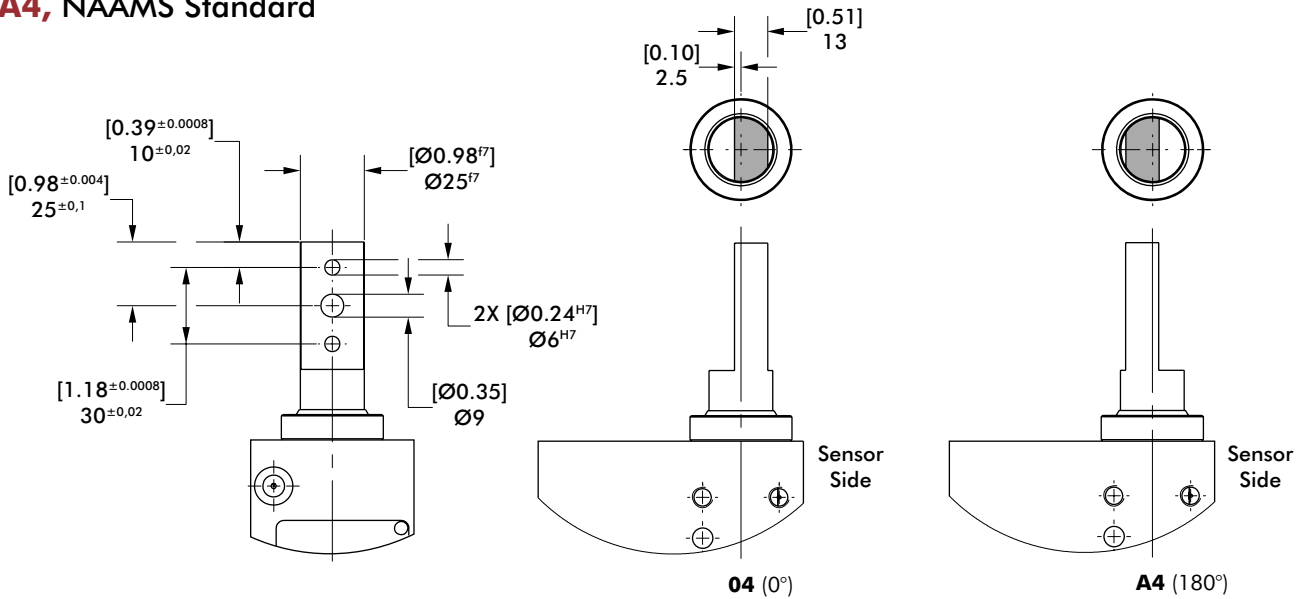
85P5-1 PISTON RODS

Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications

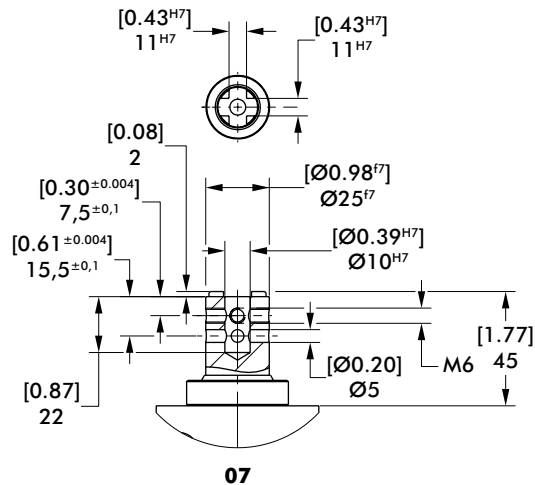
02 Ø16 mm M6 Threaded Inside Hole, Cross Groove



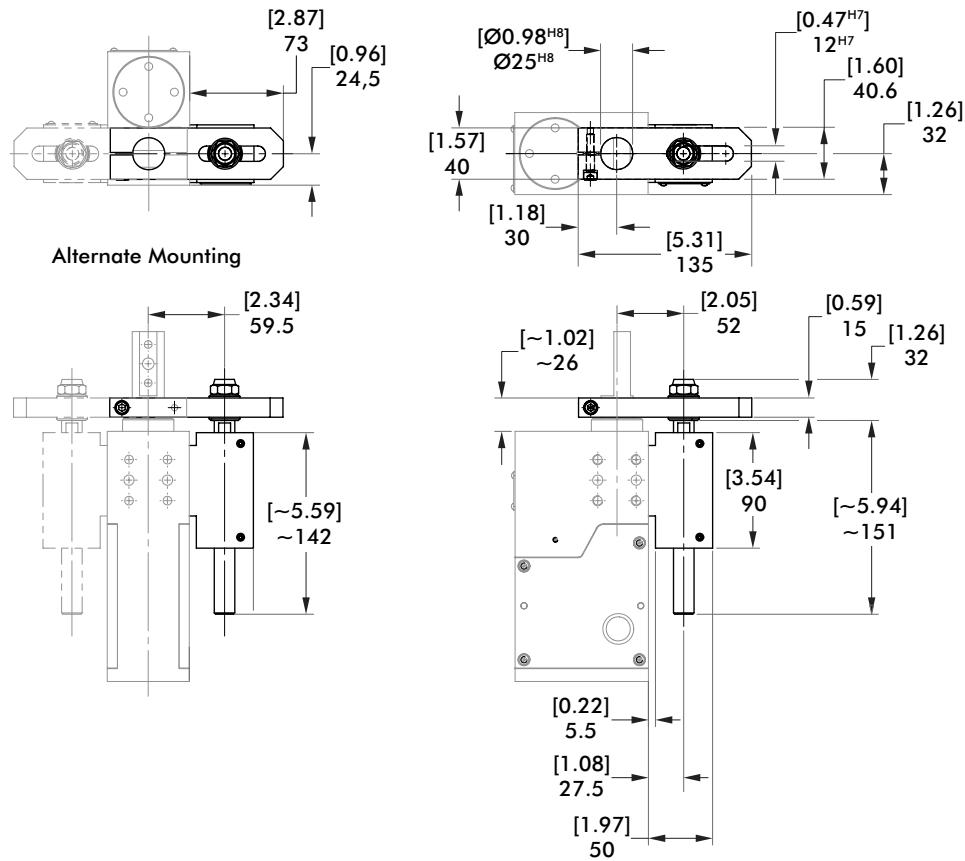
04, A4, NAAMS Standard



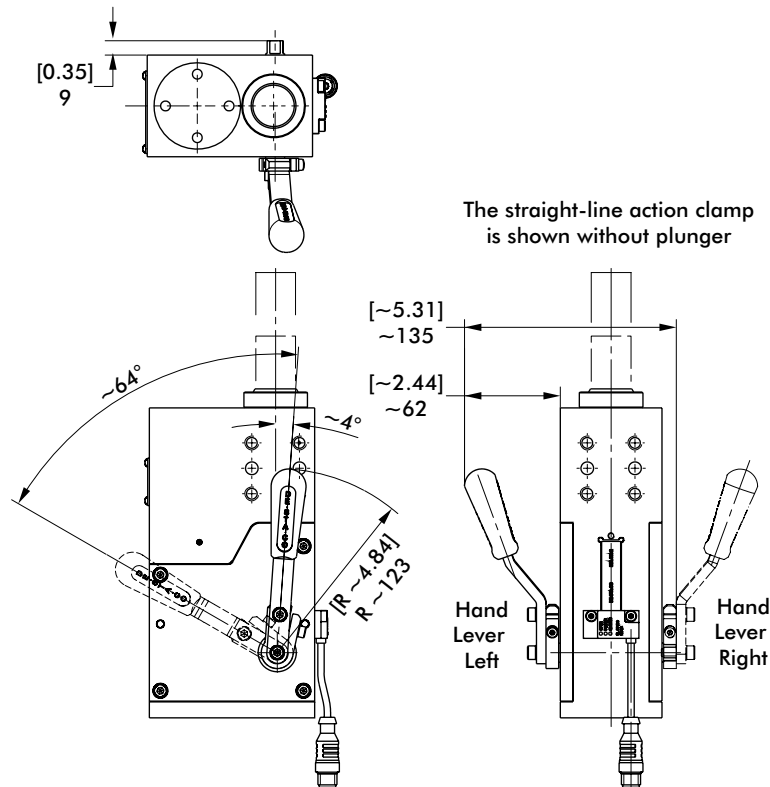
07 Ø16 mm Inside Hole, NAAMS



E1 External Guide



H Hand Lever



Model no.

85P5-1****00H0

Weight
kg [lb]

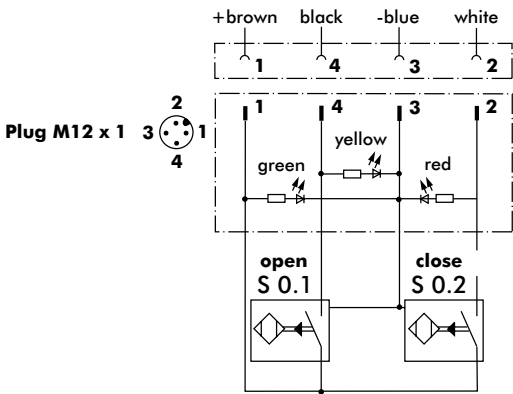
4 [8.82]

85P5-1

Pneumatic Pin Package | Single Shaft | Dimensions and Technical Specifications

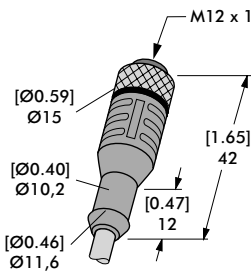
Inductive Sensor Wiring Diagram

Sensing system immune to interference from A.C./D.C. arc welding.

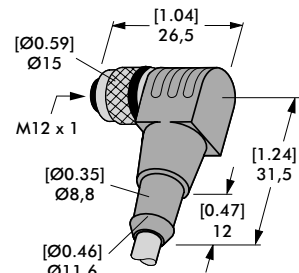


Sensor Accessories and Spare Parts

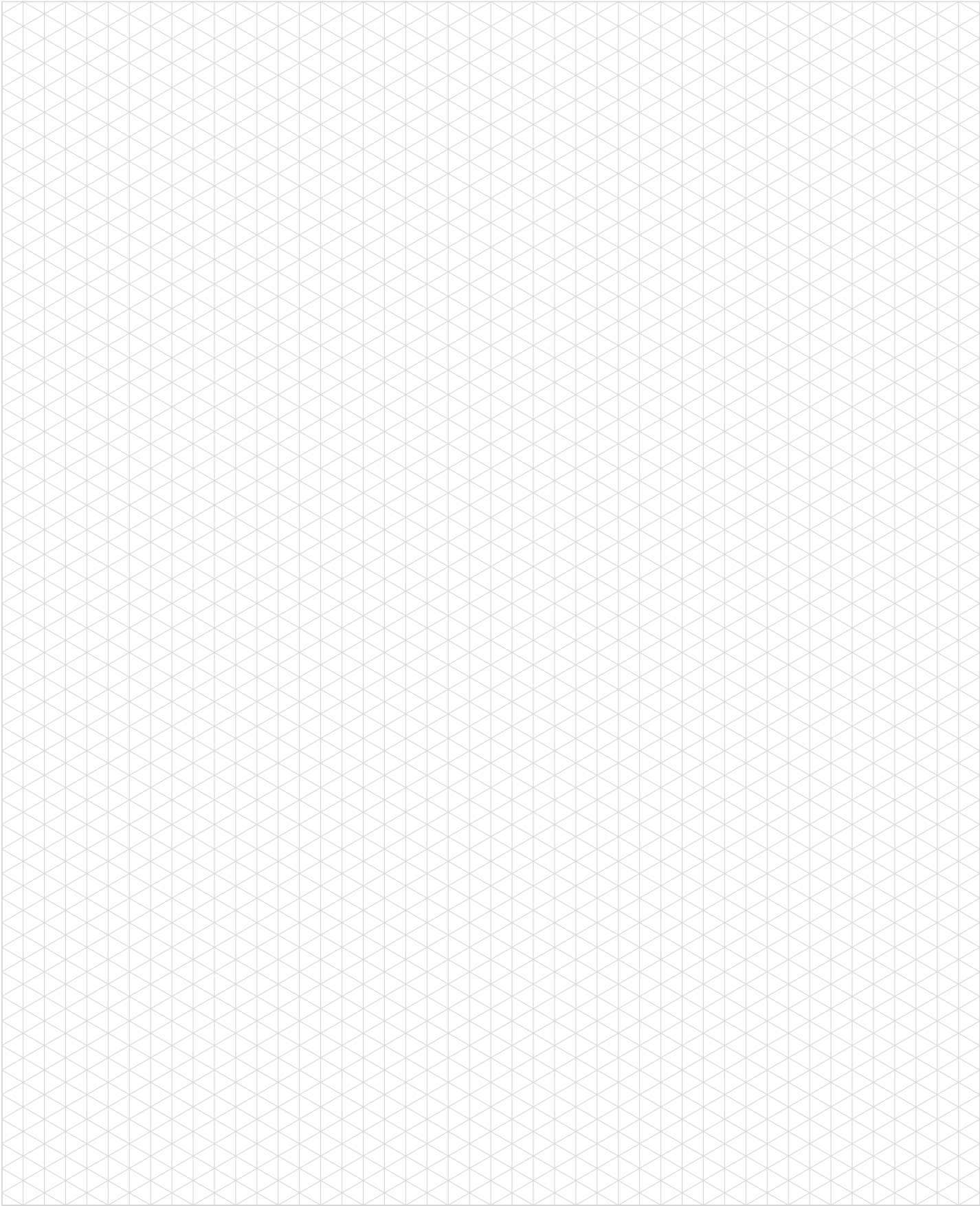
Description	Order no.
Sensor Cables (1 connector & 5 m cable)	
M12x1 connector, straight, 5-pin	8EL-002-1
M12x1 connector, 90° angular, 4-pin	8EL-003-1
Spare Parts	Order no.
Cylinder	8PW-105-1
Cylinder Seal Kit	8PW-105-1-00



