

	Series	Section Page	Holding Torque at 5 bar					Clamping Torque at 5 bar					Piston Diameter					Material		
			0 to 100 [Nm]	100 to 500 [Nm]	500 to 1000 [Nm]	1000 to 2000 [Nm]	2000 to 4000 [Nm]	0 to 100 [Nm]	100 to 500 [Nm]	500 to 1000 [Nm]	1000 to 2000 [Nm]	2000 to 4000 [N] (Clamping Torque)	Less than 25mm	25mm	32mm	40mm	50mm	63mm	80mm	Aluminum
	LC01-1	15.3	■				■												■	
	52H50	15.5		■				■											■	
	52H05-6	15.7			■				■										■	
	52H40-2	15.14																	■	
	81L	15.19	■				■				■								■	
	82L-4	15.21	■				■				■	■							■	
	82L-2	15.27	■	■			■	■			■	■	■						■	
	82M	15.35		■	■			■	■					■	■	■	■		■	
	82G80	15.71					■		■									■		■
	82D	15.77	■	■				■	■										■	
	82U	15.85									■								■	
	GDP	15.87									■		■						■	
	82P	15.91									■		■						■	
	870/871	15.97		■					■						■				■	
	860/861	15.99			■				■						■				■	
	890/891	15.99				■			■							■			■	
	1000/1001	15.99				■			■							■	■		■	
	82E	15.101		■	■	■		■	■						■	■	■		■	



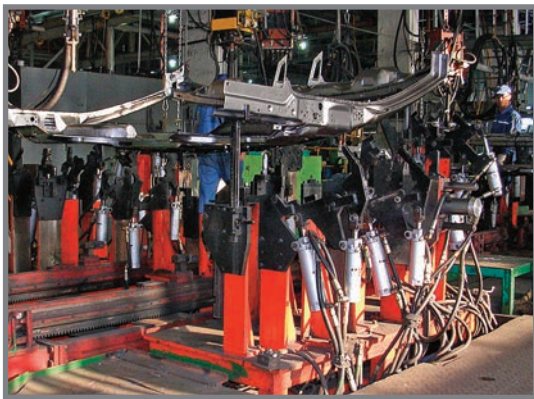
Weight		Air Consumption Per Double Stroke at 5 bar [dm3]				Application Area																	
0 to 2 [Kg]	2-4[Kg]	4-6 [Kg]	6-8 [Kg]	More than 8 [Kg]	0 to 0.5 [dm3]	0.50 to 1.00 [dm3]	1.00 to 2.00 [dm3]	More than 2,00 [dm3]	Welding	Assembly	Dirty Environment	End Effectors	Machining	Duty Cycle	Adjustable Opening Angle	Inductive Sensors Available	Dual Arms	Locating	Manual Version Available	Center Arm	Lateral Arms	Toggle Locking	
	█								●	●	●	●	●	●	✓	✓					✓		
		█							●	●	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
			█						●	●	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
	█								●	●	●	●	●	●		✓		✓	✓				✓
█					█				⊗	●	○	●	●	○					✓	✓		✓	✓
█					█				●	●	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
█						█			●	●	●	○	●	●	✓	✓			✓	✓	✓	✓	✓
	█	█		█			█	█	●	●	●	●	●	●	✓	✓			✓	✓	✓	✓	✓
				█			█		●	●	●	⊗	●	●	✓	✓					✓	✓	✓
	█					█	█		●	●	●	○	●	●		✓	✓						✓
	█					█			○	●	○	○	●	●	✓		✓						✓
	█					█			●	●	●	●	●	●	✓	✓		✓					✓
	█					█			○	●	○	●	●	●		✓		✓					✓
	█					█			⊗	●	○	●	●	●						✓			✓
	█					█			⊗	●	○	●	●	●						✓			✓
		█					█		⊗	●	○	●	●	●						✓			✓
			█				█		⊗	●	○	●	●	●						✓			✓
				█			█		⊗	●	○	●	●	●						✓			✓
		█					█		⊗	●	○	○	●	●	✓	✓				✓			✓

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

Series **LC01-1** Product Overview

Features:






- Modular Design: Uses standard components
- No design, machining or welding needed
- The adapter for the cylinder can be assembled in different positions for different arm opening angles
- 40mm, 50mm and 63mm cylinder sizes
- Optional preloaded sensor and precision guide available
- Sensor protected



Clamp arm and base have same hole patterns for optional second clamp mounting

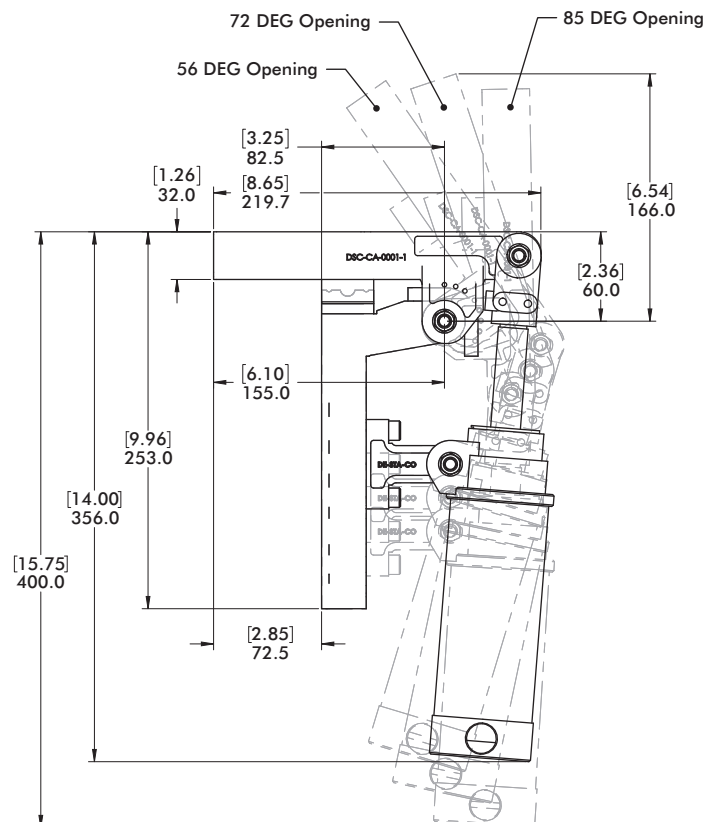
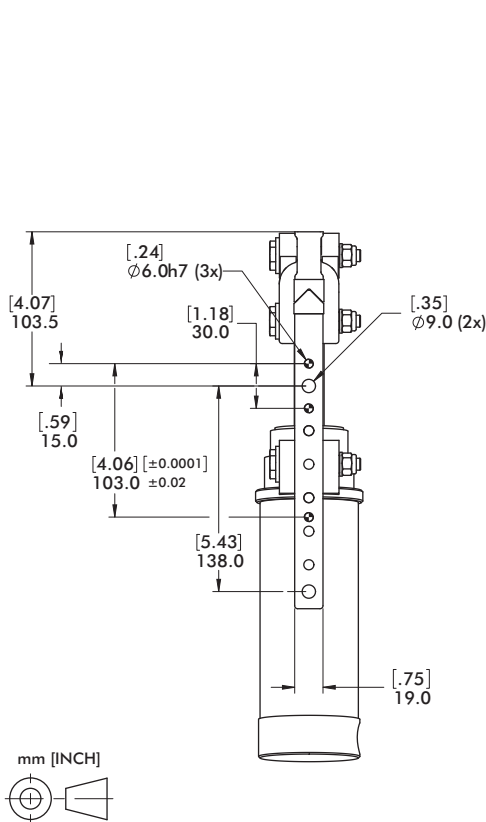
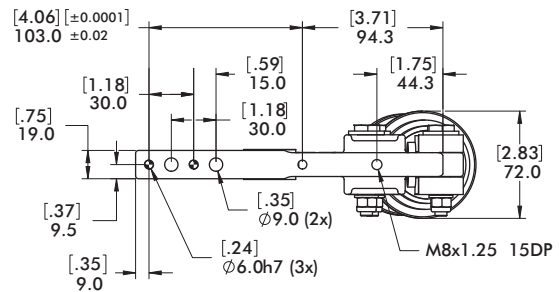
LC01-1 Ordering Information

Example Order No.: **LC01-1 40 FE CA G1**

<p>LC01-1 = Linkage Clamp</p> 	<p>00 = without Cylinder 40 = 40mm Cylinder 50 = 50mm Cylinder 63 = 63mm Cylinder</p> 	<p>00 = without Cylinder FE = FESTO CK = CKD SM = SMC</p>	<p>00 = without Sensor CA = with Sensor (PNP) CB = with Sensor (NPN)</p> 	<p>00 = without Guide G1  G2 </p>
<p>Linkage (includes bolts)</p>	<p>Cylinder Diameter</p>	<p>Cylinder Brand Options</p>	<p>Sensor (Connector M12x1, fixed)</p>	<p>Precision Guide</p>

LC01-1 Technical Information, Standard Dimensions

Specifications	LC01-1
Clamping torque with 63mm cylinder at 5bar	70Nm
Clamping torque with 50mm cylinder at 5bar	40Nm
Clamping torque with 40mm cylinder at 5bar	28Nm
Opening angle, Position 1	85°
Opening angle, Position 2	72°
Opening angle, Position 3	56°
Cylinder stroke	100mm
Weight, Clamp with 63mm cylinder	4,1 kg
Weight, Clamp with 50mm cylinder	3,8 kg
Weight, Clamp with 40mm cylinder	3,5 kg



Series **52H50** Product Overview

Manual Clamp interchangeable with 82M-3 and 82M-6

Manual clamp with toggle lock mechanism is interchangeable with 82M-3 (Size 50 + 63) and 82M-6 in application and operating dimensions.

Application

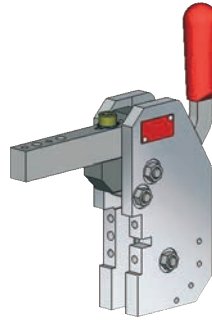
- Mainly in jigs for automotive prototype production

Technical features

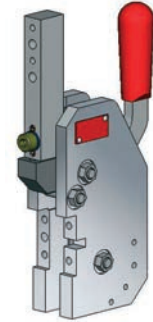
- Robust steel device
- Different clamping arm dimensions available
- Clamping arm mountable in horizontal or vertical position
- Compact design
- Opening angle adjustable by using hold open device
- Hold open device available

Technical data

- Standard opening angle 120°
- Holding capacity 160Nm
- Weight 5,0 kg



52H50-503-2-0
Clamping position horizontal



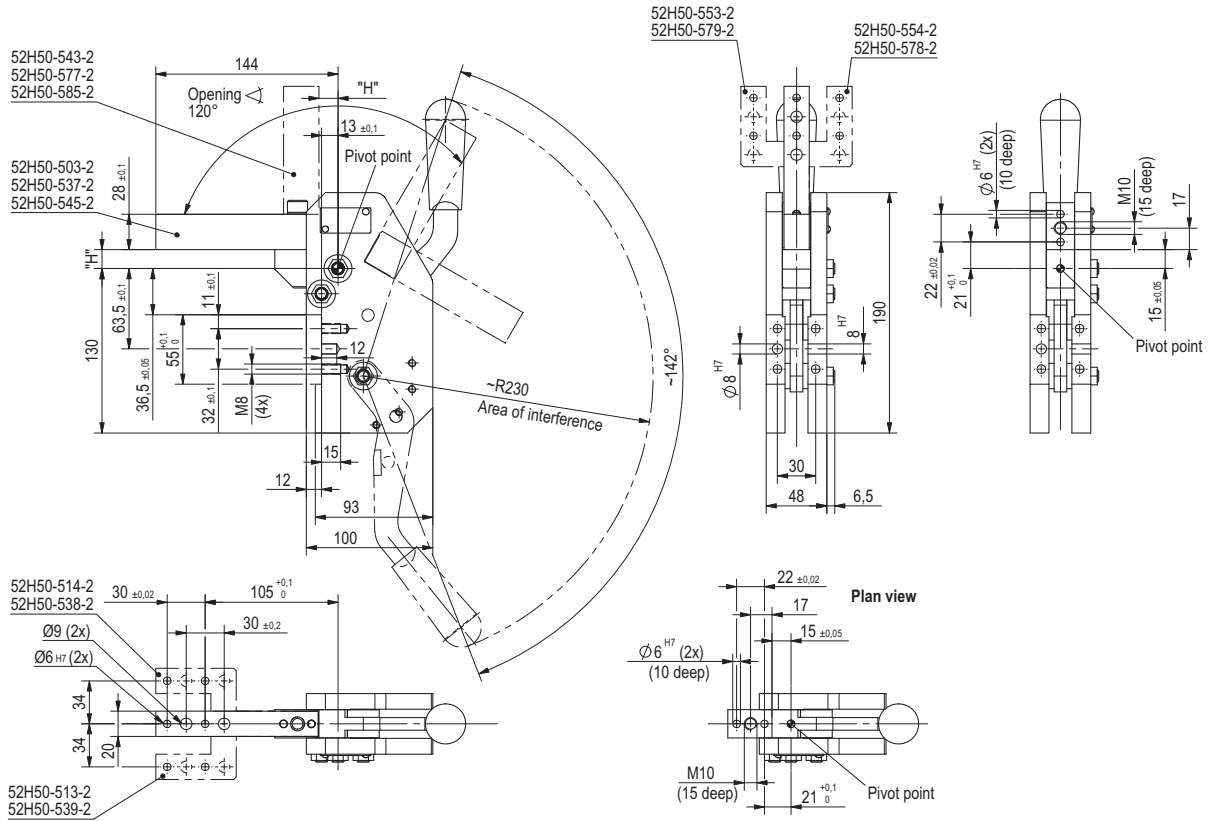
52H50-543-2-0
Clamping position vertical

Order no. Code for **52H50-5...**

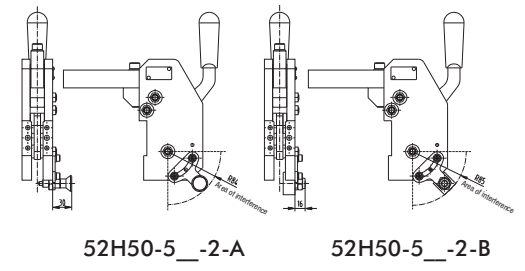
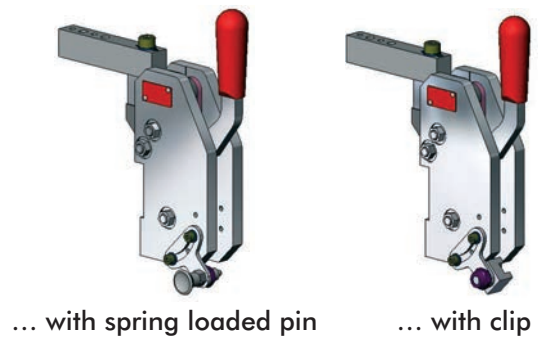
Example Order no.: **52H50 - 503 - 2 - A**

<p>90° - Version</p> <p>180° - Version</p>	<p>Horizontal</p>	<p>0 = without locking device</p> <p>A = locking device with spring loaded pin</p> <p>(two hand unlocking device)</p> <p>B = locking device with clip</p>
	<p>Vertical</p>	
<p>Basic model</p>	<p>Clamp arms</p>	<p>Locking device</p>

Series 52H50 Standard Dimensions



Model	Opening angle	Weight (kg)	Holding capacity max. (Nm)	Clamping arm position	"H"	
52H50-503-2-	120°	5	160	central	15	
52H50-543-2-					25	
52H50-537-2-					45	
52H50-577-2-						25
52H50-545-2-						45
52H50-585-2-					left	
52H50-513-2-				15		
52H50-553-2-				25		
52H50-539-2-				right		
52H50-579-2-						15
52H50-514-2-						25
52H50-554-2-						
52H50-538-2-						
52H50-578-2-						



Spare parts

Description	Order no.
Handle	250301

Accessories

Description	Order no.
Hold open device „A“	52H50-5-2-A
Hold open device „B“	52H50-5-2-B

Series 52H05-6 Product Overview

Modular Manual Clamp

Applications

Clamping, holding, gripping and positioning of metal sheets and other parts, mainly in jigs for prototype-shop

Features

- Compact closed aluminium body
- Toggle action mechanism with locking unit for open position
- Handlever can be welded in correct position
- Handlever can be mounted left or right side of body
- Interchangeable with pneumatic clamp 82M-3 (Size 63) and 82M-6

- Opening angle adjustable in 15° steps (15°–120°)
- Wide range of clamping arm variants
- Mounting areas of front, back and sides
- Inductive sensing module with LED display



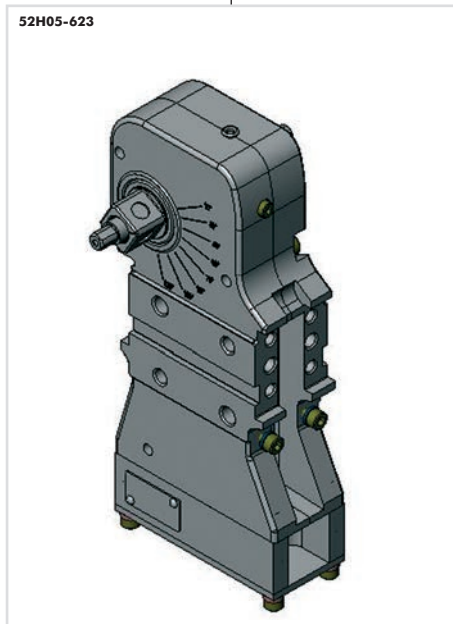
52H05-623KAA

Modular manual clamp, interchangeable with 82M-3 (Size 63) and 82M-6

Model		Standard	Max. holding torque Nm	Drive shaft for clamping arm variant	Clamping position	Weight Kg
without sensing	with inductive sensing opening Connector M12x1					
52H05-623KAA	52H05-623KA1/ 52H05-623KA2	120°	1000	lateral, U-centric/ U-side	horizontal/ vertical	4,1
52H05-623SAA	52H05-623SA1/ 52H05-623KA2	120°	1000	lateral, U-centric/ U-side	horizontal/ vertical	4,1

Order numbering code for 52H05-6.....

Example Order no.: **52H05** - **623** **K** **AA**



Basic model

K = with handlever welded.
Handlever-Set
8KB-053-1

S = Handlever weldable
Handlever-Set
8KB-052-1

Handlever

AA = without sensing
82M-000000AA
(8AB-066-2)

A1 = inductive sensing
82M-000000A1
Connector plug
M12x1, parallel
with cylinder

A2 = inductive sensing
82M-000000A2
Connector plug
M12x1, 90° swivel

Sensing system

Accessory
Two hand operation
82ZB-032-2

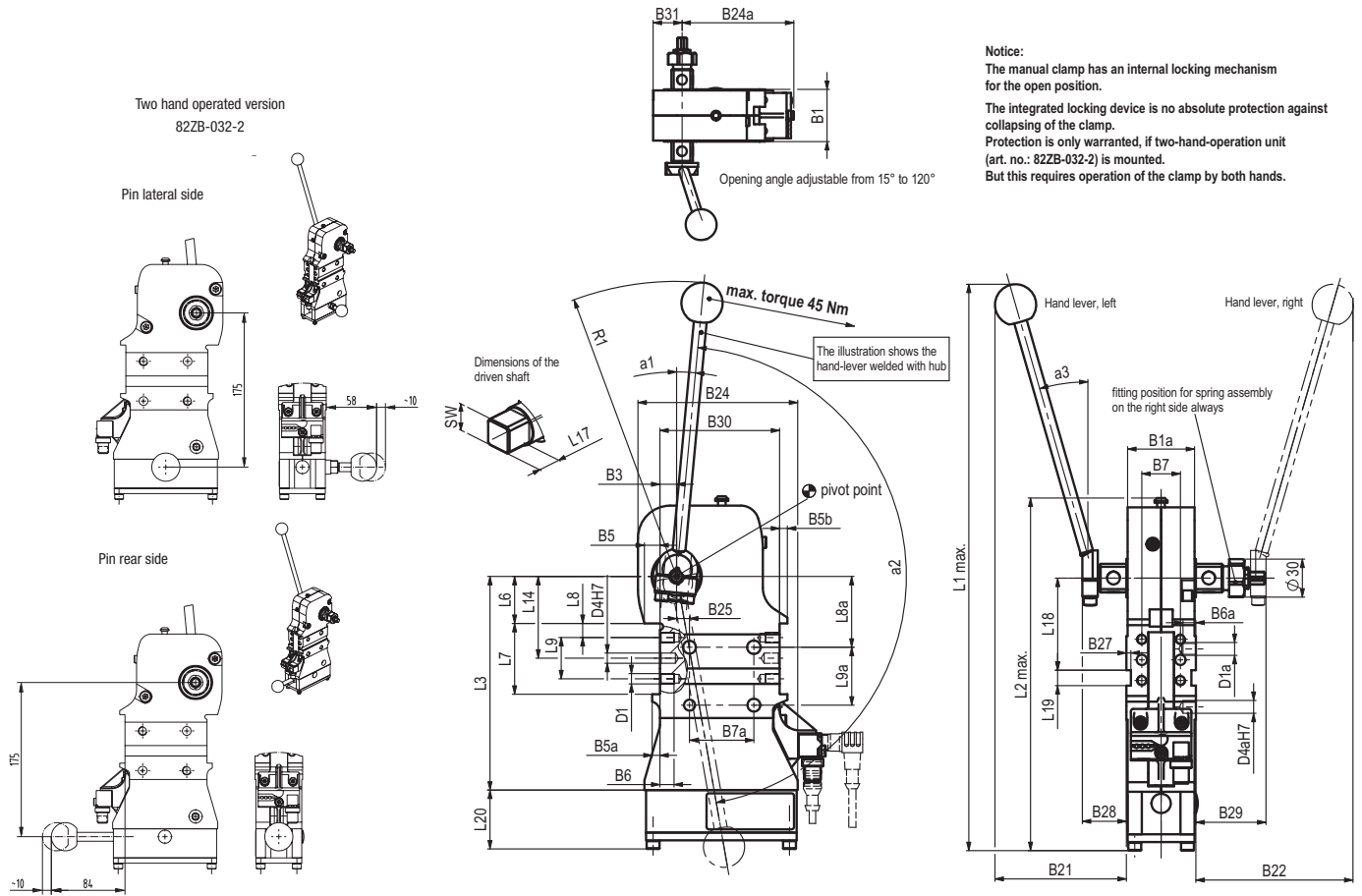
Assembly at hold open pin
is possible on rear side or
lateral side.

Accessories

Series 52H05-6 Standard Dimensions

Spare parts

Specification	Base component	Order no.	Comment
Hand lever set (weldable)	52H05-6...	8KB-052-1	
Hand lever set welded	52H05-6...	8KB-053-1	
Complete sensor box for A1 sensing system	52H05-6...A1	82M-000000A1	Connector plug M12x1, parallel with cylinder
Box without sensors	52H05-6...AA	82M-000000AA	
Complete sensor box for A2 sensing system	52H05-6.....A2	82M-000000A2	Connector plug M12x1, 90° swivel



Model	B1	B1	B3	B5	B5a	B5b	B6	B6a	B7*	B7a*	B22	B24	B24a	B25	B27	B28	B29	B30	B31	D1	D1a	
52H05-6230...	±0,1	54	52	13	12	6	6	11	9	30	50	100	119	119	10	3,5	36	54	93	30	M8	M10

Model	D4	D4a	L1	L2	L3	L6	L7	L8	L8a	L9	L9a	L14	L17	L18	L19	L20	SW	α1	α2	α3	R1	
52H05-6230...	8	10	366	260	166	±0,05	55	11	55	±0,1	±0,1	±0,1	±0,1	±0,1	±0,1	±0,1	N9	H9	~	max.	~	~

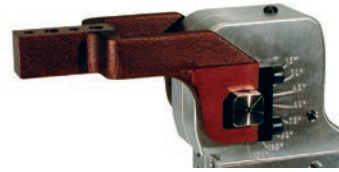
Series **52H05-6** Clamping Arm Variants

Clamping arm design

U-type central clamping arm

Clamping position

Horizontal or Vertical



U-type central clamping arm, horizontal clamping position

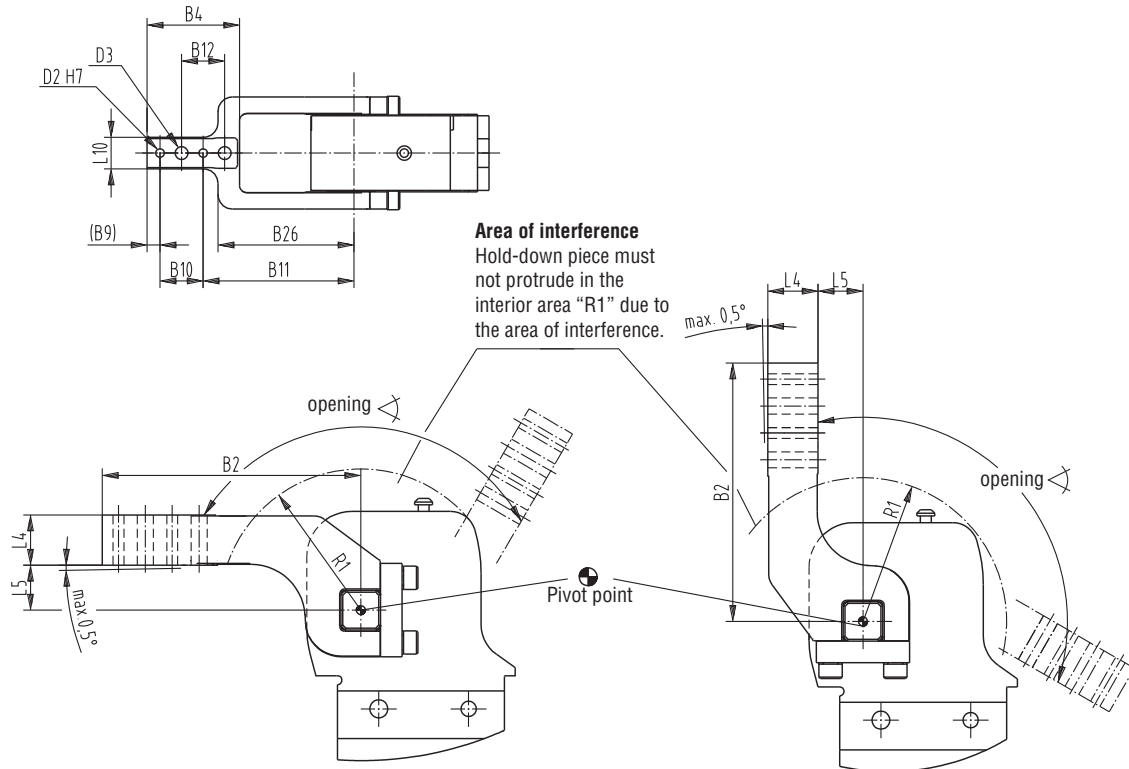
Technical data U-type central clamping arms

Model	Order no. for set of U-type central clamping arms	Max. opening angle for clamping position		Weight Kg	B2	B4	B9	B10	B11	B12	B26	D2	D3	L4	L5	L10	R1
		Horz.	Vert.											H7		±0,1 (-0,5° max.)	±1,2
52H05-6	8UM 631-15-144	120°	105°	1,1	144	64.3	9	30	105	30	95	6	9	28	15	20	80
	8UM 631-25-144	120°	120°	1,1	144	64.3	9	30	105	30	95	6	9	28	25	20	80
	8UM 631-45-144	120°	120°	1,3	144	64.3	9	30	105	30	95	6	9	28	45	20	80
	8UM 631-75-204	120°	120°	1,7	204	82	9	30	165	30	107	6	9	30	75	20	80

U-type central clamping arms for **52H05-6**

Horizontal clamping arm position

Vertical clamping arm position



Series **52H05-6** Clamping Arm Variants

Clamping arm design

Lateral / Left

Lateral / Right

Lateral / Both Sides

Clamping position

Horizontal or Vertical

Horizontal or Vertical

Horizontal or Vertical



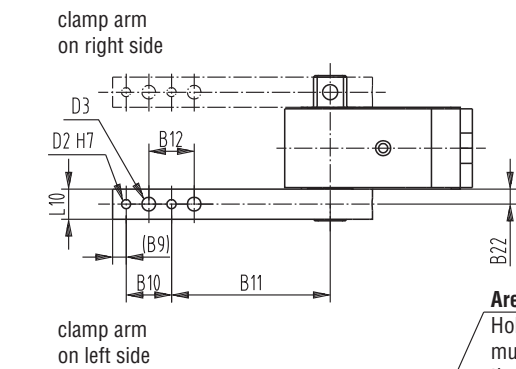
Lateral clamping arm,
horizontal clamping position

Technical data (lateral clamping arms)

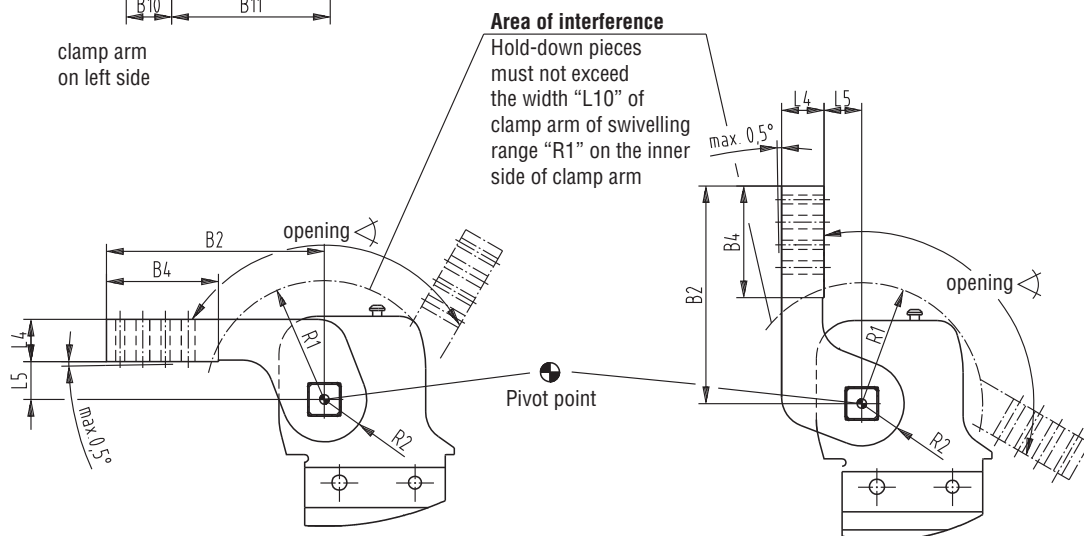
Model	Order no. for set of lateral clamping arms	Opening angle for clamping position		Weight Kg	B2	B4	B9	B10	B11	B12	B22	D2	D3	L4	L5	L10	R1	R2
		Horz.	Vert.		±0,02	±0,1	±0,2	H7 Ø	Ø	±0,1	(-0,5° max.)							
52H05-6	8JG-080-1-01	120°	120°	0,9	144	74	9	30	105	30	10	6	9	28	15	20	80	28
	8S631-25-144	120°	120°	1	144	74	9	30	105	30	10	6	9	28	25	20	80	28
	8S631-75-204	120°	120°	1,5	204	78	9	30	165	30	10	6	9	30	75	20	80	28

Lateral clamping arms for **52H05-6**

Horizontal clamping arm position



Vertical clamping arm position



Series **52H05-6** Clamping Arm Variants

Clamping arm design

U-type clamping arm, Left

U-type clamping arm, Right

Clamping position

Horizontal or Vertical

Horizontal or Vertical

U-type clamping arm, left, horizontal clamping position



U-type clamping arm, right, horizontal clamping position



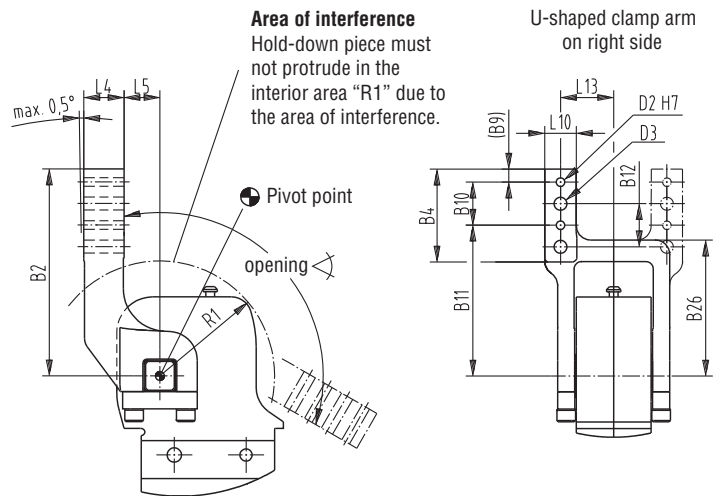
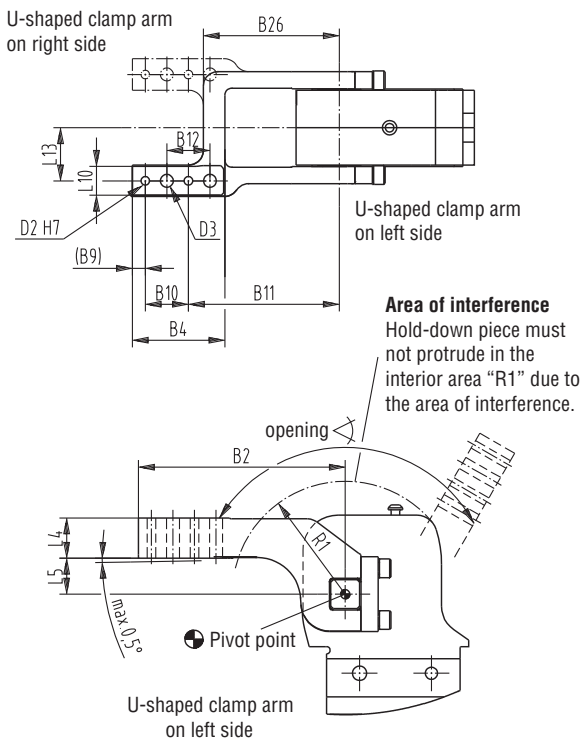
Technical data (U-type clamping arms, left and right)

Order no. for set of U-type central clamping arms for 52H05-6		Max. opening angle for clamping position		Weight Kg	B2	B4	B9	B10	B11	B12	B26	D2	D3	L4	L5	L10	L13	R1
		Horz.	Vert.		±0,02	±0,01	±0,2	H7	±0,1	(-0,5° max.)	±1,2	±0,1	~					
8UL631-15-144	8UR631-15-144	120°	105°	1,1	144	64.3	9	30	105	30	95	6	9	28	15	20	37	80
8UL631-25-144	8UR631-25-144	120°	120°	1,1	144	64.3	9	30	105	30	95	6	9	28	25	20	37	80
8UL631-45-144	8UR631-45-144	120°	120°	1,3	144	64.3	9	30	105	30	95	6	9	28	45	20	37	80
8UL631-75-204	8UR631-75-204	120°	120°	1,7	204	82	9	30	165	30	119	6	9	30	75	20	37	80

Lateral U-type clamping arms for **52H05-6**

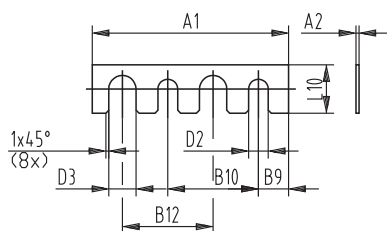
Horizontal clamping arm position

Vertical clamping arm position



Specification			Order no. for set 52H05-6	Comment
Clamping arm variant	Fulcrum Distance	Clamping Position		
U-central	15	horizontal / vertical	8UM631-15-144	sets of U-type clamping arms consist of clamping arm, links and screws
U-central	25	horizontal / vertical	8UM631-25-144	
U-central	45	horizontal / vertical	8UM631-45-144	
U-central	75	horizontal / vertical	8UM631-75-204	
U-left	15	horizontal	8UL631-15-144	
U-left	25	horizontal	8UL631-25-144	
U-left	45	horizontal	8UL631-45-144	
U-left	75	horizontal	8UL631-75-204	
U-left	15	vertical	8UR631-15-144	
U-left	25	vertical	8UR631-25-144	
U-left	45	vertical	8UR631-45-144	
U-left	75	vertical	8UR631-75-204	
U-right	15	horizontal	8UR631-15-144	
U-right	25	horizontal	8UR631-25-144	
U-right	45	horizontal	8UR631-45-144	
U-right	75	horizontal	8UR631-75-204	
U-right	15	vertical	8UL631-15-144	
U-right	25	vertical	8UL631-25-144	
U-right	45	vertical	8UL631-45-144	
U-right	75	vertical	8UL631-75-204	
Lateral right/left	15	horizontal / vertical	8JG-080-1-01	sets of lateral clamping arms consist of clamping arm & set screws
Lateral right/left	25	horizontal / vertical	8S631-25-144	
Lateral right/left	75	horizontal / vertical	8S631-75-204	
Lateral both sides				you need 2 sets of lateral clamping arms
Connector cable (1 connector socket & 5m cable)				
Connector socket M12x1			8EL-002-1	
Straight, 5-pin				
Connector socket M12x1			8EL-003-1	
Angular, 4-pin				
Two hand operating for hold open device			82ZB-032-2	Hold open device

Shims for Clamping arm



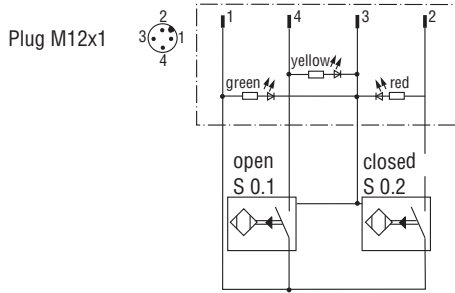
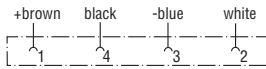
Model no	A1	A2	D2	D3	B9	B10	B12	L10
82ZB-SH5001	65	0,1	6,5	9	10	30	30	16
82ZB-SH5002		0,2						
82ZB-SH5005		0,5						
82ZB-SH5010		1,0						
82ZB-SH5020		2,0						
82ZB-SH5050		5,0						

Series **52H05-6** Accessories

Wiring diagram of electrical sensing system

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

Pin assignment



Inductive design:

- A1 Connector plug M12x1, parallel with cylinder
- A2 Connector plug M12x1, 90° swivel

Series 56H40-2 Product Overview

Features:

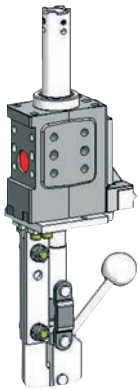
- Compact design
- Low weight
- High accuracy of positioning due to twin piston rod guide
- Lateral and front-face mounting areas
- Length of stroke: 20mm, 40mm or 60mm available
- Various mounting bases for centering pin incl. precision bore holes and grooves or integrated thread
- Inductive sensing module with LED display
- Toggle lock in extended position prevents unintended retracting of piston rod

Application:

Accurate positioning of sheet metal parts in welding equipment and handling systems. At the end of the welding process, the pins are retracted from the pin holes. The component can thus be easily removed from the jig.

Key areas of application:

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



56H40-202C800A
stroke 40 mm and sensing kit

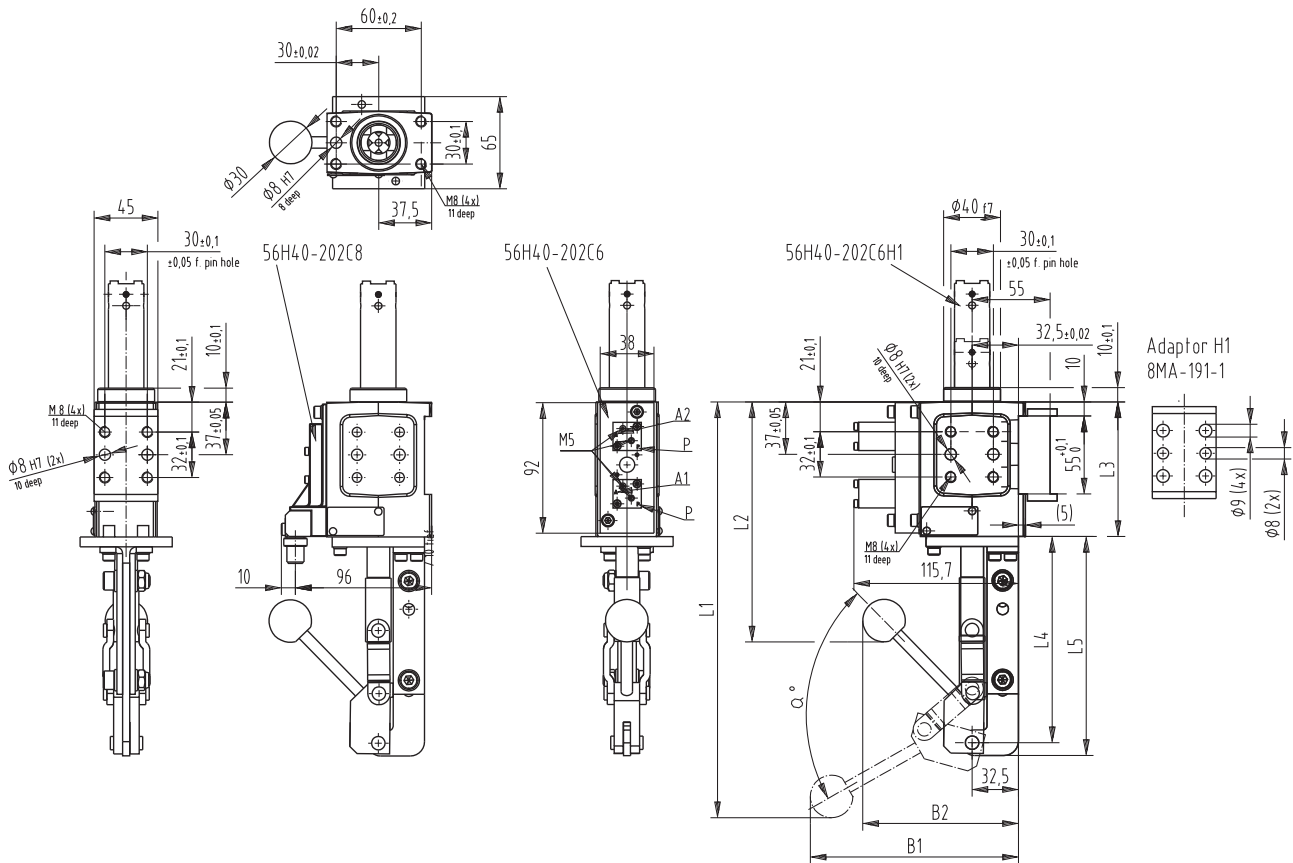


56H40-202C800C
stroke 60 mm and sensing kit

Order no. Example: **56H40-2 02 C8 00 A K** — **K** = ceramic coating plunger

<p>56H40-2</p>	<p>02 = Piston rod adapter Ø16 mm, Cross groove</p> <p>05 = Piston rod adapter Ø 10 mm, Cross groove</p> <p>Piston rod adapter</p>	<p>L4 (stroke 20/40) = without sensing system cover plate 86P0-200L4</p> <p>L6 (stroke 60) = without sensing system cover plate 86P0-200L6</p> <p>C8 = with sensing system 86P0-200C8 (for stroke 20/40) 86P0-200C8006 (for stroke 60)</p> <p>D8 = with sensing system 86P0-200D8 (for stroke 20 / 40) 86P0-200D8006 (for stroke 60)</p> <p>C6 = with sensing system 86P0-200C6 (for stroke 20 / 40) 86P0-200C6006 (for stroke 60)</p>	<p>00 = without accessories</p> <p>E1 = (only with A or B) External guide</p> <p>E2 = (only with C) External guide</p> <p>F1 = Bellow 82ZB-013-3 (strokes 20 or 40)</p> <p>G1 = Bellow/adaptor (strokes 20 or 40)</p> <p>H1 = Adapter 86P0-20000H1</p> <p>J1 = (only with A or B) External guide/ Adaptor 86P0-20000J1</p>	<p>A = 40 mm stroke C = 60 mm stroke Anti - twist device low accuracy 8CE-231-1</p> <p>B = 20 mm stroke Anti - twist device low accuracy 8MF-071-1</p> <p>2 = 20 mm stroke Anti - twist device 86P0-20000002</p> <p>4 = 40 mm stroke Anti - twist device 86P0-20000004</p> <p>6 = 60 mm stroke Anti - twist device 86P0-20000006</p>
<p>Base Model</p>	<p>Piston rod adapter</p>	<p>Inductive sensing system</p>	<p>Accessories</p>	<p>Stroke</p>

Series 56H40-2 Clamp Dimensions



Pneumatic Position Control System:

P = Compressed air connection for position control system

A1 = Control connection for retracted position

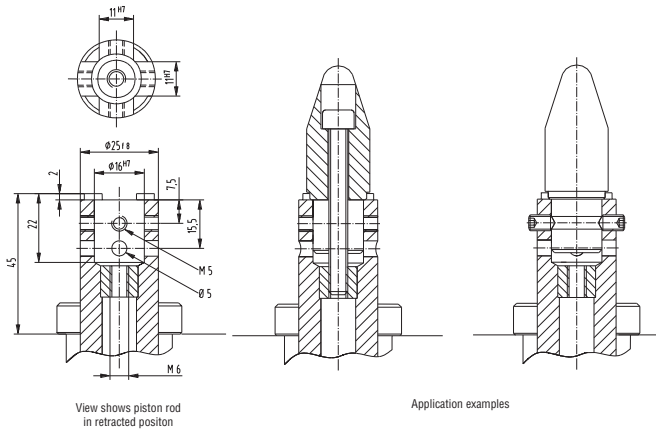
A2 = Control connection for extracted position

Series 56H40-2 Technical Information

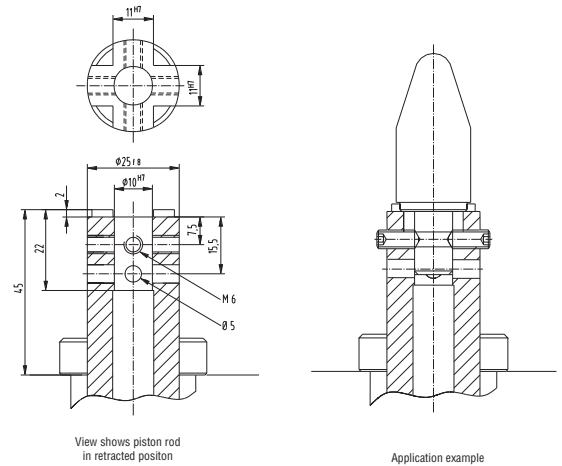
Model no.	Stroke +2 [mm]	Weight ~ [kg]	B1	B2	L1	L2	L3	L4	L5	W ~
56H40-2..2	20	2,0	182	140	312	138	95	166	175	40
56H40-2..4	40	2,0	182	140	312	138	95	146	155	75
56H40-2..6	60	2,5	133	157	385	182	115	146	155	90
56H40-2..B	20	2,0	182	140	312	138	95	166	175	40
56H40-2..A	40	2,0	182	140	312	138	95	146	155	75
56H40-2..C	60	2,5	133	157	385	182	115	146	155	90

Series **56H40-2** Standard Clamp Dimensions

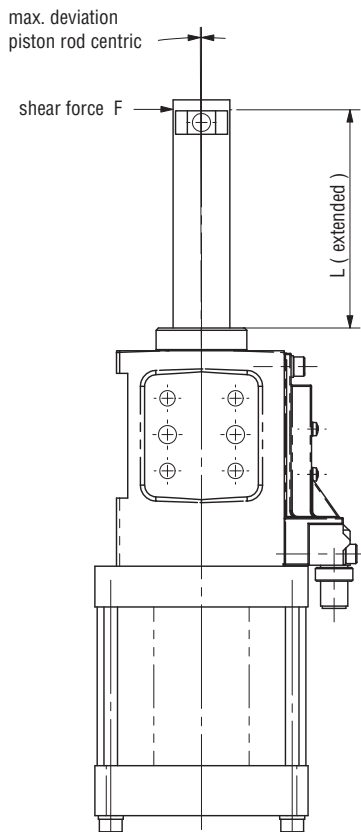
Piston Rod Model **-202** Detail mounting base $\varnothing 16$ mm for **56H40-2**



Piston Rod Model **-205** Detail mounting base $\varnothing 10$ mm for **56H40-2**



Max deflection for centering pin for **56H40-2**

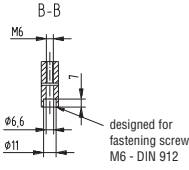
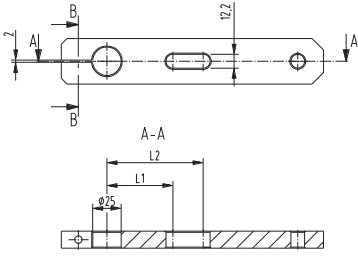


Model no.	Shear force N [lbs]	L mm [in]	Stroke mm [in]	Deviation mm [in]
56H40-2...B / 2	200 [45]	52 [2.0]	20 [0.08]	0,06 [0.002]
56H40-2...A / 4	200 [45]	70 [2.8]	40 [1.60]	0,09 [0.004]
56H40-2...C / 6	200 [45]	90 [3.5]	60 [2.40]	0,12 [0.007]

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).

