

82P30-3/82P35-3 SERIES

Pneumatic Pin Clamps and Packages | Features and Benefits, Technical Information

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 dm ³ [ft ³]
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]

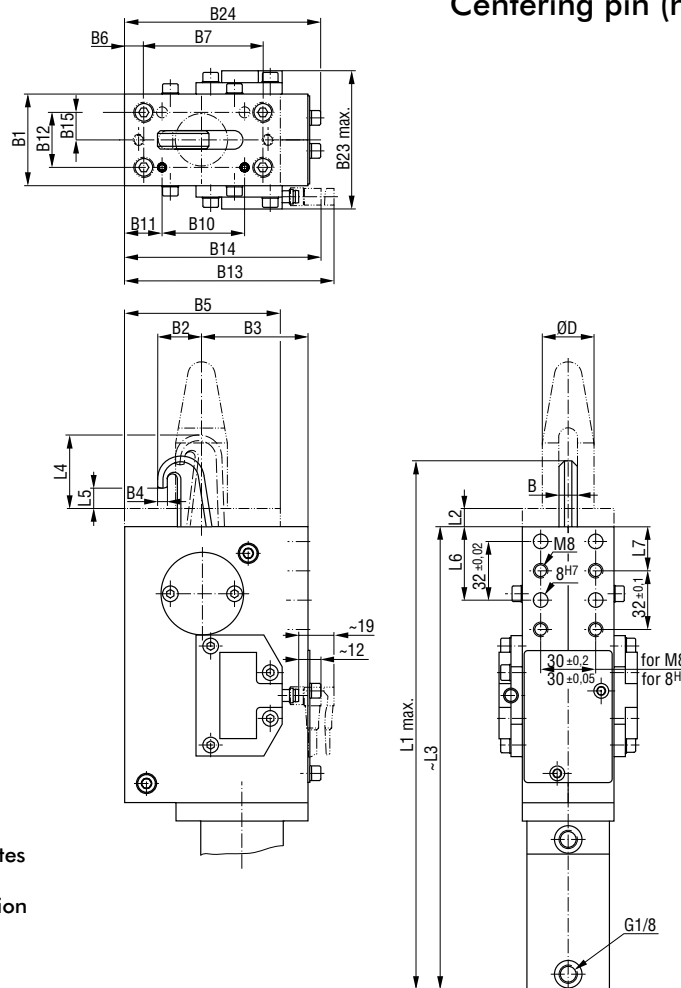
Locating pin clamps with double-side clamping hook (Centering pin ordered separately)

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 dm ³ [ft ³]
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]

82P30-3/82P35-3 SERIES

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

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

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

Technical Data

Model with inductive sensing		Piston Ø	for Centering Pin Ø D -0,05	B -0,1	B1	B2	B3	B4	B5	B6 ±0,1	B7 ±0,2	B10 ±0,1	B11 ±0,1	B12* ±0,05
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

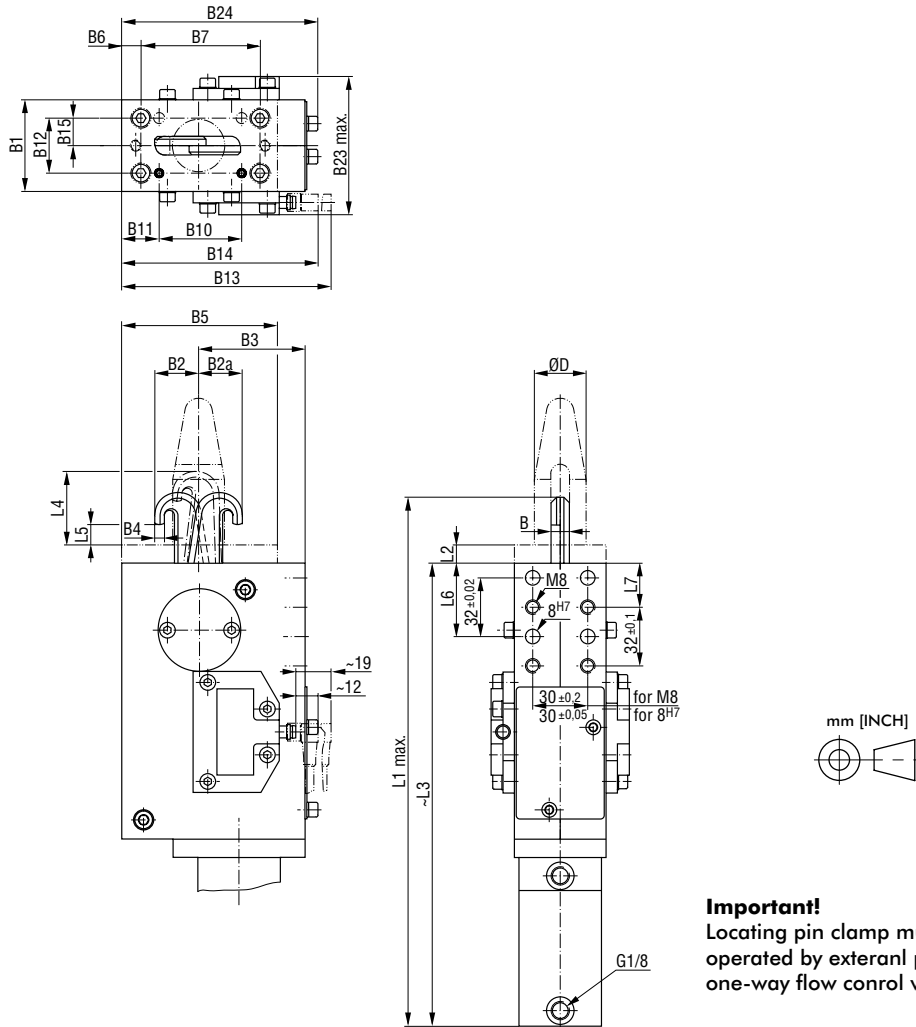
Model with inductive sensing		B13 max	B14 max	B15* ±0,025	B23 max	B24	L1 max	L2 +0,1	L3	L4 ~	L5 ±0,05	L7 ±0,1
Connector M12x1	Connector M8x1											
82P30-320B800	82P30-320C000	114	107	15	75,4	107	304	10	265	40	11,5	24
82P30-325B800	82P30-325C000	114	107	15	75,4	107	306	10	265	44	11,5	24
82P30-330B800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

*Tolerances for dowel holes only

82P30-3/82P35-3 SERIES

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

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

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

Technical Data

Model		For centering												
with inductive sensing without centering pin		Piston Ø	pin Ø D	B	B1	B2	B2a	B3	B4	B5	B6 ±0,1	B7 ±0,2	B10 ±0,1	B11 ±0,1
Connector M12x1	Connector M8x1		-0,05	-0,05										
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


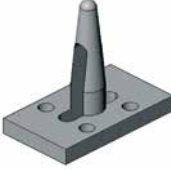




*Tolerances for dowel holes only

82P30-3/82P35-3 SERIES

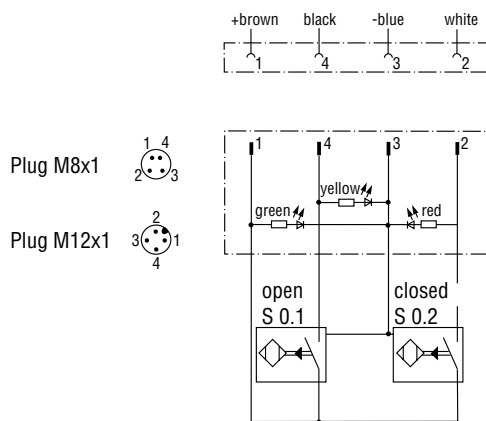
Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

How To Order

Example Order No.: **82P30-3 30 B8 00**

<p>Locating pin clamp</p>  <p>82P30-3.../82P35-3..</p>	<p>Adapter for standard centering pin</p> <p>20 for pin-Ø 20,0 - 23,0 mm 25 for pin-Ø 23,1 - 28,0 mm 30 for pin-Ø 28,1 - 33,0 mm 40 for pin-Ø 33,1 - 45,0 mm</p>  <p>Standard centering pins order separately</p>	<p>C0 = Sensor 8EA-012-2 Connector (M8x1)</p>  <p>B8 = Sensor 8EA-030-1 Connector (M12x1)</p>  <p>00 = without Sensor</p>	<p>00 = Standard clamping hook</p>  <p>D0 = Double clamping hook</p> 
Basic model	Standard centering pins	Sensors	Clamping hook

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

Specification	Order no. for structure component	
	82P30-3... 82P30-3-___.1)	82P35-3... 82P35-3-___.1)
Centering pins (put diameter in model number)		
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⁾ __.1 = centering pin diameter "D"

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

82P30-3/82P35-3 SERIES

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

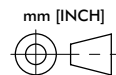
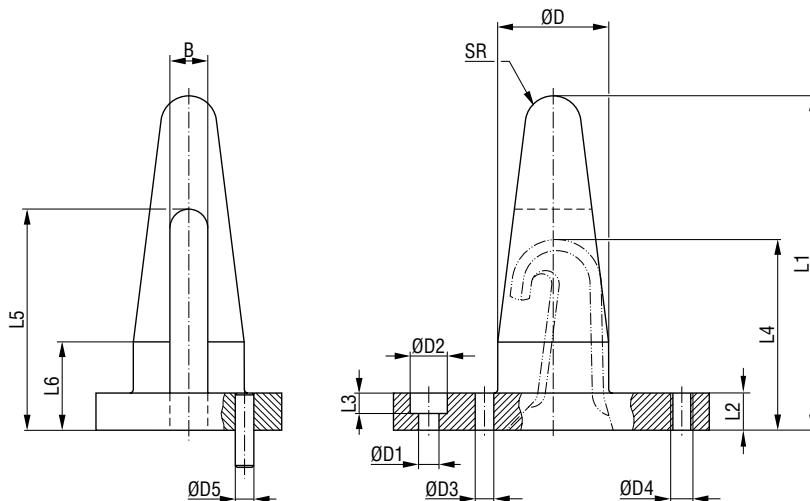
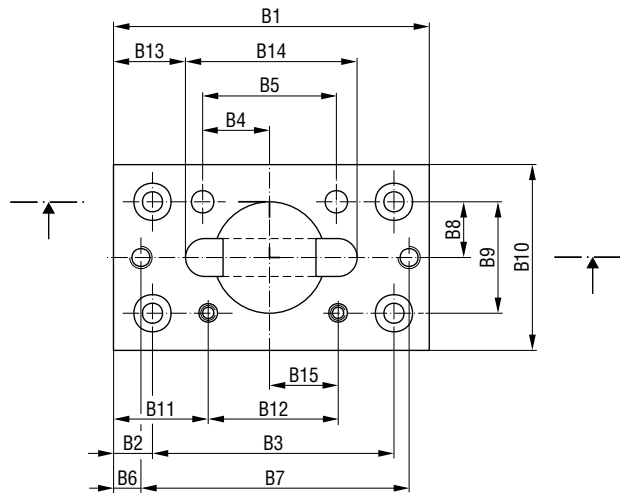
Centering Pin (has to be ordered separately)



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



Centering pin (accessory part)



82P30-3/82P35-3 SERIES

Pneumatic Pin Clamps and Packages | Technical Information

Technical Data of Centering Pins

Base locating clamp model	Order no. for centering pin	ØD -0,05	ØD1	ØD2	ØD3 H7	ØD4	ØD5 H11	SR	L1	L2 +0,1	L3	L4	L5	L6	B	B1	B2 ±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 ±0,2	B4 ±0,02	B5 ±0,02	B6	B7 ±0,2	B8* ±0,025	B9* ±0,05	B10	B11 ±0,1	B12 ±0,1	B13	B14	B15 ±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

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

82P50, 82P63 SERIES

Pneumatic Pin Clamps and Packages | Ordering and Technical Information

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

Base Model
82P50-720
82P63-720

Description
 Size 50mm
 Size 63mm

Tolerance **Description**
A 0-6mm tolerance compensation

Sensor **Description**
D8 Sensor with In-line Connector M12x1
 (Replacement Order No.: 8EA-151-1)



82P50

Max Clamping Force
 1500 N at 5 bar

82P63

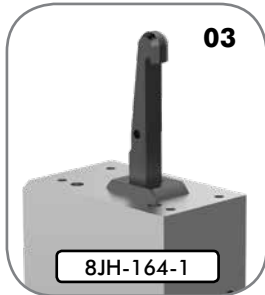
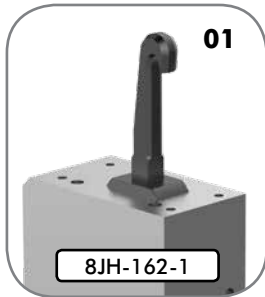
Max Clamping Force
 2500 N at 5 bar

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

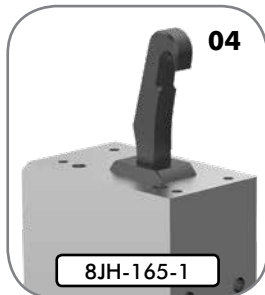
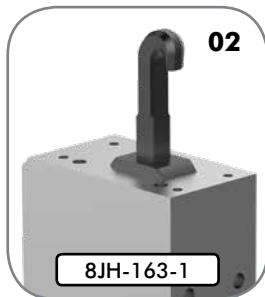
82P50, 82P63 SERIES

