

## PCLAMP

P Clamp X



P Clamp E



## ADVANTAGES

1

Pneumatic clamping with high forces

2

Optimum safety clamping –  
if the pneumatic fail the system is locked

3

The values of hydraulic clamps  
are reached and exceeded

4

Low system costs in  
comparison to hydraulics

5

Simple installation

6

Compact design

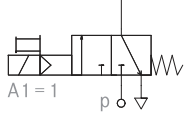
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Wide range for many shaft  
sizes can be delivered

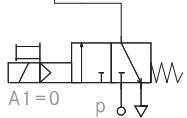
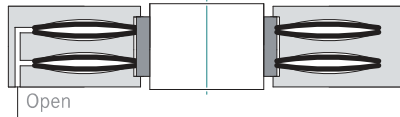
## OPERATING PRINCIPLE

### Function of the PClamp N

PClamp Standard opening the spring actuator



PClamp Standard clamping with spring actuator

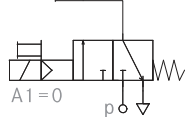
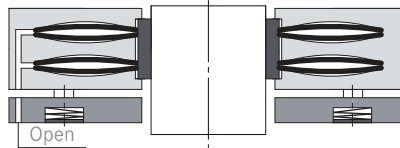


**PClamp N released** Pressure is applied to the air chambers between the spring steel sheets. The spring steel sheets bend outwards, reducing their radial width. The clamping collet can therefore expand, releasing the rod.

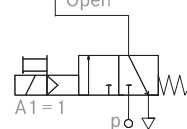
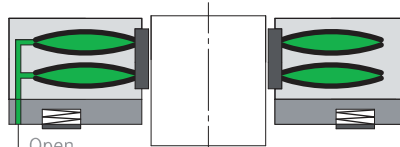
**PClamp N clamped** The air chambers between the spring steel sheets are vented, the elastic spring steel sheets return to their original position, thereby clamping the collet against the rod. In this condition, the PClamp N is able to stop both rotary motion as well as linear motion.

### Function of the PClamp X

PClamp X clamping with spring actuator



PClamp X opening the spring actuator



**PClamp X clamped** PClamp X offers an additional safety feature: In case of emergency clamping, an air escape channel opens, and the PClamp cannot be released.

**PClamp X released** The clamping can only be unlocked after lifting the load.

### Increasing power



The building block system – more power by stacking several PClamp modules

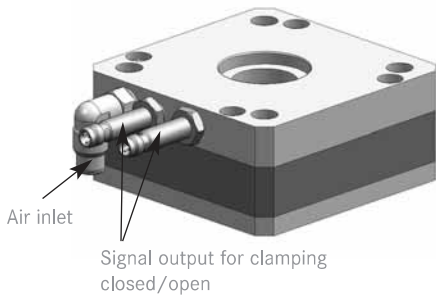


**Intelligent modular concept PClamp stacking** the easiest method of increasing the clamping force by stacking several clamping units. The clamping forces can be increased by arranging up to three clamping units between the base plate and the surface plate.

PClamp is suitable for clamping rods with diameters of 12 mm to 40 mm. The flange dimension as well as the outside dimensions are matched to those of standard cylinders ISO 6431. The lengths vary depending on the clamping force required. Additional data for special solutions are available on request.

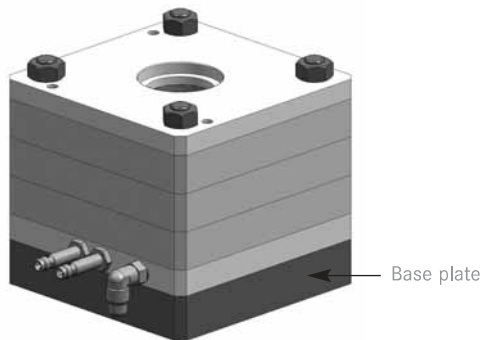
## PRODUCT OVERVIEW

### PCLamp N



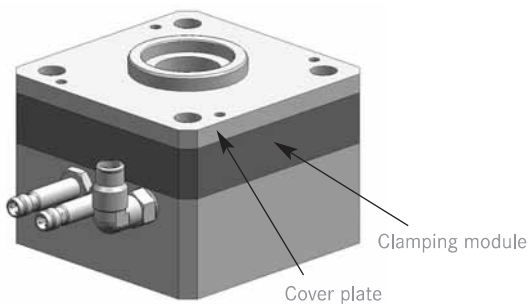
**Standard version** Comprising the standard cover plate, one to three clamping units and base plate with connections for initiators as well as air inlet. Suitable for linear and rotary loads.

