



AP

AP SERIES PNEUMATIC ACTUATORS

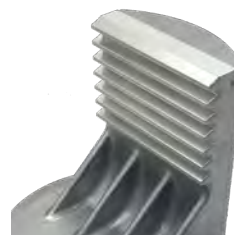
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VALVES

Technical Characteristics

AP series pneumatic actuators, with the integrated use of advanced precision machining equipment, high-quality materials and industrial art design technology. After rigorous testing and optimization of production line, AP series pneumatic actuators have lots of advantages like smooth and reliable operation, long working life, high corrosion resistance, flexible selection, competitive price and so on.

Piston

The teeth of piston machined by CNC machining center, makes the operation smoother and performance more reliable. Anodized treatment improves the corrosion and wear resistance.



End cap

The function of 95° position limit is optimally designed on the end cap, instead of extra limit screw. This design improves the safety and reliability.

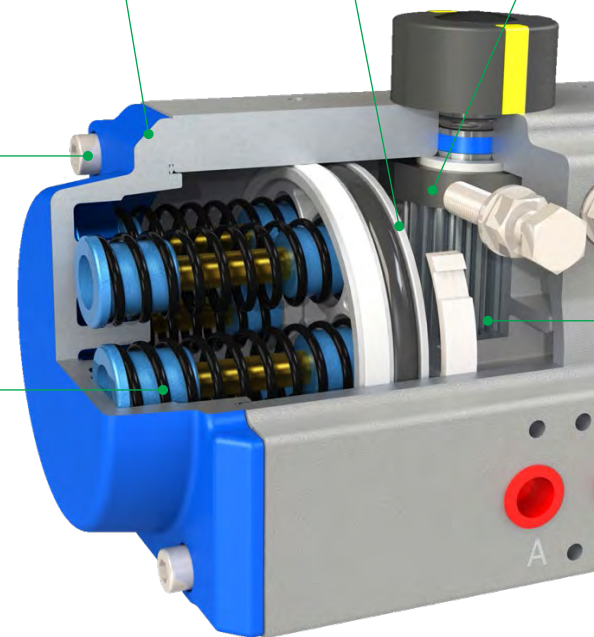


Fasteners

The stainless steel fasteners, are safe and beautiful with high corrosion resistance.

Spring

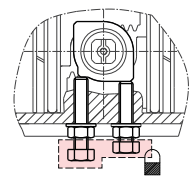
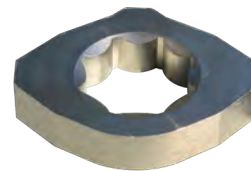
Preloaded and coated springs are made from high quality material for higher corrosion resistance and longer service life, which can be demounted safely and conveniently to satisfy different requirements of torque by changing quantity of springs.





Cam

Cam with lock function*, when the actuator is required to be locked in full open (90°) or fully closed (0°) position, the actuator can be equipped with special bolts and locking device, the actuator position can be locked, and prevent misuse.



*AP40~AP125 / AP40~AP125 are available at this time

Body

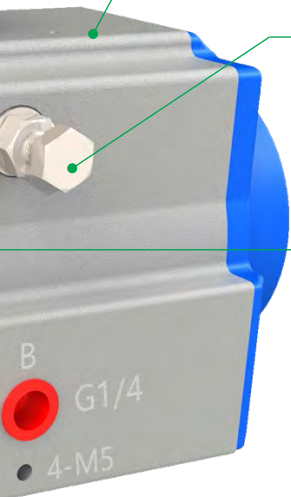
According to different requirements, the surface of aluminum body can be treated with hard anodizing, powder polyester coating in colors (like black, blue, orange, red etc.), PTFE coating or Nickel plated.

Adjust screw

The two independent external travel stop adjust screws can adjust $\pm 5^\circ$ at both open and close positions easily and precisely.

Drive shaft

The drive shaft is high-precision and integrative, made from nickel plated alloy steel, full conform to the latest standards of ISO5211, DIN3337, NAMUR. The dimensions can be customized and the stainless steel is available.



