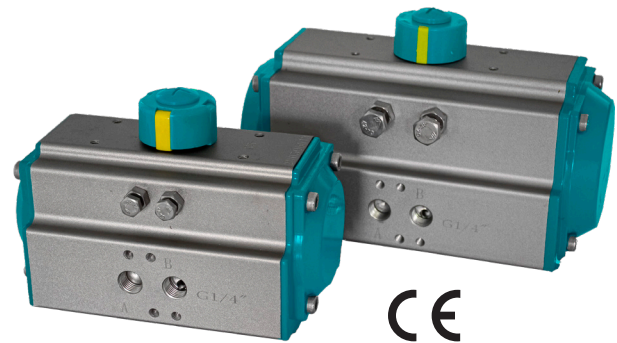


## Description

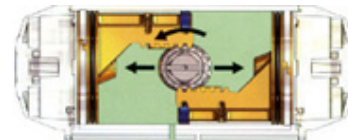
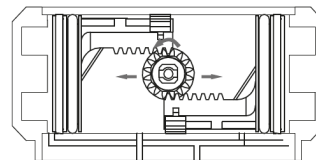
The rack and pinion pneumatic actuator PAB combines well proven design features with technical performances, resulting in one of the most effective actuators for industrial applications.



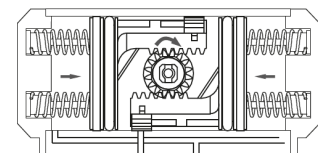
## Product features

- Function **PAB...D** double acting  
**PAB...S** single acting
- Nominal torque  $24 \div 1596 \text{ Nm}$   
(double acting at 6 bar air supply)
- Supply pressure 6 bar
- Supply fluids Filtered air or neutral gas
- Working temperature  $-15^{\circ}\text{C} \div 80^{\circ}\text{C}$
- Connection Mounting face for valves according to EN ISO 5211 and DIN 3337  
For solenoid valves and accessories to VDI/VDE 3845 (NAMUR)
- Lubrication Factory lubricated for the life of actuator under normal working conditions

PAB ... D



PAB ... S



## Design properties

- Specially designed for industrial applications.
- Rack and pinion design for high-cycle life and fast operation.
- Compact design with the body made of extruded coated aluminum with smooth cylinder surface and low friction for increased lifetime.
- Two independent external travel stop adjustments, with easy angle adjustment of  $\pm 5^{\circ}$  for valve positioning.
- Use of high quality bearings with low friction, long life and low noise.
- The piston and end cap are made of die-cast aluminum alloy with high strength and light weight.
- Pre-compressed spring cartridges for simple versatile range.
- End caps, powder coated (RAL 5021).
- All used screws in stainless steel for increased corrosion resistance.
- Position indicator.
- Full compliance to latest worldwide standards.

## Materials

Body	Extruded aluminum ASTM6005 hard anodized
End caps	Die cast aluminum alloy (ADC12 and ZL101) powder coated
Pistons	Die cast aluminum alloy (ADC12 and ZL101) anodized
Springs	55CrSi alloy Steel with anodic electrophoretic paint
Shaft	Nickel plated 20CrMo alloy steel
Position indicator	Plastic indicator (polyacetal copolymer) UV resistant



## Type Code

<b>PAB105</b>	<b>D</b>	<b>F07 - F10</b>	<b>22</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

<b>1 Actuator size</b>	<b>PAB052-300</b>	
<b>2 Function</b>	<b>D</b>	Double acting
	<b>S12</b>	Single acting + number of springs
<b>3 Mounting face for valve</b>	<b>F05 - F16</b>	According to EN ISO 5211
<b>4 Shaft connection</b>	<b>[mm]</b>	Dimension of shaft connection

## Function

### PAB...D Double acting actuator

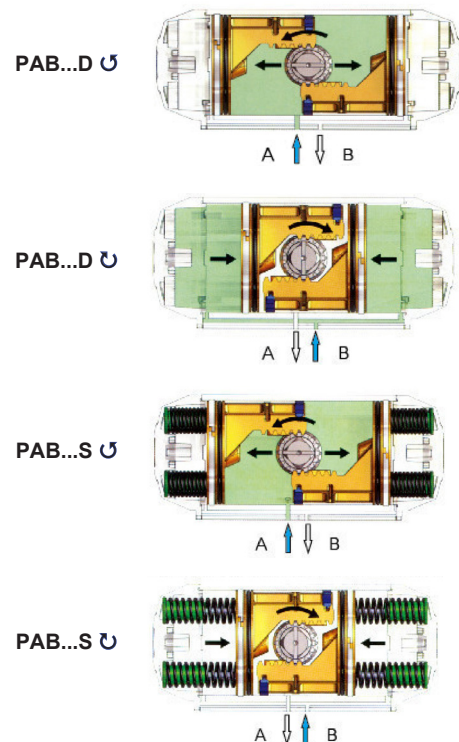
Air supplied to port **A** moves pistons toward endposition.  
(→ 90° counterclockwise rotation)

Air supplied to port **B** moves pistons toward center position.  
(→ 90° clockwise rotation)

