

## ACCESSORIES

Shims

Spacers

Sensors

Sensor cables

Auto-retaining devices

Special design products

Eco-light cylinders with rodscrapers

Special arm types



INNOVATION DOWN TO THE LAST DETAIL

# ORDERING STRING SHIMS AND SPACERS

## SH A 16 476 05

### PRODUCT

SH = shims

### MOUNTS

A = for clamping arms  
M = for mounts (front, rear or side mounts of clamps or pin packages)

### SIZE

16 = for clamping arms with 16 mm shaft  
1922 = for clamping arms with 19 OR 22 mm shaft  
30 = for clamping arms with 30 mm shaft  
30x32 = mounting dimensions

### HOLE PATTERN

476 = 4 holes, 2 Ø 7 screw holes and 2 Ø 6 dowel holes  
496 = 4 holes, 2 Ø 9 screw holes and 2 Ø 6 dowel holes  
399 = 3 holes, 2 Ø 9 screw holes and 1 Ø 9 dowel holes

### THICKNESS

01 = 0.1 mm  
02 = 0.2 mm  
05 = 0.5 mm  
15 = 1.5 mm  
20 = 2 mm  
50 = 5 mm

## SP A 16 476 50

### PRODUCT

SP = spacers

### MOUNTS

A = for clamping arms  
M = for mounts (front, rear or side mounts of clamps or pin packages)

### SIZE

16 = for clamping arms with 16 mm shaft  
1922 = for clamping arms with 19 OR 22 mm shaft  
30 = for clamping arms with 30 mm shaft  
30x32 = mounting dimensions

### HOLE PATTERN

476 = 4 holes, 2 Ø 7 screw holes and 2 Ø 6 dowel holes  
496 = 4 holes, 2 Ø 9 screw holes and 2 Ø 6 dowel holes  
699 = 6 holes, 3 Ø 9 screw holes and 3 Ø 9 dowel holes

### THICKNESS

50 = 5 mm

Subject to change without notice



\* DIMENSIONAL TOLERANCE FOR DOWEL HOLES:  $\pm 0.02$   
 DIMENSIONAL TOLERANCE FOR THREADED HOLES:  $\pm 0.1$

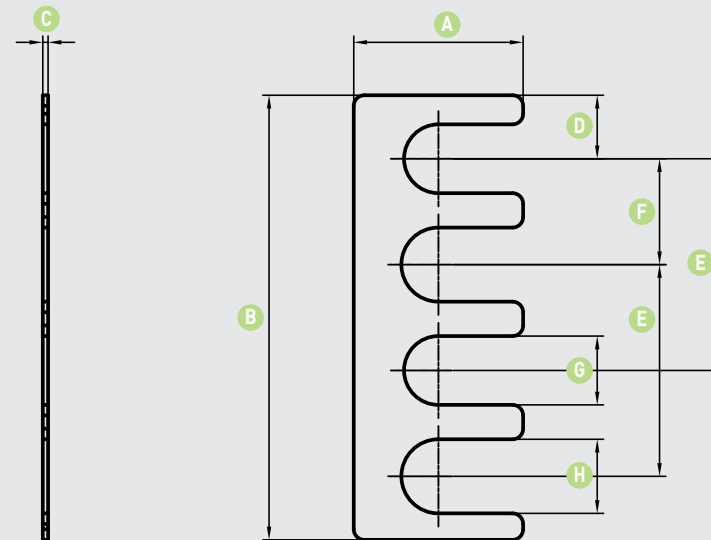
REV. 00 - 01/10/2015

SHIMS

Shims

	A	B	C	D	E	F	G	H
SHA1647601	16	42	0.1	6	20	10	6.5	7
SHA1647602	16	42	0.2	6	20	10	6.5	7
SHA1647605	16	42	0.5	6	20	10	6.5	7
SHA1647610	16	42	1	6	20	10	6.5	7
SHA1647620	16	42	2	6	20	10	6.5	7
SHA1647650	16	42	5	6	20	10	6.5	7
SHA192247601	20	60	0.1	7.5	30	15	9	9
SHA192247602	20	60	0.2	7.5	30	15	9	9
SHA192247605	20	60	0.5	7.5	30	15	9	9
SHA192247610	20	60	1	7.5	30	15	9	9
SHA192247620	20	60	2	7.5	30	15	9	9
SHA192247650	20	60	5	7.5	30	15	9	9
SHA3047601	25	60	0.1	7.5	30	15	9	9
SHA3047602	25	60	0.2	7.5	30	15	9	9
SHA3047605	25	60	0.5	7.5	30	15	9	9
SHA3047610	25	60	1	7.5	30	15	9	9
SHA3047620	25	60	2	7.5	30	15	9	9
SHA3047650	25	60	5	7.5	30	15	9	9