Installation Specification



Limit Switch box



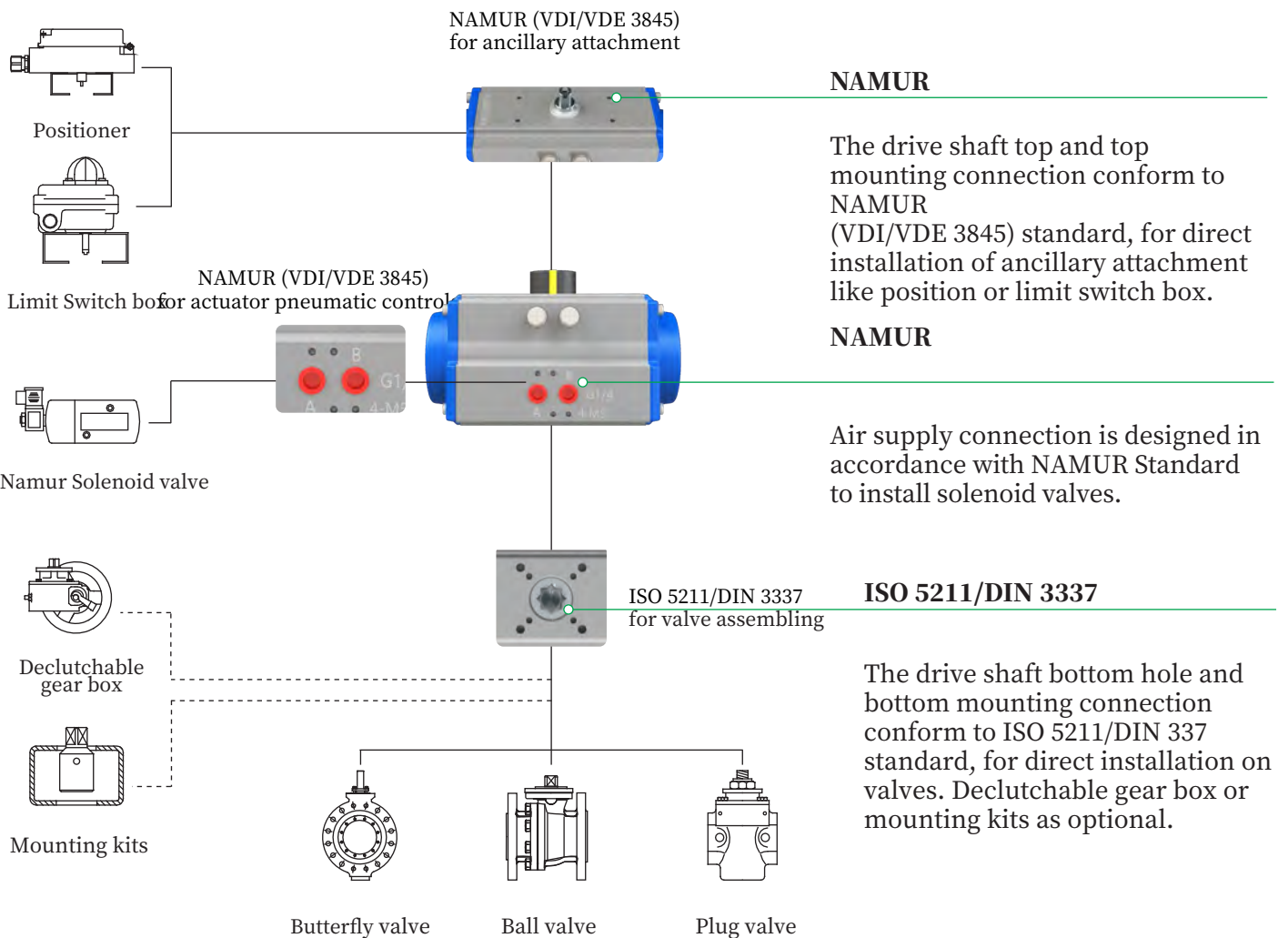
Positioner



Smart Positioner



NAMUR Solenoid valve



Butterfly valve



Ball valve



Plug valve

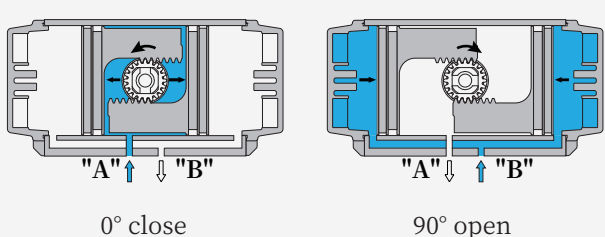


Declutchable gear box

Operating Principle

Double Acting Actuators

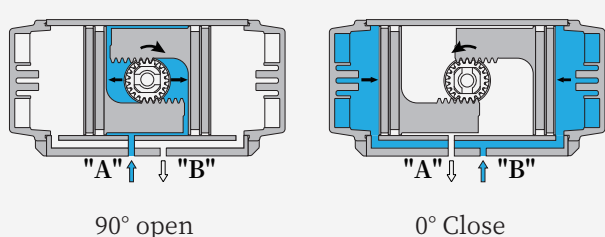
CCW (Standard)