Pneumatic Pin Clamps and Packages | Ordering Information

Hooks For 82P50



Hooks For 82P63



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

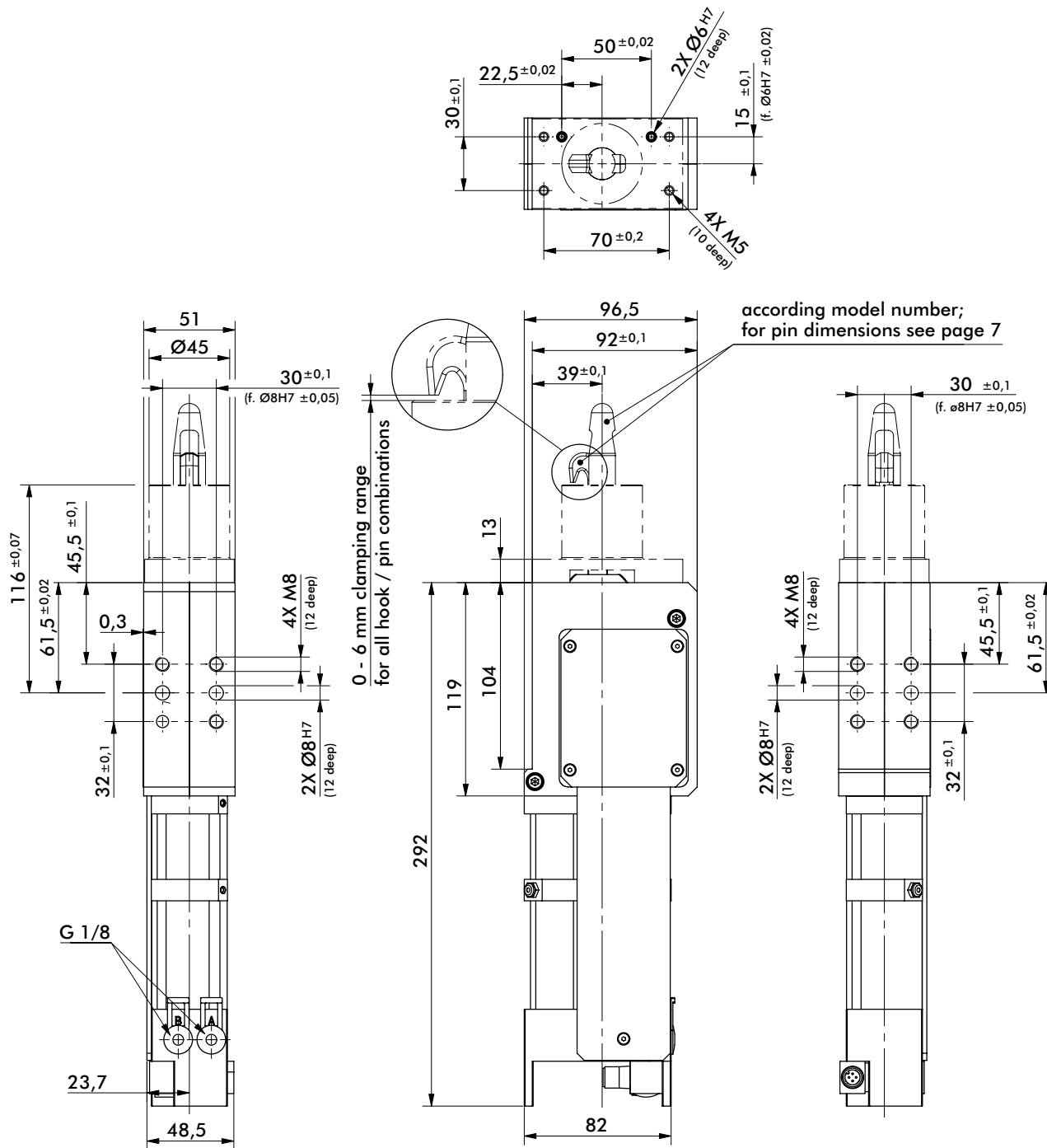


Tips	For 82P63	with Hook
00	None	02 or 04
03	30mm Round	02
04	30mm Diamond	02
05	25mm Round	02
08	23mm Round	02
09	28mm Round	02
10	40mm Round	04
11	40mm Diamond	04

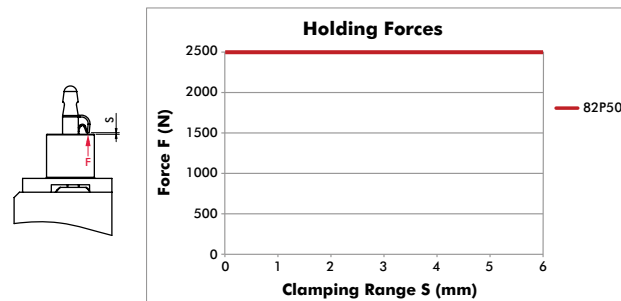
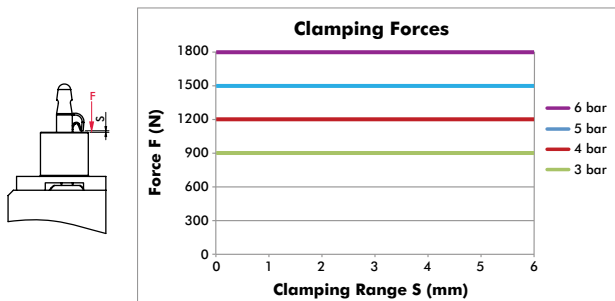


82P50 SERIES

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

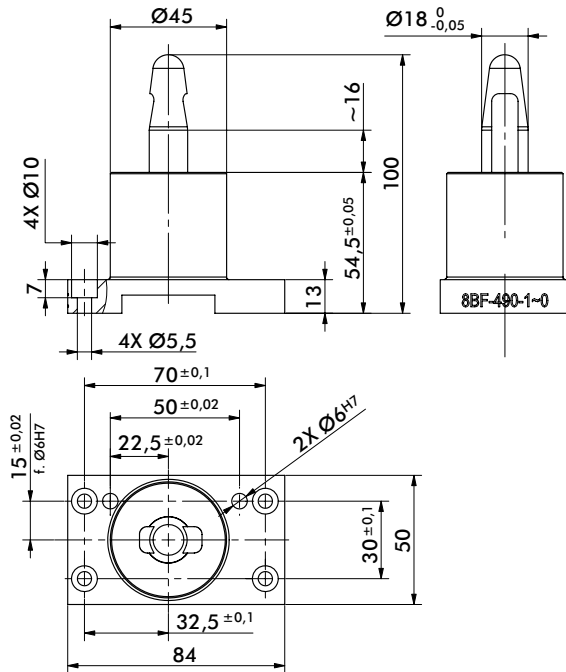


Operation with oil-free air is permissible.

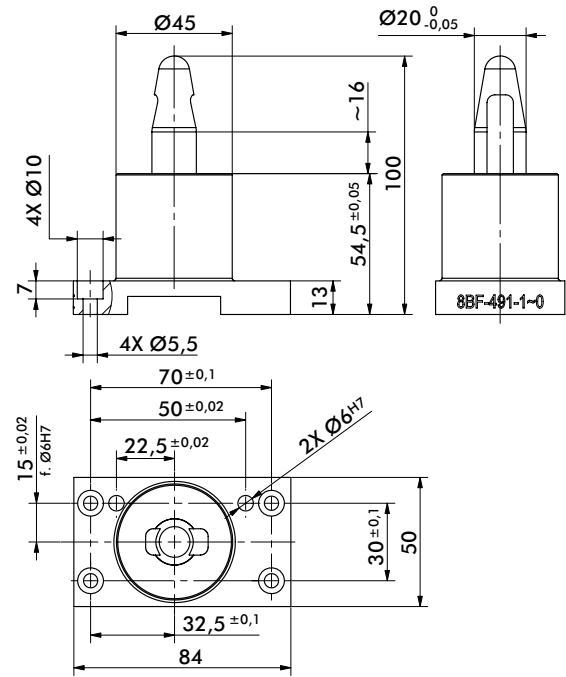


82P50 CENTERING PINS

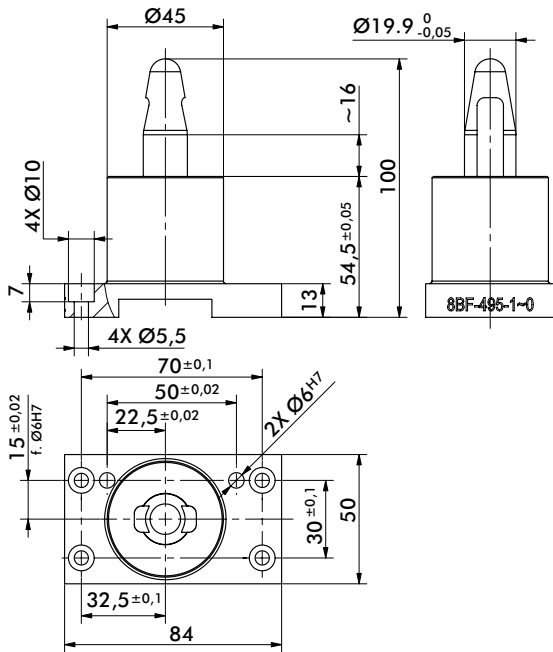
Pneumatic Pin Clamps and Packages | Dimensions and Technical Information



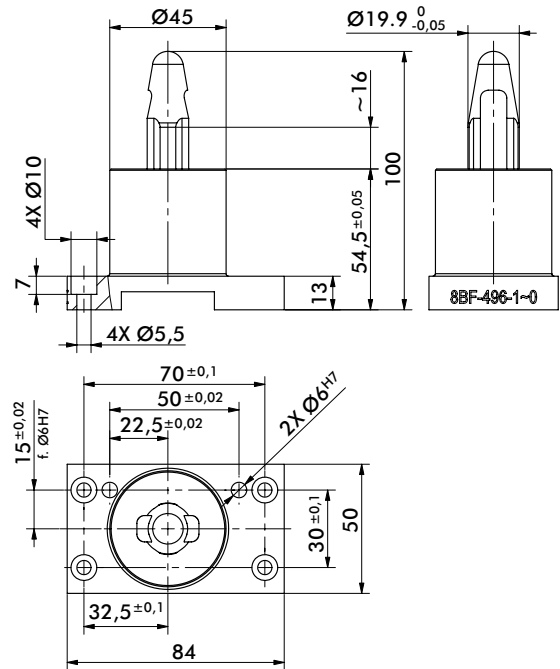
Specification	8BF-490-1
Weight	~0,60 Kg
Diameter and Tolerance	Ø18 -0.05
Shape	Round



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



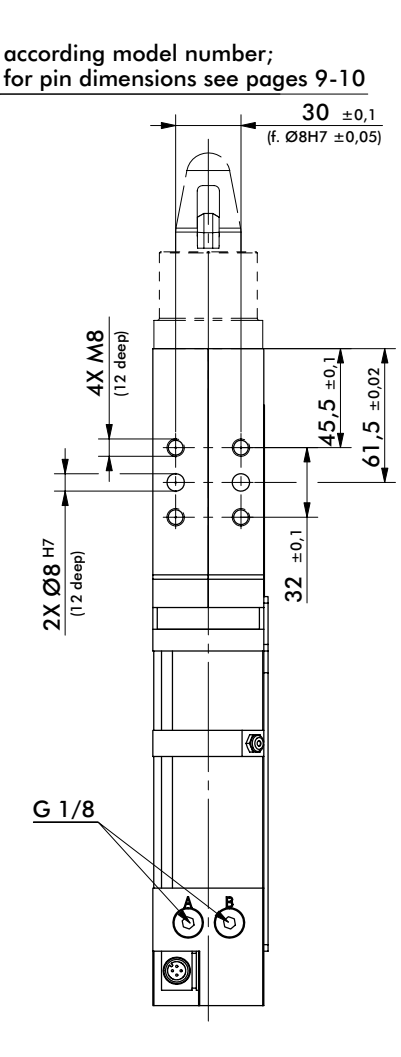
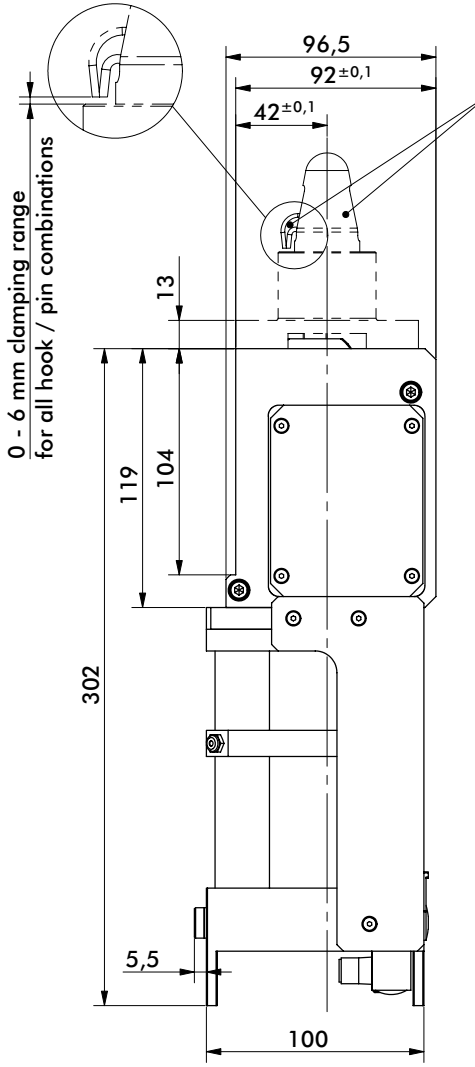
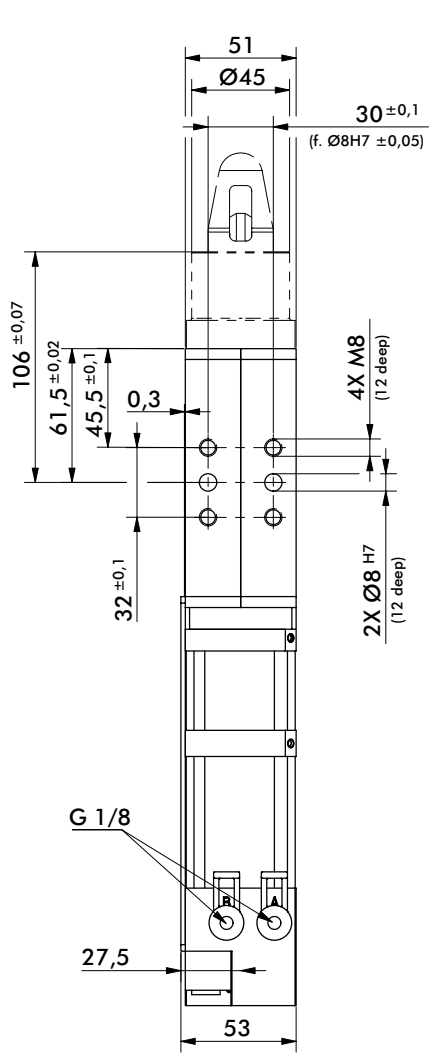
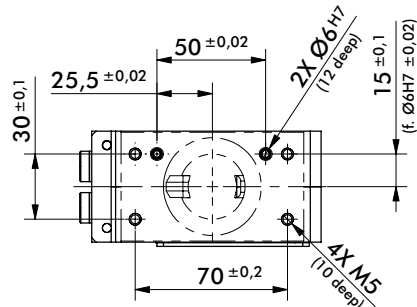
Specification	8BF-495-1
Weight	~0,60 Kg
Diameter and Tolerance	Ø19,90 -0.05
Shape	Round