Series **56H40-202C8E1A** Pin packages with external guide (Accessory)

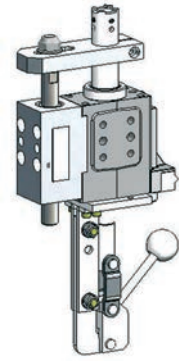
Example application of an off-center centering pin for **56H40-2**



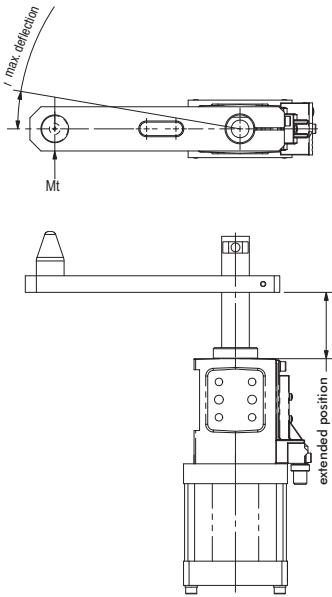
The component shown in this example is to be made by the customer

Model no.	L1	L2
86P40/60-2...E1	58	62
86P40/60-2...E2	58	62
86P40/60-2...J1*	80,5	84,5

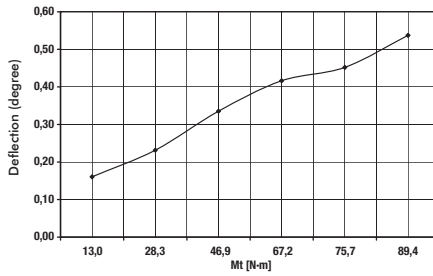
* J1 is not available with stroke 60 mm.



Internal anti-rotation device

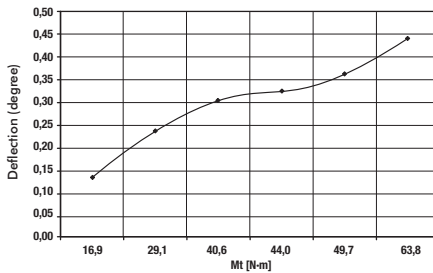


Angle deviation 56H40-2.....2/ ...4

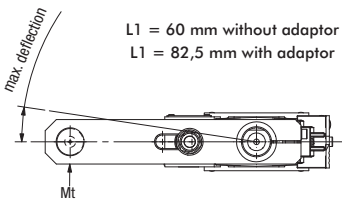


Caution: Generally we recommend using an external guide when the transverse force is more than 200 N [45 lbs] Also independently of the stroke, less transverse forces, when the overall height L2 > 120 mm [4.7 in] (L2 = extended piston rod plus centering pin).

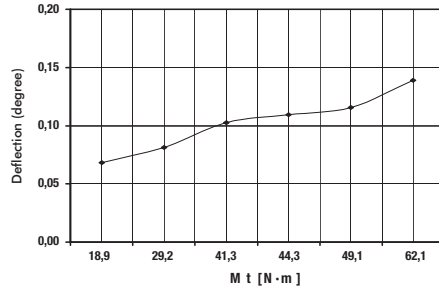
Angle deviation 56H40-2.....6



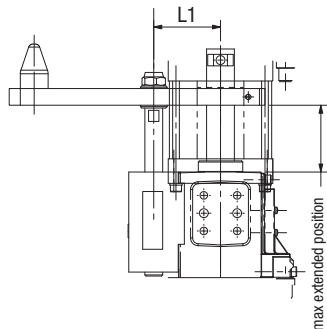
External guide **82ZB-009-2, 82ZB-010-2, 82ZB-090-1**



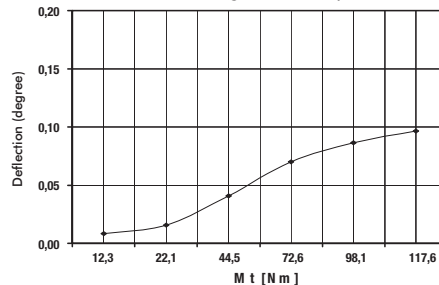
Angle deviation 56H40-2...E1A/ ...E1B
External guide without adaptor



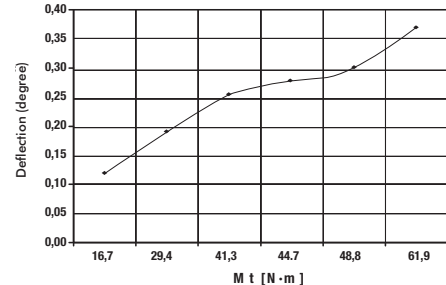
Caution: Generally we recommend using an external guide when the transverse force is more than 200 N [45 lbs] Also independently of the stroke, less transverse forces, when the overall height L2 > 120 mm [4.7 in] (L2 = extended piston rod plus centering pin).

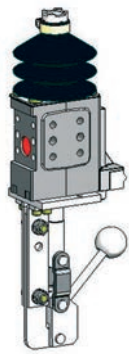


Angle deviation 56H40-2...J1A/ ...J1B
External guide with adaptor

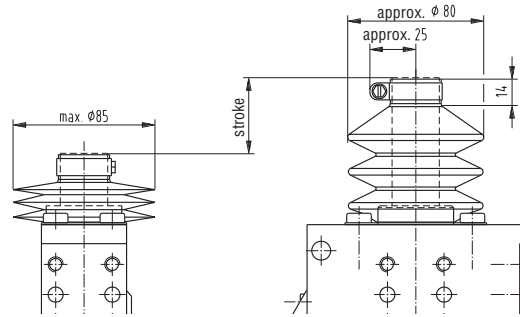


Angle deviation 56H40-2...E2C
with External guide



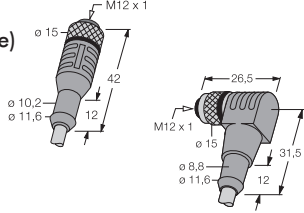




Piston rod cover 82ZB-013-3 (accessory part)



Accessories

Order No.	Specification	Comment
82ZB-009-2 (only with A+B) 82ZB-090 (with C)	External guide 	use without bellows only
82ZB-013-3 (only stroke 20 and 40)	Bellows 	Use without external guide only
8EL-002-1 8EL-003-1	Connecting cable (1 connector socket & 5 m cable) Connector socket M12x1 straight, 5-pin Connector socket M12x1 angular, 4-pin 	

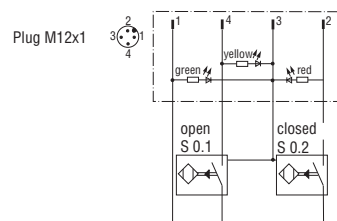
Wiring diagram of electrical sensing system

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



Inductive design:

- C8 Connector plug M12x1, parallel with piston rod
- D8 Connector plug M12x1, 90° swivel



Major spare parts

Order no. for	Specification
56H40-2	
86P0-200C8 (stroke 20/40) 86P0-200D8 (stroke 20/40) 86P0-200C8006 (stroke 60) 86P0-200D8006 (stroke 60)	End position sensing system C8 connector plug M12x1, parallel with piston rod D8 connector plug M12x1, 90° swivel C8 connector plug M12x1, parallel with piston rod D8 connector plug M12x1, 90° swivel
82ZB-046-1	Hand lever set

Series 81L Product Overview

Features:

- Lightweight, aluminum body
- Two mounting areas: front and side
- Toggle-action mechanism
- Can be quickly retrofitted with magnetic sensing system

Applications:

- Assembly
- Checking fixtures
- Handling systems

Also Available:

82L..-4 Series: Enclosed version in similar sizes. See page 15.21

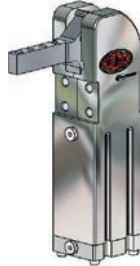
81L12-1



81L16-1



81L20-1



81L25-1



Series 81L Technical Information, Ordering Information

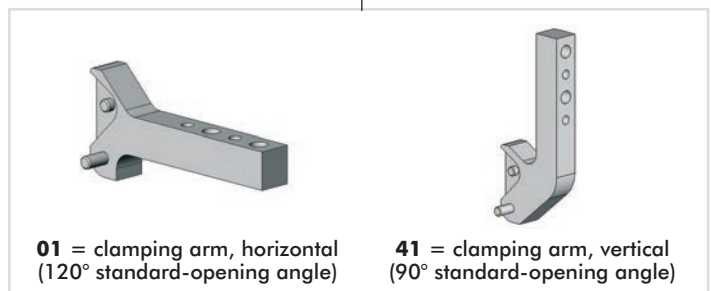
Model	Max. Holding Torque Nm [lb ft]	Max. Clamping Torque at 5 bar [72 psi] Nm [lb ft]	Weight kg [lb]	Air Consumption per double stroke at 5 bar [72 psi] dm ³ [ft ³]	Max. Added Load (at Position, "X") g [oz]
81L12-101..	25 [18.4]	4,5 [3.3]	0,16 [0.4]	0,25 [0.01]	50 [1.8]
81L12-141..	20 [14.8]	4,5 [3.3]	0,17 [0.4]	0,25 [0.01]	50 [1.8]
81L16-101..	60 [44]	6,5 [4.8]	0,25 [0.6]	0,26 [0.01]	80 [2.8]
81L16-141..	40 [29.5]	7,0 [5.23]	0,27 [0.6]	0,27 [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]

Example Order No.: **81L12-1 01 00**

00 = Standard Design



Base Model: Size



01 = clamping arm, horizontal
(120° standard-opening angle)

41 = clamping arm, vertical
(90° standard-opening angle)

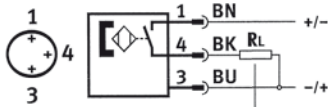
Arm Style

Series 81L Standard Clamp Dimensions, Accessories, Spare Parts

Accessories:

Part no.	Description	Notes
8EA-109-1	Sensor	3-wire cable, M8x1 connector, 3-pin
82ZB-004-1	Adapter	Adapter for mounting 81L20-1, 81L25-1 to 25mm dia. bar

8EA-109-1

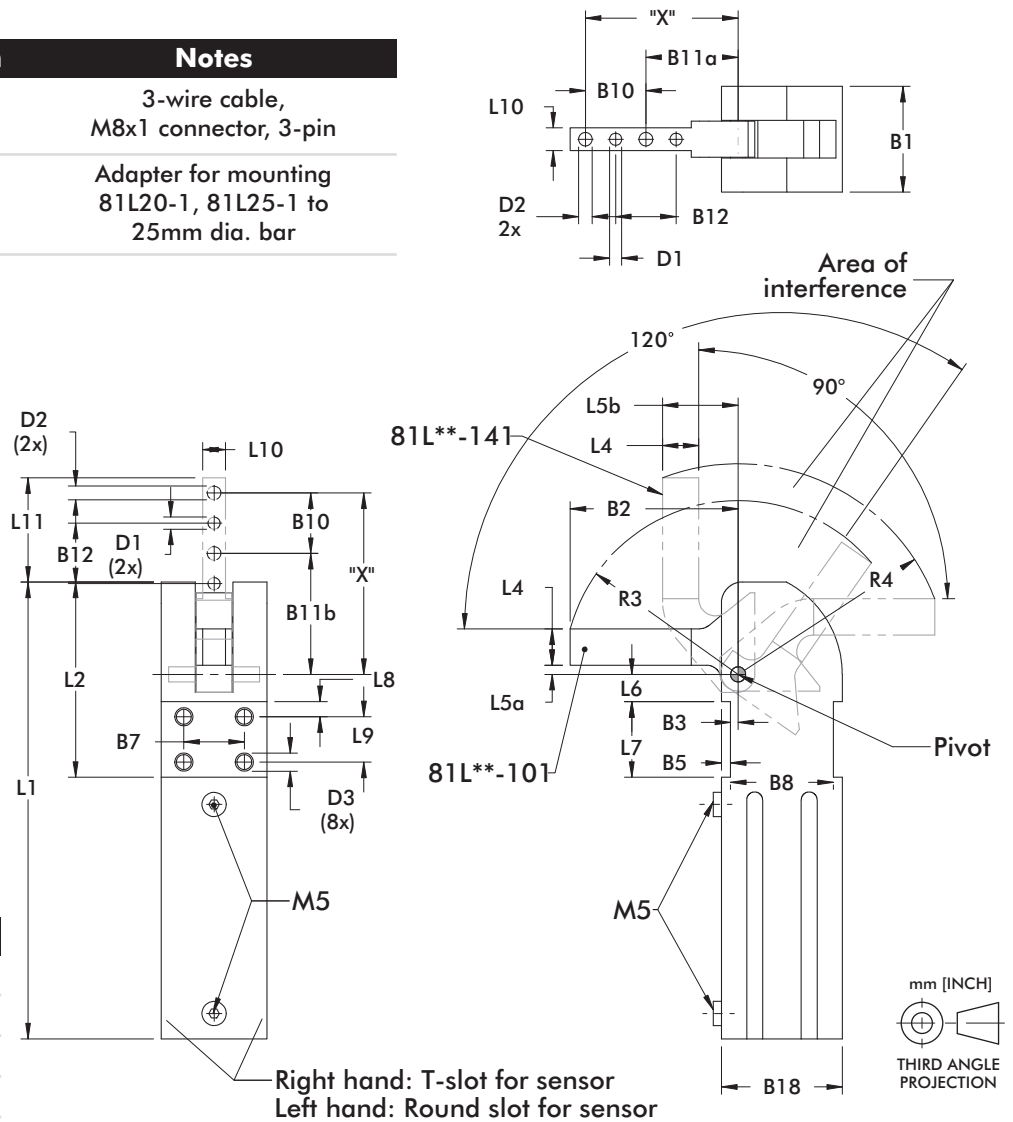


10V ... max. 30 VAC/VDC
Max. 500 mA
Max. 10 W

BN = Brown
BK = Black
BU = Blue
RL = Load

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

Model	Seal Kit
81L12-1....	81L12-1-00
81L16-1....	81L16-1-00
81L20-1....	81L20-1-00
81L25-1....	81L20-1-00



Right hand: T-slot for sensor
Left hand: Round slot for sensor

Model	D1 Ø [H7]	D2 Ø	D3 Ø	B1	B2	B3 ±0,1	B5 ±0,2	B7 ±0,1	B8 ±0,1	B10 ±0,2	B11a	B11b	B12
81L12-1....	[0.12] 3	[0.13] 3,3	M4x6	[0.94] 24	[1.57] 40	[0.10] 2,5	[0.06] 1,5	[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	M5x5	[1.12] 30	[1.97] 50	[0.08] 2	[0.08] 2	[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	M6x8	[1.38] 35	[2.12] 55,5	[0.10] 2,5	[0.12] 3	[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	M6x8	[1.38] 35	[2.58] 65,5	[0.10] 2,5	[0.12] 3	[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

Series 82L..-4 Product Overview

Features:

- Lightweight, enclosed aluminum body
- Two mounting areas: front and side
- Toggle-action mechanism
- Compatible with magnetic sensing system

Applications:

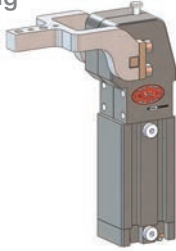
- Assembly
- Checking fixtures
- Handling systems

Also Available:

82L..-2 Series: Enclosed version in larger sizes.
See page 15.27

82L..-403.

Horizontal clamping position



82L..-443.

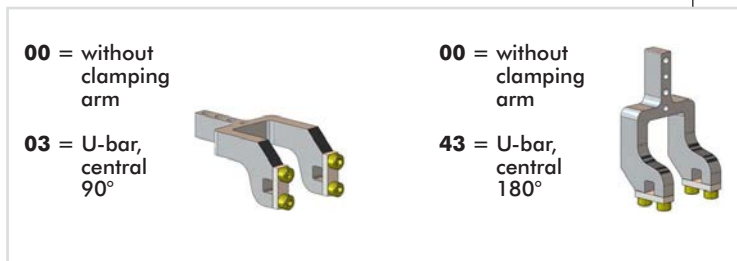
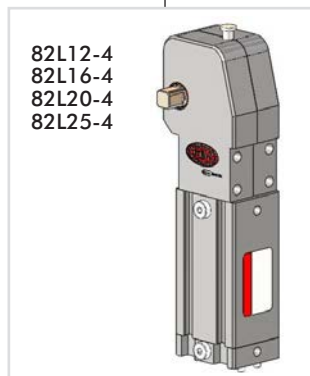
Vertical clamping position



Series 82L..-4... Technical Information, Ordering Information

Model	Max. Holding Torque Nm [lb ft]	Max. Clamping Torque at 5 bar [72 psi] Nm [lb ft]	Weight [with arm] kg [lb]	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 [18.4]	10,4 [3.3]	0,23 [0.5]	0,25 [0.01]	50 [1.8]
82L12-4430	35 [18.4]	8,7 [3.3]	0,23 [0.5]	0,25 [0.01]	50 [1.8]
82L16-4030	40 [29.5]	12,4 [4.4]	0,33 [0.7]	0,27 [0.01]	80 [2.8]
82L16-4430	40 [29.5]	11,0 [4.8]	0,33 [0.7]	0,27 [0.01]	80 [2.8]
82L20-4030	50 [73.8]	21,0 [13.3]	0,42 [0.9]	0,35 [0.01]	90 [3.2]
82L20-4430	50 [73.8]	19,3 [12.5]	0,42 [0.9]	0,35 [0.01]	90 [3.2]
82L25-4030	80 [59]	31,8 [13.3]	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]

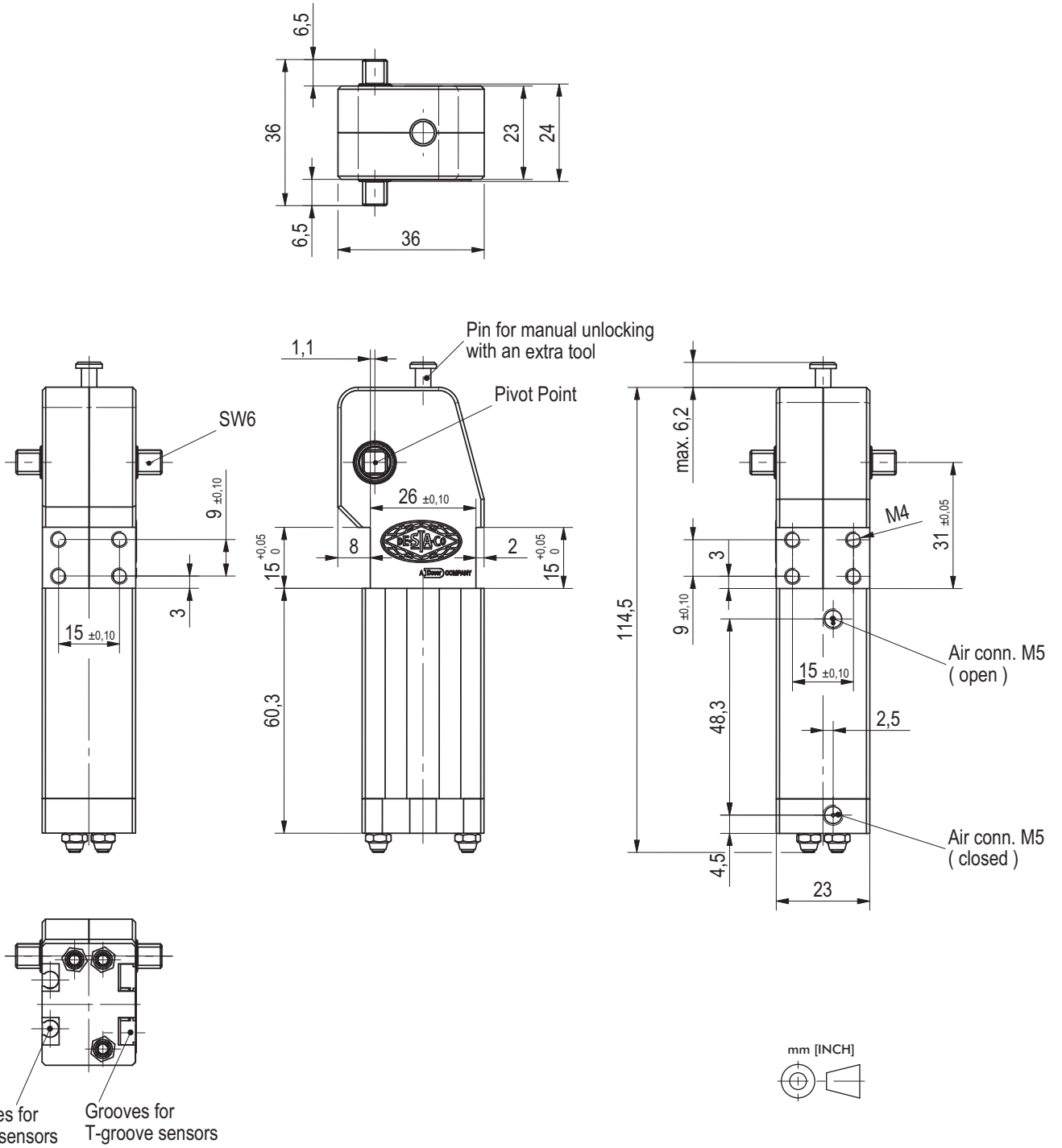
Example Order No.: **82L12-4 03 0**



- 0** = opening angle standard 105°
- 3** = 90° opening angle
- 4** = 75° opening angle
- 5** = 60° opening angle
- 6** = 45° opening angle
- 7** = 30° opening angle
- 8** = 15° opening angle

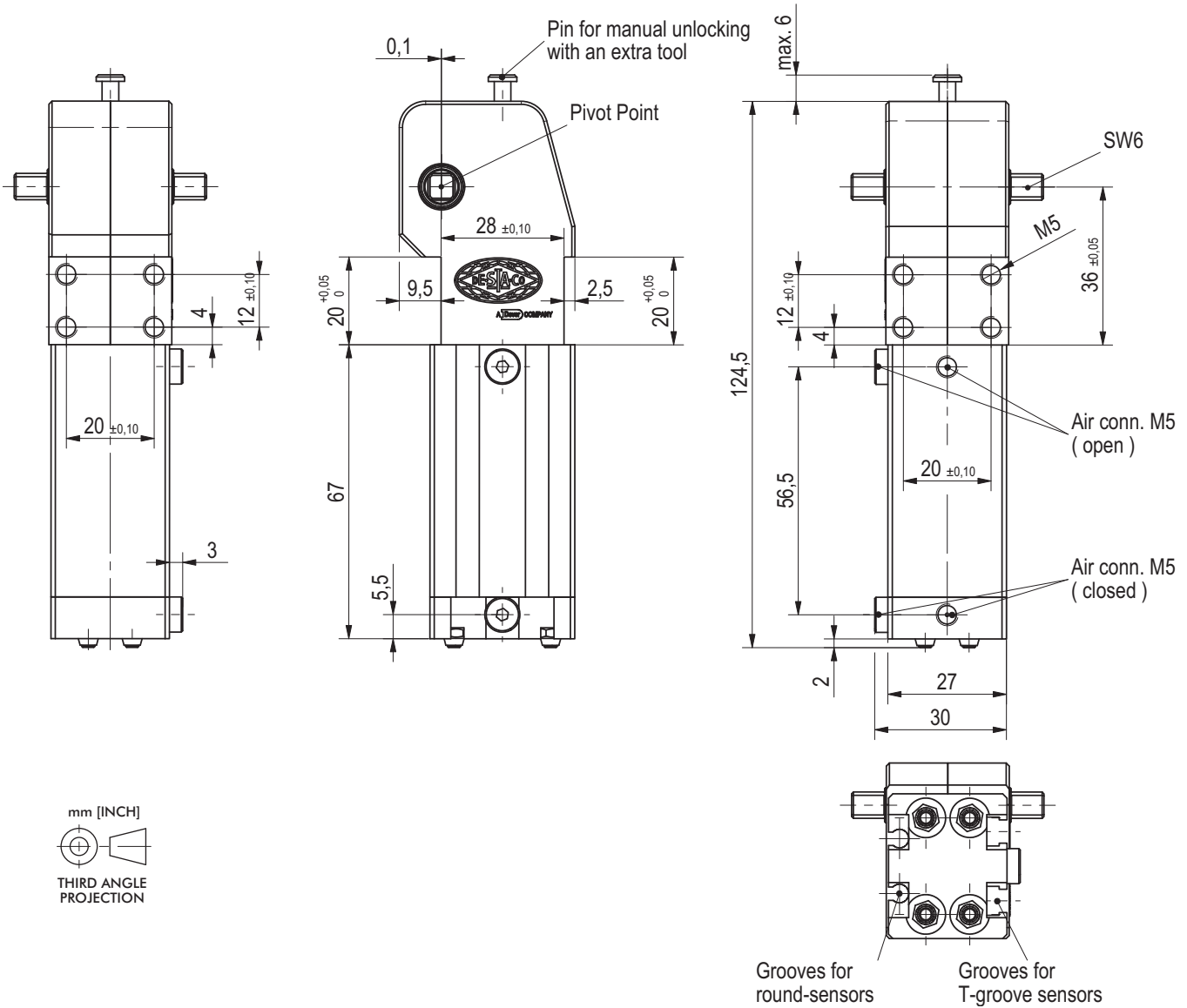
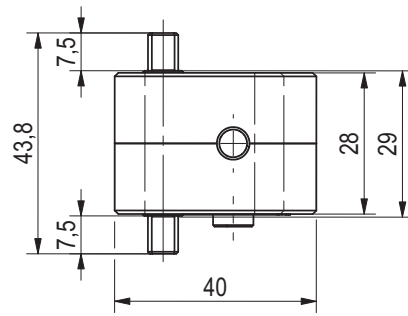
105° standard opening angle

Series 82L12-4 Standard Clamp Dimensions



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

Series 82L16-4 Standard Clamp Dimensions

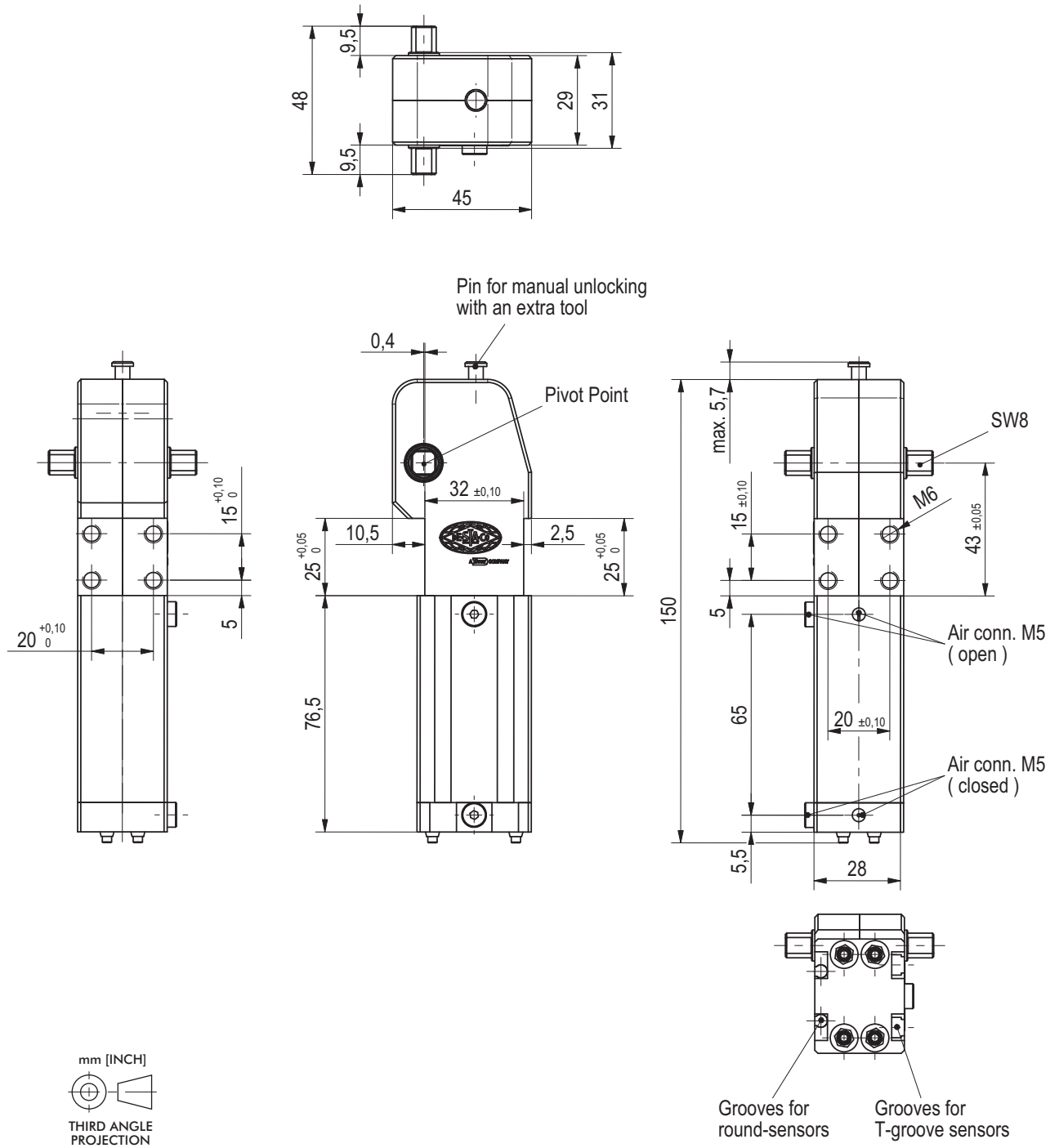


mm [INCH]

 THIRD ANGLE
 PROJECTION

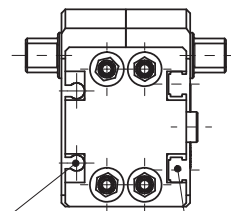
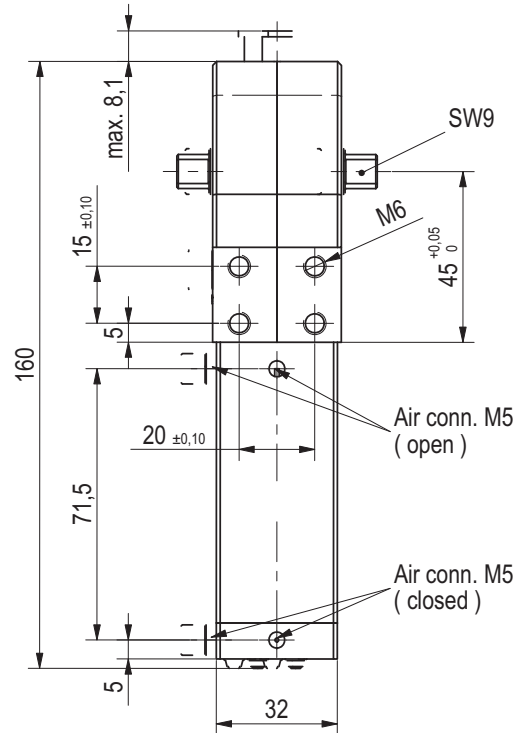
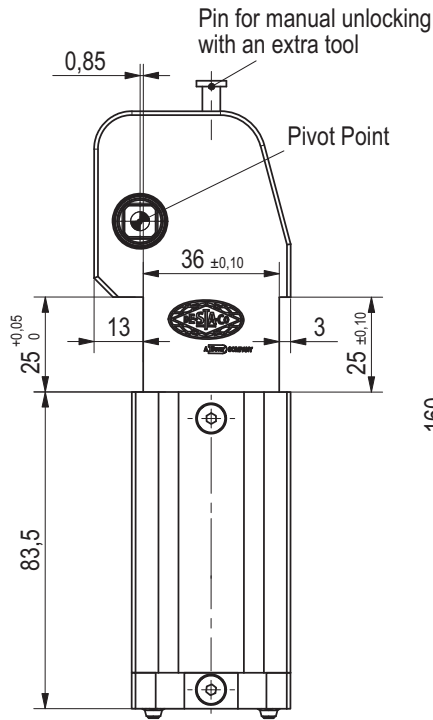
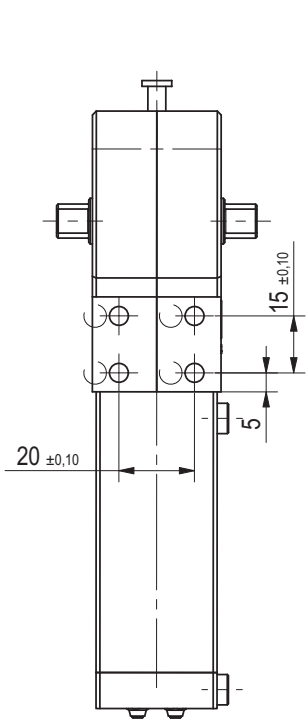
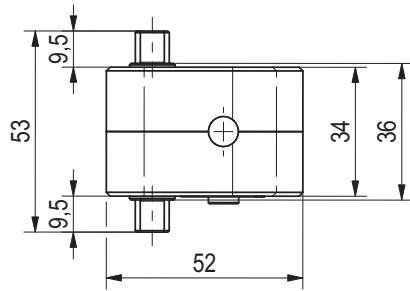
Power by compressed air, max. 6 bar
 Operation with oil-free air is permissible.

Series 82L20-4 Standard Clamp Dimensions

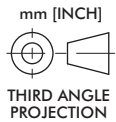


Power by compressed air, max. 6 bar
Operation with oil-free air is permissible.

Series **82L25-4** Standard Clamp Dimensions

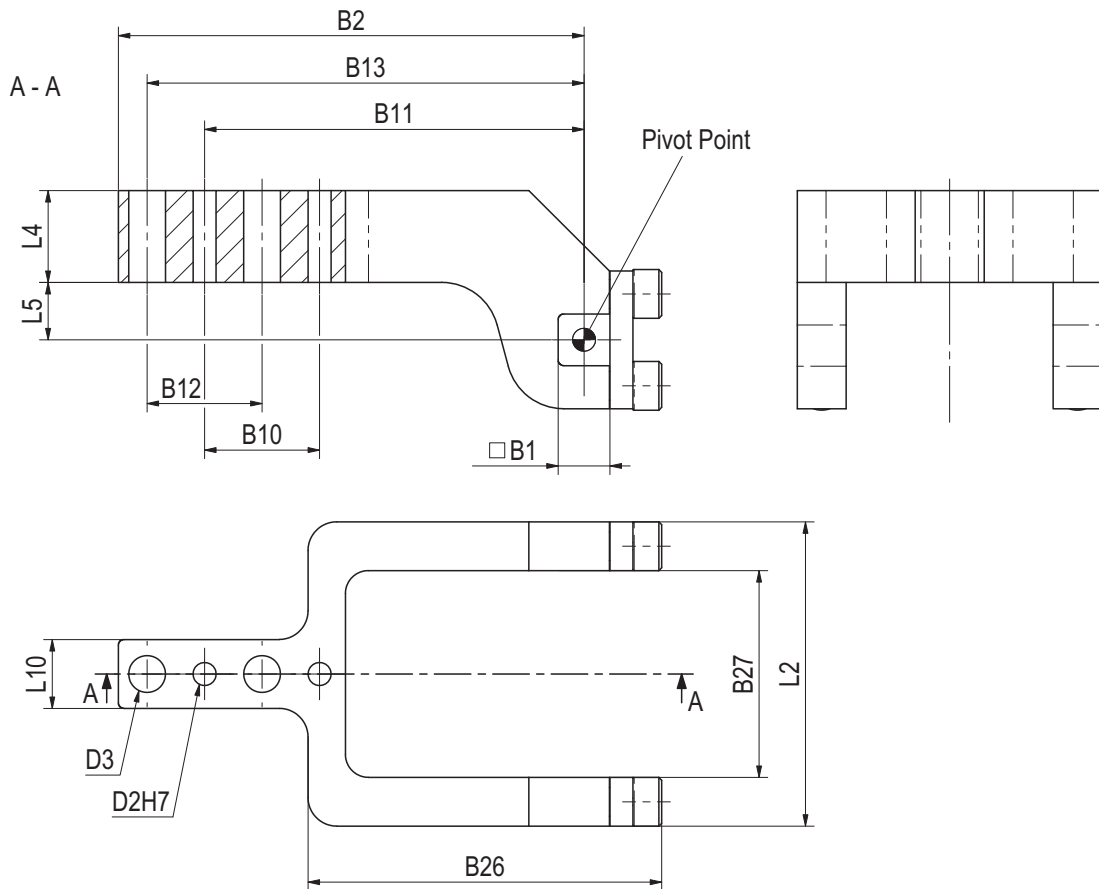


Grooves for round-sensors
Grooves for T-groove sensors



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

Series 82L..-4... Clamp Arm Dimensions

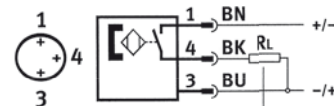


Model	Order no. for Arm	Max. Opening angle	B1	B2	B10 ±0,02	B11 ±0,02	B12 ±0,1	B13 ±0,1	B26	B27	D2 H7	D3	L2	L4	L5	L10
82L12-4...	8JG-401-1-01	105°	6	54	9	45.5	9	50	48.5	24	3	3.3	36	7	10	6
82L16-4...	8JG-402-1-01	105°	6	63	15	50.5	15	58	48.1	29	3	4.5	44	9.5	10	10
82L20-4...	8JG-403-1-01	105°	8	78	20	63	20	73	58	31,2	4	4.5	48	14	10	8
82L25-4...	8JG-404-1-01	105°	9	81	20	66	20	76	61.5	36	4	6.4	53	16	10	12

Accessories

Part no.	Description	Notes
8EA-109-1	Sensor	3-wire cable, M8x1 connector, 3-pin
82ZB-004-1	Adapter	Adapter for mounting 82L20-4..., 82L25-4.... to 25mm dia. bar

8EA-109-1



10V ... max. 30 VAC/VDC
Max. 500 mA
Max. 10 W

BN = Brown
BK = Black
BU = Blue
RL = Load

$R_L > 0$

Series **82L2G-2, 82L3.-2, 82L4.-2** Product Overview

Automation power clamps, lightweight design, enclosed model, with and without hand lever

Features:

- Shielded body, dirt-resistant
- Compact design
- High holding torques
- Long life cycle
- Low weight (aluminium body)
- Mounting areas at front, rear and partly lateral
- Toggle action mechanism
- Manual unlocking in case of pressure drop with extra tool
- Inductive sensing module (optional)

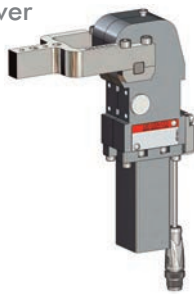
Application:

Clamping, holding, gripping and positioning of metal sheets and other parts, mainly in jigs and handling systems. Your best choice for carefully inserting and clamping components are the clamps with a hand lever.

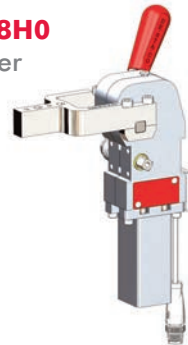
Key areas of application:

Automotive manufacturing and sheet processing industry.