### PAB...S Single acting actuator

Air supplied to port **B** moves pistons toward endposition, compressing springs.  
(→ 90° counterclockwise rotation)

Air failure allows springs to move pistons toward center position.  
(→ 90° clockwise rotation)



## Torques [Nm]

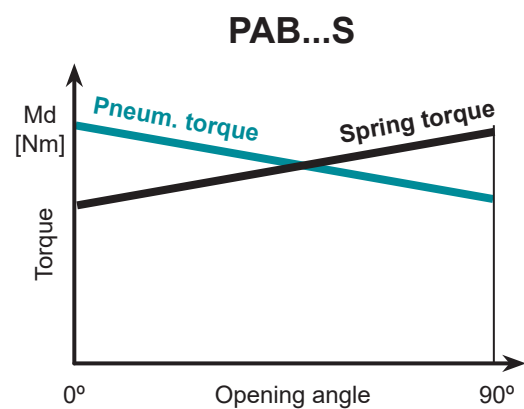
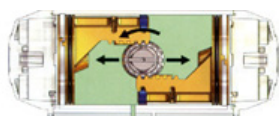
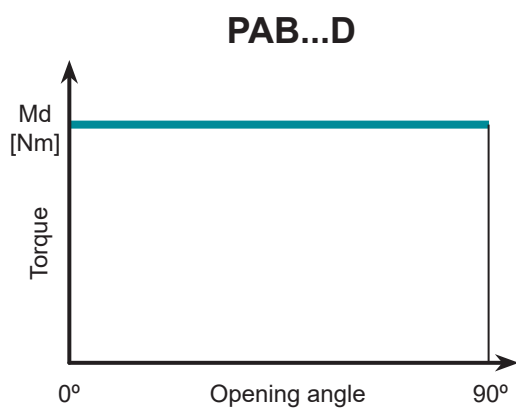
### PAB...D - Double acting actuators

Pneumatical torque at air supply of 6 bar	
PAB 052 D	24
PAB 063 D	44
PAB 075 D	60
PAB 083 D	94
PAB 092 D	135
PAB 105 D	196
PAB 125 D	301
PAB 140 D	522
PAB 160 D	794
PAB 190 D	1280
PAB 210 D	1596

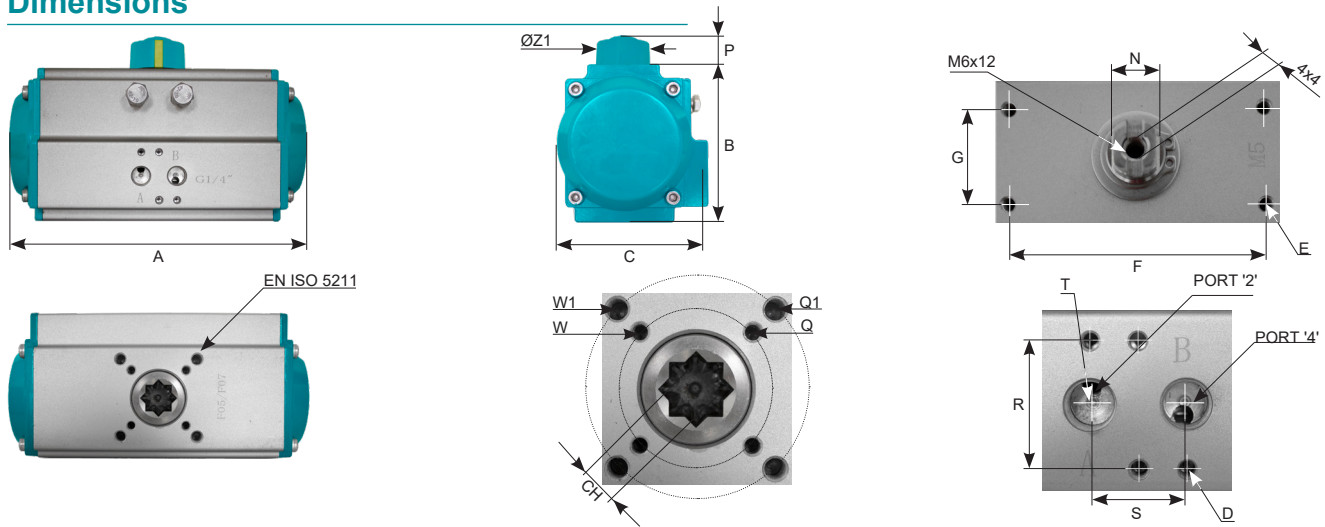
## Torques [Nm]

### PAB...S - Single acting actuators

		Pneumatical torque at air supply of 6 bar		[Nm]	
		0°	90°	90°	0°
PAB 083	S12	56	38	55	37
PAB 092	S12	80	56	79	55
PAB 105	S12	119	77	118	76
PAB 125	S12	181	114	187	120
PAB 140	S12	315	211	310	206
PAB 160	S12	459	332	462	335
PAB 190	S12	825	512	768	455
PAB 210	S12	1134	703	1056	625
PAB 240	S12	1823	1113	1644	934
PAB 270	S12	2664	1572	2304	1212
PAB 300	S12	2754	1746	2478	1740