Straight: 8EL-002-1



Angular: 8EL-003-1

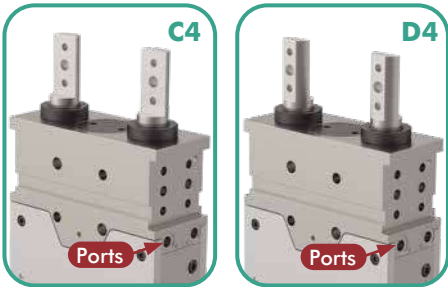


85D5-2

Pneumatic Pin Package | Dual Shaft | Ordering Information

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

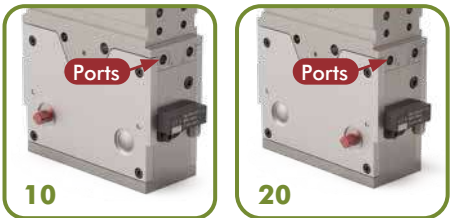
Piston Rod	Description
C4	NAAMS Standard
D4	NAAMS Standard Rotated 180°



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



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

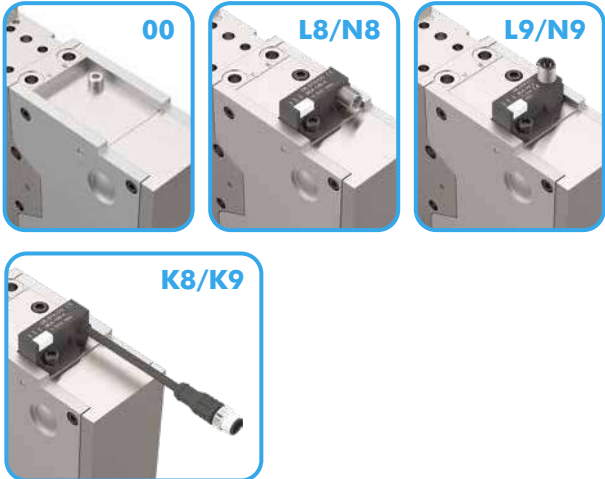


Sensor can be mounted on either side of unit by customer. Port side mounting shown.

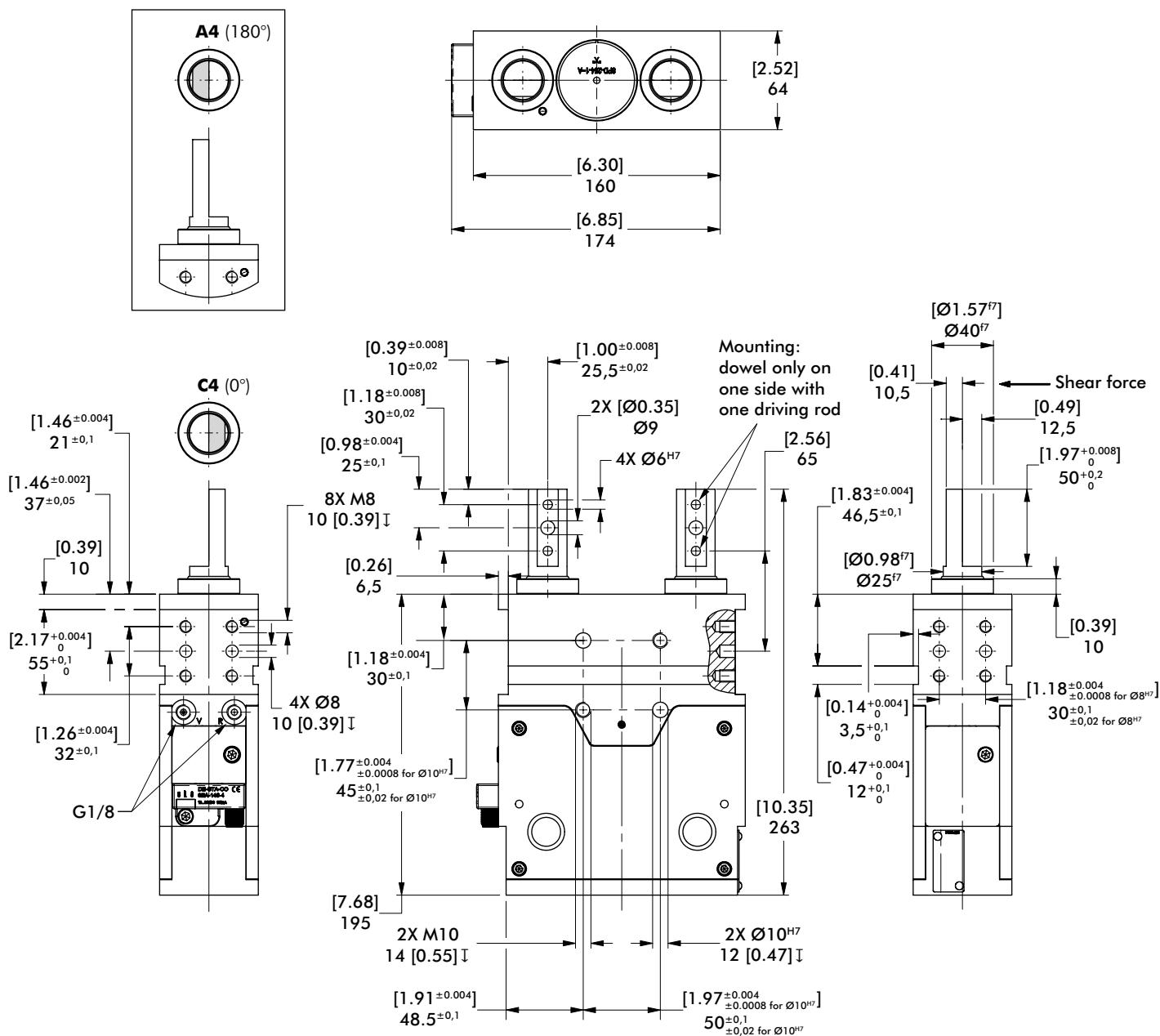
Shown with Hand Lever **H** Option. Hand Lever can be attached on either side of unit.



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.	



Pneumatic Pin Package | Dual Shaft | Dimensions and Technical Specifications



Medium: Operation with oil free air is permissible

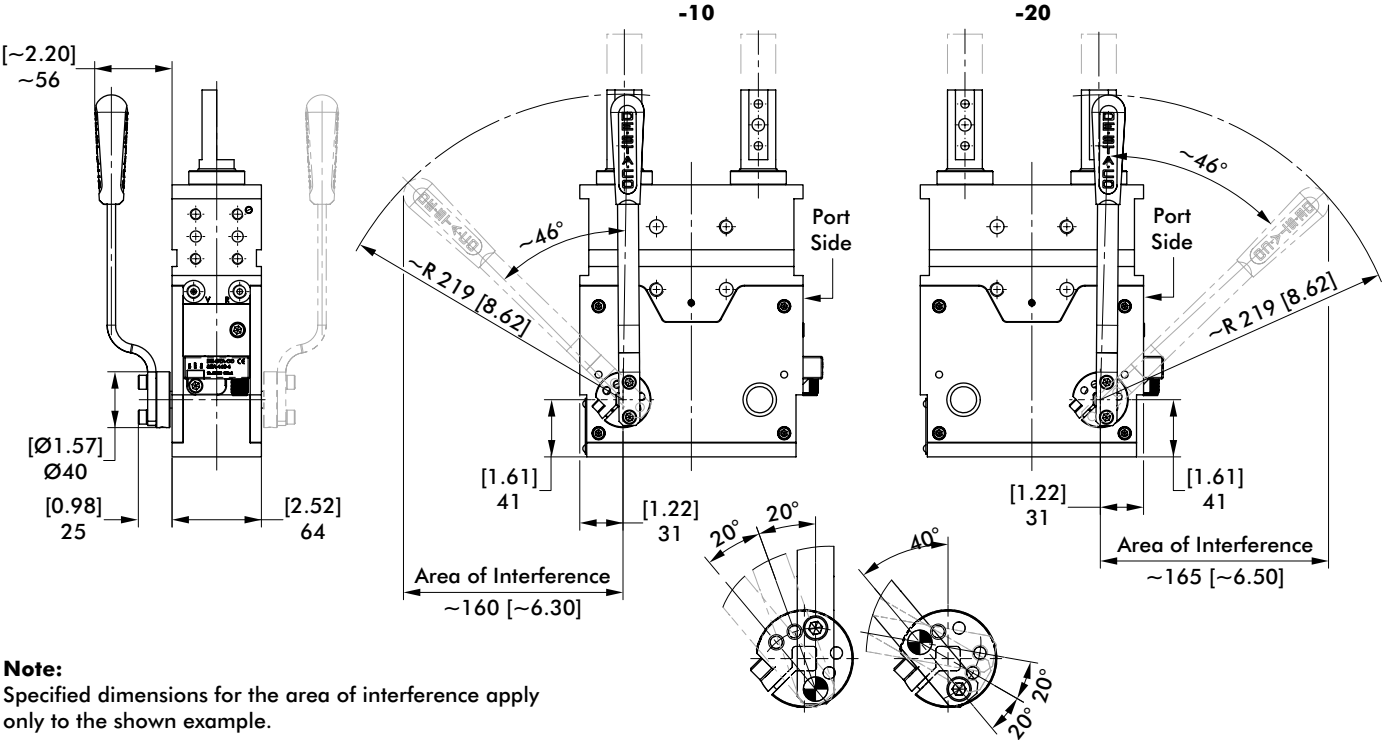
Note: Extracting force and retracting force shown in this chart are only available with the last 2 mm stroke at extracted position. In the other range of the stroke the forces will be approximately 30% of value in the chart.

Base Model	Stroke mm [in]	Pushing Force at 6 bar N [lbf]	Retraction Force at 6 bar N [lbf]	Holding Force at 6 bar N [lbf]	Max. Operating Pressure bar [psi]	Piston Ø mm [in]	Weight Kg [lbs]	Air consumption per double stroke at 5 bar dm³ [ft³]
85D5-2	40 [1.57]	3500 [787]	2300 [517]	5000 [1124]	6 [87]	50 [1.97]	7,8 [17.20]	1,1 [0.04]

85D5-2 OPTIONS

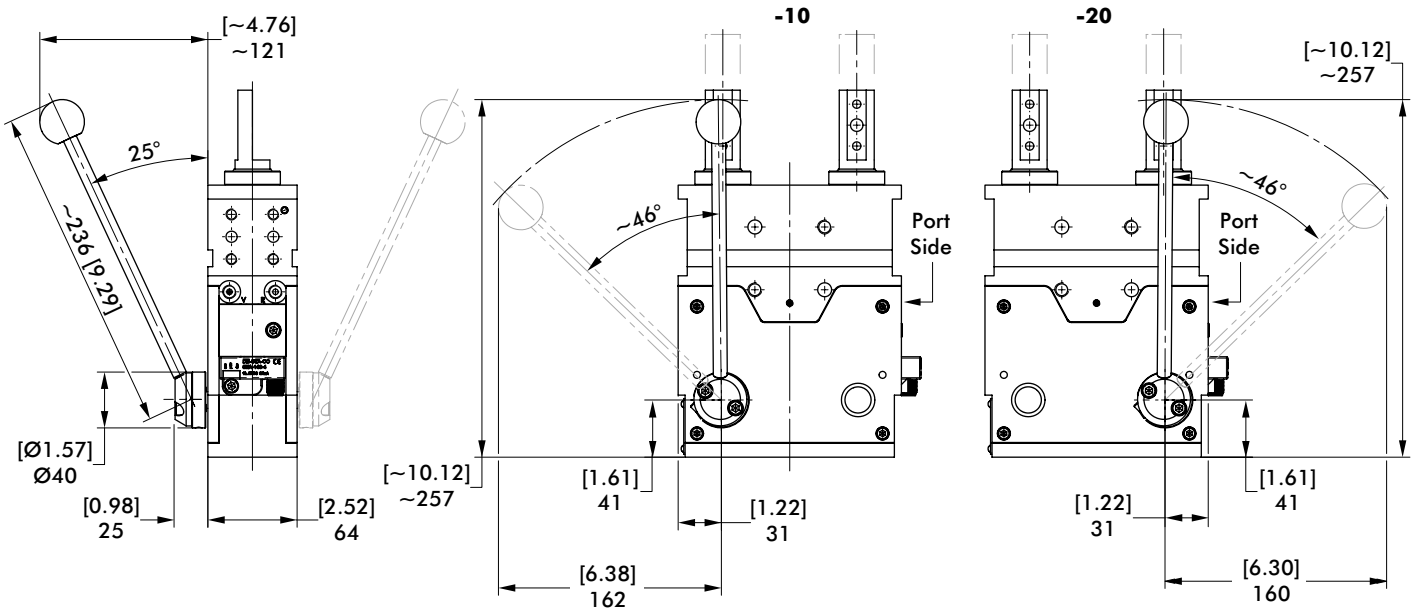
Pneumatic Pin Package | Dual Shaft | Dimensions and Technical Specifications