82L2G-203B800
without hand lever
Horizontal
clamping
position



82L2G-203B8H0
with hand lever
Horizontal
clamping
position



Order code for **82L..-2.....**

Example Order No.: **82L3G - 2 03 B8 H 0 B**

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

Series -2 = Version
2G = pneumatic cylinder Ø25 (G1/8)
3G = pneumatic cylinder Ø32 (G1/8)
3N = pneumatic cylinder Ø32 (1/8-18 NPT)
4G = pneumatic cylinder Ø40 (G1/4)
4N = pneumatic cylinder Ø40 (1/4-18 NPT)

82L*-2*H***
82L2*-2*****
82L3*-2*****

Base Models

03 = ordering without clamping arm

03 = U-clamp arm, central 90°

11 = lateral clamp arm, left 90°

12 = lateral clamp arm, right 90°

23 = 2x lateral clamp arm 90°

38 = H-clamp arm 90°

43 = U-clamp arm, central 180°

51 = lateral clamp arm, left 180°

52 = lateral clamp arm, right 180°

63 = 2x lateral clamp arm 180°

78 = H-clamp arm 180°

105° standard opening angle for all models. **Lateral** and **H-clamping** arms not available for **82L2***

Clamp Arms

00 = without sensing system

C8 = sensing system **8EA-097-1** (M8x1)

B7 = sensing system **8EA-096-1** (M12x1)

B8 = sensing system **8EA-100-1** (M12x1)

Sensing System

0 = without hand lever

H = with hand lever

Hand Lever

0 = standard opening angle 105°

3 = 90° opening angle

4 = 75° opening angle

5 = 60° opening angle

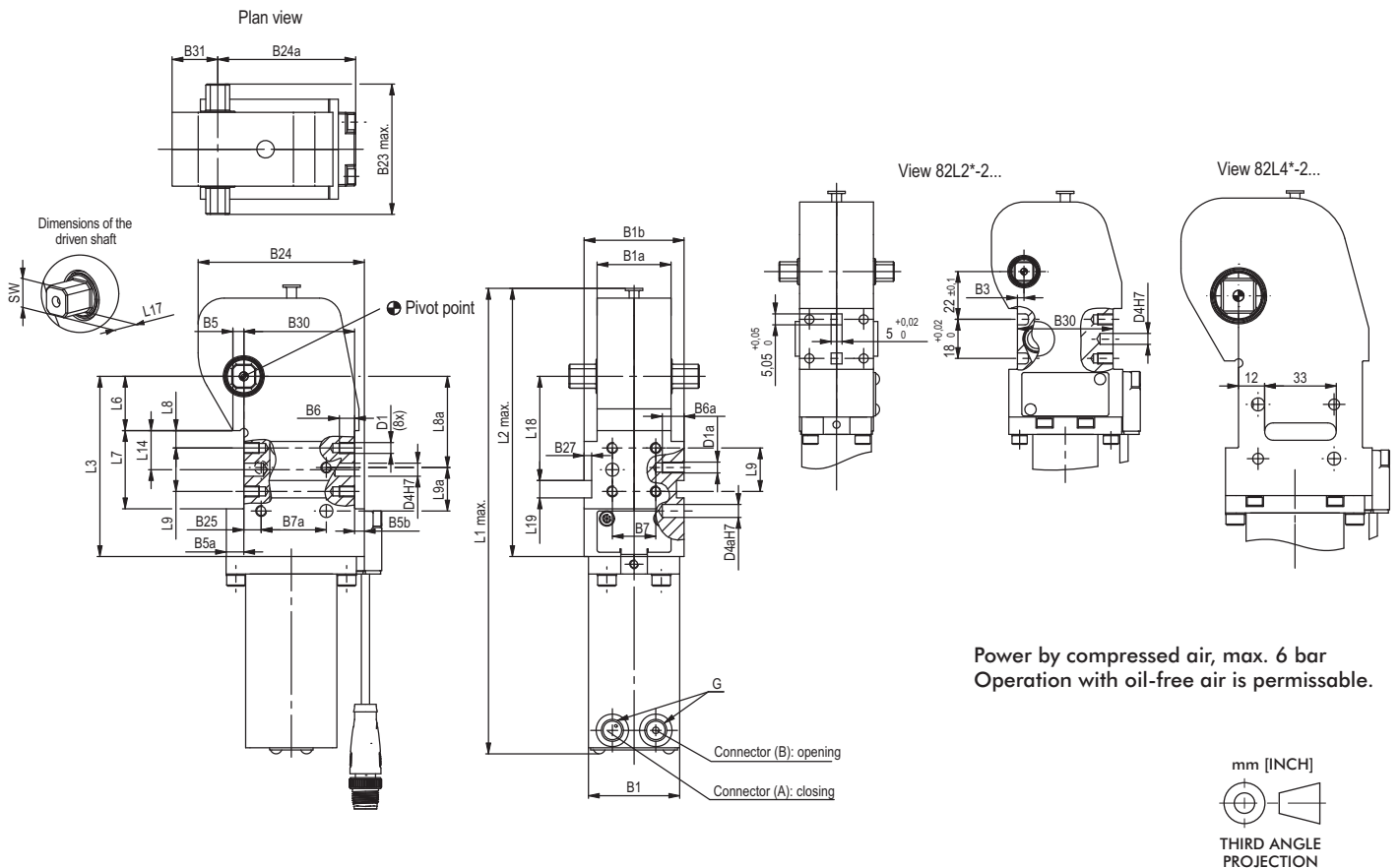
6 = 45° opening angle

7 = 30° opening angle

8 = 15° opening angle

Opening Angle

Series **82L2G-2**, **82L3-2**, **82L4-2** Technical Information, Standard Clamp Dimensions



Series **82L2G-2**, **82L3-2**, **82L4-2** Technical Information, Model without Hand Lever

Model	Max. holding torque Nm [lb ft]	Clamping torque at 5 bar [72 psi] Nm [lb ft]	Piston Ø mm	Weight kg [lbs]	Air consumption per double stroke at 5 bar [72 psi] dm ³ [ft ³]	Connection G
82L2G-2...	75 [55]	25 [18]	25	1,0 [2.20]	0,4 [0.01]	G1/8
82L3G-2... 82L3N-2...	180 [133]	55 [41]	32	1,3 [2.86]	0,8 [0.03]	G1/8 1/8-18 NPT
82L4G-2... 82L4N-2...	380 [280]	120 [89]	40	1,9 [4.18]	1,2 [0.04]	G1/4 1/4-18 NPT

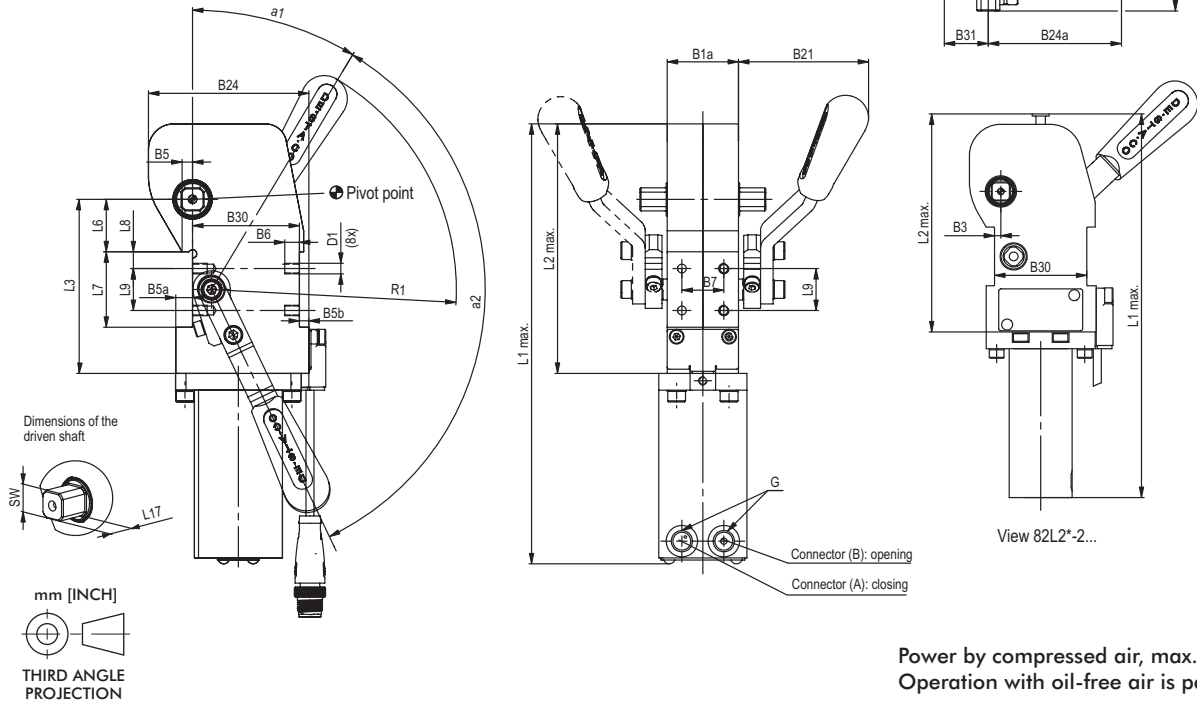
Model	B1	B1a	B1b	B3	B5	B5a	B5b	B6	B6a	B7 ± 0,1	B7a** ± 0,1	B23 max.	B24	B24a	B25 +0,1	B27	B30 ± 0,1	B31
82L2G-2...	32	34	-	3	4	4	4,5	7	-	25	-	53	60,5	53,5	-	-	44	15
82L3*-2...	42	34	46	-	5	8	4,5	7	10	20	30	60	76,5	63,5	8	3,5	51	21
82L4*-2...	45	40	-	-	6,5	6	4,5	10	10	25	35	74	88	69,5	9	3,5	57	26,5

Model	D1	D1a	D4 H7	D4a H7	L1 max.	L2 max.	L3	L6 ± 0,05	L7 + 0,1	L8 ± 0,1	L8a ± 0,1	L9 ± 0,1	L9a** ± 0,1	L14 ± 0,1	L17	L18	L19 N9	SW h9
82L2G-2...	M5	M5	5	-	183,5	104,5	67	17	28	5	-	18	-	14	8,5	-	-	9
82L3*-2...	M5	M5	6	6	215	124	83	25	36	8	42	20	20	18	12,5	48	8	11
82L4*-2...	M6	M6	6	6	245	141	92	30	40	10	50	20	25	20	16	58,5	8	16

**Tolerance for distance to dowel hole ±0,02

Series **82L2G-2, 82L3.-2, 82L4.-2** Technical Information, Standard Clamp Dimensions

Automation power clamps, lightweight design enclosed model, with hand lever



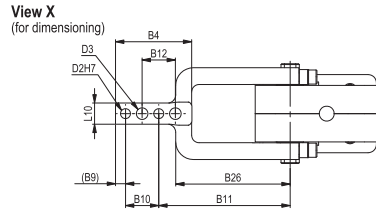
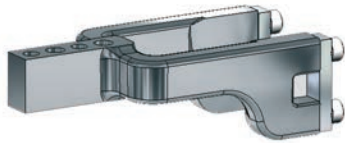
Series **82L2G-2, 82L3.-2, 82L4.-2** Technical Information, Model with Hand Lever

Model	Max. holding torque Nm [lb ft]	Clamping torque at 5 bar [72 psi] Nm [lb ft]	Piston Ø mm	Weight kg [lbs]	Opening angle	Air consumption per double stroke at 5 bar [72 psi] dm ³ [ft ³]	Connection G	B1	B1a	B3	B5	B5a
82L2G-2...	75 [55]	25 [18]	25	1,1 [2.42]	105°	0,4 [0.01]	G1/8	32	34	3	4	4
82L3G-2... 82L3N-2...	180 [133]	55 [41]	32	1,5 [3.30]		0,8 [0.03]	G1/8 1/8-18NPT	42	34	-	5	8
82L4G-2... 82L4N-2...	380 [280]	120 [89]	40	2,1 [4.62]		1,2 [0.04]	G1/4 1/4-18NPT	45	40	-	6,5	6

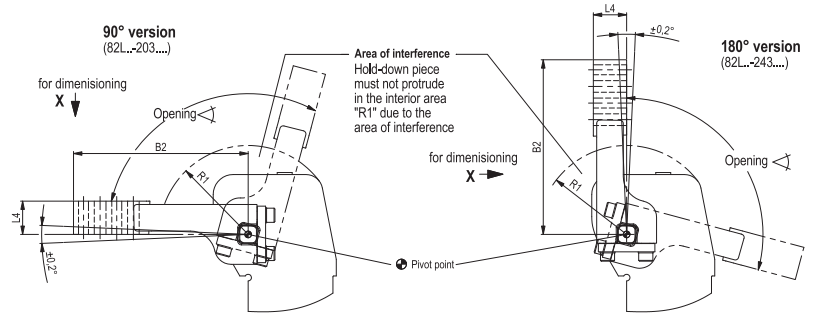
Model	B5b	B6	B7	B21	B23	B24	B24a	B30	B31	D1	L1	L2	L3	L6	L7	L8	L9	L17	SW	α1	α2	R1
	±0,1			~	max		±0,1			max.		max.		±0,05	+0,1	±0,1	±0,1	h9	~	~	~	
82L2G-2...	4,5	7	25	62	53	60,5	53,5	44	15	M5	183,5	104,5	67	17	28	5	18	8,5	9	36°	131°	117
82L3G-2... 82L3N-2...	4,5	7	20	62	60	76,5	63,5	51	21	M5	210	119	83	25	36	8	20	12,5	11	31°	124°	117
82L4G-2... 82L4N-2...	4,5	10	25	62	74	88	69,5	57	26,5	M6	241	137	92	30	40	10	20	16	16	31°	131°	117

Series **82L2G-2, 82L3.-2, 82L4.-2** Clamp Arm Variants

U-type central clamping arms Technical Information

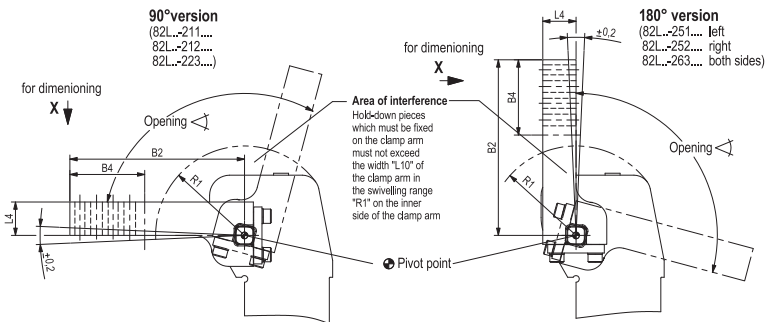
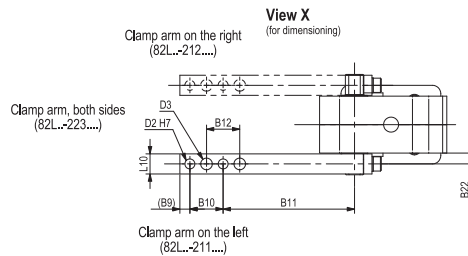
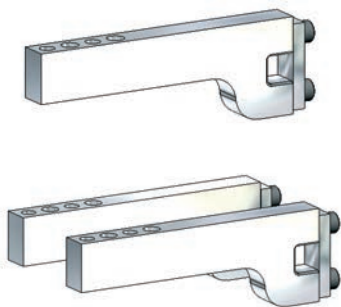


To complete the model number see model no. code.
Clamp arm sets consists of: Clamp arm, link and screws.



Model	Order no. for set of U-type central clamping arms	Opening angle for 90° - Version	Opening angle for 180° - Version	Weight [kg]	B2	B4	B9	B10	B11	B12	B26	D2	D3	L4	L10	R1
		max.	max.										H7	±0,1	*±1,1	~
82L2G-2...	8JG-075-3-01	105°	105°	0,3	93	45	8	20	65	20	58	4	6,5	20	12	45
82L3*-2...	8JG-065-2-01	105°	105°	0,37	105	45	6	20	79	20	69	6	7	20	12*	55
82L4*-2...	8JG-067-2-01	105°	105°	0,5	110	45	6	20	84	20	78	6	7	22	15*	58

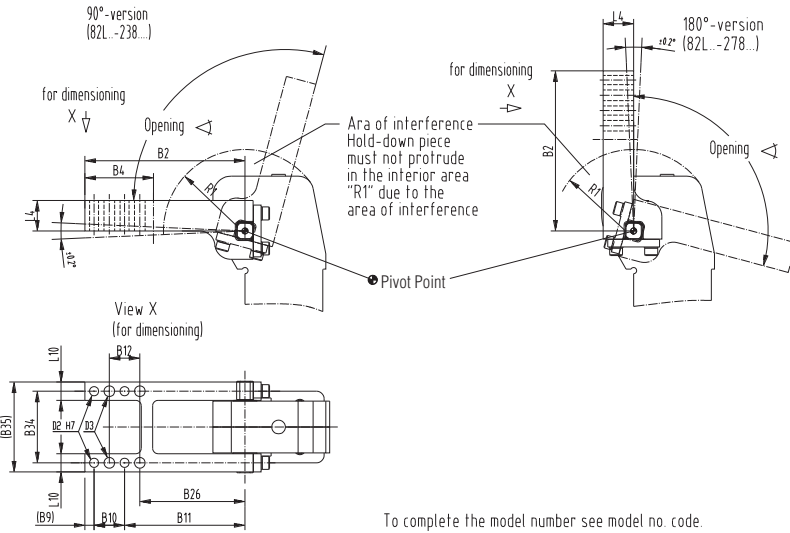
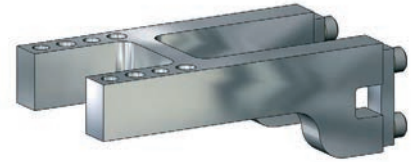
Lateral clamping arms Technical Information



Model	Order no. for set of Lateral clamping arms	Opening angle for 90° - Version	Opening angle for 180° - Version	Weight [kg]	B2	B4	B9	B10	B11	B12	B22	D2	D3	L4	L10	R1
		max.	max.										H7	±0,1	~	
82L3*-2...	8JG-066-1-01	105°	105°	0,25	105	45	6	20	79	20	6,5	6	7	20	12	55
82L4*-2...	8JG-068-1-01	105°	105°	0,3	92	45	6	20	66	20	8,5	6	7	22	15	58

Series **82L2G-2, 82L3.-2, 82L4.-2** Clamp Arm Variants

H- clamping arms Technical Information



To complete the model number see model no. code.
Clamp arm sets consists of: (Clamp arm, link and screws).

Model	Order no. for set of H-clamping arms	Opening angle for 90° - Version	Opening angle for 180° - Version	Weight [kg]	B2	B4	B9	B10	B11	B12	B26	B34	B35	D2	D3	L4	L10	R1
					±0,02	+0,1	±0,2	±0,1	H7	±0,1								
82L3*-2*8...	8JG-363-1-01	105°	105°	0,52	105	45	6	20	79	20	69	47,1	59,1	6	7	20	12	55
82L4*-2*8...	8JG-364-1-01	105°	105°	0,77	110	45	6	20	84	20	78	57,1	72,1	6	7	22	15	58

Concept guidelines

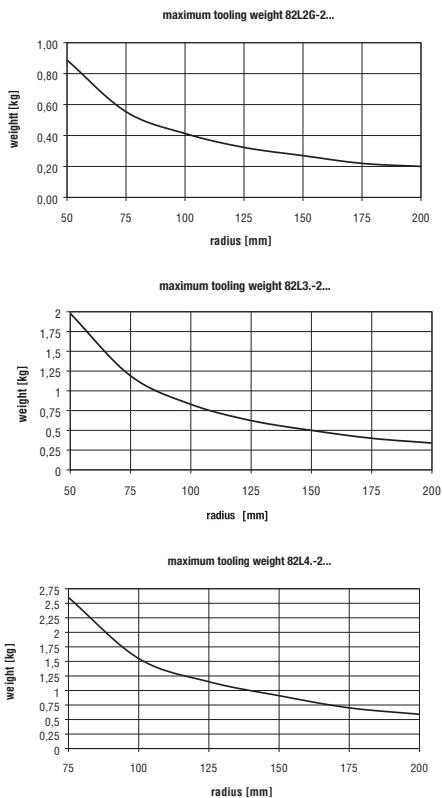
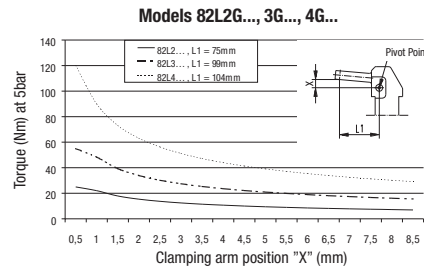


Diagram of Clamping Force (at 5 bar)

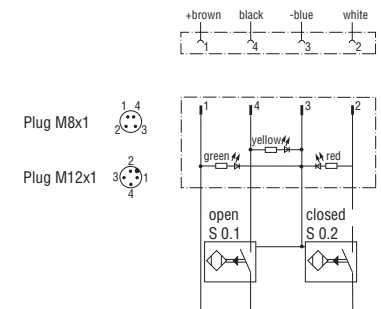


Wiring diagram of electrical sensing system

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

Inductive version: B8, B7, C8

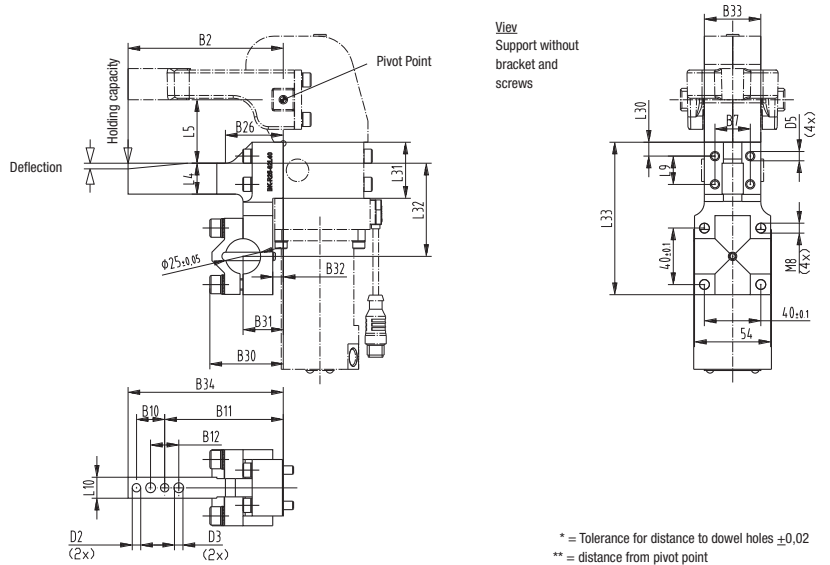
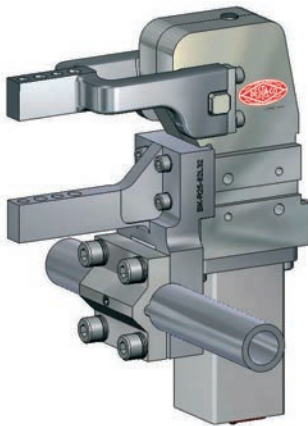
Pin Assignment



All data refers to a pneumatic pressure of 6 bar and to a opening and 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.

Series 82L2G-2, 82L3.-2, 82L4.-2 Accessory Information

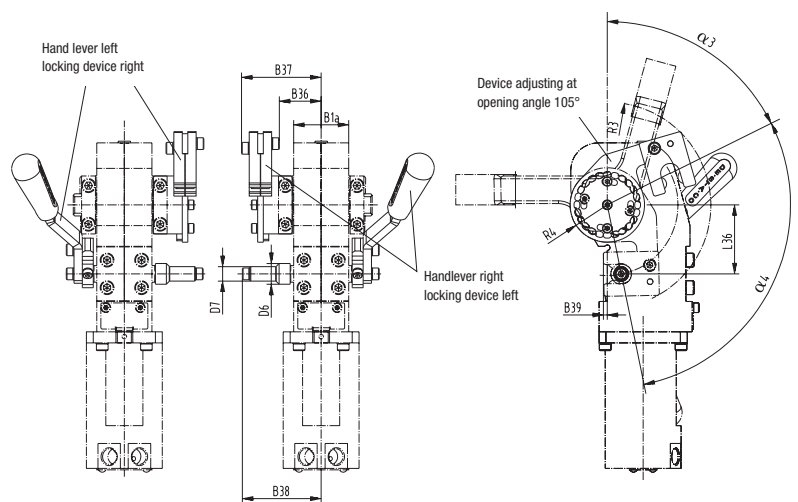
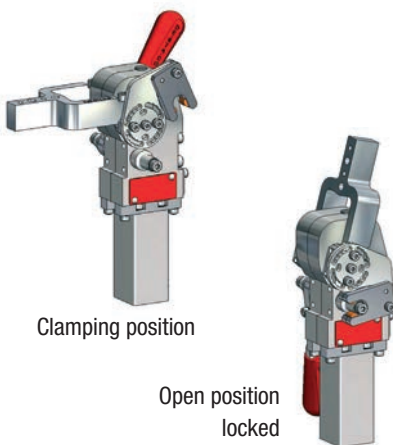
Counter-support



Model	Fit for Model	Holding Capacity max.	Deflection	Weight	B2	B7*	B10	B11	B12	B26	B30**	B31**	B32**
		[N]	[mm]	[kg]		$\pm 0,1$	$\pm 0,02$		~				
BK-R25-82L25-1	82L2_	914	0,2	0,4	93	25	20	62	20	42	55	31,5	11
BK-R25-82L32-1	82L3_	660	0,16	0,5	105	20	20	79	20	44	52	28,5	9
BK-R25-82L40-1	82L3_	2000	0,37	0,56	110	25	20	84	20	41	52	28,5	7,5

Model	B33	B34	D2	D3	D5	L4	L5	L9	L10	L30	L31	L32	L33
			\emptyset H7	\emptyset	\emptyset	$\pm 0,1$		$\pm 0,1$			-0,1		
BK-R25-82L25-1	35	90	4	6,5	5,5	20	45	18	12	4,95	27,9	50,9	106
BK-R25-82L32-1	46	105	6	7	5,5	20	45	20	12	7,85	35,7	59	106
BK-R25-82L40-1	40	110	6	7	6,6	22	45	20	15	9,85	39,7	66	108

Hold open device



Model	Fit for Model	B1a	B36	B37	B38	B39	D6	D7	L36	R3	R4	$\alpha 3$	$\alpha 4$
			$\pm 0,1$	$\pm 0,02$									
82ZB-036-1	82L2.-2....H..	34	25	47	47	3	15	10	31	53	18,5	63°	105°
82ZB-037-1	82L3.-2....H..	34	28	56	56	4	15	10,5	43	69	25	63°	105°
82ZB-038-1	82L4.-2....H..	40	30	58	58	3	15	10,5	50	76	27	63°	105°

Accessories with or without hand lever

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

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

Opening angle limitation	Opening Angle	82L2G-2		82L3.-2		82L4.-2	
		Order No.	L ± 0,1	Order No.	L ± 0,1	Order No.	L ± 0,1
	15°	8CE-282-1	28,6	8CE-296-1	33,3	8CE-310-1	38,4
	30°	8CE-284-1	23,1	8CE-298-1	26,9	8CE-312-1	31
	45°	8CE-286-1	18,5	8CE-300-1	21,5	8CE-314-1	24,7
	60°	8CE-288-1	14	8CE-302-1	16,3	8CE-316-1	18,6
	75°	8CE-290-1	9,4	8CE-304-1	11	8CE-318-1	12,5
	90°	8CE-292-1	4,7	8CE-306-1	5,5	8CE-320-1	6,2

Shim for clamping arm	Order No.	A1	A2	D2	D3	B9	B10	B12	L10
			82ZB-SH4001		0,1				
	82ZB-SH4002		0,2						
	82ZB-SH4005	42	0,5	6,5	7	6	20	20	12
	82ZB-SH4010		1,0						
	82ZB-SH4020		2,0						
	82ZB-SH4050		5,0						

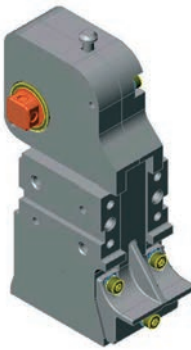
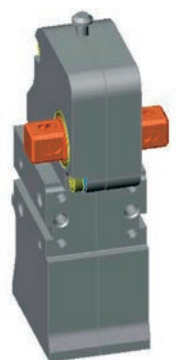

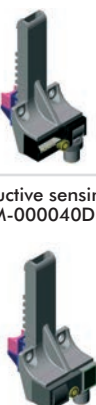
Spare Parts	Order No. for set		Order No. for set		Order No. for set	
	82L2G-2....0..	82L2G-2....H..	82L3.-2....0..	82L3.-2....H..	82L4.-2....0..	82L4.-2....H..
Cylinder	8PW-095-2		8PW-096-2		8PW-097-2	
Seal Kit	8PW-095-1-00		8PW-096-1-00		8PW-097-1-00	

Sensor Kit						
B8 Connector plug, M12x1, cable			8EA-100-1			
B7 Connector plug, M12x1, parallel with cylinder			8EA-096-1			
C8 Connector plug, M8x1, parallel with cylinder			8EA-097-1			
Hand Lever	--	8KB-031-1	--	8KB-031-1	--	8KB-032-1

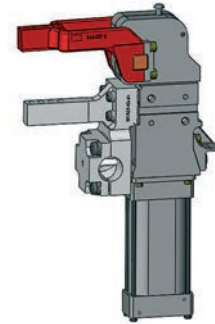
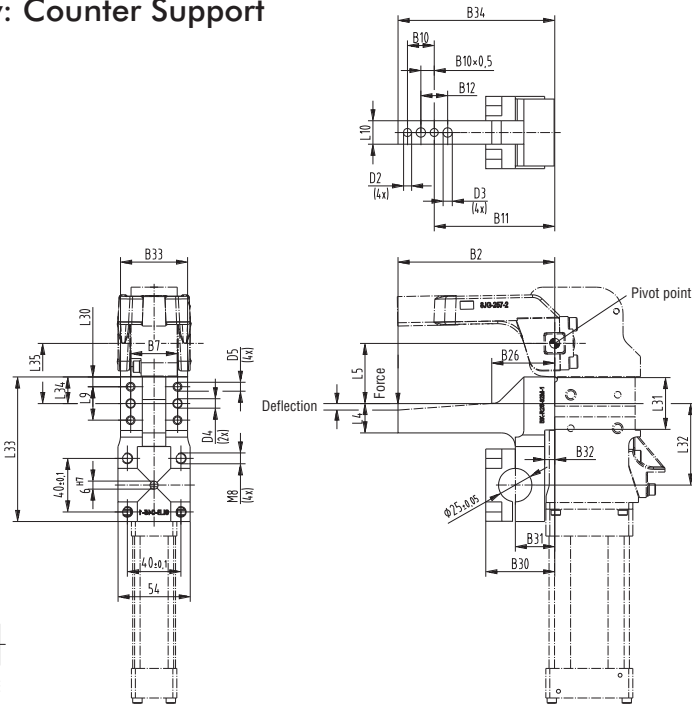
Series **82M-1** Ordering Information, Standard Clamp Dimensions

Order No. code for 82M-1..040..

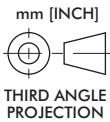
Example Order No.: **82M-1 23 0 40 C8**

<p>82M - 1 = Basic model without hand lever without cylinder without sensing system</p>  <p>Basic model</p>	<p>23 = drive shaft for lateral clamp arms and U-clamp arm</p>  <p>Drive shaft</p>	<p>0 = without hand lever</p>	<p>40 = pneumatic cylinder Ø40</p>  <p>Cylinder</p>	<p>00 = without sensing system C8 = inductive sensing system 82M-000040C8 D8 = inductive sensing system 82M-000040D8</p>  <p>Sensing system</p>
--	---	--------------------------------------	--	--

Accessory: Counter Support



BK-R25-82M-1



Model	B2	B7 ¹⁾	B10	B11	B12	B26	B30	B31	B32	B33	B34	D2	D3	D4	D5	L4	L5	L9	L10	L30	L31	L32	L33	L34	L35
BK-R25-82M-1	117	35	20	90	20	47	53	29,5	7,5	50	117	6	7	6	6,6	22	45	25	17,5	7,35	39,7	61	108	19,85	45

1) Tolerance for distance to dowel hole ±0,02

Series 82M-1 Product Overview (last time in catalog)

Features:

- Modular design
- Shielded body, dirt-resistant
- Compact design
- High holding torques
- Long life cycle
- Low weight (aluminium body)
- Wide range of clamping arm variants
- Adjustable opening angle without need for accessory parts
- Mounting areas at front, back and sides
- Toggle action mechanism
- Manual unlocking in case of pressure drop
- Inductive sensing module with LED display

Application:

Clamping, holding, gripping and positioning of metal sheets and other parts, mainly in jigs and handling systems.

Key areas of application:

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

82M-123040C8

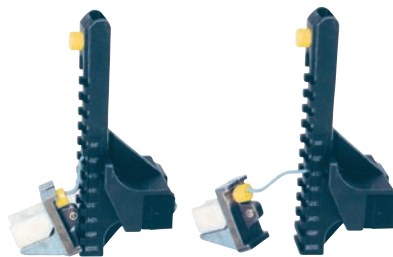
Lightweight, enclosed
Modular automation
power clamp



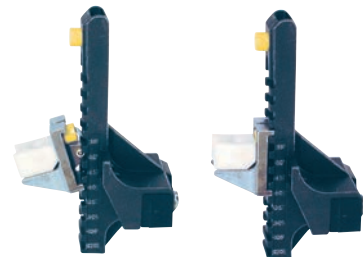
Simple adjusting of opening angle (pictures show sensor-box separated from clamp)



120° Opening angle
(delivery condition)



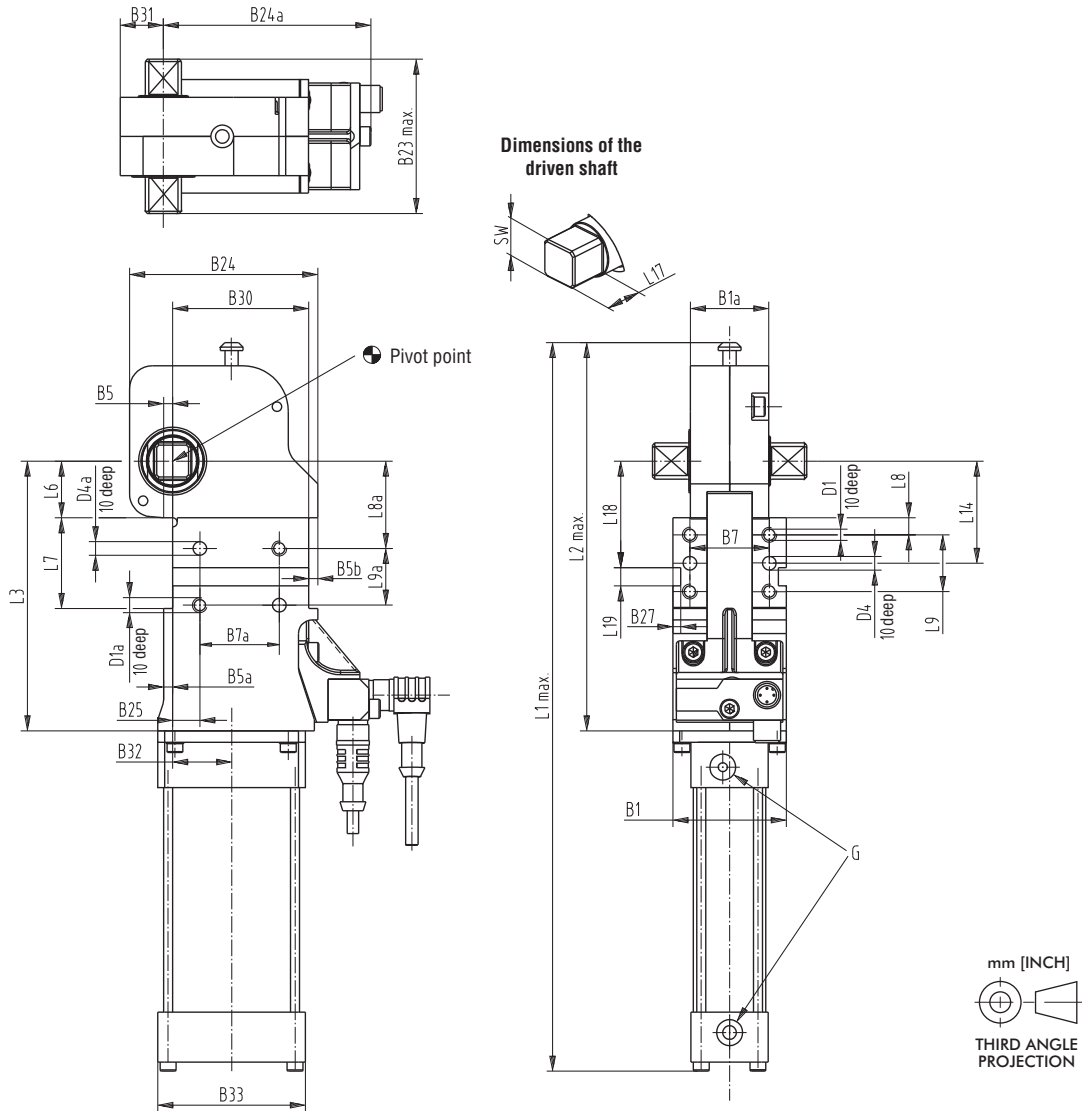
Click-out of bumper



Click-in in new position (60°)
(sensor box fit for reassembling to clamp)

Model		Standard opening angle	Max. holding torque Nm [lb ft]	Clamping torque at 5 bar Nm [lb ft]	Drive shaft for clamping arm variant	Clamping position	Cylinder Ø mm [in]	Air consumption per double stroke at 5 bar dm³ [ft³]	Weight ~ kg [lbs]	
w/o sensing	w/ ind. sensing Connector M12x1									
	parallel with cylinder									
	90° swivel									
82M-12304000	82M-123040C8	82M-123040D8	120°	380 [280]	120 [89]	lateral, U-central, U-lateral	horizontal/ vertical	40 [1.57]	1,2 [0.04]	2 [4.40]

Series 82M-1 Standard Clamp Dimensions



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

Model	Piston Ø	Connection G	B1 ±0,1	B1α	B5	B5α	B5b	B7 ¹⁾ ±0,1	B7α ¹⁾ ±0,1	B23 max.	B24
82M-123040_ _	40	G 1/4	50	34,5	4	4	4	35	35	68	83

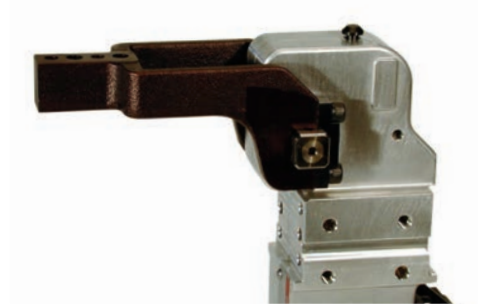
Model	B24α	B25 ±0,1	B27	B30 ±0,1	B31	B32	B33	D1	D1α	D4 H7 Ø	D4α H7 Ø	L1 max.	L2 max.
82M-123040_ _	91,5	12	3,5	60	19	25,8	65	M6	M6	6	6	323	173

Model	L3	L6 ±0,05	L7 +0,1	L8 ±0,1	L8α ±0,1	L9 ±0,1	L9α ¹⁾ ±0,1	L14 ±0,1	L17	L18	L19 N9	SW h9
82M-123040_ _	119	25	40	7,5	38,5	25	25	45	16	47	8	16

1) Tolerance for distance to dowel hole ±0,02

Series **82M-1** Clamping Arm Variants

Clamping arm design **Clamping position**
 U-type central clamping arm horizontal or vertical



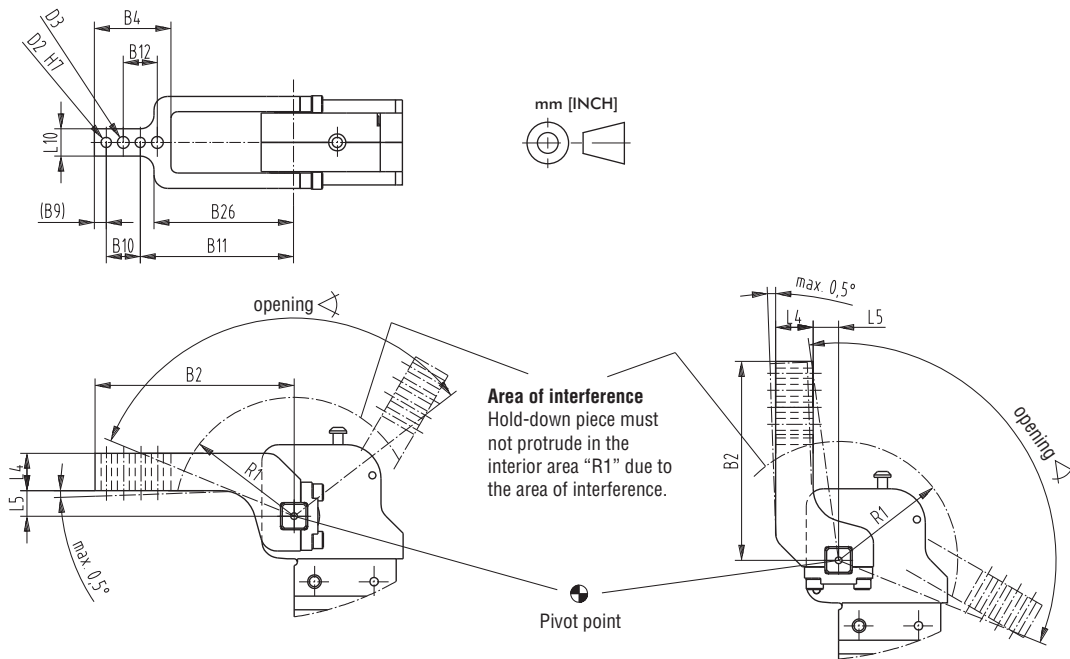
Central clamping arm, horizontal clamping position

U-type central clamping arm Technical Information

Model	Order no. for set of U-type central clamping arms	Opening angle for clamping position		Weight (kg)	B2	B4	B9	B10	B11	B12	B26	D2	D3	L4	L5	L10	R1
		horizontal	vertical														
82M-1...040..	8UM401-00-117	120°	105°	0,44	117	45	7	20	90	20	82	6	7	22	0	16	70
	8UM401-15-117	120°	120°	0,47	117	45	7	20	90	20	82	6	7	22	15	16	70
	8UM401-25-117	120°	120°	0,51	117	45	7	20	90	20	82	6	7	22	25	16	70
	8UM401-45-107	120°	120°	0,51	107	45	7	20	80	20	72	6	7	22	45	16	70

Horizontal clamping arm position

Vertical clamping arm position



Series **82M-1** Clamping Arm Variants

Lateral clamping arm, horizontal clamping position

Clamping arm design

lateral / left

lateral / right

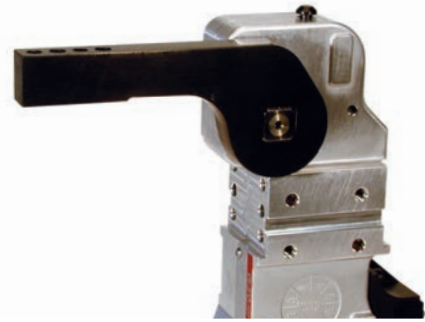
lateral / both sides

Clamping position

horizontal or vertical

horizontal or vertical

horizontal or vertical



Lateral clamping arm, horizontal clamping position

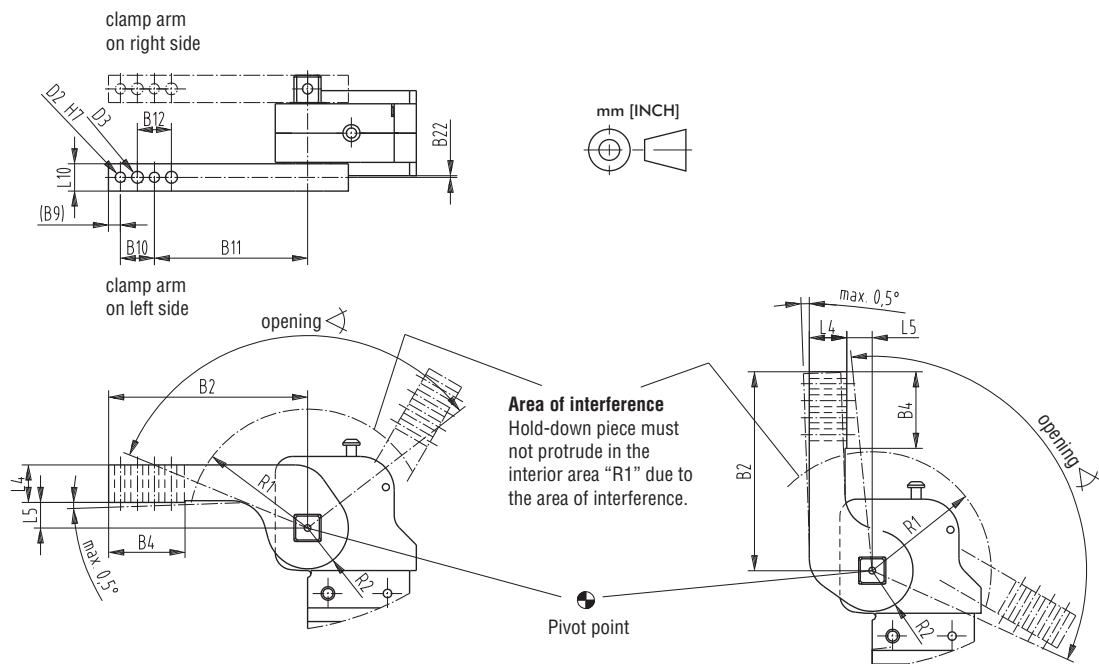
Lateral clamping arms Technical Information

Model	Order no. for set of lateral clamping arms	Opening angle for clamping position		Weight (kg)	B2	B4	B9	B10	B11	B12
		horizontal	vertical							
82M-1...040..	8S401-15-117	120°	120°	0,5	117	45	7	20	90	20

Model	Order no. for set of lateral clamping arms	B22	D2	D3	L4	L5	L10	R1	R2
82M-1..040..	8S401-15-117	1	6	7	22	15	16	70	24

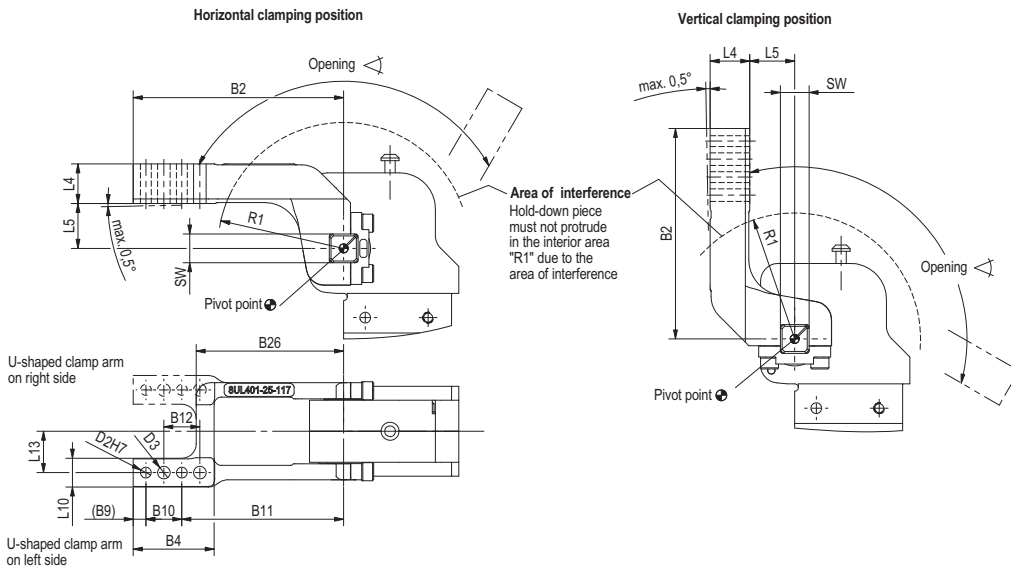
Horizontal clamping arm position

Vertical clamping arm position



Series **82M-1** Clamping Arm Variants

Clamping arm design U-type: left, right



U-type left clamping position: horizontal

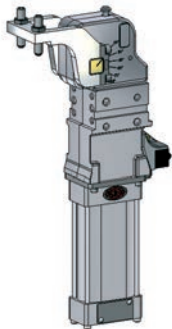


U-type right clamping position: horizontal

U-clamp arm lateral Technical Information

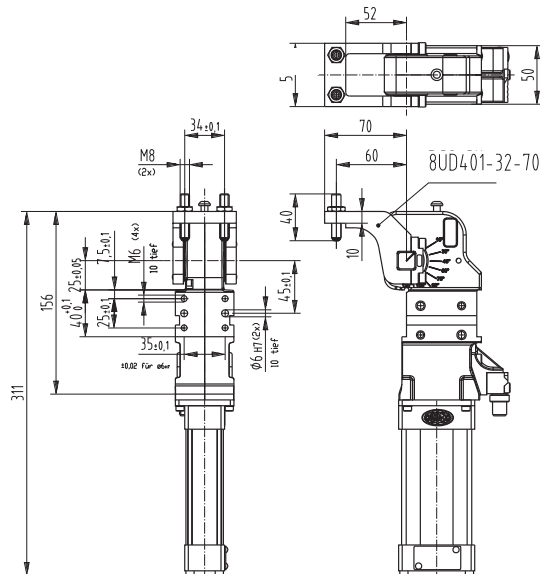
Order No. for set		Max. opening angle	Weight	B2	B4	B9	B10	B11	B12	B26	D2	D3	L4	L5	L10	L13	R1	
U-type clamping arms for 82M-1		in clamping position	(kg)				±0,02	+0,1	±0,2		H7		±0,1	(-0,5°	±1,1	±0,1		
left	right	horizontal	vertical								Ø	Ø	Ø	max.)				
8UL401-00-117	8UR401-00-117	120°	105°	0,40	117	45	7	20	90	20	82	6	7	22	0	16	23	70
8UL401-15-117	8UR401-15-117	120°	120°	0,43	117	45	7	20	90	20	82	6	7	22	15	16	23	70
8UL401-25-117	8UR401-25-117	120°	120°	0,47	117	45	7	20	90	20	82	6	7	22	25	16	23	70
8UL401-45-107	8UR401-45-107	120°	120°	0,48	107	45	7	20	80	20	72	6	7	22	45	16	23	70

Clamping arm special design with pressure bolt
Order no. 8UD401-32-70



82M-1 with arm 8UD401-32-70

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

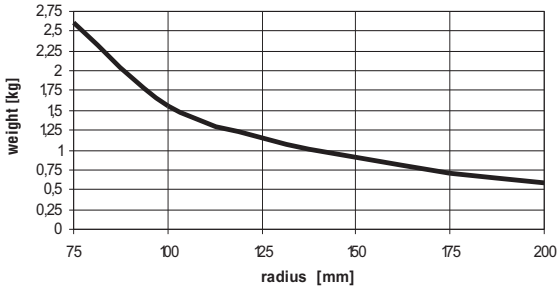


Series **82M-1** Technical Information

Concept guideline

(with reference to axis of clamping arm rotation)

maximum tooling weight 82M-...40

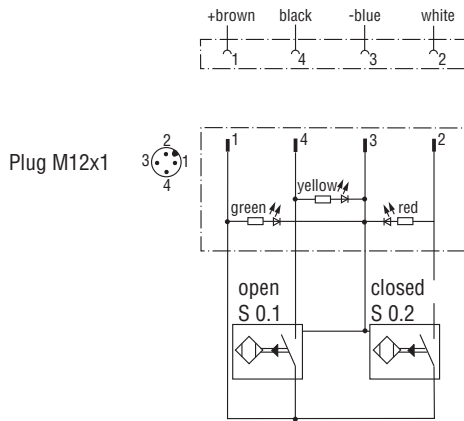


All details apply under an air pressure of 6 bar and opening and closure times of 1 second each.