### PCLamp X



**Version with additional safety mechanism for highest safety standards for vertical axes** Models with improved safety for vertical axes. After clamping the piston rod, the clamping mechanism can only be released when the axis is moved vertically upwards. The clamping unit is identical to the versions N and ISO. Version PCLamp X fulfils the requirements of the Employer's Liability Insurance Association.

### PCLamp ISO



**Version for ISO pneumatic cylinder** Cover plate and base plate are matched to the dimensions on the flange dimension of the ISO cylinder. Due to the integrated attachments in the housing, the ISO version is ideal for use with standard cylinders. The clamping unit is identical to versions N and X.

### PCLamp E

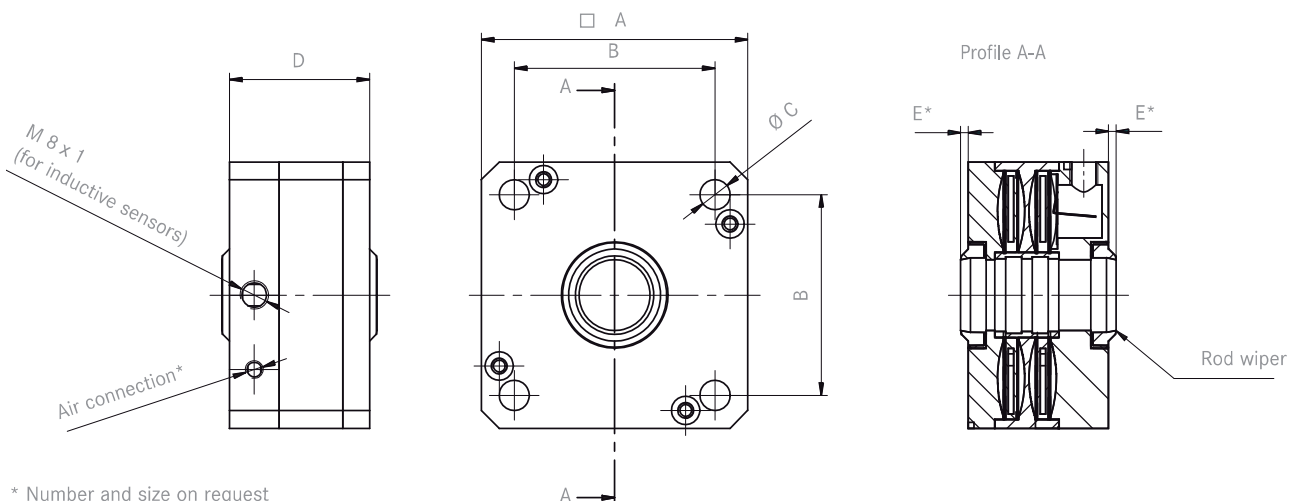


**Compact version for lower clamping forces** PCLamp E has a lower overall height – ideal for applications with limited installation space or operating ranges in which lower holding forces are required. Sensors can not be used. The clamping unit has a different outward appearance than Version N, X and ISO, although the active principle is identical.

## TECHNICAL DATA

### Technical data of the PClamp N

Size	A	B	C	D	E	Air connection	Holding force Version 4 Bar	Holding force Version 6 Bar	Holding torque Version 4 Bar	Holding torque Version 6 Bar	Standard rod	Mass
Unit	[mm]	[mm]	[mm]	[mm]	[mm]		[N]	[N]	[Nm]	[Nm]	[mm]	[kg]
PC 63-20-1	75	56,5	8,5	41,5	2,10	M5	1400	2000	15	20	20	0,70
PC 63-20-2	75	56,5	8,5	59,5	2,10	M5	2520	3600	25	35	20	1,13
PC 63-20-3	75	56,5	8,5	77,5	2,10	M5	3780	5400	35	50	20	1,56
PC 80-25-1	96	72,0	10,5	43,5	2,14	G 1/8	2100	3000	25	35	25	1,30
PC 80-25-2	96	72,0	10,5	63,5	2,14	G 1/8	3780	5400	40	60	25	2,20
PC 80-25-3	96	72,0	10,5	83,5	2,14	G 1/8	5670	8100	65	95	25	3,10
PC 125-40-1	145	110,0	13,0	51,6	3,00	G 1/8	7000	10000	140	200	40	3,65
PC 125-40-2	145	110,0	13,0	75,2	3,00	G 1/8	12600	18000	250	360	40	5,85
PC 125-40-3	145	110,0	13,0	98,8	3,00	G 1/8	18900	27000	375	540	40	8,05