Subject to change  
without notice



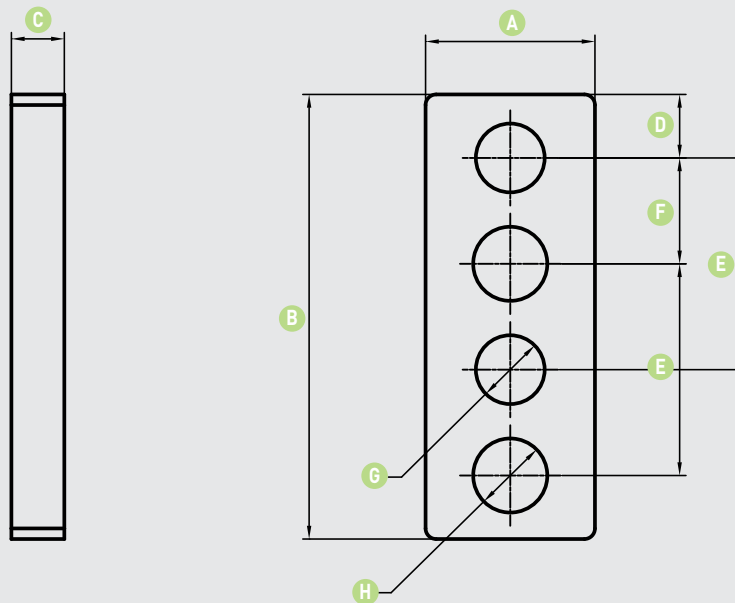


INNOVATION DOWN TO THE LAST DETAIL

\* DIMENSIONAL TOLERANCE FOR DOWEL HOLES:  $\pm 0.02$   
 DIMENSIONAL TOLERANCE FOR THREADED HOLES:  $\pm 0.1$

REV. 00 - 01/10/2015

## SPACERS



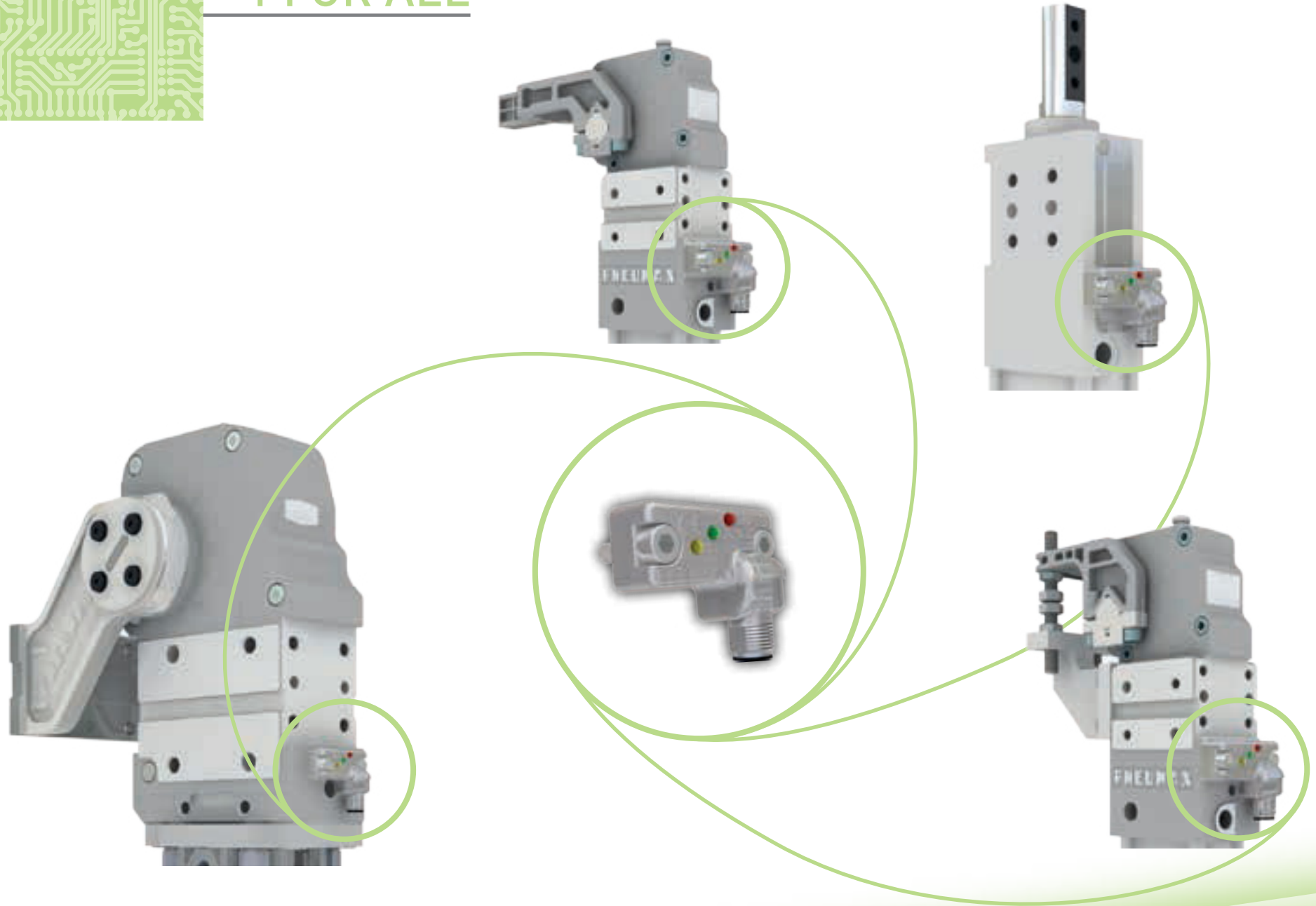
### Spacers

	A	B	C	D	E	F	G	H
SPA1647650	16	42	5	6	20	10	6.5	7
SPA192247650	20	60	5	7.5	30	15	9	9
SPA3047650	25	60	5	7.5	30	15	9	9

Subject to change  
without notice



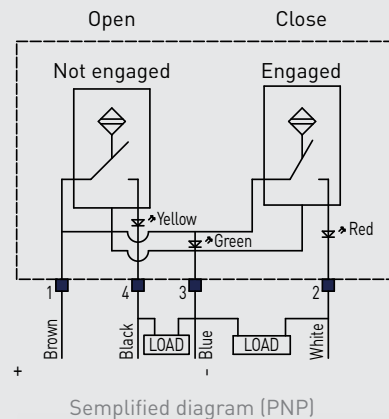
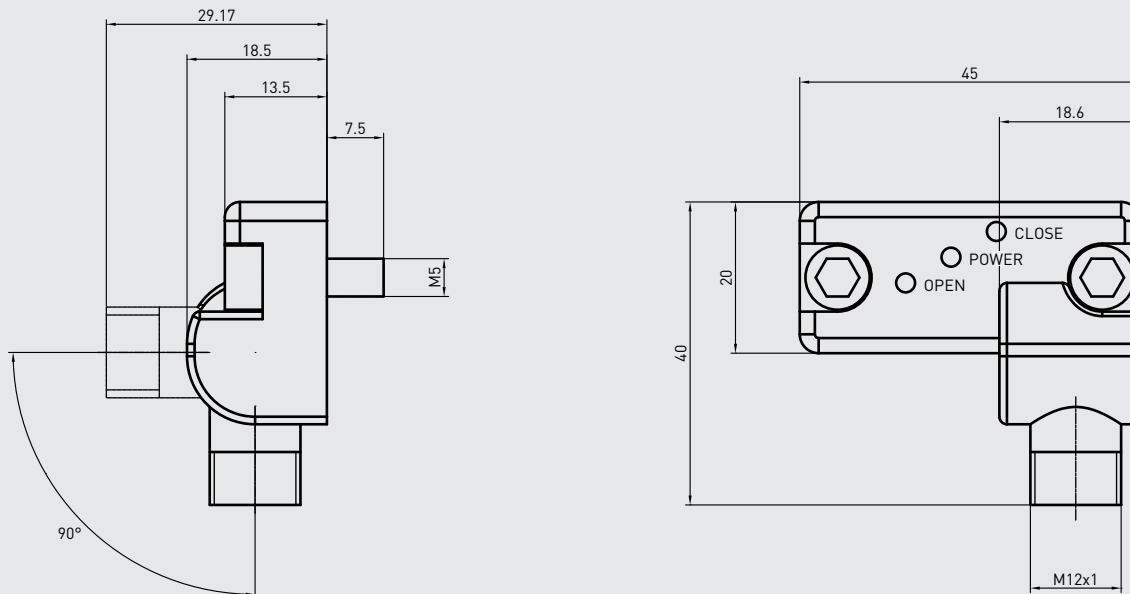
1 FOR ALL





INNOVATION DOWN TO THE LAST DETAIL

REV. 00 - 31/03/2015



## ES001

Electronic sensor  
with M12 swivel  
connector - PNP

### Technical features

Operating voltage	10-30 VDC
Voltage drop	≤ 2 V
Load current	≤ 100 mA
Current consumption	≤ 30 mA
Short-circuit protection	protected
Protection rating	IP68
Operating temperature	-0 °C +50 °C
Storage temperature	-25 °C +60 °C
Electromagnetic compatibility	EN 60947-5-2:2007 + A1:2012
Power supply indication	green LED
Open position indication	yellow LED
Closed position indication	red LED
Digital output type	PNP

Subject to change  
without notice

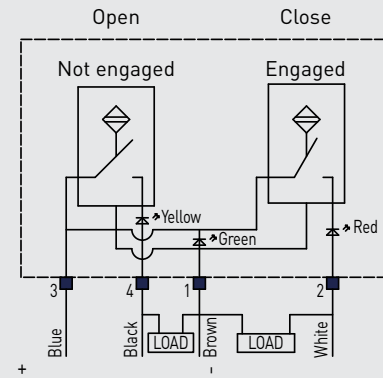
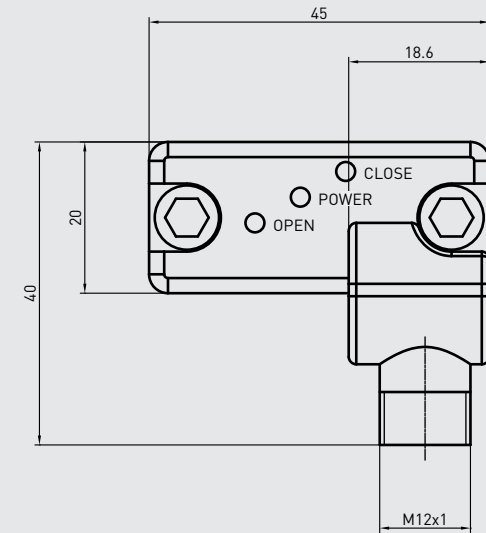
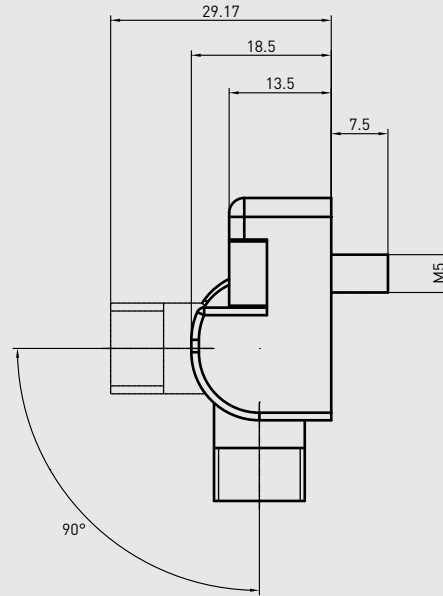


**ES002**  
Electronic sensor  
with M12 swivel  
connector - NPN

**Technical features**

Operating voltage	10-30 VDC
Voltage drop	≤ 2 V
Load current	≤ 100 mA
Current consumption	≤ 30 mA
Short-circuit protection	protected
Protection rating	IP68
Operating temperature	-0 °C +50 °C
Storage temperature	-25 °C +60 °C
Electromagnetic compatibility	EN 60947-5-2:2007 + A1:2012
Power supply indication	green LED
Open position indication	yellow LED
Closed position indication	red LED
Digital output type	NPN

Subject to change  
without notice

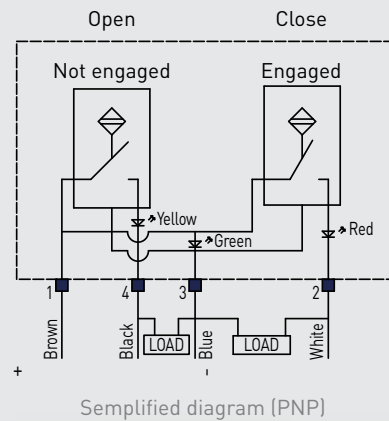
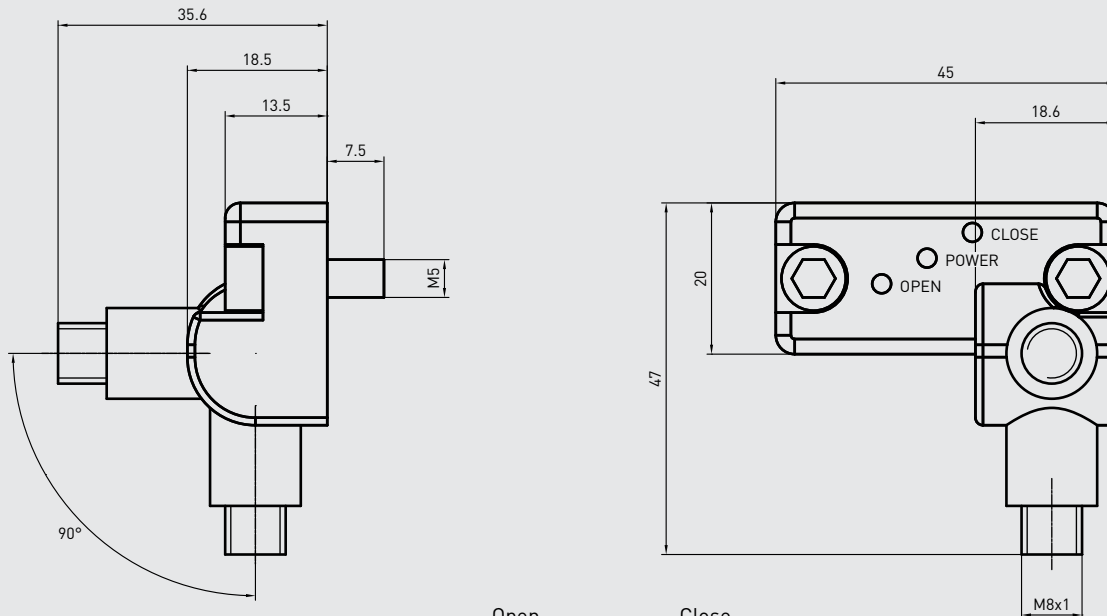


