



pneumatic  
actuators



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## MOUNTING KITS, ELECTRIC ACTUATORS AND ELEMENTS OF REGULATION AND CONTROL

# MECÁNICA *Prisma* S.L

The brand name of Prisma actuators has become well-known all around the world and is now a point of reference in this industry because of the robustness and reliability of its products. This success relies on continuously improving the quality and enhancing the development of our products and also to tailoring our service to meet the individual requirements of every one of our customers.

Since it was founded in 1980, Prisma has grown remarkably. In recent times our mechanical know-how as well as our extensive technical knowledge has evolved to offer complete solutions in the automation of valves to control the process of fluid conduction.

Mecánica Prisma develops four pneumatic actuator ranges, according to different environments of application: Aluminium, Stainless Steel, Polyamide and for High Temperatures. All manufactured according to international norms.

Mecánica Prisma is accredited by quality norm, ISO-TS 29001, API Q1 and 65% of its production is exported to more than 45 countries worldwide.



ISO-TS 29001 / API Q1

Prisma offers a wide range of products for valve automation including pneumatic actuators, electric actuators and elements of regulation and control: solenoid valves, limit switch boxes, positioners, travel stops, declutchable gearboxes, handwheels, etc.

All actuators can be mounted onto any kind of valve, due to the wide range of mounting kits that Prisma develops and produces.

Prisma pneumatic actuators are available in double acting and spring return, covering a torque range from 17Nm to 65.000Nm at 6 bar. Industrial applications: Chemical, Nuclear, Electronics, Automotive, Food and Beverage, Pharmaceutical; and other sectors such as Iron and Steel, Power Plants, Water Treatment, Oil & Gas, Off-Shore plants, etc.



# CERTIFICATIONS



ISO-TS 29001 / API Q1



IEC-61508-SIL



PED-PA60-PA70-BV



TAC-DNV



PH-94007802-LGAI



ATEX-LOM



ATEX-LOM-PA



TR CU CERTIFICATE

# ALUMINIUM PNEUMATIC ACTUATORS

## TECHNICAL FEATURES

### Rotation Angle and Torques

Aluminium actuators, 0°-90° or 0°-180° rotation angle to pilot ball, butterfly and plug valves. Broad range of actuators, both Double Acting and Spring Return, from 17Nm to 5000 Nm at 6 bar.

### INTERNALLY AND EXTERNALLY COATED BY CATAPHORESIS + RILSAN®

Manufactured with materials resistant to oxidation. Silicone free.

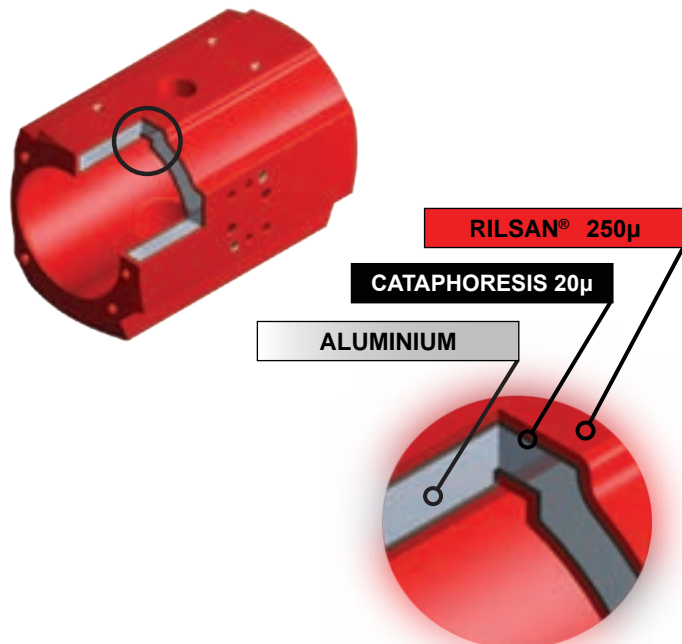
**DOUBLE CORROSION RESISTANCE** guaranteed.

#### CATAPHORESIS

Electrochemical process that provides high corrosion resistance by means of 20 microns of uniform epoxy resin surface

#### RILSAN®

Polyamide 11 coating (250 microns). Offers high resistance to corrosion, wearing and impacts.



**Resistance to Saline Smog Room:**  
B-117-73 > 1000h.

17Nm

### Pressure

May be actioned with air or any nonaggressive fluid up to 8 bar pressure.

### Normal Working Temperature

-32°C to +90°C

On demand: - Low temp. (-55°C to +80°C)  
- High temp. (-30°C to +120°C)

### Spring Security System

Spring Security System, making manipulation and mounting easy and safe.

All components are protected against corrosion.



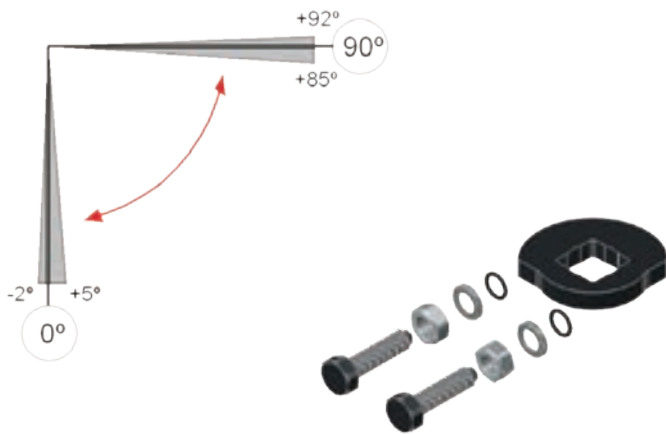
### Elements of Regulation and Control

May be equipped with limit switches, solenoid valve, positioner and manual override by wheel or declutchable gearbox.



## Stroke Adjustments

External stroke adjustments to regulate opening (+85° to +92°) and closing (-2° to +5°) of the valve, both in double acting and spring return. Predominately used in butterfly valves, to adjust closing of the disc.



## Visual Indicator

New visual indicator for PA00 to PA30, with four indicating positions. Cam position indicator for mechanical drive.



PA00 - PA30



P40 - PA70



## Mounting Kits

Broad range of couplings for any kind of valve adaptation.

## Directives

Conforming to all International Directives: ISO, DIN, NAMUR, VDI/VDE, ATEX, CE, DNV, PCT.

NAMUR Pneumatic connection for solenoid valve installation

VDI/VDE 3845 norms fixator to mount accessories.

Conforms to ISO-5211 and DIN-3337 specifications for easy mounting of most of the valves.

Prisma Pneumatic Actuators are manufactured under the requirements of DEP 2014-68-EU and ATEX 94-9-EC (EXII2GDc IP67 T6) Directives.

IEC 61508: SIL Certificate.

## Applications

Designed for a wide range of Industrial applications: Chemical, Nuclear, Electronics, Automotive, Food and Beverage, Pharmaceutical; and other sectors such as Iron and Steel, Power Plants, Water Treatment, Oil & Gas, Off-Shore plants, etc.



5000Nm



# ALUMINIUM PNEUMATIC ACTUATORS

## PA RANGE

### SHAFT

Shaft End according to:  
VDI/VDE 3845 (NAMUR).

### STROKE ADJUSTMENTS

Standard for all models except PAW.  
The two independent external travel  
stop adjustment bolts can adjust  
 $\pm 2^{\circ}/-5^{\circ}$  in both open and close directions.

### END CAPS

Stainless steel bolt fastening.  
Same cap for double acting  
and spring return models.

### SPRINGS

Preloaded spring with security system,  
allowing the ability to interchange the  
springs.

### PISTONS

CATAPHORESIS COATED  
Wearing strips in pistons, allowing  
low friction and long life of the actuator.

### BODY AND CAPS

Double external and internal coating  
(Cataphoresis + Rilsan  
or Polyurethane (caps)),  
double corrosion resistance.

### PNEUMATIC CONNECTION PLATE

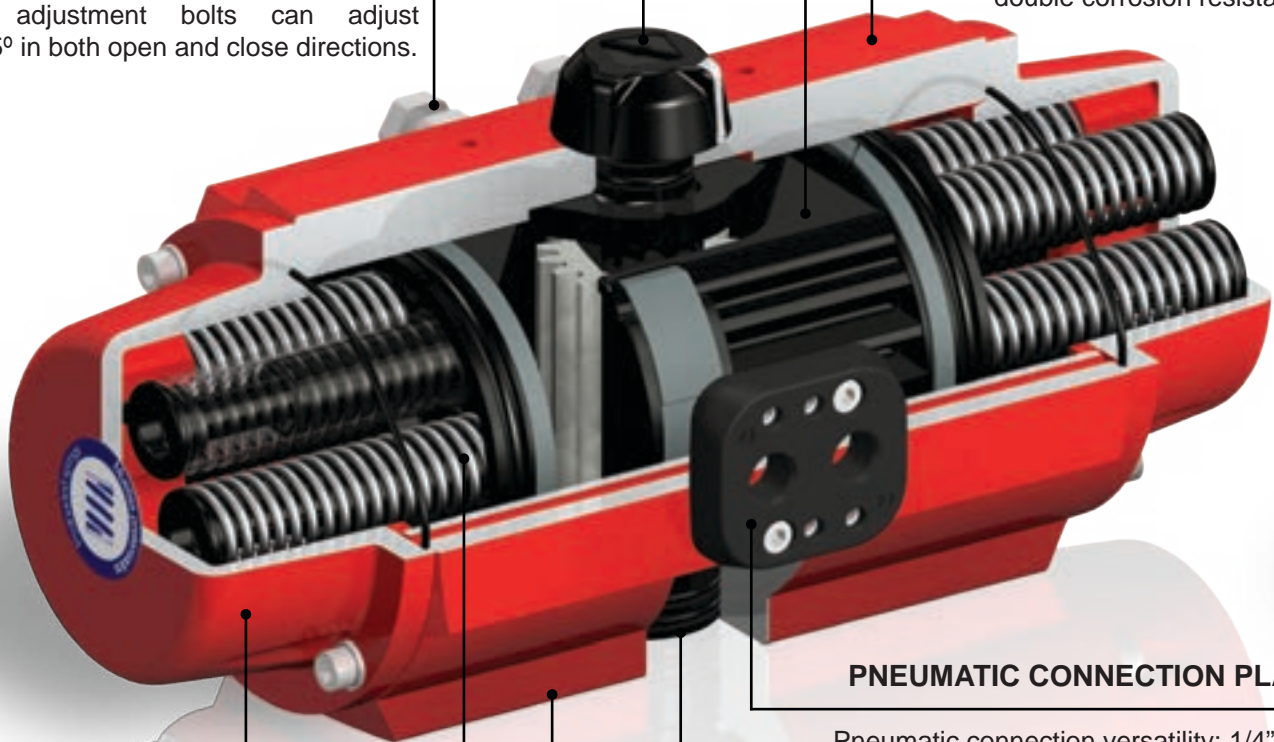
Pneumatic connection versatility: 1/4" BSP  
(Options: 1/4" NPT and AISI-316 material).  
Dimensions according to  
VDI/VDE 3845 (NAMUR)

### SHAFT

Double o-ring.  
Shaft exit: ISO-5211.  
Option: Aisi-303 Stainless Steel.

### VALVE FIXATION

ISO-5211 Double Norm in all models.





**SHAFT**

Shaft End according to:  
VDI/VDE 3845 (NAMUR)

**STROKE ADJUSTMENTS**

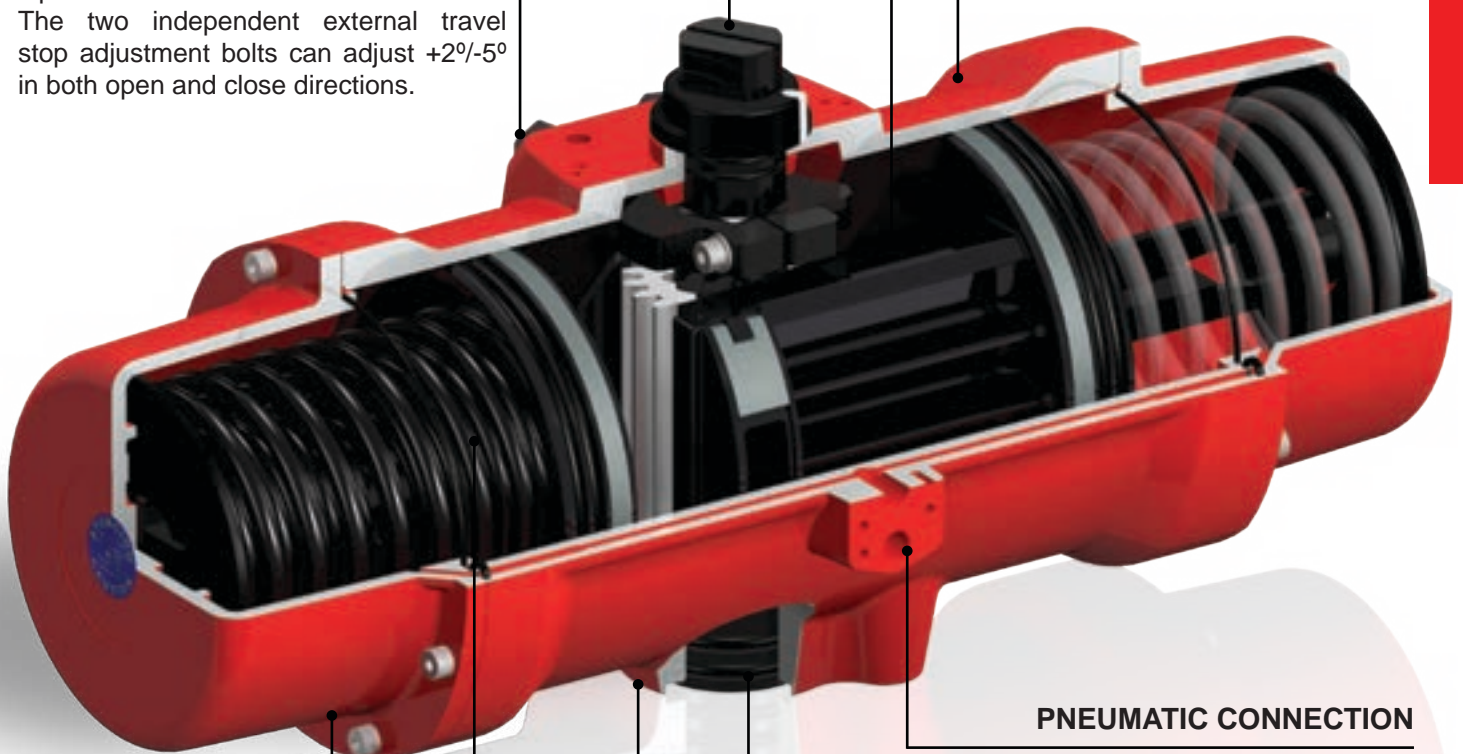
Optional for P40 actuator.  
The two independent external travel  
stop adjustment bolts can adjust  $+2^{\circ}/-5^{\circ}$   
in both open and close directions.