Wiring diagram of electrical sensing system

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

Pin assignment

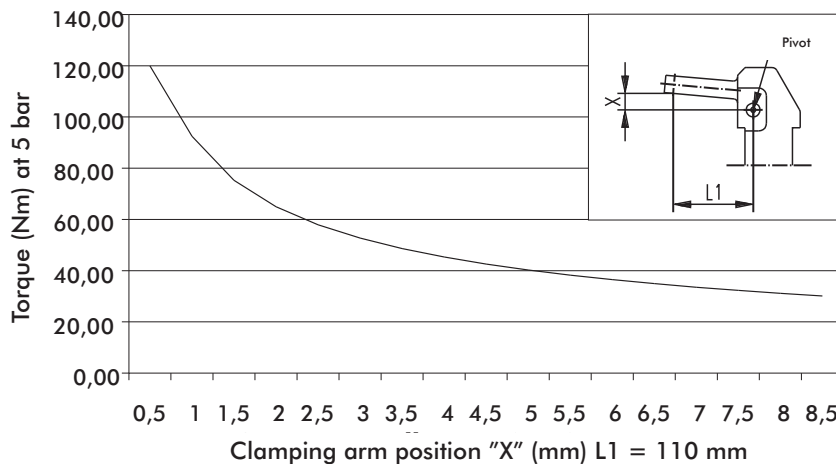



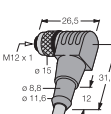

Inductive design:

- C8 Connecting plug M12x1, parallel with cylinder
- D8 Connecting plug M12x1, 90° swivel

Diagram of clamping force (at 5 bar)

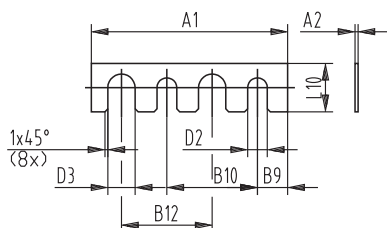
Model 82M-1...40...



Specification			Order no. for Set 82M-1..040..	Comment
Clamping arm variant	Fulcrum distance	Clamping position		
U-central	15	horizontal / vertical	8UM401-15-117	sets of U-type clamping arms consist of clamping arm, links and screws
U-central	25	horizontal / vertical	8UM401-25-117	
U-central	45	horizontal / vertical	8UM401-45-107	
U-central	0	horizontal / vertical	8UM401-00-117	
U-left	15	horizontal	8UL401-15-117	
U-left	25	horizontal	8UL401-25-117	
U-left	45	horizontal	8UL401-45-107	
U-left	0	horizontal	8UL401-00-117	
U-left	15	vertical	8UR401-15-117	
U-left	25	vertical	8UR401-25-117	
U-left	45	vertical	8UR401-45-107	
U-left	0	vertical	8UR401-00-117	
U-right	15	horizontal	8UR401-15-117	
U-right	25	horizontal	8UR401-25-117	
U-right	45	horizontal	8UR401-45-107	
U-right	0	horizontal	8UR401-00-117	
U-right	15	vertical	8UL401-15-117	
U-right	25	vertical	8UL401-25-117	
U-right	45	vertical	8UL401-45-107	
U-right	0	vertical	8UL401-00-117	
Lateral right/left	15	horizontal / vertical	8S401-15-117	sets of lateral clamping arms consist of clamping arm & set screws
Lateral both sides	15	horizontal / vertical	8S401-15-117	need 2 sets of clamping arms
Connector cable (1 connector socket & 5 m cable)				
connector socket M12x1 straight, 5-pin			8EL-002-1	
connector socket M12x1 angular, 4-pin			8EL-003-1	
Counter support			BK-R25-82M-1	

Specification	Structural component	Order no..	Comment
Complete sensor box for D8	82M-123040D8	82M-000040D8	Connector plug M12x1, 90° swivel
Complete sensor box for C8	82M-123040C8	82M-000040C8	Connector plug M12x1, parallel with cylinder
Limit stop box without sensing system	82M-12304000	82M-00004000	
Complete cylinder, Ø40	82M-123040..	8PW-046-2	
Seal kit and piston, Ø40	82M-123040..	8PW-046-2-00	

Shims for Clamping arm



Model	A1	A2	D2	D3	B9	B10	B12	L10
82ZB-SH4001		0,1						
82ZB-SH4002		0,2						
82ZB-SH4005	42	0,5	6,5	7	6	20	20	12
82ZB-SH4010		1,0						
82ZB-SH4020		2,0						
82ZB-SH4050		5,0						

Series 82M-3 Product Overview

Features:

- Modular design
- Enclosed body, dirt-resistant
- Aluminum body
- Toggle-action mechanism
- Manual locking/unlocking in case of pressure loss
- Adjustable opening angle (without additional parts)

Application:

- Clamping, holding and positioning of metal sheets and other parts, mainly in fixtures and handling systems



82M-3 Series
40mm, 50mm, 63mm and 80mm enclosed, lightweight power clamps



Driveshafts available for every arm style [Euro and NAAMS]



Opening angle adjustment with inductive sensor



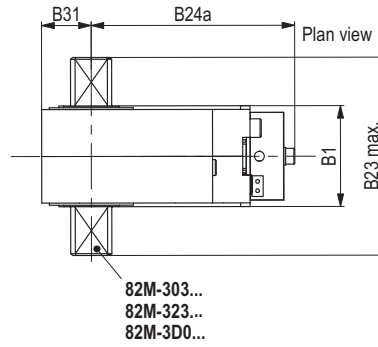
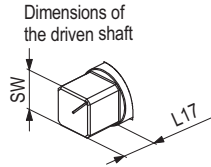
Manual lock and unlock access
Multiple patents pending

82M-3 Technical Information

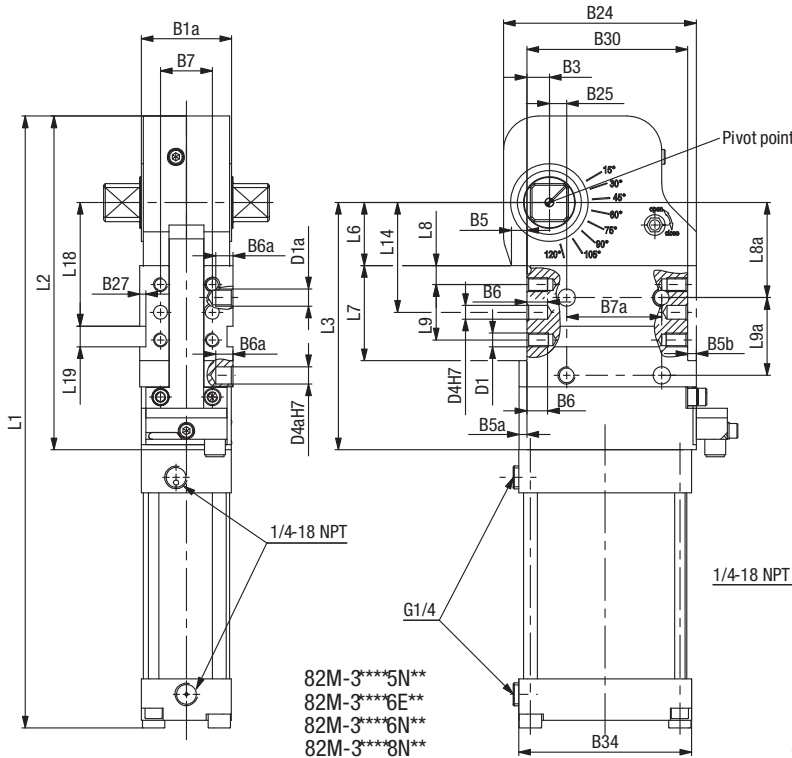
Model		Max. Holding Torque Nm [lb ft]	Clamping Torque at 5 bar Nm [lb ft]	Max. Opening Angle	Side Mounting Pattern	Driveshaft for Arm Style	Cylinder Ø mm [in]	Air Consumption per double stroke at 5 bar dm ³ [ft ³]	Weight kg [lbs]
Without Sensor	With Inductive Sensor Connector M12x1, Fixed								
82M-303004000	82M-3030040C8	380 [280]	120 [89]	120°	35 x 25	U-Arm	40mm	0,9 [0.03]	2 [4.40]
82M-323004000	82M-3230040C8					Lateral, 16mm			
82M-303005000	82M-3030050C8	800 [590]	270 [199]	120°	45 x 45 and 50 x 45	U-Arm	50mm	1,1 [0.04]	3,3 [7.3]
82M-323005000	82M-3230050C8					Lateral, 21mm			
82M-303006300	82M-3030063C8	1000 [738]	420 [310]	120°	50 x 45	U-Arm	63mm	2,6 [0.09]	4,2 [9.2]
82M-323006N00	82M-323006NC8					Lateral, 21mm			
82M-3D0006G00	82M-3D0006GC8					Lateral, 26mm			
82M-323008N00	82M-323008NC8	3000 [2214]	850 [625]	135°	70 x 75	Lateral, 32mm	80mm	6,0 [0.21]	9,2 [20.24]

Series 82M-3 Standard Clamp Dimensions

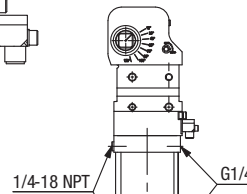
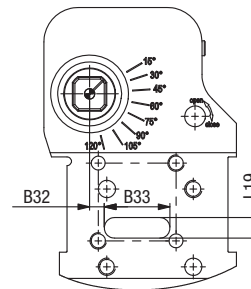
Model	SW h9			
	Ø40	Ø50	Ø63	Ø80
82M-303				
82M-323	16	19	22	28
82M-3D0				



Model	B23 Max.				L17			
	Ø40	Ø50	Ø63	Ø80	Ø40	Ø50	Ø63	Ø80
82M-303	54	72	78	--	9	12	12	--
82M-323	68	90	96	140	16	21	21	32
82M-3D0	--	--	106	--	--	--	26	--



Euro Mount (NAAMS Mount shown, left)



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

Electrical data for inductive sensors
see "KSE D-8EA-..."

The connector socket and the cable are not supplied with the unit.
Clamping arms see separate data sheets

To complete the model number see model no. code

** Tolerance of the distance between the dowel holes ±0,02

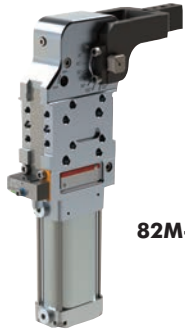
- 82M-3***50**
- 82M-3***55**
- 82M-3***63**
- 82M-3***6G**
- 82M-3***80**

Model	Connection	B1 ±0,1	B1a ±0,1	B3 ±0,1	B5 ±0,1	B5a ±0,1	B5b ±0,1	B6 ±0,1	B6a ±0,1	B7 ¹⁾ ±0,1	B7a ¹⁾ ±0,1	B24 ±0,1	B24a ±0,1	B25 ±0,1	B27 ±0,1	B30 ±0,1	B31 ±0,1	B32 ±0,1
82M-3***40**	G 1/4	50	36	--	3	3,5	5	10	10	35	35	84	89	12	3,5	60	19	--
82M-3***50**	G 1/4	48	48	13	9	4,5	5	12	10	30	50	111,5	109	10	3,5	93	26,5	8,5
82M-3***5N**	1/4-18 NPT	48	48	13	9	4,5	5	12	8	30	45	111,5	109	5	--	93	26,5	--
82M-3***63**	G 1/4	54	52	13	9	4,5	5	12	10	30	50	111,5	109	10	3,5	93	26,5	--
82M-3***6N**	1/4-18 NPT	54	52	13	9	4,5	5	12	10	30	55	111,5	109	10	3,5	93	26,5	--
82M-3***6G**	G 1/4	54	52	13	9	4,5	5	12	10	30	55	111,5	109	10	3,5	93	26,5	--
82M-3***80**	G 1/4	76	72	21	--	5	5	15	15	50	70	153	136	15	3,5	134	35	--
82M-3***8N**	1/4-18 NPT	76	72	21	--	5	5	15	15	50	70	153	136	15	3,5	134	35	--

Model	B33	B34	D1	D1a	D4 H7	D4a H7	L1	L2	L3	L6 ±0,05	L7 +0,1	L8 ±0,1	L8a ±0,1	L9 ±0,1	L9a ±0,1	L14 ±0,1	L18 ±0,1	L19 N9
82M-3***40**	--	65	M6	M6	6	6	298	159	119	25	40	7,5	38,5	25	25	45	47	8
82M-3***50**	38	72	M8	M10	8	10	345	193	143	36,5	55	11	55	32	45	63,5	71,5	12
82M-3***5N**	--	72	M8	M8	8	8	345	193	143	36,5	55	11	40	32	45	63,5	--	--
82M-3***63**	--	100	M8	M10	8	10	354	193	143	36,5	55	11	55	32	45	63,5	71,5	12
82M-3***6N**	--	100	M8	M10	8	10	354	193	143	36,5	55	11	55	32	45	63,5	71,5	12
82M-3***6G**	--	100	M8	M10	8	10	354	193	143	36,5	55	11	55	32	45	63,5	71,5	12
82M-3***80**	--	134	M10	M12	8	12	455	260	190	50	80	15	65	50	75	90	96,5	12
82M-3***8N**	--	134	M10	M12	8	12	455	260	190	50	80	15	65	50	75	90	96,5	12

1) Tolerance of the distance between the dowel holes ±0,02

Series 82M-3 Ordering Information, Spare Parts



Base Model
82M-3 Power Clamp



Hand Lever
00 without Hand Lever



Sensor
00 without Sensor
C8 with Sensor
D8 with Sensor
L8 with Sensor



For U-Clamp

Drive Shaft
Size 40
03 for U-style clamp arms (L17=9mm)
23 for lateral/side clamp arms (L17=16mm)



For Lateral Clamp

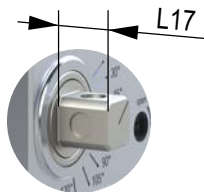
Size 50
03 for U-Clamp Arms (L17=12mm)
23 for Lateral Clamp Arms (L17=21mm)



For Lateral Side Arm

Size 63
03 for U-Clamp Arms (L17=12mm)
23 for Lateral Clamp Arms (L17=21mm)
D0 for Lateral Clamp Arms (L17=26mm)

Size 80
23 for lateral/side clamp arms (L17=32mm)

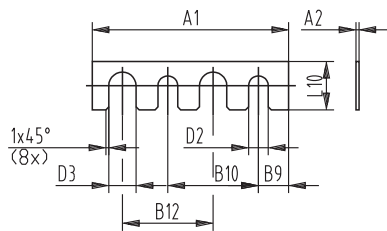


Pneumatic Cylinder
40 40mm Cylinder with G Ports
50 50mm Cylinder with G Ports, Euro + NAAMS Mount
5N 50mm Cylinder with NPT Ports, Euro + NAAMS Mount
63 63mm Cylinder with G Ports, Euro Mount
6G 63mm Cylinder with G Ports, NAAMS Mount
6N 63mm Cylinder with NPT Ports, NAAMS Mount
80 80mm Cylinder with G Ports
8N 80mm Cylinder with NPT Ports

Spare Parts

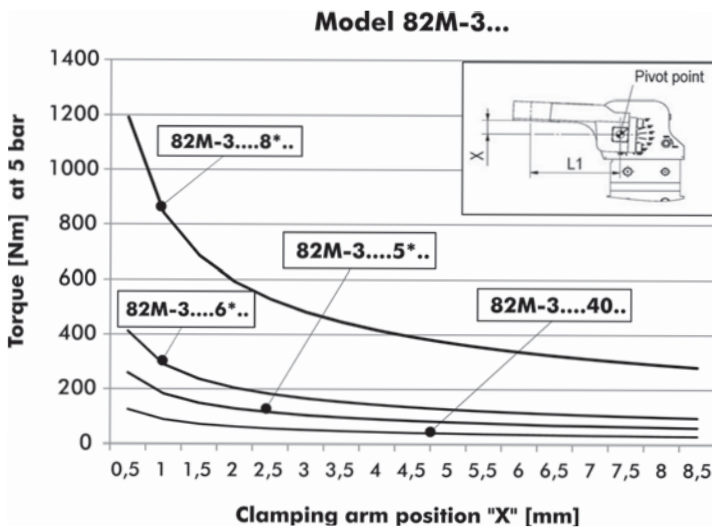
Order No.	Seal Kit and Piston	Complete Cylinder	Complete Sensing		
			C8 Sensor	D8 Sensor	L8 Sensor
82M-3****4**	8PW-046-2-00	8PW-126-1	8EA-127-1	8EA-129-1	8EA-128-1
82M-3****5**	8PW-036-2-00	8PW-127-1	8EA-127-1	8EA-129-1	8EA-128-1
82M-3****6**	8PW-037-2-00	8PW-128-1	8EA-127-1	8EA-129-1	8EA-128-1
82M-3****8**	8PW-133-1-00	8PW-133-1	8EA-132-1	8EA-134-1	8EA-136-1

Shims for Clamping Arm



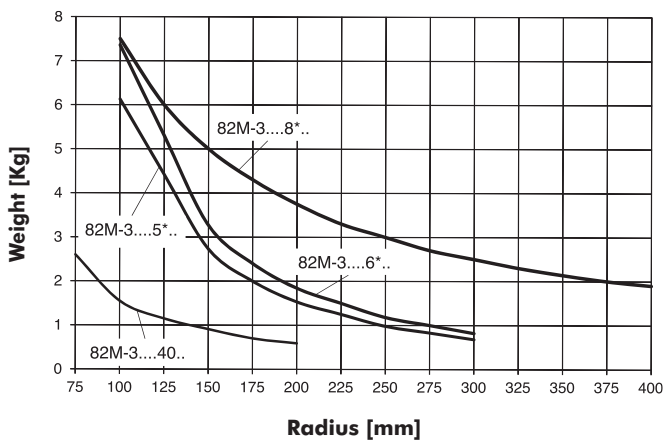
Model	A1	A2	D2	D3	B9	B10	B12	L10
82ZB-SH4001		0,1						
82ZB-SH4002		0,2						
82ZB-SH4005	42	0,5	6,5	7	6	20	20	12
82ZB-SH4010		1,0						
82ZB-SH4020		2,0						
82ZB-SH4050		5,0						
82ZB-SH5001	65	0,1	6,5	9	10	30	30	16
82ZB-SH5002		0,2						
82ZB-SH5005		0,5						
82ZB-SH5010		1,0						
82ZB-SH5020		2,0						
82ZB-SH5050		5,0						

Diagram of Clamping Force at 5bar (72psi)



82M-3...40.. L1 = 100mm
82M-3...5*/6*.. L1 = 120mm
82M-3...80.. L1 = 195mm

Maximum Tooling Weight



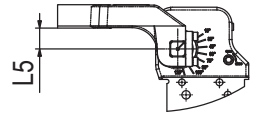
Note:

All values are at 6 bar and 1 second opening and closing time.

For arm offsets (L5) greater than 50mm, reduce values as follows:

82M-340..** reduce by 85%
82M-350/63..** reduce by 60%
82M-380..** reduce by 60%

Weight of arm must be included

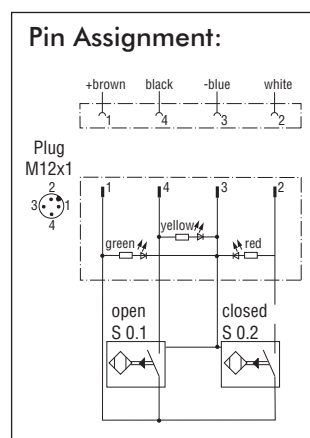


Sensor Wiring Diagram of Electrical System

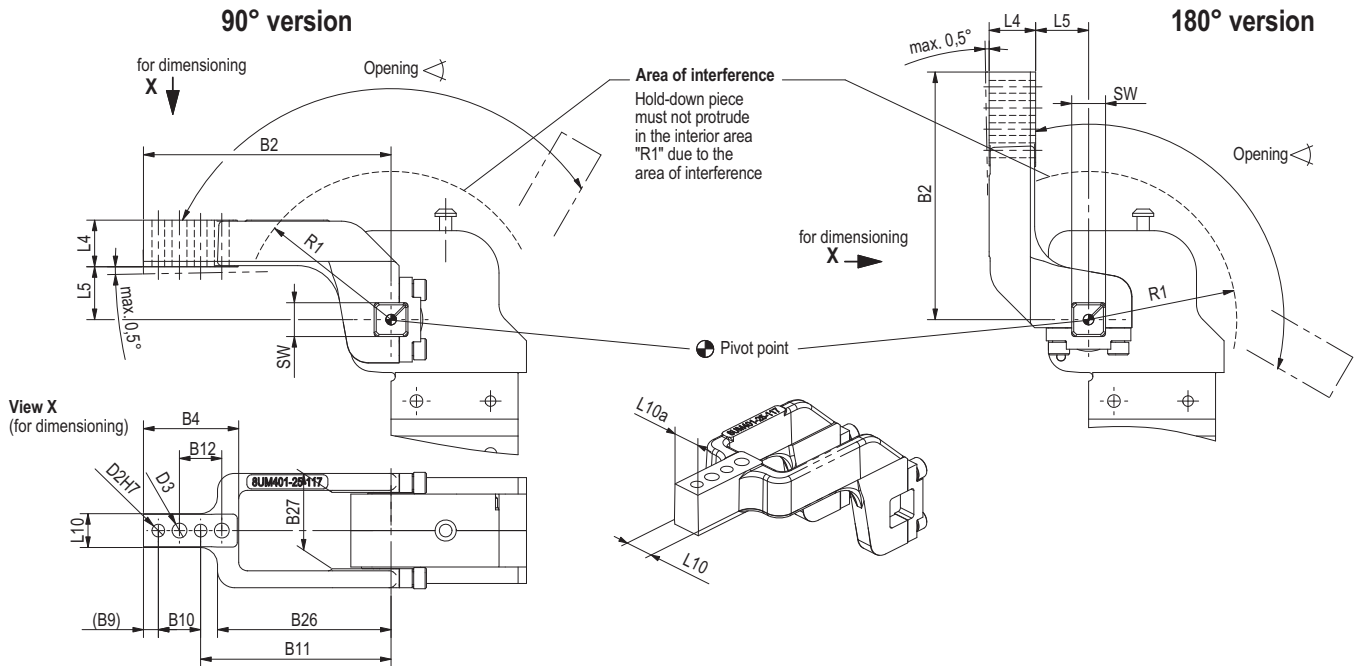
Sensing system immune to interference from D.C. arc welding and A.C. arc welding

Inductive design:

- **C8** Connecting plug M12x1, parallel with cylinder
- **D8** Connecting plug M12x1, 90° swivel
- **L8** Connecting plug M12x1, parallel with cylinder (DE-STA-CO)



Series **82M-3** U-Arms Center, Euro-Style

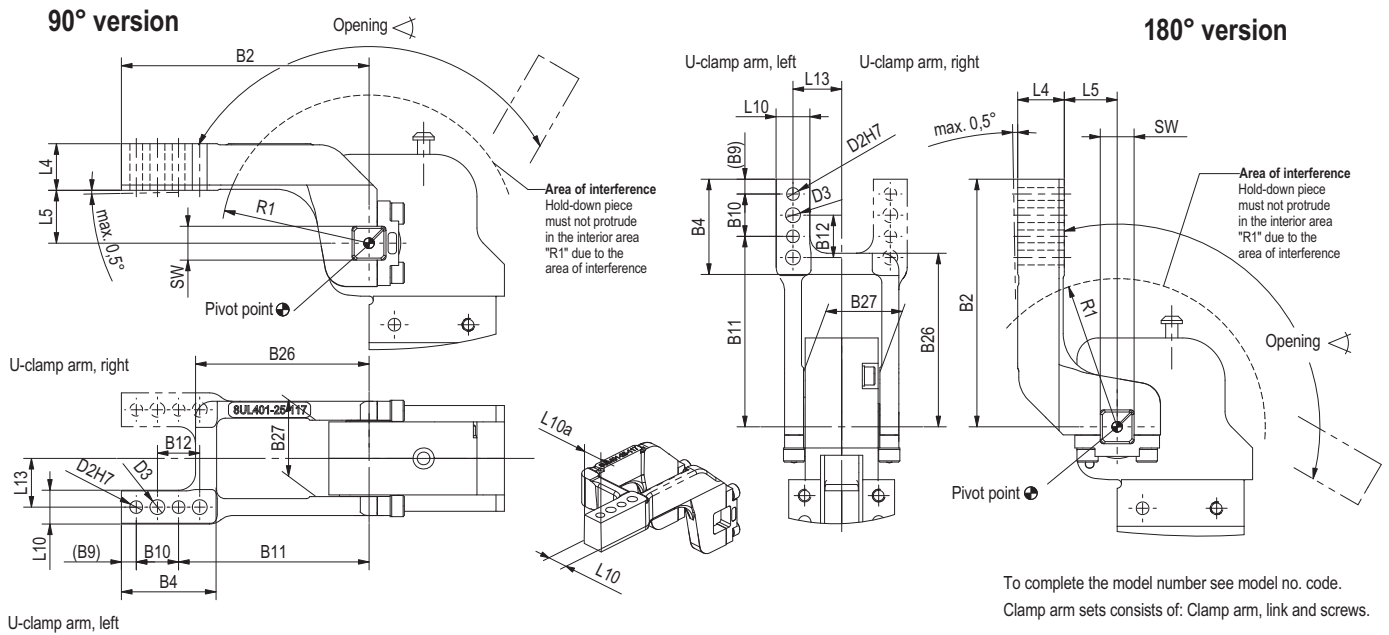


Clamp Model No.	Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight	B2	B4	B9	B10 ±0,02	B11 +0,1	B12 ±0,2
82M-3****40**	■ 8UM401-00-117	120°	105°	0,44	117				90	
	■ 8UM401-15-117	120°	120°	0,47	117	45	7	20	90	20
	■ 8UM401-25-117	120°	120°	0,51	117				90	
	■ 8UM401-45-107	120°	120°	0,51	107				80	
82M-3****50** 82M-3****5N**	■ 8UM501-15-144	120°	105°	1,1						
	■ 8UM501-25-144	120°	105°	1,1	144	64	9	30	105	30
	■ 8UM501-45-144	120°	120°	1,1						
82M-3****63** 82M-3****6N** 82M-3****6C**	■ 8UM631-15-144	120°	105°	1,1	144	64,3			105	
	■ 8UM631-25-144	120°	120°	1,2	144	64,3	9	30	105	30
	■ 8UM631-45-144	120°	120°	1,3	144	64,3			105	
	■ 8UM631-75-204	120°	120°	1,7	204	82			165	
82M-3****80** 82M-3****8N**	■ 8JG-169-2-01	135°	105°	3,5	179	64,5	9	30	140	30
	■ 8UM801-45-204	135°	135°	4,1	204				165	

Clamp Model No.	Arm Model No.	B26	B27 +0,2	D2 H7	D3	L4 ±0,1	L5 (-0,5° Max)	L10 ±1,1	L10α	R1	SW J7	SW +0,02 -0,009
82M-3****40**	■ 8UM401-00-117	82					0					
	■ 8UM401-15-117	82	36,1	6	7	22	15	16	15	70	16	--
	■ 8UM401-25-117	82					25					
	■ 8UM401-45-107	72					45					
82M-3****50** 82M-3****5N**	■ 8UM501-15-144						15					
	■ 8UM501-25-144	95	48,1	6	9	28	25	20	19	75	--	19
	■ 8UM501-45-144						45					
82M-3****63** 82M-3****6N** 82M-3****6C**	■ 8UM631-15-144	95				28	15					
	■ 8UM631-25-144	95	54,1	6	9	28	25	20	19	80	--	22
	■ 8UM631-45-144	95				28	45					
	■ 8UM631-75-204	107				30	75					
82M-3****80** 82M-3****8N**	■ 8JG-169-2-01	129					20					
	■ 8UM801-45-204	154	76,1	6	9	35	45	25	23,7	108	28	--

■ Common in Europe

Series 82M-3 U-Arms Left and Right, Euro-Style



To complete the model number see model no. code.
Clamp arm sets consists of: Clamp arm, link and screws.

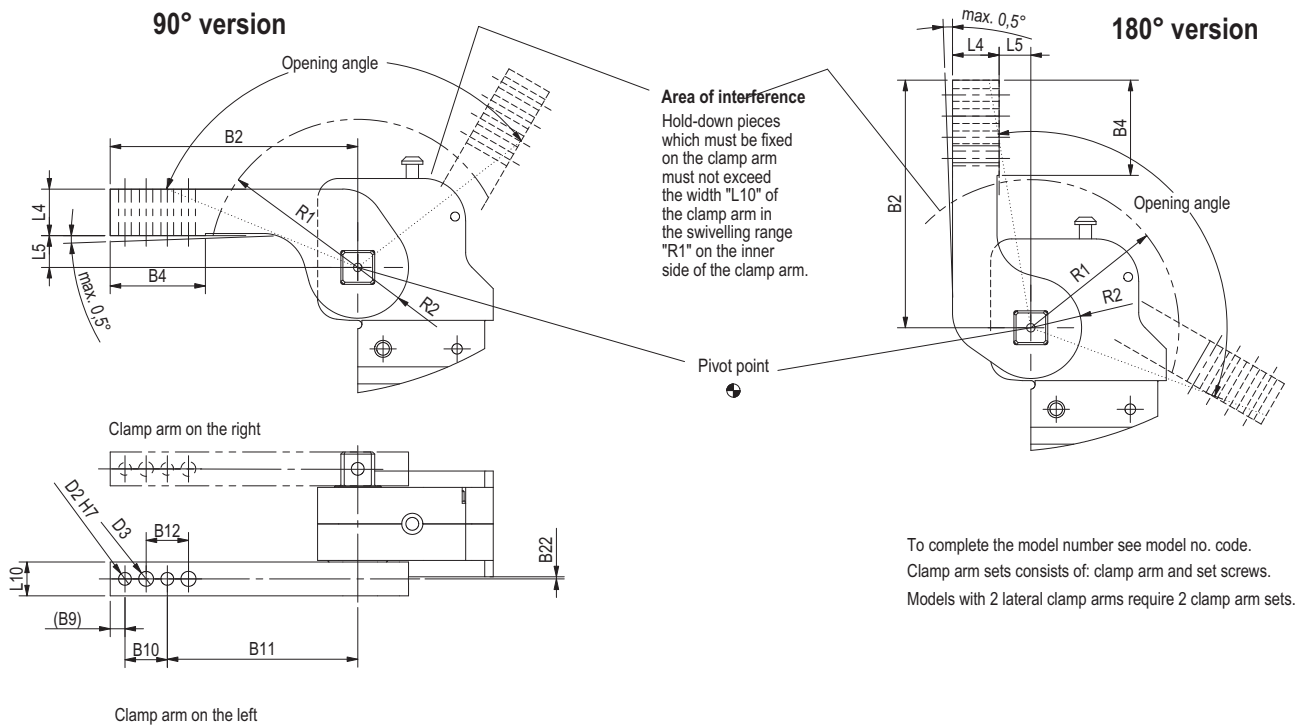
Clamp Model No.	Arm Model No. U-Arm, Left	Arm Model No. U-Arm, Right	Max. Opening 90° Version	Max. Opening 180° Version	Weight	B2	B4	B9	B10 ±0,02	B11 +0,1	B12 ±0,2
82M-3****40**	8UL401-00-117	8UR401-00-117	120°	105°	0,40	117				90	
	8UL401-15-117	8UR401-15-117	120°	120°	0,43	117	45	7	20	90	20
	8UL401-25-117	8UR401-25-117	120°	120°	0,47	117				90	
	8UL401-45-107	8UR401-45-107	120°	120°	0,48	107				80	
82M-3****50**	8UL501-15-144	8UR501-15-144	120°	105°	1,1						
	8UL501-25-144	8UR501-25-144	120°	105°	1,2	144	64,3	9	30	105	30
82M-3****5N**	8UL501-45-144	8UR501-45-144	120°	120°	1,2						
82M-3****63**	8UL631-15-144	8UR631-15-144	120°	105°	1,2		64,3			105	
	8UL631-25-144	8UR631-25-144	120°	120°	1,2	144	64,3			105	
	8UL631-45-144	8UR631-45-144	120°	120°	1,3		64,3	9	30	105	30
	8UL631-75-204	8UR631-75-204	120°	120°	1,9	204	82			165	

Clamp Model No.	Arm Model No. U-Arm, Left	Arm Model No. U-Arm, Right	B26	B27 +0,2	D2 H7	D3	L4 ±0,1	L5 (-0,5° Max)	L10 ±1,1	L10a	L13 ±0,1	R1	SW J7	SW +0,02 -0,009
82M-3****40**	8UL401-00-117	8UR401-00-117	82					0						
	8UL401-15-117	8UR401-15-117	82	36,1	6	7	22	15	16	15	23	70	16	--
	8UL401-25-117	8UR401-25-117	82					25						
	8UL401-45-117	8UR401-45-117	72					45						
82M-3****50**	8UL501-15-144	8UR501-15-144						15						
	8UL501-25-144	8UR501-25-144	95	48,1	6	9	28	25	20	19	34	75	--	19
82M-3****5N**	8UL501-45-144	8UR501-45-144						45						
82M-3****63**	8UL631-15-144	8UR631-15-144	95					15						
	8UL631-25-144	8UR631-25-144	95					25						
	8UL631-45-144	8UR631-45-144	95	54,1	6	9	28	25	20	19	37	80	--	22
	8UL631-75-204	8UR631-75-204	119					30						

■ Common in Europe

Please consider when ordering:
 U-Arm, left 90° version = **8UL*****
 U-Arm, right 90° version = **8UR*****
 U-Arm, left 180° version = **8UL*****
 U-Arm, right 180° version = **8UR*****

Series **82M-3** Lateral (Side), Euro-Style

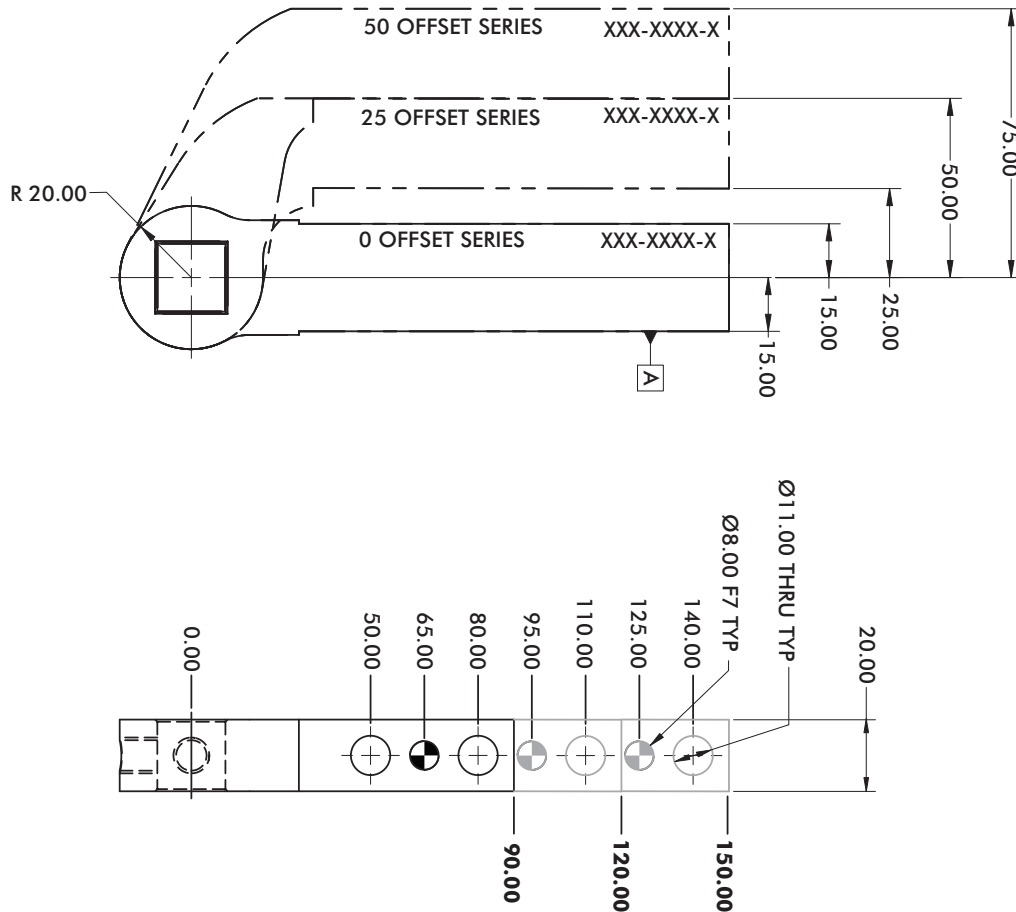


Clamp Model No.	Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight	B2	B4	B9	B10 ±0,02	B11 +0,1
82M-3****40**	8S401-15-117	120°	120°	0,5	117	45	7	20	90
82M-3****50**	8JG-070-1-01	120°	120°	0,9	144	74	9	30	105
82M-3****5N**	8S501-25-144	120°	120°	1,0					
82M-3****63**	8JG-080-1-01	120°	120°	0,9	144	74			105
82M-3****6N**	8S631-25-144	120°	120°	1,0	144	74	9	30	105
82M-3****6G**	8S631-75-204	120°	120°	1,5	204	78			165
82M-3****80**	8JG-1179-1-01	135°	135°	2,1	179	74			140
82M-3****8N**	8S801-45-204	135°	135°	2,1	204	78	9	30	165

Clamp Model No.	Arm Model No.	B12 ±0,2	B22	D2 H7	D3	L4 ±0,1	L5 (-0,5° Max)	L10	R1	R2	SW H8
82M-3****40**	8S401-15-117	20	1	6	7	22	15	16	70	24	16
82M-3****50**	8JG-070-1-01	30	10	6	9	28	15	20	75	28	19
82M-3****5N**	8S501-25-144						25				
82M-3****63**	8JG-080-1-01	30	10	6	9	28	15	20	80	28	22
82M-3****6N**	8S631-25-144						25				
82M-3****6G**	8S631-75-204						30				
82M-3****80**	8JG-1179-1-01	30	16	6	9	35	20	30	108	35	28
82M-3****8N**	8S801-45-204						45			25	

■ Common in Europe

Series 82M-3 Lateral (Side) Arms, NAAMS-Style, 50mm



90mm [3.54"] Arm Length

Series	Arm Style	Model
50 Offset	▲ • 226	B8JG-1226-1
25 Offset	▲ • 216	B8JG-1216-1
0 Offset	▲ • 206	B8JG-1206-1

120mm [4.72"] Arm Length

Series	Arm Style	Model
50 Offset	▲ • 227	B8JG-1227-1
25 Offset	▲ • 217	B8JG-1217-1
0 Offset	▲ • 207	B8JG-1207-1

150mm [5.90"] Arm Length

Series	Arm Style	Model
50 Offset	▲ • 228	B8JG-1228-1
25 Offset	▲ • 218	B8JG-1218-1
0 Offset	▲ • 208	B8JG-1208-1