H0 Standard Hand Lever



Model no.	Weight kg [lb]
85D5-2*****H04	8,3 [18.29]

H0 Weldable Hand Lever

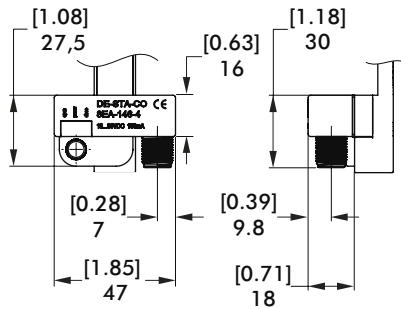


Model no.	Weight kg [lb]
85D5-2*****H54	8,3 [18.29]

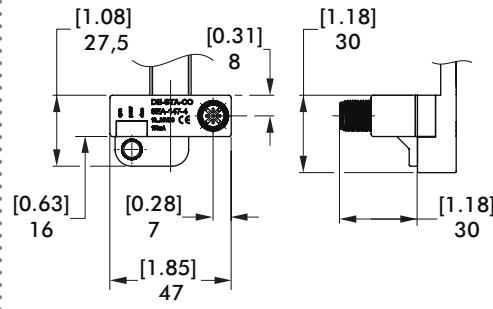
85D5-2 SENSORS

Pneumatic Pin Package | Dual Shaft | Dimensions and Technical Specifications

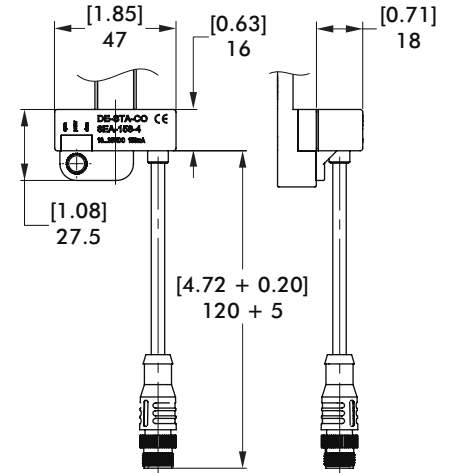
L8, N8 Inductive Sensing System



L9, N9 Inductive Sensing System with 90° Connector

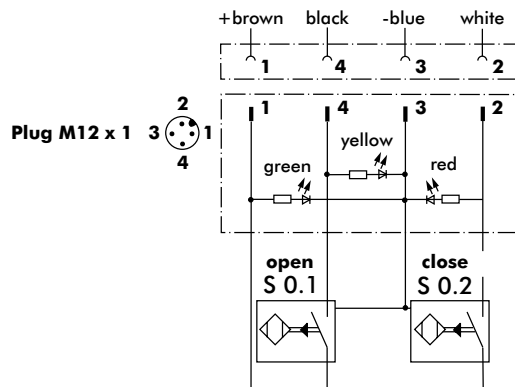


K8, K9 Inductive Sensing System with Pigtail Connector



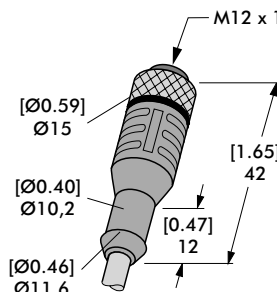
Inductive Sensor Wiring Diagram

Sensing system immune to interference from AC / DC arc welding.

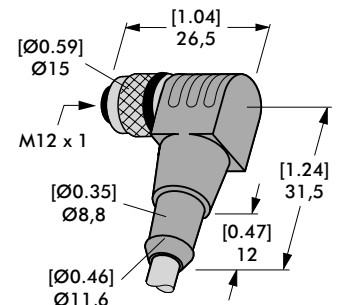


Sensor Cable Accessories

Sensor Cables (1 connector & 5m cable)	Order no.
M12x1 connector, straight, 5-pin	8EL-002-1
M12x1 connector, 90° angular, 4-pin	8EL-003-1



Straight Cable
8EL-002-1



Angular Cable
8EL-003-1

86D40/86D60

Pneumatic Pin Package | Dual Shaft | Ordering Information

Base Model Description

86D40 40 mm Cylinder (G1/8 Port)

86D60 63 mm Cylinder (G1/4 Port)

Plunger Description

K Ceramic Option for Piston Rod

Hand Lever Description

-1 No Hand Lever

H1 Handle for Manual Control (86D60 only)

Accessories Description

00 No Accessories

01 Locking Device for Retracted Position. Mountable on both sides (H1 only) (86D60H1000001)

Piston Rod Description

04 NAAMS Standard

A4 NAAMS Standard Rotated 180°

11 Dual Bolt Mounting (86D40-1 Only)

Stroke for 86D40

B 20 mm Stroke (86D40-1000000B)

A 40 mm Stroke (86D40-1000000A)

Stroke for 86D60

B 20 mm Stroke (86D0-1000000B)

A 40 mm Stroke (86D0-1000000A)

C 60 mm Stroke (86D0-1000000C)



04



A4



11



B



A



C

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.



L4



D8



L6



D8



86D40-1

Stroke Option: **A, B**

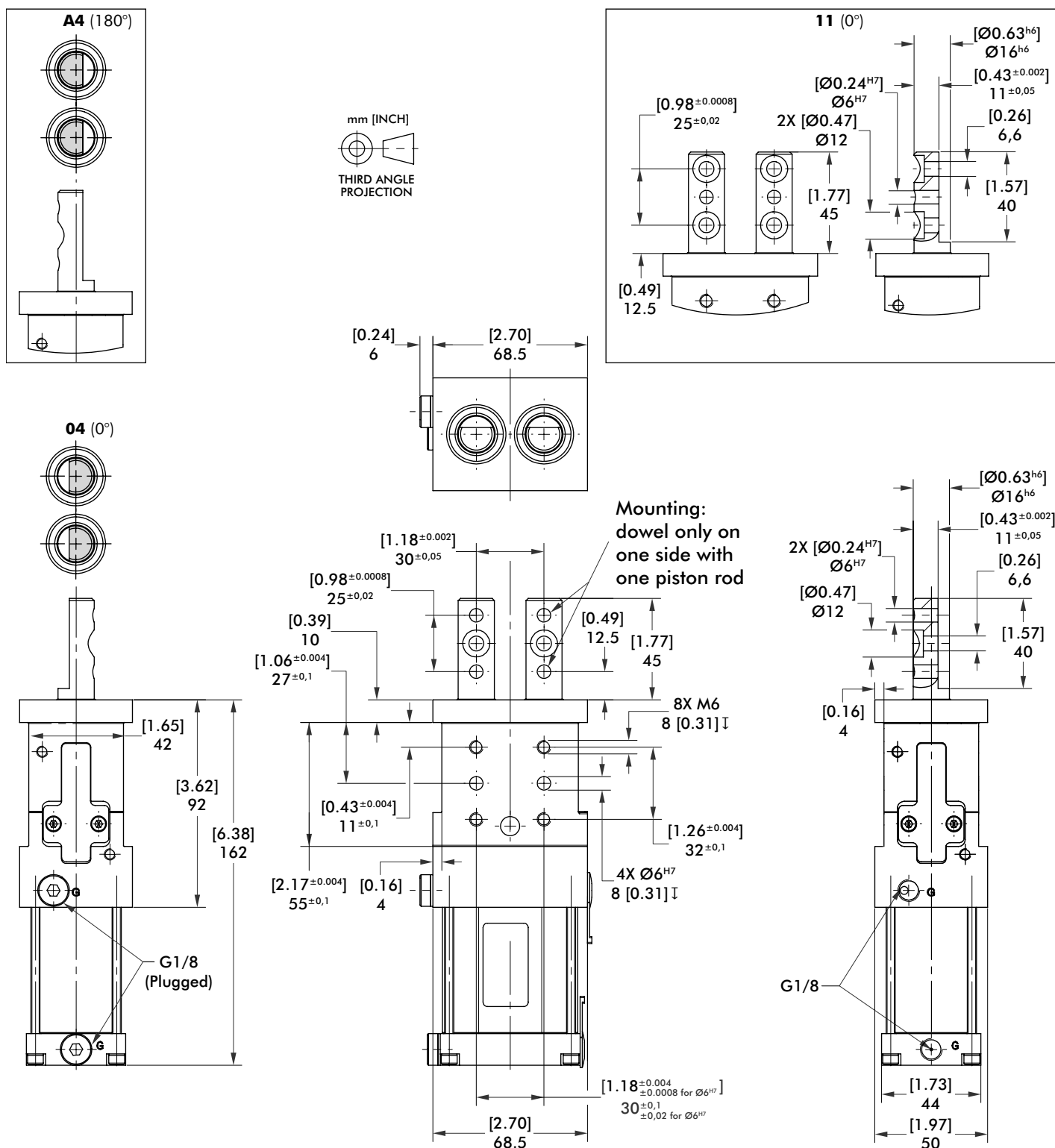


86D60-1

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

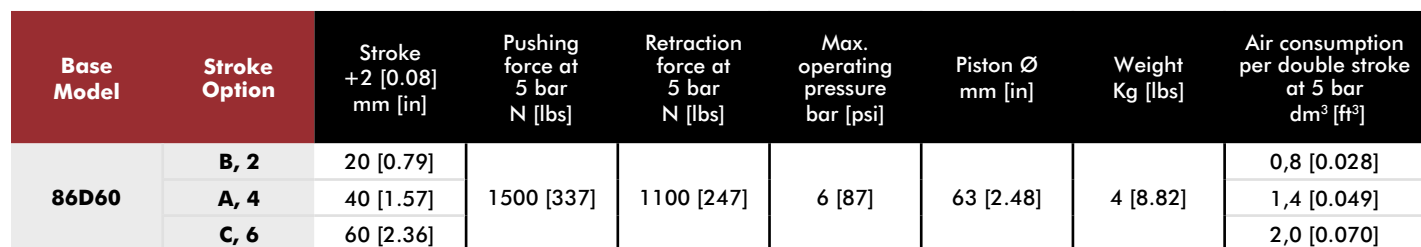
86D40 shown with sensor mounted on opposite side of unit.