**PISTONS**

Wearing strips in pistons, allowing  
low friction and long life of the actuator.

**BODY AND CAPS**

Double external and internal coating  
(Cataphoresis + Rilsan),  
double corrosion resistance.



**CAPS**

Stainless steel bolt fastening.  
Different cap for double acting  
and spring return models.

**SPRINGS**

Concentric spring set, with  
security system as an option.

**PNEUMATIC CONNECTION**

Pneumatic connection 1/4" BSP  
Dimensions according to  
VDI/VDE 3845 (NAMUR).

**SHAFT**

Double o-ring.  
Shaft exit: ISO-5211.

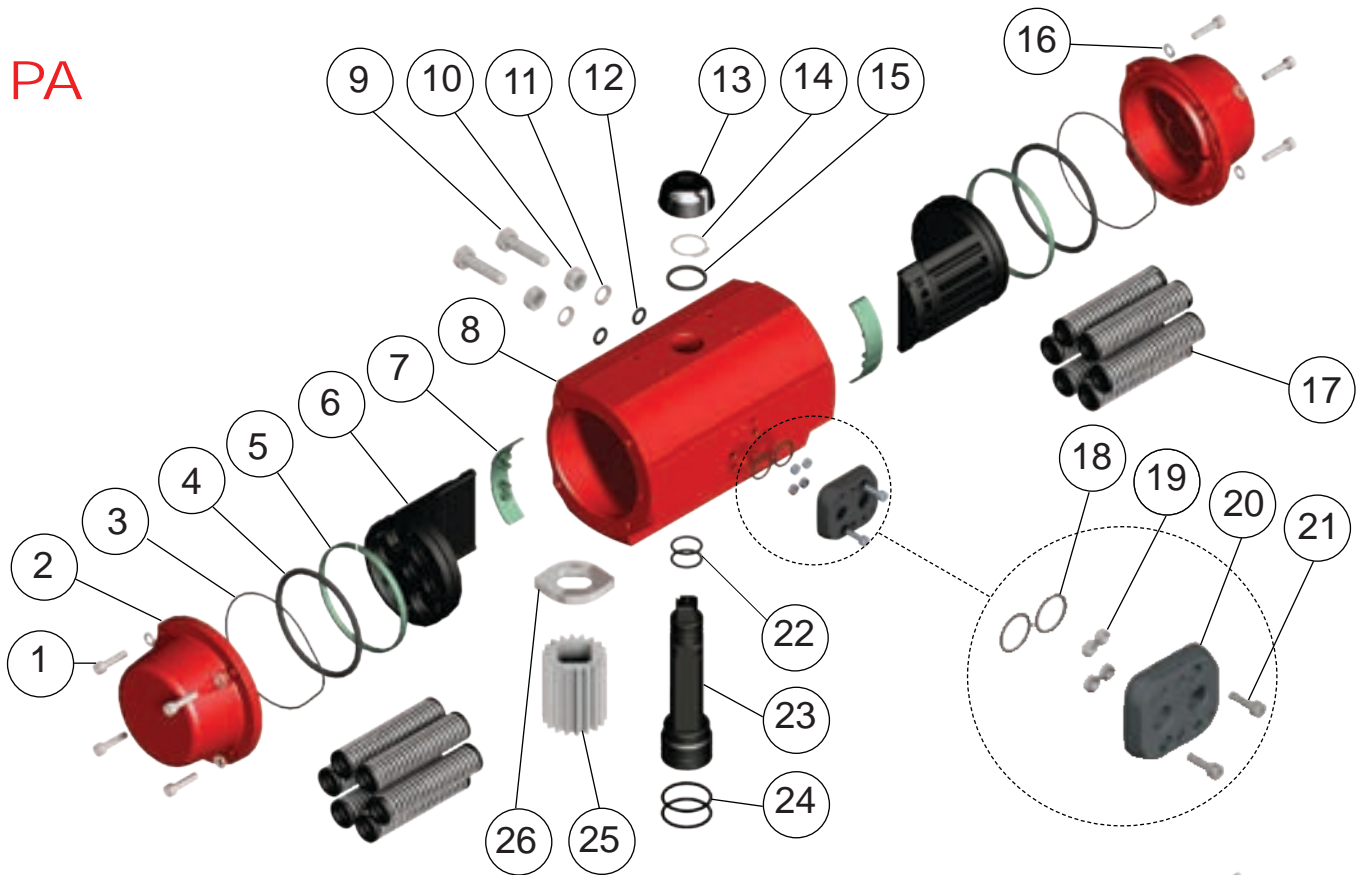
**VALVE FIXATION**

ISO-5211 Norm in all models.

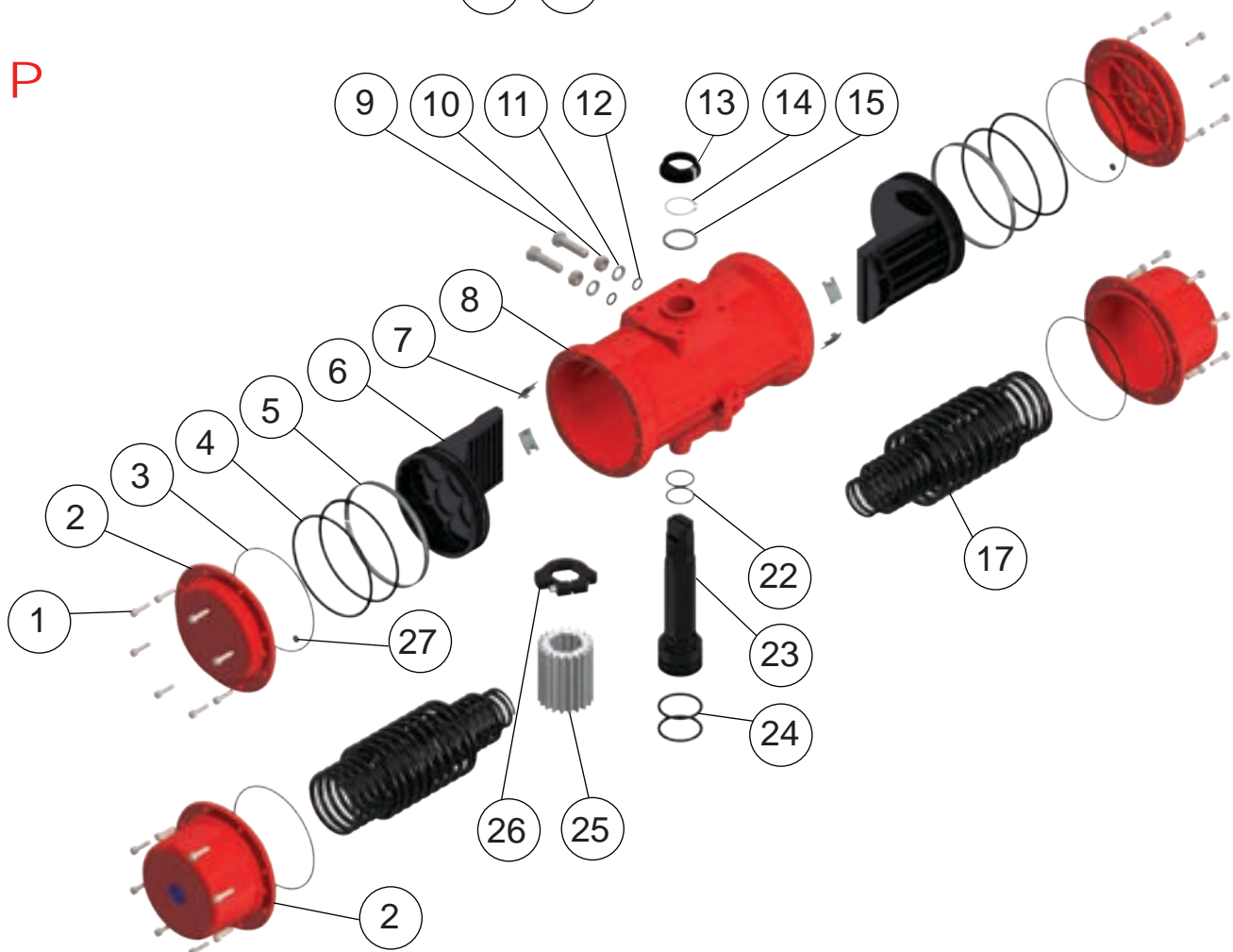
# ALUMINIUM PNEUMATIC ACTUATORS

## DISASSEMBLY AND MATERIALS

PA



P



N°	DESCRIPTION	QUANT.	MATERIAL	SURFACE FINISH
1	CAP SCREW	8-12-16-20	AISI-304 SS	-
2	CAP	2	ALUMINIUM ALLOY	CATAPHORESIS+POLYURETHANE <sup>(6)</sup> /CATAPHORESIS+RILSAN <sup>(6)</sup>
3	CAP O-RING	2 - 4	N.B.R.	-
4	PISTON O-RING	2	N.B.R.	-
5	GUIDE RING	2	POM <sup>(1)</sup> / PTFE+GRAPHITE <sup>(6)</sup>	-
6	PISTON	2	ALUMINIUM ALLOY <sup>(3)</sup>	CATAPHORESIS COVERED (PA00 to PA50)
7	PISTON GUIDE	2 - 4	POM <sup>(4)</sup> / PTFE+GRAPHITE <sup>(2)</sup> / NYLON <sup>(7)</sup>	-
8	CYLINDER	1	ALUMINIUM ALLOY	CATAPHORESIS + RILSAN COVERED
9	HEXAGONAL SCREW	2	AISI-304 SS <sup>(10)</sup> / STEEL <sup>(6)</sup>	TRIVALENT Cr PASSIVATION (P40 to PA70)
10	NUT	2	AISI-304 SS	-
11	BUSHING	2	AISI-316 SS <sup>(5)</sup> / AISI-304 SS <sup>(6)</sup>	-
12	O-RING	2	N.B.R.	-
13	POSITION INDICATOR	1	POLYAMIDE	-
14	SPRING CLIP	1	STAINLESS STEEL <sup>(6)</sup> / STEEL <sup>(9)</sup>	NIQUEL-P.T.F.E COVERED <sup>(9)</sup>
15	BUSHING	1	POLYACETAL <sup>(1)</sup> / POLYAMIDE 6 <sup>(6)</sup>	-
16	CAP WASHER <sup>(9)</sup>	8-12-16-20	AISI-304 SS	-
17	SPRING SET	0-12	DIN-17223-C	TRIVALENT Cr PASSIVATION / CATAPHORESIS (PA25 to PA70)
18	PLATE O-RING	2	N.B.R.	-
19	NUT	4	AISI-304 SS	-
20	PNEUMATIC CONNECTION PLATE	1	POLYAMIDE+FG / CF8M(PA50 to PA70)	-
21	PLATE ALLEN SCREW	2	AISI-304 SS	-
22	SHAFT O-RING	2	N.B.R.	-
23	SHAFT	1	STEEL / POLYAMIDE (PAW)	CATAPHORESIS COVERED (except PAW)
24	SHAFT O-RING	2	N.B.R.	-
25	GEAR	1	ALUMINIUM ALLOY	BALL BURNISHING
26	CAM	1	STEEL	CATAPHORESIS COVERED
27	WATERTIGHT PLANE GASKET	2	N.B.R.	-

<sup>(1)</sup> PAW to PA30

<sup>(2)</sup> PA50 and PA60

<sup>(3)</sup> Polyarilamide (PAW)