▲ Common in North America

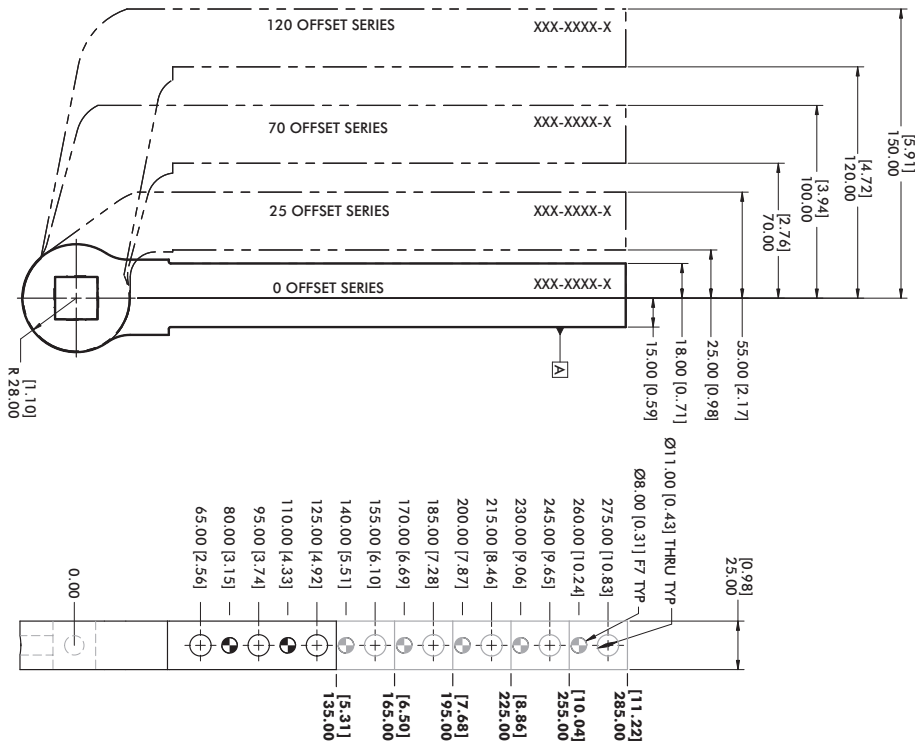
(•) STANDARD ARM OFFERING

Maximum Opening Angle



Arm Styles	90A	90B	18A	18B	27A	27B
206 - 208	120°	120°	90°	90°	N/A	N/A
216 - 218	120°	N/A	30°	120°	N/A	30°
226 - 228	120°	N/A	N/A	120°	N/A	60°

Series **82M-3** Lateral (Side) Arms, NAAMS-Style, 63mm



135mm [5.31"] Arm Length

Series	Arm Style	Model
120 Offset	▲ • 043	B8JG-1043-1
70 Offset	▲ • 031	B8JG-1031-1
25 Offset	▲ • 019	B8JG-1019-1
0 Offset	▲ • 007	B8JG-1007-1

165mm [6.50"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 044	B8JG-1044-1
70 Offset	▲ • 032	B8JG-1032-1
25 Offset	▲ • 020	B8JG-1020-1
0 Offset	▲ • 008	B8JG-1008-1

195mm [7.68"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 045	B8JG-1045-1
70 Offset	▲ • 033	B8JG-1033-1
25 Offset	▲ ⓘ 021	B8JG-1021-1
0 Offset	▲ • 009	B8JG-1009-1

225mm [8.86"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 046	B8JG-1046-1
70 Offset	▲ • 034	B8JG-1034-1
25 Offset	▲ ⓘ 022	B8JG-1022-1
0 Offset	▲ ⓘ 010	B8JG-1010-1

255mm [10.04"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 047	B8JG-1047-1
70 Offset	▲ • 035	B8JG-1035-1
25 Offset	▲ ⓘ 023	B8JG-1023-1
0 Offset	▲ ⓘ 011	B8JG-1011-1

285mm [11.22"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 048	B8JG-1048-1
70 Offset	▲ ⓘ 036	B8JG-1036-1
25 Offset	▲ ⓘ 024	B8JG-1024-1
0 Offset	▲ ⓘ 012	B8JG-1012-1

▲ Common in North America

(•) STANDARD ARM OFFERING

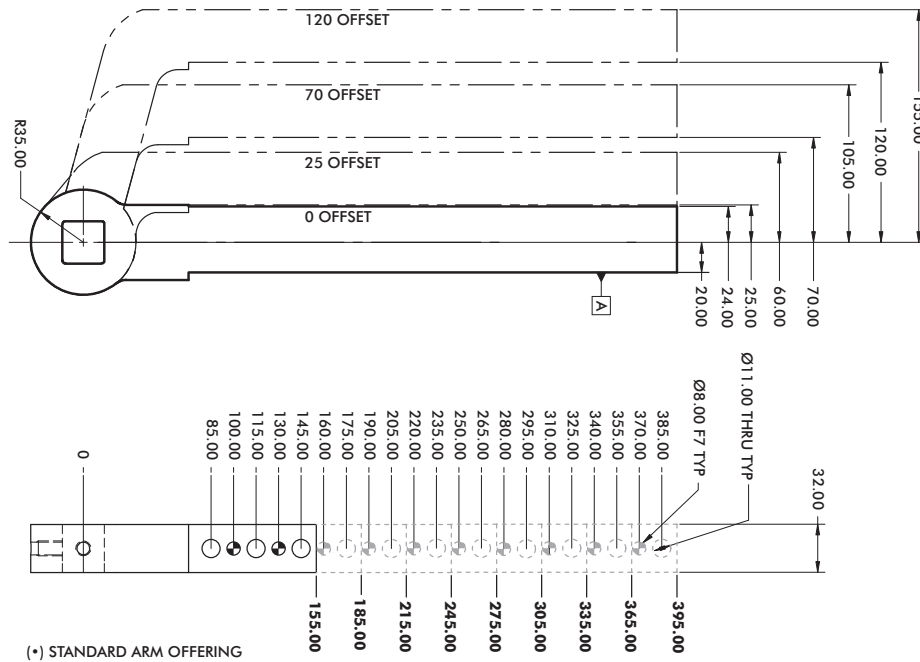
ⓘ NON-STANDARD ARM OFFERING (extended leadtimes apply)

Maximum Opening Angle



Arm Styles	90A	90B	18A	18B	27A	27B
007 - 012	120°	120°	90°	90°	N/A	N/A
019 - 024	105°	N/A	45°	120°	N/A	30°
031 - 036	105°	N/A	N/A	120°	N/A	60°
043 - 048	105°	120°	120°	120°	N/A	75°

Series 82M-3 Lateral (Side) Arms, NAAMS-Style, 80mm



155mm [4.53"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 170	B8JG-1170-1
70 Offset	▲ • 150	B8JG-1150-1
25 Offset	▲ ⓘ 130	B8JG-1130-1
0 Offset	▲ ⓘ 110	B8JG-1110-1

185mm [7.28"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 171	B8JG-1171-1
70 Offset	▲ ⓘ 151	B8JG-1151-1
25 Offset	▲ ⓘ 131	B8JG-1131-1
0 Offset	▲ ⓘ 111	B8JG-1111-1

215mm [8.46"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 172	B8JG-1172-1
70 Offset	▲ ⓘ 152	B8JG-1152-1
25 Offset	▲ ⓘ 132	B8JG-1132-1
0 Offset	▲ • 112	B8JG-1112-1

245mm [9.65"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 173	B8JG-1173-1
70 Offset	▲ ⓘ 153	B8JG-1153-1
25 Offset	▲ ⓘ 133	B8JG-1133-1
0 Offset	▲ ⓘ 113	B8JG-1113-1

275mm [10.83"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 174	B8JG-1174-1
70 Offset	▲ ⓘ 154	B8JG-1154-1
25 Offset	▲ • 134	B8JG-1134-1
0 Offset	▲ ⓘ 114	B8JG-1114-1

305mm [12.00"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 175	B8JG-1175-1
70 Offset	▲ • 155	B8JG-1155-1
25 Offset	▲ ⓘ 135	B8JG-1135-1
0 Offset	▲ ⓘ 115	B8JG-1115-1

335mm [13.19"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 176	B8JG-1176-1
70 Offset	▲ ⓘ 156	B8JG-1156-1
25 Offset	▲ ⓘ 136	B8JG-1136-1
0 Offset	▲ ⓘ 116	B8JG-1116-1

365mm [14.37"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 177	B8JG-1177-1
70 Offset	▲ ⓘ 157	B8JG-1157-1
25 Offset	▲ ⓘ 137	B8JG-1137-1
0 Offset	▲ ⓘ 117	B8JG-1117-1

395mm [15.55"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ⓘ 178	B8JG-1178-1
70 Offset	▲ • 158	B8JG-1158-1
25 Offset	▲ ⓘ 138	B8JG-1138-1
0 Offset	▲ • 118	B8JG-1118-1

▲ Common in North America

(*) STANDARD ARM OFFERING

ⓘ NON-STANDARD ARM OFFERING (extended leadtimes apply)

Maximum Opening Angle



Arm Styles	90A	90B	18A	18B	27A	27B
100 - 118	135°	135°	105°	105°	N/A	N/A
120 - 138	135°	N/A	60°	120°	N/A	30°
140 - 158	120°	N/A	30°	135°	N/A	45°
160 - 178	105°	N/A	N/A	135°	N/A	75°

Series 82M-5 Product Overview (last time in catalog)

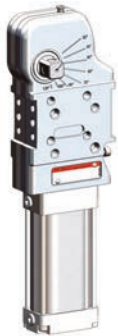
Features:

- Modular design
- Lightweight aluminum body
- Protected from dirty environments
- Field-adjustable opening angle
- Sealed roller bearing
- Multiple mounting surfaces
- Manual versions available

Application:

- Assembly
- Checking fixtures
- Handling systems

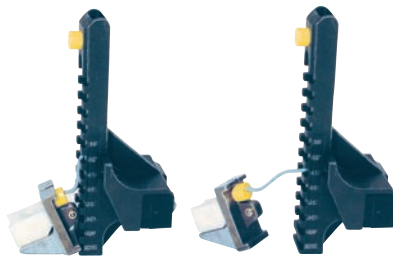
82M-5 Series



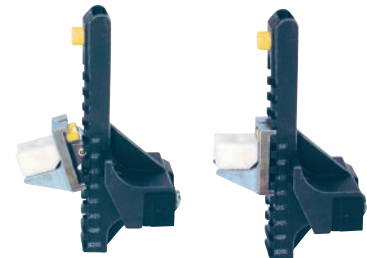
Simple adjusting of opening angle (pictures show sensor-box separated from clamp)



120° Opening angle
(delivery condition)



Click-out of bumper



Click-in in new position (60°)
(sensor box fit for reassembling to clamp)

Model	Max. holding torque Nm [lb ft]	Max. Clamping Torque at 5 bar [72 psi] Nm [lb ft]	Weight kg [lb]	Max Opening Angle	Cylinder Size mm [in]	Air Consumption (per double stroke) at 5 bar [72 psi] dm ³ [ft ³]
82M-5	800 [590]	270Nm [199]	3,3 [7.3]	120°	50 [1.97]	2,2 [0.08]

82M-5 Pre-Configured Clamp Quick-Order Numbers

Quick Order	Sensor	Handle
82M-5230050000		
82M-5230050C80	X	
82M-523KR50000		X
82M-523KR50C80	X	X

Series 82M-5 Ordering Information, Standard Clamp Dimensions

Order No. code for 82M-5...

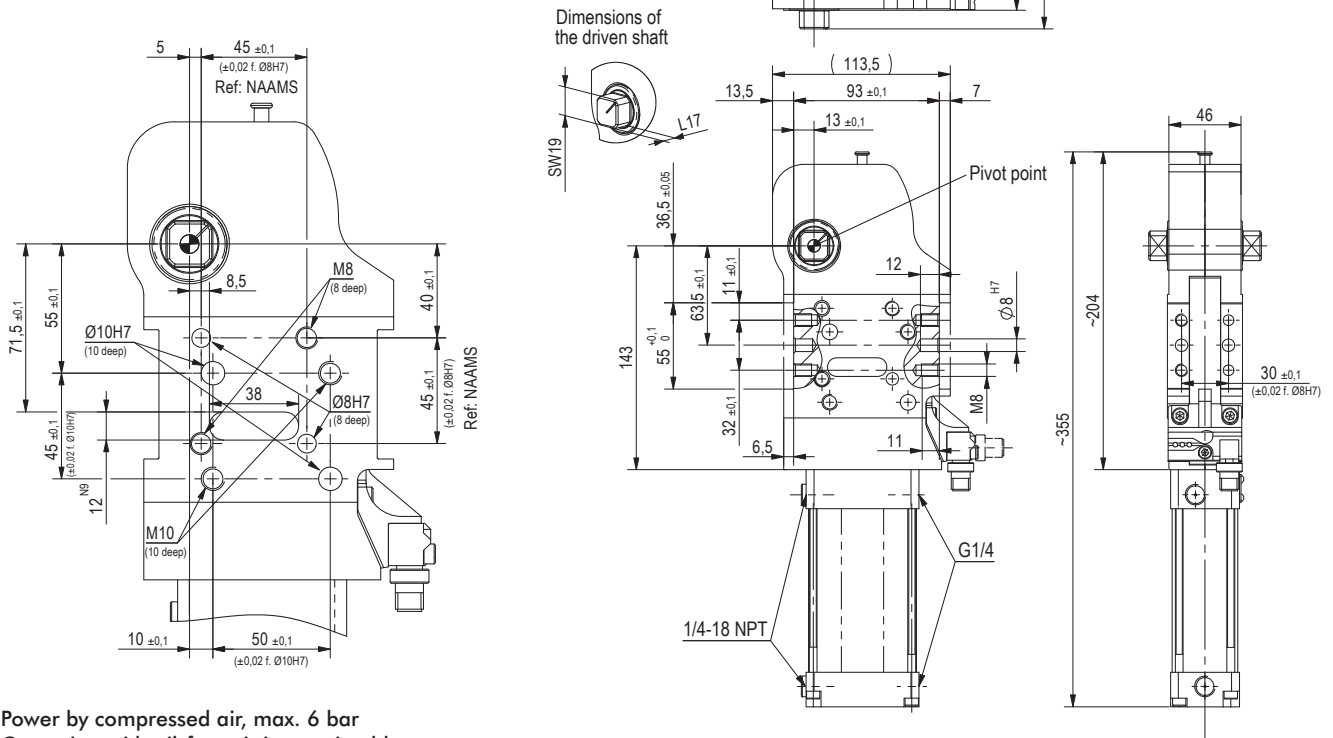
1 = without pin



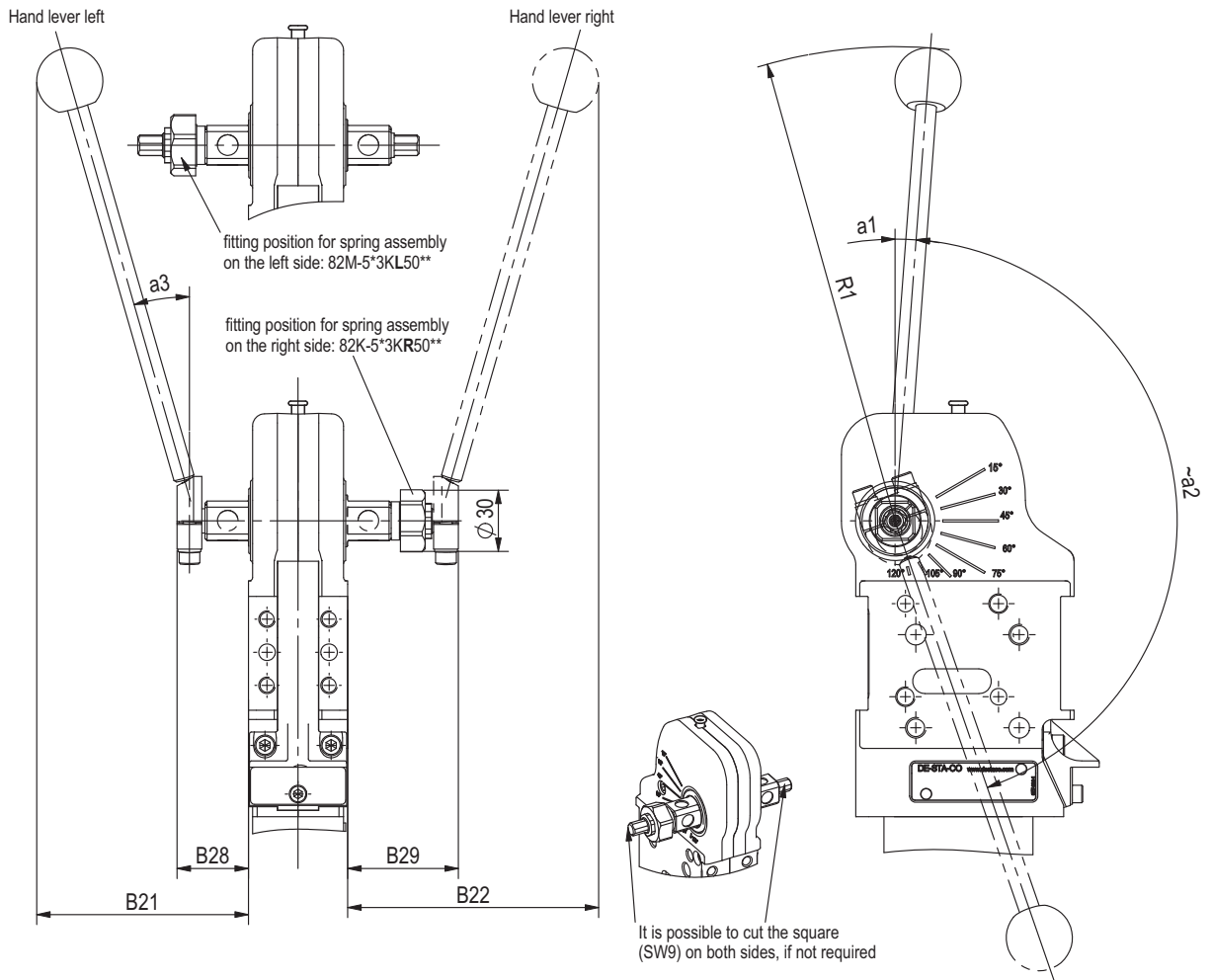
Example Order No.: **82M-5 23 K R 50 C8 0**

<p>82M - 5</p> <p>Basic Model</p>	<p>03 = drive shaft for U-clamp arm</p> <p>23 = drive shaft for lateral clamp arms</p> <p>Drive Shaft</p>	<p>0 = without hand lever</p> <p>K = with hand lever, welded 8KB-053-1</p> <p>S = hand lever, attached (weldable) 8KB-052-1</p> <p>Hand Lever</p>	<p>0 = without hand lever</p> <p>L = spring assembly "left"</p> <p>R = spring assembly "right"</p> <p>Cylinder</p>	<p>50 = G1/4 pneum. cylinder Ø50</p> <p>5N = 1/4-18 NPT pneum. cylinder Ø50</p> <p>Cylinder</p>	<p>00 = without sensors</p> <p>C8 = inductive sensing system</p> <p>D8 = inductive sensing system</p> <p>Inductive Sensing System</p>
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Model	B23 max.	L17
82M-5030050..	72	12
82M-5230050..	90	21



Series 82M-5 Handle Option



Model	a1	a3	B21	B22	B28	B29	R1
	~	~	~	~	max.	max.	~
82M-523S...	-	-	-	-	37	55	240
82M-523K...	5°	16°	104	124			

Model	Hand lever slew angle a2 with reference to opening angle of clamping arm							
	15°	30°	45°	60°	75°	90°	105°	120°
82M-523K...	55°	67°	82°	98°	113°	129°	144°	161°

Series 82M-5 Clamp Arm Variants



U bar central L5 = 15 mm



U bar central L5 = 25 mm



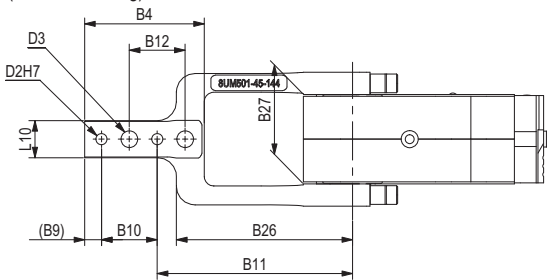
U bar central L5 = 45 mm

U-bars Central Technical Information

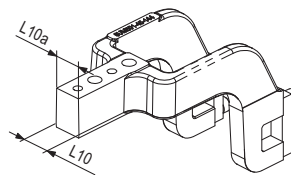
Model	Order no. for set U-clamp arm, central	Opening angle 90° version tolerance: + 5°	Opening angle 180° version tolerance: + 5°	Weight (kg)
82M-503 _ 50 _ _	8UM501-15-144	120°	105°	1,1
82M-523 _ 50 _ _	8UM501-25-144		120°	
	8UM501-45-144		120°	

Model	Order no. for set U-clamp arm, central	B2	B4	B9	B10 ±0,02	B11 +0,1	B12 ±0,2	B26	B27 +0,2	D2 H7	D3	L4 ±0,1	L5 (- 0,5° ±1,2 max)	L10 ±1,2	L10a ~	R1 ~	R2 ~	SW +0,02 -0,009
82M-503 _ 50 _ _ 82M-523 _ 50 _ _	8UM501-15-144												15					
	8UM501-25-144	144	64.3	9	30	105	30	95	48.1	6	9	28	25	20	19	75	32	19
	8UM501-45-144												45					

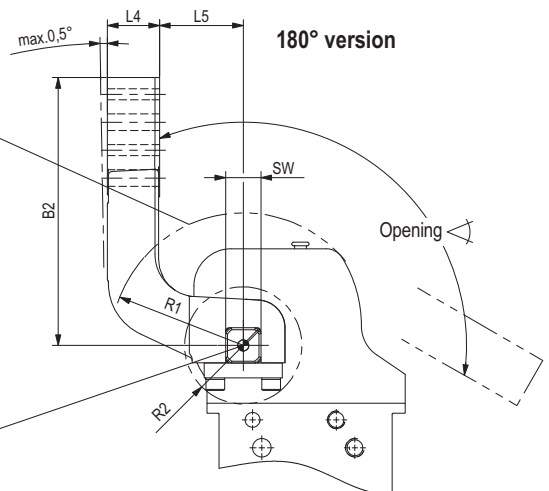
View X
(for dimensioning)



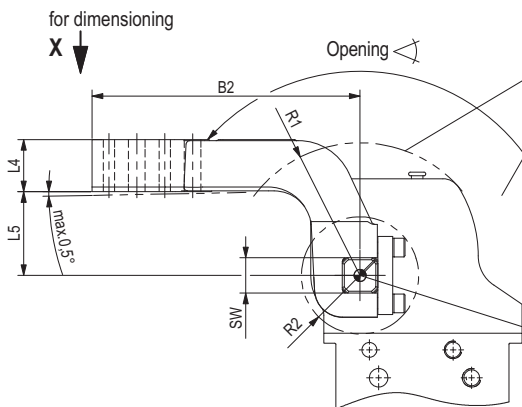
90° version



U-clamp arms, central



180° version



Area of interference
Hold-down piece
must not protrude
in the interior area
"R1" due to the
area of interference

for dimensioning
X →

Pivot point

Series 82M-5 Clamp Arm Variants



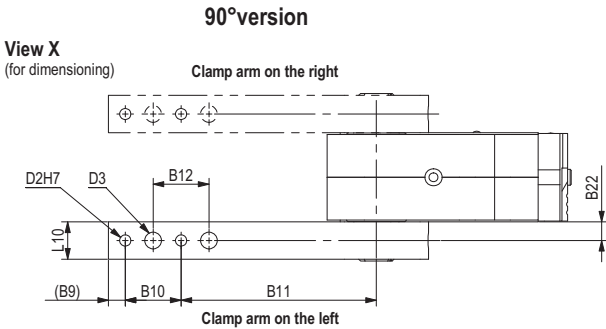
Lateral arm L5=15mm



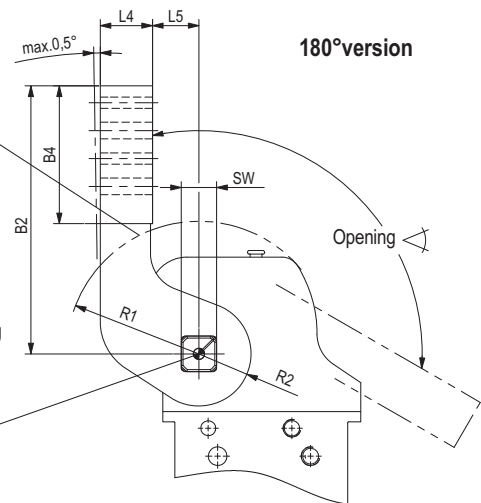
Lateral arm L5=25mm

Lateral Arm Technical Information

Model	Order no. for set U-clamp arm, lateral	Opening angle 90°-vers.	Opening angle 180°-vers.	Weight [kg]	B2	B4	B9	B10 ±0,02	B11 ±0,1	B12 ±0,2	B22	D2 H7	D3	L4 ±0,1	L5 (0,5° max)	L10	R1	R2	SW J7
82M-5...	8JG-070-1-01	120°	105°	0,9	144	74	9	30	105	30	10	6	9	28	15	20	80	28	19
	8S501-25-144	120°	120°	1,0	144	74	9	30	105	30	10	6	9	28	25	20	80	28	19



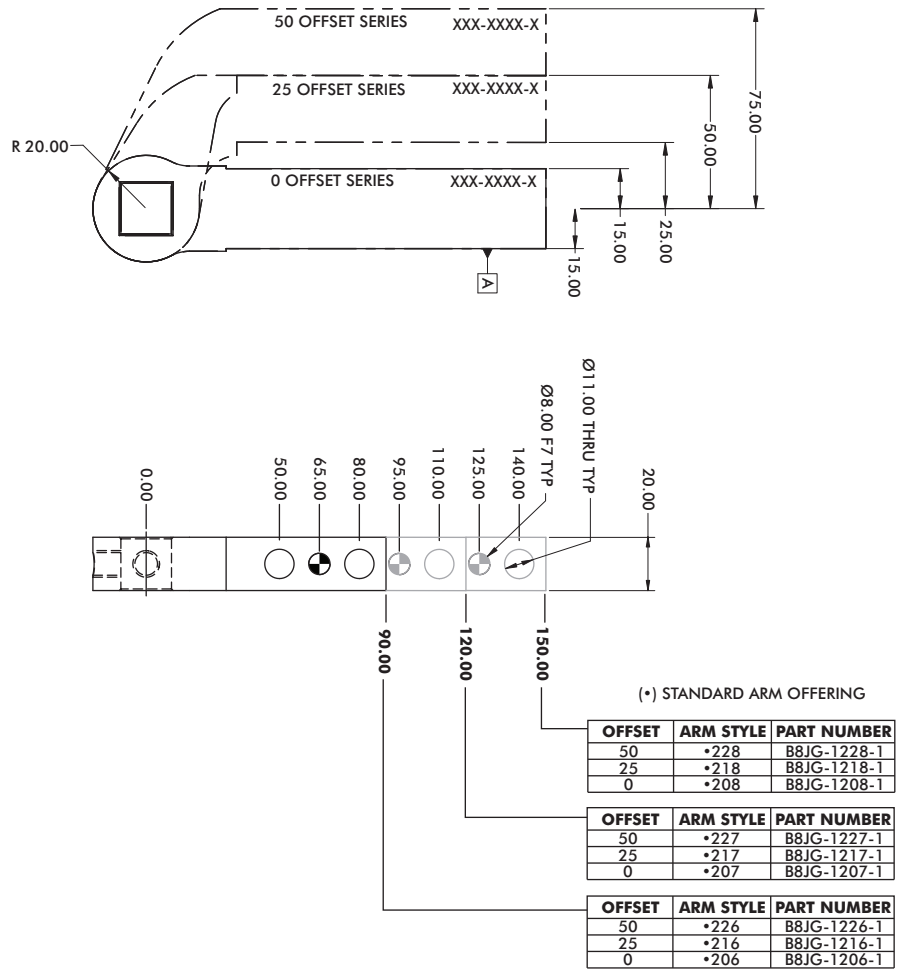
Lateral clamp arms



mm [INCH]

THIRD ANGLE PROJECTION

Series 82M-5 Clamp Arm Data (NAAMS)



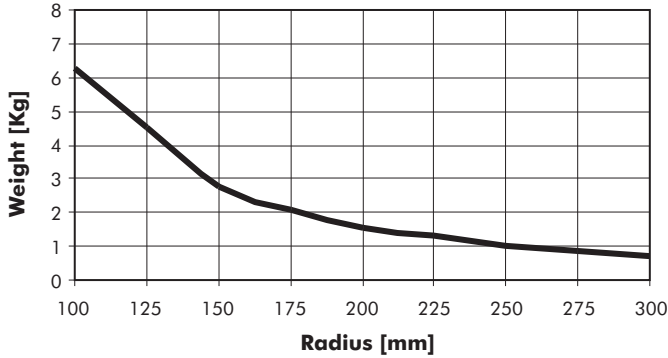
Arm Opening	120°	105°	90°	75°	60°	45°	30°	15°
Cylinder Stroke	76.0	68.5	61.3	54.2	46.8	39.3	31.6	21.1

Series 82M-5 Technical Information

Concept guideline

(with reference to axis of clamping arm rotation)

Maximum Tooling Weight 82M-5

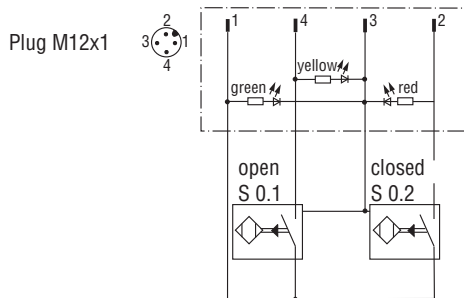
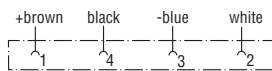


All details apply under an air pressure of 6 bar and opening and closure times of 1 second each.

Wiring diagram of electrical sensing system

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

Pin assignment

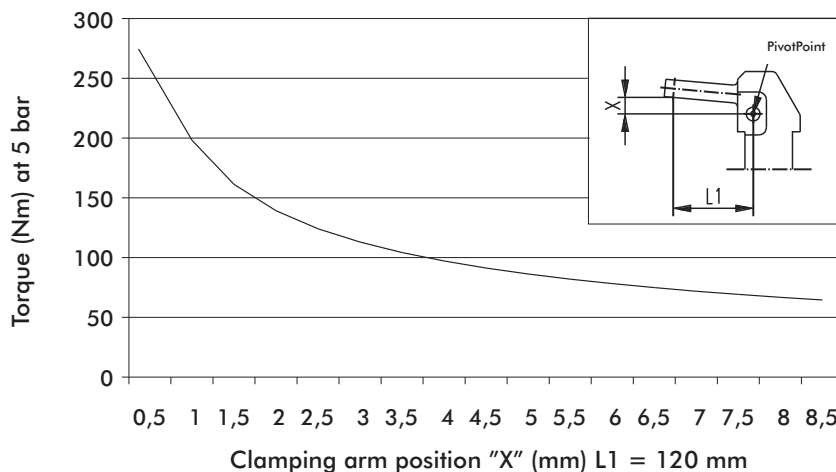


Inductive design:

- C8 Connecting plug M12x1, parallel with cylinder
- D8 Connecting plug M12x1, 90° swivel

Diagram of clamping force (at 5 bar)

Model 82M-5....5*..



Accessories

Specification			Order no. for set	Comment
Clamping arm variant	Fulcrum distance	Clamping position		
U-central	15	horizontal / vertical	8UM501-15-144	sets of U-type clamping arms consist of clamping arm, links and screws
U-central	25	horizontal / vertical	8UM501-25-144	
U-central	45	horizontal / vertical	8UM501-45-144	
Lateral right/left	15	horizontal / vertical	8JG-070-1-01	sets of lateral clamping arms consist of clamping arm & set screws
Lateral right/left	25	horizontal / vertical	8S501-25-144	
Lateral both sides				need 2 sets of clamping arms

Spare Parts

Specification	Structural component	Comment
Complete sensor box for D8 sensing system	82M-0000050D8	Connector plug M12x1, 90° swivel
Complete sensor box for C8 sensing system	82M-0000050C8	Connector plug M12x1, parallel with cylinder
Sensor box without sensing system	82M-000005000	
Cylinder	8PW-085-1	
Seal Kit and piston	8PW-036-2-00	

Series **82M-6** Product Overview (last time in catalog)

Features:

- modular design
- shielded body, dirt-resistant
- compact design
- high holding torques
- long life cycle
- low weight (aluminium body)
- wide range of clamping arm variants
- adjustable opening angle without need for accessory parts (15°-steps from 15°...120°)
- mounting areas at front, back and sides
- toggle action mechanism
- manual unlocking in case of pressure drop
- inductive sensing module with LED display

Key areas of application:

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

Application:

Clamping, holding, gripping and positioning of metal sheets and other parts, mainly in jigs and handling systems. Your best choice for carefully inserting and clamping components are the clamps with a handle lever.

82M-623_50...

82M-623_63...

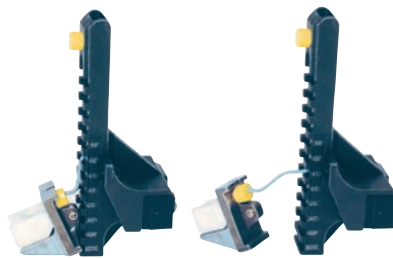
Modular automation power clamp, shown without hand lever



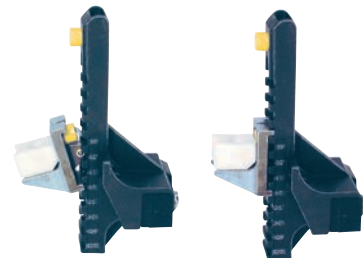
Simple adjusting of opening angle (pictures show sensor-box separated from clamp)



120° Opening angle (delivery condition)



Click-out of bumper



Click-in in new position (60°) (sensor box fit for reassembling to clamp)

Model			Standard opening angle	Max. holding torque Nm [lb ft]	Clamping torque at 5 bar Nm [lb ft]	Drive shaft for clamping arm variant	Clamping position	Cylinder Ø mm [in]	Air consumption per double stroke at 5 bar dm³ [ft³]	Weight ~ kg [lbs]
w/o sensing	w/ ind. sensing Connector M12x1									
	90° swivel	parallel with cylinder								
82M-62305000	82M-623050D8	82M-623050C8	120°v	1000 [738]	270 [199]	lateral, U-central/ U-lateral	horizontal/ vertical	50 [1.97]	2,2 [0.08]	4,2 [9.24]
82M-62306300	82M-623063D8	82M-623063C8	120°	1000 [738]	420 [310]			63 [2.48]	3,8 [0.13]	4,6 [10.12]

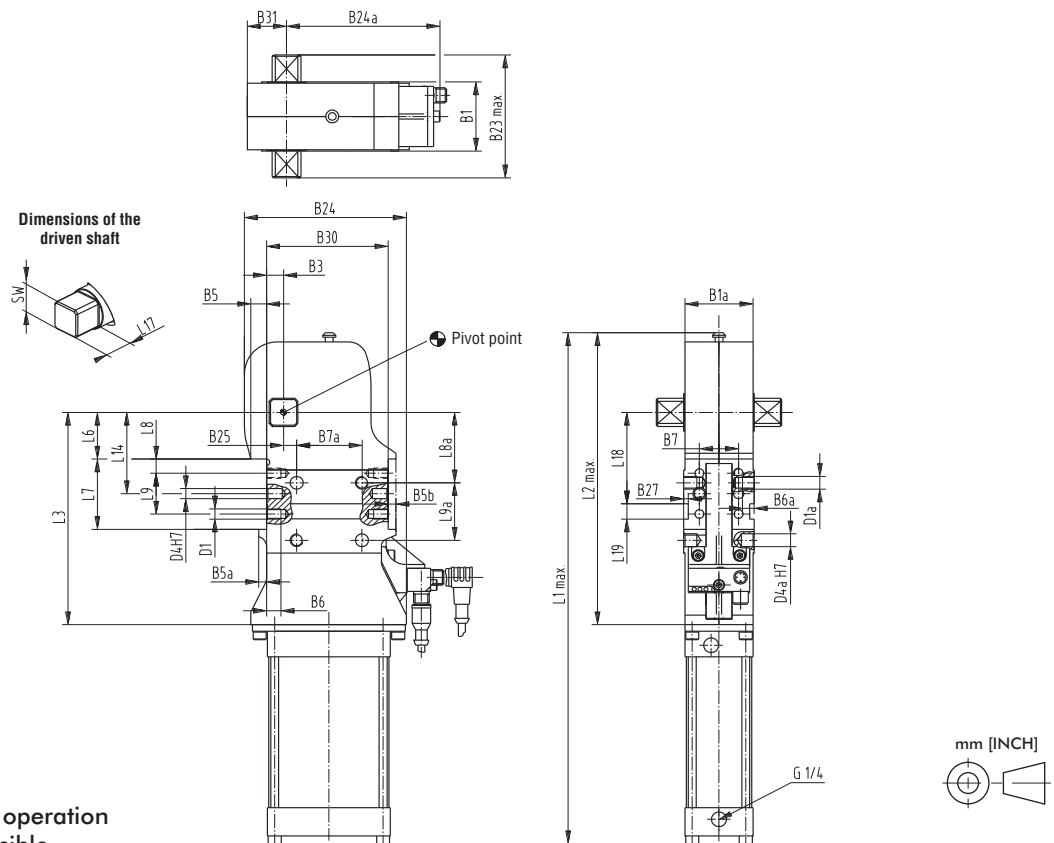
Series 82M-6 Standard Clamp Dimensions

Model	Connection	B1	B1a	B3	B5	B5a	B5b	B6	B6a	B7 ¹⁾
	G	±0,1		±0,1						±0,1
82M-623050__	G 1/4	54	52	13	12	6	6	11	9	30
82M-623063__	G 1/4	54	52	13	12	6	6	11	9	30

Model	B7a ¹⁾	B23	B24	B24a	B25	B27	B30	B31	D1	D1a	D4	D4a	L1
	±0,1	max			±0,1		±0,1				H7	H7	max
											Ø	Ø	
82M-623050__	50	96	124	119	10	3,5	93	30	M8	M10	8	10	390,5
82M-623063__	50	96	124	119	10	3,5	93	30	M8	M10	8	10	403,5

Model	L2	L3	L6	L7	L8	L8a	L9	L9a ¹⁾	L14	L17	L18	L19	SW
	max		±0,05	+0,1	±0,1	±0,1	±0,1	±0,1	±0,1			N9	h9
82M-623050__	230,5	166	36,5	55	11	55	32	45	63,5	21	71,5	12	22
82M-623063__	230,5	166	36,5	55	11	55	32	45	63,5	21	71,5	12	22

1) Tolerance for distance to dowel hole ± 0,02

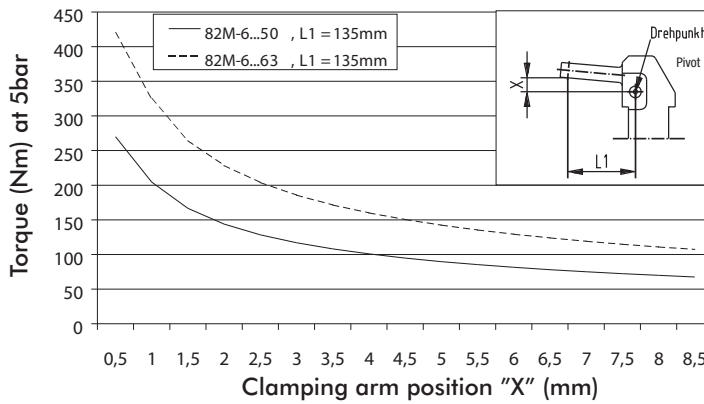


Medium: air, max. 6 bar, operation with oil-free air is permissible

Series **82M-6** Technical Information

Diagram of Clamping Force (at 5 bar)

Models 82M-6...50.. /-6...63..

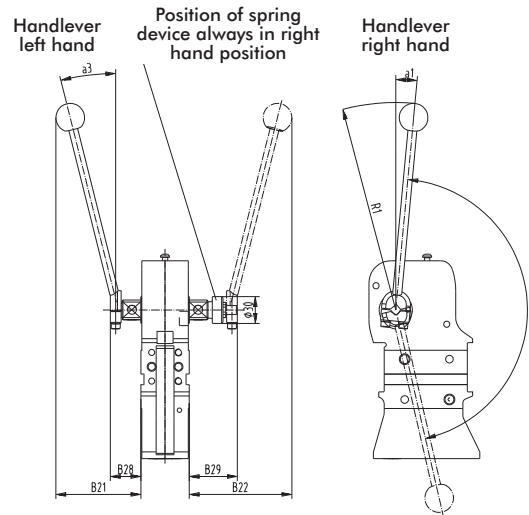


Modular automation power clamp, enclosed design, lightweight, with hand lever

82M-6.....
Additional dimensions for hand lever version



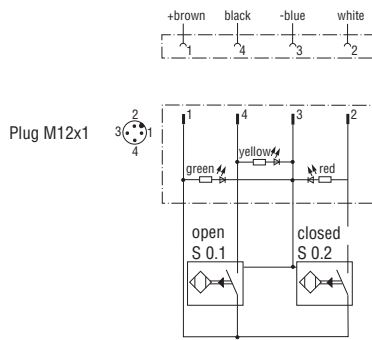
82M-6...KC8 modular automation power clamp, with hand lever (left hand)



Model			Standard opening angle	Max. holding torque [Nm]	Clamping torque at 5 bar [Nm]	Drive shaft for clamping arm variant	Clamping position	Cylinder Ø	Air consumption per double stroke at 5 bar [dm³]	Weight ~ [kg]
w/o sensing	w/ ind. sensing Connector M12x1									
	90° swivel	parallel with cylinder								
82M-623K5000	82M-623K50D8	82M-623K50C8	120°	1000	270	lateral, U-central/ U-lateral	horizontal/ vertical	50	2,2	4,2
82M-623K6300	82M-623K63D8	82M-623K63C8	120°	1000	420			63	3,8	4,6

Technical data (additional dimensions of hand lever version)

Model	α1	B21	B22	B28	B29	R1	Hand lever slew angle α2							
	~	~	~	max	max	~	with reference to opening angle of clamping arm							
							15°	30°	45°	60°	75°	90°	105°	120°
82M-623K50__	5°	104	124	37	55	240	50°	65°	79°	93°	110°	125°	140°	160°
82M-623K63__	5°	104	124	37	55	240	50°	65°	79°	93°	110°	125°	140°	160°



Wiring diagram of electrical sensing system
Sensing system immune to interference from d.c. arc welding and a.c. arc welding

Inductive design:

- C8 Connecting plug M12x1, parallel with cylinder
- D8 Connecting plug M12x1, 90° swivel

Pin assignment

Model numbering code for 82M-6.....