Simplified diagram (NPN)



INNOVATION DOWN TO THE LAST DETAIL

REV. 00 - 31/03/2015



Simplified diagram (PNP)

## ES003

Electronic sensor  
with M8 swivel  
connector - PNP

### Technical features

Operating voltage	10-30 VDC
Voltage drop	≤ 2 V
Load current	≤ 100 mA
Current consumption	≤ 30 mA
Short-circuit protection	protected
Protection rating	IP68
Operating temperature	-0 °C +50 °C
Storage temperature	-25 °C +60 °C
Electromagnetic compatibility	EN 60947-5-2:2007 + A1:2012
Power supply indication	green LED
Open position indication	yellow LED
Closed position indication	red LED
Digital output type	PNP

Subject to change  
without notice







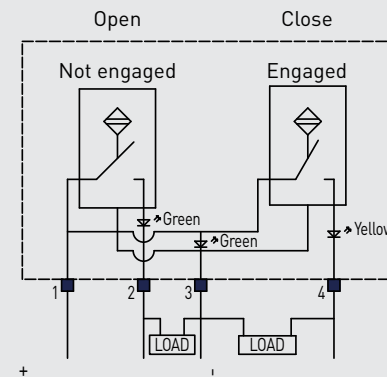
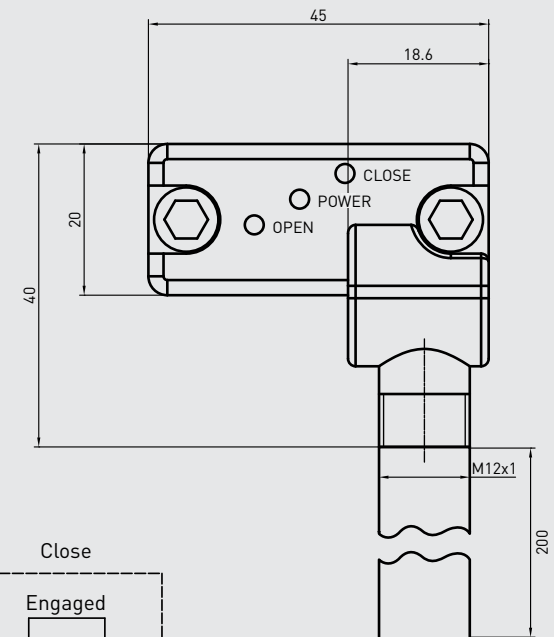
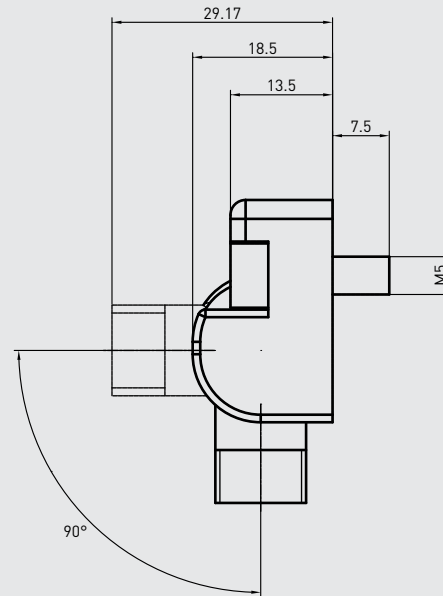
ES004

Electronic sensor with M12 swivel connector - PNP

Technical features

Operating voltage	10-30 VDC
Voltage drop	≤ 2 V
Load current	≤ 100 mA
Current consumption	≤ 30 mA
Short-circuit protection	protected
Protection rating	IP68
Operating temperature	-0 °C +50 °C
Storage temperature	-25 °C +60 °C
Electromagnetic compatibility	EN 60947-5-2:2007 + A1:2012
Power supply indication	green LED
Open position indication	green LED
Closed position indication	yellow LED
Digital output type	PNP

Subject to change without notice



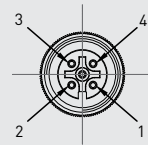
Simplified diagram (PNP)



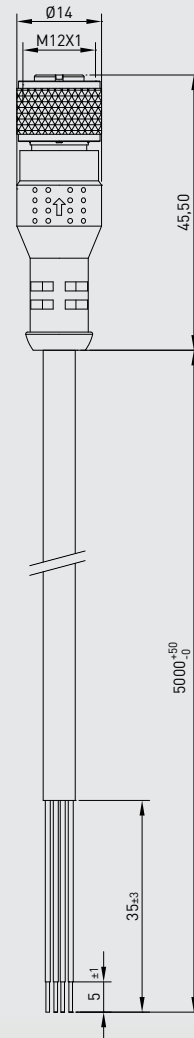
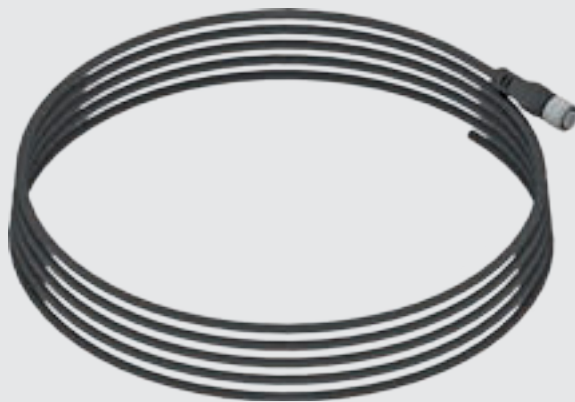
INNOVATION DOWN TO THE LAST DETAIL

\* DIMENSIONAL TOLERANCE FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE FOR THREADED HOLES:  $\pm 0.1$



REV. 00 - 03/04/2015



- BROWN ○ ——— (1)
- WHITE ○ ——— (2)
- BLUE ○ ——— (3)
- BLACK ○ ——— (4)



### Technical features

Connector features	
Product type	M12 circular connector with moulded cable
Connector type	Straight 180°
Contacts type	Female 4 poles
Number of contacts connected	4
Protection class	IP69K
Rated voltage	250V AC/DC
Rated current	4 A
Cable features	
Pneumax cable code	EC001-05
Numbers of conductors	4
Conductors section	0,34 mm <sup>2</sup> (AWG22)
Cable material	PUR UL style 21576  Us
Coating colour	Black
Conductors insulation material	TPO
Cable length	5000 mm
Stripping	35 mm Standard
Peeling and tinning	5 mm Standard
	High flex (class 6)

EC001-05

Subject to change without notice

## ORDERING STRING AUTO-RETAINING DEVICE

Optional: **auto-retaining** device  
for opening position



An extremely light device which maintains the clamping arm in its defined opening position in case of air loss. The AR-series has been designed for **maximum load capacity** and due to its compact dimensions, it can be used on the same side of the manual operation handle.