<sup>(4)</sup> PA00 to P40

<sup>(5)</sup> PA00 to PA30

<sup>(6)</sup> P40 to PA70

<sup>(7)</sup> PA70

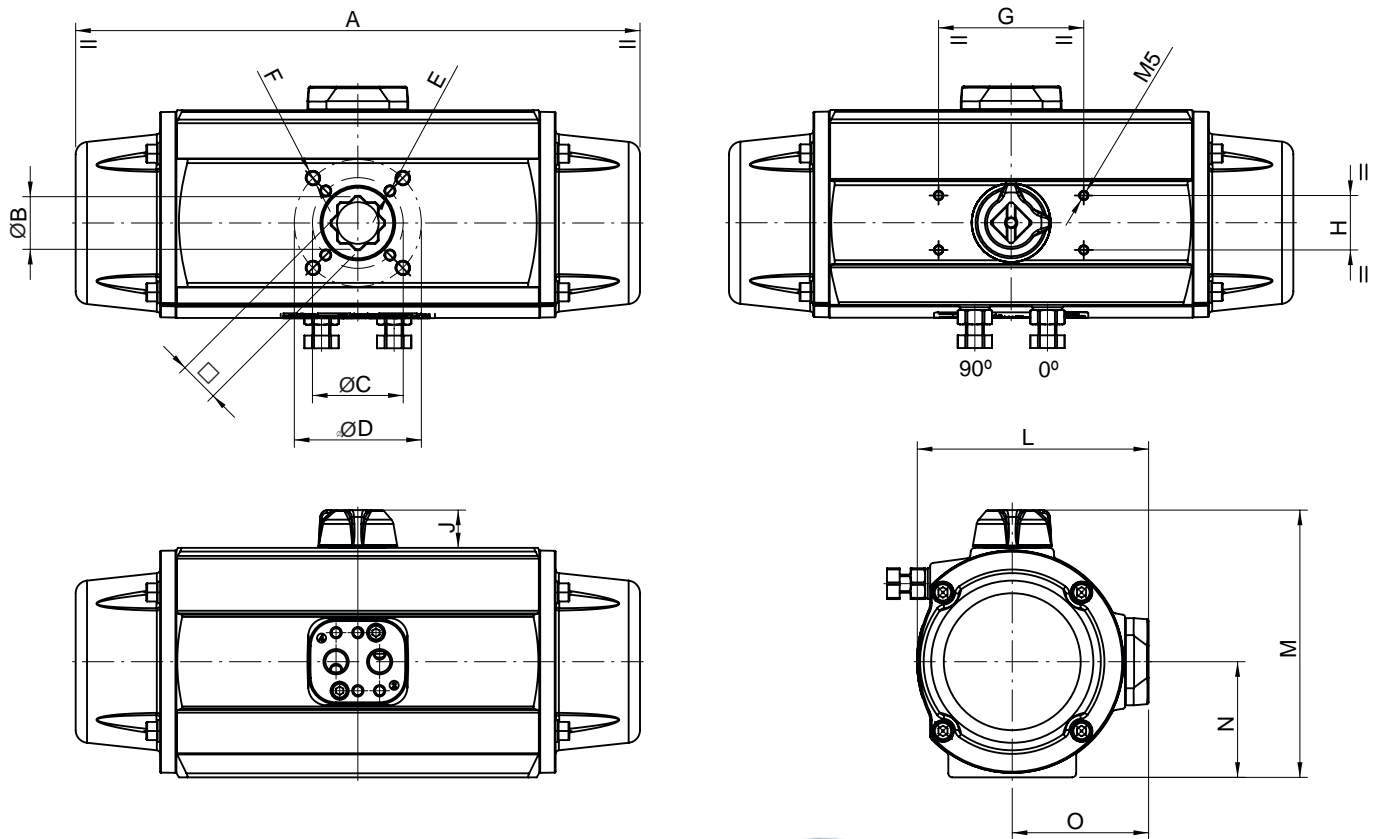
<sup>(8)</sup> PAW to PA15

<sup>(9)</sup> PA20 to PA70

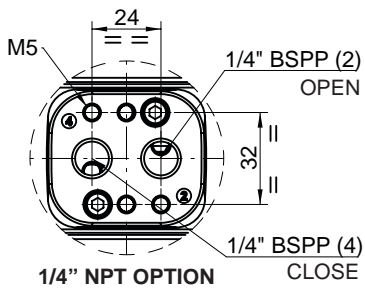
<sup>(10)</sup> PA00 to PA30 and PA50

# ALUMINIUM PNEUMATIC ACTUATORS

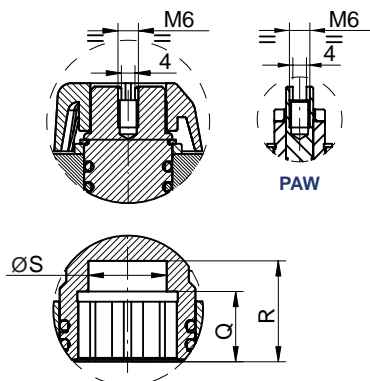
## PAW-PA30 DIMENSIONS



### NAMUR PNEUMATIC CONNECTION



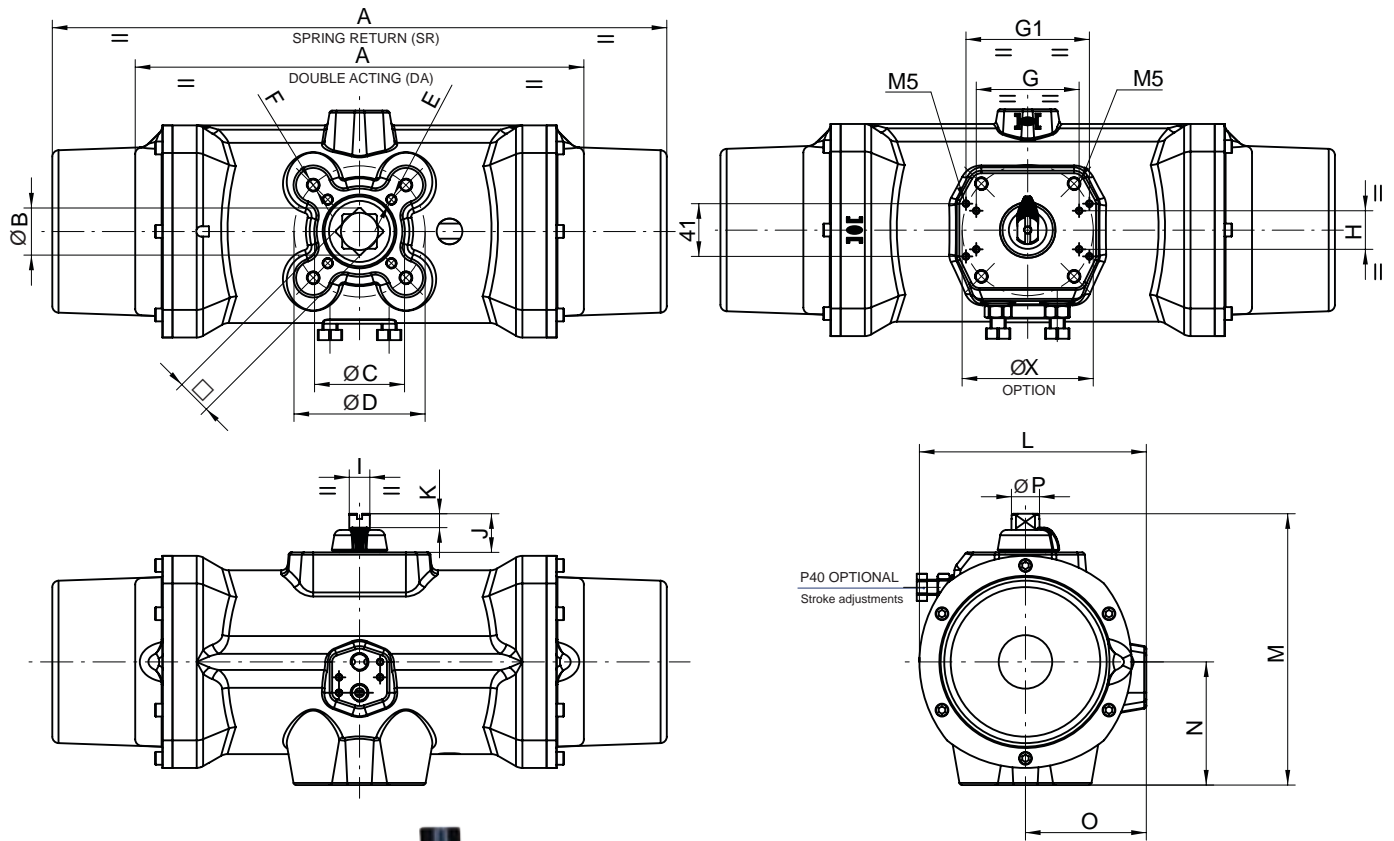
### SHAFT DETAIL



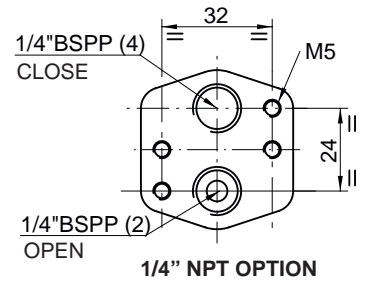
MODELS	A		□	B	C	E	D	F	G	H
	DA	SR								
PAW - PAWS	141	11	14,3	Ø36 F03	M5	Ø42 F04	M5	80	30	
PA00 - PA00S	155	14	19	Ø42 F04	M5	Ø50 F05	M6	80	30	
PA05 - PA05S	201	17	23	Ø50 F05	M6	Ø70 F07	M8	80	30	
PA10 - PA10S	226	17	23	Ø50 F05	M6	Ø70 F07	M8	80	30	
PA15 - PA15S	265	17	23	Ø50 F05	M6	Ø70 F07	M8	80	30	
PA20 - PA20S	312	22	29	Ø50 F05	M6	Ø70 F07	M8	80	30	
PA25 - PA25S	358	27	36,5	Ø70 F07	M8	Ø102 F10	M10	80	30	
PA30 - PA30S	429	27	36,5	Ø70 F07	M8	Ø102 F10	M10	80	30	
P40 - P40S	444	598	36	49	Ø102 F10	M10	Ø125 F12	M12	130	30
PA50 - PA50S	694	36	49	Ø102 F10	M10	Ø140 F14	M16	130	30	
PA60 - PA60S	672	46	61	Ø165 F16	M20	-	-	130	30	
PA70 - PA70S	743	46	61	Ø165 F16	M20	-	-	130	30	



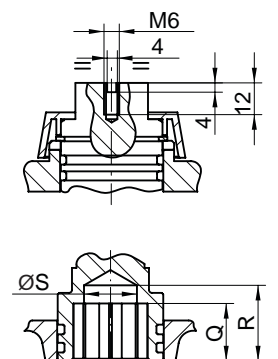
## P40-PA70 DIMENSIONS



### NAMUR PNEUMATIC CONNECTION



### SHAFT DETAIL



**DIMENSIONS (mm)**

G1	X	I	J	K	L	M	N	O	P	Q	R	S
	ISO-5211											
-	-	-	20	8	76	89	37	48	9	16	20	10
-	-	-	20	-	84	102	43	52	-	16	31	14,5
-	-	-	20	-	102	119	49	62	-	19	31	15
-	-	-	20	-	104	123	52	63	-	19	31	15
-	-	-	20	-	119	139	60	71	-	19	31	18,2
-	-	-	20	-	127	147	64	75	-	19	29,5	23
-	-	-	20	-	153	175	77	89	-	29	36	22
-	-	-	20	-	169	191	86	97	-	29	42	29
118	Ø125 F12	32	50	20	226	272	116	120	41,9	38	50	35
-	-	32	50	29	269	309	131	141	41,9	38	50	35
-	-	32	50	13,5	345	368	162	185	41,9	48	60	50
-	-	32	50	8,2	403	428	191	217	41,9	48	62	50

# ALUMINIUM PNEUMATIC ACTUATORS

## CYCLE TIME, WEIGHTS AND CAPACITY

MODELS		CYCLE TIME (seconds)				WEIGHTS (Kg)		CAPACITY (litre)			
		TO OPEN		TO CLOSE				TO OPEN		TO CLOSE	
DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR
PAW	PAWS	0,1	0,15	0,1	0,15	0,92	1	0,075	0,075	0,11	-
PA00	PA00S	0,15	0,2	0,15	0,2	1,40	1,63	0,15	0,15	0,18	-
PA05	PA05S	0,2	0,25	0,2	0,25	2,57	2,94	0,28	0,28	0,37	-
PA10	PA10S	0,25	0,3	0,25	0,3	3,08	3,48	0,35	0,35	0,45	-
PA15	PA15S	0,3	0,4	0,3	0,4	4,20	5,04	0,65	0,65	0,82	-
PA20	PA20S	0,4	0,5	0,4	0,5	5,61	6,63	0,8	0,8	1,15	-
PA25	PA25S	0,5	0,8	0,5	0,8	9,30	11,3	1,5	1,5	2,02	-
PA30	PA30S	0,6	1,2	0,6	1,2	11,6	15,3	2,05	2,05	3	-
P40	P40S	1,2	2	1,2	2	17,6	36,4	5,3	5,3	5,3	-
PA50	PA50S	3	3,7	2,5	2,9	30,7	58,4	10,5	10,5	14,1	-
PA60	PA60S	3	6	3	5	48,3	83,2	19,5	19,5	20,7	-
PA70	PA70S	4	8	4	6	77,9	118,2	31	31	30	-

## OPERATING TORQUE

DOUBLE ACTING (DA)								
MODELS	Air torque at indicated pressure (bar)							
	3	4	4,5	5	5,5	6	7	8
PAW	7,9	11,3	12,7	14,1	15,5	17	19,8	22,9
PA00	13,3	18,3	20,9	23,4	26	28,5	33,6	38,7
PA05	23,5	32,3	36,7	41	45,3	49,7	58,4	67,1
PA10	32,9	45,6	52	58,3	65	71	83,7	96,4
PA15	55,2	75,6	85,8	96	106,2	116,5	136,9	157,4
PA20	77,7	107	121,7	136,3	151	165,5	194,8	224
PA25	140,1	190,1	215,1	240	264,9	290	339,9	393,9
PA30	226,5	307,4	347,9	388,3	428,7	469,2	550,1	631
P40	582,5	782	881,4	980,8	1080	1180	1379	1578
PA50	998	1354	1.532,5	1711	1889	2067	2424	2780
PA60	1638	2245	2.54	2851	3155	3458	4065	4672
PA70	2389	3273	3.716	4158	4600	5043	5927	6812

Units: Nm

Note: Refer to heavy duty actuators for higher torques.