## Dimensions



## Dimensions

	A	B	C	D	E	F	G	N	P	R	S	T <sup>1)</sup>	Z1	V <sub>o</sub> [l]	V <sub>c</sub> [l]	t <sub>o</sub> "	t <sub>c</sub> "	[kg]	t <sub>o</sub> "	t <sub>c</sub> "	[kg]
PAB 052	147	72	72	M5x8	M5x8	80	30	12	20	32	24	¼"	40,5	0,1	0,16	<1	<1	1,4	<1	<1	1,7
PAB 063	167	88	83	M5x8	M5x8	80	30	12	20	32	24	¼"	40,5	0,2	0,23	<1	<1	2,1	<1	<1	2,4
PAB 075	184	100	95	M5x8	M5x8	80	30	12	20	32	24	¼"	40,5	0,3	0,34	<1	<1	2,7	<1	<1	3,2
PAB 083	210	109	103	M5x8	M5x8	80	30	12	20	32	24	¼"	40,5	0,4	0,47	<1	<1	3,3	0,8	1	3,6
PAB 092	262	117	109	M5x8	M5x8	80	30	12	20	32	24	¼"	40,5	0,6	0,73	<1	<1	4,7	1	1	5,3
PAB 105	268	133	121	M5x8	M5x8	80	30	12	20	32	24	¼"	40,5	1	0,88	<1	<1	6	2	1	6,8
PAB 125	301	155	143	M5x8	M5x8	80	30	20	20	32	24	¼"	55	1,6	1,4	<1	<1	9,5	3	2	11
PAB 140	394	173	152	M5x8	M5x8	80	30	20	20	32	24	¼"	55	2,5	2,3	<1	<1	14	3,9	2	16
PAB 160	458	198	174	M5x8	M5x8	80	30	20	20	32	24	¼"	55	3,8	3,4	<1,5	<1,5	21	4	2	24
PAB 190	528	232	206	M5x8	M5x8	130	30	30	30	32	24	¼"	80,5	6,1	5,6	<1,5	<1,5	33	5	3	37
PAB 210	532	257	226	M5x8	M5x8	130	30	30	30	32	24	¼"	80,5	7,8	7,8	<2	<2	39	5,5	3	47
PAB 240	608	291	260	M5x8	M5x8	130	30	30	30	32	24	¼"	80,5	11	9,5	<5	<5	53	9	4	68
PAB 270	716	30	294	M6x10	M5x8	130	30	30	30	45	40	½"	80,5	18	14,8	<5	<5	77	10	5	97
PAB 300	820	354	336	M6x10	M5x8	130	30	30	30	45	40	½"	80,5	24	29,7	<6	<6	112	13	6	141

- 1) BSP / ISO 228 / DIN 259  
V(l) Volume in litre, V<sub>o</sub> = OPEN, V<sub>c</sub> = CLOSE  
To calculate the air consumption, multiply the volume in litre by the supply pressure.  
t<sub>o</sub> / t<sub>c</sub> t<sub>o</sub> = opening time / t<sub>c</sub> = closing time, in seconds

The above mentioned operating times are obtained under the following conditions:  
- Air supply pressure min. 5,5 bar (80 psi) - at room temperature - actuator stroke 90° - actuator without resistance load - air tube diameter 6mm with 8m length.  
**Caution:** Obviously, during operation, if one or more of the above listed criteria differ, the operating time will be different.

	EN ISO 5211	Q	Q1	W	W1	CH♦ x l	CH* x l
PAB 052	F05	-	50	-	M6x10	8 x 14*	-
PAB 063	F05-F07	50	70	M6x10	M8x13	-	11 x 14 14 x 18
PAB 075	F05-F07	50	70	M6x10	M8x13	-	11 x 14 14 x 20
PAB 083	F05-F07	50	70	M6x10	M8x13	8 x 21* 11 x 21*	14 x 17 17 x 21
PAB 092	F05-F07	50	70	M6x10	M8x13	11 x 21*	14 x 17 17 x 22
PAB 105	F07-F10	70	102	M8x13	M10x16	11 x 21* 14 x 24*	17 x 21 22 x 26
PAB 125	F07-F10	70	102	M8x13	M10x16	11 x 21* 14 x 24*	17 x 21 22 x 27 22 x 40
PAB 140	F10-F12	102	125	M10x16	M12x20	-	22 x 25 22 x 40
PAB 160	F10-F12	102	125	M10x16	M12x20	22 x 22* -	22 x 27 27 x 32
PAB 190	F12	-	125	-	M12x20	22 x 40* 27 x 40*	-
PAB 210	F12	-	125	-	M12x20	22 x 40* 27 x 40*	-
PAB 240	F12	-	125	-	M12x20	22 x 48* 27 x 48*	-
PAB 270	F16	-	165	-	M20x25	-	46 x 50
PAB 300	F12	-	125	-	M12x20	27 x 58*	-

\*Connection done by reduction