### VERSION

AR = Auto-retaining device

### SIZE

12 = Clamp's shaft 12 mm  
16 = Clamp's shaft 16 mm  
19 = Clamp's shaft 19 mm  
22 = Clamp's shaft 22 mm  
30 = Clamp's shaft 30 mm

PATENT  
PENDING



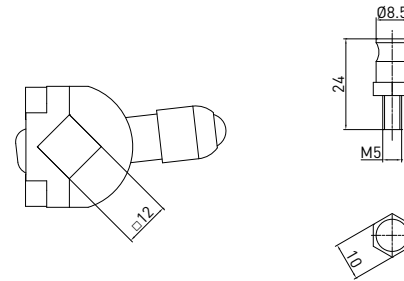
Subject to change  
without notice



INNOVATION DOWN TO THE LAST DETAIL

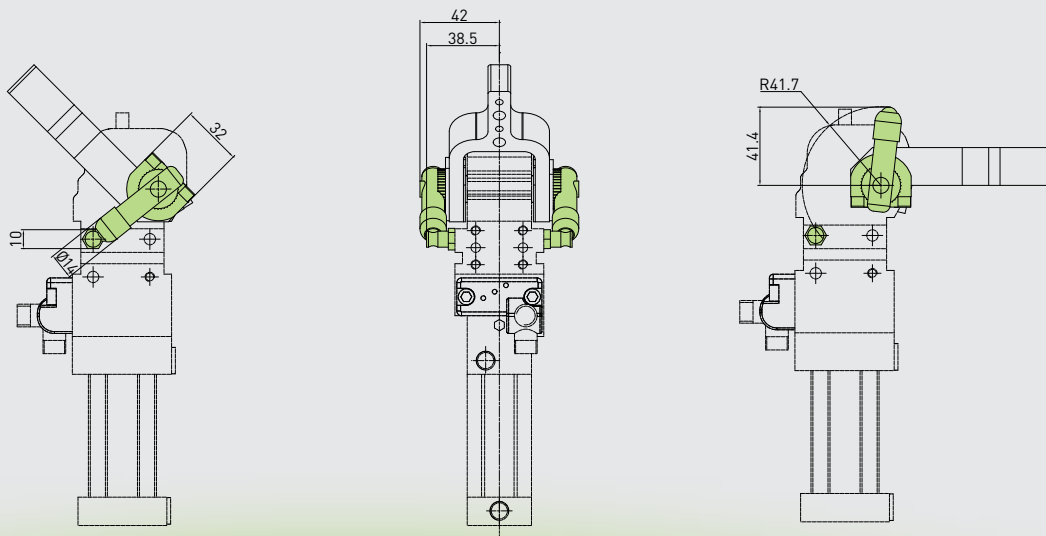
\* DIMENSIONAL TOLERANCE FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE FOR THREADED HOLES:  $\pm 0.1$   
REV. 00 - 17/02/2016

Auto-retaining device - Clamp's shaft 12 mm



AR12

Clamp's shaft 12 mm

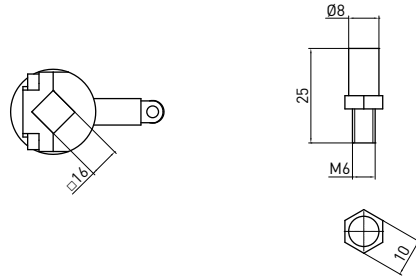


Subject to change  
without notice

# AR16

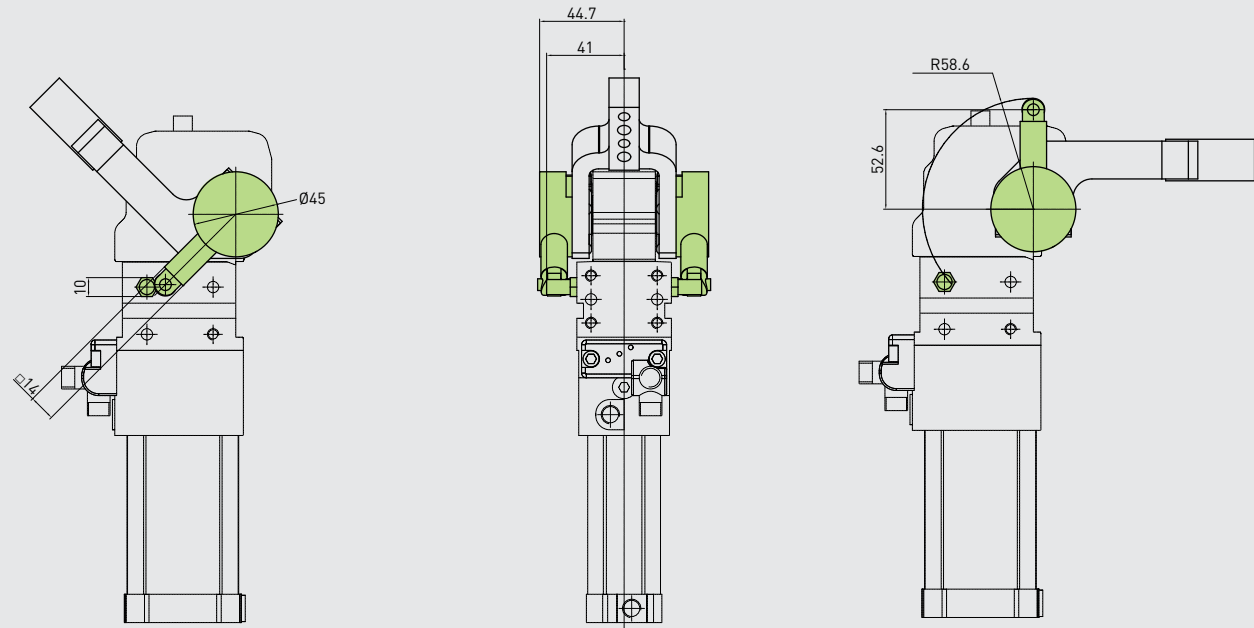
Clamp's shaft 16 mm

Auto-retaining device - Clamp's shaft 16 mm



\* DIMENSIONAL TOLERANCE FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE FOR THREADED HOLES:  $\pm 0.1$

REV. 00 - 16/02/2016



Subject to change  
without notice

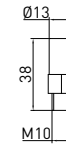
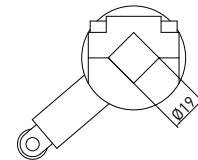


INNOVATION DOWN TO THE LAST DETAIL

\* DIMENSIONAL TOLERANCE FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE FOR THREADED HOLES:  $\pm 0.1$