### Example of tabulation

- PC 63-20-1: PClamp suitable for ISO cylinders, size 63, rod diameter 20 mm, one clamping module.
- Sizes A, B, C, D and E are geometric data (refer to the drawing).
- Air connection M5: Connecting thread for hose connector.
- Holding force Version 4 Bar: 1400N/holding force Version 6 Bar: 2000N. The versions for various pressure ranges achieve different holding forces.
- Holding torque Version 4 Bar: 15 Nm/holding torque version 6 Bar: 20Nm. Also here, there are different holding torques at different pressures.
- Standard rod diameter Starting from the standard value, you can get versions with reduced diameter. Available diameter and corresponding holding forces on request.

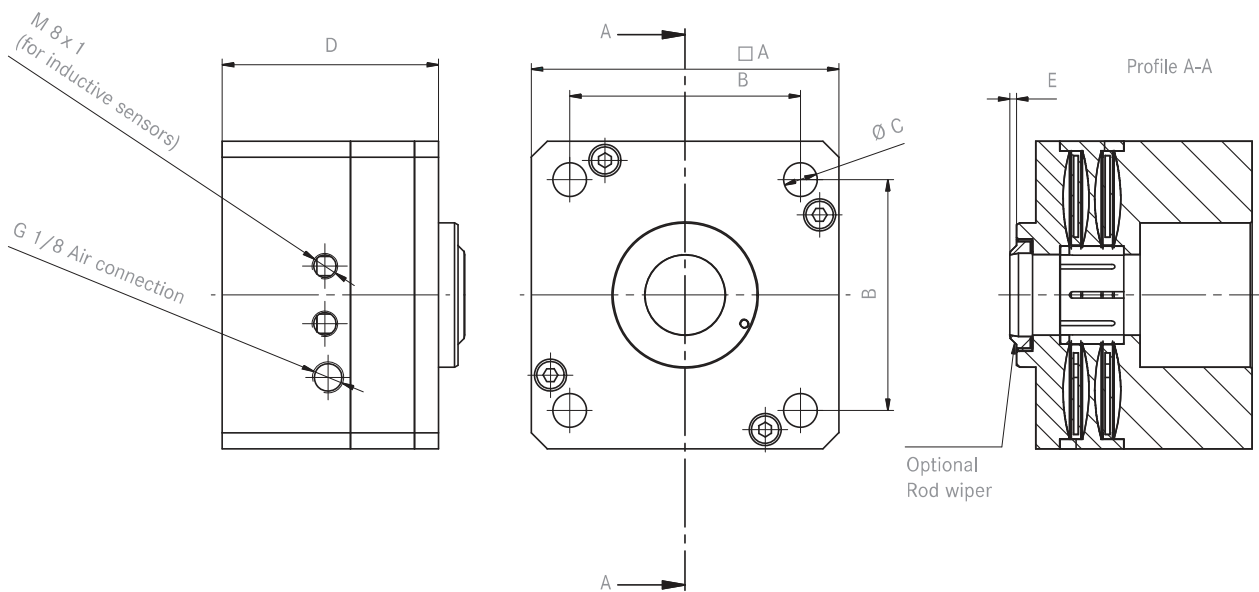
### Safety note for construction

The holding forces indicated can be achieved under optimal conditions; we recommend a safety factor of >10%. Please observe that the surface, material, and cleanliness of the rod as well as wear and use of wipers result in changed holding forces. For new or safety applications, check the clamp by testing it in its environment and measure the actual values. Make regular functional checks and functional monitoring. Please indicate these intervals as safety instructions for the end user. The axis/shaft must be designed at least with an h9 fit. If using the entire range of tolerances, then you should expect reduced holding force. To achieve optimum holding force, machine the fit as closely as possible to the nominal size.