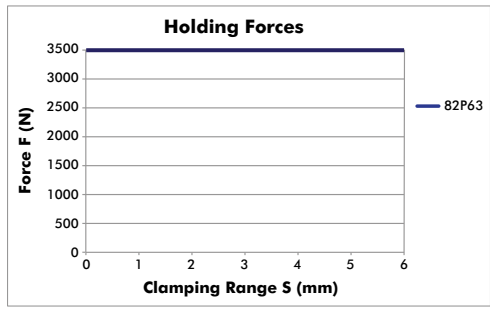
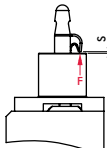
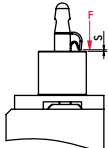
Specification	8BF-496-1
Weight	~0,60 Kg
Diameter and Tolerance	Ø19,90 -0.05
Shape	Diamond

82P63 SERIES

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

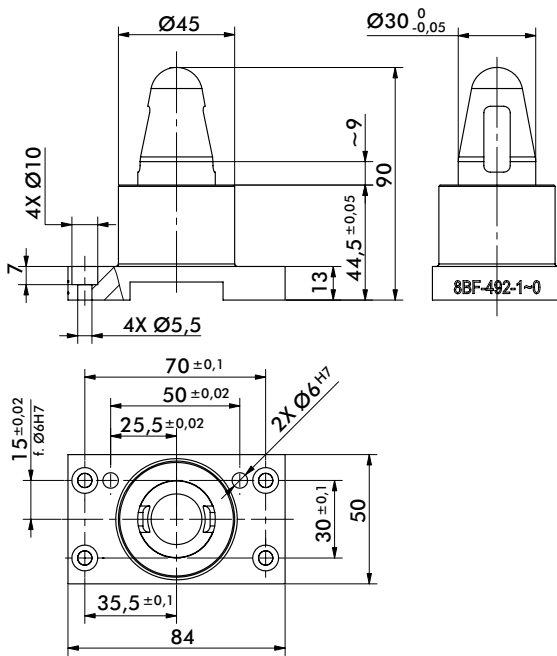


Operation with oil-free air is permissible.

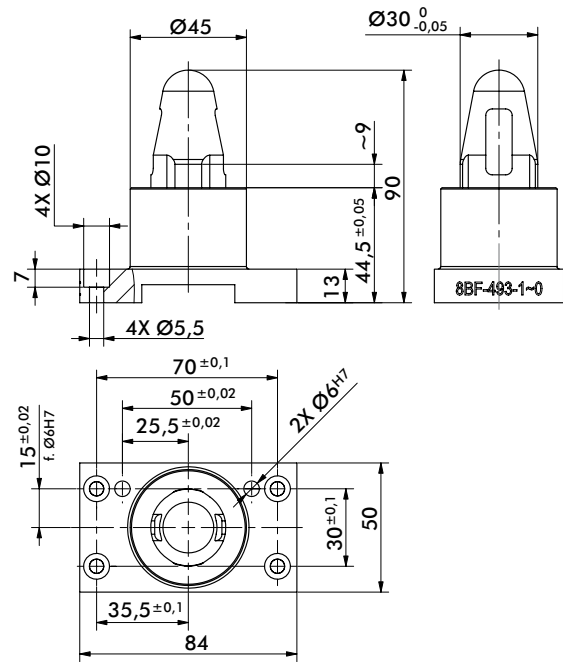


82P63 CENTERING PINS

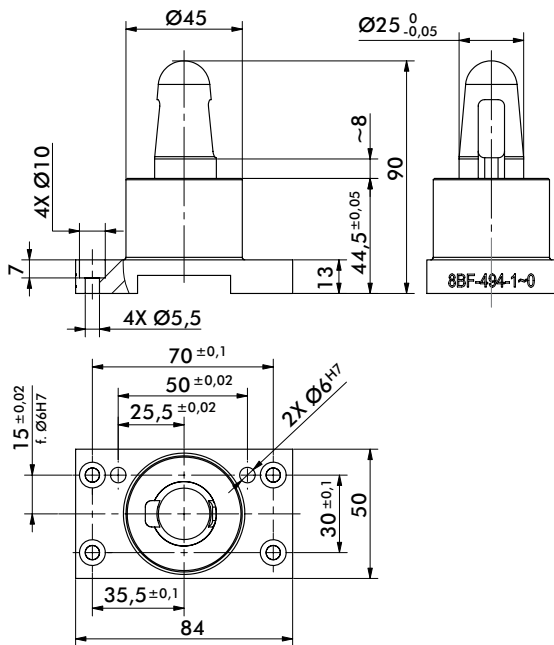
Pneumatic Pin Clamps and Packages | Dimensions and Technical Information



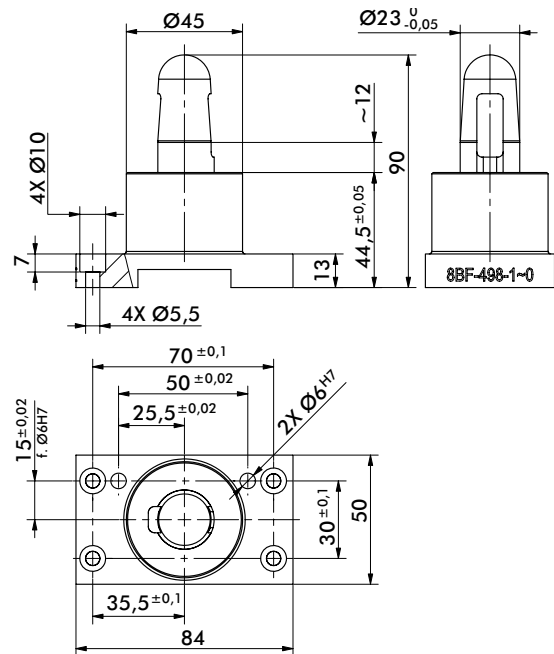
Specification	8BF-492-1
Weight	~0,57 Kg
Diameter and Tolerance	Ø30 -0.05
Shape	Round



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



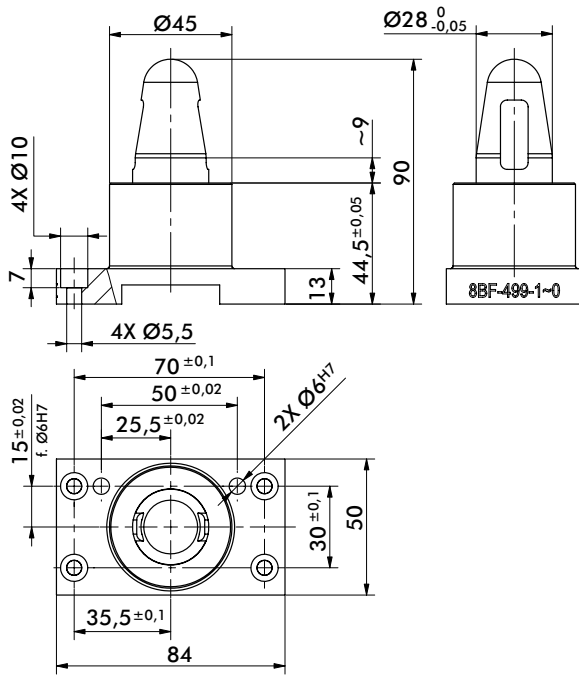
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Weight	~0,54 Kg
Diameter and Tolerance	Ø25 -0.05
Shape	Round



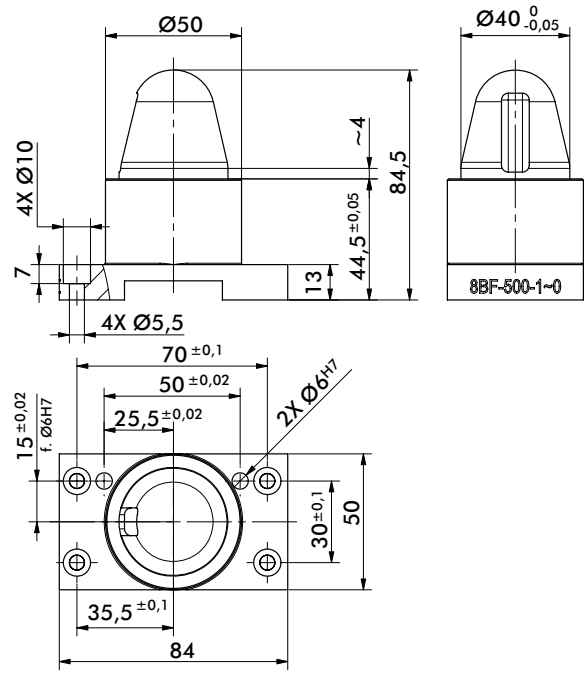
Specification	8BF-498-1
Weight	~0,53 Kg
Diameter and Tolerance	Ø23 -0.05
Shape	Round

82P63 CENTERING PINS

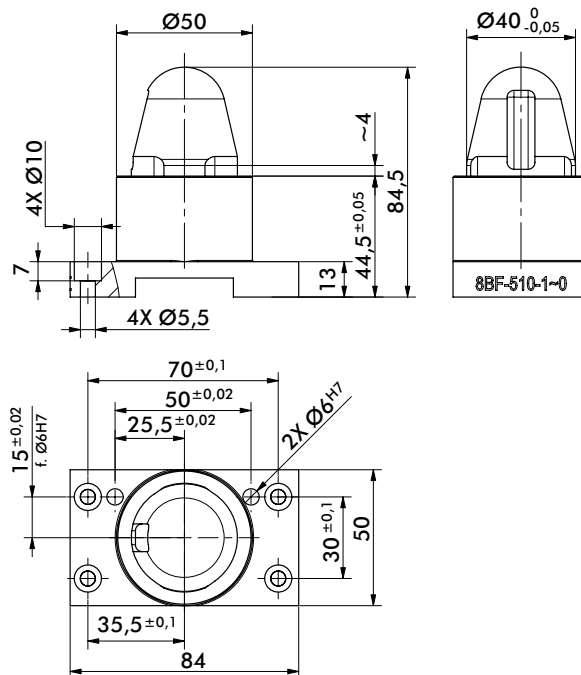
Pneumatic Pin Clamps and Packages | Dimensions and Technical Information



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



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

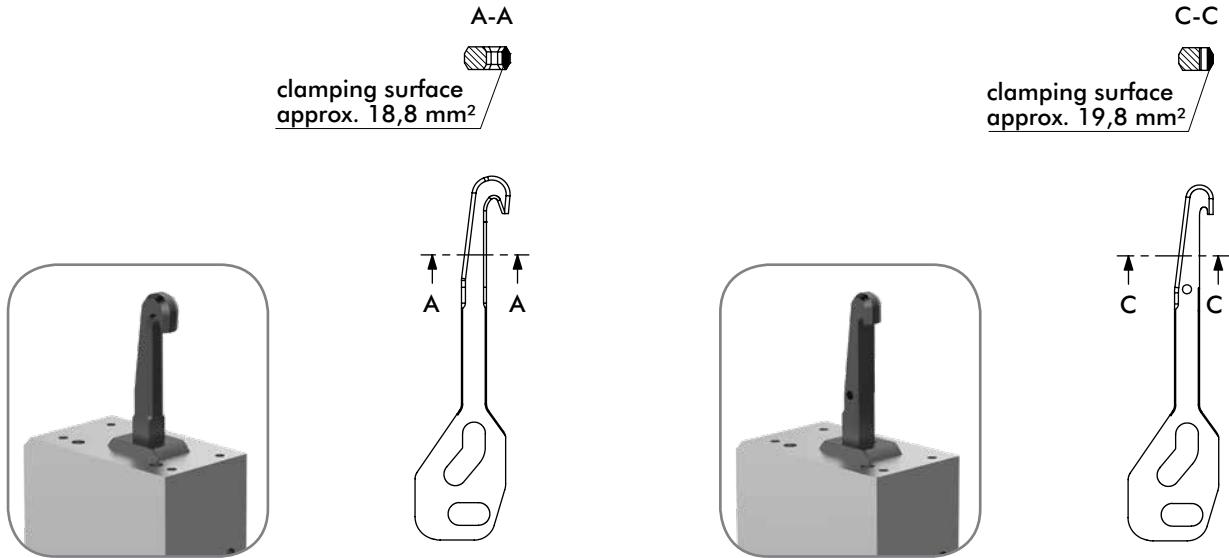


Specification	8BF-510-1
Weight	~0,68 Kg
Diameter and Tolerance	Ø40 -0.05
Shape	Diamond