## SPRING POSITIONING (PA RANGE)

Application in installations with air pressure less than 6 bar.

Springs positioned from 2 to 5 springs each side, distributed as indicated in the drawing.



**SPRING RETURN (SR)**

MODELS	Springs Number	Spring Torques (Nm)		Air torque at indicated pressure (bar)															
				3		4		4,5		5		5,5		6		7		8	
		Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	End
PAWS	6 + 6	10	6,7					6	2,7	7,4	4,1	8,8	5,5	10,3	7	13,1	9,8	16,2	12,9
	5 + 5	8,5	5,8			5,5	2,8	6,9	4,2	8,3	5,6	9,7	7	11,2	8,5	14	11,3	17,1	14,4
	4 + 4	7	4,6	3,3	0,9	6,7	4,3	8,1	5,7	9,5	7,1	10,9	8,5	12,4	10	15,2	12,8	18,3	15,9
	3 + 3	5,5	3,6	4,3	2,4	7,7	5,8	9,1	7,2	10,5	8,6	11,9	10	13,4	11,5	16,2	14,3		
	2 + 2	4	2,4	5,5	3,9	8,9	7,3	10,3	8,7	11,7	10,1	13,1	11,5	14,6	13				
PA00S	6 + 6	18,8	12,7					8,2	2,1	10,7	4,6	13,3	7,2	15,8	9,7	20,9	14,8	26	19,9
	5 + 5	15,8	10,7			7,6	2,5	10,2	5,1	12,7	7,6	15,3	10,2	17,8	12,7	22,9	17,8	28	22,9
	4 + 4	12,6	8,7			9,6	5,7	12,2	8,3	14,7	10,8	17,3	13,4	19,8	15,9	24,9	21	30	26,1
	3 + 3	9,7	6,6	6,7	3,6	11,7	8,6	14,3	11,2	16,8	13,7	19,4	16,3	21,9	18,8	27	23,9		
	2 + 2	6,6	4,1	9,2	6,7	14,2	11,7	16,8	14,3	19,3	16,8	21,9	19,4	24,4	21,9				
PA05S	6 + 6	31,4	20,9					15,8	5,3	20,1	9,6	24,4	13,9	28,8	18,3	37,5	27	46,2	35,7
	5 + 5	27	17,4			14,9	5,3	19,3	9,7	23,6	14	27,9	18,3	32,3	22,7	41	31,4	49,7	40,1
	4 + 4	21,8	13,9	9,6	1,7	18,4	10,5	22,8	14,9	27,1	19,2	31,4	23,5	35,8	27,9	44,5	36,6	53,2	45,3
	3 + 3	18,3	11,3	12,2	5,2	21	14	25,4	18,4	29,7	22,7	34	27	38,4	31,4	47,1	40,1		
	2 + 2	12,2	7,8	15,7	11,3	24,5	20,1	28,9	24,5	33,2	28,8	37,5	33,1	41,9	37,5				
PA10S	6 + 6	45,6	30,8					21,2	6,4	27,5	12,7	34,2	19,4	40,2	25,4	52,9	38,1	65,6	50,8
	5 + 5	38	25,7			19,9	7,6	26,3	14	32,6	20,3	39,3	27	45,3	33	58	45,7	70,7	58,4
	4 + 4	30,4	20,5	12,4	2,5	25,1	15,2	31,5	21,6	37,8	27,9	44,5	34,6	50,5	40,6	63,2	53,3	75,9	66
	3 + 3	22,8	15,4	17,5	10,1	30,2	22,8	36,6	29,2	42,9	35,5	49,6	42,2	55,6	48,2	68,3	60,9		
	2 + 2	15,2	10,3	22,6	17,7	35,3	30,4	41,7	36,8	48	43,1	54,7	49,8	60,7	55,8				
PA15S	6 + 6	71,5	49					36,8	14,3	47	24,5	57,2	34,7	67,5	45	87,9	65,4	108,4	85,9
	5 + 5	59,6	40,9			34,7	16	44,9	26,2	55,1	36,4	65,3	46,6	75,6	56,9	96	77,3	116,5	97,8
	4 + 4	47,7	32,7	22,5	7,5	42,9	27,9	53,1	38,1	63,3	48,3	73,5	58,5	83,8	68,8	104,2	89,2	124,7	109,7
	3 + 3	35,7	24,5	30,7	19,5	51,1	39,9	61,3	50,1	71,5	60,3	81,7	70,5	92	80,8	112,4	101,2		
	2 + 2	23,8	16,3	38,9	31,4	59,3	51,8	69,5	62	79,7	72,2	89,9	82,4	100,2	92,7				
PA20S	6 + 6	104,7	65,8					55,9	17	70,5	31,6	85,2	46,3	99,7	60,8	129	90,1	158,2	119,3
	5 + 5	87,2	54,8			52,2	19,8	66,9	34,5	81,5	49,1	96,2	63,8	110,7	78,3	140	107,6	169,2	136,8
	4 + 4	69,8	43,9	33,8	8	63,1	37,2	77,8	51,9	92,4	66,5	107,1	81,2	121,6	95,7	150,9	125	180,1	154,2
	3 + 3	52,3	32,9	44,8	25,4	74,1	54,7	88,8	69,4	103,4	84	118,1	98,7	132,6	113,2	161,9	142,5		
	2 + 2	34,9	21,9	55,8	42,8	85,1	72,1	99,8	86,8	114,4	101,4	129,1	116,1	143,6	130,6				
PA25S	6 + 6	181,8	119,4					95,7	33,3	120,6	58,2	145,5	83,1	170,6	108,2	220,5	158,1	274,5	212,1
	5 + 5	151,5	99,5			90,6	38,6	115,6	63,6	140,5	88,5	165,4	113,4	190,5	138,5	240,4	188,4	294,4	242,4
	4 + 4	121,2	79,6	60,5	18,9	110,5	68,9	135,5	93,9	160,4	118,8	185,3	143,7	210,4	168,8	260,3	218,7	314,3	272,7
	3 + 3	90,9	59,7	80,4	49,2	130,4	99,2	155,4	124,2	180,3	149,1	205,2	174	230,3	199,1	280,2	249		
	2 + 2	60,6	39,8	100,3	79,5	150,3	129,5	175,3	154,5	200,2	179,4	225,1	204,3	250,2	229,4				
PA30S	6 + 6	290,3	195,7					152,2	57,6	192,6	98	233	138,4	273,5	178,9	354,4	259,8	435,3	340,7
	5 + 5	241,9	163,1			144,2	65,4	184,8	106	225,1	146,2	265,5	186,7	306	227,1	386,8	308,0	467,7	388,8
	4 + 4	193,5	130,5	96,0	32,9	176,8	113,8	217,4	154,4	257,7	194,6	298,1	235,1	338,6	275,5	419,4	356,4	500,3	437,2
	3 + 3	145,2	97,9	128,6	81,3	209,5	162,1	250	202,7	290,3	243	330,8	283,4	371,2	323,9	452,1	404,8		
	2 + 2	96,8	65,2	161,2	129,7	242,1	210,5	282,7	251,1	322,9	291,4	363,4	331,8	403,8	372,3				
P40S	4 + 4	766,9	491,6					389,8	114,5	489,1	213,8	588,4	313,4	688,3	413	887,4	612,1	1086,6	811,3
	3 + 3	629,3	432,6			349,4	152,7	448,8	252,1	548,1	351,5	647,7	451,1	747,3	550,6	946,4	749,8	1145,6	948,9
	2 + 2	452,3	314,6	267,9	103,2	467,4	329,7	566,8	429,1	666,1	528,5	765,7	628,1	865,3	727,6	1064,4	926,8		
	1 + 1	275,3	177	405,5	307,2	605	506,7	704,4	606,1	803,8	705,5	903,4	805,1	1002,9	904,6				
PA50S	7 + 7*	1.663	956,1									932,9	226	1.111	404	1.468	761	1.824	1.117
	6 + 6	1.425	819,5					712,5	107	891,5	286	1.070	464	1.248	642	1.605	999	1.961	1.355
	5 + 5	1.187	682,9			671,1	167	849,1	345	1.028	524	1.206	702	1.384	880	1.741	1.237	2.097	1.593
	4 + 4	989,7	569,1			784,9	364,3	962,9	542,3	1.142	721,3	1.320	899,3	1.498	1.077	1.855	1.434	2.211	1.790
	3 + 3	824,8	474,2	523,8	173,2	879,8	529,2	1.058	707,2	1.237	886,2	1.415	1.064	1.593	1.242	1.950	1.599	2.306	1.955
2 + 2	687,3	395,2	602,8	310,7	958,8	666,7	1.137	844,7	1.316	1.024	1.494	1.202	1.672	1.380	2.029	1.737	2.385	2.093	
PA60S	6 + 6	2075	1383			861,5	169,9	1165	473	1468	776,6	1772	1080	2074	1383	2682	1990	3288	2597
	5 + 5	1729	1153			1092	515,7	1395	819	1699	1122	2002	1426	2305	1729	2912	2336	3519	2942
	4 + 4	1383	922	716	254,8	1322	861,5	1626	1165	1929	1468	2232	1772	2536	2075	3143	2682	3749	3288
	3 + 3	1037	692	946	600,6	1553	1207	1856	1511	2160	1814	2463	2117	2767	2421	3373	3027		
	2 + 2	692	462	1177	945,5	1784	1553	2086	1856	2390	2159	2694	2463	2997	2767				
PA70S	6 + 6	3539	1769					1946	176	2389	619	2831	1062	3273	1504	4158	2389	5043	3273
	5 + 5	2949	1475					2240	766	2684	1209	3126	1651	3568	2094	4453	2978	5338	3863
	4 + 4	2359	1180			2094	914	2535	1356	2978	1799	3421	2241	3863	2684	4748	3568	5632	4453
	3 + 3	1769	885	1504	619	2389	1504	2830	1946	3273	2389	3716	2831	4158	3273	5043	4158		
	2 + 2	1180	590	1799	1209	2684	2094	3125	2535	3568	2978	4011	3421	4453	3863				

Note: Refer to heavy duty actuators for higher torques.

\* Optional (on request)



# POLYAMIDE PNEUMATIC ACTUATORS

## TECHNICAL FEATURES

### Rotation Angle and Torques

Polyamide actuators, 0° - 90° rotation angle to pilot ball, butterfly and plug valves.

Broad range of actuators, both Double Acting and Spring Return, from 17Nm to 165Nm at 6 bar.

### LIGHT WEIGHT AND HIGHLY RESISTANT TO CORROSION

Silicone free.

Manufactured in Polyamide + Glass Fiber offering best properties:

High resistance to corrosion  
High mechanical strength  
Light weight

### Threaded Inserts and Shaft

Stainless Steel Shaft and Threaded Inserts to guarantee the best resistance against corrosion and wearing:

#### SHAFT AND INSERTS IN STAINLESS STEEL



### Spring Security System

Spring Security System, making manipulation and mounting easy and safe.

All components are protected against corrosion.

### Pressure

May be actuated with air or any nonaggressive fluid up to 8 bar pressure.

### Normal Working Temperature

-32°C to +90°C

On demand: - Low temp. (-55°C to +80°C)

### Mounting Kits

Broad range of couplings for any kind of valve adaption.

### Elements of Regulation and Control

May be equipped with limit switches, solenoid valve, positioner and manual override by wheel or declutchable gearbox.

### Directives

Conformance to:

ISO-5211, DIN-3337, VDI/VDE-3845, NAMUR.

Pneumatic connection according to NAMUR norm, in order to mount solenoid valves easily.

Prisma Pneumatic Actuators are manufactured under the requirements of DEP 2014-68-EU and ATEX 94-9-EC (EXII2GDc IP67 T6) Directives.

IEC 61508: SIL3 Certificate.

### Applications

Designed to actuate plastic valves.

Mainly Industrial applications:

Chemical, Food and Beverage, Automated irrigation, Fishing Industry, etc...





**SHAFT**

Shaft end according to VDI/VDE 3845 Norm (NAMUR). Shaft made in Stainless Steel.