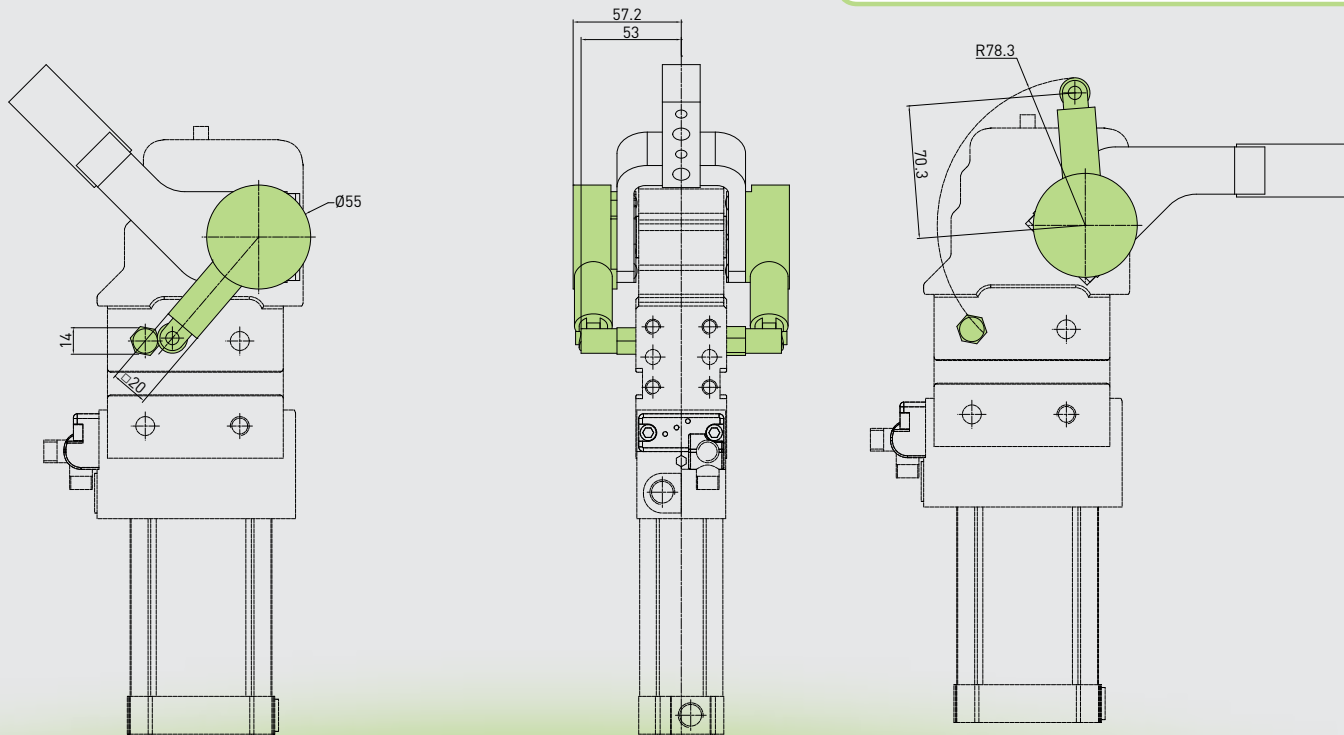
REV. 00 - 16/02/2016

Auto-retaining device - Clamp's shaft 19 mm



AR19

Clamp's shaft 19 mm



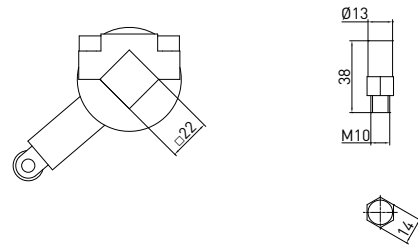
Subject to change  
without notice



AR22

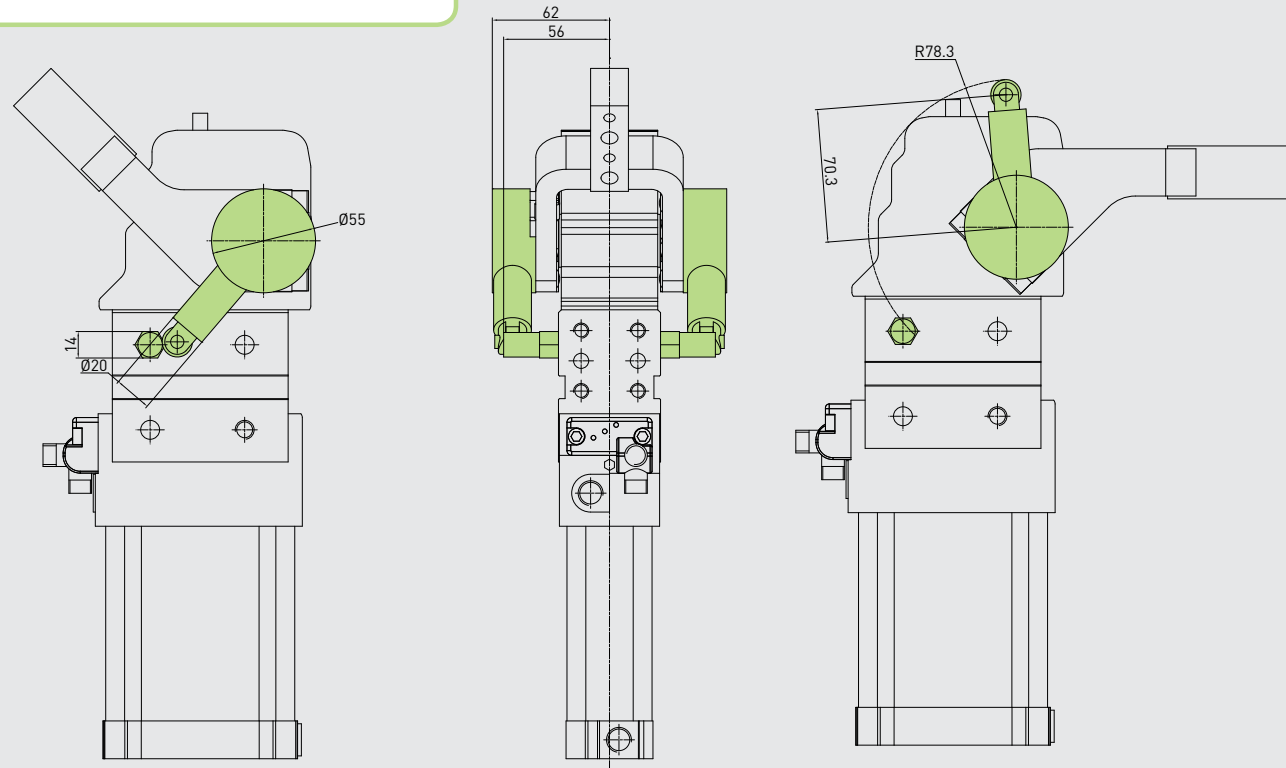
Clamp's shaft 22 mm

Auto-retaining device - Clamp's shaft 22 mm



\* DIMENSIONAL TOLERANCE FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE FOR THREADED HOLES:  $\pm 0.1$

REV. 00 - 16/02/2016



Subject to change  
without notice



## SPECIAL DESIGN PRODUCTS

INNOVATION DOWN TO THE LAST DETAIL

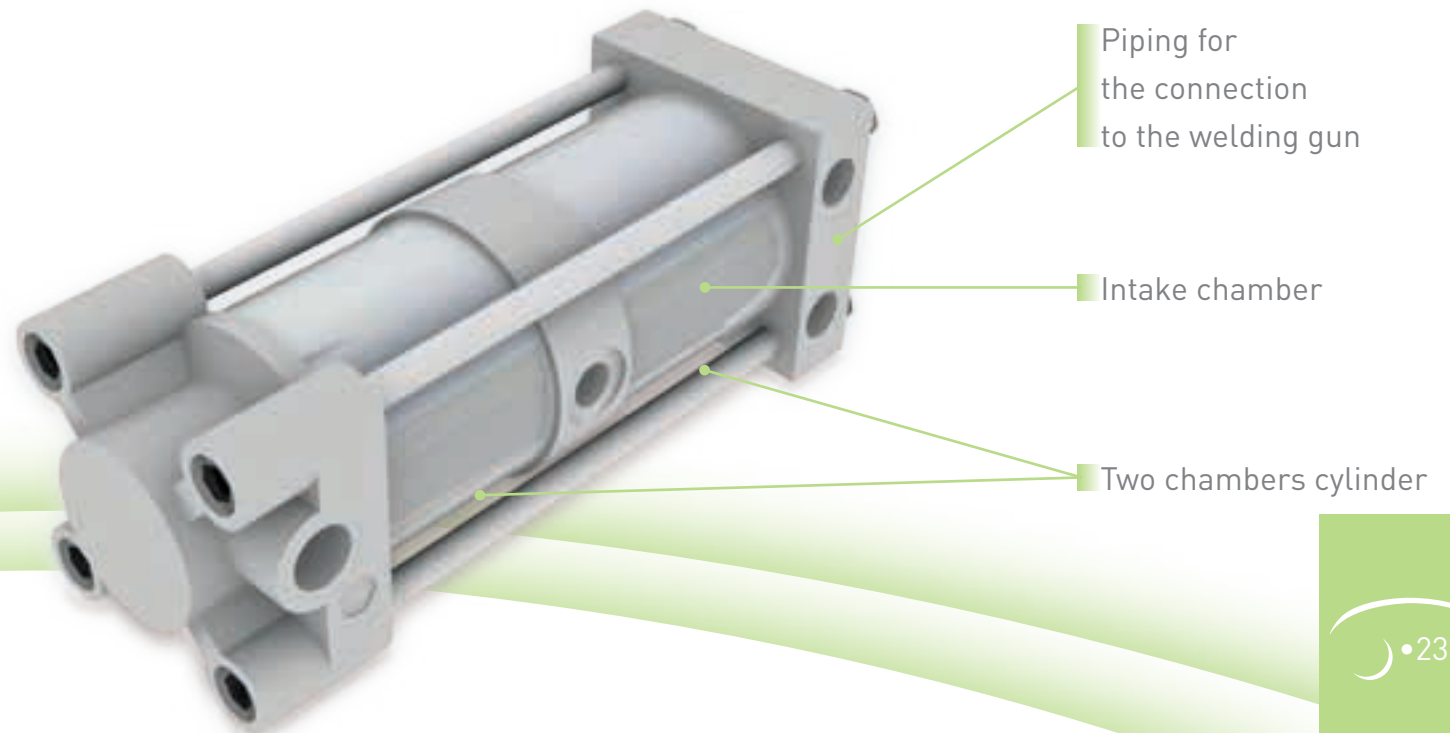
### CUSTOMIZED SPECIAL DESIGN PRODUCTS:

**PNEUMAX** engineering department will analyse every request for any specific application and will adapt or develop new components to meet the customer's needs. Get in touch with us!

## Cooling water intake cylinder for welding guns' electrodes replacement

The capacity of the intake chamber is 0.1 l.

The cylinder can be mounted to the service panel (RIP) for automated welding.