Pneumatic Pin Package | Dual Shaft | Dimensions and Technical Specifications



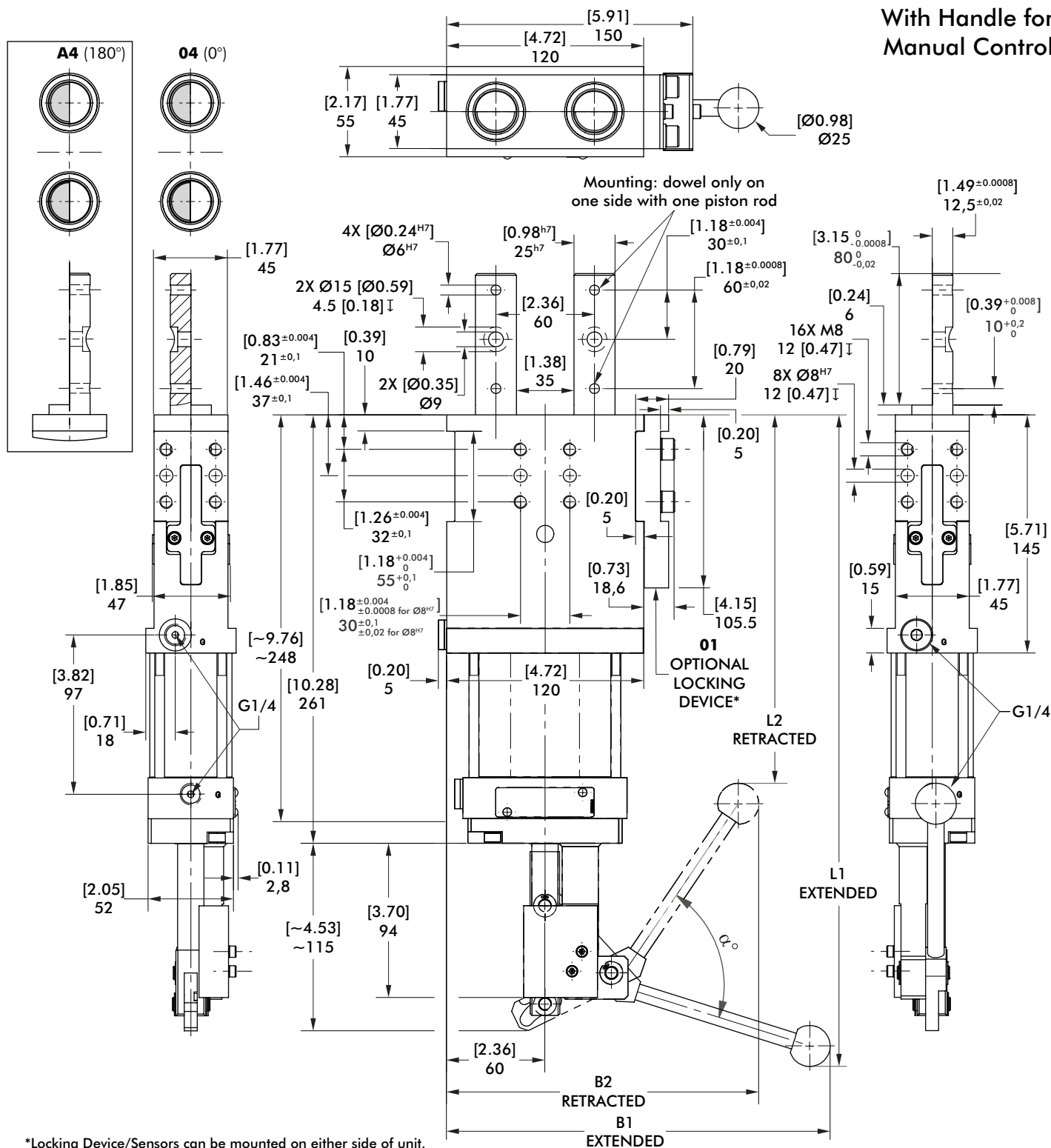
Base Model	Stroke +2 [0.08] mm [in]	Pushing Force at 5 bar N [lbf]	Retraction Force at 5 bar N [lbf]	Max. Operating Pressure bar [psi]	Piston Ø mm [in]	Weight Kg [lbs]	Air consumption per double stroke at 5 bar dm³ [ft³]
86D40-1.....A	40 [1.57]	700 [157]	600 [135]	6 [87]	40 [1.57]	1,5 [3.31]	0,75 [0.03]
86D40-1.....B	20 [0.79]						0,47 [0.02]

Pneumatic Pin Package | Dual Shaft | Dimensions and Technical Specifications



Pneumatic Pin Package | Dual Shaft | Dimensions and Technical Specifications

With Handle for Manual Control



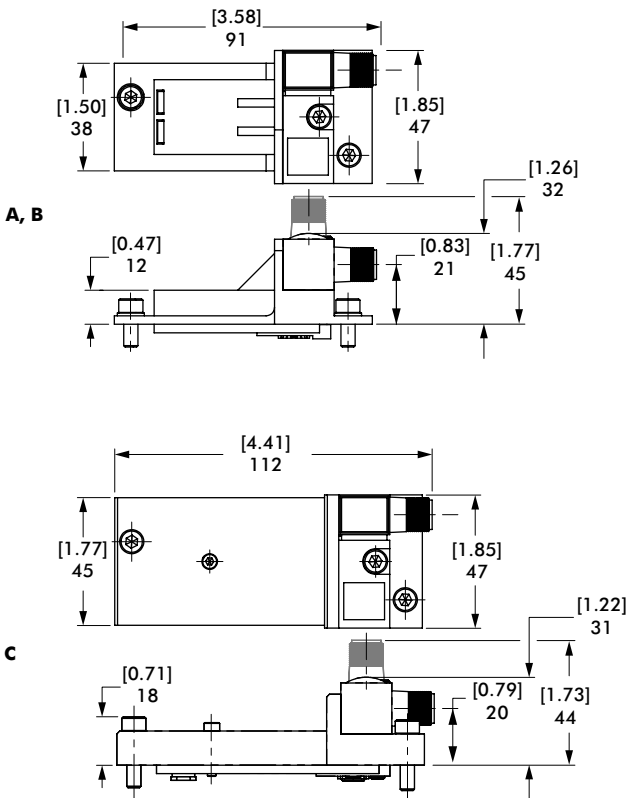
*Locking Device/Sensors can be mounted on either side of unit.

Base Model	Stroke Option	Stroke +2 [0.08] mm [in]	~B1 (extended) mm [in]	~B2 (retracted) mm [in]	~L1 (extended) mm [in]	~L2 (retracted) mm [in]	Opening Angle α	Weight Kg [lbs]
86D60H1	B, 2	20 [0.79]	242 [9.53]		351 [13.82]		52.6°	5,78 [12.74]
	A, 4	40 [1.57]	228 [8.98]	190 [7.48]	295 [11.61]	224.5 [8.84]	26.5°	5,79 [12.76]
	C, 6	60 [2.36]	234 [9.21]		397 [15.63]		73.3°	5,76 [12.69]

86D40/86D60 SENSORS

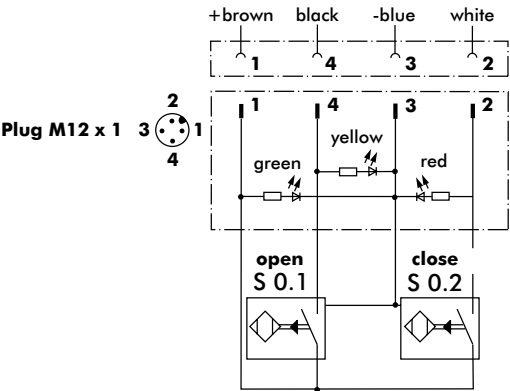
Pneumatic Pin Package | Dual Shaft | Dimensions and Technical Specifications

D8 Inductive Sensing System with 90° Swivel Connector

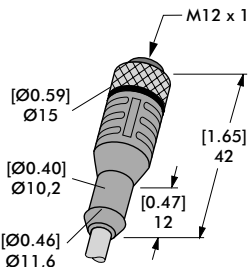


Inductive Sensor Wiring Diagram

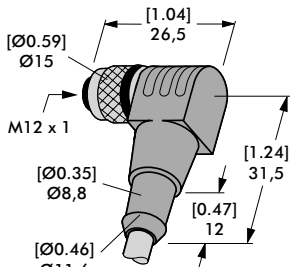
Sensing system immune to interference from AC / DC arc welding.



Sensor Cable Accessories

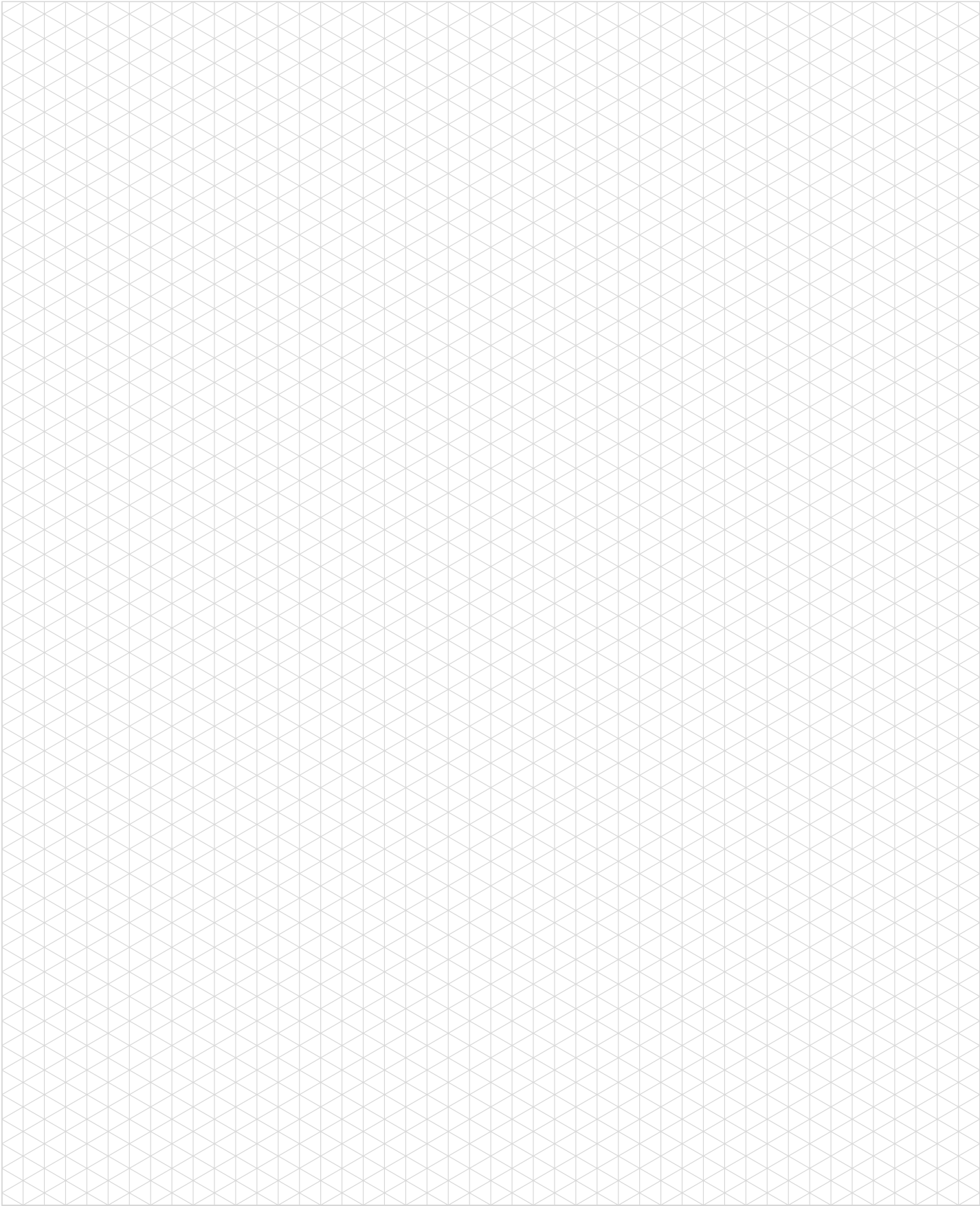


Straight: 8EL-002-1



Angular: 8EL-003-1

Sensor Cables (1 connector & 5m cable)	Order no.
M12x1 connector, straight, 5-pin	8EL-002-1
M12x1 connector, 90° angular, 4-pin	8EL-003-1



56D60-1

Manual Pin Package | Dual Shaft | Ordering Information

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°

04

A4

Accessories

Description

00

No Accessories

01

Locking Device for Retracted Position. Mountable on both sides (86D60H1000001)

01

Stroke

Description

B

20 mm Stroke (86D0-1000000B)

A

40 mm Stroke (86D0-1000000A)

C

60 mm Stroke (86D0-1000000C)

B

A

C

Sensor*

Description

L6

Cover Plate (86D0-100L6)

D8

with 90° M12x1 Swivel Connector (86D0-100D8)

*Sensors can be mounted on opposite side by customer.