82P50 & 82P63 SERIES

Pneumatic Pin Clamps and Packages | Surface Pressure of Clamping Hooks

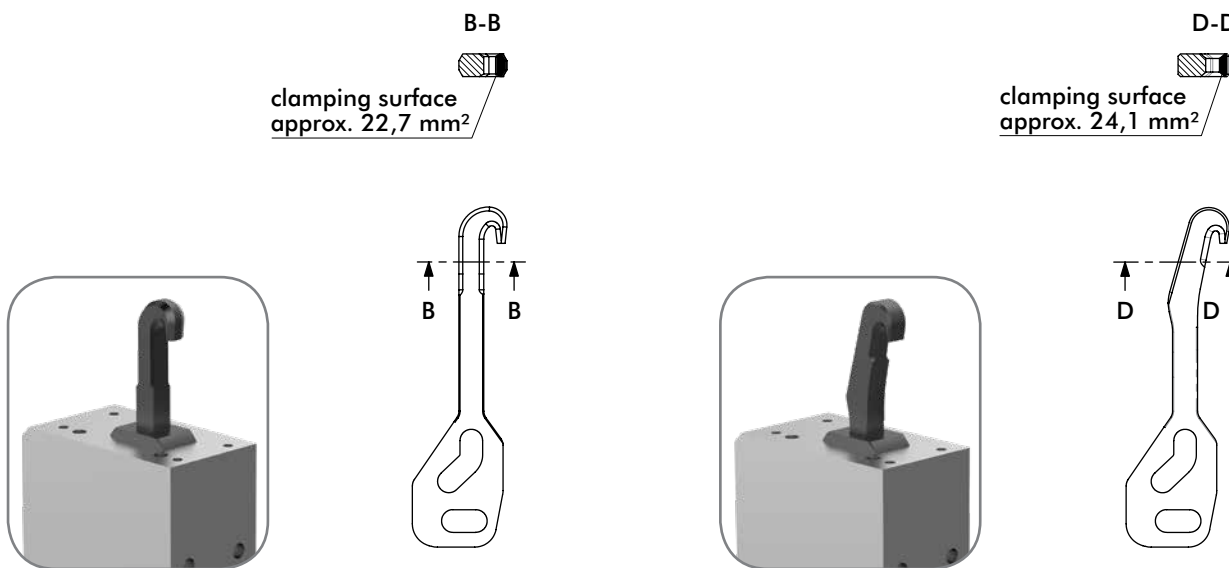
82P50



Specification	8JH-162-1			
Pressure [bar]	3.0	4.0	5.0	6.0
Clamping Force [N]	900	1200	1500	1800
Surface Pressure [N/mm ²]	48	64	80	96

Specification	8JH-164-1			
Pressure [bar]	3.0	4.0	5.0	6.0
Clamping Force [N]	900	1200	1500	1800
Surface Pressure [N/mm ²]	45	61	76	91

82P63



Specification	8JH-163-1			
Pressure [bar]	3.0	4.0	5.0	6.0
Clamping Force [N]	1500	2000	2500	3000
Surface Pressure [N/mm ²]	66	88	110	132

Specification	8JH-165-1			
Pressure [bar]	3.0	4.0	5.0	6.0
Clamping Force [N]	1500	2000	1500	1800
Surface Pressure [N/mm ²]	62	83	104	124

82U50-3 SERIES

Pneumatic Pin Clamps and Packages | Features and Benefits, Ordering Information, Accessories

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.

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 M12x1	Connector M12x1, with lead	Connector M8x1					
82U50-300B700	82U50-300B800	82U50-300C800	4000 [899]	4000 [899]	6 [87]	50 [1.97]	3,2 [7.04]

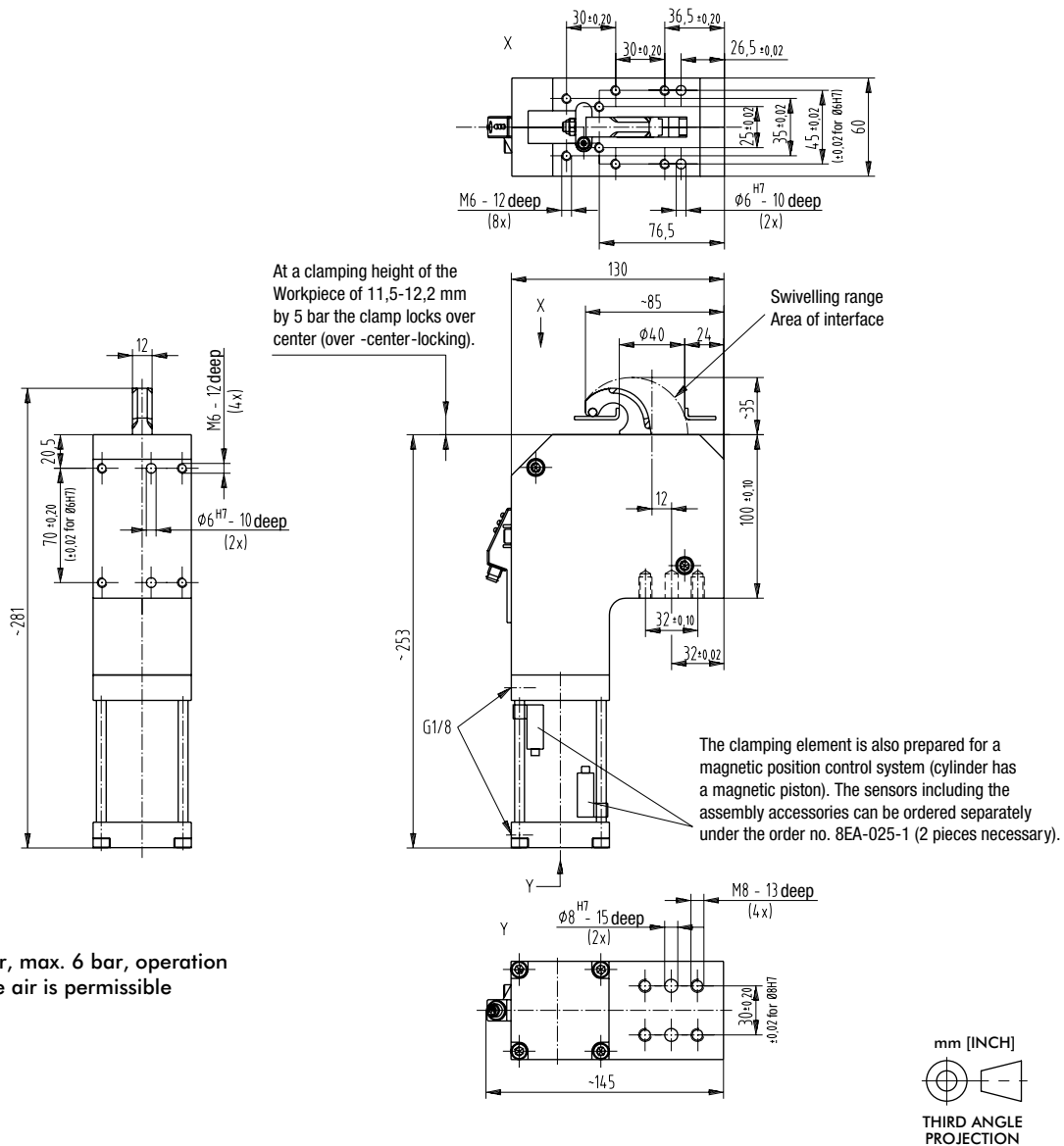
Accessories

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			

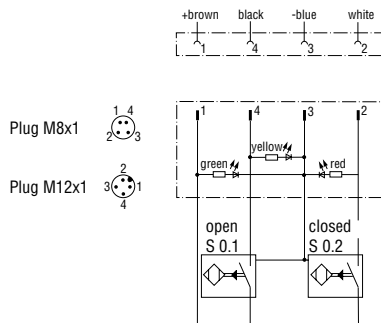
Major Spare Parts

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

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information



Power clamp to be operated with external pneumatic one-way flow control valve only



Wiring diagram of electrical sensing systems B7, C8, B8

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

- B7: inductive, sensor box, connector plug M12x1
- B8: inductive, sensor box, connector plug M12x1 with lead
- C8: inductive, sensor box, connector plug M8x1

56H40-2 SERIES

Pneumatic Pin Clamps and Packages | Features and Benefits, Ordering Information

Features:

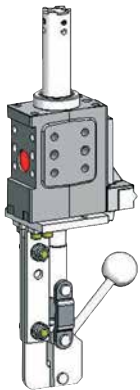
- Compact design
- Low weight
- High accuracy of positioning due to twin piston rod guide
- Lateral and front-face mounting areas
- Length of stroke: 20mm, 40mm or 60mm available
- Various mounting bases for centering pin incl. precision bore holes and grooves or integrated thread
- Inductive sensing 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.



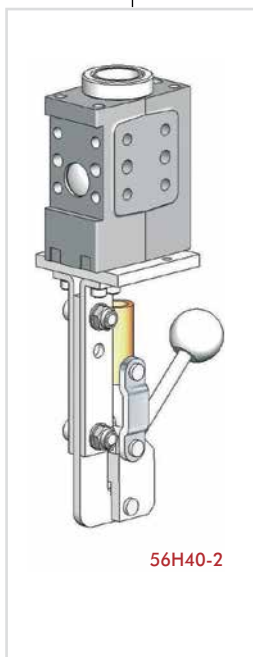
56H40-202C800A
stroke 40 mm and sensing kit



56H40-202C800C
stroke 60 mm and sensing kit

How To Order

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

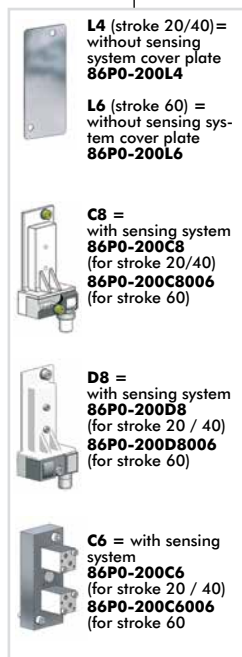


56H40-2

Base Model



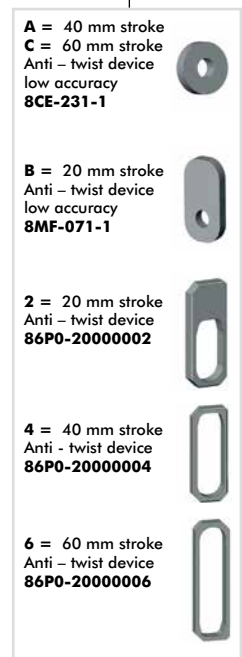
Piston rod adapter



Inductive Sensing System



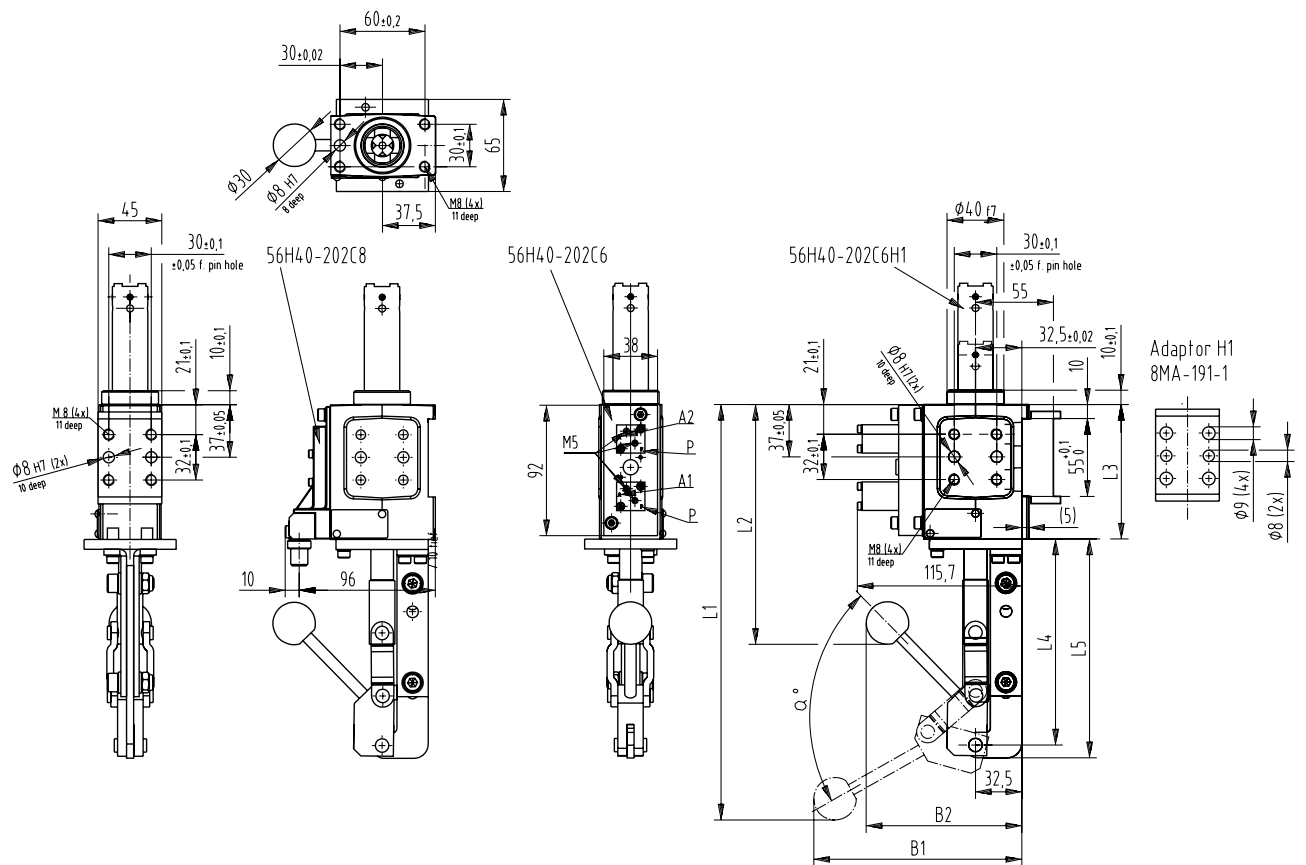
Accessories



Stroke

56H40-2 SERIES

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information



Pneumatic Position Control System:

P = Compressed air connection for position control system

A1 = Control connection for retracted position

A2 = Control connection for extracted position

Technical Information

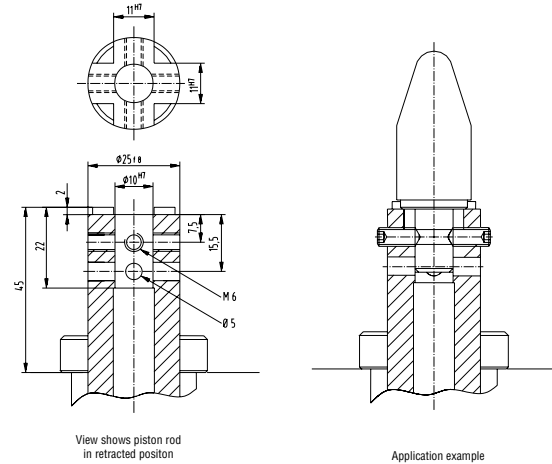
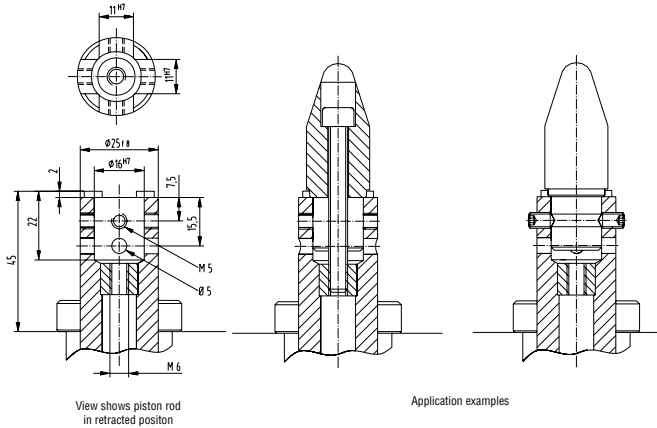
Model no.	Stroke +2 [mm]	Weight ~ [kg]	B1	B2	L1	L2	L3	L4	L5	W ~
56H40-2..2	20	2,0	182	140	312	138	95	166	175	40
56H40-2..4	40	2,0	182	140	312	138	95	146	155	75
56H40-2..6	60	2,5	133	157	385	182	115	146	155	90
56H40-2..B	20	2,0	182	140	312	138	95	166	175	40
56H40-2..A	40	2,0	182	140	312	138	95	146	155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

56H40-2 SERIES

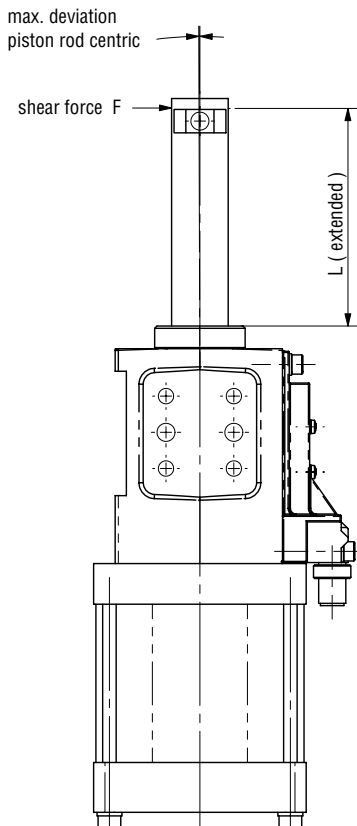
Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

Piston Rod Model **-202** Detail mounting base Ø16 mm for **56H40-2**

Piston Rod Model **-205** Detail mounting base Ø10 mm for **56H40-2**



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



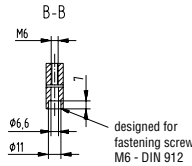
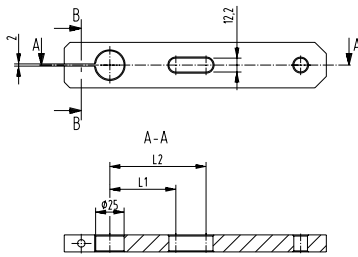
Model no.	Shear force N [lbs]	L mm [in]	Stroke mm [in]	Deviation mm [in]
56H40-2...B / 2	200 [45]	52 [2.0]	20 [0.08]	0,06 [0.002]
56H40-2...A / 4	200 [45]	70 [2.8]	40 [1.60]	0,09 [0.004]
56H40-2...C / 6	200 [45]	90 [3.5]	60 [2.40]	0,12 [0.007]

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).

56H40-202C8E1A SERIES

Pneumatic Pin Clamps and Packages | Pin Packages with External Guide (Accessory)

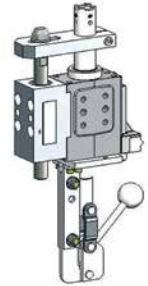
Example application of an off-center centering pin for 56H40-2



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

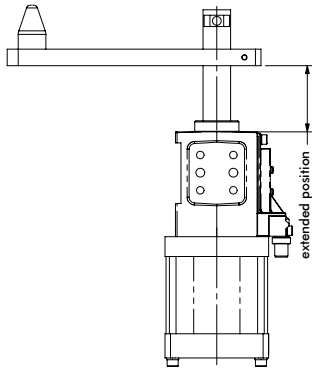
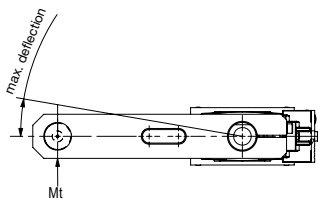
Model no.	L1	L2
86P40/60-2...E1 86P40/60-2...E2	58	62
86P40/60-2...J1*	80,5	84,5

* J1 is not available with stroke 60 mm.

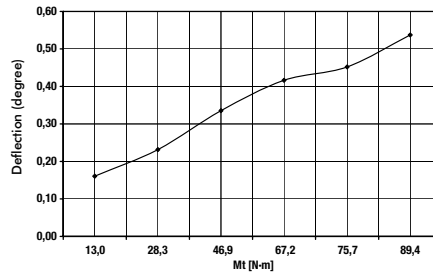


Internal anti-rotation device

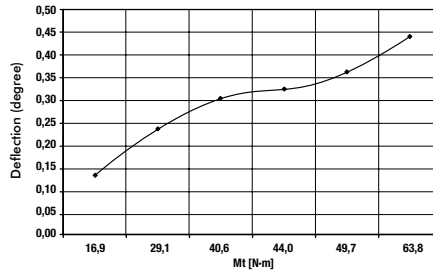
Caution: Generally we recommend using an external guide when the transverse force is more than 200 N [45 lbs]. Also independently of the stroke, less deflection forces, when the overall height L2 > 120 mm [4.7 in] (L2 = extended piston rod plus centering pin).



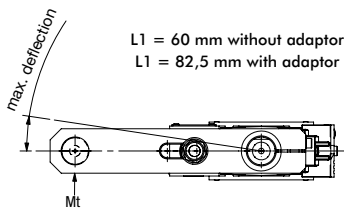
Angle deviation 56H40-2.....2/ ...4



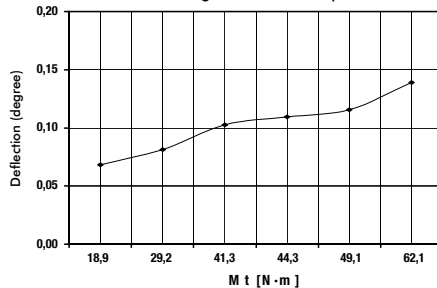
Angle deviation 56H40-2.....6



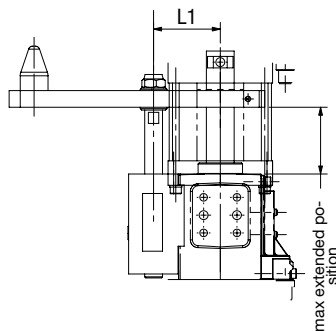
External guide 82ZB-009-2, 82ZB-010-2, 82ZB-090-1



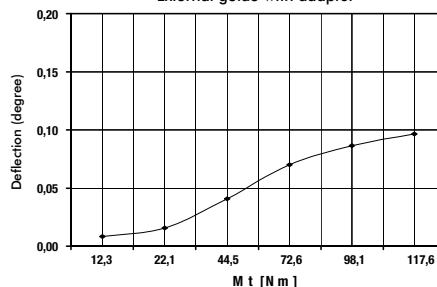
Angle deviation 56H40-2...E1A/ ...E1B
External guide without adaptor



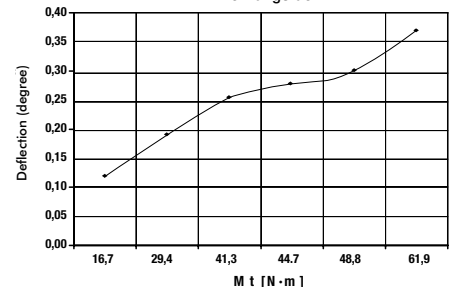
Caution: Generally we recommend using an external guide when the transverse force is more than 200 N [45 lbs]. Also independently of the stroke, less deflection forces, when the overall height L2 > 120 mm [4.7 in] (L2 = extended piston rod plus centering pin).



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



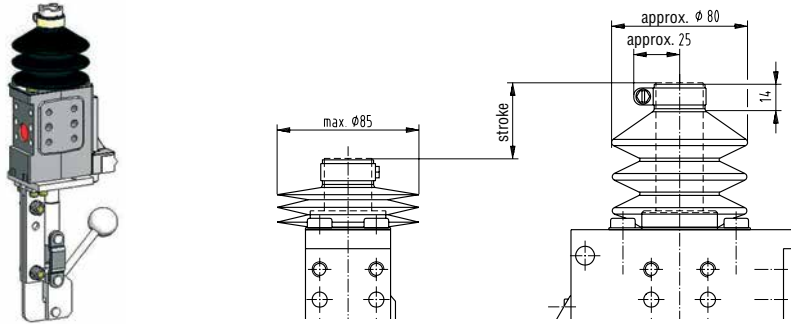
Angle deviation 56H40-2...E2C
External guide





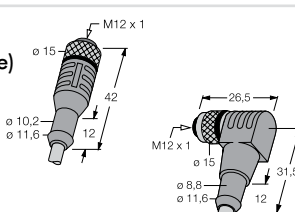
56H40-2 ACCESSORIES

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

Piston Rod Cover (Bellow)



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

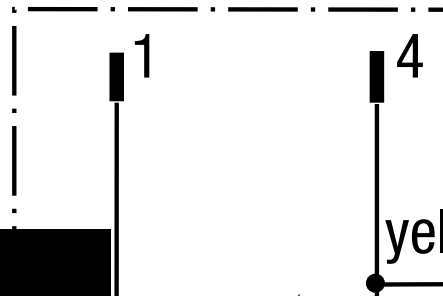
Sensing system immune to interference from d.c. arc welding and a.c. arc welding

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



86P30-1 SERIES

Pneumatic Pin Clamps and Packages | Overview, Technical Information, Ordering Information

Enclosed single units with 32mm diameter cylinders

Models: **86P30-105.....**

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.

Features:

- Compact, low weight design
- High accuracy of positioning
- Lateral and front-face mounting areas
- Mounting base for centering pin includes precision bore holes and grooves
- Inductive sensing module with LED display
- Long body for 40mm stroke, short body 20mm stroke
- Long & short body are interchangeable in connecting



86P30-105B8004
base model with sensing
(without add-ons)

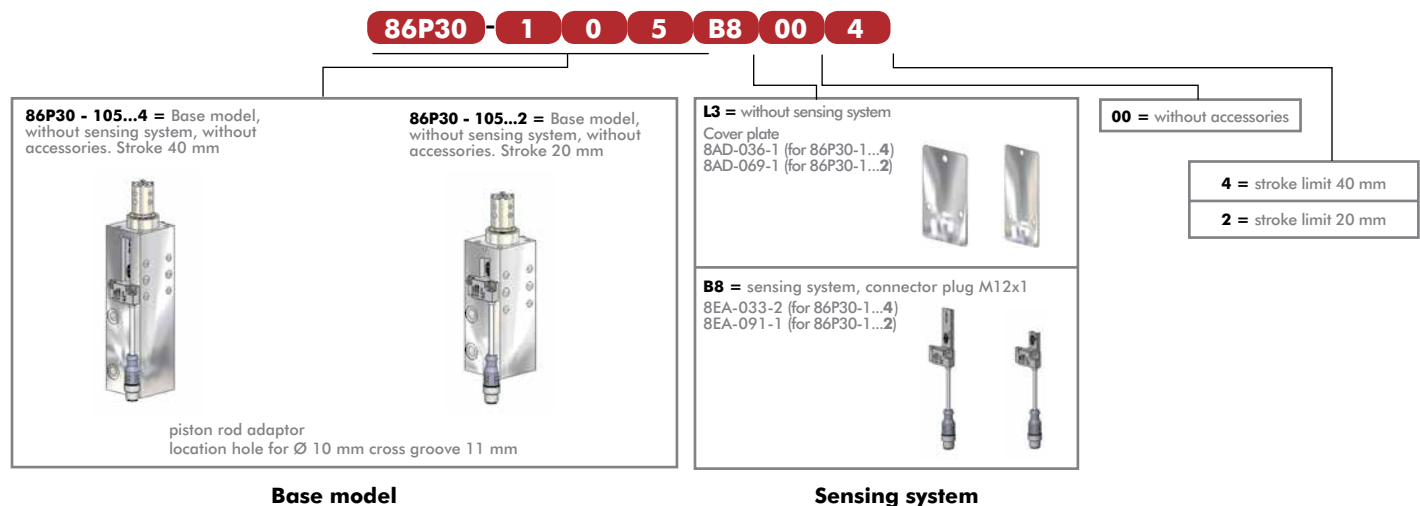


86P30-105B8002
base model with sensing
(without add-ons)