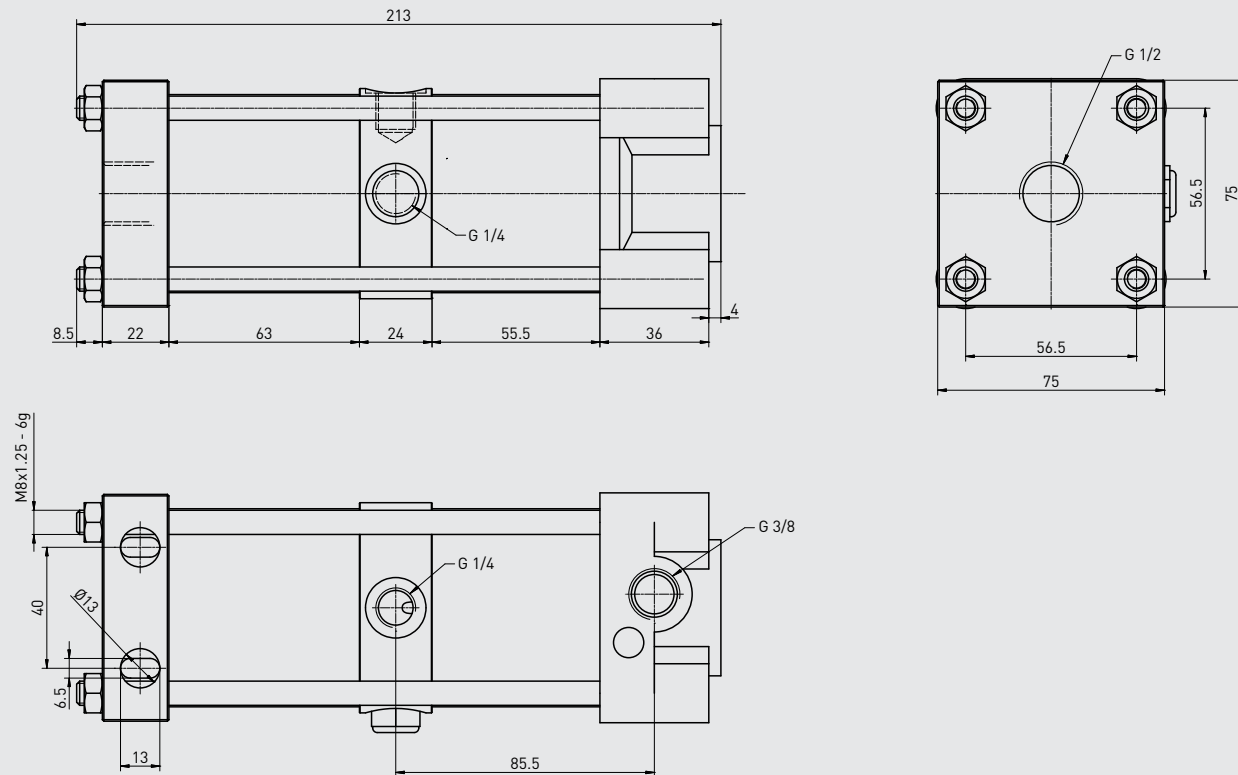


Not suitable for manual welding operations



# PCY0050

Cooling water intake cylinder



Subject to change  
without notice

WHY  
PNX

## ECOLIGHT CYLINDERS WITH RODSCRAPERS

INNOVATION DOWN TO THE LAST DETAIL



Ecolight cylinders according to ISO 15552 standard with **integrated metal rodscraper**.

Permanent protection of the piston rod against welding debris particles: the metallic wiper constantly wipes any welding deposits off the piston rod.

The seal is made of a special FKM-based elastomer with approx. 81 shore hardness.

**1390 050 0400 01R**

### Series

1390

### Diameter

32  
40  
50  
63  
80

### Stroke

From 0 to 150 mm = every 25 mm  
From 150 to 500 mm = every 50 mm  
From 500 to 1000 mm = every 100 mm

### Specification

01R = chromed rod; with metal rodscraper



\* DIMENSIONAL TOLERANCE FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE FOR THREADED HOLES:  $\pm 0.1$

REV. 00 - 03/04/2015

### Ecolight cylinders

<b>Bore</b>	32	40	50	63	80	100	125	160	200	
<b>AM</b>	22	24	32	32	40	40	54	72	72	
<b>B (d11)</b>	30	35	40	45	45	55	60	65	75	
<b>BG</b>	16	16	18	18	16	16	21	25	25	
<b>E</b>	47	54	65	76	95	113	138	180	216	
<b>EE</b>	G1/8"	G1/4"	G1/4"	G3/8"	G3/8"	G1/2"	G1/2"	G3/4"	G3/4"	
<b>G</b>	29.5	33	32	36	38.5	41.5	48	49	49	
<b>KK</b>	M10x1.25	M12x1.25	M16x1.5	M16x1.5	M20x1.5	M20x1.5	M27x2	M36x2	M36x2	
<b>KV</b>	17	19	24	24	30	30	41	55	55	
<b>KW</b>	6	7	8	8	9	9	12	18	18	
<b>L2</b>	19	22	29	29	35	36	45	50	60	
<b>L3</b>	4	4	5	5	/	/	/	/	/	
<b>L8</b>	94	105	106	121	128	138	160	180	180	
<b>MM</b>	12	16	20	20	25	25	32	40	40	
<b>PL</b>	13	16	18	18	16	18	25	26	25	
<b>PM</b>	3	4	5	4.5	2.5	6	8	11	11	
<b>RT</b>	M6	M6	M8	M8	M10	M10	M12	M16	M16	
<b>SW</b>	10	13	17	17	22	22	27	36	36	
<b>TG</b>	32.5	38	46.5	56.5	72	89	110	140	175	
<b>VA</b>	4	4	4	4	4	4	6	6	6	
<b>VB</b>	33	41	51	51	65	71	75	70	75	
<b>VD</b>	4	4	4	4	4	4	6	6	6	
<b>VF</b>	12	12	16	16	20	20	25	30	30	
<b>VG</b>	48	54	69	69	86	91	119	152	167	
<b>WH</b>	26	30	37	37	46	51	65	80	95	
<b>Weight (g)</b>	<b>Stroke 0</b>	460	650	1,030	1,360	2,180	2,890	5,700	11,200	14,900
	<b>every 10 mm</b>	23	32	45	49	75	81	130	195	245

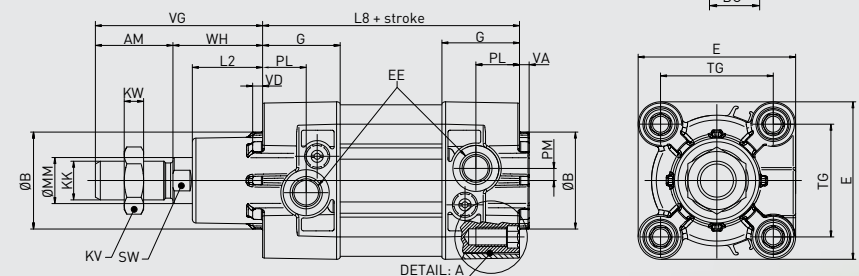
Subject to change without notice

### Product features

<b>End plates</b>	Die-casting aluminum
<b>Rod</b>	C43 chromed steel
<b>Barrel</b>	Anodised aluminum alloy
<b>Rod-guide bushing</b>	Spheroid bronze on steel band with P.T.F.E. coat
<b>Seals</b>	Standard: NBR oil resistant rubber, PUR piston rod seals (PUR seals available upon request)
<b>Cushion adjusting screws</b>	Brass

### Technical features

<b>Fluid</b>	Filtered and preferably lubricated air (if lubricated the lubrication must be continuous)
<b>Max. pressure</b>	10 bar

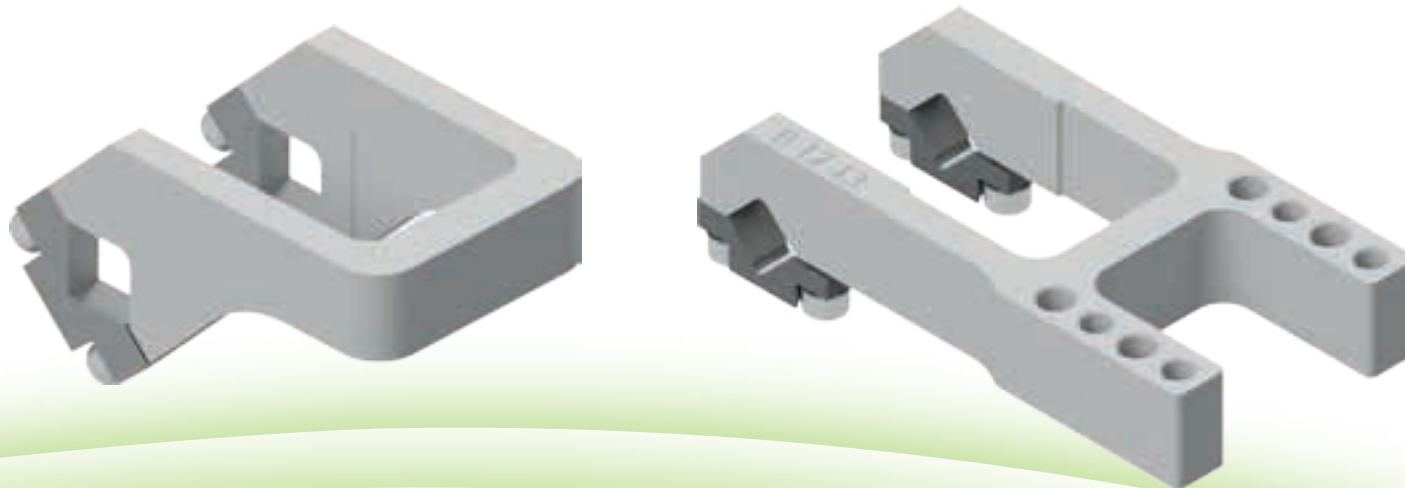




## SPECIAL ARM TYPES

INNOVATION DOWN TO THE LAST DETAIL

- Thanks to manufacturing process of profile extrusion, Pneumax responds reactively to customers' specific requirements.
- Different offsets and different heights can be obtained from the same profile, without the need of a different mold.