Example Order No.: 82M-6 23 K 50 C8

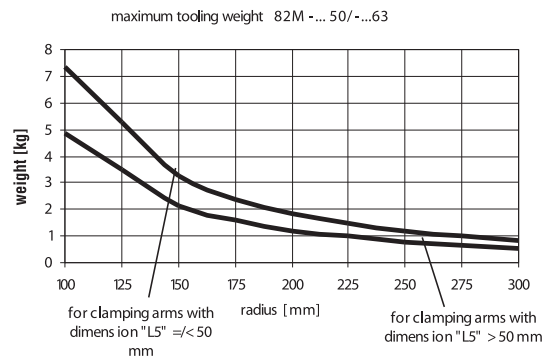
<p>82M - 6 = with standard dimensions</p> <p>without hand lever, without cylinder, without sensing system</p> <p>Basic model</p>	<p>23 = drive shaft for lateral clamp arms and U-arms</p> <p>Drive shaft</p>	<p>0 = without hand lever K = with hand lever, welded 8KB-053-1</p> <p>Handlever</p>	<p>50 = pneumatic cylinder Ø50</p> <p>63 = pneumatic cylinder Ø63</p> <p>Cylinder</p>	<p>00 = without sensing system C8 = inductive sensing system 82M-000000C8</p> <p>D8 = inductive sensing system 82M-000000D8</p> <p>Sensing system</p>
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Spare parts, without or with hand lever

Specification	Structure component	Order no.	Comment
Hand lever set	82M-6.....	8KB-053-1	
Hand lever mechanism	82M-623.....	8KB-028-1	
Complete sensor box for D8 sensing system	82M-6.....D8	82M-000000D8	Connector plug M12x1, 90° swivel
Complete sensor box for C8 sensing system	82M-6.....C8	82M-000000C8	Connector plug M12x1, parallel with cylinder
Limit stop box without sensing system	82M-6.....00	82M-00000000	
Complete cylinder, Ø50	82M-6...50..	8PW-104-1	
Complete cylinder, Ø63	82M-6...63..	8PW-084-1	
Seal kit and piston, Ø50	82M-6...50..	8PW-036-2-00	
Seal kit and piston, Ø63	82M-6...63..	8PW-037-2-00	

Concept guideline

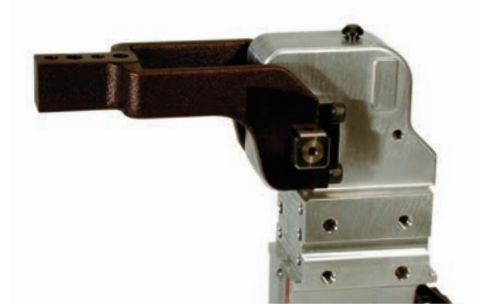
(with reference to axis of clamping arm rotation)



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

Series **82M-6** Clamping Arm Variants

Clamping arm design Clamping position
 U-type central clamping arm horizontal or vertical



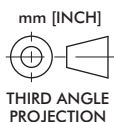
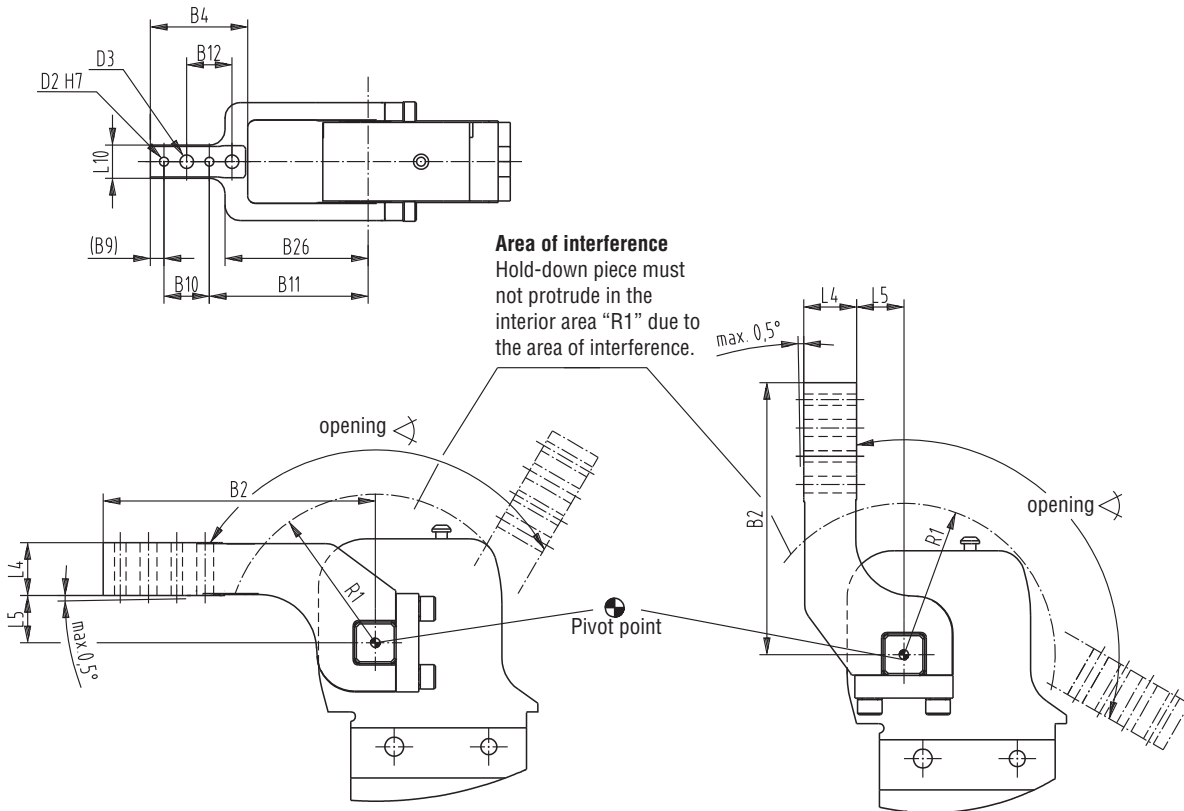
Central clamping arm, horizontal clamping position

U-type central clamping arm Technical Information

Model	Order no. for set of U-type central clamping arms	Opening angle for clamping position		Weight (kg)	B2	B4	B9	B10	B11	B12	B26	D2 H7	D3 Ø	L4	L5	L10	R1
		horizontal	vertical														
82M-6...50..	8UM 631-15-144	120°	105°	1,1	144	64,3	9	30	105	30	95	6	9	28	15	20	80
82M-6...50..	8UM 631-25-144	120°	120°	1,2	144	64,3	9	30	105	30	95	6	9	28	25	20	80
82M-6...63..	8UM 631-45-144	120°	120°	1,3	144	64,3	9	30	105	30	95	6	9	28	45	20	80
	8UM 631-75-204	120°	120°	1,7	204	82	9	30	165	30	107	6	9	30	75	20	80

Horizontal clamping arm position

Vertical clamping arm position



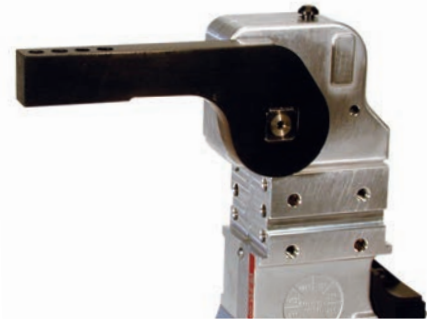
Series **82M-6** Clamping Arm Variants

Clamping arm design

- lateral / left
- lateral / right
- lateral / both sides

Clamping position

- horizontal or vertical
- horizontal or vertical
- horizontal or vertical



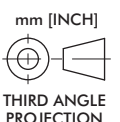
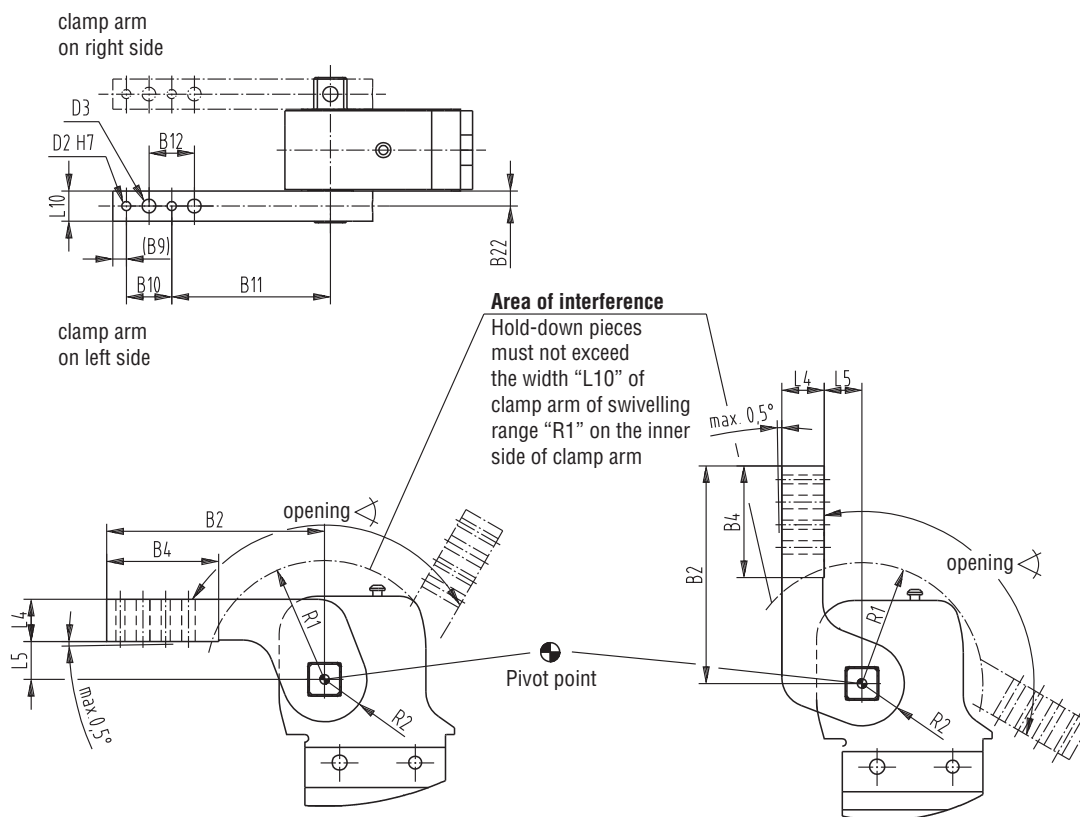
Lateral clamping arm, horizontal clamping position

Lateral clamping arms Technical Information

Model	Order no. for set of U-type lateral clamping arms	Opening angle for clamping position		Weight (kg)	B2	B4	B9	B10	B11	B12	B22	D2	D3	L4	L5	L10	R1	R2
		horizontal	vertical															
82M-6...50..	8JG-080-1-01	120°	120°	0,9	144	74	9	30	105	30	10	6	9	28	15	20	80	28
82M-6...63..	8S631-25-144	120°	120°	1	144	74	9	30	105	30	10	6	9	28	25	20	80	28
	8S631-75-204	120°	120°	1,5	204	78	9	30	165	30	10	6	9	30	75	20	80	28

Horizontal clamping arm position

Vertical clamping arm position



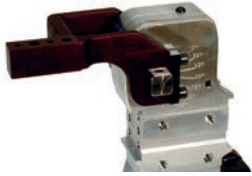
Series 82M-6 Clamping Arm Variants

Clamping arm design

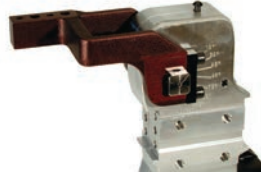
- U-type clamping arm, left
- U-type clamping arm, right

Clamping position

- horizontal or vertical
- horizontal or vertical



U-type clamping arm, left, horizontal clamping position



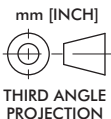
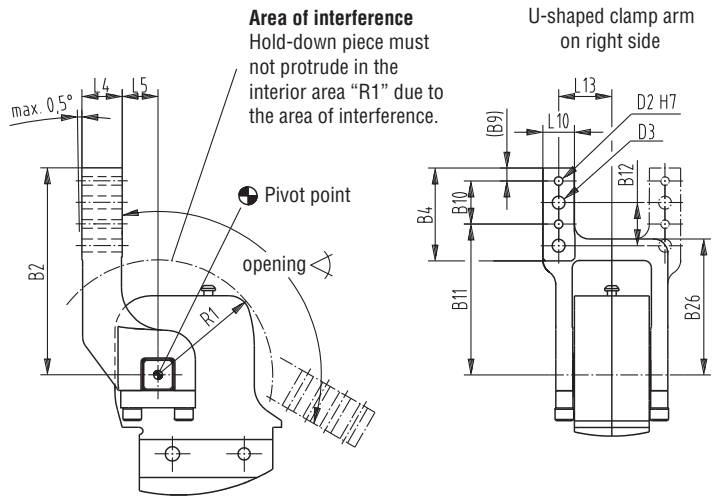
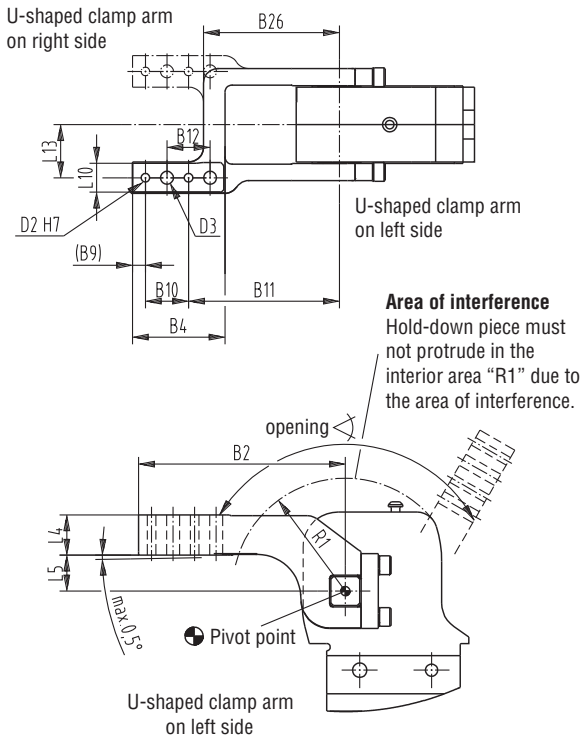
U-type clamping arm, right, horizontal clamping position

U-clamp arm lateral Technical Information

Order No. for set		Opening angle for clamping position		Weight (kg)	B2	B4	B9	B10	B11	B12	B26	D2	D3	L4	L5	L10	L13	R1
left	right	horizontal	vertical						±0,02	±0,1	±0,2		H7	∅	∅	±0,1 (-0,5° max.)	±1,2	±0,1
8UL631-15-144	8UR631-15-144	120°	105°	1,1	144	64,3	9	30	105	30	95	6	9	28	15	20	37	80
8UL631-25-144	8UR631-25-144	120°	120°	1,2	144	64,3	9	30	105	30	95	6	9	28	25	20	37	80
8UL631-45-144	8UR631-45-144	120°	120°	1,3	144	64,3	9	30	105	30	95	6	9	28	45	20	37	80
8UL631-75-204	8UR631-75-204	120°	120°	1,9	204	82	9	30	165	30	119	6	9	30	75	20	37	80

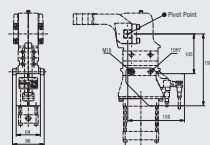
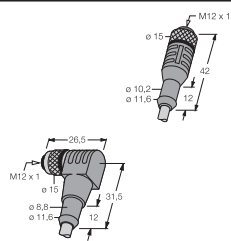
Horizontal clamping arm position

Vertical clamping arm position

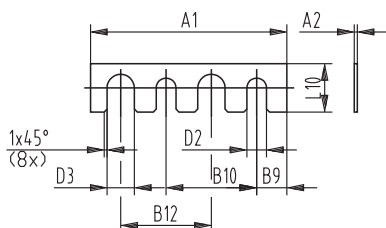


Series 82M-6 Accessory information

Specification			Order no. for set 82M-6...50../82M-6...63..	Comment
Clamping arm variant	Fulcrum distance	Clamping position		
U-central	15	horizontal / vertical	8UM631-15-144	sets of U-type clamping arms consist of clamping arm, links and screws
U-central	25	horizontal / vertical	8UM631-25-144	
U-central	45	horizontal / vertical	8UM631-45-144	
U-central	75	horizontal / vertical	8UM631-75-204	
U-left	15	horizontal	8UL631-15-144	
U-left	25	horizontal	8UL631-25-144	
U-left	45	horizontal	8UL631-45-144	
U-left	75	horizontal	8UL631-75-204	
U-left	15	vertical	8UR631-15-144	
U-left	25	vertical	8UR631-25-144	
U-left	45	vertical	8UR631-45-144	
U-left	75	vertical	8UR631-75-204	
U-right	15	horizontal	8UR631-15-144	
U-right	25	horizontal	8UR631-25-144	
U-right	45	horizontal	8UR631-45-144	
U-right	75	horizontal	8UR631-75-204	
U-right	15	vertical	8UL631-15-144	
U-right	25	vertical	8UL631-25-144	
U-right	45	vertical	8UL631-45-144	
U-right	75	vertical	8UL631-75-204	
lateral right/left	15	horizontal / vertical	8JG-080-1-01	sets of lateral clamping arms consist of clamping arm & set screws
lateral right/left	25	horizontal / vertical	8S631-25-144	
lateral right/left	75	horizontal / vertical	8S631-75-204	
lateral both sides	15	horizontal / vertical	8JG-080-1-01	you need 2 sets of lateral clamping arms
	25	horizontal / vertical	8S631-25-144	
	75	horizontal / vertical	8S631-75-204	
Modification set for models 82M-623...			8KB-028-1	if clamp w/o hand lever is to be modified to have hand lever
Connector cable (1 connector socket & 5 m cable)				
connector socket M12x1				
straight, 5-pin			8EL-002-1	
connector socket M12x1				
angular, 4-pin			8EL-003-1	
Anti ramming device			82ZB-011-1	



Shims for clamping arms



Model no	A1	A2	D2	D3	B9	B10	B12	L10
82ZB-SH5001		0,1						
82ZB-SH5002		0,2						
82ZB-SH5005		0,5						
82ZB-SH5010	65	1,0	6,5	9	10	30	30	16
82ZB-SH5020		2,0						
82ZB-SH5050		5,0						

Series **82M-6** Handle Options

Accessory: Hold open device

Locking device holds open clamps with additional manual actuation.

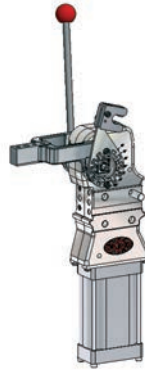
Application:

Pneumatic clamps with handlever. Hold open clamping arm.

Models 82ZB-039-1 (for 82M-6)



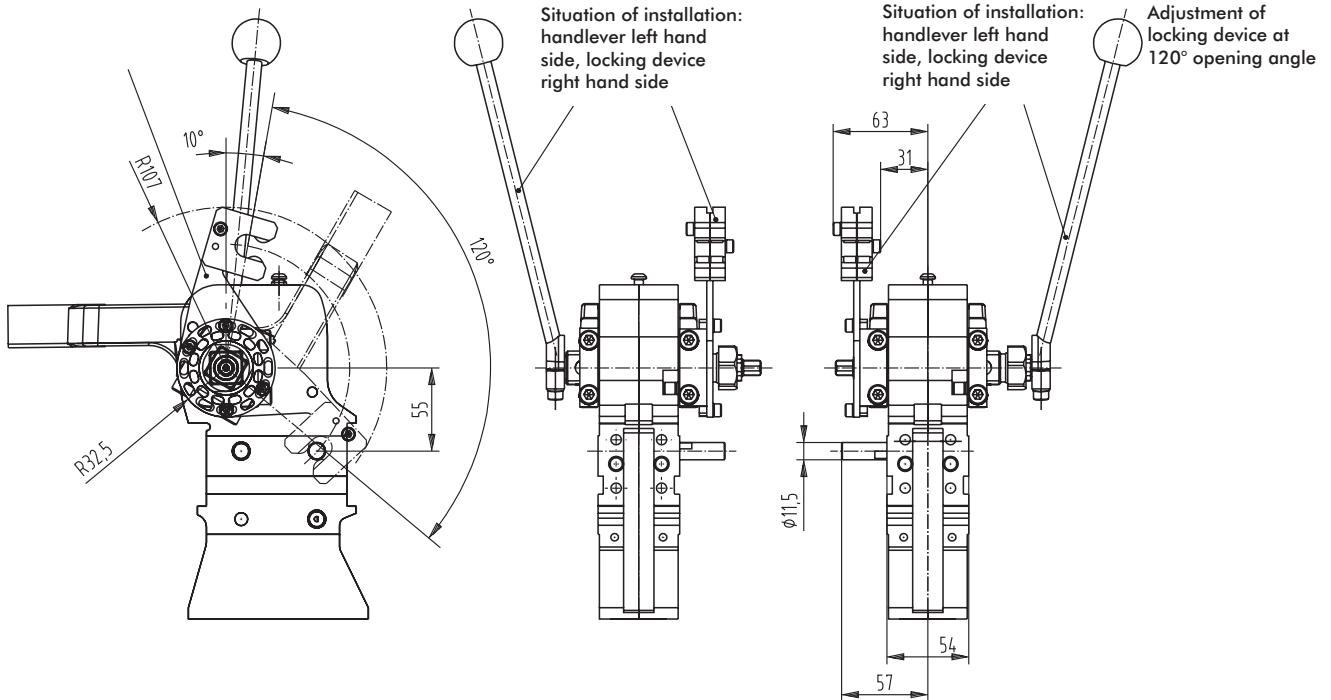
82ZB-039-1
Mounted at lateral arm



82ZB-039-1
Mounted at U-arm

View (shown with U-clamping arm)	Order no.	For clamp-series	Spare part clip (4 pieces needed)
	82ZB-039-1	82M-6	8MH-062-1

Accessory: Hold open device
Order No.: 82ZB-039-1



Series **82M-6** Accessory information

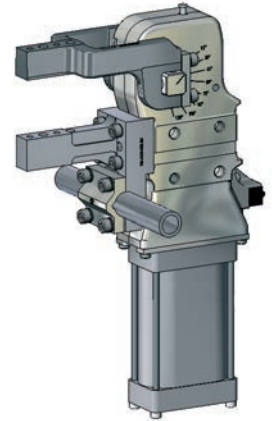
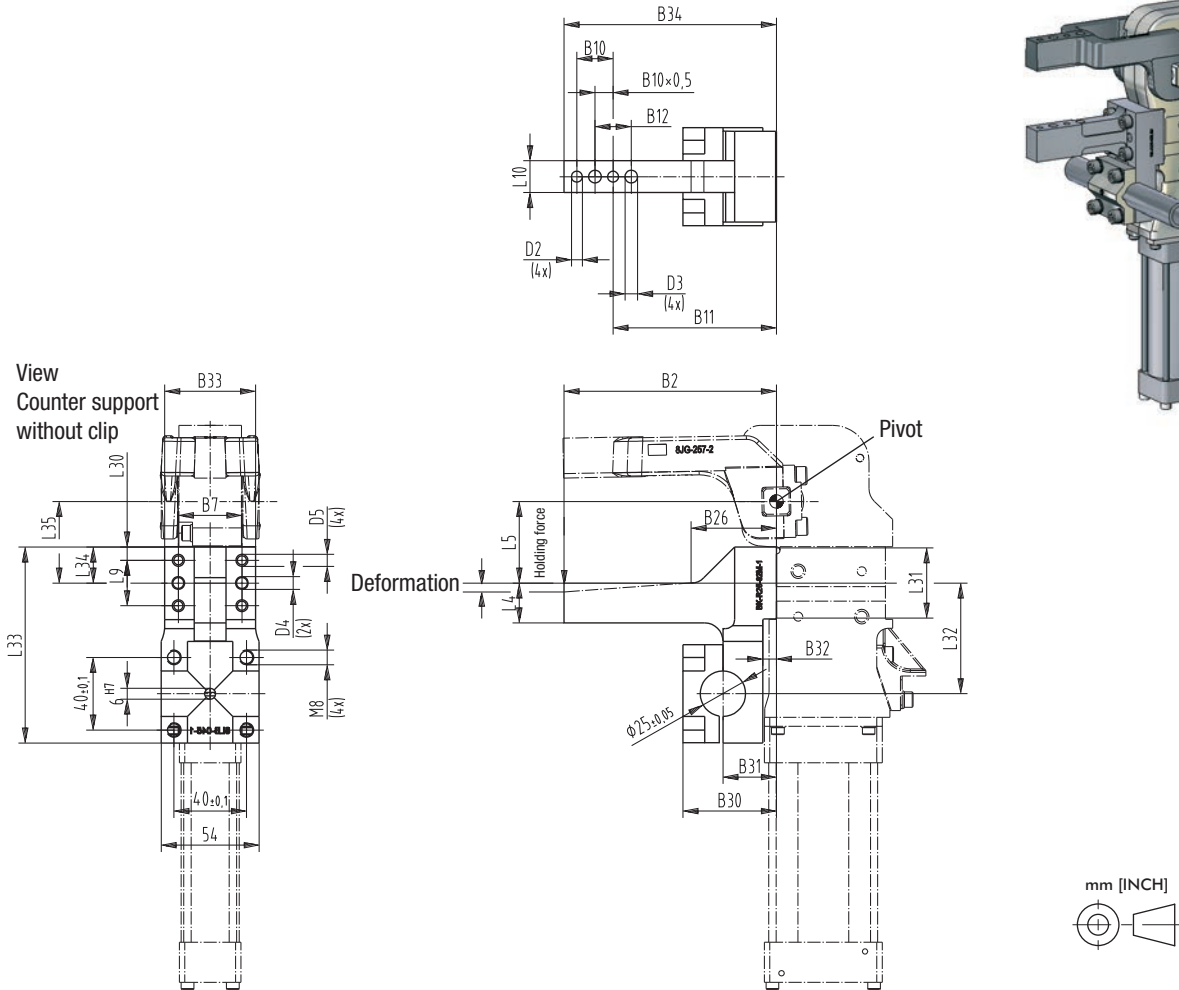
Accessory: Counter-support

Counter support adapter for clamping arm including adaptor for round profile 25mm.

Application:

Mounting clamps at 25mm round profile endeffector system.

Models BK-R25-82L50-1 (for model 82M-6)



Model	B2	B7	B10	B11	B12	B26	B30	B31	B32	B33	B34	D2	D3	D4	D5	L4	L5	L9	L10	L30	L31	L32	L33	L34	L35
	±0,1	±0,02										∅	∅	∅	∅	±0,1		±0,1			±0,1				±0,02
		±0,02										H7	H7												
BK-R25-82L50	144	30	30	92	30	54	67,5	44	22	54	131	6	9	8	9	31	45	32	20	10,85	54,7	73,5	109	26,85	63,5

View	Order no..	For clamp-series	Holding force max. [N]	Elastic Deformation at Holding force [mm]	Weight ~ [kg]
	BK-R25-82L50-1	82M-6	3000	0,25	0,75

Series **82G80-4** Product Overview

Automation power clamp, heavy-duty design, enclosed and narrow design

Features:

- Dirt-resistant
- Compact, enclosed design
- High holding torques
- Long life cycle
- Wide range of clamping arm variants
- Mounting areas at front, back and sides
- Toggle action mechanism
- Manual unlocking in case of pressure drop
- Inductive sensing module with LED display
- Shielded body

Application:

Clamping, holding, gripping and positioning of metal sheets and other parts, mainly in jigs and handling systems for high clamping and holding forces.

Key areas of application:

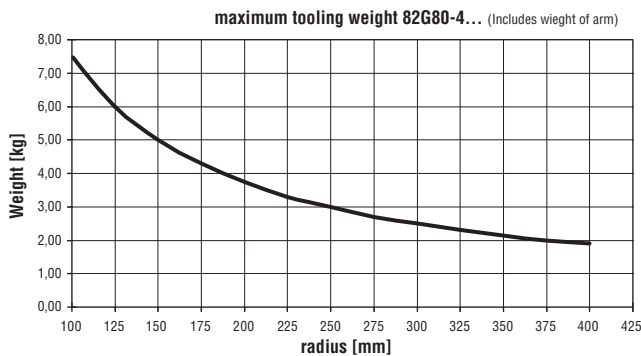
Automotive manufacturing, jig and general mechanical engineering.



82G80-423C800B
Automation power clamp, heavy-duty design

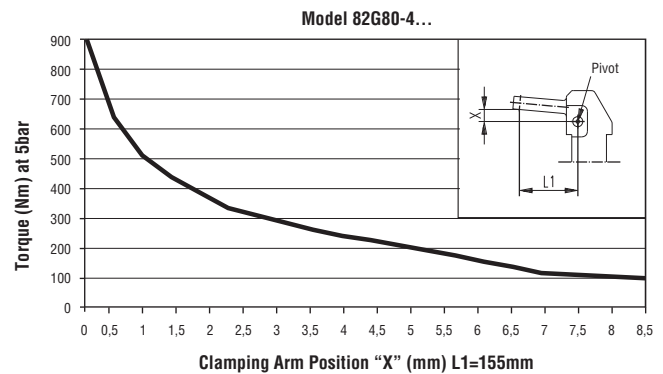
Model w/ ind. sensing Connector M12x1, parallel with cylinder	Clamping position	Standard opening angle	Driven shaft for clamping arm variants	Max. holding torque Nm [ft lb]	Clamping torque at 5 bar Nm [ft lb]	Piston Ø mm [in]	Air con- sumption per double stroke at 5 bar dm ³ [ft ³]	Weight ~ kg [lbs]
82G80-423C800B	horizontal	135°	lateral-both sides lateral-left lateral-right or U-central	2200 [1623]	850 [625]	80 [3.1]	5,8 [0.2]	14 [30.9]
82G80-463C800B	vertical	96°						

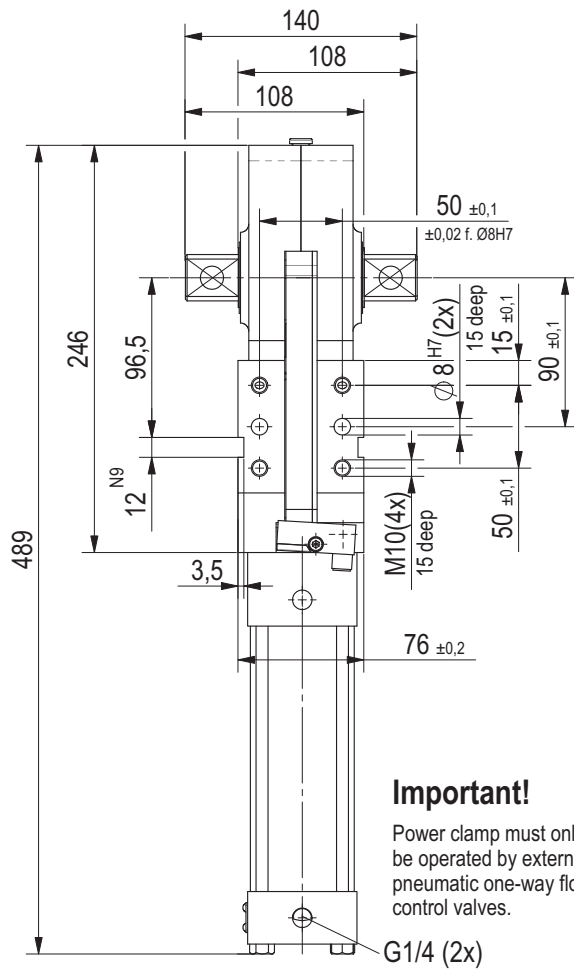
Concept guideline (with reference to axis of clamping arm rotation)



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

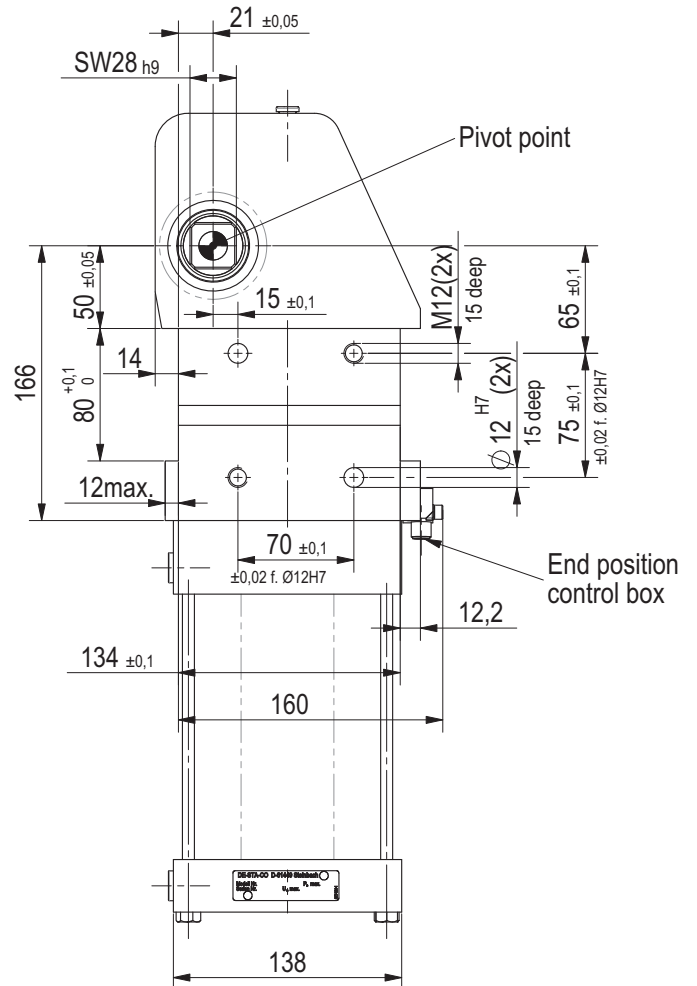
Diagram of clamping force (at 5 bar)



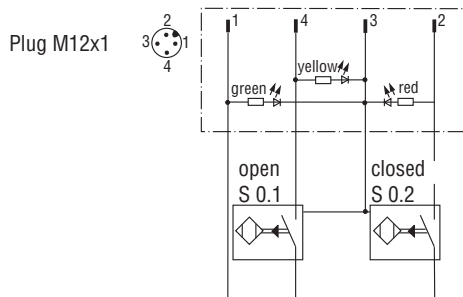
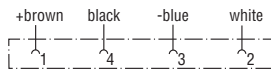


Important!

Power clamp must only be operated by external pneumatic one-way flow control valves.



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



Wiring diagram for electrical sensing system
Sensing system immune to interference from d.c. arc welding and a.c. arc welding

Inductive design:

- C8 Connector plug M12x1

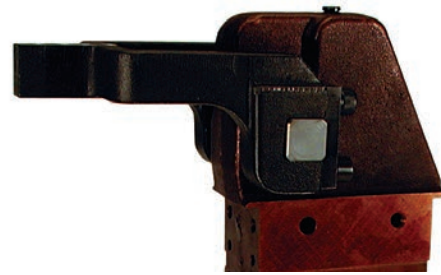
Series **82G80-4** Clamping Arm Variants

Clamping arm design

U-type central clamping arm

Clamping position

horizontal or vertical



U-type Central clamping arm, horizontal clamping position

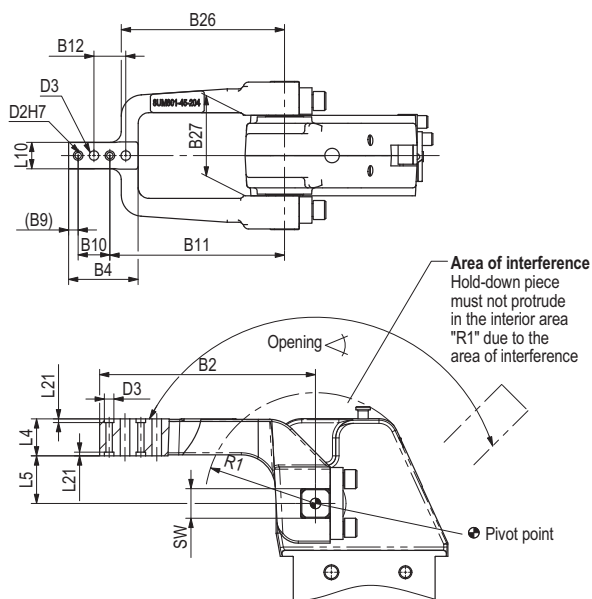
Technical data U-type central clamping arms

Model	Order no. U-type central clamping arm	Opening angle for clamping position		Weight [kg]	B2	B4	B9	B10 ±0,02	B11 +0,1
		horizontal	vertical						
82G80-4..C800B	8UM801-45-204 8JG-169-2-01	135°	96°	4,1	204	65,5	9	30	165
		135°	96°	3,5	179	65,5	9	30	140

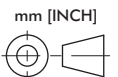
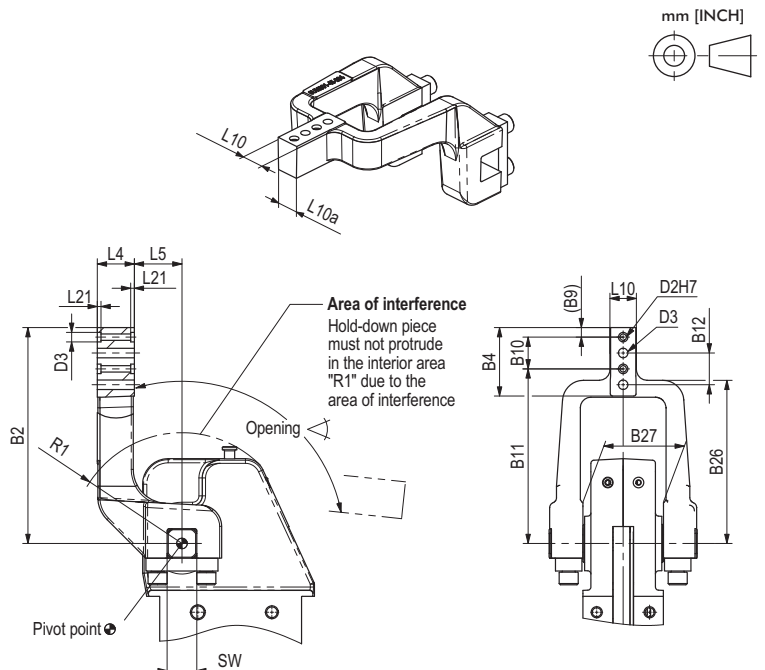
Model	Order no. U-type central clamping arm	B12 ±0,2	B26	B27	D2 H7	D3	L4 ±0,1	L5*** ±0,2	L10 ±1,2	L10a ~	L21	R1	SW J7
30	129	76,1	6	9	35	20	25	23,7	3,5	108	28		

*** Tolerance measured 80 mm from pivot point

Horizontal clamping arm position



Vertical clamping arm position



Series **82G80-4** Clamping Arm Variants

Clamping arm design

- lateral / left
- lateral / right
- lateral / both sides

Clamping position

- horizontal or vertical
- horizontal or vertical
- horizontal or vertical



Lateral clamping arm, horizontal clamping position

Technical data lateral clamping arms

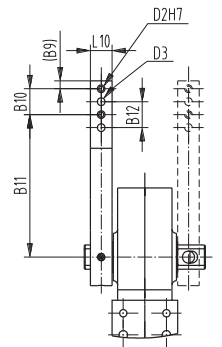
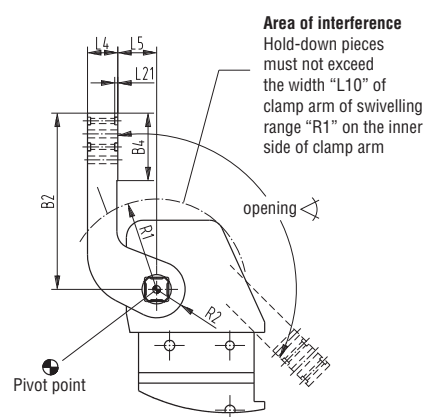
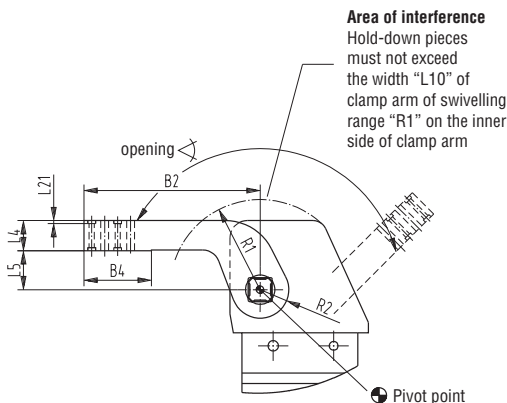
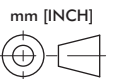
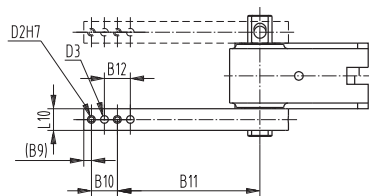
Model	Order No. lateral clamping arm	Opening angle for clamping position		Weight [kg]	B2	B4	B9	B10 ±0,02	B11 +0,1
		horizontal	vertical						
82G80-4..C800B	8S801-45-204	135°	105°	2,2	204	78	9	30	165
	8JG-1179-1-01	135°	105°	2,1	179	78	9	30	140

Model	Order No. lateral clamping arm	B12 ±0,2	D2 H7	D3	L4 ±0,1	L5*** ±0,2	L10	L21	R1	R2
82G80-4..C800B	8S801-45-204	30	6	9	35	45	25	3,5	108	33
	8JG-1179-1-01	30	6	9	35	20	30	--	108	35

*** Tolerance measured 80 mm from pivot point

Horizontal clamping arm position

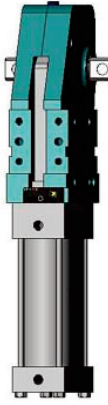



Vertical clamping arm position



Series **82G80-4** Ordering Information

Model numbering code for 82G80-4....

Example Order No.: **82G80-4 23 C8 0 0 B**


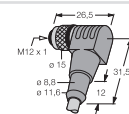
 <p>Driveshaft, Dual side</p>	<p>23 = horizontal clamping arm position</p>  <p>Opening angle 135°</p> <hr/> <p>63 = vertical clamping arm position</p>  <p>Opening angle 96°</p>	<p>00 = without sensing system</p> <p>C8 = with sensing system 8EA-026-2</p> 	<p>0 = without hand lever</p>	<p>For 423</p> <p>0 = Standard 1 = 120° 2 = 105° 3 = 90° 4 = 75° 5 = 60° 6 = 45° 7 = 30°</p> <p>For 463</p> <p>0 = Standard 3 = 90° 4 = 75° 5 = 60° 6 = 45° 7 = 30°</p>	<p>B = Base model w/o clamping arm</p>
Basic model	Clamp Arms	Sensing system	Hand Lever	Opening Angle Limitation	Base Model

Spare parts

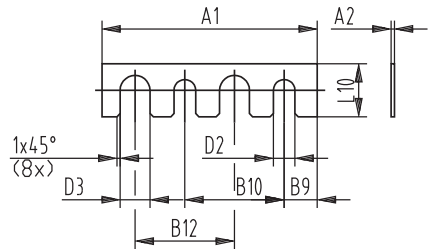
Specification	Order no. for structural component 82G80-4..C800B
Cylinder	8PW-1004-1
Seal kit	8PW-1001-1-00
Sensing kit C8	82G80-4C8
Sensing system C8 Connector plug M12x1	8EA-026-2

Series 82G80-4 Accessories

Clamping Arms				Order No. for set 82G80-4..C800B	Comment
Clamping arm variant	Clamping arm length	Fulcrum distance	Clamping position		
U-central	179	20	horizontal / vertical	8JG-169-2-01	Set consists of clamping arm, screws, and links.
U-central	204	45	horizontal / vertical	8UM801-45-204	
lateral right/left	179	20	horizontal / vertical	8JG-1179-1-01	Set consists of clamping arm and set screws.
lateral right/left	204	45	horizontal / vertical	8S801-45-204	
lateral both sides					you need 2 sets of clamping arms

Connector cable (1 connector socket & 5 m cable)		Order No.
connector socket M12x1 straight, 5-pin		8EL-002-1
connector socket M12x1 angular, 4-pin		8EL-003-1

Opening angle limitation	Order No.	Height
120°	8CE-1002-3	9,1 mm
105°	8CE-1000-3	21,1 mm
96°	8CE-220-2	28,6 mm
90°	8CE-1004-3	33,8 mm
75°	8CE-1008-3	46,5 mm
60°	8CE-1012-3	58,2 mm
45°	8CE-1016-3	69,6 mm
30°	8CE-1020-3	81,0 mm

Shim for clamping arm	Order No.	A1	A2	D2	D3	B9	B10	B12	L10
	82ZB-SH5001		0,1						
	82ZB-SH5002		0,2						
	82ZB-SH5005		0,5						
	82ZB-SH5010	65	1,0	6,5	9	10	30	30	16
	82ZB-SH5020		2,0						
	82ZB-SH5050		5,0						

Series **82D40-2/82D63-5** Product Overview

Features:

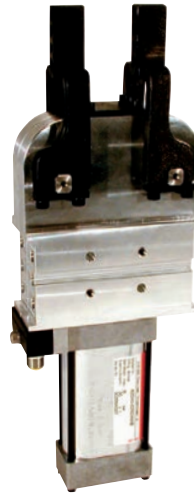
- Compact, enclosed design
- Narrow design
- Adapts to various holding arm variants
- High accuracy of positioning due to internal holding arm stopper
- 2 lateral and 1 front mounting areas
- Low weight (aluminium body)
- Integrated inductive sensing module with LED display
- Cylinder diameter 40 mm or 64 mm

Application:

- Clamping, holding, gripping and positioning of metal sheets and other parts, mainly in jigs and handling systems.

Key areas of application:

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



- Automation power clamps, enclosed and narrow design for 2 clamping arms

Models: **82D40-2...**
82D63-5...