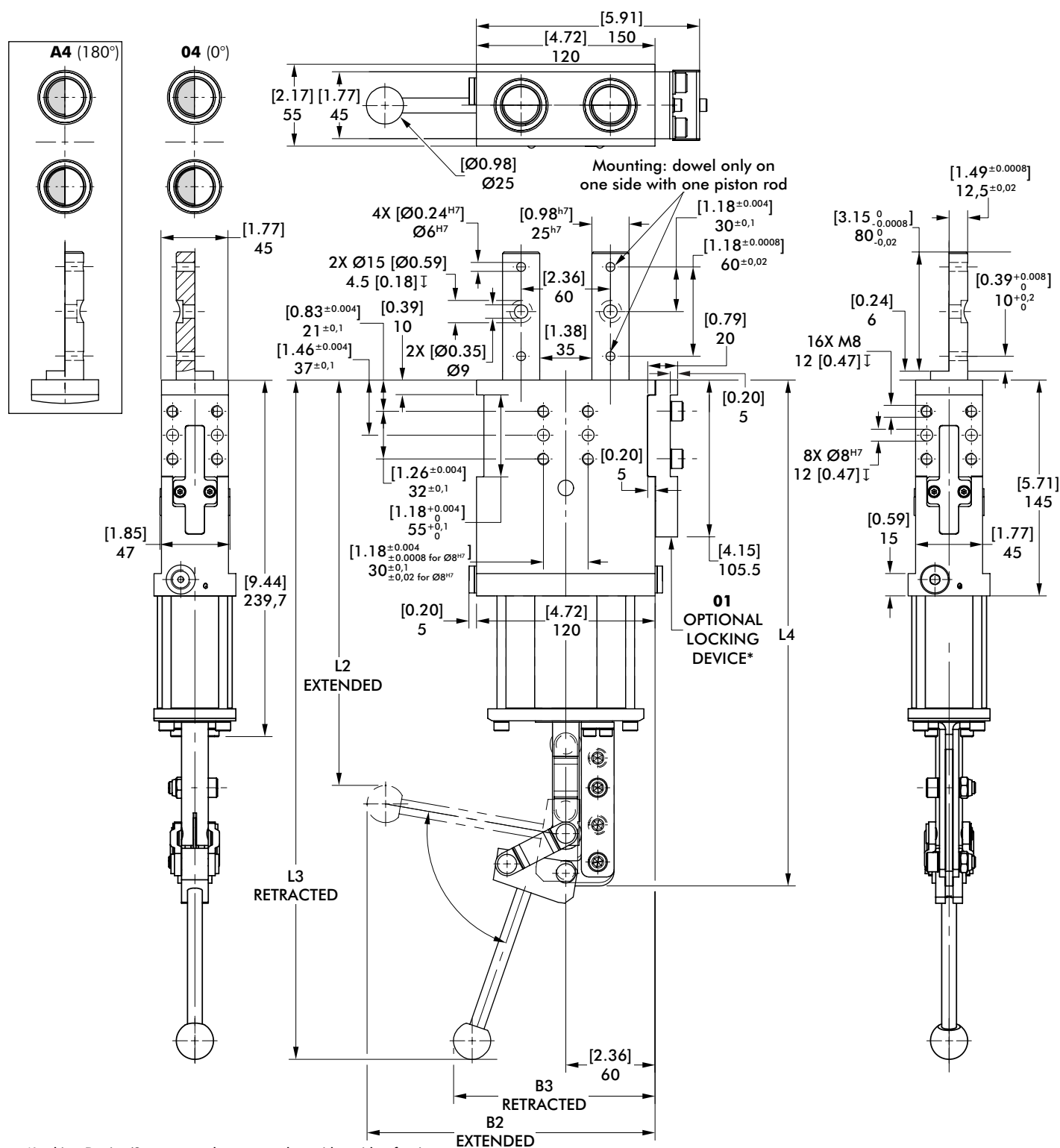
L6

D8

56D60-1

Stroke Option: A, B, C

Manual Pin Package | Dual Shaft | Dimensions and Technical Specifications



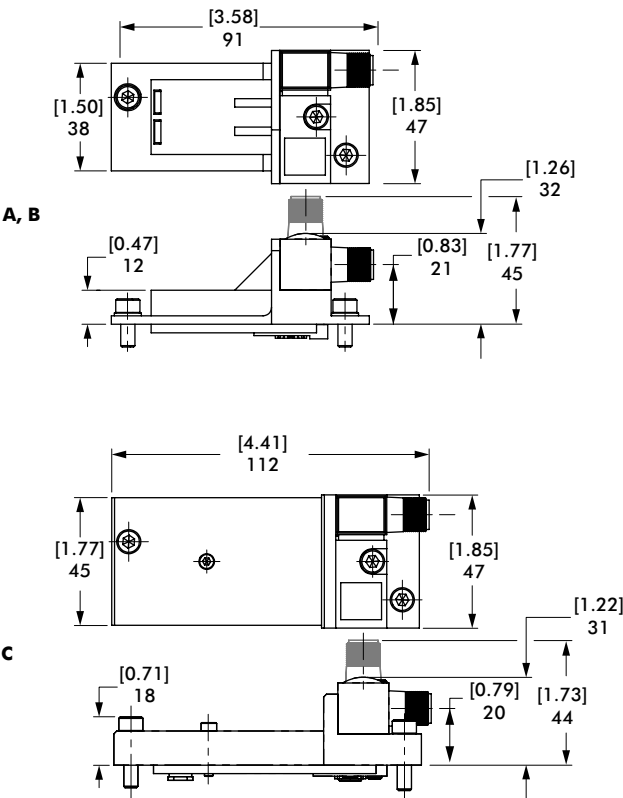
*Locking Device/Sensors can be mounted on either side of unit.

Base Model	Stroke Option	Stroke +2 [0.08] mm [in]	~B2 (extended) mm [in]	~B3 (retracted) mm [in]	~L2 (extended) mm [in]	~L3 (retracted) mm [in]	~L4	Opening Angle α	Weight Kg [lbs]
56D60H1	B	20 [0.79]	193 [7.60]	167 [6.57]	290 [11.42]	450 [17.72]	358 [14.09]	63.3°	5,78 [12.74]
	A	40 [1.57]	196 [7.72]	191 [7.52]	319 [12.56]	432 [17.01]	378 [14.88]	43°	5,79 [12.76]
	C	60 [2.36]	194 [7.64]	136 [5.35]	273 [10.75]	457 [17.99]	340 [13.39]	80.9°	5,76 [12.69]

56D60-1 SENSORS

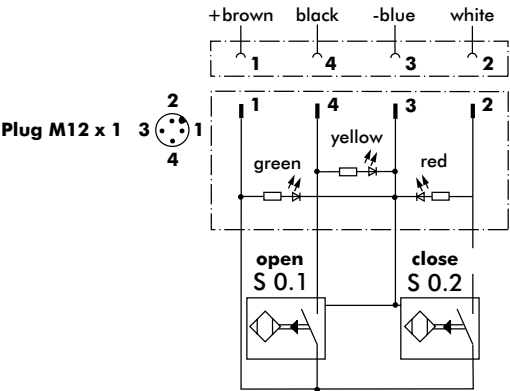
Manual Pin Package | Dual Shaft | Dimensions and Technical Specifications

D8 Inductive Sensing System with 90° Swivel Connector

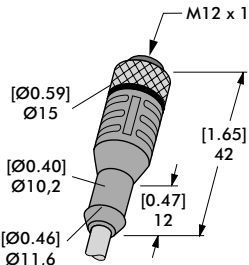


Inductive Sensor Wiring Diagram

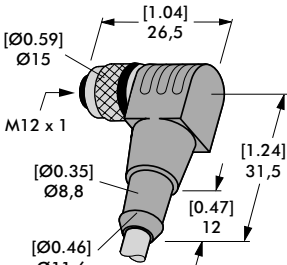
Sensing system immune to interference from AC / DC arc welding.



Sensor Cable Accessories



Straight: 8EL-002-1



Angular: 8EL-003-1

Sensor Cables (1 connector & 5m cable)	Order no.
M12x1 connector, straight, 5-pin	8EL-002-1
M12x1 connector, 90° angular, 4-pin	8EL-003-1



RCM/RFM

Pneumatic Pivot Units | Ordering Information

Base

RCM

RFM

Description

Standard

Integrated Braking

RCM125-V/LS-PX-P-N-X

125

.2

129

V/LS

PX

P

N

X

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	V	V/LS
N/A				15°			
29°				30°			
45°				43°			
61°				61°			
77°				76°			
92°	N/A	92°		91°	N/A	91°	
104°	N/A	104°		107°	N/A	107°	
121°	N/A	121°		N/A		129°	

Saddle Orientation

O

V

O/LS

V/LS

Horizontal

Vertical

Inverted Horizontal

Inverted Vertical

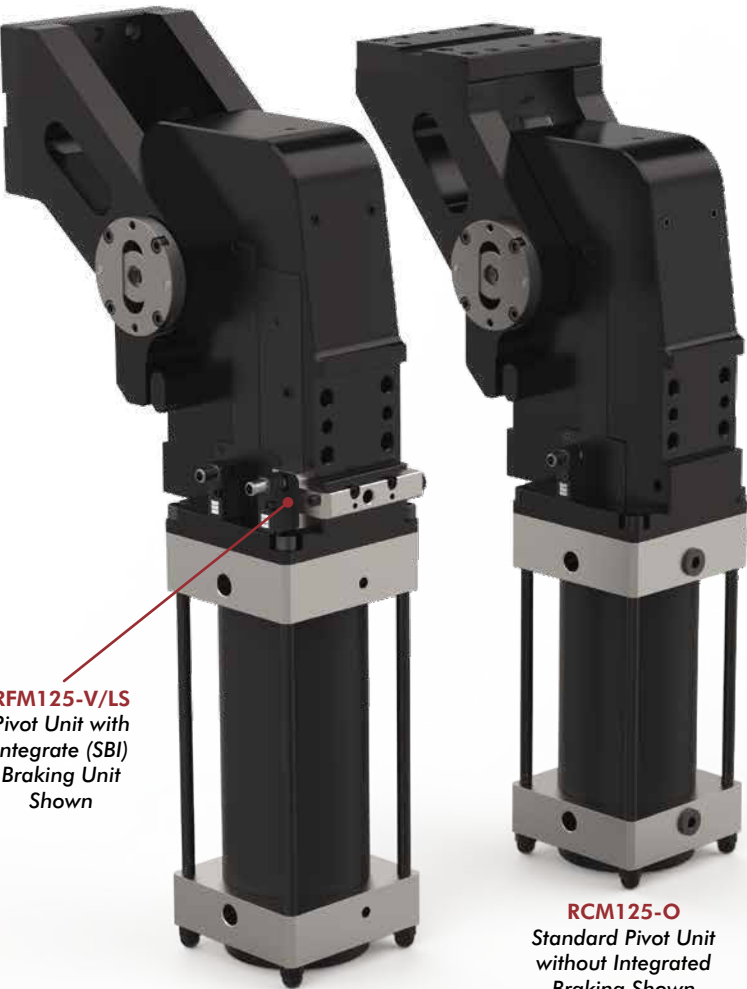
O

O/LS

V

V/LS

Opening angles are easily field adjustable.



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

RCM125-O
Standard Pivot Unit
without Integrated
Braking Shown

RCM Series



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

RFM Series

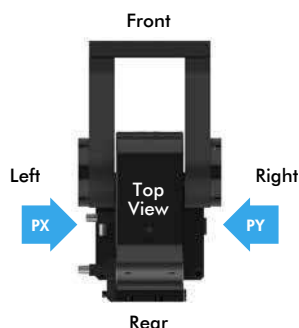


RFM100-V RFM125-V RFM160-V RFM200-V

Ports	Description
N	NPT Ports
G	G Port

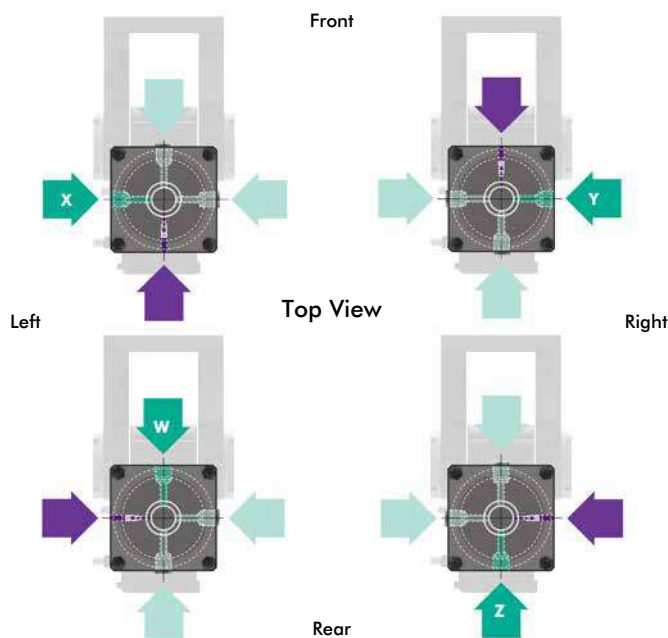
Proximity Switch Type	Description
O	No Proximity Switch
P	Pepperl+Fuchs Proximity Switch

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



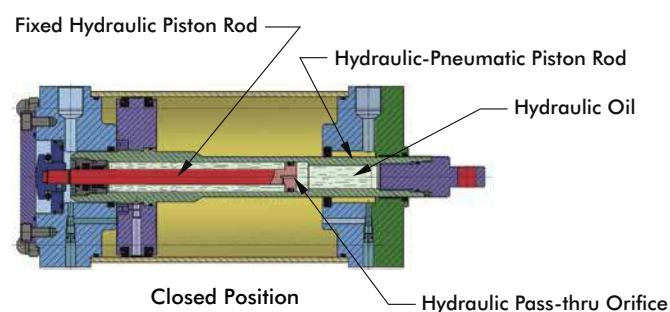
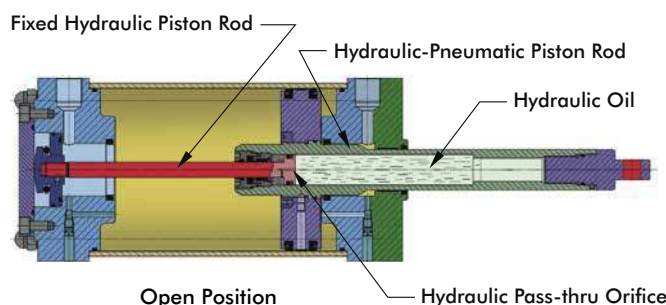
Cylinder Orientation	Description
X	Left-Facing Airport
Y	Right-Facing Airport
W	Front-Facing Airport
Z	Rear-Facing Airport