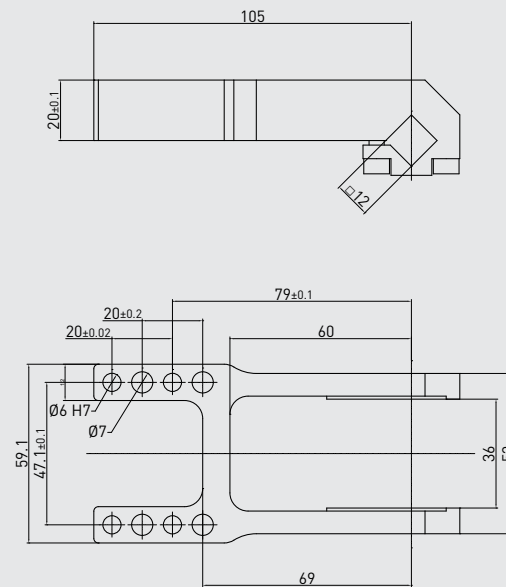
PATENT  
PENDING

## CLAMPING ARMS

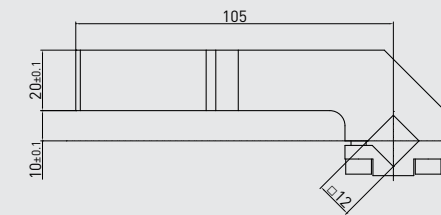
12 mm shaft

for clamps' size 25 mm  
and size 32 mm

Left & right clamping  
surfaces



B1213  
for size 25 mm and size 32 mm



B1214  
for size 25 mm and size 32 mm

\* DIMENSIONAL TOLERANCE FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE FOR THREADED HOLES:  $\pm 0.1$

REV. 00 - 12/04/2017

### 12 mm shaft - 25 mm offset

PART NO.	MATERIAL	VERSION	WEIGHT (kg)	MAX OP. ANGLE POS. 1	MAX OP. ANGLE POS. 2	MAX OP. ANGLE POS. 3	MAX OP. ANGLE POS. 4
B1213	Aluminum	H	0.163	135°	115°	N/A	45°

Screws: M5x14 Tightening torque: 5 N m / 3.68 lb ft

### 12 mm shaft - 25 mm offset

PART NO.	MATERIAL	VERSION	WEIGHT (kg)	MAX OP. ANGLE POS. 1	MAX OP. ANGLE POS. 2	MAX OP. ANGLE POS. 3	MAX OP. ANGLE POS. 4
B1214	Aluminum	H	0.173	135°	115°	N/A	45°

Screws: M5x14 Tightening torque: 5 N m / 3.68 lb ft

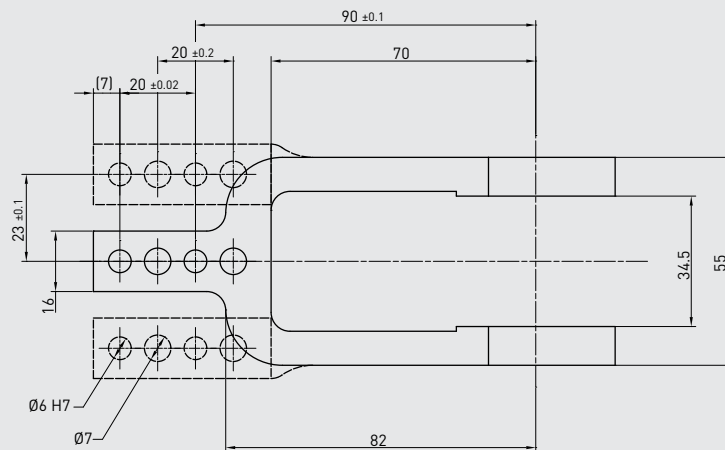
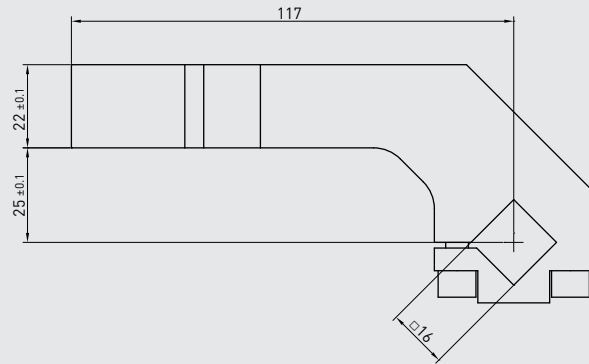
Subject to change  
without notice



INNOVATION DOWN TO THE LAST DETAIL

\* DIMENSIONAL TOLERANCE FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE FOR THREADED HOLES:  $\pm 0.1$

REV. 00 - 12/05/2017



## CLAMPING ARMS

16 mm shaft

25 mm offset for clamps' size 40 mm

### 16 mm shaft - 25 mm offset

PART NO.	MATERIAL	VERSION	WEIGHT (kg)	MAX OP. ANGLE POS. 1	MAX OP. ANGLE POS. 2	MAX OP. ANGLE POS. 3	MAX OP. ANGLE POS. 4
B1621	Aluminum	Central	0.25	135°	135°	N/A	45°
B1622	Aluminum	Right	0.25	135°	135°	N/A	45°
B1623	Aluminum	Left	0.25	135°	135°	N/A	45°

Screws: M6x20 Tightening torque: 10 N m /7.37 lb ft

Subject to change without notice

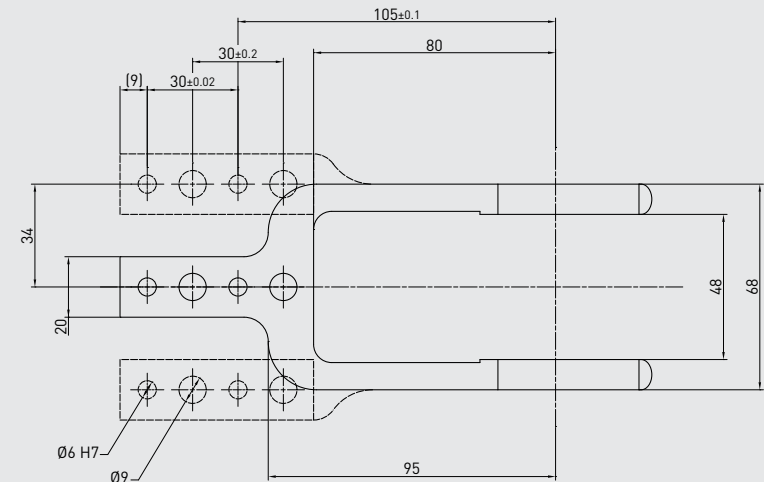
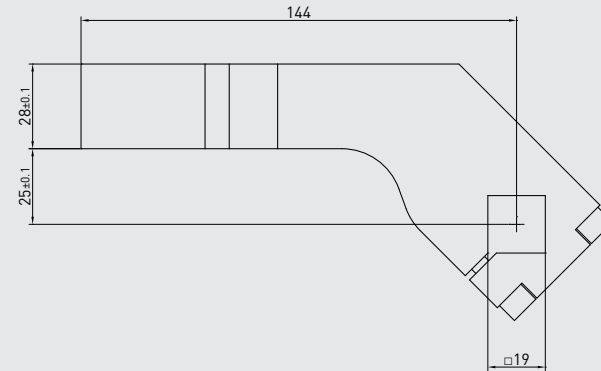
## CLAMPING ARMS

19 mm shaft

25 mm offset for  
clamps' size 50 mm

\* DIMENSIONAL TOLERANCE FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE FOR THREADED HOLES:  $\pm 0.1$

REV. 00 - 12/05/2017



### 19 mm shaft - 25 mm offset

PART NO.	MATERIAL	VERSION	WEIGHT (kg)	MAX OP. ANGLE POS. 1	MAX OP. ANGLE POS. 2	MAX OP. ANGLE POS. 3	MAX OP. ANGLE POS. 4
B1921	Aluminum	Central	0.43	135°	115°	135°	80°
B1922	Aluminum	Central	0.44	135°	115°	135°	80°
B1923	Aluminum	Central	0.44	135°	115°	135°	80°