82D40-223C900
Base model with
2 U-clamping arms

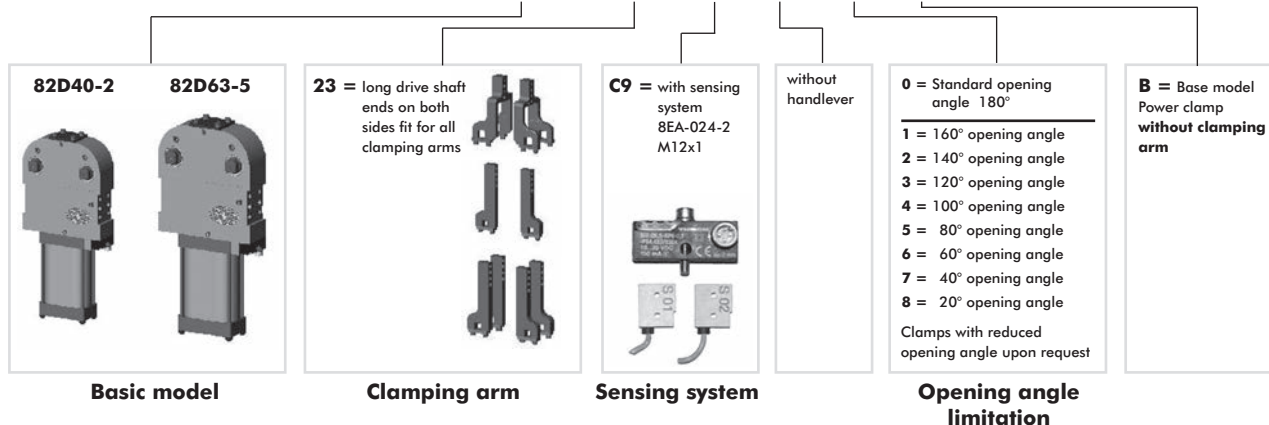
Series **82D40-2/82D63-5** Technical Information

Model	Clamping position	Standard opening angle	Driveshaft	Max. holding torque Nm [lb ft]	Clamping torque at 5 bar Nm [lb ft]	Cylinder Ø mm [in]	Air consumption per double stroke at 5 bar dm ³ [ft ³]	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	vertical	180°	lateral, both sides U-type clamping arms	120 [88]	120 [88]	63 [2.48]	3,8 [0.13]	4,5 [9.90]

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

Order no. code for **82D40/63**

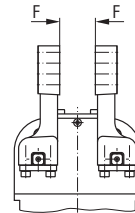
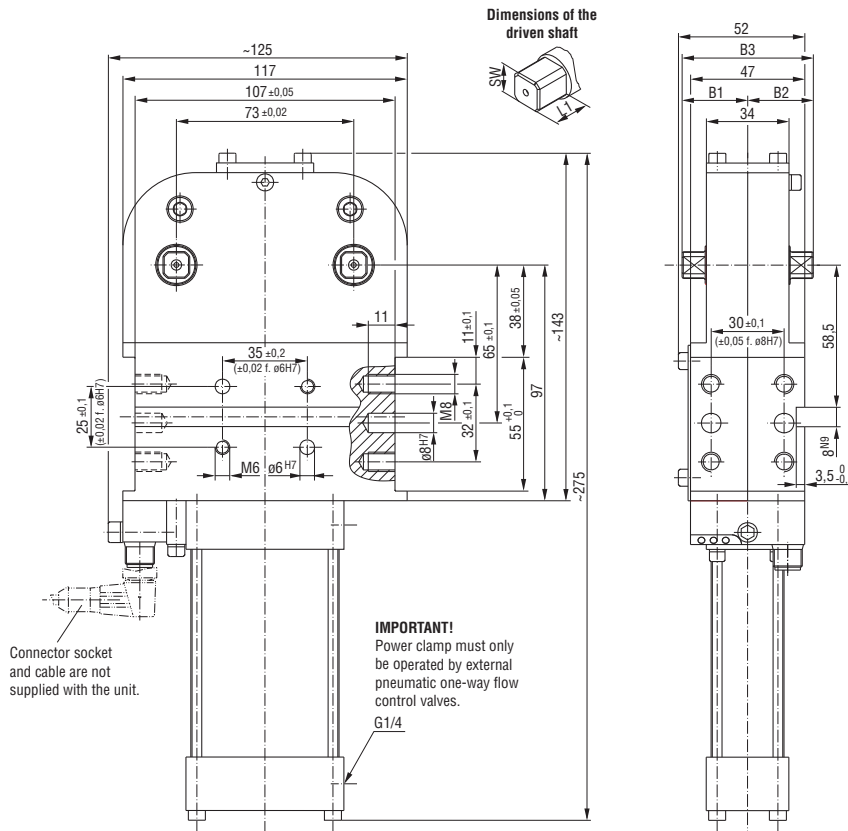
Example Order No.: **82D63-5 23 C9 0 0 B**



Series 82D40-2/82D63-5 Standard Clamp Dimensions

Automation power clamps with 2 clamping arms

82D40-223C900B

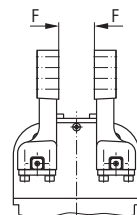
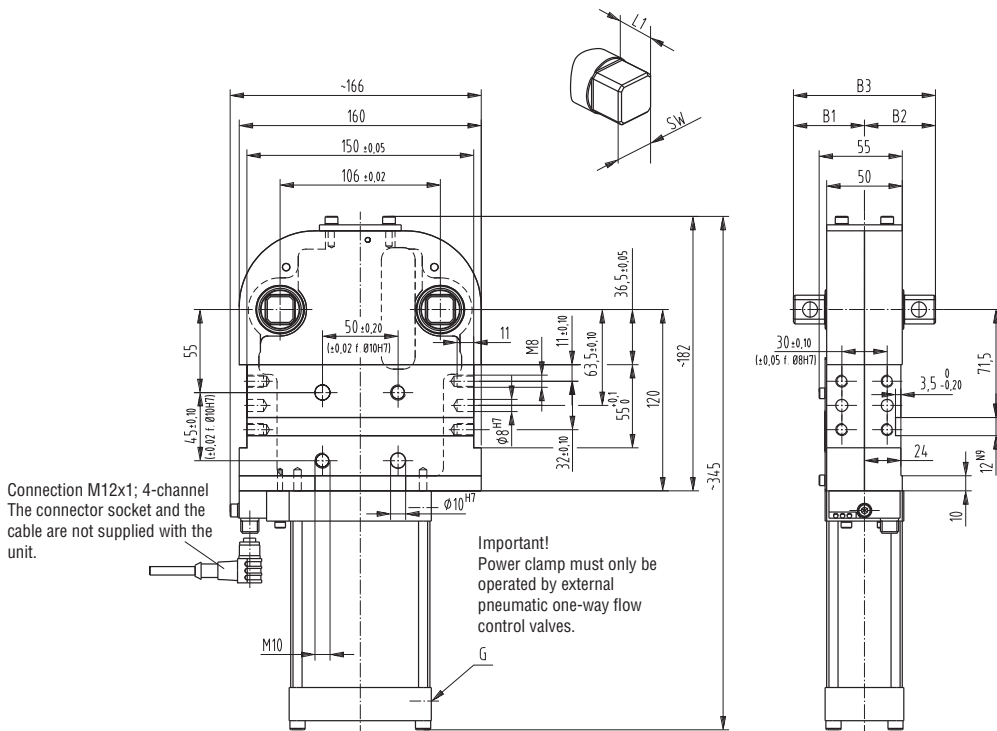


Safety notice:

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

82D63-523C900B



Safety notice:

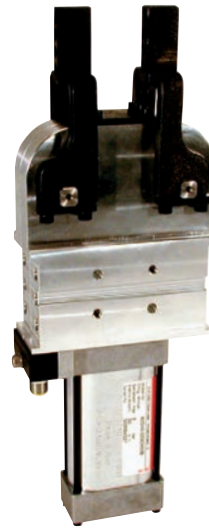
The load on the clamping arms must always point towards the clamping direction. Single load of one arm is prohibited

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

Series **82D40-2** Technical Information, Dimensions
Automation power clamps with 2 clamping arms

• 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

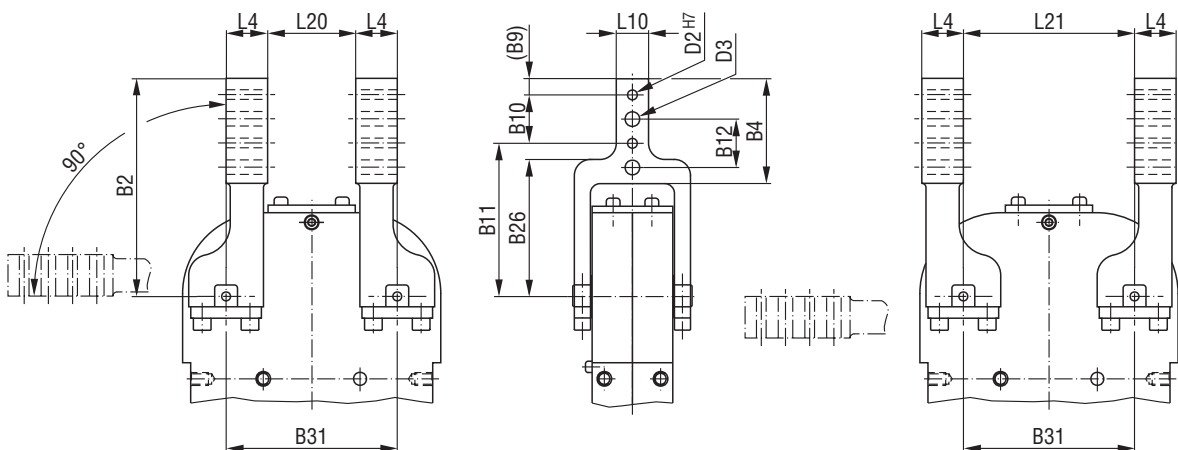
U-type central clamping arm Technical Information

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	L20	L21
		±0,02	H7 ∅	∅		-0,1		
82D40-223C900B	8JG-065-2-01	73	6	7	20	12	33	73

Drawing shows standard mounting (L20)

Drawing shows further mounting possibility (L21)

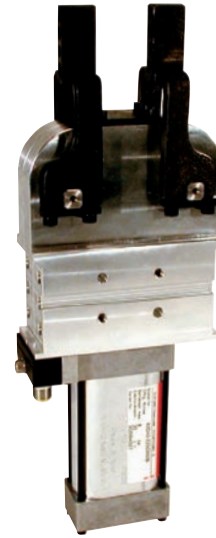


Series **82D63-5** Technical Information, Dimensions

Automation power clamps with 2 clamping arms

• 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

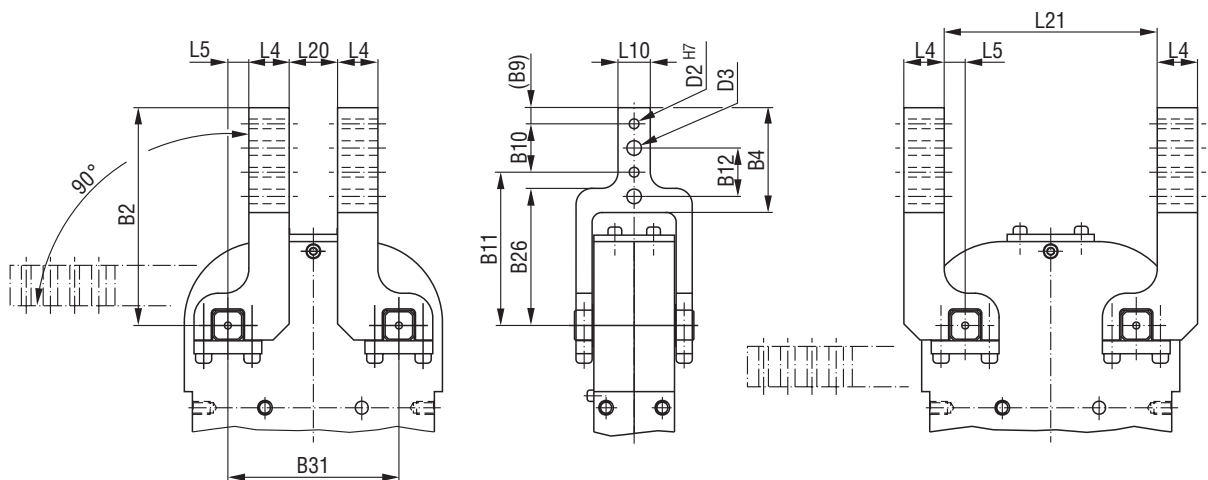
U-type central clamping arms Technical Information

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

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

Drawing shows standard mounting (L20)

Drawing shows further mounting possibility (L21)



Series **82D40-2** Technical Information, Dimensions
Automation power clamps with 2 clamping arms

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

Clamping arm variant

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



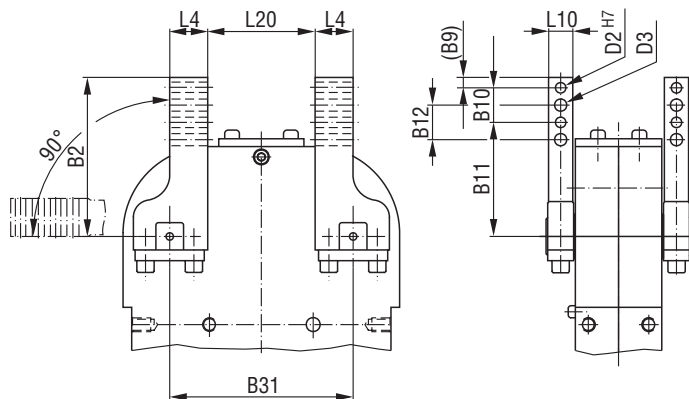
Base model with 4 lateral clamping arms, large gap between clamping arms

Lateral clamping arm Technical Information

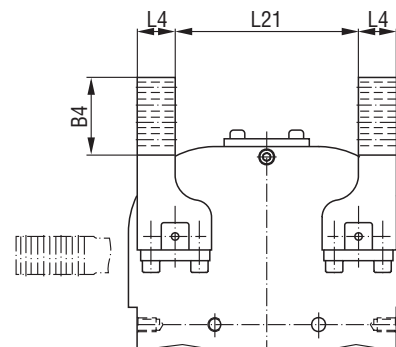
Model	Clamping arm variant	Order no. for 1 set of lateral clamping arms (1 clamping arm)	Clamping position	Standard opening angle	B2	B4	B9	B10	B11	B12
82D40-223C900B	lateral, left lateral, right lateral, both sides	8JG-066-1-01	vertical	180°	105	45	6	±0,02	+0,1	±0,2

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

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



Drawing shows further mounting possibility (L21)



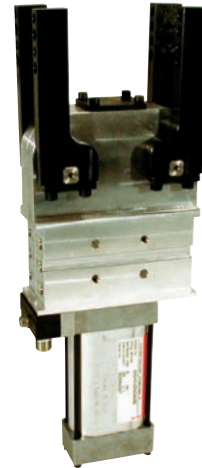
Series 82D63-5 Technical Information, Dimensions

Automation power clamps with 2 clamping arms

• Clamping arm variants for 82D63-5

Clamping arm variant

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



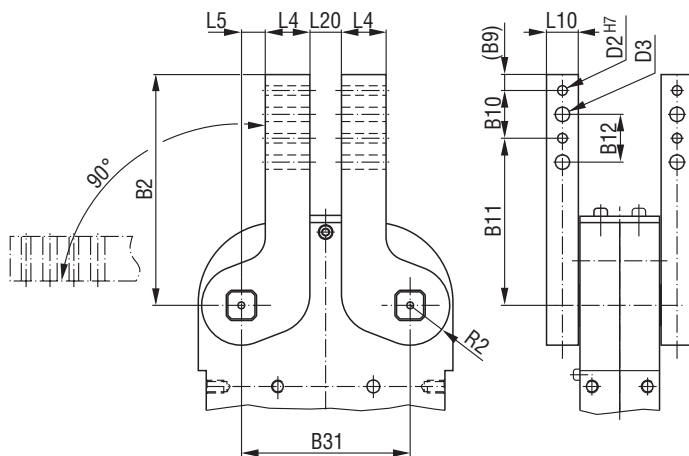
Base model with 4 lateral clamping arms, large gap between clamping arms

Lateral clamping arms Technical Information

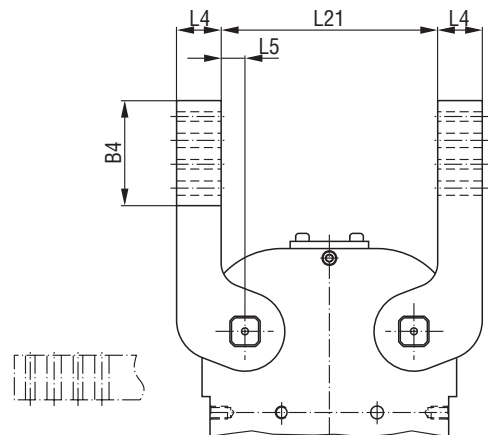
Model	Clamping arm variant	Order no. for 1 set of lateral clamping arms (1 clamping arm)	Clamping position	Standard opening angle	B2	B4	B9	B10	B11	B12
82D63-523C900B	lateral, left lateral, right lateral, both sides	8JG-070-1-01	vertical	180°	144	74	9	30	105	30

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
82D63-523C900B	lateral, left lateral, right lateral, both sides	8JG-070-1-01	±0,02	H7 Ø	Ø	28	15	20	20	136	28

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



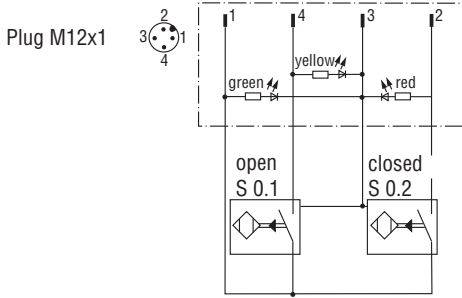
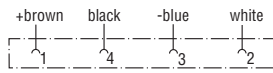
Drawing shows further mounting possibility (L21)



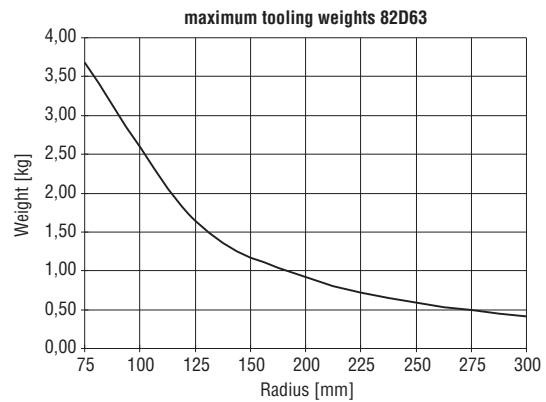
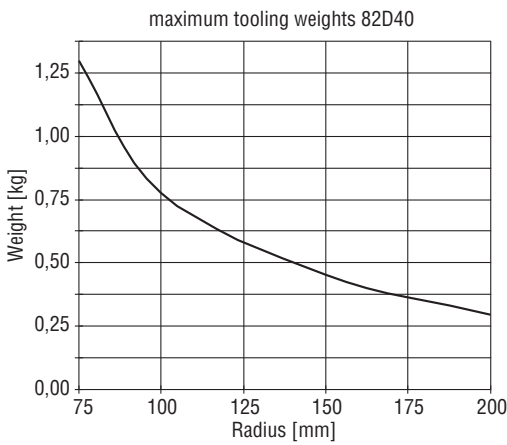
Series **82D40-2/82D63-5** Technical Information

Wiring diagram of electrical sensing system

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



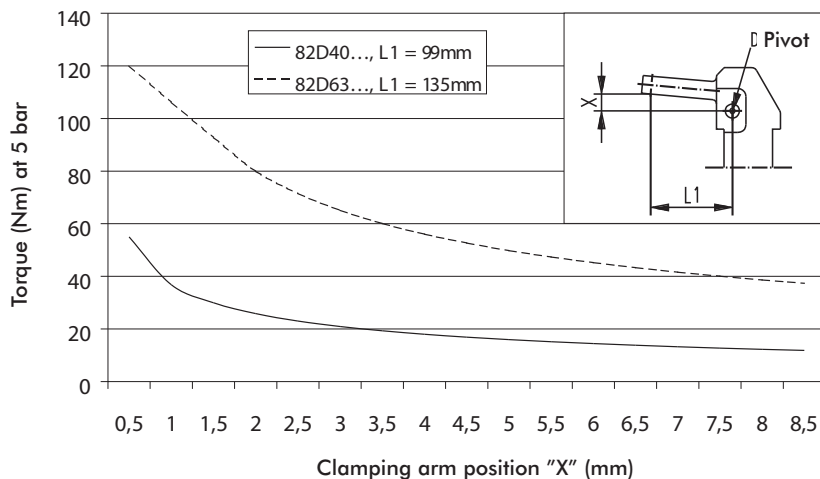
Concept guideline (with reference to axis of clamping arm rotation)



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

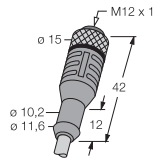
Diagram of clamping force (at 5 bar)

Models 82D40... / 63...

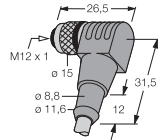


Series 82D40-2 / 82D63-5 Accessories

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-066-1-01¹⁾	8JG-070-1-01²⁾	sets of lateral clamping arms consist of 1) clamping arm, links and screws 2) clamping arm and set screws you need 2 sets of clamping arms
lateral both sides	vertical	8JG-066-1-01¹⁾	8JG-070-1-01²⁾	you need 4 sets of clamping arms



Connector socket M12x1 straight, 5-pin



Connector socket M12x1 angular, 4-pin

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
Seal kit	8PW-016-1-00	8PW-024-1-00
Integrated sensing system C9 Connector plug M12x1	8EA-024-2	8EA-024-2

Series **82U50-3** Product Overview

Pallet power clamps, enclosed model

Application:

Clamping, holding, gripping and positioning of metal sheets and other parts, mainly in jigs and handling systems, particularly in situations where local accessibility does not allow the use of standard clamps.



82U50-300....
Pallet power clamp

Key areas of application:

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

Features:

- Compact, enclosed aluminium body
- High holding torques
- Long life cycle
- Hard alloy rest at the clamping hook
- Toggle action mechanism
- Inductive sensing module with LED display
- Shielded design cover protects against welding spray

Optional:

- Adapter plate for lateral connection
- Sensing system integrated or attached to the cylinder

Model with inductive sensing			Max. holding force N [lbs]	Clamping force at 5 bar N [lbs]	Max. operating- pressure bar [psi]	Cylinder Ø mm [in]	Weight ~ kg [lbs]
Connector	Connector	Connector					
M12x1	M12x1, with lead	M8x1					
82U50-300B700	82U50-300B800	82U50-300C800	4000 [899]	4000 [899]	6 [87]	50 [1.97]	3,2 [7.04]

Accessories

Specification		Order no. for structural component 82U50-300....	Comment
Connecting cable (1 connector socket & 5 m cable)			
B7 / B8 sensing system			
Connector socket M12x1, straight, 5-pin		8EL-002-1	
Connector socket M12x1, angular, 4-pin		8EL-003-1	
C8 sensing system			
Connector socket M8x1, straight, 4-pin		8EL-009-1	
Connector socket M8x1, angular, 4-pin		8EL-007-1	
Plug adapter M8 to M12		8EL-008-1	
Sensing system attached to cylinder		8EA-025-1	2 pcs required
Magnetic sensors plus installation material			

Major spare parts

Specification	Order no. for structural component 82U50-300....
Pneumatic cylinder	8PW-007-1
Seal kit	8PW-007-1-00
Sensor box "B7" , connector plug M12x1	8EA-060-1
Sensor box "B8" , connector plug M12x1 with lead	8EA-031-1
Sensor box "C8" , connector plug M8x1	8EA-023-2
Spare part kit: Bushings, Bearings, pins	8KB-047-1

GDP Series Product Overview

Features and Benefits

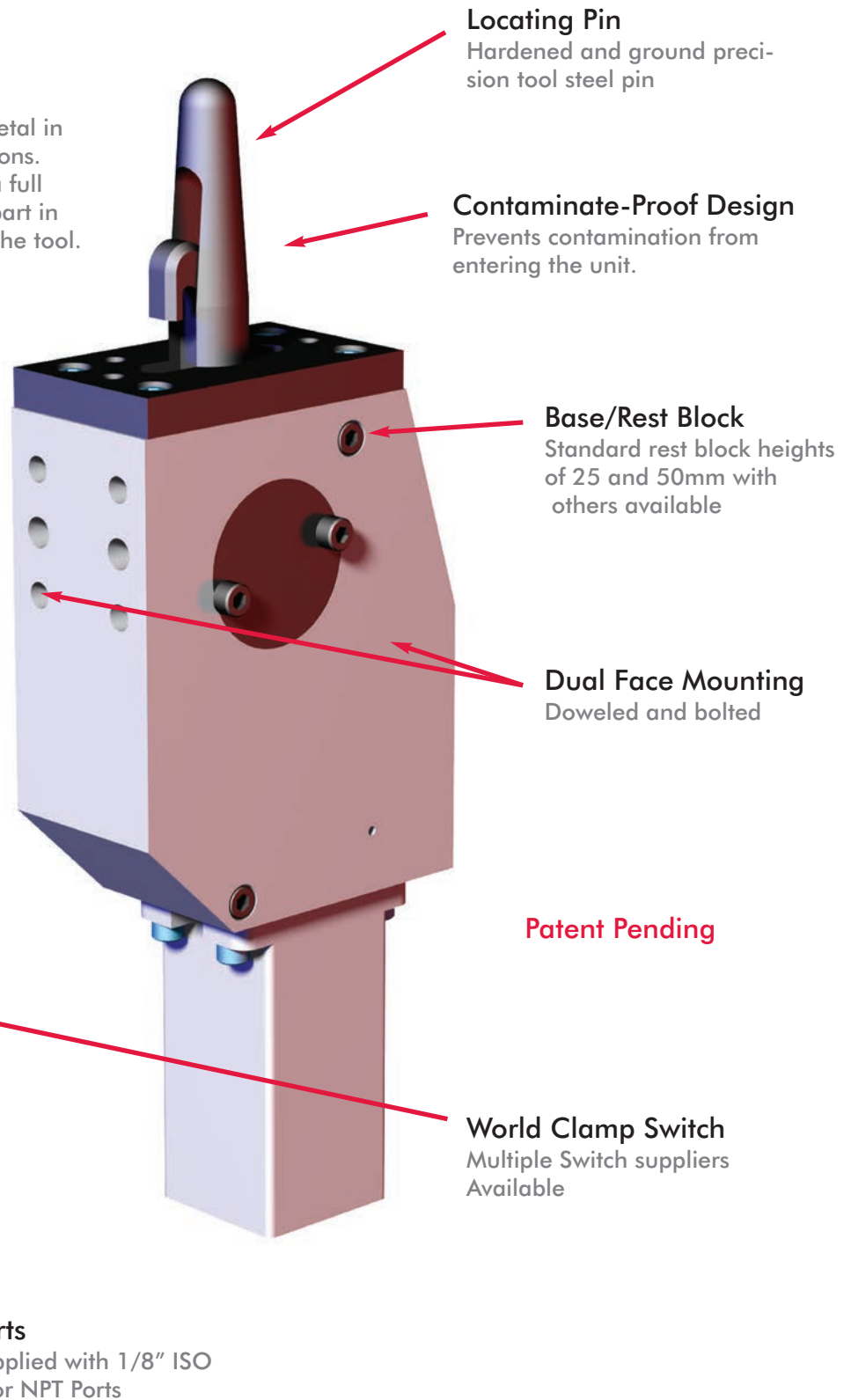
Introduction

DE-STA-CO's Model GDP clamps are designed to locate and clamp sheet metal in welding and material transfer applications. The enclosed aluminum body houses a full toggling mechanism that secures the part in place even when air is removed from the tool.

These units are very powerful as a result of the mechanical advantage of the toggle mechanism so large cylinders are not needed.

GDP Locating Pin Clamps can be used on a stationary tool as well as a moving pallet system and are available with an enclosed LED switch.

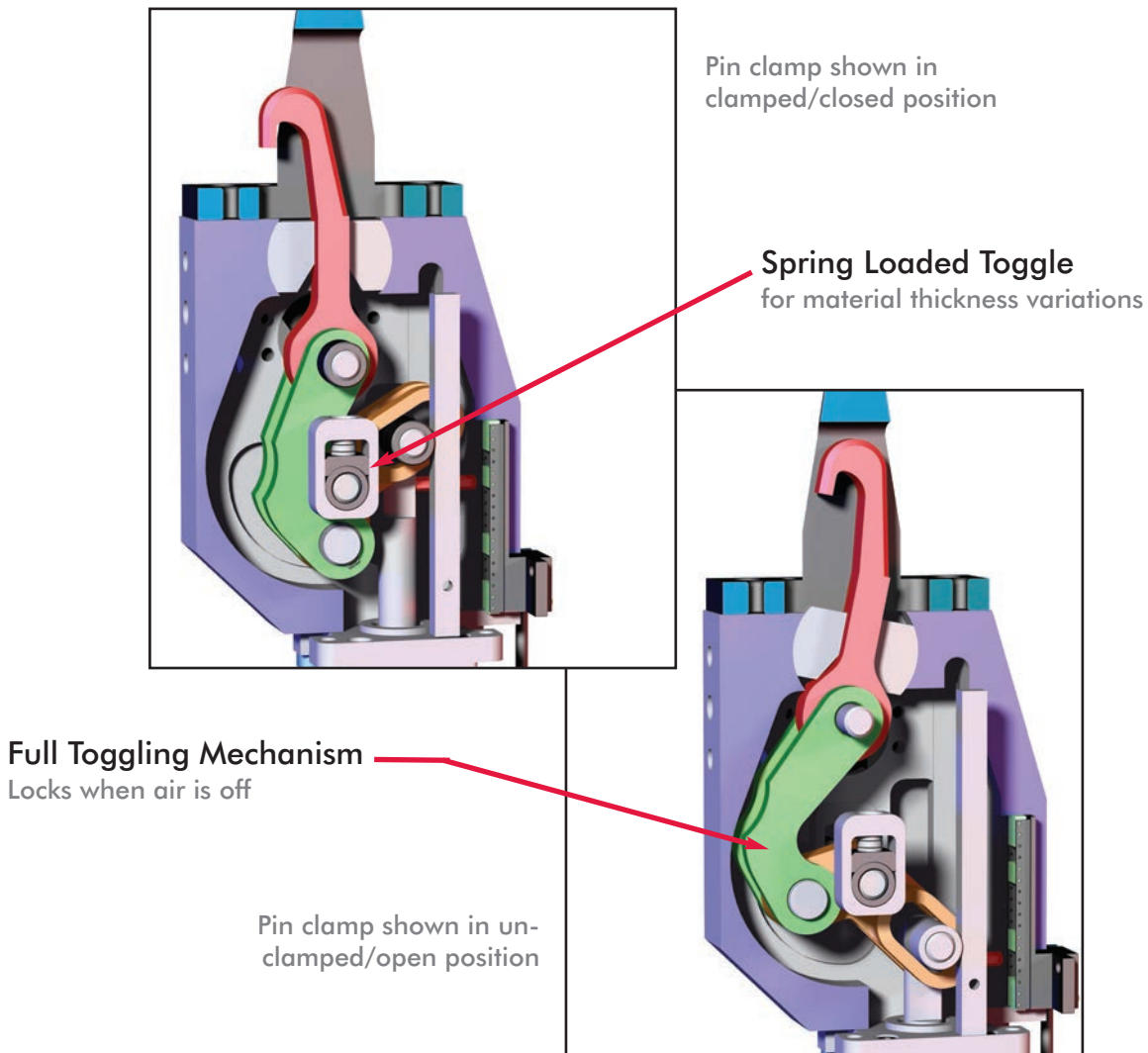
Hardened tool steel pins have full 360° Geometric sheet metal contact.



Operation Principle

Reliable clamping on variable surfaces and thickness with superior contamination protection

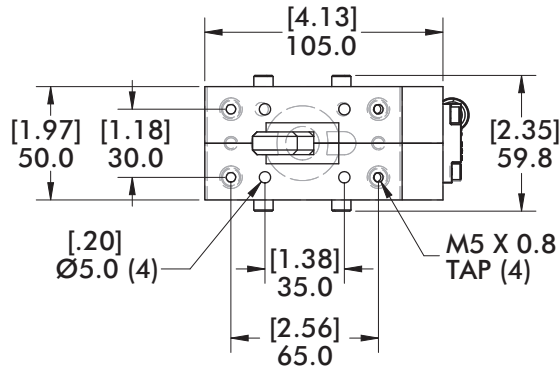
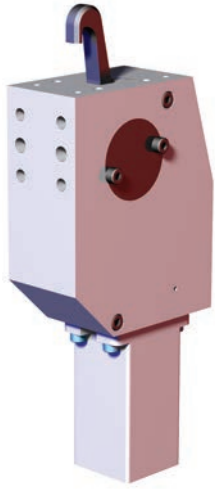
DE-STA-CO's GDP Locating Pin Clamps are made using a fully enclosed body with hardened steel wear surfaces for millions of cycles and long life. Sheet metal is captured with the hook that toggles locked when air actuates the cylinder and remains locked when air is removed.



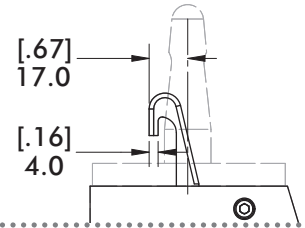
Technical Information

Weight	2.3kg [5 lb]
Holding Force (Over Center)	2001.7 N [450 lbf]
Clamping Force (Over Center)	2001.7 N [450 lbf]
Maximum Material Thickness Variation.....	2mm [.07 in.]

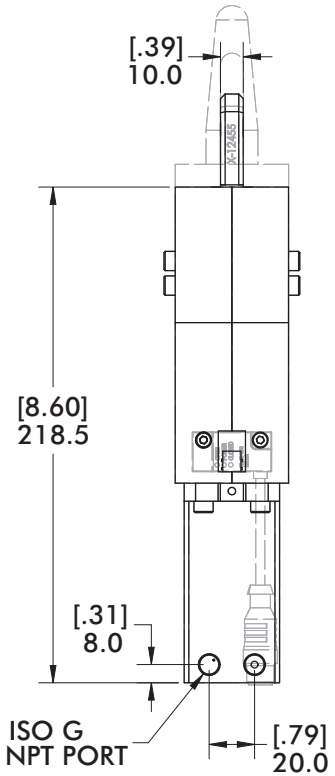
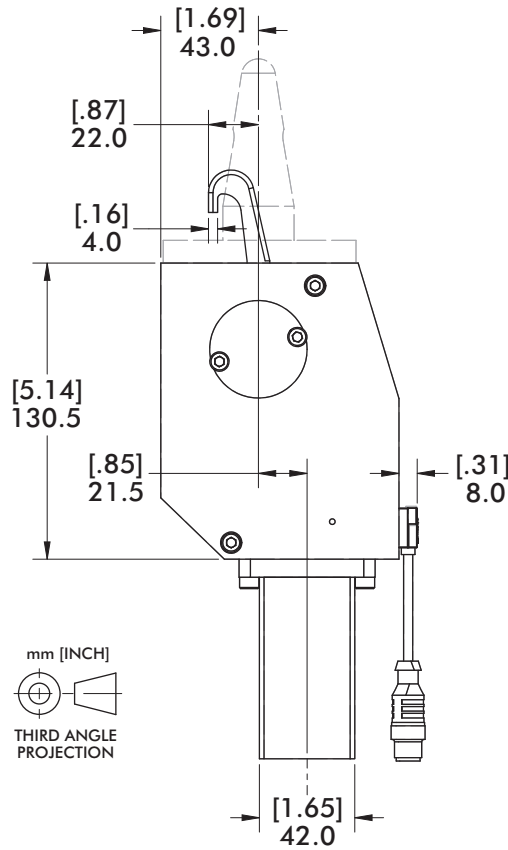
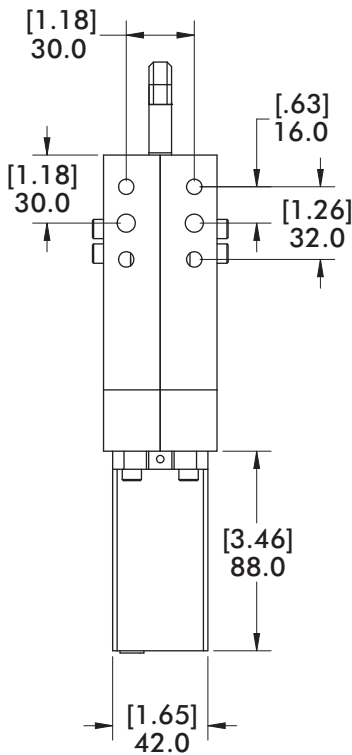
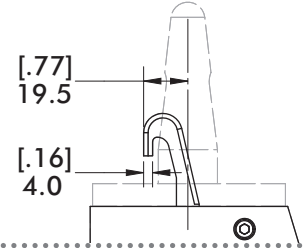
GDP3(x) Base Pin Clamp Dimensions



GDP30-5200000



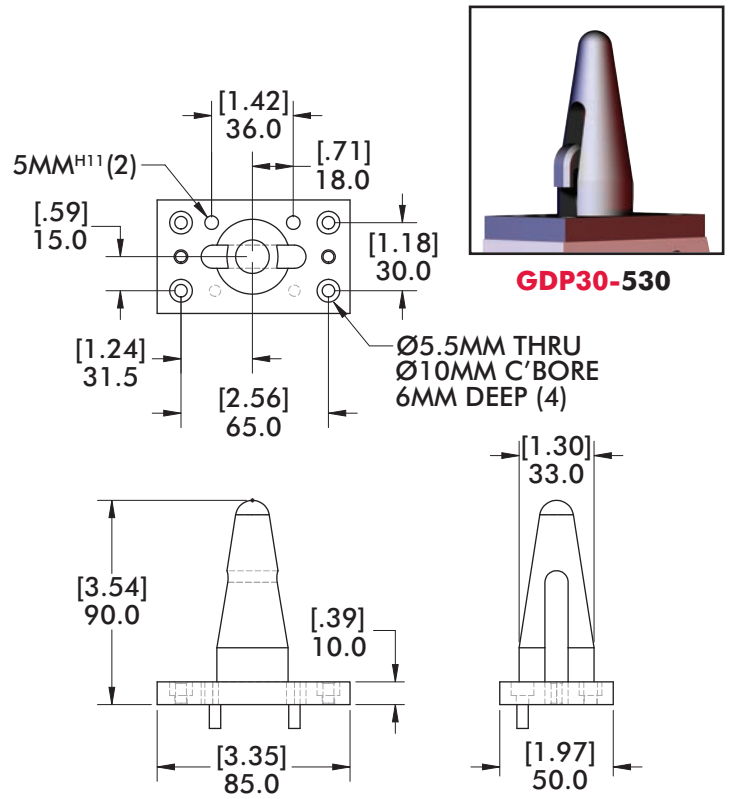
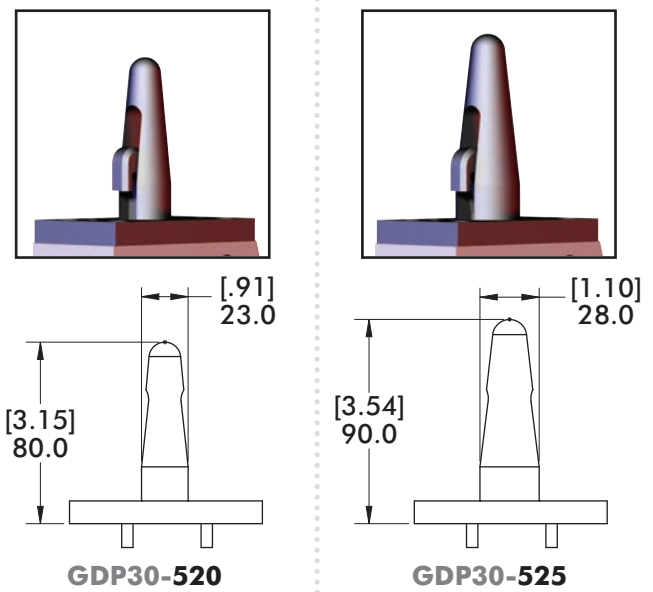
GDP30-5250000



Model	Ports	Version	Centering Pins	Open/Closed Sensing	Clamping Hook
GDP	3G — 5	5	20	00	00
"GDP" Locating Pin Clamp	"3G" 1/8" ISO G Ports "3N" 1/8" NPT Ports		"20" Ø20.0 - Ø23.0 "25" Ø23.1 - Ø28.0 "30" Ø28.1 - Ø33.0	"00" No Sensing "C8" Internal Sensing	"00" Standard

Note: Pins ordered separately.

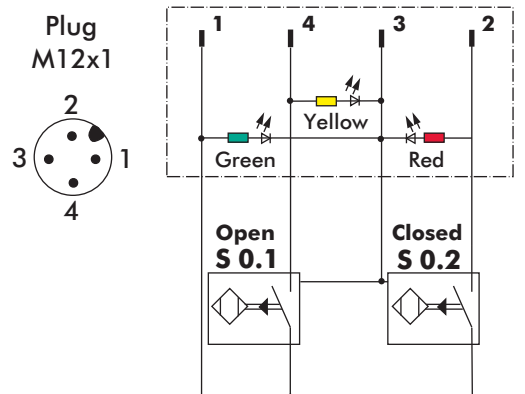
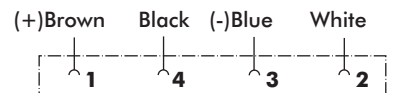
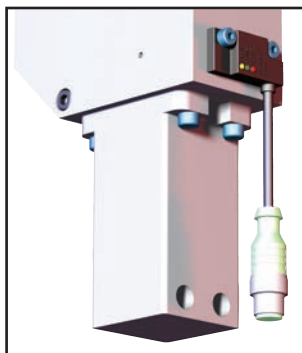
GDP30-5(xx) Standard Centering Pins Dimensions



STANDARD CENTERING PINS		
MODEL	STANDARD (Ø)	MINIMUM (Ø) ^(†)
GDP30-520-x.xx	23.0mm	20.0mm ^(†)
GDP30-525-x.xx	28.0mm	23.1mm ^(†)
GDP30-530-x.xx	33.0mm	28.1mm ^(†)

^(†)Centering pins can be ordered with any pin (Ø) between standard and minimum upon request.

GDP30-5(xx) - Sensing and Cylinder



REPLACEMENT/SPARE PARTS		
GDP Option	MODEL	DESCRIPTION
C8	8EA-096-1	Intenal Open/Closed Sensing
3N	8PW-102-2	Cylinder with NPT ports
3G	8PW-096-2	Cylinder with G ports
-	8PW-096-1-00	Seal Kit

"C8" (8EA-096-1)
Internal Open/Closed Sensing
 10...30 VDC 150mA, PNP, 4-Pin, M12, Eurofast

Series **82P30-3/82P35-3** Product Overview

Pneumatic locating pin clamps, enclosed and narrow design, with single-sided or double-sided clamping hook

Application:

Clamping, holding, gripping and accurately positioning of metal sheets and other parts in jigs and handling systems.