Air Port
Air Ports Plugged
Cushion Adjustment



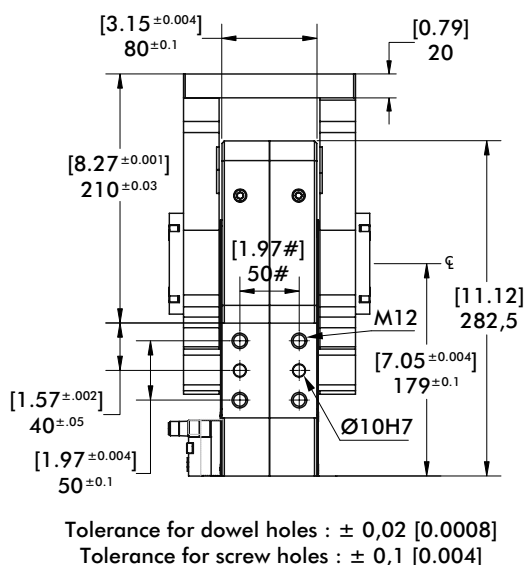
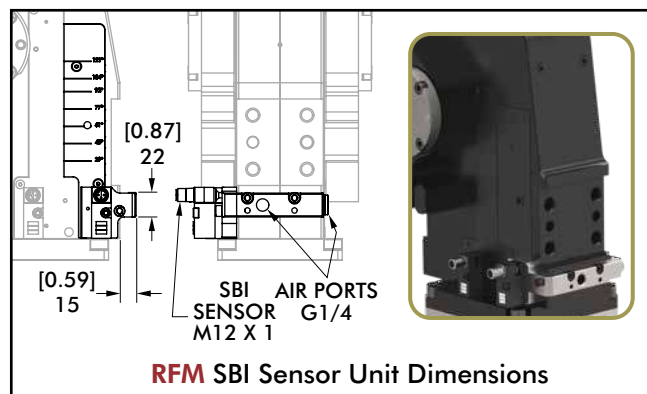
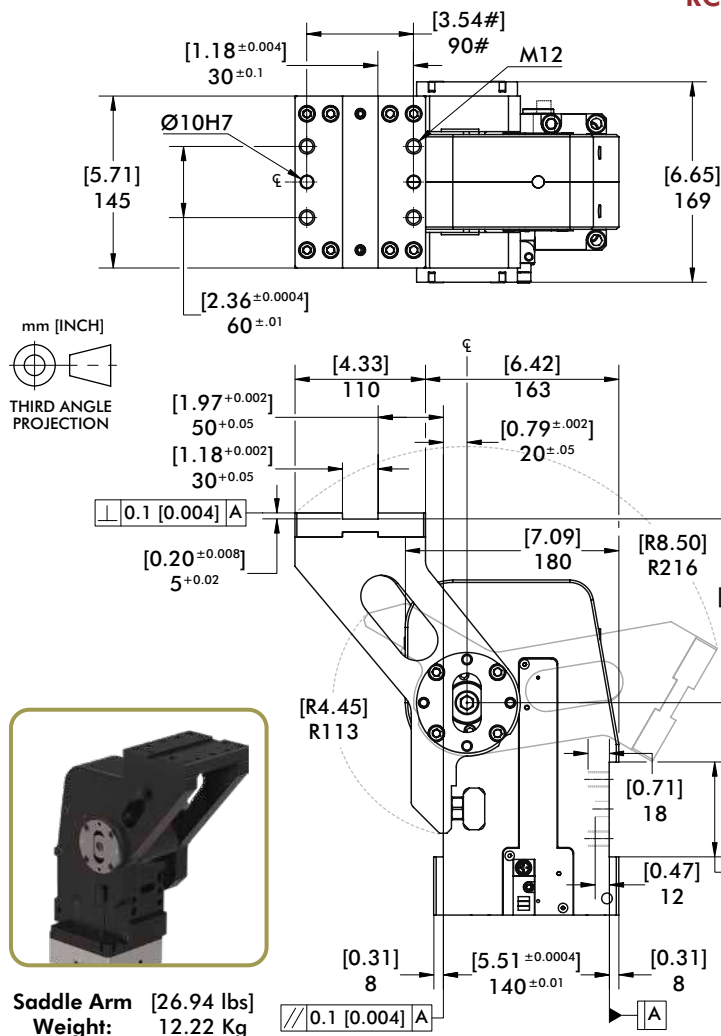
Cylinder Operating Principle

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.

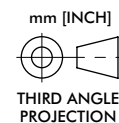
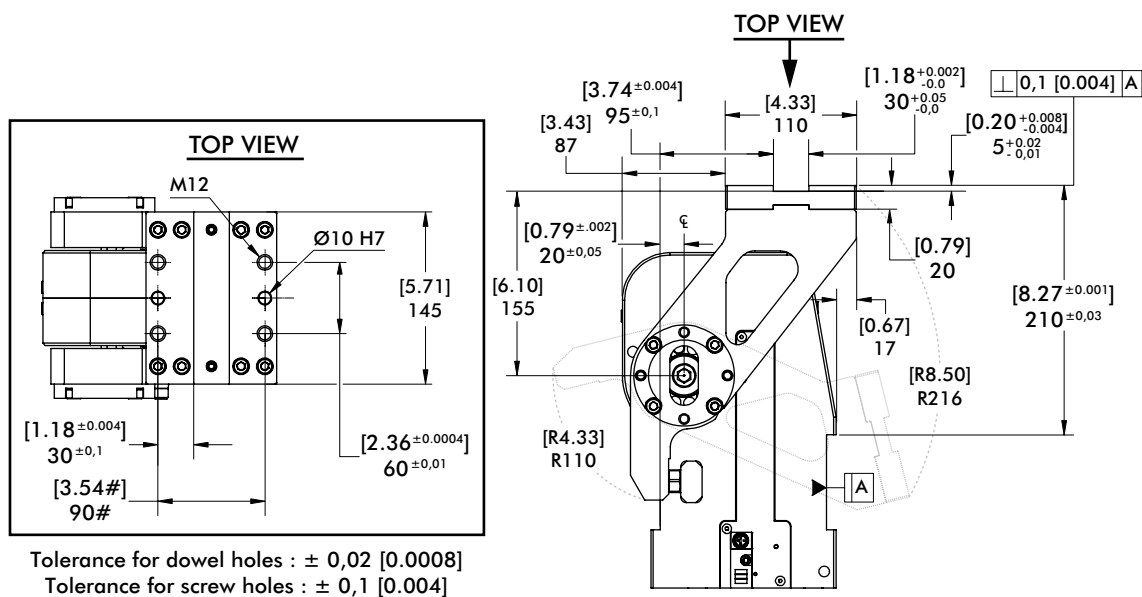


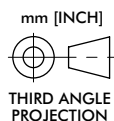
Specifications	Units	100	125	160	200
Max Torque by Load [5 bar] Opening Angle $\leq 92^\circ$	Nm [ft-lbs]	150 [111]	240 [171]	410 [302]	660 [487]
Max Torque by Load [5 bar] Opening Angle $> 92^\circ / \leq 121^\circ$	Nm [ft-lbs]	110 [81]	180 [133]	300 [221]	480 [354]
Max Torque by Load [5 bar] Opening 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]

RCM/RFM100 Horizontal "O" Orientation Pivot Dimensions



RCM/RFM100 Horizontal "O/LS" Orientation Pivot Dimensions

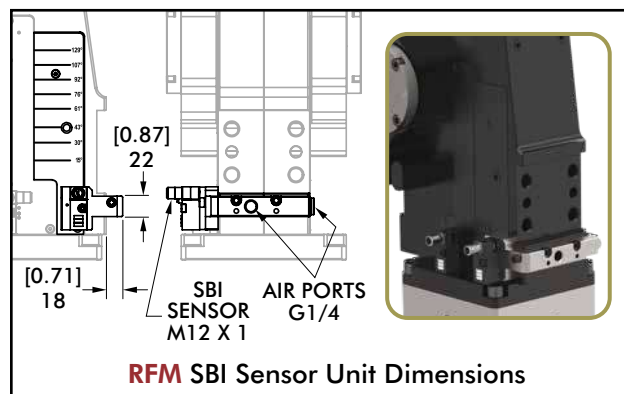




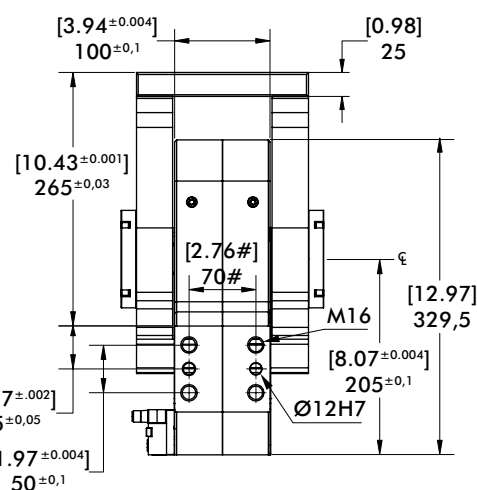
Arm [55.34 lbs]
[25.08 kg]

Technical drawing of the Arm assembly showing dimensions and tolerances:

- [3.15^{+0.002}] 80^{+0,05}
- [1.18^{+0.002}] 30^{+0,05}
- [0.1 [0.004] A]
- [0.20^{±0.008}] 5^{+0,02}
- [5.91] 150
- [8.66] 220
- [0.98^{±0.002}] 25^{±0,05}
- [9.25] 235
- [R10.87] R276
- [7.48] 190
- [R4.80] R122
- [0.79] 20
- [0.63] 16
- [3.54] 90
- [0.39] 10
- [7.09^{±0.0004}] 180^{±0,01}
- [0.39] 10
- [0.1 [0.004] A]
- [A]



RFM SBI Sensor Unit Dimensions



Tolerance for dowel holes : $\pm 0,02$ [0.0008]
Tolerance for screw holes : $\pm 0,1$ [0.004]

TOP VIEW

M16

Ø12 H7

[7.09]

180

[1.77±0.004]

45±0,1

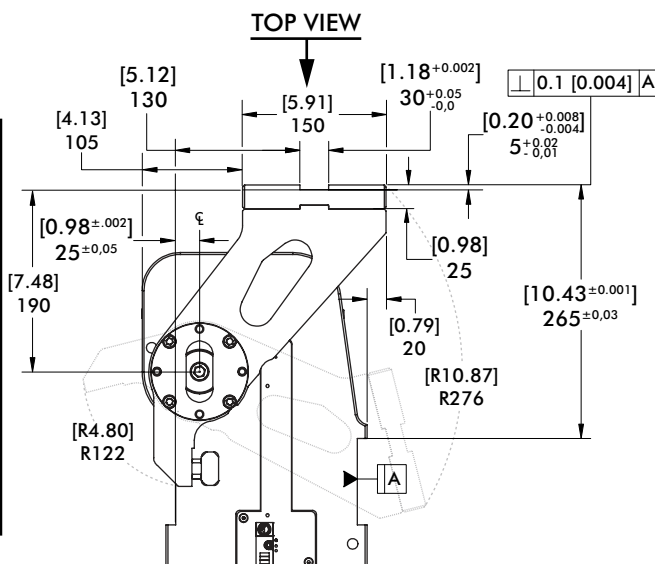
[4.72#]

120#

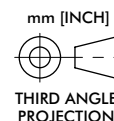
[3.15±0.0004]

80±0,01

Tolerance for dowel holes : $\pm 0,02$ [0.0008]
Tolerance for screw holes : $\pm 0,1$ [0.004]