## TECHNICAL DATA

### Technical data of the PClamp ISO

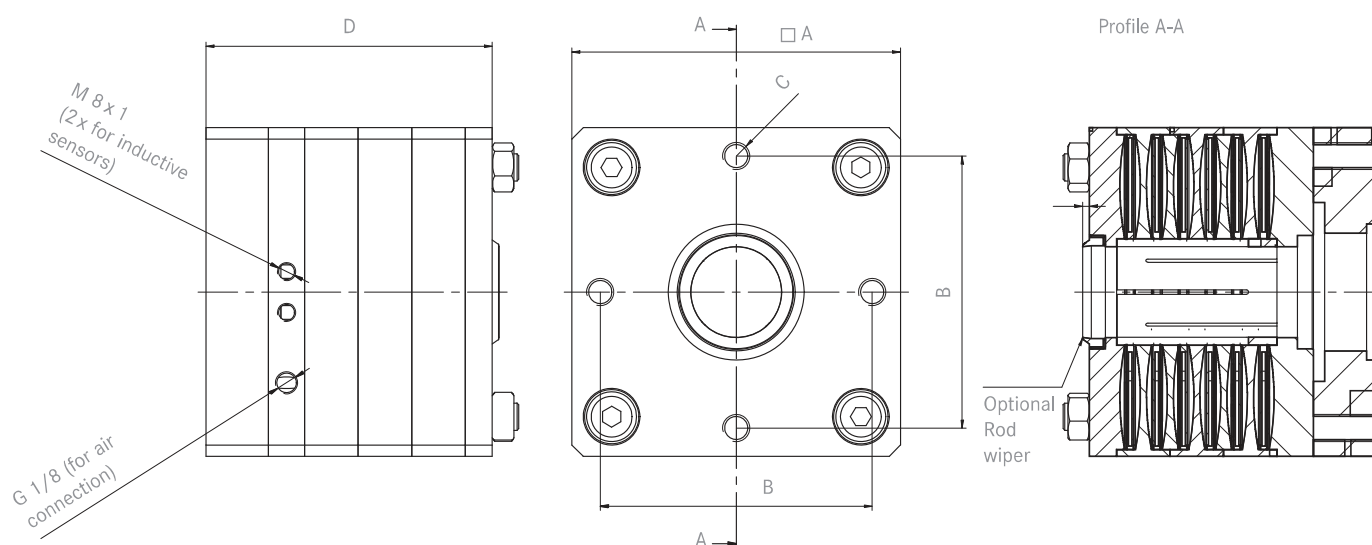
Size	A	B	C	D	E	Air connection	Holding force Version 4 Bar	Holding force Version 6 Bar	Holding torque Version 4 Bar	Holding torque Version 6 Bar	Standard rod	Mass
Unit	[mm]	[mm]	[mm]	[mm]	[mm]		[N]	[N]	[Nm]	[Nm]	[mm]	[kg]
PC 63-20-1	75	56,5	8,5	69,5	2,10	M5	1400	2000	15	20	20	1,00
PC 63-20-2	75	56,5	8,5	87,5	2,10	M5	2520	3600	25	35	20	1,43
PC 63-20-3	75	56,5	8,5	105,5	2,10	M5	3780	5400	35	50	20	1,86
PC 80-25-1	96	72,0	10,5	67,5	2,14	G 1/8	2100	3000	25	35	25	1,80
PC 80-25-2	96	72,0	10,5	87,5	2,14	G 1/8	3780	5400	40	60	25	2,70
PC 80-25-3	96	72,0	10,5	107,5	2,14	G 1/8	5670	8100	65	95	25	5,60
PC 125-40-1	145	110,0	13,0	95,6	3,00	G 1/8	7000	10000	140	200	40	3,65
PC 125-40-2	145	110,0	13,0	119,2	3,00	G 1/8	12600	18000	250	360	40	8,05
PC 125-40-3	145	110,0	13,0	142,8	3,00	G 1/8	18900	27000	375	540	40	10,25