Technical Information

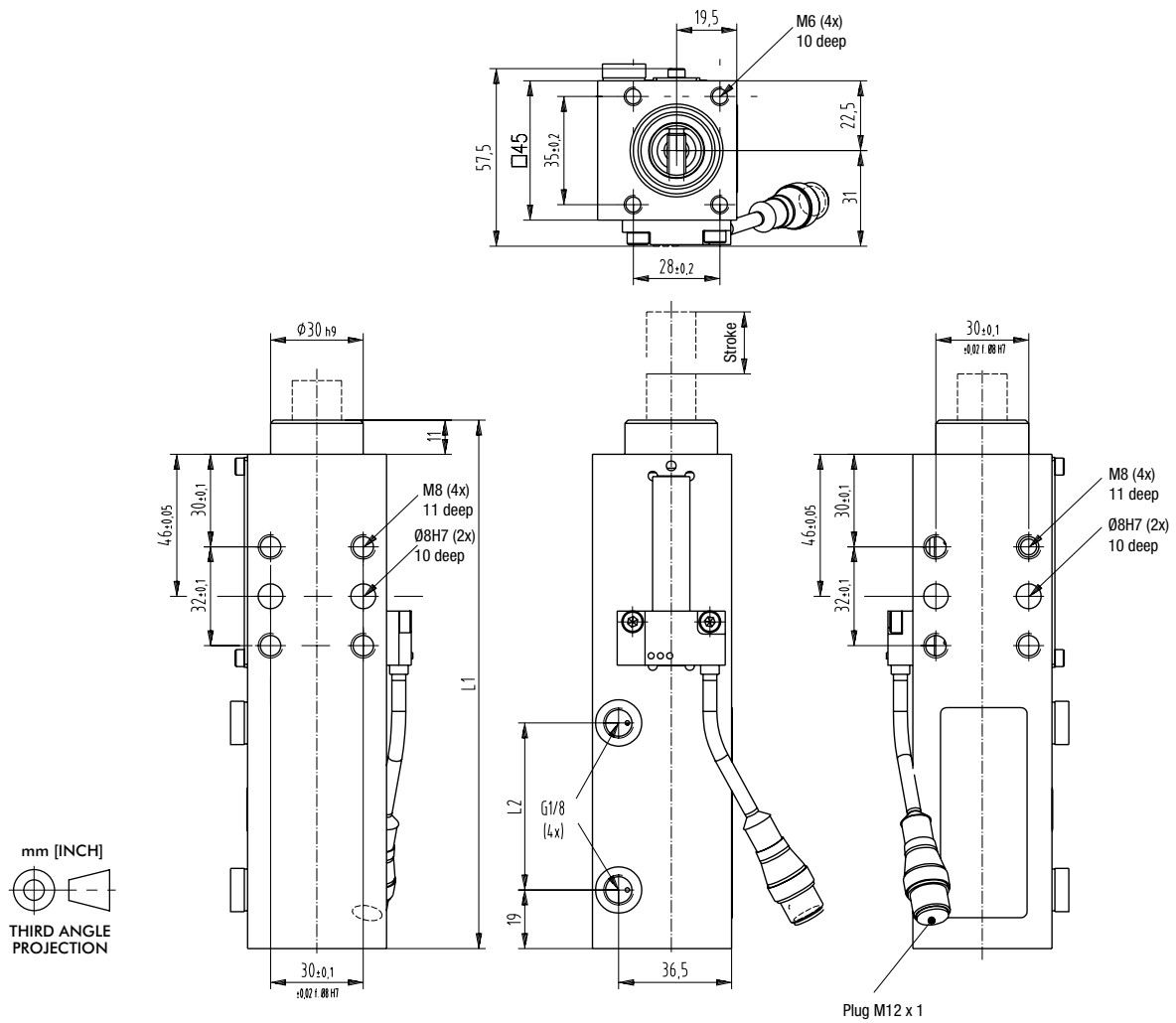
Model no.		Pushing force at 5 bar N [lbs]	Retraction force at 5 bar N [lbs]	Max. operating pressure bar [psi]	Piston Ø mm [in]	Stroke mm [in]	Weight Kg [lbs]	Air consumption per double stroke at 5 bar dm ³ [ft ³]
w/o sensing	with inductive sensing connector M12x1 w/ lead							
86P30-105L3004	86P30-105B8004	390 [88]	290 [65]	6 [87]	32 [1.26]	40 [1.57]	1,0 [2.20]	0,48 [0.02]
86P30-105L3002	86P30-105B8002	390 [88]	290 [65]	6 [87]	32 [1.26]	20 [0.79]	0,85 [1.87]	0,34 [0.01]

How To Order



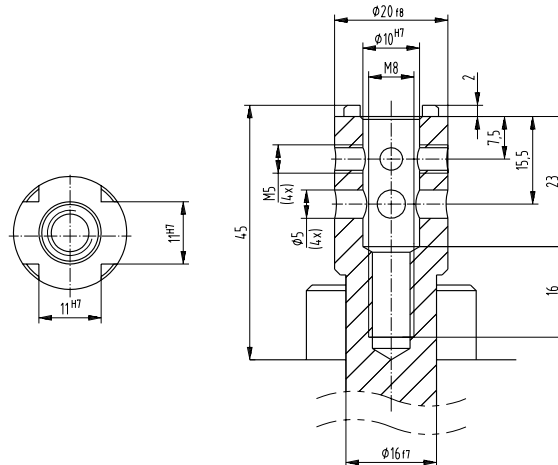
86P30-1 SERIES

Pneumatic Pin Clamps and Packages | Dimensions



Model no.	L1 [mm]	L1 [mm]	Stroke [mm]
86P30-105..004	171	54	40
86P30-105..002	136	34	20

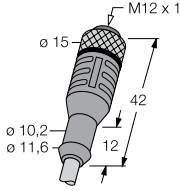
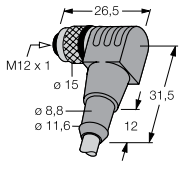
Piston Rod Detail



View shows piston rod in retracted position

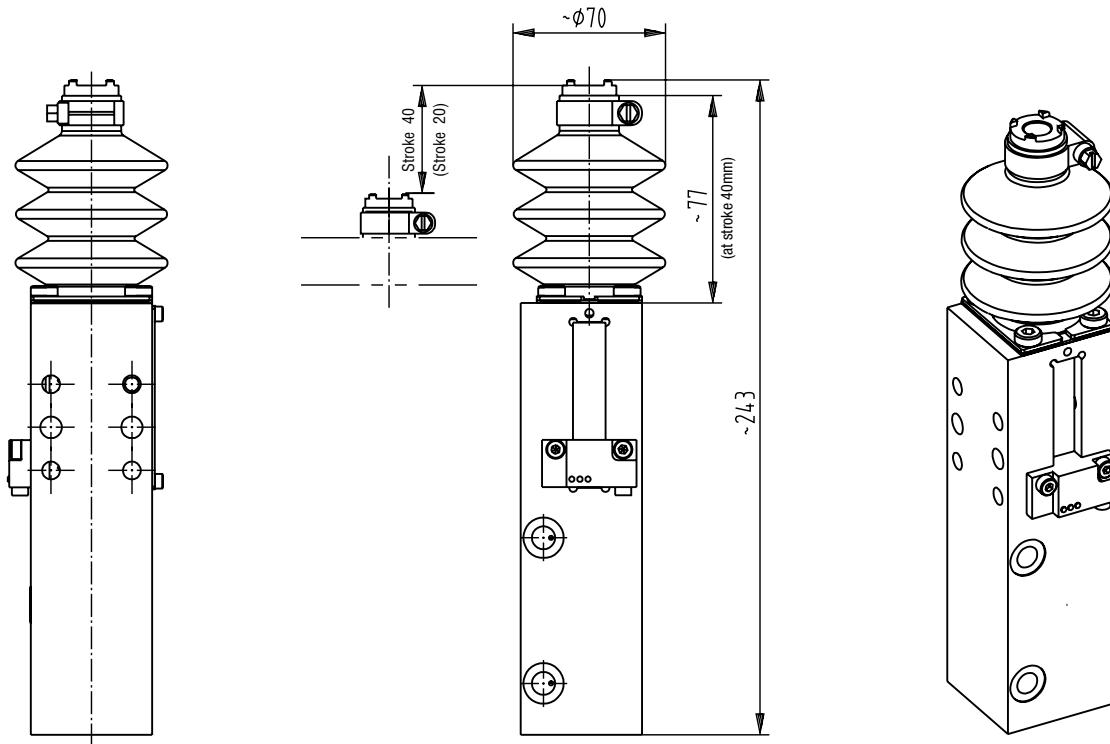
86P30-1 SERIES ACCESSORIES

Pneumatic Pin Clamps and Packages | Dimensions and Ordering Information

Specifications	Order no. for 86P30-105.....
Bellows	82ZB-016-4
Connecting 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

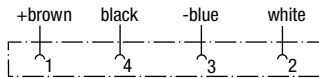
Bellows **82ZB-016-4**

Mounted on piston rod



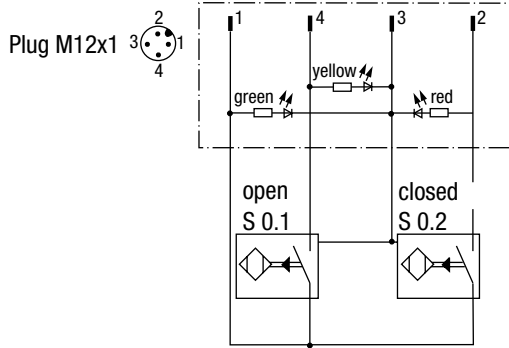
86P30-1 SERIES ACCESSORIES

Pneumatic Pin Clamps and Packages | Technical Information



Wiring diagram of electrical sensing system

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



Inductive design:

- **B8** Connector plug M12x1 w/ lead

Major Spare Parts

Specifications	Order no. for 86P30-105..4	Order no. for 86P30-105..2
End position sensing system B8 inductive connector plug M12x1 w/ lead	8EA-033-2	8EA-091-1
Seal kit	86P3-1-00	

86P40-2, 86P60-2 SERIES

Pneumatic Pin Clamps and Packages | Features and Benefits, Ordering Information

Application:

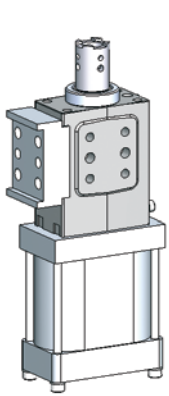
Accurate positioning of sheet metal parts in welding equipment and handling systems. At the end of the welding process, the pins are retracted from the pin holes. The component can thus be easily removed from the jig.

Key areas of application:

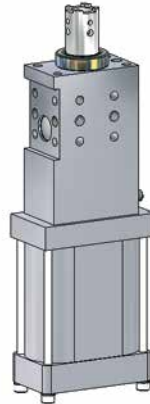
Automotive manufacturing, sheet processing industry, jig and general mechanical engineering.

Features:

- Compact, low weight design
- High accuracy due to twin piston rod guide
- Lateral and front-face mounting areas
- Length of stroke: 20, 40 and 60 mm
- Various mounting bases for centering pin including precision bore holes and grooves or integrated thread
- Inductive sensing module with LED display



86P60-202L4H14
with adaptor



86P60-202L6006
stroke 60 mm

How To Order

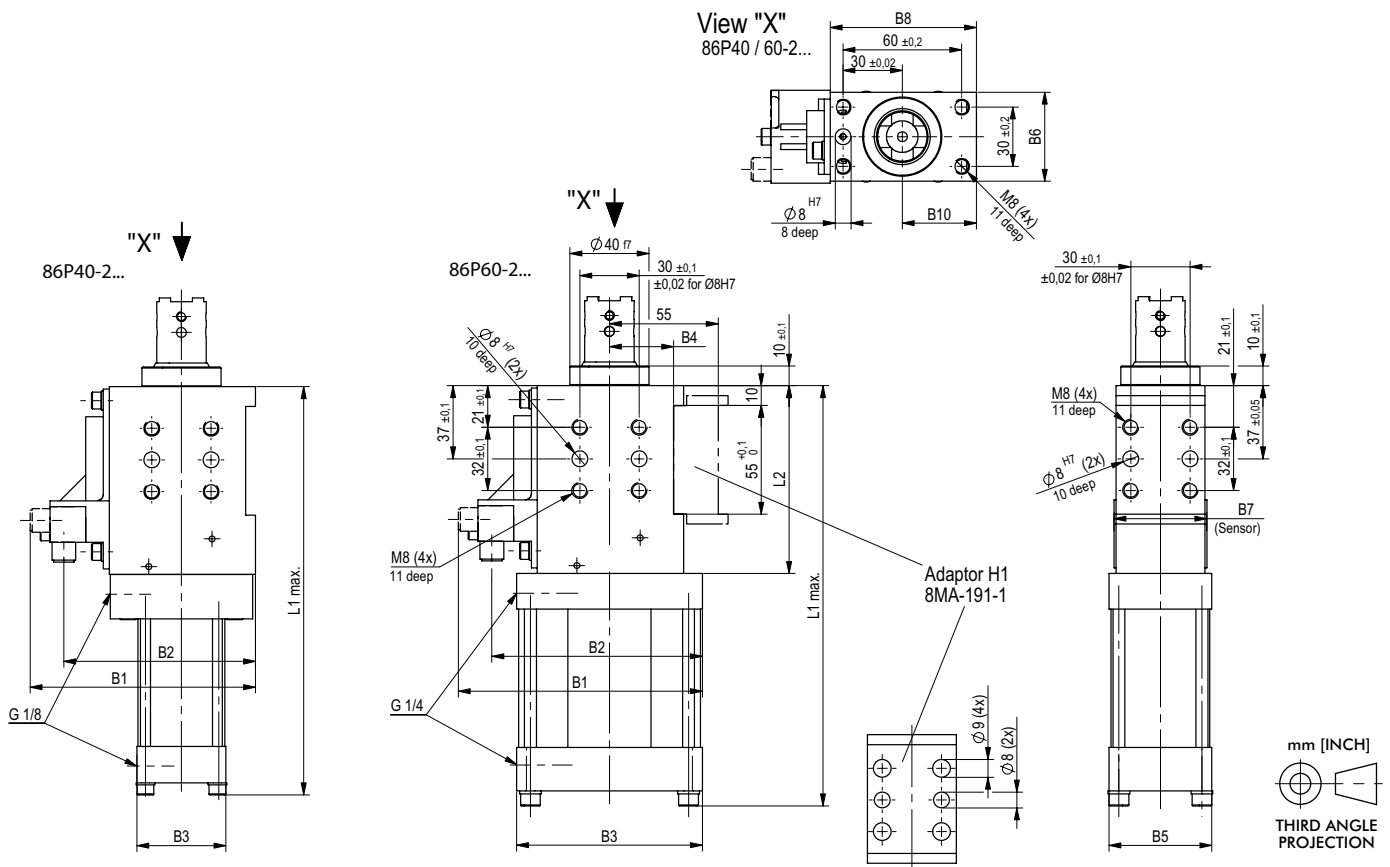
Example Model no.: **86P40-2-02-C8-00-A-K** ————— K = ceramic coated pin