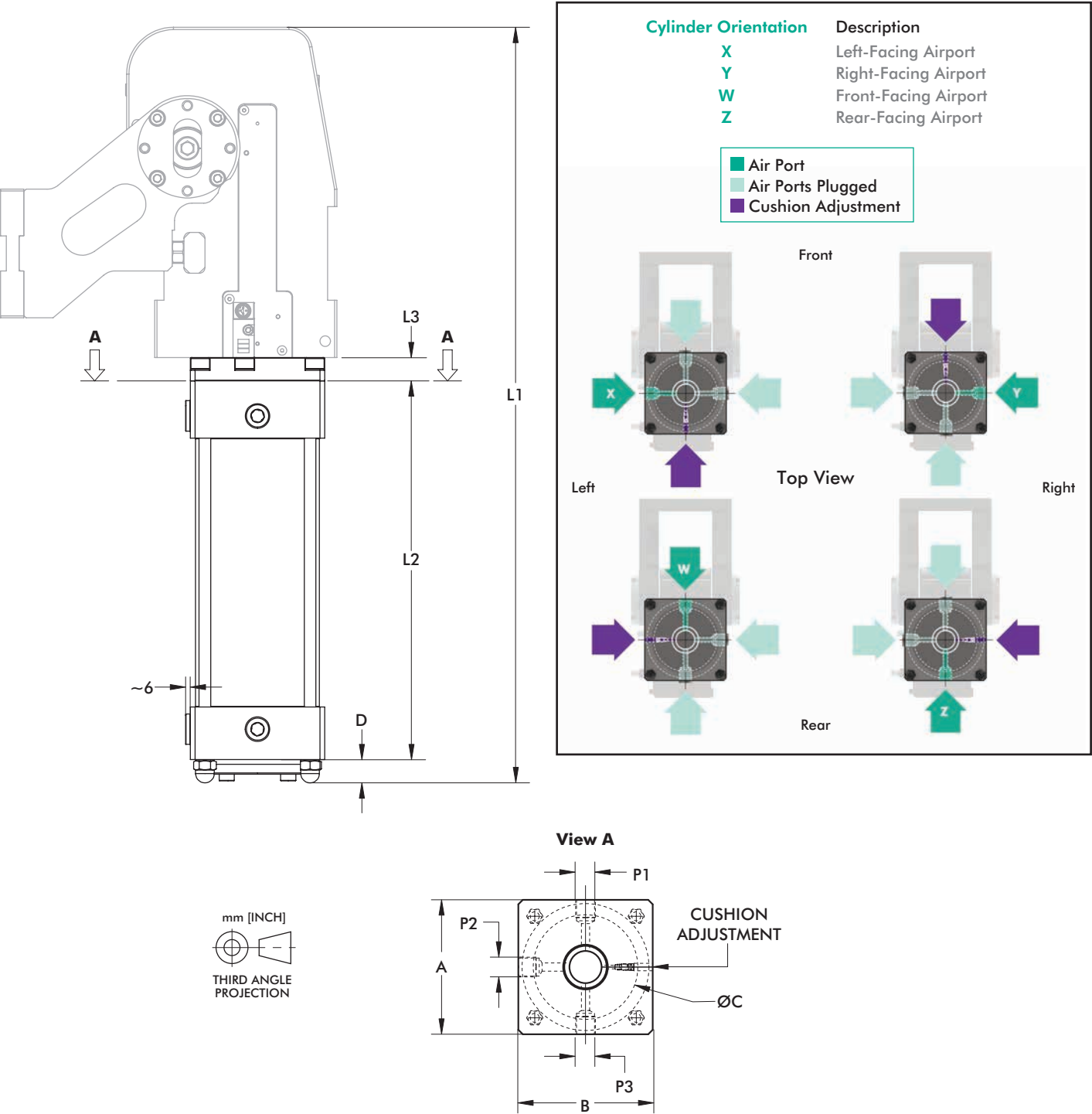


Saddle Arm Weight: [54.39 lbs]
24.67 Kg



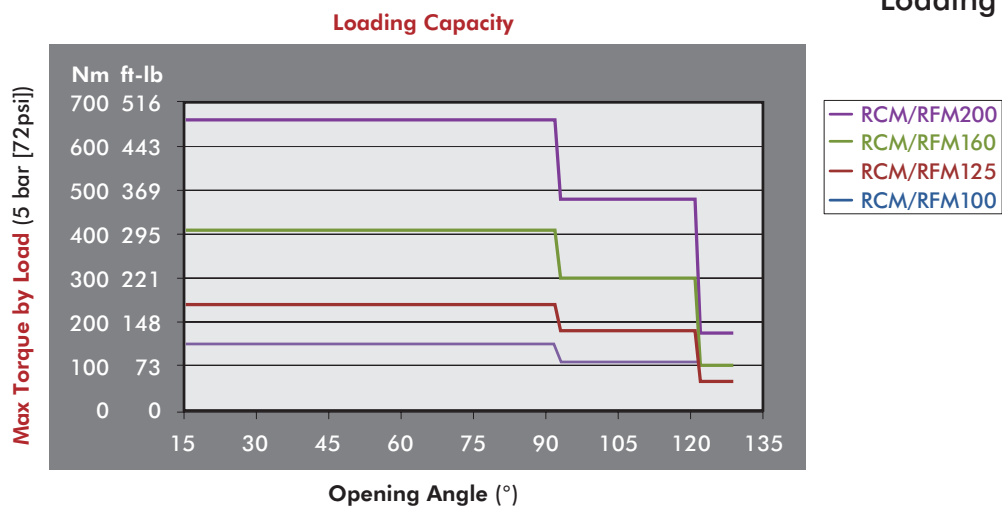
RCM/RFM

Pneumatic Pivot Units | Cylinder Dimensions



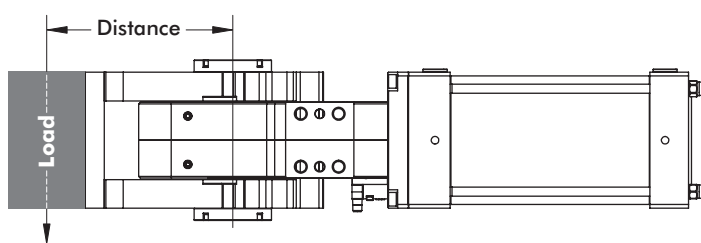
For Models	A	B	C	D	L1	L2	L3	P1-P3
RCM/RFM100.2	[4.53] 115	[4.53] 115	[3.94] 100	[0.75] 19	[25.41] 645,5	[12.76] 324	[0.79] 20	[1/2NPT] G1/2
RCM/RFM125.2	[6.30] 160	[6.30] 160	[4.92] 125	[0.91] 23	[29.17] 741	[14.35] 364,5	[0.94] 24	
RCM/RFM160.2	[7.09] 180	[7.09] 180	[6.30] 160		[29.55] 750,5	[14.59] 370,5	[1.08] 27,5	[3/4NPT] G3/4
RCM/RFM200.2	[8.66] 220	[8.66] 220	[7.87] 200	[0.75] 19	[29.70] 754,5	[14.82] 376,5	[1.16] 29,5	

Loading Capacity



Model	Max. Torque by Load Nm [ft-lb]								
	Opening Angle ≤ 92°			Opening Angle > 92° / ≤ 121°			Opening Angle > 121°		
	4 bar [58 psi]	5 bar [72 psi]	6 bar [87 psi]	4 bar [58 psi]	5 bar [72 psi]	6 bar [87 psi]	4 bar [58 psi]	5 bar [72 psi]	6 bar [87 psi]
RCM/RFM100.2	120 [89]	150 [111]	190 [140]	90 [66]	110 [81]	130 [96]	45 [33]	55 [41]	65 [48]
RCM/RFM125.2	180 [133]	240 [177]	290 [214]	140 [103]	180 [133]	210 [155]	55 [41]	65 [48]	80 [59]
RCM/RFM160.2	320 [236]	410 [302]	500 [369]	260 [192]	300 [221]	360 [266]	85 [63]	100 [74]	125 [92]
RCM/RFM200.2	510 [376]	660 [487]	800 [590]	380 [280]	480 [354]	570 [420]	130 [96]	175 [129]	210 [155]

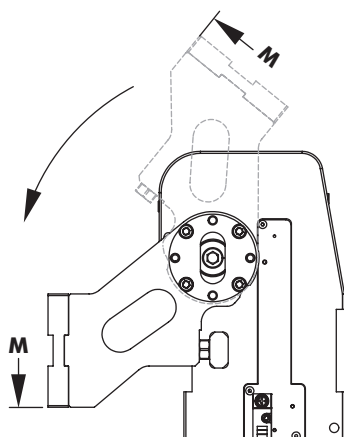
Side Loading Capacity



Max. applicable load with swivel unit positioned on its side (6 bar [87 psi])

Models	Max. Torque by Load @ 6 bar [87 psi] Nm [ft-lb]
RCM/RFM100.2	[59] 80
RCM/RFM125.2	
RCM/RFM160.2	[148] 200
RCM/RFM200.2	

Angular Speed Limitation



To avoid elevated angular speed it's necessary to respect the min. times among the electric signal of opening and that of closing brought in tab.

If don't respect the value report in tab, the device may break.

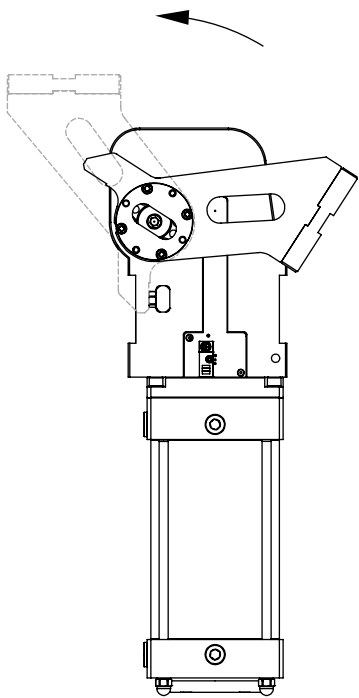
Model	Least Time Between Opening Electric Signal & Closing (Seconds) @ 6 bar [87 psi]				
	45°	76°	91°	121°	129°
RCM/RFM100.2	0.6	0.9	1.0	1.2	1.5
RCM/RFM125.2	0.8	1.1	1.2	1.4	1.7
RCM/RFM160.2	0.9	1.2	1.3	1.5	1.8
RCM/RFM200.2	1.4	1.7	1.8	2.1	2.5

RCM/RFM

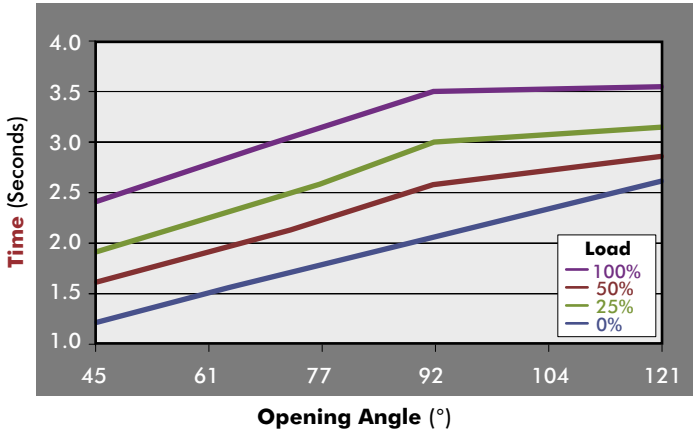
Pneumatic Pivot Units | Time Diagrams

Closing Operation

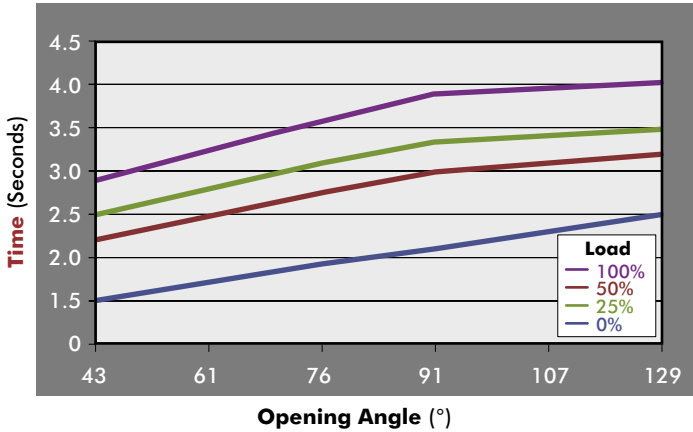
Working Pressure: 5 bar [72 psi]
Arm Type: O (shown)
Swivel Unit Position: Vertical (shown)