0° close 90° open

Air to Port A forces the pistons outwards, causing the drive shaft to turn counterclockwise while the air is being exhausted from Port B. Air to Port B forces the pistons inwards, causing the drive shaft to turn clockwise while the air is being exhausted from Port A.

CW

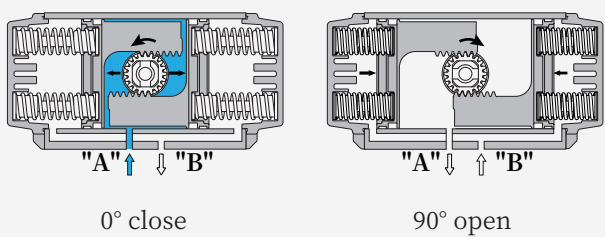


90° open 0° Close

Air to Port A forces the pistons outwards, causing the drive shaft to turn clockwise while the air is being exhausted from Port B. Air to Port B forces the pistons inwards, causing the drive shaft to turn counterclockwise while the air is being exhausted from Port A.

Spring Return Actuators

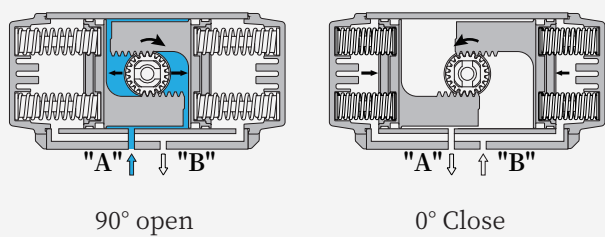
FC-CCW (Standard)



0° close 90° open

Air to port A forces the pistons outwards, causing the springs to compress. The drive shaft turns counterclockwise while air is being exhausted from port B. Loss of air pressure on port A, the stored energy in the springs forces the pistons inwards. The drive shaft turns clockwise while air is being exhausted from port A.

FO-CW



90° open 0° Close

Air to port A forces the pistons outwards, causing the springs to compress. The drive shaft turns clockwise while air is being exhausted from port B. Loss of air pressure on port A, the stored energy in the springs forces the pistons inwards. The drive shaft turns counterclockwise while air is being exhausted from port A.

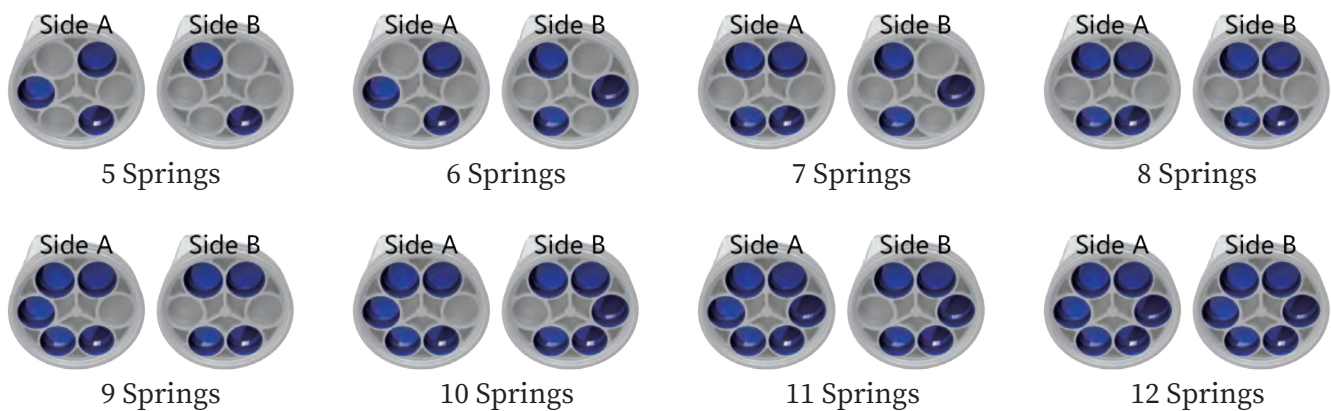
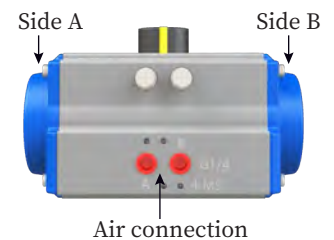
Operating Conditions