<p>86P40-2 86P60-2</p> <p>H1 (optional to make up for 86P6-1...)</p> <p>Base model</p>	<p>02 = piston rod adapter Ø 16 mm, cross groove 8MS-104-1</p> <p>05 = piston rod adapter Ø 10 mm, cross groove 8MS-108-1</p> <p>Piston rod adaptor</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>Inductive sensing system</p>	<p>00 = without accessories</p> <p>E1 = (only with A or B) E2 = (only with C) external guide</p> <p>F1 = Bellow 82ZB-013-3 (for stroke 20/40)</p> <p>G1 = Bellow/Adaptor (for stroke 20/40)</p> <p>H1 = Adaptor 86P0-2000H1</p> <p>J1 = (only with A and B) external guide Adaptor 86P0-2000J1</p> <p>Accessories</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 86P0-2000002</p> <p>4 = 40 mm stroke Anti - twist device 86P0-2000004</p> <p>6 = 60 mm stroke Anti - twist device 86P0-2000006</p> <p>Instructions</p>
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86P40-2, 86P60-2 SERIES

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

Model no.		Pushing force at 5 bar N [lbs]	Retraction force at 5 bar N [lbs]	Max. operating pressure bar [psi]	Piston Ø mm [in]	Stroke +2 mm [in]	Weight Kg [lbs]	Air consumption per double stroke at 5 bar dm ³ [ft ³]
w/o sensing	with inductive sensing connector M12x1 w/ lead							
86P40-2...L4...	86P40-2..._8...	620 [139]	520 [117]	6 [87]	40 [1.57]	20 [0.79]	1,6 [3.52]	0,5 [0.02]
86P40-2...L4...	86P40-2..._8...	620 [139]	520 [117]	6 [87]	40 [1.57]	40 [1.57]	1,6 [3.52]	0,7 [0.02]
86P40-2...L6...	86P40-2..._8...	620 [139]	520 [117]	6 [87]	40 [1.57]	60 [2.36]	2,0 [4.84]	0,9 [0.04]
86P60-2...L4...	86P60-2..._8...	1550 [348]	1400 [315]	6 [87]	63 [2.48]	20 [0.79]	2,0 [4.40]	0,8 [0.02]
86P60-2...L4...	86P60-2..._8...	1550 [348]	1400 [315]	6 [87]	63 [2.48]	40 [1.57]	2,0 [4.40]	1,4 [0.05]
86P60-2...L6...	86P60-2..._8...	1550 [348]	1400 [315]	6 [87]	63 [2.48]	60 [2.36]	2,6 [5.72]	2,0 [0.08]



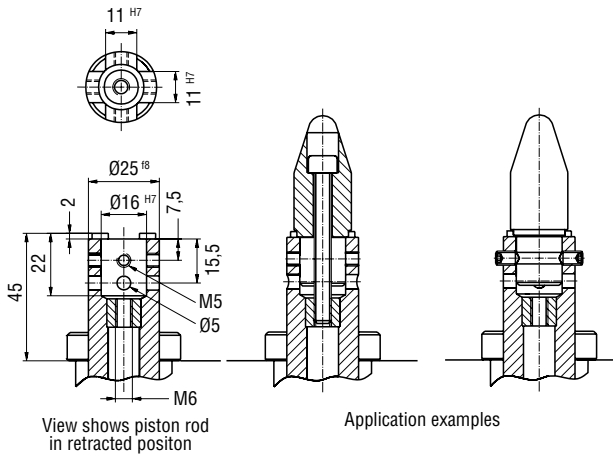
Medium: Operation with oil free air permissible

Model no.		B1	B2	B3	B4 + 0,02	B5	B6	B7	B8	B10	L1 max.	L2
w/o sensing	with inductive sensing connector M12x1 w/ lead											
86P40-2...L4...	86P40-2..._8...	114	97	45	32,5	45	45	47	74	37,5	207	95
86P40-2...L4...	86P40-2..._8...	114	97	45	32,5	45	45	47	74	37,5	207	95
86P40-2...L6...	86P40-2..._8...	114	97	45	32,5	45	45	47	74	37,5	247	115
86P60-2...L4...	86P60-2..._8...	124	107	94	32,5	52	45	47	74	37,5	213	95
86P60-2...L4...	86P60-2..._8...	124	107	94	32,5	52	45	47	74	37,5	213	95
86P60-2...L6...	86P60-2..._8...	124	107	94	32,5	52	45	47	74	37,5	253	115

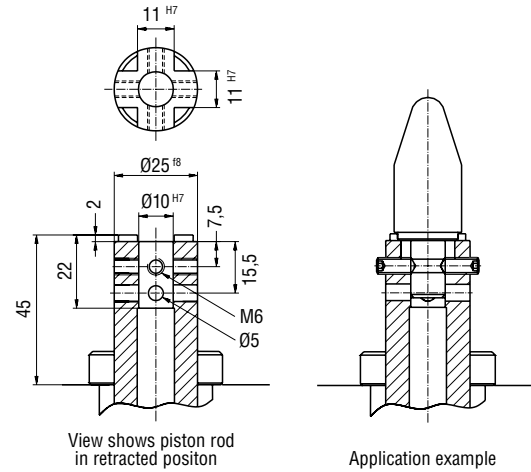
86P40-2, 86P60-2 ACCESSORIES

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

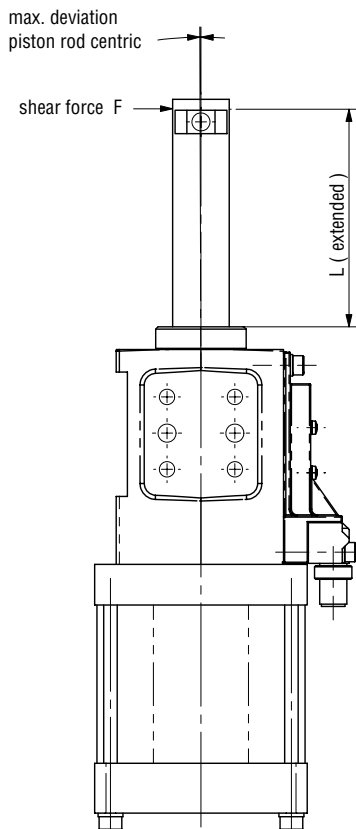
Piston Rod Model **-202** Detail mounting base $\varnothing 16$ mm for **86P40-2, 86P60-2**



Piston Rod Model **-205** Detail mounting base $\varnothing 10$ mm for **86P40-2, 86P60-2**



Max deflection for centering pin for **86P40-2, 86P60-2**



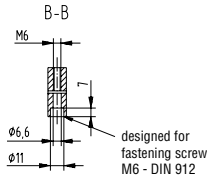
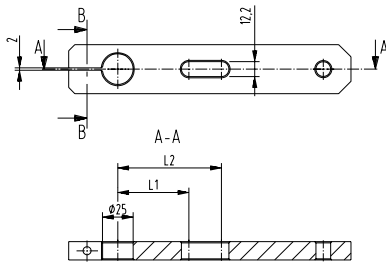
Model no.	Sheer force N [lbs]	L mm [in]	Stroke mm [in]	Deviation mm [in]
86P40 / 60-2...B / 2	200 [45]	52 [2.0]	20 [0.08]	0,06 [0.002]
86P40 / 60-2...A / 4	200 [45]	70 [2.8]	40 [1.60]	0,09 [0.004]
86P40 / 60-2...C / 6	200 [45]	90 [3.5]	60 [2.40]	0,12 [0.007]

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 $L_2 > 120$ mm [4.7 in] ($L_2 =$ extended piston rod plus centering pin).

86P40-2, 86P60-2 ACCESSORIES

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

Example application of an off-center centering pin



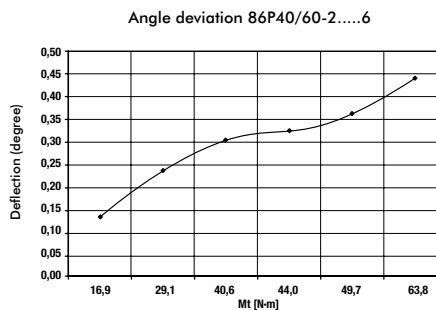
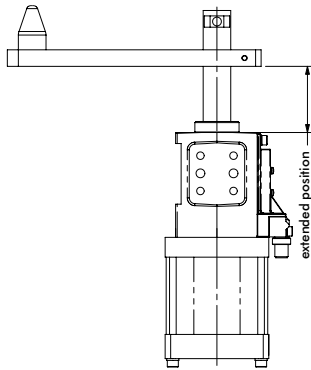
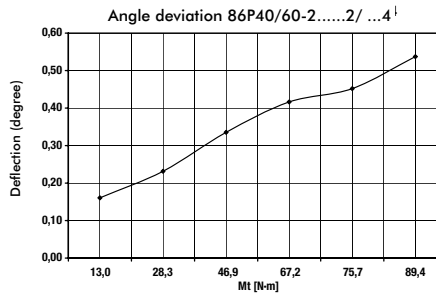
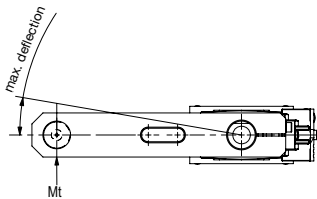
Model no.	L1	L2
86P40/60-2...E1	58	62
86P40/60-2...E2	58	62
86P40/60-2...J1*	80,5	84,5

* J1 is not available with stroke 60 mm.



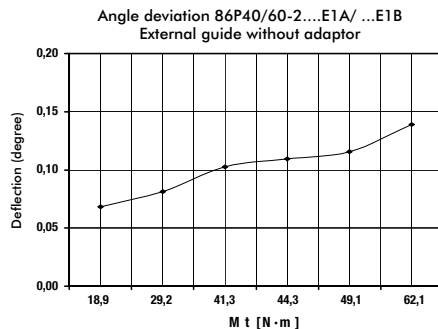
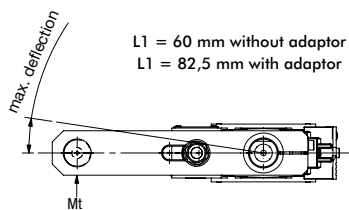
The component shown in this example is to be made by the customer

Internal anti-rotation device

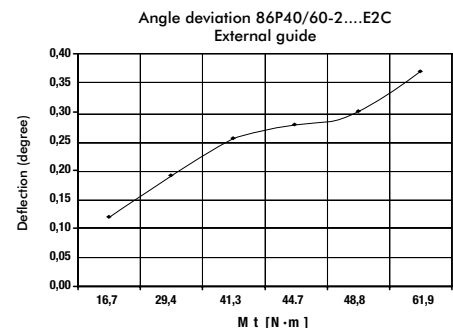
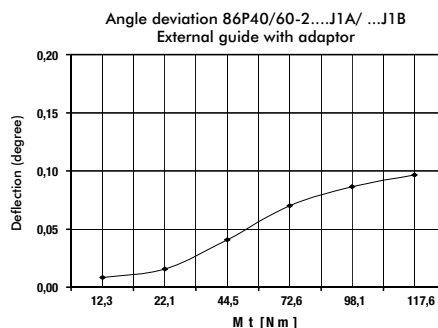
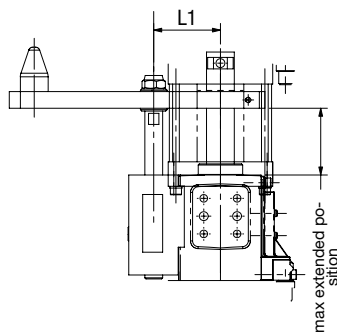


Caution: Generally we recommend using an external guide when the transverse force is more than 200 N [45 lbs]. Also independently of the stroke, less transverse forces, when the overall height L2 > 120 mm [4.7 in] (L2 = extended piston rod plus centering pin).

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



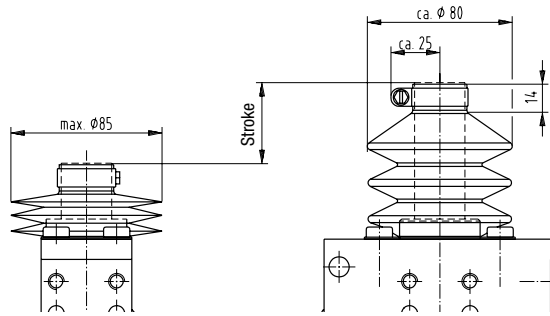
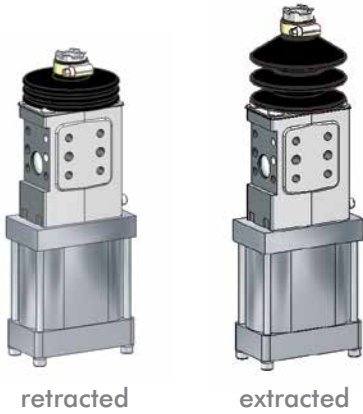
Caution: Generally we recommend using an external guide when the transverse force is more than 200 N [45 lbs]. Also independently of the stroke, less transverse forces, when the overall height L2 > 120 mm [4.7 in] (L2 = extended piston rod plus centering pin).