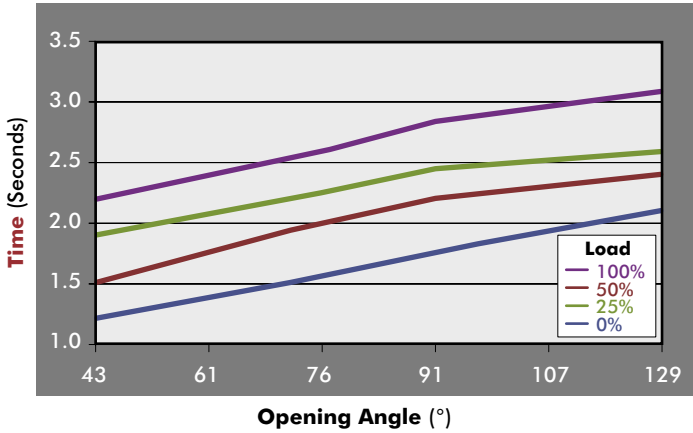
RFM/RCM100.2



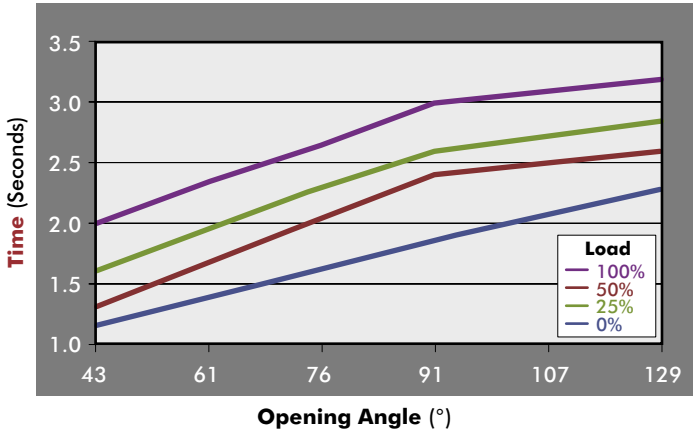
RFM/RCM125.2



RFM/RCM160.2



RFM/RCM200.2

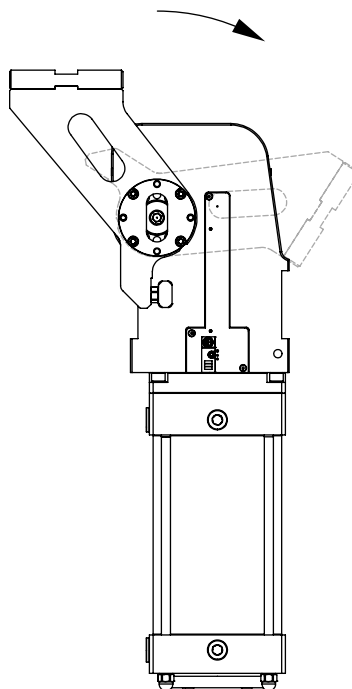


Opening Operation

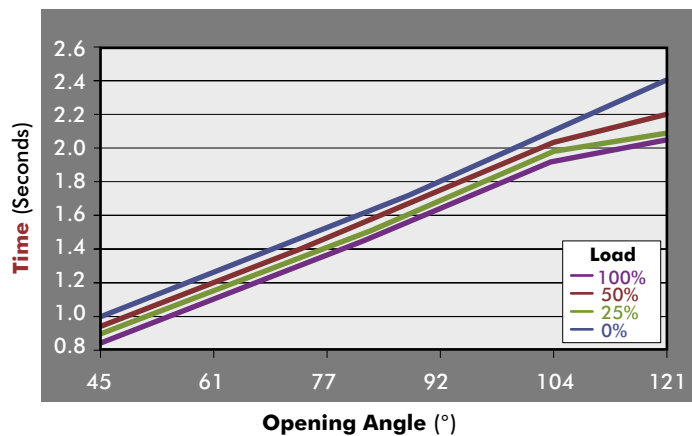
Working Pressure: 5 bar [72 psi]

Arm Type: O (shown)

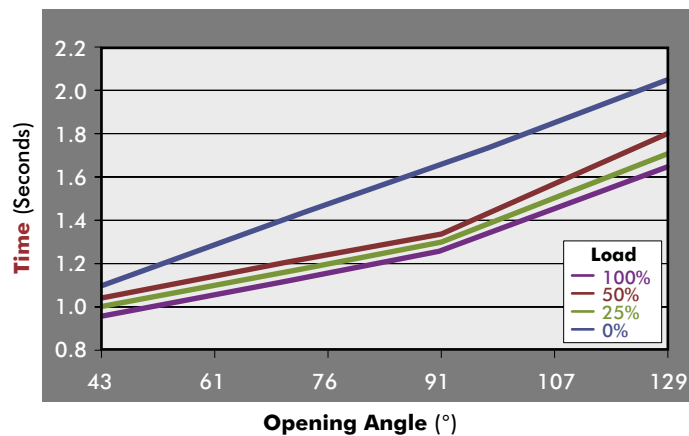
Swivel Unit Position: Vertical (shown)



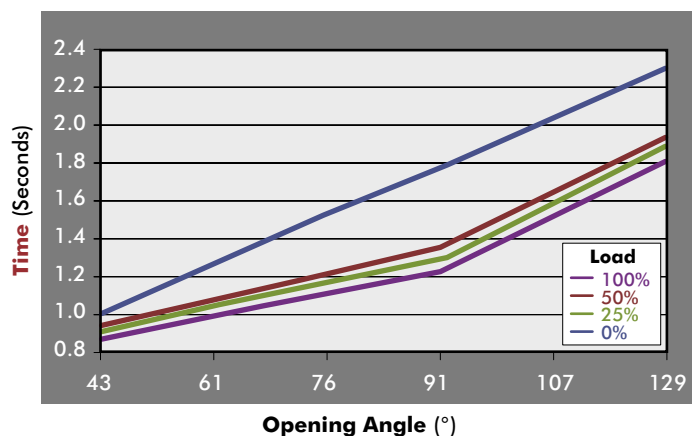
RFM/RCM100.2



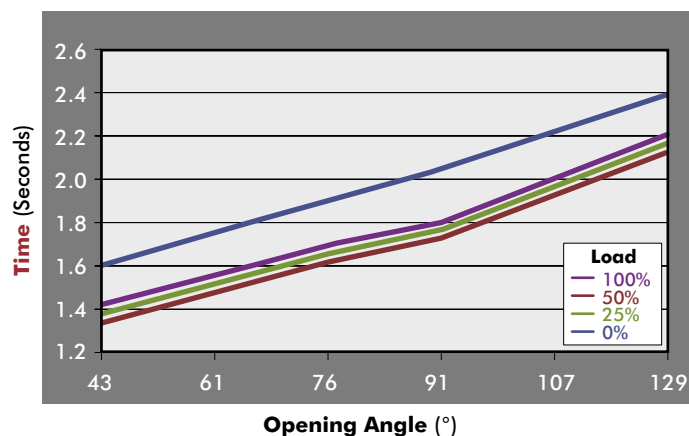
RFM/RCM125.2



RFM/RCM160.2



RFM/RCM200.2



Open/Close Sensor

Proximity Switch Type:* Pepperl+Fuchs
Feeding Voltage: 10-30 VDC
Max. Commutating Current: 200 mA
Power Supply: < 20mA
Voltage Drop: < 2 V
Temperature Range: -25° / 70° C

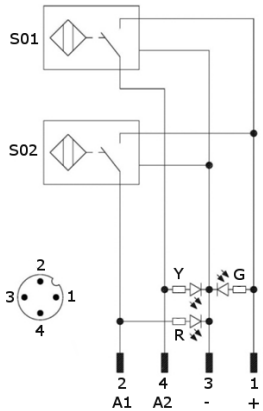
Pepperl+Fuchs

for Model	Power Amplifier (1)	Sensor's Satellite (2)	Complete Inductive Switch
RCM/RFM100.2	3/413	3/417	RFMSI – 1.2/A
RCM/RFM125.2			RFMSI – 125.2/A
RCM/RFM160.2			RFMSI – 160.2/A
RCM/RFM200.2			RFMSI – 200.2/A



Pepperl+Fuchs

S01 = Opening Signal
S02 = Closing signal
Y = Yellow LED
G = Green LED
R = Red LED
1 = Brown Wire
2 = Black Wire
3 = Blue Wire
4 = White Wire



Integrated Locking Sensor (SBI)

Locking Sensor Type:* Pepperl+Fuchs
Output Type: PNP
Feeding Voltage: 10-30 VDC
Max. Commutating Current: 200 mA
Power Supply: < 25mA
Voltage Drop: < 2 V
Temperature Range: -25° / 70° C

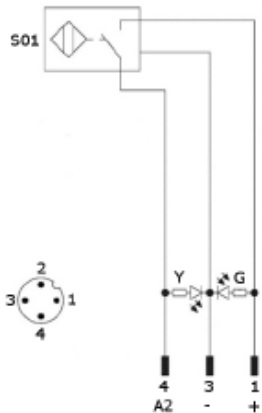
Pepperl+Fuchs

for Model	Sensor Type
RFM100.2	RF1 – BIF
RFM125.2	RF2 – BIF
RFM160.2	
RFM200.2	



Pepperl+Fuchs

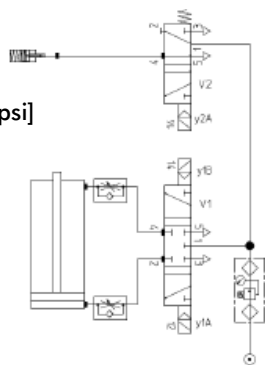
S01 = Opening Signal
Y = Yellow LED
G = Green LED
1 = Brown Wire
3 = Blue Wire
4 = White Wire



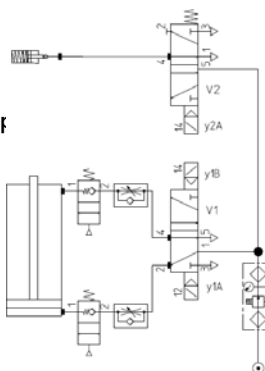
*Proximity switch and locking sensor types cannot be mixed.

Pneumatic Control Diagrams

Control Valve: 5/3
Pressure Range: 4-8 bar [58-116 psi]



Control Valve: 5/2
Pressure Range: 4-8 bar [58-116 psi]



Air Consumption

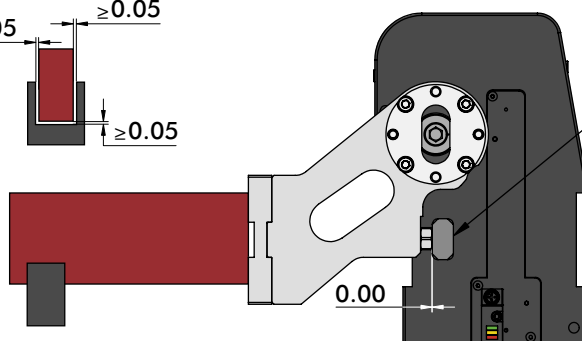
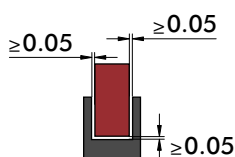
Model	Opening Angle (°)	Air consumption @ 5 bar [72 psi] litre [ft3]	Air Consumption @ 6 bar [87 psi] litre [ft3]
RCM/RFM100.2	29°	5,9 [167]	6,9 [195]
	77°	10,3 [292]	12,1 [343]
	121°	14,3 [405]	16,7 [473]
RCM/RFM125.2	15°	7,9 [224]	9,2 [261]
	76°	18,0 [510]	21,0 [595]
	107°	22,4 [634]	26,2 [742]
	129°	24,7 [699]	28,8 [816]
RCM/RFM160.2	15°	14,2 [402]	16,6 [470]
	76°	31,0 [878]	36,2 [1025]
	107°	38,5 [1090]	44,9 [1271]
	129°	42,2 [1195]	49,3 [1396]
RCM/RFM200.2	15°	20,8 [589]	24,3 [688]
	76°	47,4 [1342]	55,3 [1566]
	107°	59,2 [1676]	69,1 [1957]
	129°	65,1 [1843]	76,0 [2152]

Shock Absorber, External Stop Guide Usage

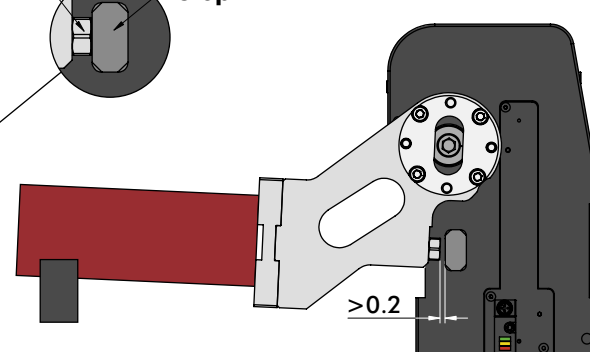
Make sure that the swivel unit makes the complete stroke until the closing position is reached (0°). Any interference with external bodies can cause serious damage to the device and to the equipment mounted on it.

Note: The use of external stops and shock absorbers is not recommended as they can have negative effects on the life of the unit.

External Guide



Integrated Stop



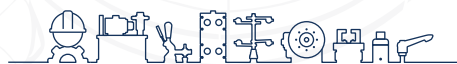
CORRECT USE: Integrated Stop is properly used. The distance between the arm and the Integrated Stop = [0.00] 0,00

INCORRECT USE: External Stop being used does not allow the arm to reach a 0° position. The distance between the arm and the Integrated Stop is greater than [0.008] 0,2

If External Guides are used, the following points must be guaranteed:

- The swivel unit must fully reach the closed position
- The above measures for External Guides must be maintained
- They must not be used as External Stops

If the points indicated above are not followed, we reserve the right to void the warranty.



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