**PISTONS**

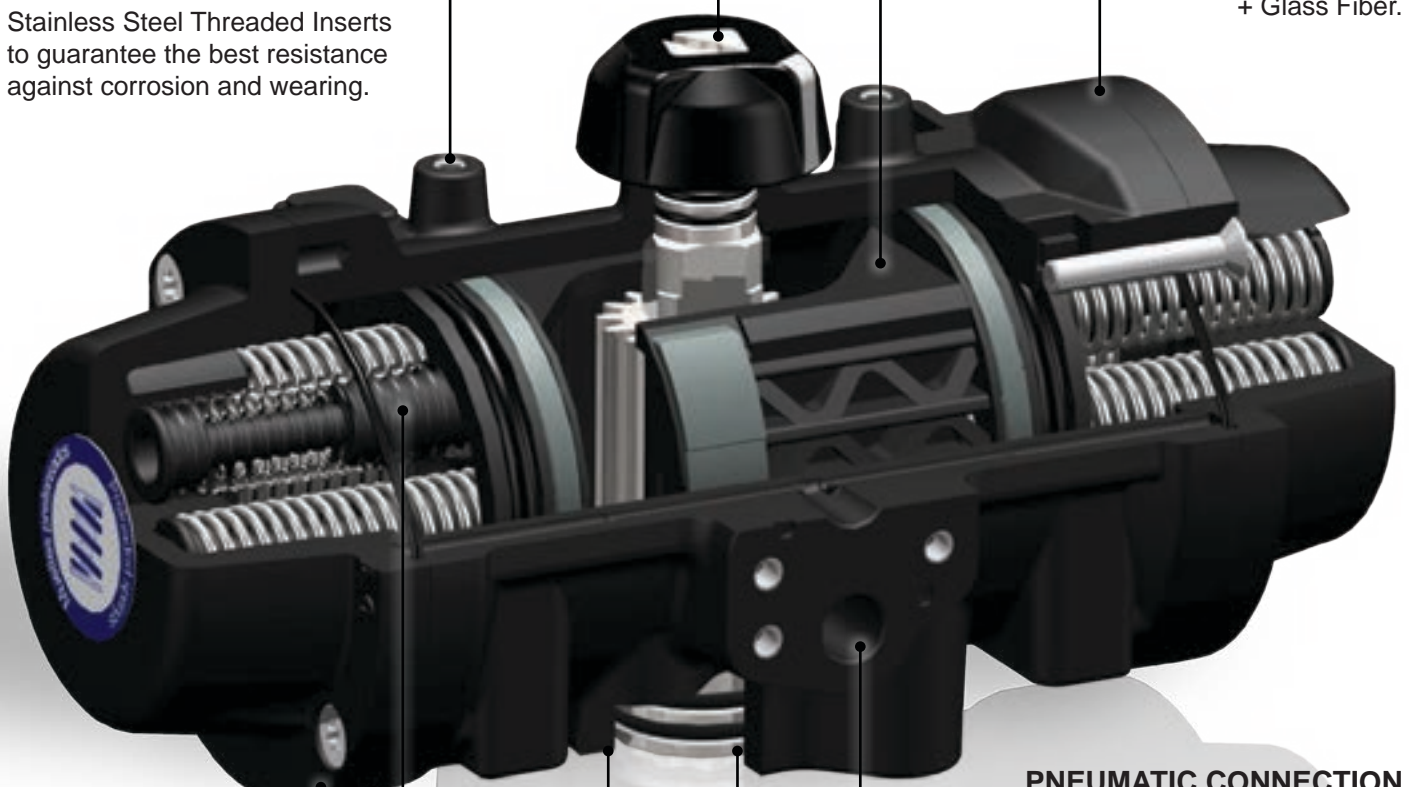
Wearing strips in pistons, allowing low friction and long life of the actuator.

**THREADED INSERTS**

Stainless Steel Threaded Inserts to guarantee the best resistance against corrosion and wearing.

**BODY AND CAPS**

Made in Polyamide + Glass Fiber.



**CAPS**

Fixed by security ring protected against corrosion.

**SPRINGS**

Concentric spring set. Variable quantity (1 to 4 springs).

**PNEUMATIC CONNECTION**

1/4" BSP pneumatic connection to solenoid valve. Dimensions according to VDI/VDE 3845 (NAMUR)

**SHAFT**

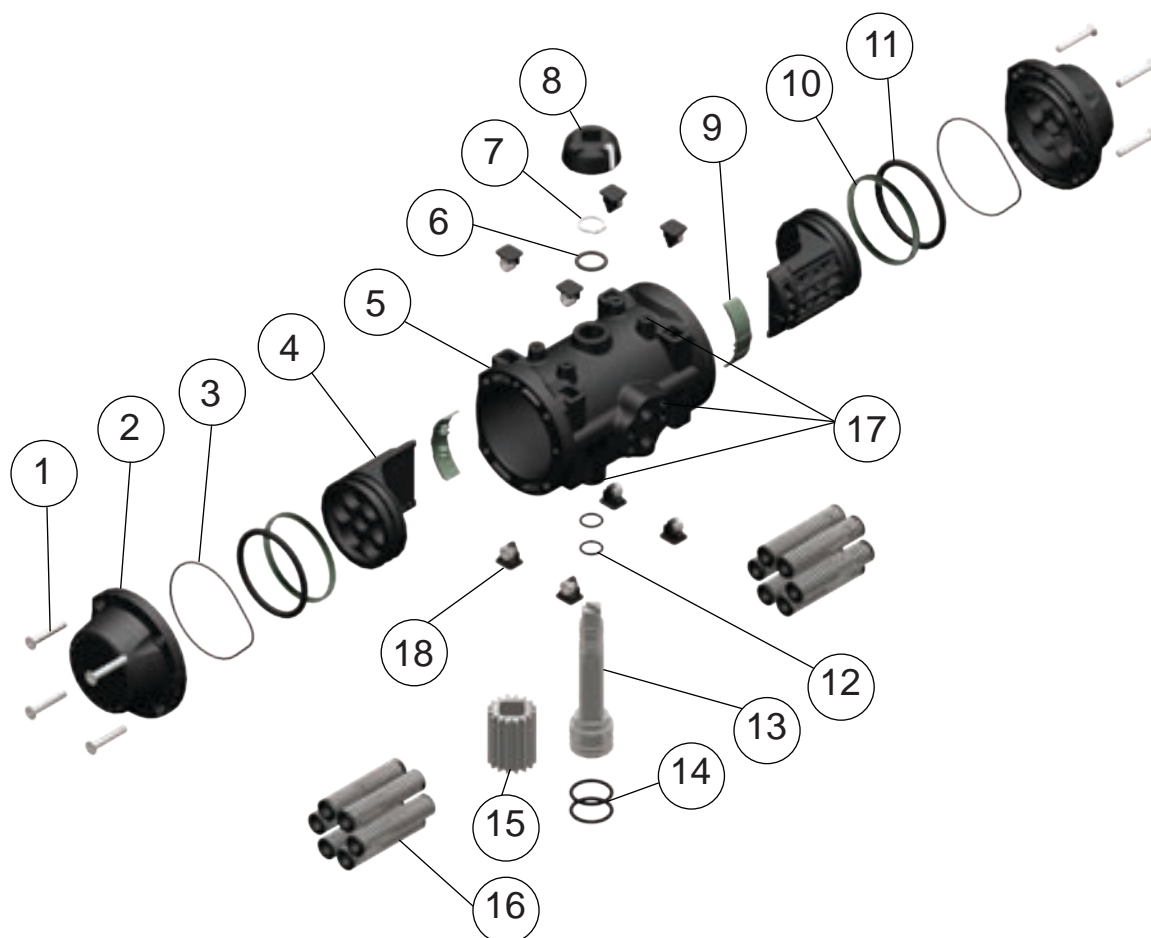
Double o-ring. Shaft exit: ISO-5211.

**VALVE FIXATION**

ISO-5211 Norm for all models.

# POLYAMIDE PNEUMATIC ACTUATORS

## DISASSEMBLY AND MATERIALS



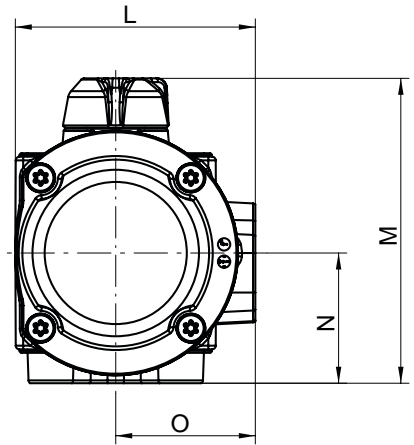
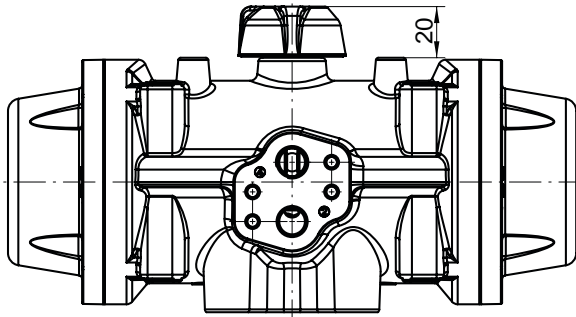
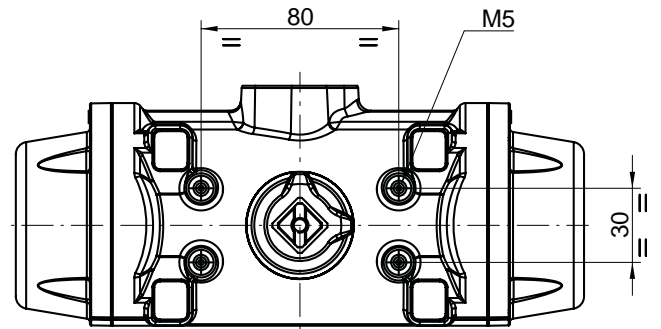
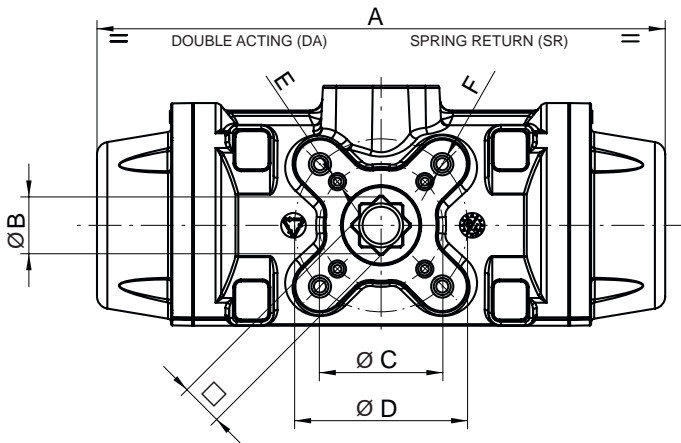
Nº	DESCRIPTION	QUANT.	MATERIAL	SURFACE FINISH
1	COUNTERSUNK SCREW	8	AISI-304 STAINLESS STEEL	
2	CAP	2	POLYAMIDA + GLASS FIBER	-
3	CAP O-RING	2	N.B.R.	-
4	PISTON	2	POLYARILAMIDE	-
5	CYLINDER	1	POLYAMIDA + GLASS FIBER	-
6	WASHER	1	POLYACETAL	-
7	SPRING CLIP	1	STAINLESS STEEL	-
8	POSITION INDICATOR	1	POLYACETAL <sup>(1)</sup> / POLYAMIDE <sup>(2)</sup>	-
9	PISTON GUIDE	2	POLYACETAL (except PPW)	-
10	GUIDE RING	2	POLYACETAL	-
11	PISTON O-RING	2	N.B.R.	-
12	SHAFT O-RING	2	N.B.R.	-
13	SHAFT	1	AISI-303 SS / POLYARILAMIDE + S.S. insert <sup>(1)</sup>	-
14	O-RING	2	N.B.R.	-
15	GEAR	1	ALUMINIUM ALLOY (PP10-PP20)	BALL BURNISHING
16	PRELOADED SPRINGS	0-12	DIN-17223-C	TRIVALENT Cr PASSIVATION
17	THREAD INSERTS	10	STAINLESS STEEL	-
18	PROTECTOR / NUT <sup>(3)</sup>	8	POLYAMIDE / AISI-304 STAINLESS STEEL <sup>(3)</sup>	-

<sup>(1)</sup> PPW

<sup>(2)</sup> PP00, PP10 and PP20

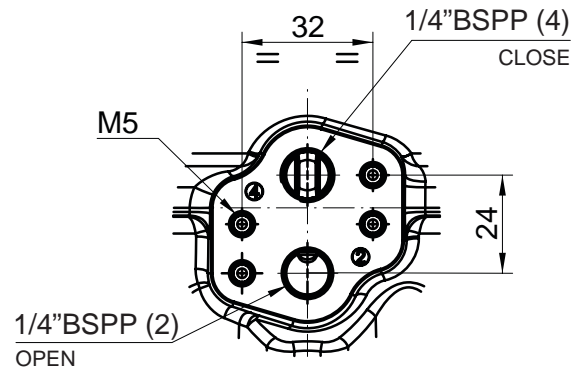
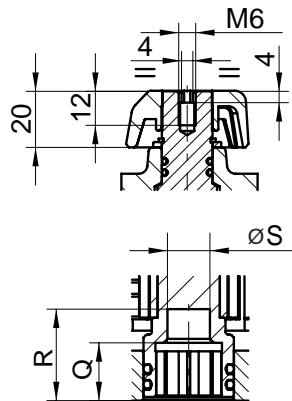
<sup>(3)</sup> PP20

## PP DIMENSIONS



### SHAFT DETAIL

### NAMUR PNEUMATIC CONNECTION



1/4" NPT OPTION

MODELS	DIMENSIONS (mm)																
	A		□	B	C		E	D		F	L	M	N	O	Q	R	S
	DA	SR			ISO-5211	ISO-5211											
PPW-PPWS	144	11	14,3	F03 <sup>(1)</sup>	M5 <sup>(1)</sup>	Ø42 F04	M5	70	89	35	42	16	20	10			
PP00-PP00S	157	14	19	-	-	Ø50 F05	M6	79	102	43	48	16	31	14,5			
PP10-PP10S	230	17	23	Ø50 F05	M6	Ø70 F07	M8	97	123	53	56	19	31	15			
PP20-PP20S	313	22	29	-	-	Ø70 F07	M8	122	147	64	68	19	29,5	23			