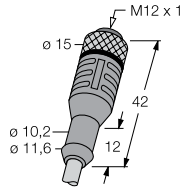
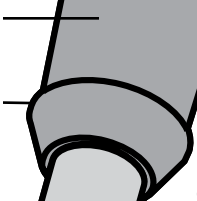


86P40-2, 86P60-2 ACCESSORIES

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

Piston Rod Cover (Bellows)



Specifications	Order no.
External guide (use w/o bellows) 	82ZB-009-2 82ZB-010-2 (only with A+B) 82ZB-090-1 (with C)
Bellows (use w/o external guide only) 	82ZB-013-3 (only strokes 20 und 40)
Connecting cable (1 connector socket & 5 m cable)	8EL-002-1
Connector socket M12x1 straight, 5-pin 	8EL-003-1
Connector socket M12x1 90° angular, 4-pin 	8EL-003-1

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

Specifications	Order no. for 86P40/60-2...
End position sensing system	
C8 connector plug M12x1, parallel with piston rod	86P0-200C8 (stroke 20/40) 86P0-200C8006 (stroke 60)
D8 connector plug M12x1, 90° swivel	86P0-200D8 (stroke 20/40) 86P0-200D8006 (stroke 60)
Seal kit	8PW-079-1-00 (for 82P40-2) 8PW-080-1-00 (for 82P60-2)

86D SERIES

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

Pneumatic Pin Packages, Double Design

Application:

- Accurate positioning of sheet metal parts in welding environments and handling systems without rotation.
- At the end of the process, the pins are retracted from the holes so the part can be removed.

Key areas of application:

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



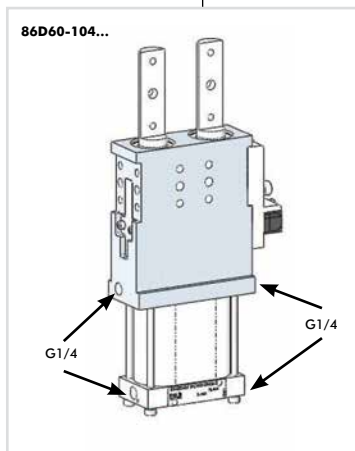
86D60-1
with sensing

Technical Information

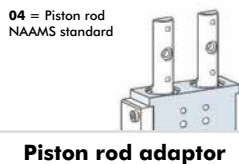
Model	Pushing force at 5 bar N [lbs]	Retraction force at 5 bar N [lbs]	Max. Operating Pressure bar [psi]	Piston Ø mm [in]	Stroke mm [in]	Weight Kg [lbs]	Air consumption per double stroke at 5 bar dm ³ [ft ³]
86D60-104**00A	1500 [377]	1100 [247]	6 [87]	63 [2.48]	40 [1.57]	3,8 [8.36]	1,4 [0.06]
86D60-104**00B					20 [0.79]	4 [8.80]	0,8 [0.03]
86D60-104**00C					60 [2.36]	4,1 [9.02]	2 [0.08]

How To Order

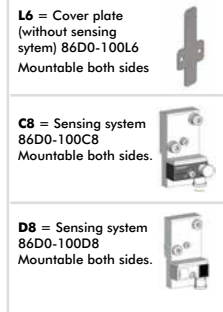
Example Model no.: **86D60-1-04-D8-00-A-K** ——— **K = ceramic coated pin**



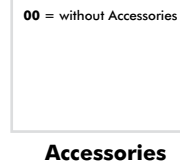
Base model



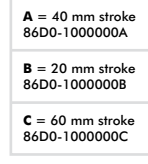
Piston rod adaptor



Inductive sensing system

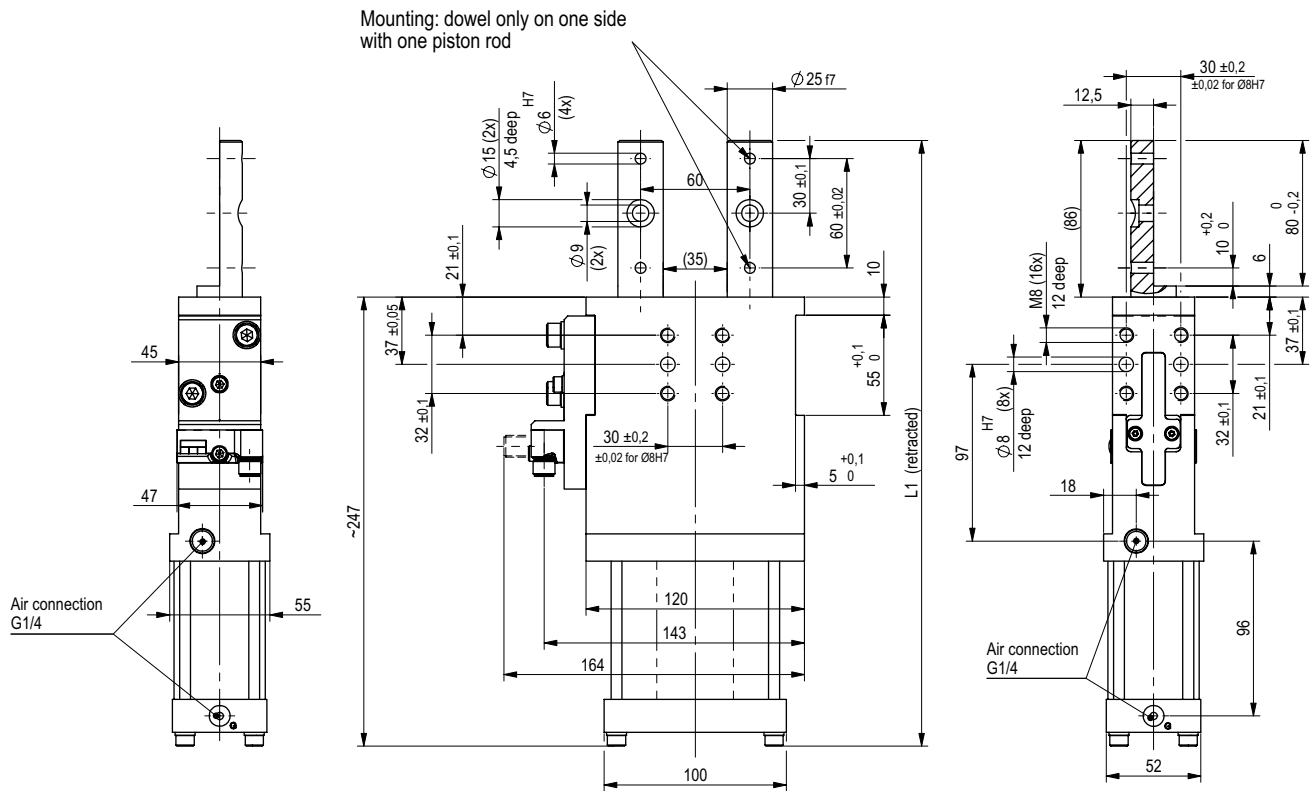


Accessories

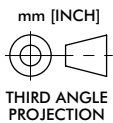


Stroke Limitation

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information



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

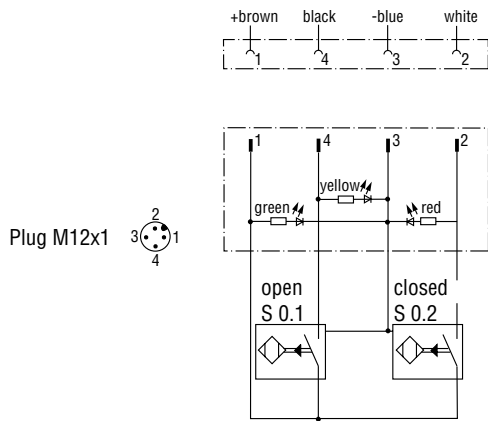


Model	L1 Retracted [mm]	L1 Extended [mm]	Stroke [mm]
86D60-104**00A	333	373	40
86D60-104**00B		353	20
86D60-104**00C		393	60

86D60-1... ACCESSORIES

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

Pin Assignment



Wiring diagram of electrical sensing system

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

Inductive design:

- C8 / D8 Connector plug M12x1

Major Spare Parts

Specifications	Order Number
End position sensing system C8, connector plug M12x1, parallel with cylinder	86D0-100C8
End position sensing system D8, connector plug M12x1, 90° swivel	86D0-100D8
Connecting Cable (1 connector socket & 5m cable) M12 x 1 Straight, 5 pin	8EL-002-1
Connecting Cable (1 connector socket & 5m cable) M12 x 1 Angular, 4 pin	8EL-003-1
Cylinder	8PW-105-1
Set of wearing parts for the cylinder gasket	8PW-105-1-00

85P5-1 SERIES

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

Straight-Line Action Clamp

Application:

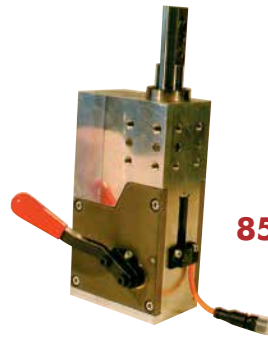
Accurate positioning of workpiece in jigs.
Piston rod is locked in the extracted position.
Here the piston rod can be used for cases of counter supporting for clamps.

Features:

- Compact Design
- High accuracy of positioning
- Lateral and front-face mounting areas
- Stroke 40mm
- Inductive sensing module
- Toggle-locked in extracted position



85P5-104B8000



85P5-104B80H0

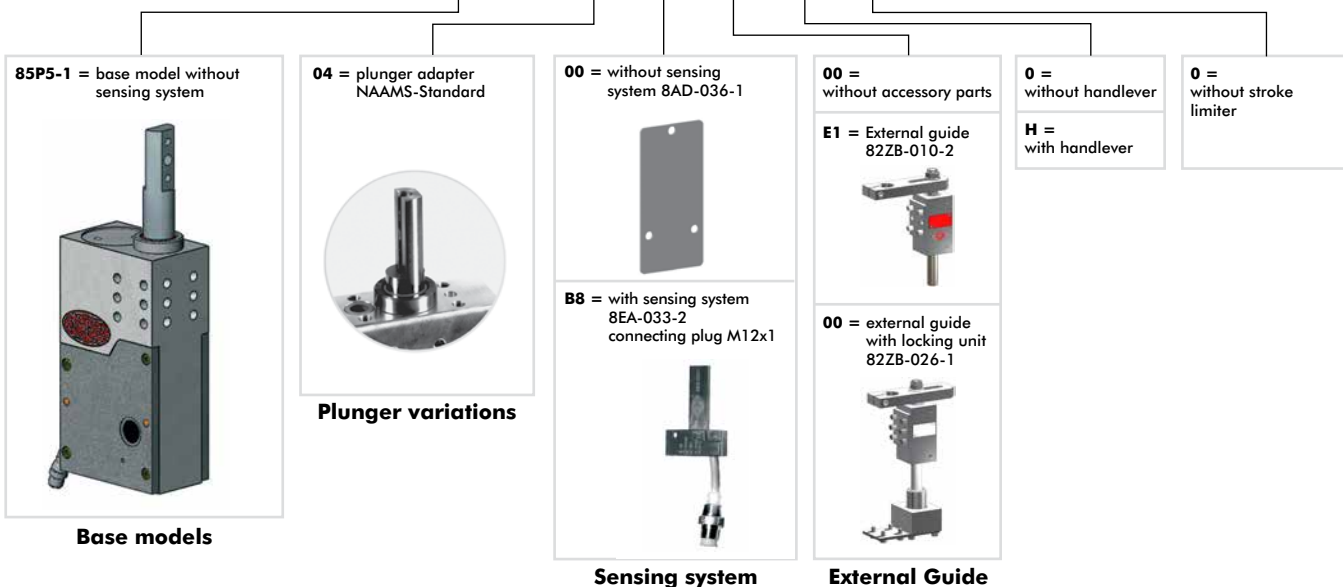
Technical Information

Model no..	Pushing force at 6 bar N [lbs]	Retracting force at 6 bar N [lbs]	Holding force N [lbs]	Pressure max bar [psi]	Piston Ø mm [in]	Stroke mm [in]	Weight Kg [lbs]	Air consumption per double stroke at 6 bar dm ³ [ft ³]
85P5-104000000	2000 [449]	1000 [225]	5000 [1124]	6 [87]	50 [1.97]	40 [1.57]	3,8 [8.36]	1,1 [0.04]
85P5-104B80000								
85P5-1040000H0	2000 [449]	1000 [225]	5000 [1124]	6 [87]	50 [1.97]	40 [1.57]	4,0 [8.80]	1,1 [0.04]
85P5-104B800H								

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



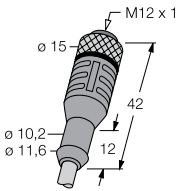
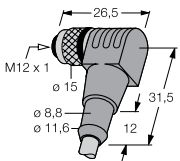
How To Order

Example order no.: **85P5 - 1 04 B8 00 0 0 - K** K = ceramic coated pin



85P5-1 ACCESSORIES

Pneumatic Pin Clamps and Packages | Dimensions and Technical Information

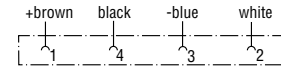
Specifications	Order no.
External guide (use for external centering pins) 	82ZB-010-2
Bellows (use for external pins with locking for preventing from unintended moving) 	82ZB-026-1
Connecting cable (1 connector socket & 5 m cable)	8EL-002-1
Connector socket M12x1 straight, 5-pin 	8EL-003-1
Connector socket M12x190 angular, 4-pin 	


Wiring diagram of electrical sensing system

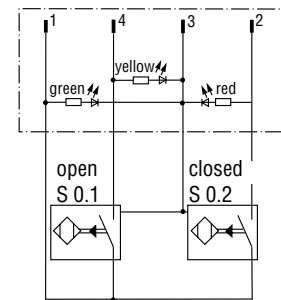
Sensing system immune to interference from d.c. arc welding and a.c. arc welding

Inductive design:

- **B8** Connector M12x1 w/lead



Plug M12x1 



Major Spare Parts

Specifications	Order no.
Sensing B8	8EA-033-2
Seal-kit cylinder	8PW-050-1-00
Hand lever-kit	8KB-032-1