## TECHNICAL DATA

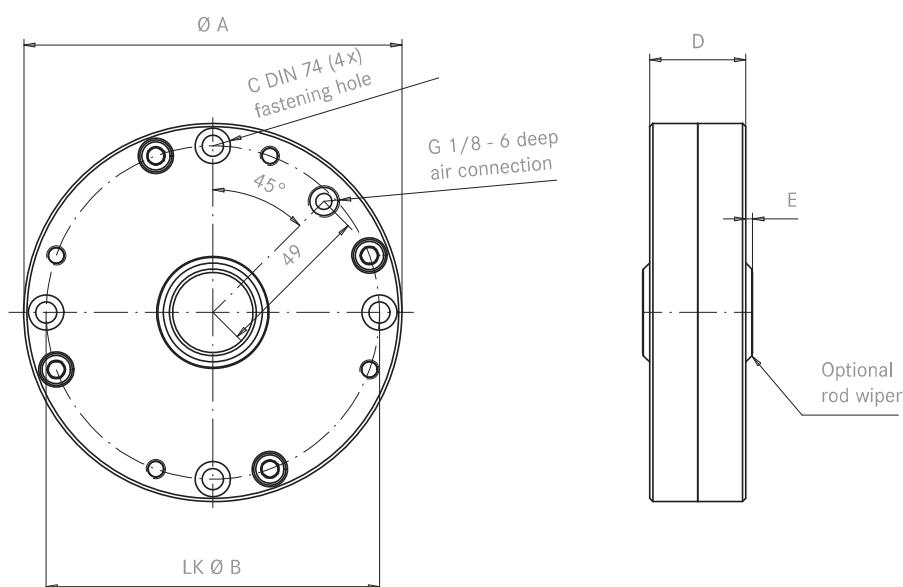
### Technical data of the PClamp X

Size	A	B	C	D	E	Air connection	Holding force Version 4 Bar	Holding force Version 6 Bar	Standard rod	Mass
Unit	[mm]	[mm]		[mm]	[mm]		[N]	[N]	[mm]	[kg]
PC 125-40-1	145	120	M12	90,8	3	G 1/8	7000	10000	40	5,30
PC 125-40-2	145	120	M12	114,4	3	G 1/8	12600	18000	40	7,55
PC 125-40-3	145	120	M12	138,0	3	G 1/8	18900	27000	40	9,80



### Technical data of the PClamp E

Size	A	B	C	D	E	Air connection	Holding force Version 4 Bar	Holding force Version 6 Bar	Holding torque Version 4 Bar	Holding torque Version 6 Bar	Standard rod	Mass
Unit	[mm]	[mm]		[mm]	[mm]		[N]	[N]	[Nm]	[Nm]	[mm]	[kg]
PC 63-20 E	92	80	M5	28	2,10	G 1/8	700	1000	7	10	20	1,15
PC 80-25 E	118	104	M6	30	2,14	G 1/8	1050	1500	12	17	25	2,10
PC 125-40 E	168	152	M6	34	3,00	G 1/8	3500	5000	70	100	40	4,90



## REQUEST FORM

Please send by fax to +49 6182 773-35

Company name: \_\_\_\_\_

Address: \_\_\_\_\_

Country/Zip/Location: \_\_\_\_\_

Contact: \_\_\_\_\_

Area/Department: \_\_\_\_\_

Telephone: \_\_\_\_\_

DID: \_\_\_\_\_

Fax: \_\_\_\_\_

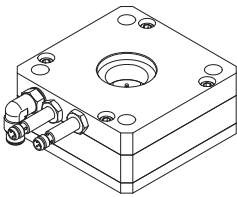
Direct: \_\_\_\_\_

E-Mail: \_\_\_\_\_

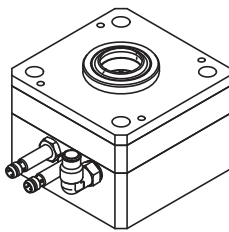
Internet: \_\_\_\_\_

**PClAMP systems are suited to for various applications. The following criteria decide on the configuration of the system. Please enter the information as completely and detailed as possible.**

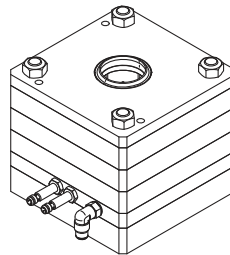
Model (please check):



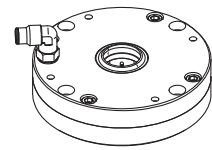
☐ PClamp N



☐ PClamp ISO



☐ PClamp X



☐ PClamp E

Type designation according to the table: \_\_\_\_\_

Surface operating conditions:

Required holding force: \_\_\_\_\_ N

☐ dry

☐ oiled

☐ greased

Required holding torque: \_\_\_\_\_ Nm

Exact designation of the oil/grease: \_\_\_\_\_

Piston diameter: \_\_\_\_\_ mm

System can only open with air:

☐ 4 Bar compressed air

☐ 6 Bar compressed air

Required quantity: \_\_\_\_\_

Date of delivery: \_\_\_\_\_

☐ Horizontal operation

☐ Vertical operation

☐ Vertical operation (with free fall)

☐ Please call back

☐ Please visit

Use as:

☐ brake system

☐ clamping system

☐ translatory

☐ rotary

Other: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Clamping cycles: \_\_\_\_\_ for each \_\_\_\_\_

You can also download this form at:

**[www.hema-schutz.de](http://www.hema-schutz.de)**



# HEMA CLAMPING SYSTEMS