<sup>(1)</sup> F03 Optional

# POLYAMIDE PNEUMATIC ACTUATORS

## CYCLE TIME, WEIGHTS AND CAPACITY

MODELS		CYCLE TIME (seconds)				WEIGHTS (Kg)		CAPACITY (litre)			
		TO OPEN		TO CLOSE				TO OPEN		TO CLOSE	
DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR
PPW	PPWS	0,1	0,15	0,1	0,15	0,47	0,55	0,075	0,075	0,05	-
PP00	PP00S	0,15	0,2	0,15	0,2	0,83	1	0,15	0,15	0,18	-
PP10	PP10S	0,25	0,3	0,25	0,3	1,65	2,03	0,35	0,35	0,45	-
PP20	PP20S	0,4	0,5	0,4	0,5	3,22	4,22	0,8	0,8	1,15	-

## OPERATING TORQUE

### DOUBLE ACTING (DA)

MODELS	Air torque at indicated pressure (bar)							
	3	4	4,5	5	5,5	6	7	8
PPW	7,9	11,3	12,7	14,1	15,6	17	19,8	22,9
PP00	13,3	18,3	20,9	23,4	26	28,5	33,6	38,7
PP10	32,9	45,6	52	58,3	65	71	83,7	96,4
PP20	77,7	107	122	136,9	150,9	165,5	194,8	224

Units: Nm

### SPRING RETURN (SR)

MODELS	Spring Number	Spring Torques (Nm)		Air torque at indicated pressure (bar)															
				3		4		4,5		5		5,5		6		7		8	
		Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	Final
PPWS	6 + 6	10	6,7					6	2,7	7,4	4,1	8,8	5,5	10,3	7	13,1	9,8	16,2	12,9
	5 + 5	8,5	5,8			5,5	2,8	6,9	4,2	8,3	5,6	9,7	7	11,2	8,5	14	11,3	17,1	14,4
	4 + 4	7	4,6	3,3	0,9	6,7	4,3	8,1	5,7	9,5	7,1	10,9	8,5	12,4	10	15,2	12,8	18,3	15,9
	3 + 3	5,5	3,6	4,3	2,4	7,7	5,8	9,1	7,2	10,5	8,6	11,9	10	13,4	11,5	16,2	14,3		
	2 + 2	4	2,4	5,5	3,9	8,9	7,3	10,3	8,7	11,7	10,1	13,1	11,5	14,6	13				
PP00S	6 + 6	18,8	12,7					8,2	2,1	10,8	4,6	13,3	7,2	15,9	9,7	21	14,8	26,1	20
	5 + 5	15,8	10,7			7,6	2,6	10,2	5,1	12,7	7,7	15,2	10,2	17,9	12,8	22,9	17,9	28	23
	4 + 4	12,6	8,7			9,7	5,7	12,2	8,3	14,8	10,8	17,3	13,3	19,9	15,9	25	21	30,1	26,1
	3 + 3	9,7	6,6	6,6	3,5	11,7	8,6	14,3	11,2	16,8	13,7	19,7	16,3	21,9	18,8	27	24		
	2 + 2	6,6	4,1	9,1	6,6	14,2	11,7	16,8	14,3	19,3	16,8	21,9	19,4	24,4	21,9				
PP10S	6 + 6	45,6	30,8					21,2	6,4	27,5	12,7	34,2	19,4	40,2	25,4	52,9	52,9	38,1	50,8
	5 + 5	38	25,7			19,9	7,6	26,3	14	32,6	20,3	39,3	27	45,3	33	58	45,7	70,7	58,4
	4 + 4	30,4	20,5	12,4	2,5	25,1	15,2	31,5	21,6	37,8	27,9	44,5	34,6	50,5	40,6	63,2	53,3	75,9	66
	3 + 3	22,8	15,4	17,5	10,1	30,2	22,8	36,6	29,2	42,9	35,5	49,6	42,2	55,6	48,2	68,3	60,9		
	2 + 2	15,2	10,3	22,6	17,7	35,3	30,4	41,7	36,8	48	43,1	54,7	49,8	60,7	55,8				
PP20S	6 + 6	104,7	65,8					56,2	17,3	70,5	31,6	85,2	46,3	99,7	60,8	129	90,1	158,2	119,3
	5 + 5	87,2	54,8			52,2	19,8	67,2	34,8	81,5	49,1	96,2	63,8	110,7	78,3	140	107,6	169,2	136,8
	4 + 4	69,8	43,9	33,8	8	63,1	37,2	78,1	52,2	92,4	66,5	107,1	81,2	121,6	95,7	150,9	125	180,1	154,2
	3 + 3	52,3	32,9	44,8	25,4	71,1	54,7	89,1	69,7	103,4	84	118,1	98,7	132,6	113,2	161,9	142,5		
	2 + 2	34,9	21,9	55,8	42,8	85,1	72,1	100,1	87,1	114,4	101,4	129,1	116,1	143,6	130,6				

Units: Nm



## NEW RANGE OF PP ACTUATORS

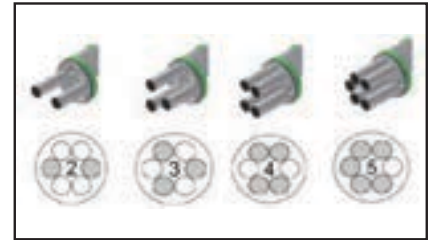


Most relevant features of the new range of Prisma Polyamide Actuators:

1. End caps fitted by Stainless Steel Bolts:  
Increasing the corrosion resistance.



2. Preloaded springs:  
Increasing the security and flexibility to disassemble the end caps:  
Best to change the function from S.R. to D.A. or vice versa, and to modify the number of springs.



3. Standardization of the height of the shaft to 20mm for NAMUR accessories..



4. New visual indicator, with four indicating positions.  
Cam position indicator for mechanical drive.



5. Better traceability of cylinder and caps.



# STAINLESS STEEL PNEUMATIC ACTUATORS

## TECHNICAL FEATURES

### Rotation Angle and Torques

Stainless Steel actuators, 0°-90° rotation angle to pilot ball, butterfly and plug valves.  
Broad range of actuators, both in Double Acting and Spring Return, from 25 to 1.180 Nm at 6 bar.

### HIGHLY CORROSIVE ENVIRONMENTS

Specially designed for Highly Corrosive environments.  
Silicone free.

### Stroke Adjustments

External Stroke Adjustments (except PI00) to regulate opening (+85° to +92°) and closing (-2° to +5°) of the valve, both in double acting and spring return.  
Predominantly used in butterfly valves, to adjust closing of the disc.



### Spring Security System

Spring security System, making manipulation and mounting easy and safe.  
All components are protected against corrosion.



PRELOADED SPRING  
CARTRIDGE WITH  
SECURITY SYSTEM.

### Elements of Regulation and Control

May be equipped with limit switches, solenoid valve, positioner and override by wheel or declutchable gearbox.



25Nm

1180Nm

### Pressure

May be actuated with air or any nonaggressive fluid up to 8 bar pressure.  
Option: 12,5bar

### Normal Working Temperature

-32°C to +90°C

On demand: - Low temp. (-55°C to +80°C)  
- High temp. (-30°C to +150°C)

### Mounting Kits

Broad range of couplings (brackets and drive adapters) for any kind of valve adaptation.



### Directives

Conformance to: ISO-5211, DIN-3337, VDI/VDE-3845 specifications for easy mounting of most valves.  
Pneumatic connection according to NAMUR norm, in order to mount solenoid valves easily.  
Prisma Pneumatic Actuators are manufactured under the requirements of DEP 2014-68-EU, ATEX 94-9-EC (EXII2GDc IP67 T6) Directives.

IEC 61508: SIL-2 or SIL-3 (in some models) Certificate.

### Applications

Suitable for underwater and marine installations.  
For highly corrosive environments and off-shore plant applications.

**SHAFT**

Shaft end according to VDI/VDE 3845 Norm (NAMUR).  
Material: Stainless Steel AISI-316.

**PISTONS**

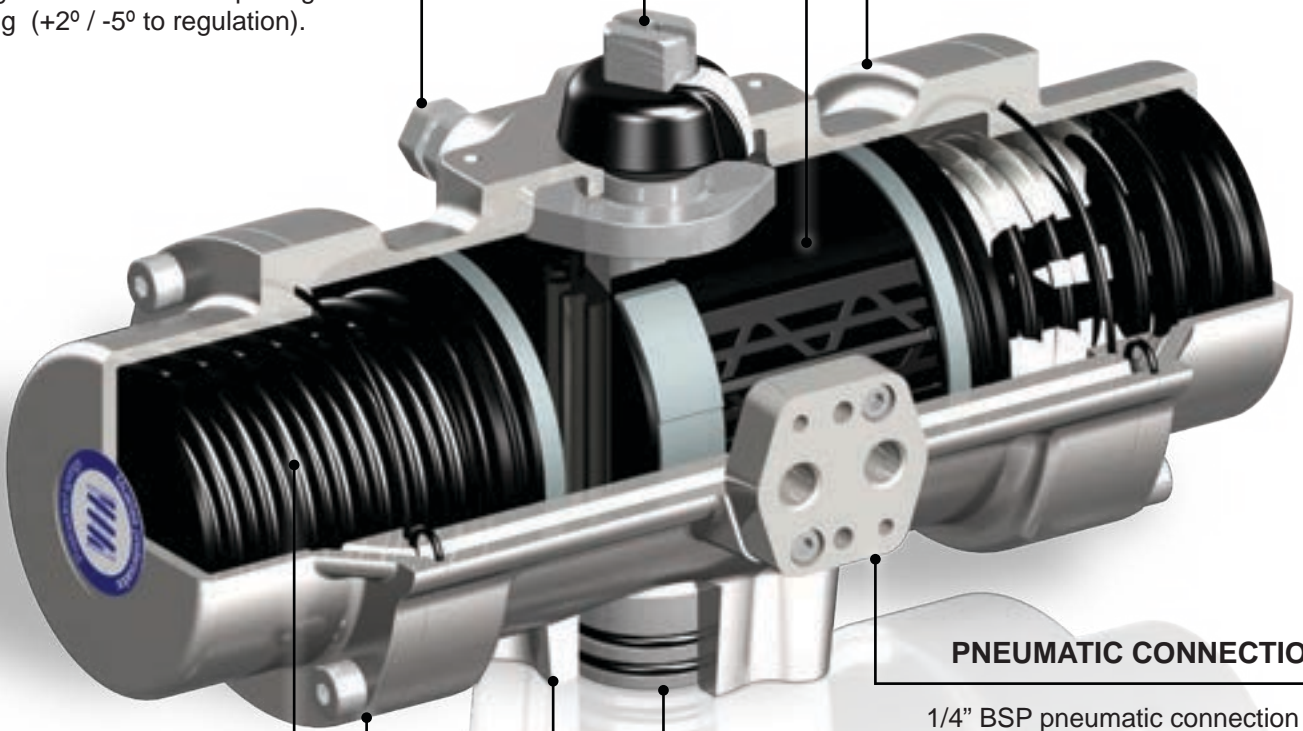
Wearing strips in pistons, allowing low friction and long life of the actuator.

**STROKE ADJUSTMENTS**

Standard across the range except for PI00-PI00S.  
To regulate the actuator opening and closing (+2° / -5° to regulation).

**BODY AND CAPS**

Made in CF8M SS (AISI-316)  
+ ELECTROPOLISHED.  
Offering high resistance to corrosion.



**PNEUMATIC CONNECTION**

1/4" BSP pneumatic connection to solenoid valve.  
(Option: 1/4" NPT)  
Dimensions according to VDI/VDE 3845 (NAMUR).  
Made in CF8M SS + Electropolished

**SPRINGS**

Preloaded springs with security system.  
Easy to mount and to change number of springs.

**SHAFT**

Double o-ring.