Key areas of application:

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

Features:

- compact design
- low weight (aluminium body)
- single-sided or double-sided clamping hook
- lateral attachment
- centering pin diameters between 20 mm and 45 mm
- toggle action mechanism
- inductive sensing module with LED display



Locating pin clamp 82P30-3..C000
Single-sided clamping hook without centering pin



Locating pin clamp 82P30-3..C0D0
Double-sided clamping hook without centering pin

Locating pin clamps with single-side clamping hook (Centering pin ordered separately)

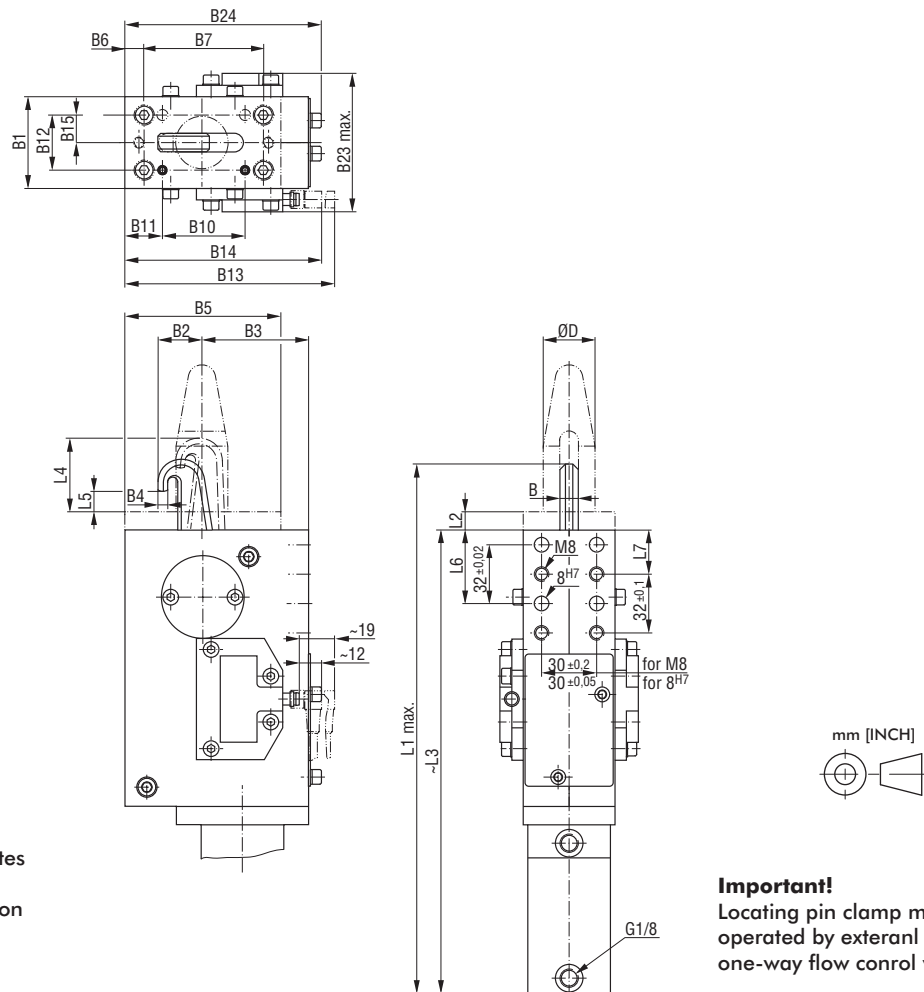
Model with inductive sensing without centering pin		Max. clamping force at 6 bar N [lbs]	Max. operating pressure bar [psi]	Cylinder Ø mm [in]	For centering pin Ø D mm [in]	Weight ~ kg [lbs]	Air consumption per double stroke at 6 bar dm³ [ft³]
Connector M12x1	Connector M8x1						
82P30-320B800	82P30-320C000	2000 [449]	6 [87]	30 [1.18]	20,0-23,0 [0.79-0.91]	3 [6.60]	0,8 [0.03]
82P30-325B800	82P30-325C000	2000 [449]	6 [87]	30 [1.18]	23,1-28,0 [0.91-1.10]	3 [6.60]	0,8 [0.03]
82P30-330B800	82P30-330C000	2000 [449]	6 [87]	30 [1.18]	28,1-33,0 [1.10-1.30]	3 [6.60]	0,8 [0.03]
82P35-340B800	82P35-340C000	3500 [787]	6 [87]	35 [1.38]	33,1-45,0 [1.30-1.77]	3,4 [7.48]	1,0 [0.04]

Locating pin clamps with double-side clamping hook (Centering pin ordered separately)

Model with inductive sensing without centering pin		Max. clamping force at 6 bar N [lbs]	Max. operating pressure bar [psi]	Cylinder Ø mm [in]	For centering pin Ø D mm [in]	Weight ~ kg [lbs]	Air consumption per double stroke at 6 bar dm³ [ft³]
Connector M12x1	Connector M8x1						
82P30-320B8D0	82P30-320C0D0	2000 [449]	6 [87]	30 [1.18]	20,0-23,0 [0.79-0.91]	3 [6.60]	0,8 [0.03]
82P30-325B8D0	82P30-325C0D0	2000 [449]	6 [87]	30 [1.18]	23,1-28,0 [0.91-1.10]	3 [6.60]	0,8 [0.03]
82P30-330B8D0	82P30-330C0D0	2000 [449]	6 [87]	30 [1.18]	28,1-33,0 [1.10-1.30]	3 [6.60]	0,8 [0.03]
82P35-340B8D0	82P35-340C0D0	3500 [787]	6 [87]	35 [1.38]	33,1-45,0 [1.30-1.77]	3,4 [7.48]	1,0 [0.04]

Series 82P30-3/82P35-3 Standard Clamp Dimensions

Locating clamp with single-sided clamping hook
Centering pin (has to be ordered separately)



Dimensioning of the counterpart should allow the use of shim plates

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

Technical data

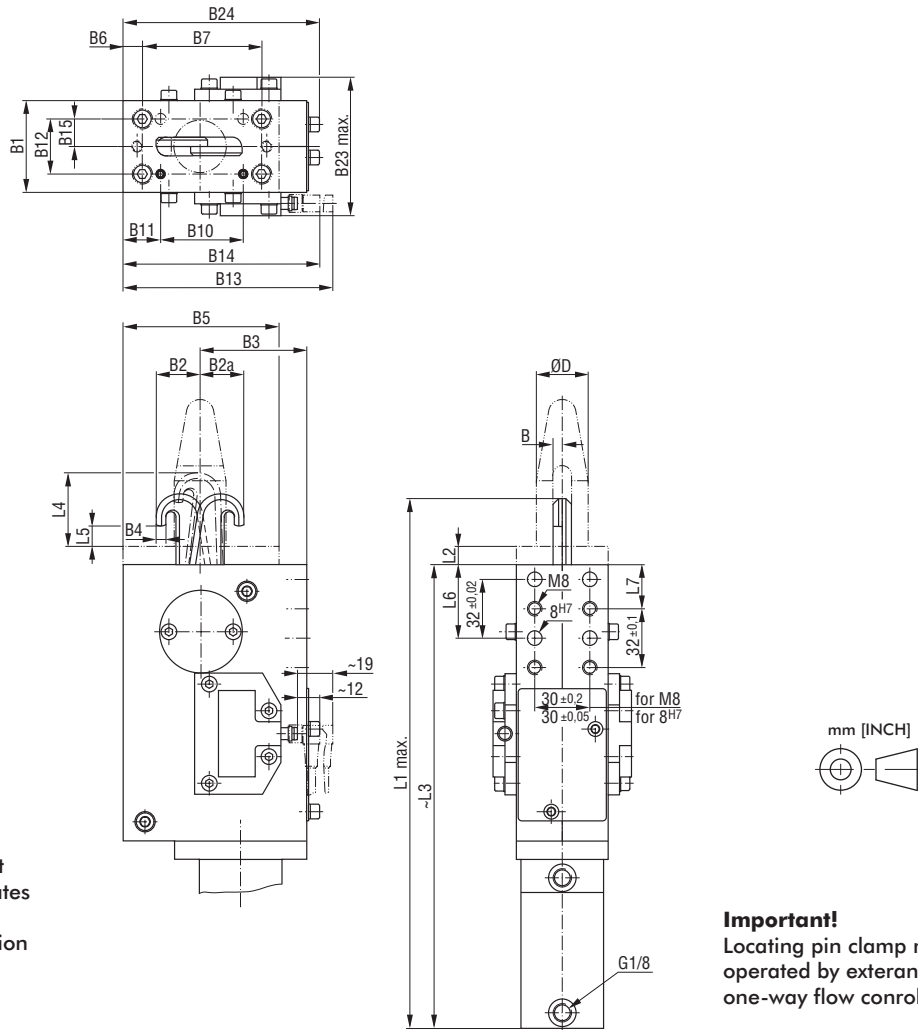
Model		Piston Ø	for Centering Pin Ø D	B	B1	B2	B3	B4	B5	B6	B7	B10	B11	B12*
with inductive sensing														
Connector M12x1	Connector M8x1													
82P30-320B800	82P30-320C000	30	20,0-23,0	10	50	18,5	58	5	85	10,5	65	35	25,5	30
82P30-325B800	82P30-325C000	30	23,1-28,0	10	50	20,5	58	5,25	85	10,5	65	35	25,5	30
82P30-330B800	82P30-330C000	30	28,1-33,0	10	50	22,5	58	5,25	85	10,5	65	35	25,5	30
82P35-340B800	82P35-340C000	35	33,1-45,0	12	60	34	53	7	90	19	61	37	31	40

Model		B13	B14	B15*	B23	B24	L1	L2	L3	L4	L5	L6	L7
with inductive sensing													
Connector M12x1	Connector M8x1	max	max	±0,025	max	max	max	+0,1		~		±0,05	±0,1
82P30-320B800	82P30-320C000	114	107	15	75,4	107	304	10	265	40	11,5	40	24
82P30-325B800	82P30-325C000	114	107	15	75,4	107	306	10	265	44	11,5	40	24
82P30-330B800	82P30-330C000	114	107	15	75,4	107	306	10	265	45	11,5	40	24
82P35-340B800	82P35-340C000	114	107	20	85,4	107	330	12	276	56	14	38	22

*Tolerances for dowel holes only

Series **82P30-3/82P35-3** Standard Clamp Dimensions

Locating clamp with double-sided clamping hook
Centering pin (has to be ordered separately)



Dimensioning of the counterpart should allow the use of shim plates

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

Technical data

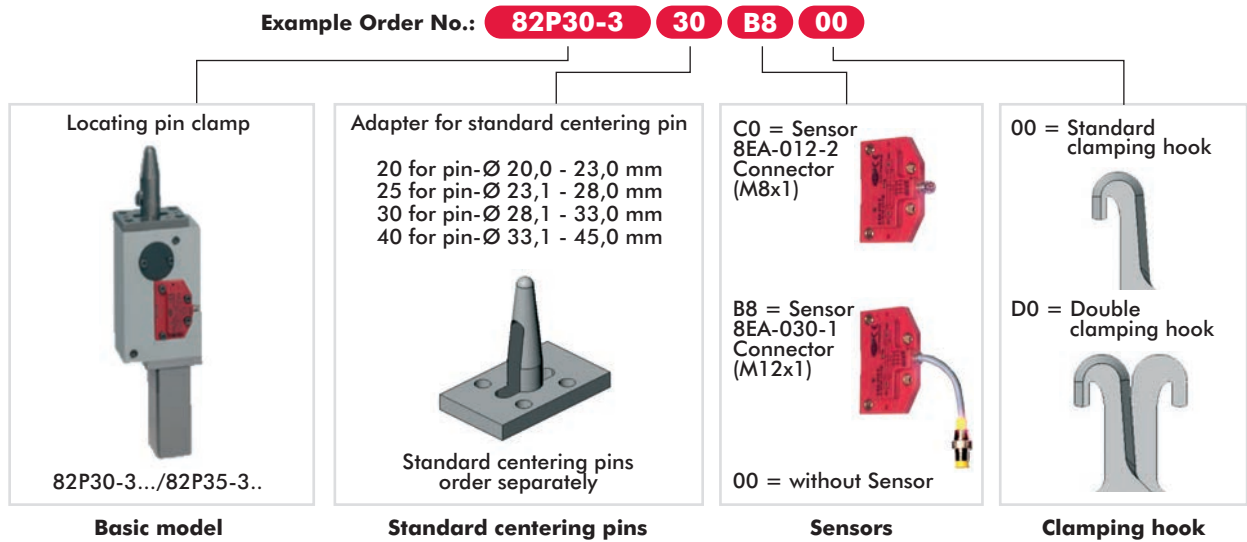
Model		For centering													
with inductive sensing without centering pin		Piston Ø	pin Ø	D	B	B1	B2	B2α	B3	B4	B5	B6	B7	B10	B11
Connector M12x1	Connector M8x1		-0,05	-0,05								±0,1	±0,2	±0,1	±0,1
82P30-320B8D0	82P30-320C0D0	30	20,0-23,0	5	50	18,5	19,5	58	5	85	10,5	65	35	25,5	
82P30-325B8D0	82P30-325C0D0	30	23,1-28,0	5	50	20,5	21,5	58	5,25	85	10,5	65	35	25,5	
82P30-330B8D0	82P30-330C0D0	30	28,1-33,0	5	50	22,5	23,5	58	5,25	85	10,5	65	35	25,5	
82P35-340B8D0	82P35-340C0D0	35	33,1-45,0	6	60	34	34	53	7	90	19	61	37	31	

Model		B12*	B13	B14	B15*	B23	B24	L1	L2	L3	L4	L5	L6	L7
with inductive sensing without centering pin		±0,05	max	max	±0,025	max		max	+0,1		~		±0,05	±0,1
Connector M12x1	Connector M8x1													
82P30-320B8D0	82P30-320C0D0	30	114	107	15	75,4	107	304	10	265	40	11,5	40	24
82P30-325B8D0	82P30-325C0D0	30	114	107	15	75,4	107	306	10	265	44	11,5	40	24
82P30-330B8D0	82P30-330C0D0	30	114	107	15	75,4	107	306	10	265	45	11,5	40	24
82P35-340B8D0	82P35-340C0D0	40	114	107	20	85,4	107	330	12	276	56	14	38	22

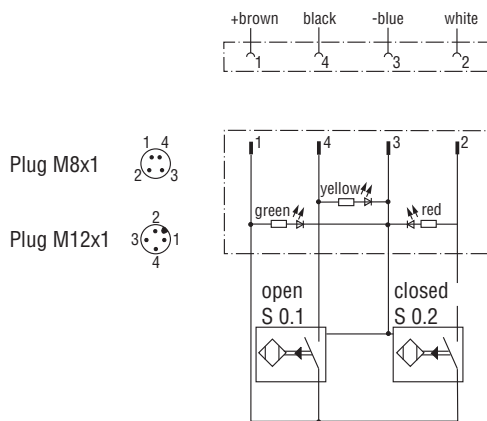
*Tolerances for dowel holes only

Series 82P30-3/82P35-3 Ordering Information

Order no. code for locating pin clamps 82P30-3... / 82P35-3...



Pin assignment



Wiring diagram of electrical sensing system

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

Inductive models:

- B8 inductive, with LEDs, connector plug M12x1
- C0 inductive, with LEDs, connector plug M8x1

Accessories for 82P30/35-3...

Specification	Order no. for structure component	
	82P30-3...	82P35-3...
Centering pins (put diameter in model number)	82P30-3-__ _1)	82P35-3-__ _1)
Connecting cable (1 connector socket & 5 m cable)		
B7 / B8 sensing system		
Connector socket M12x1, straight, 5-pin	8EL-002-1	8EL-002-1
Connector socket M12x1, angular, 4-pin	8EL-003-1	8EL-003-1
C0 sensing system		
Connector socket M8x1, straight, 4-pin	8EL-009-1	8EL-009-1
Connector socket M8x1, angular, 4-pin	8EL-007-1	8EL-007-1

¹⁾ __ _ = centering pin diameter "D" as illustrated on page 15.81-82

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

Series **82P30-3/82P35-3** Product Overview, Standard Centering Pin Dimensions

Centering pin (has to be ordered separately)

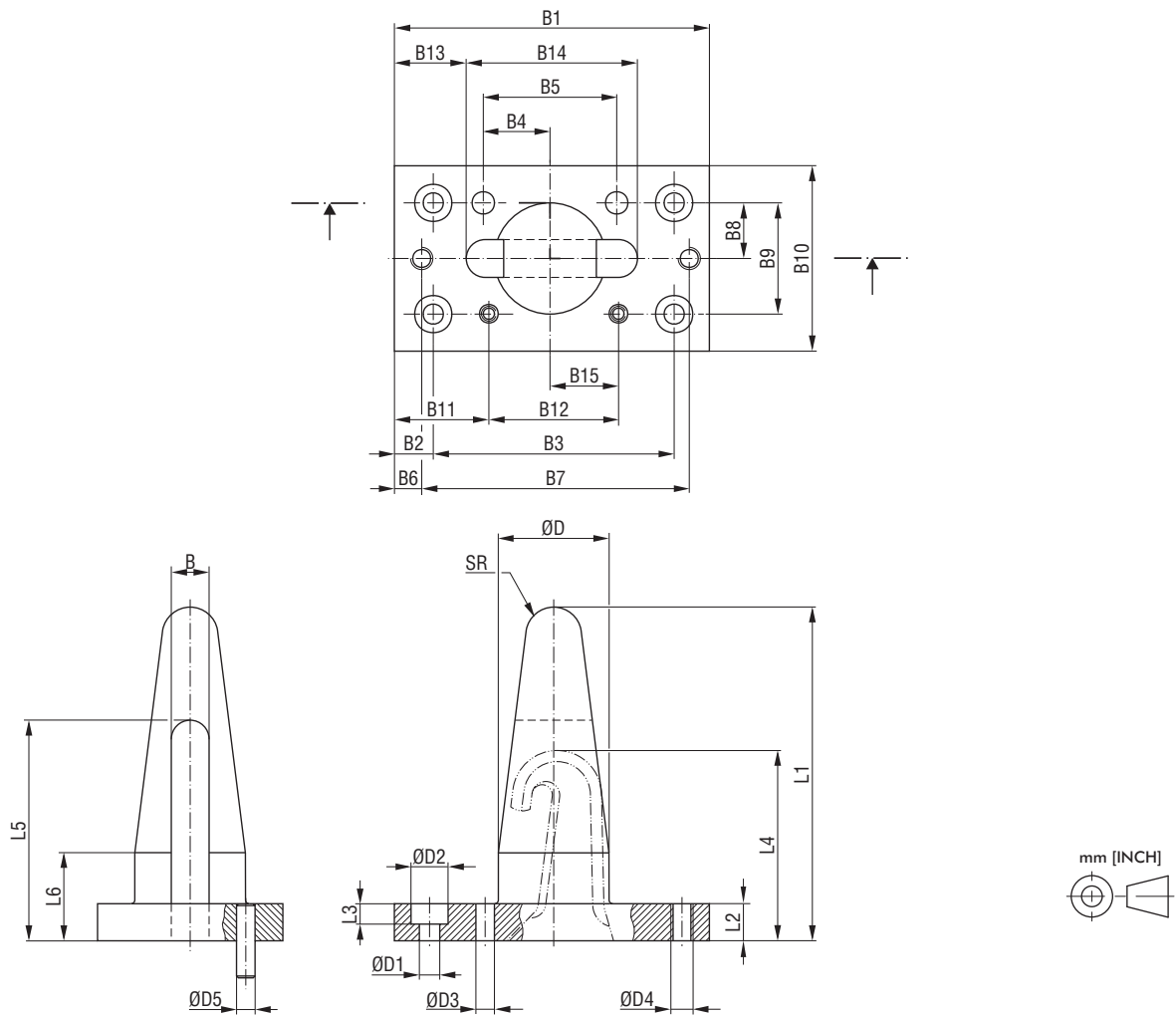


Locating pin clamp with single-sided clamping hook and centering pin



Centering pin (accessory part)

Centering pin for 82P30-3... and 82P35-3...



Technical data of centering pins

Base locating clamp model	Order no. for centering pin	ØD	ØD1	ØD2	ØD3	ØD4	ØD5	SR	L1	L2	L3	L4	L5	L6	B	B1	B2	
		-0,05	H7			H11				+0,1								±0,1
82P30-320....	82P30-3-___.1)	20,0-23,0	5,5	10	6	M6	5	5	80	10	6	52	59,5	25	10,2	85	10,5	
82P30-325....	82P30-3-___.1)	23,1-28,0	5,5	10	6	M6	5	7,5	90	10	6	54	59,5	25	10,2	85	10,5	
82P30-330....	82P30-3-___.1)	28,1-33,0	5,5	10	6	M6	5	7,5	90	10	6	55	59,5	25	10,2	85	10,5	
82P35-340....	82P35-3-___.1)	33,1-45,0	5,5	10	6	M6	5	8	102	12	6	68	73,5	30	12,2	90	19	

Base locating clamp model	Order no. for centering pin	B3	B4	B5	B6	B7	B8*	B9*	B10	B11	B12	B13	B14	B15
		±0,2	±0,02	±0,02		±0,2	±0,025	±0,05		±0,1	±0,1			±0,05
82P30-320....	82P30-3-___.1)	65	18	36	10,5	65	15	30	50	25,5	35	19,4	46,2	18,5
82P30-325....	82P30-3-___.1)	65	18	36	10,5	65	15	30	50	25,5	35	19,4	46,2	18,5
82P30-330....	82P30-3-___.1)	65	18	36	10,5	65	15	30	50	25,5	35	19,4	46,2	18,5
82P35-340....	82P35-3-___.1)	61	18	36	7	76	20	40	60	31	37	16	62	21

* Tolerance for dowel hole

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"

Major spare parts for 82P30-3/82P35-3

Specification	Order no. for structural component	
	82P30-3...	82P35-3...
End position sensing		
B8 plug connector M12x1	8EA-030-1	8EA-030-1
C0 plug connector M8x1	8EA-012-2	8EA-012-2
Cylinder	8PW-019-1	8PW-006-1
Seal kit	8PW-019-1-00	8PW-001-1-00

Series 870-2, 871-2 Standard Pneumatic Clamps

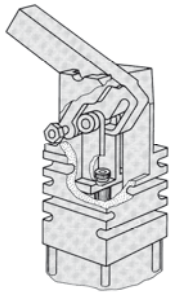
Light duty version for large scale production

Thanks to their design power clamps with the roller and cam principle automatically compensate for workpiece tolerances. When being clamped, the clamp arm of model 870-2 is in the vertical position, whereas the clamp arm of model 871-2 is in the horizontal position. The assembly plate which is included in the scope of delivery allows easy fastening of the clamps.

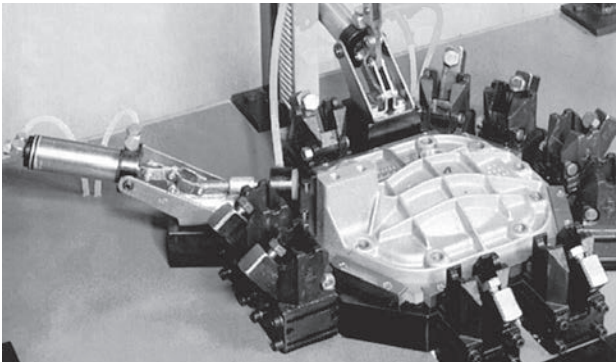
The cylinders are equipped with a magnetic piston for end position sensing. The sensors (BIM-IKE-AP) must be ordered separately, 2 pieces are required.

Standard equipment:

- 1 assembly plate, part no. 870116
- 2 restrictor connections



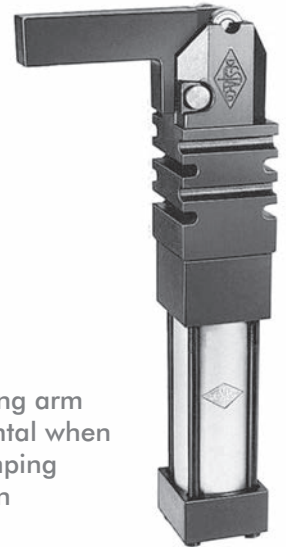
Roller and cam mechanism of the models 870-2 and 871-2



Power clamp models 871-2 and 803-MF on a pressure test fixture for vehicle gearbox lids



870-2 clamping arm vertical when in clamping position



871-2 clamping arm horizontal when in clamping position

Series 870-2, 871-2 Technical Information

Model	Opening-\	holding torque max. Nm [ft lb]	clamping torque at 5 bar Nm [ft lb]
870-2	112°	260 [192]	60 [44]
871-2	118°	260 [192]	60 [44]

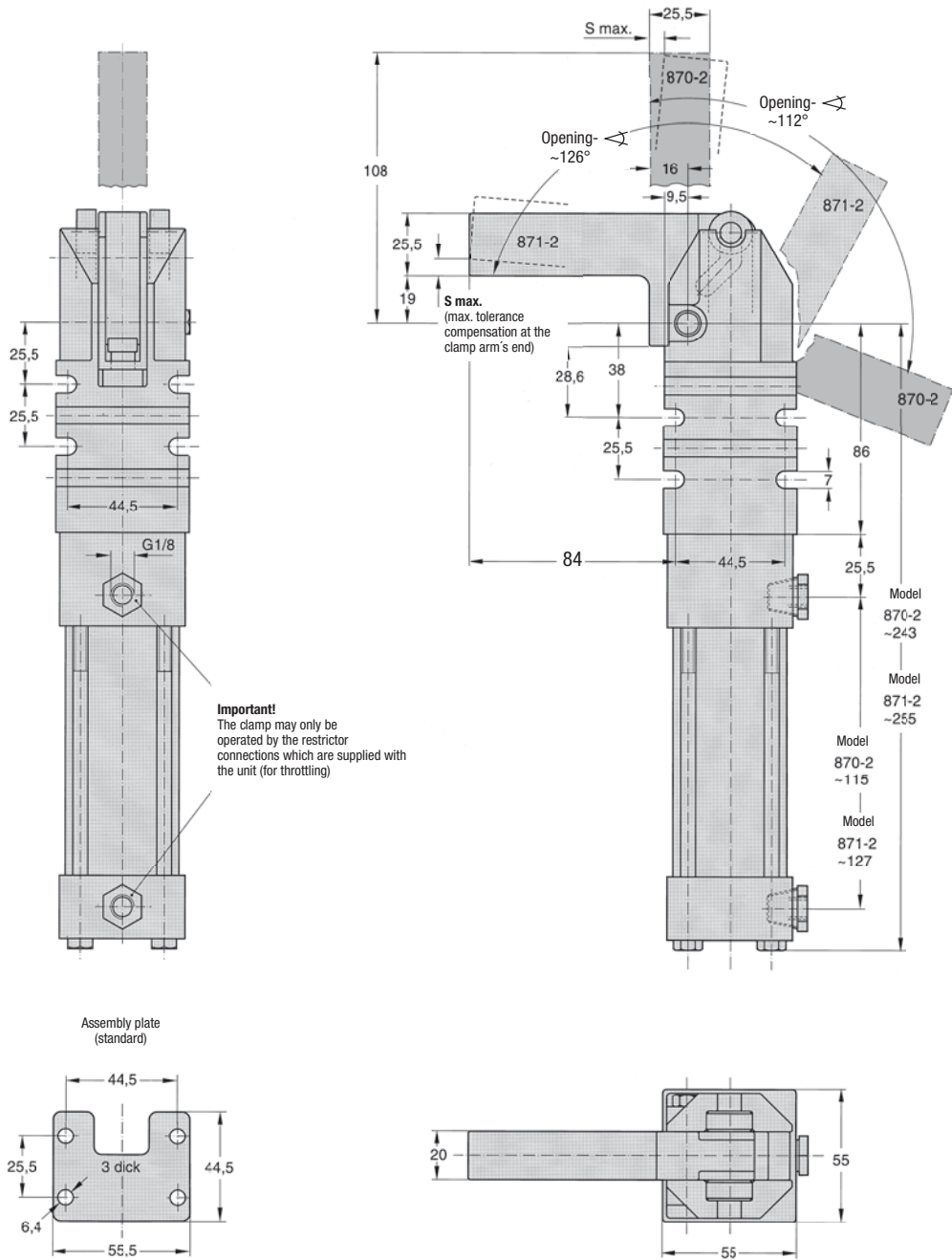


Sensors (order separately)

Part no.	Description	Notes
BIM-IKE-AP	Sensor	2 pieces required

Series 870-2, 871-2 Standard Pneumatic Clamps

Power clamps with the roller and cam principle



Model	S max. max. tolerance compensation at the clamp arm's end Nm [ft lb]	max. operating pressure bar [psi]	air consumption at 5 bar dm ³ [ft ³]	connection	weight ~ kg [lbs]
870-2	4,5 [3]	10 [145]	0,95 [0.03]	G1/8	3 [6.60]
871-2	3,5 [3]	10 [145]	0,95 [0.03]	G1/8	3 [6.60]

Series 860, 861, 890, 891, 1000, 1001 Product Overview

Features:

- High holding torque
- Long cycle life
- Mounting flexibility on all four sides
- Clamping arm in horizontal or vertical clamping position
- Toggle action mechanism
- Standard cylinder features a magnetic piston for end position sensing

Application:

Clamping, holding, gripping and positioning of metal sheets and other parts in jigs and handling systems.

Key areas of application:

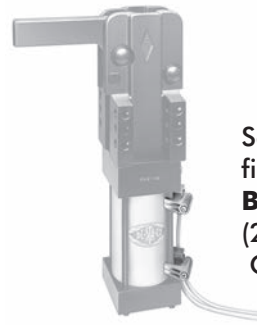
General mechanical engineering.



860
890
1000
Horizontal clamping position



861
891
1001
Vertical clamping position



Sensor for magnetic field sensing:
BIM-IKE-AP
(2 pieces required. Order separately)

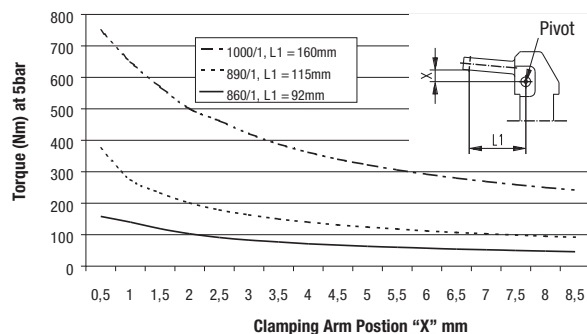
Series 860, 861, 890, 891, 1000, 1001 Technical Information

Model	Max. holding torque Nm [ft lb]	Max. clamping torque at 5 bar [72 psi] Nm [ft lb]	Cylinder Ø mm [in]	Opening angle	Weight kg [lbs]
860	[479] 650	[120] 160	[2.00] 50,8	96°	[8.58] 3,9
861				119°	
890	[922] 1250	[275] 375	[2.50] 63,5	96°	[16.06] 7,3
891				119°	
1000	[1475] 2000	[460] 625	[3.25] 82,5	96°	[29.70] 13,5
1001				119°	

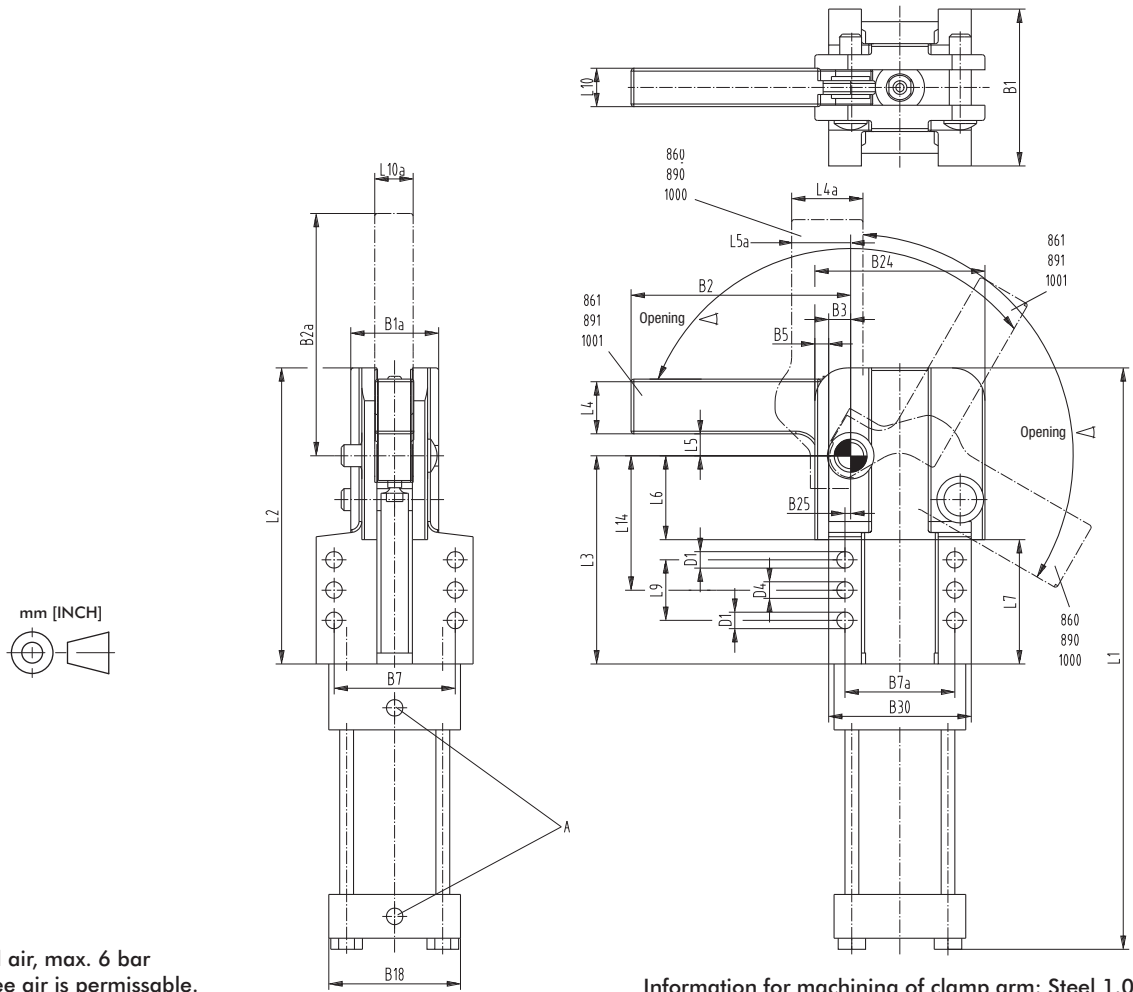
Spare Parts:

Model	Seal Kit	Cylinder
860	8610100	865133-MR
861		865132-MR
890	8910100	895133-MR
891		895132-MR
1000	10010100	1005134-MR
1001		1005133-MR

Models 860/861, 890/891, 1000/1001



Series 860, 861, 890, 891, 1000, 1001 Standard Clamp Dimensions



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

Information for machining of clamp arm: Steel 1.0726

Model	A	B1	B1A	B2	B2A	B3	B5	B7	B7A	B18	B24	B25	B30
860	G1/8	[2.94]	[1.75]	-	[5.44]	[0.41]	[0.25]	[2.31]	[2.19]	[2.5]	[3.31]	[0.09]	[2.81]
861		74,7	44,5	[4]	-	10,4	6,4	58,7	55,6	63,5	84,1	2,3	71,4
890	G1/8	[3.56]	[2]	-	[6.57]	[0.5]	[0.31]	[2.76]	[2.5]	[3]	[3.87]	[0.13]	[3.25]
891		90,4	50,8	5.06	-	12,7	7,9	70,1	63,5	76,2	98,3	3,3	82,6
1000	G1/8	[4.5]	[2.62]	-	[9]	[0.63]	[0.44]	[3.5]	[3.5]	[3.75]	[5.38]	[0.13]	[4.5]
1001		114,3	66,5	7	-	16	11,2	88,9	88,9	95,3	136,7	3,3	114,3

Model	ØD1	ØD4	L1	L2	L3	L4	L4A	L5	L5a	L6	L7	L9	L10	L10a	L14
860	[0.34]	[0.31]	[12.44]	[5.75]	[4.06]	-	[1.12]	-	[0.69]	[1.44]	[2.5]	[1.25]	[0.62]	[0.62]	[2.5]
861	8,6	7,9	316	146,1	103,1	[1.13]	-	[0.4]	-	36,6	63,5	31,8	15,7	15,7	63,5
890	[0.41]	[0.38]	[13.37]	[6.75]	[4.75]	-	[1.25]	-	[0.84]	[1.75]	[2.65]	[1.38]	[0.81]	[0.81]	[3.06]
891	10,4	9,7	339,6	171,5	120,7	[1.25]	-	[0.5]	-	44,5	67,3	35,1	20,6	20,6	77,7
1000	[0.53]	[0.5]	[17.51]	[9.25]	[6.25]	-	[1.75]	-	[1.37]	[2.25]	[3.96]	[2]	[1]	[1]	[3.75]
1001	13,5	12,7	444,8	235	158,8	[1.75]	-	[0.88]	-	57,2	100,6	50,8	25,4	25,4	95,3

Series **82E50-1, 82E63-1** Product Overview (Note: Last time in catalog)

- Automation power clamps, narrow design, without hand lever

Features:

- weld immune sensing switches
- toggle action mechanism
- long life cycle
- high holding torques
- two mounting areas (front and back)
- narrow design

Application:

- Clamping, holding, gripping and positioning of metal sheets and other parts, mainly in jigs and handling systems.

Key areas of application:

- Automotive manufacturing, mass production, jig and general mechanical engineering.



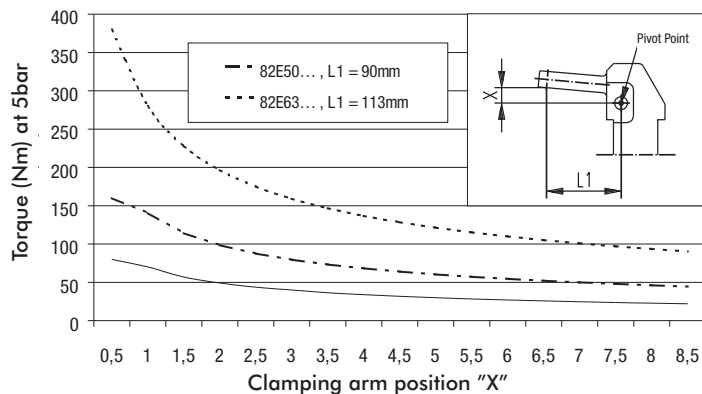
82E50-101....
82E63-101....
Horizontal clamping position



82E50-141....
82E63-141....
Vertical clamping position


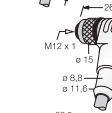
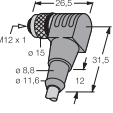
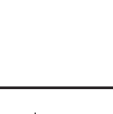
Model		Standard opening angle	Max. holding torque Nm [lb ft]	Clamping torque at 5 bar Nm [lb ft]	Clamping arm variant	Clamping position	Cylinder Ø mm [in]	Air consumption per double stroke at 5 bar dm ³ [ft ³]	Weight kg [lb]
w/o end pos. sensing	w/ end pos. sensing Connector M12x1, inductive								
82E50-1010000	82E50-101C500	135°	800 [590]	160 [118]	central	horizontal	50 [1.97]	2,2 [0.08]	4,0 [8.80]
82E50-1410000	82E50-141C500	96°	800 [590]	160 [118]	central	vertical	50 [1.97]	2,2 [0.08]	4,0 [8.80]
82E63-1010000	82E63-101C500	135°	1500 [1107]	380 [280]	central	horizontal	63 [2.48]	3,8 [0.13]	6,1 [13.45]
82E63-1410000	82E63-141C500	92°	1500 [1107]	380 [280]	central	vertical	63 [2.48]	3,8 [0.13]	6,1 [13.45]

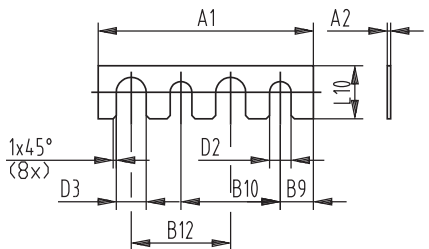
Models 82E50..., 63...



Accessories

Specification	Order no. for			
	82E50	length	82E63	length
Opening angle limitation		L [mm]		L [mm]
120°	8CE-058-12	7,2	8CE-078-12	8,4
105°	8CE-056-12	14,4	8CE-076-12	15,9
96° (standard for 82E50-141...)	8CE-012-12	19,1	-	-
92° (Standard for 82E63-141...)	-	-	8CE-013-12	23,5
90°	8CE-054-12	21,9	8CE-074-12	24,6
75°	8CE-051-12	29,5	8CE-071-12	33,0
60°	8CE-049-12	36,3	8CE-069-12	40,6
45°	8CE-047-12	42,8	8CE-067-12	47,1
30°	8CE-045-12	49,8	8CE-065-12	54,5

Connector cable (1 connector socket & 5 m cable)		82E50	82E63
for C0 sensing system Connector socket, M12x1 straight, 5-pin		8EL-002-1	8EL-002-1
Connector socket, M12x1 angular, 5-pin		8EL-006-1	8EL-006-1
for C5 sensing system Connector socket, M12x1 straight, 5-pin		8EL-002-1	8EL-002-1
Connector socket, M12x1 angular, 4-pin		8EL-003-1	8EL-003-1

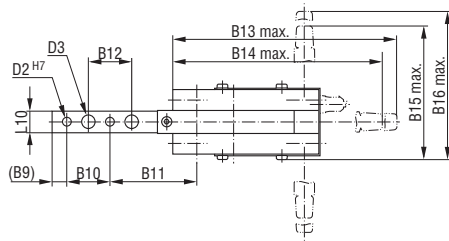
Shim for clamping arm for 82E50 and 82E63		Model							
		A1	A2	D2	D3	B9	B10	B12	L10
			0,1						
			0,2						
		65	0,5	6,5	9	10	30	30	16
			1,0						
			2,0						
			5,0						

Major spare parts

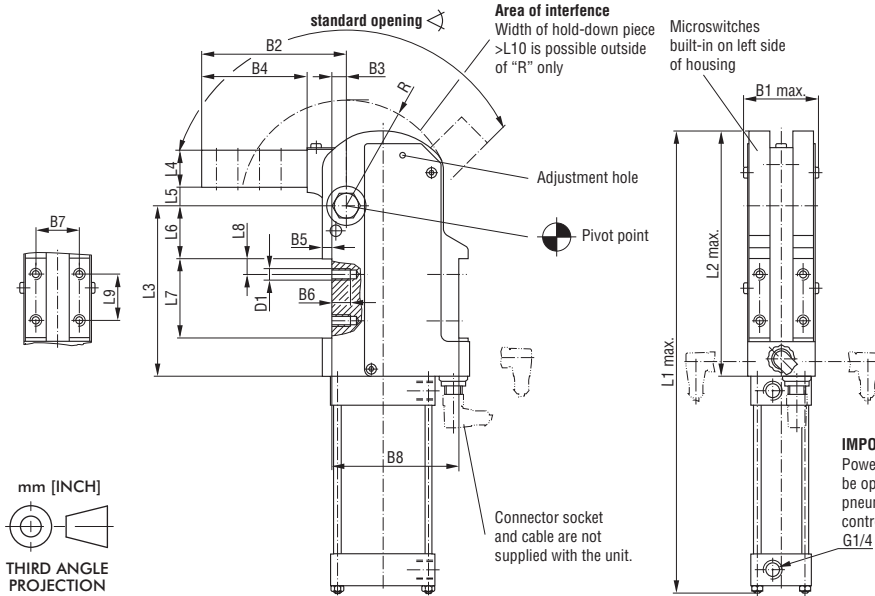
Specification	Order no. for	
	82E50-1....	82E63-1....
Cylinder	8PW-023-2	8PW-024-2
Seal kit	8PW-023-1-00	8PW-024-1-00
C0 sensing system (micro switch, obsolete version) (connector plug M12x1)	82E50-071-2	82E60-071-2
C5 sensing system (connector plug M12x1)	8EA-004-2	8EA-005-2

Series 82E50-1, 82E63-1 Standard Clamp Dimensions

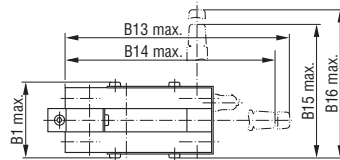
82E50-101....
82E63-101....
Horizontal clamping position



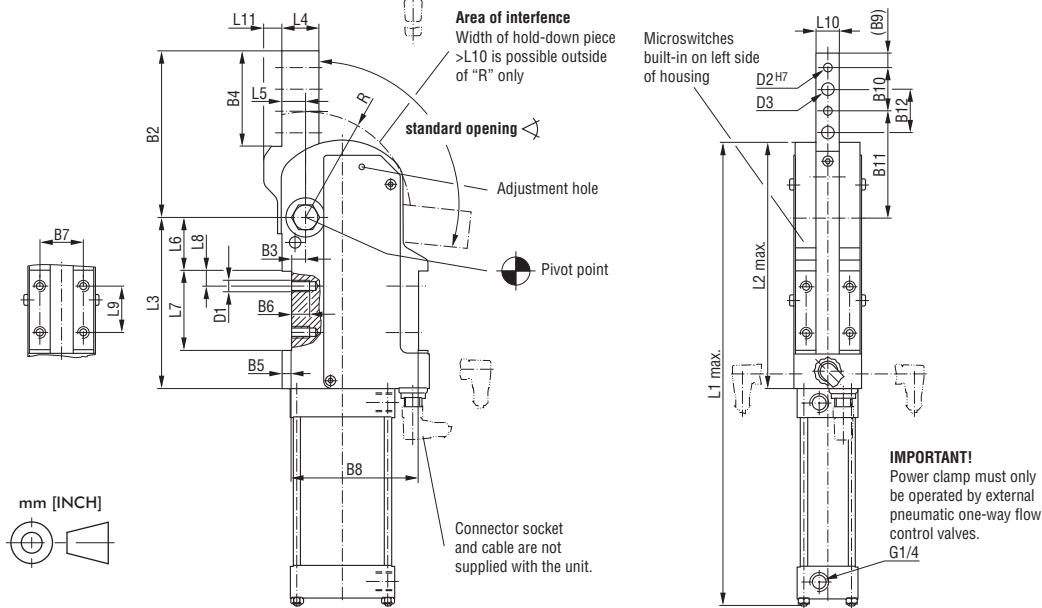
Cylinder can be turned 180° by customer



82E50-141....
82E63-141....
Vertical clamping position



Cylinder can be turned 180° by customer



Series **82E50-1, 82E63-1** Technical Information

Model	Standard opening angle	Clamping arm variant	Clamping position	Piston Ø	Connection G	B1 max.	B2	B3 ±0,1	B4	B5 +1	B6	B7 ±0,1	B8	B9	B10 ±0,02	B11 +0,1
82E50-101_00	135°	central	horizontal	50	G1/4	56	100	10	75	6,5	13	30	88	10	30	60
82E50-141_00	96°	central	vertical	50	G1/4	56	113	10	69	6,5	13	30	88	10	30	73
82E63-101_00	135°	central	horizontal	63	G1/4	61	123	13	75	7,5	13	35	93	10	30	83
82E63-141_00	92°	central	vertical	63	G1/4	61	135	13	71,5	7,5	13	35	93	10	30	95

Model	B12 ±0,2	B13 max.	B14 max.	B15 max.	B16 max.	D1	D2 H7 Ø	D3 Ø	L1 max.	L2 max.	L3	L4 ±0,1	L5 ±0,2	L6 ±0,05	L7 +0,1	L8 ±0,1	L9 ±0,1	L10 -0,1	L11	R
82E50-101_00	30	155	145	96	106	M8	6	9	322	170	118	25	13	36,5	55	11	32	16	—	74
82E50-141_00	30	155	145	96	106	M8	6	9	322	170	118	25	17,5	36,5	55	11	32	16	11	74
82E63-101_00	30	173	163	101	111	M8	6	9	380	218	156,5	28	15	44,5	76	16	35	20	—	87
82E63-141_00	30	173	163	101	111	M8	6	9	380	218	156,5	28	21,5	44,5	76	16	35	20	12	87

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

Wiring diagrams of the electrical sensing system