Screws: M6x25 Tightening torque: 10 N m / 7.37 lb ft

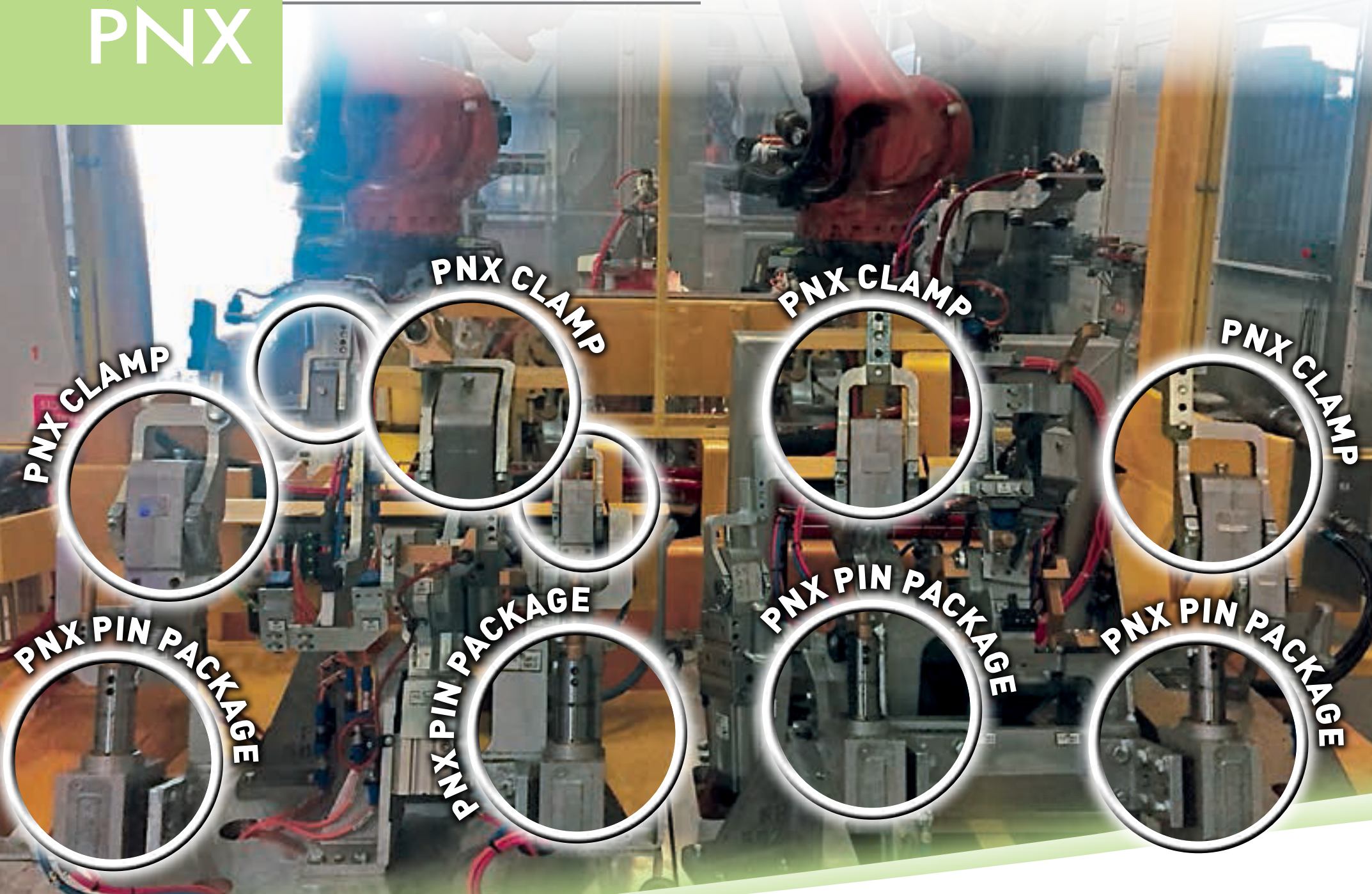
Subject to change  
without notice





# WHY PNX

## CLAMPS AT WORK!



PNX CLAMP

PNX CLAMP

PNX CLAMP

PNX CLAMP

PNX PIN PACKAGE

PNX PIN PACKAGE

PNX PIN PACKAGE

PNX PIN PACKAGE



**PNX CLAMP**



**PNX CLAMP**



**PNX CLAMP**



**PNX CLAMP**



**PNX CYLINDER**



**PNX CYLINDER**



**PNX VALVE MANIFOLD**



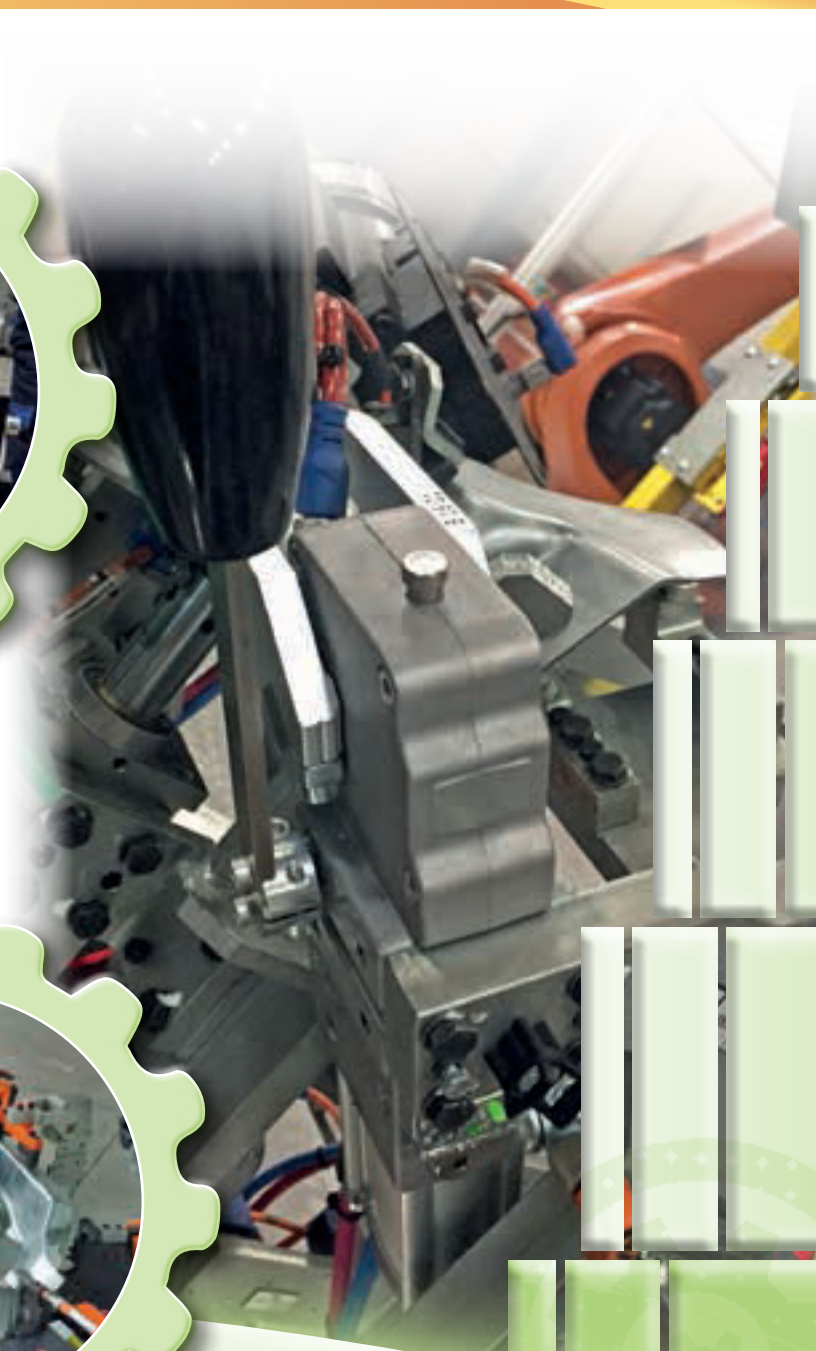
**PNX PRESSURE REGULATOR**



WHY  
PNX

CLAMPS AT WORK!





# WHY PNX

## PRINTED DOCUMENTATION





C\_X SERIES

 clamping

C-series	C1	C2
	25 = Ø 25 mm	50 = Ø 50 mm
	32 = Ø 32 mm	63 = Ø 63 mm
	40 = Ø 40 mm	80 = Ø 80 mm
	50 = Ø 50 mm	
	63 = Ø 63 mm	
	80 = Ø 80 mm	

K-series	K1	K2
	40 = Ø 40 mm	50 = Ø 50 mm
	50 = Ø 50 mm	63 = Ø 63 mm
	63 = Ø 63 mm	80 = Ø 80 mm
	80 = Ø 80 mm	

HE-series	HE1	HE2
	0 = size 40 mm	1 = size 50 mm
	1 = size 50 mm	2 = size 63 mm
	2 = size 63 mm	3 = size 80 mm
	3 = size 80 mm	

 handling

J-series
40 = Ø 40 mm

JK-series
40 = Ø 40 mm

 locating

R-series	Volvo
32 = Ø 32 mm	50 = Ø 50 mm
50 = Ø 50 mm	63 = Ø 63 mm
63 = Ø 63 mm	

RC-series
50 = Ø 50 mm
63 = Ø 63 mm

HP-series
50 = Ø 50 mm

F-series
40 = Ø 40 mm mounting pattern 35x25 mm
41 = Ø 40 mm mounting pattern 30x25 mm
63 = Ø 63 mm

 pivoting

P-series
80 = Ø 80 mm
100 = Ø 100 mm
125 = Ø 125 mm

 accessories

- Shims
- Spacers
- Sensors
- Sensor cables
- Auto-retaining devices
- Special design products
- Ecolight cylinders with rodscrapers
- Special arm types

**PNEUMAX S.p.A.**

**Headquarters:**

Via Cascina Barbellina, 10  
24050 Lurano (BG), Italy

Tel. +39 035 41 92 777

Fax.+39 035 41 92 740

e-mail: [automotive@pneumaxspa.com](mailto:automotive@pneumaxspa.com)

For further technical details, please visit us at:  
[www.pneumaxspa.com/automotive](http://www.pneumaxspa.com/automotive)









## WIDE PRODUCT PORTFOLIO FOR AUTOMOTIVE

For further technical details, please visit us at:

[www.pneumaxspa.com](http://www.pneumaxspa.com)



### PNEUMAX S.p.A.

#### Headquarters:

Via Cascina Barbellina, 10

24050 Lurano (BG), Italy

Tel. +39 035 41 92 777

Fax. +39 035 41 92 740

e-mail: [automotive@pneumaxspa.com](mailto:automotive@pneumaxspa.com)