**CAPS**

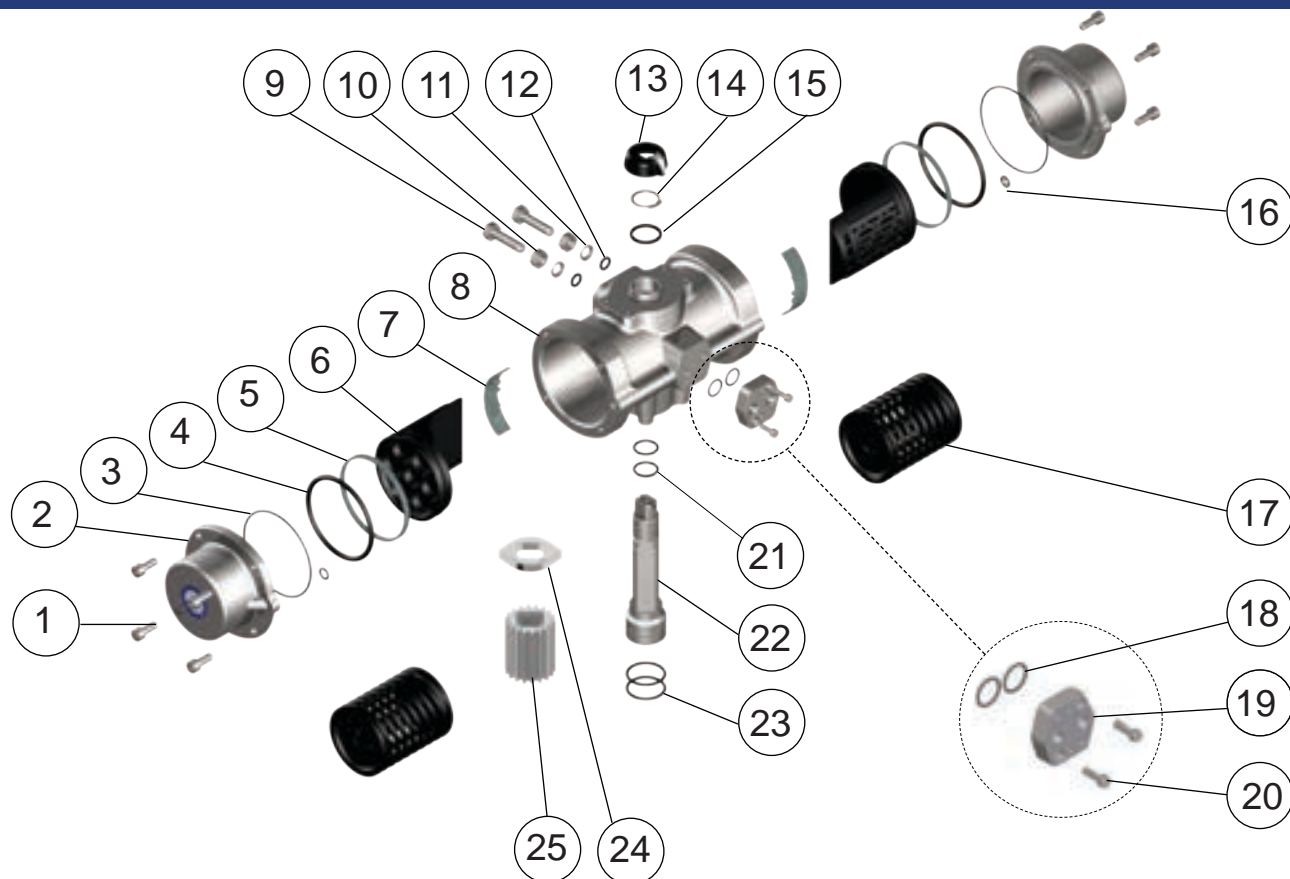
Fitted by Stainless Steel bolts.  
Same cap for double acting and spring return models.

**VALVE FIXATION**

ISO-5211 Norm for all models.

# STAINLESS STEEL PNEUMATIC ACTUATORS

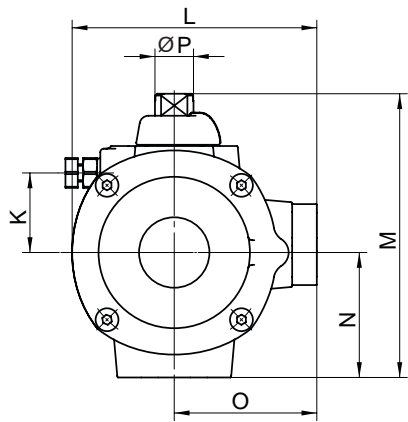
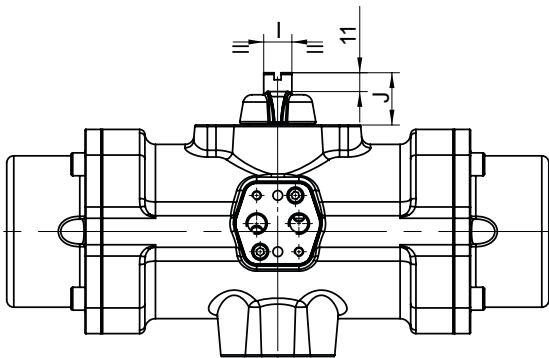
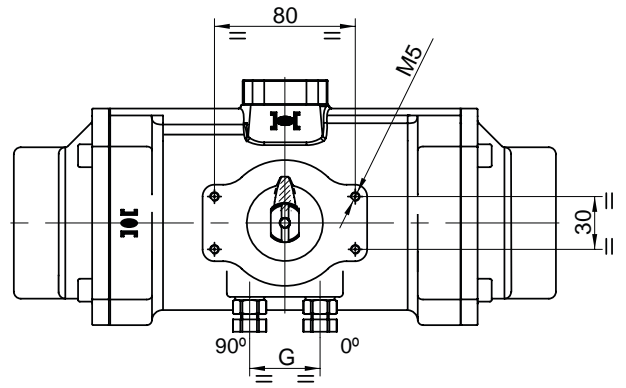
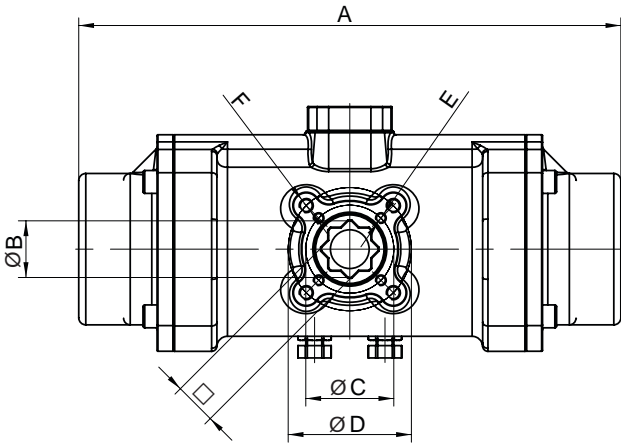
## DISASSEMBLY AND MATERIALS



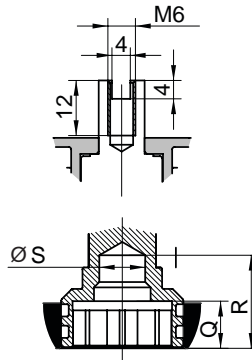
Nº	DESCRIPTION	QUANT.	MATERIAL	SURFACE FINISH
1	CAP ALLEN SCREW	8 - 12	AISI-316 STAINLESS STEEL	-
2	CAPS	2	CF8M STAINLESS STEEL	ELECTROPOLISHED
3	CAP O-RING	2	N.B.R.	-
4	PISTON O-RING	2	N.B.R.	-
5	GUIDE RING	2	POM / PTFE+BRONZE (PI30)	-
6	PISTON	2	POLYARILAMIDE + GF / ALUMINIUM ALLOY (PI30-PI40)	CATAPHORESIS COVERED (PI30-PI40)
7	PISTON GUIDE	2	POLYACETAL	-
8	CYLINDER	1	CF8M STAINLESS STEEL	ELECTROPOLISHED
9	BOLT	2	AISI-316 STAINLESS STEEL	-
10	NUT	2	AISI-316 STAINLESS STEEL	-
11	BUSHING	2	AISI-316 STAINLESS STEEL	-
12	O-RING	2	N.B.R.	-
13	POSITION INDICATOR	1	POLYAMIDE	-
14	SPRING CLIP	1	STAINLESS STEEL	-
15	BUSHING	1	POLYAMIDE 6	-
16	CAP O-RING	2	N.B.R.	-
17	PRELOADED SPRINGS	0-8	DIN-17223-C	CATAPHORESIS COVERED
18	PLATE O-RING	2	N.B.R.	-
19	PNEUMATIC CONNECTON PLATE	1	CF8M STAINLESS STEEL	-
20	PLATE ALLEN SCREW	2	AISI-316 STAINLESS STEEL	-
21	SHAFT O-RING	2	N.B.R.	-
22	SHAFT	1	AISI-316 STAINLESS STEEL	-
23	SHAFT O-RING	2	N.B.R.	-
24	CAM	1	CF8 STAINLESS STEEL	-
25	GEAR	1	ALUMINIUM ALLOY	CATAPHORESIS COVERED + BURNISH



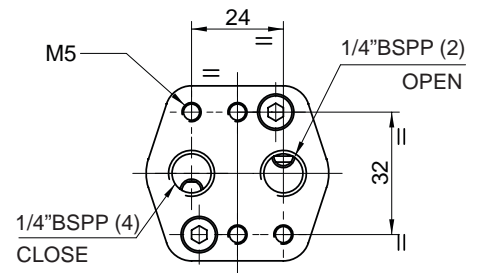
## PI DIMENSIONS



### SHAFT DETAIL



### NAMUR PNEUMATIC CONNECTION



### 1/4" NPT OPTION



MODELS	DIMENSIONS (mm)																		
	A	□	B	C	E	D	F	G	I	J	K	L	M	N	O	P	Q	R	S
				ISO-5211		ISO-5211													
PI00-PI00S	160	14	19	Ø50 F05	M6	-	-	-	10	30	11	91	111	45	55	13,8	16	31	14,5
PI10-PI10S	231	17	23	Ø50 F05	M6	Ø70 F07	M8	32	10	30	11	112	126	50	66	13,8	19	31	15
PI20-PI20S	308	22	29	Ø50 F05	M6	Ø70 F07	M8	40	16	30	11	139	160	71	81	21,8	19	32	23
PI30-PI30S	478	27	36,5	Ø70 F07	M8	Ø102 F10	M10	46	16	30	11	186	211	96	103	21,8	29	42	29
PI40-PI40S	598	36	49	Ø102 F10	M10	Ø125 F12	M12	56	32	50	25	223	272	112	125	41,9	38	51	35

# STAINLESS STEEL PNEUMATIC ACTUATORS

## CYCLE TIME, WEIGHTS AND CAPACITY

MODELS		CYCLE TIME (seconds)				WEIGHTS (Kg)		CAPACITY (litre)			
		TO OPEN		TO CLOSE				TO OPEN		TO CLOSE	
DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR
PI00	PI00S	0,15	0,2	0,15	0,2	2,2	2,6	0,15	0,15	0,1	-
PI10	PI10S	0,25	0,3	0,25	0,3	4,7	5,6	0,35	0,35	0,32	-
PI20	PI20S	0,4	0,5	0,4	0,5	5,9	9,9	0,8	0,8	0,7	-
PI30	PI30S	0,6	1,2	0,6	1,2	17,9	25,4	2,05	2,05	1,9	-
PI40	PI40S	1,2	2	1,2	2	38,4	57,6	5,3	5,3	5,3	-

## OPERATING TORQUE

DOUBLE ACTING (DA)									
MODELS	Air torque at indicated pressure (bar)								
	3	4	4,5	5	5,5	6	7	8	
PI00	11,6	16,1	18,3	20,5	22,8	25	29,5	33,9	
PI10	32,9	45,6	52	58,3	64,7	71	83,7	96,4	
PI20	77,7	107	121,7	136,3	150,9	165,5	194,8	224	
PI30	226,5	307,4	347,9	388,3	428,8	469,2	550,1	631	
PI40	582,5	782	881,4	980,8	1080	1180	1379	1578	

Units: Nm

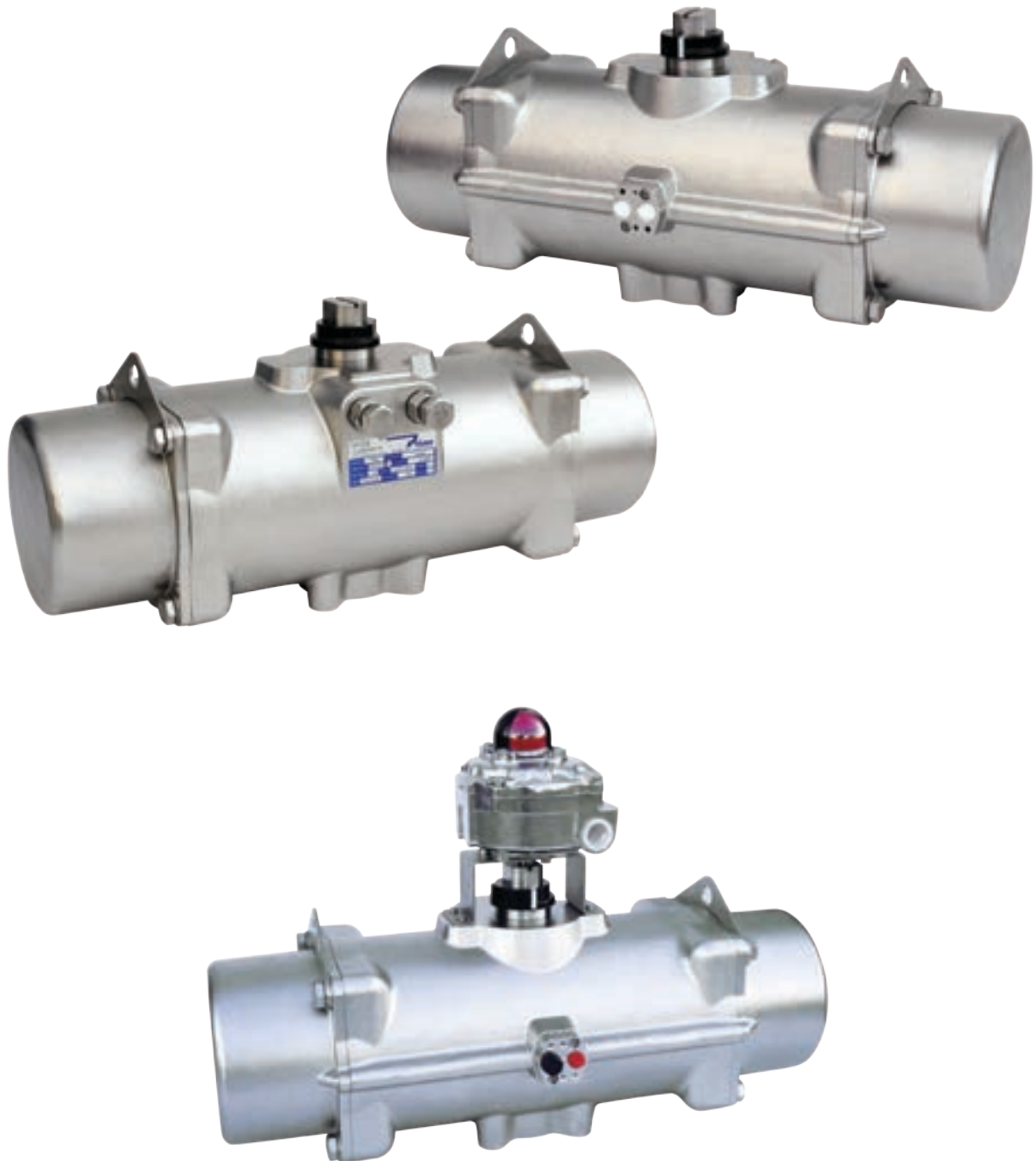
SPRING RETURN (SR)																			
MODELS	Spring Number	Spring Torques (Nm)		Air torque at indicated pressure (bar)															
				3		4		4,5		5		5,5		6		7		8	
		Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	Final
PI00S	4 + 4	15,9	11,3					7	2,4	9,2	4,6	11,5	6,9	13,7	9,1	18,1	13,5	22,6	18
	3 + 3	13,1	10,3			5,8	3	8	5,2	10,3	7,4	12,5	9,7	14,7	11,9	19,2	16,3	23,6	20,8
	2 + 2	10,5	7,4	4,2	1,1	8,7	5,6	10,9	7,8	13,1	10,1	15,4	12,3	17,6	14,5	22,1	19		
	1 + 1	7	4,8	6,8	4,7	11,3	9,1	13,5	11,3	15,8	13,6	18	15,8	20,2	18				
PI10S	4 + 4	46,6	32,3					19,7	5,4	26	11,7	32,4	18,1	38,7	24,4	51,4	37,1	64,1	49,8
	3 + 3	40,4	28,6					23,4	11,6	29,7	17,9	36,1	24,3	42,4	30,6	55,1	43,3	67,8	56
	2 + 2	28	19,8			25,8	17,7	32,2	24	38,5	30,4	44,9	36,7	51,2	43,1	63,9	55,8		
	1 + 1	18,7	13	19,9	14,2	32,6	26,9	39	33,3	45,4	39,6	51,7	46	58,1	52,3				
PI20S	3 + 3	104,7	65,8					55,9	17	70,5	32	85,1	46,4	99,7	60,8	129	90,1	158,2	119,3
	2 + 2	71,8	44,9			62,1	35,2	76,8	49,9	91,4	64,5	106	79,1	120,6	93,7	149,9	123	179,1	152,2
	1 + 1	47,9	32,9	44,8	29,8	74,1	59,1	88,8	73,8	103,4	88,4	118	103	132,5	117,6	161,9	146,9	191,1	176,1
PI30S	4 + 4	273,7	179,9			127,5	33,7	168	74,2	208,4	114,6	248,9	155,1	289,3	195,5	370,2	276,4	451,1	357,3
	3 + 3	203,3	140,8	85,8	23,2	166,6	104,1	207,1	144,6	247,5	185	288	225,5	328,4	265,9	409,3	346,8	490,2	427,7
	2 + 2	148,6	93,8	132,7	77,9	213,6	158,8	254,1	199,3	294,5	239,7	335	280,2	375,4	320,6	456,3	401,5		
	1 + 1	93,8	54,7	171,8	132,7	252,7	213,6	293,2	254,1	333,6	294,5	374,1	335	414,5	375,4				
PI40S	4 + 4	766,9	491,6					389,8	114,5	489,1	213,8	588,4	313,4	688,3	413	887,4	612,1	1087	811,2
	3 + 3	629,3	432,6			349,4	152,7	448,8	252,1	548,1	351,5	647,7	451,1	747,3	550,6	946,4	749,8	1146	948,9
	2 + 2	452,3	314,6	267,9	103,2	467,4	329,7	566,8	429,1	666,1	528,5	765,7	628,1	865,3	727,6	1064	926,8		
	1 + 1	275,3	177	405,6	307,2	605	506,7	704,4	606,1	803,8	705,5	903,4	805,1	1003	904,6				

Units: Nm

## NEW MODEL OF PI ACTUATORS

The PI range of Stainless Steel Prisma Pneumatic Actuators is now bigger with the launching of the new model, the PI40 – PI40S.

We can offer now 5 different sizes of Stainless Steel actuators, up to 1.180Nm (6 bar) in Double Acting, and up to 492Nm in Spring Return, covering the automation valves in larger sizes.



# SPECIAL ACTUATORS

## 180° ROTATION ACTUATORS

Pneumatic actuators in double acting and spring return with 180° rotation covering a torque range from 17Nm to 244Nm. Application for 3 way valves.



**180° ACTUATOR CYCLE TIME, WEIGHTS AND CAPACITY:**

**17Nm** \_\_\_\_\_ **244Nm**

MODELS		CYCLE TIME (sec.)				WEIGHTS (Kg)		CAPACITY (litre)			
		TO OPEN		TO CLOSE				TO OPEN		TO CLOSE	
DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR
PAGW	PAGWS	0,13	0,2	0,13	0,2	1,3	1,5	0,123	0,123	0,158	-
PAG00	PAG00S	0,2	0,25	0,2	0,25	2,1	2,5	0,21	0,21	0,25	-
PAG10	PAG10S	0,25	0,3	0,25	0,3	3,1	3,5	0,35	0,35	0,45	-
PAG20	PAG20S	0,4	0,5	0,4	0,5	5,2	6,7	0,8	0,8	1,15	-
PAG30	PAG30S	1,2	2	1,2	2	11,6	15,3	2,05	2,05	3	-

**180° ACTUATOR TORQUES:**

Units: Nm

DOUBLE ACTING (DA)									
MODELS	Air torque at indicated pressure (bar)								
	3	4	4,5	5	5,5	6	7	8	
PAGW	7,9	11,3	12,7	14,1	15,5	17	19,8	22,9	
PAG00	13,3	18,3	20,6	23,4	26	28,5	33,6	38,7	
PAG10	16,5	22,8	26	29,2	33	36	41,9	48,2	
PAG20	38,9	53,5	60,9	68,2	75,5	82,8	97,4	112	
PAG30	114,3	157,4	179	200,6	222,1	243,7	286,8	329,9	

SPRING RETURN (SR)																			
MODELS	Springs Number	Spring Torques (Nm)		Air torque at indicated pressure (bar)															
				3		4		4,5		5		5,5		6		7		8	
		Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	End	Initial	End
PAGWS	4 + 4	9,7	6,1					6,6	3	8	4,4	9,4	5,8	10,9	7,3	13,7	10,1	16,8	13,2
	3 + 3	8,8	5,5			5,8	2,5	7,2	3,9	8,6	5,3	10	6,7	11,5	8,2	14,3	11	17,4	14,1
	2 + 2	6,7	4,3	3,6	1,2	7	4,6	8,4	6	9,8	7,4	11,2	8,8	12,7	10,3	15,5	13,1		
	1 + 1	4,3	2,4	5,5	3,6	8,9	7	10,3	8,4	11,7	9,8	13,1	11,2	14,6	12,7				
PAG00S	4 + 4	17,8	13,8					7,1	3,1	9,6	5,6	12,2	8,2	14,7	10,7	19,8	15,8	24,9	23,4
	3 + 3	15,3	11,2			7,1	3	9,7	5,6	12,2	8,1	14,8	10,7	17,3	13,2	22,4	18,3	27,5	23,4
	2 + 2	11,7	8,7	4,6	1,6	9,6	6,6	12,2	9,2	14,7	11,7	17,3	14,3	19,8	16,8	24,9	21,9	30	27
	1 + 1	6,6	5,1	8,2	6,7	13,2	11,7	15,8	14,3	18,3	16,8	20,9	19,4	23,4	21,9	28,5	27	33,6	32,1
PAG10S	6 + 6	22,8	15,4					10,6	3,2	13,8	6,4	17,1	9,7	20,1	12,7	26,5	19,1	32,8	25,4
	5 + 5	19	12,9					13,1	7	16,3	10,2	19,7	13,5	22,7	16,5	29	22,9	35,4	29,2
	4 + 4	15,2	10,3			12,6	7,6	15,7	10,8	18,9	14	22,3	17,3	25,3	20,3	31,6	26,7	38	33
	3 + 3	11,4	7,7	8,8	5,1	15,1	11,4	18,3	14,6	21,5	17,8	24,8	21,1	27,8	24,1	34,2	30,5		
	2 + 2	7,6	5,2	11,3	8,9	17,7	15,2	20,8	18,4	24	21,6	27,4	24,9	30,4	27,9				
PAG20S	6 + 6	52,3	32,9					28	8,6	35,3	15,9	42,6	23,2	49,9	30,5	64,5	45,1	79,1	59,7
	5 + 5	43,6	27,4			26,1	9,9	33,5	17,3	40,8	24,6	48,1	31,9	55,4	39,2	70	53,8	84,6	68,4
	4 + 4	34,9	21,9	17	4	31,6	18,6	39	26	46,3	33,3	53,6	40,6	60,9	47,9	75,5	62,5	90,1	77,1
	3 + 3	26,1	16,6	22,3	12,8	36,9	27,4	44,3	34,8	51,6	42,1	58,9	49,4	66,2	56,7	80,8	71,3		
	2 + 2	17,4	10,9	28	21,5	42,6	36,1	50	43,5	57,3	50,8	64,6	58,1	71,9	65,4				
PAG30S	6 + 6	154,8	104					75	24,2	96,2	45,8	117,7	67,3	139,3	88,9	182,4	132	225,5	175,1
	5 + 5	126,8	88,6			68,8	30,6	90,4	52,2	112	73,8	133,5	95,3	155,1	116,9	198,2	160	241,3	203,1
	4 + 4	98,8	72,7	41,6	15,5	84,7	58,6	106,3	80,2	127,9	102	149,4	123	171	144,9	214,1	188	257,2	231,1
	3 + 3	70,7	56,9	57,4	43,6	100,5	87,6	122,1	108,3	143,7	130	165,2	151	186,8	173	229,9	216,1		
	2 + 2	42,7	41,1	73,2	71,6	116,3	115	137,9	136,3	159,5	158	181	179	202,6	201				



## HIGH AND LOW TEMPERATURE

### HIGH TEMPERATURE

- For preferential application in fire-fighting systems.
- Temperatures up to +265°C
- Caps with allen screws.

### LOW TEMPERATURE

- With low temperature o-rings for applications on cryogenic sector.
- Working temperature to -55°C.

## MARINE ENVIRONMENT ACTUATORS

- Pneumatic aluminium actuators resistant to corrosion in marine environments.
- Shaft with double protection to corrosion (Nickel + Cataphoresis).
- A4 fixing bolts and use special grease for this environment.



## FAIL OPEN ACTUATORS

- Used in spring return actuators to assure that the valve remains open if there is a failure in the air pressure supply.
- Used when it is necessary to assure the fluid is passing through the valve in emergency cases.

## REVERSE ACTUATORS

- Actuators with opposite direction of rotation.
- Applied in valves with end limits, dampers, etc...

## SHAFT MOUNTED AT 90°

- Actuators to be mounted across the pipe keeping open-close indication.

## STAINLESS STEEL OPTIONS

- Shaft Options:

Aluminium Actuators: Shaft in Aisi-303 Stainless Steel

Polyamide Actuators: PP00-PP10-PP20 Option: Aisi-316

## HEAVY DUTY PNEUMATIC ACTUATORS

- High Torque actuators to mount on to ball, butterfly and plug valves.
- PD pneumatic actuator range can pilot and regulate 90° rotation valves with torques up to 160.000 Nm in double acting and spring return function.



SPRING RETURN



DOUBLE ACTING

*For other special features, please consult.*

## MOUNTING KITS



### **Brackets and drive adapters**

- Wide range of brackets and drive adapters for any kind of valve

## ELECTRIC ACTUATION



### **Electric actuators**

- Electric actuators with torques up to 3.000Nm

## ELEMENTS OF REGULATION AND CONTROL

PRISMA offers a wide range of products for valve automation including pneumatic actuators, electric actuators and elements of regulation and control: solenoid valves, limit switch boxes, positioners, travel stops, declutchable gearboxes, handwheels, fieldbus systems, etc.



### **Namur solenoid valves**

- DC 24V, 2.5W 5/2 or 3/2 ways for double acting and spring return
- Enclosure IP65
- Option 110V AC and 220V AC



### **Limit switch box**

- Electromechanical, Inductive (Eexi, PNP, NPN,...)
- Enclosure IP67
- Option: 8 terminal connections allowing 2 limit switches + solenoid valve



### **Atex limit switch box**

- EXD limit switch box (electromechanical SPDT, inductives Exi), Enclosure IP67
- Exia limit switch box (electromechanic SPDT, inductives Exi), Enclosure IP66
- Option: 8 terminal connections allowing 2 limit switches + solenoid valve



### **Proximity Namur limit switches**

- Electromechanic: 224V, 3A (AC) / 250V, 0.27A
- Proximity Namur: 8V. Classified zone II1GEEExiallCT6
- F.C DUAL proximity namur: 8V EExiallCT6



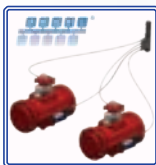
### **Positioners**

- Pneumatic: 3-15 psi. Enclosure IP66
- Electro-pneumatic: 4-20 mA. IP66. Options feedback, Eexi, Eexd
- Smart: 4-20mA. Enclosure IP66. PID function, auto calibration, alarm,... HART protocol option, feedback, Eexi, Eexd



### **Manual operation**

- Hand wheel installed onto actuator
- Declutchable gearbox



### **Fieldbus communication systems**

- AS-i
- Profibus
- DeviceNet
- CANopen



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