- **Operating media**
Dry or lubricated air, or the non-corrosive gases. The maximum particle diameter must less than 30 μm
- **Air supply pressure**
The minimum supply pressure is 2 Bar, the maximum supply pressure is 8 Bar
- **Operating temperature**
Standard (NBR O-rings): $-20^{\circ}\text{C} \sim +80^{\circ}\text{C}$
High temperature (Viton O-rings): $-20^{\circ}\text{C} \sim +150^{\circ}\text{C}$
Low temperature (LTNBR O-rings): $-40^{\circ}\text{C} \sim +120^{\circ}\text{C}$
- **Travel adjustment**
Have adjustment range of $\pm 5^{\circ}$ for the rotation at 0° and 90°
- **Lubrication**
Actuators are factory lubrication located. Under normal operating condition, need not to add lubricant
- **Application**
Either indoor or outdoor

Spring Set Configuration

Spring mounting form for spring return actuators

During selecting the spring return actuators, we can choose the more reasonable and more economical actuators, if we know the different torques of the valve at opening, operating and closing.



Weight

Unit: kg

Model	32	40	52	63	75	83	92	105	115	125	140	160	190	210	240	270	300	350	400
DA	0.80	0.97	1.22	2.02	2.60	3.23	4.58	5.92	8.18	8.68	14.1	20.6	33.2	39.7	57.0	78.7	114	171	240
SR12	-	1.10*	1.35	2.19	2.86	3.64	5.35	6.76	9.30	10.06	16.5	24.4	40.2	49.2	70.0	100.3	141	220	285

*AP40 AP40SR only use 2 springs.
Note: Weights of AP32~AP270 include carton.

Operation Time

Air Pressure: 5 bar

Unit: s

Double Acting			Spring Return (Spring Qty.)														
			3+3		3+4		4+4		4+5		5+5		5+6		6+6		
Size	0°~90°	90°~0°	Size	0°~90°	90°~0°	0°~90°	90°~0°	0°~90°	90°~0°	0°~90°	90°~0°	0°~90°	90°~0°	0°~90°	90°~0°	0°~90°	90°~0°
32DA	0.5	0.5	32SR	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40DA	0.5	0.5	40SR	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52DA	0.6	0.6	52SR	2.46	0.48	2.48	0.46	2.5	0.44	2.52	0.42	2.54	0.4	2.56	0.38	2.58	0.36
63DA	0.7	0.7	63SR	2.54	0.56	2.56	0.54	2.58	0.52	2.6	0.5	2.62	0.48	2.64	0.46	2.66	0.44
75DA	0.8	0.7	75SR	2.62	0.64	2.64	0.62	2.66	0.6	2.68	0.58	2.7	0.56	2.72	0.54	2.74	0.52
83DA	0.9	0.8	83SR	2.71	0.73	2.73	0.71	2.75	0.69	2.77	0.67	2.79	0.65	2.81	0.63	2.83	0.61
92DA	1.0	1.0	92SR	2.89	0.86	2.91	0.84	2.93	0.82	2.95	0.8	2.97	0.78	2.99	0.76	3.01	0.74
105DA	1.5	1.5	105SR	3.14	0.91	3.16	0.89	3.18	0.87	3.2	0.85	3.22	0.83	3.24	0.81	3.26	0.79
115DA	1.7	1.7	115SR	3.59	1.02	3.61	1.00	3.62	0.98	3.64	0.96	3.66	0.95	3.67	0.93	3.69	0.91
125DA	2	2	125SR	4.24	1.2	4.26	1.18	4.28	1.16	4.3	1.14	4.32	1.12	4.34	1.1	4.36	1.08
140DA	2.5	2.5	140SR	4.4	1.35	4.4	1.33	4.62	1.31	4.64	1.29	4.66	1.27	4.68	1.25	4.68	1.22
160DA	4	3	160SR	4.74	1.77	4.76	1.75	4.78	1.73	4.8	1.71	4.82	1.69	4.82	1.67	4.84	1.65
190DA	5	4	190SR	5.75	3.7	5.77	3.5	5.75	3.48	5.77	3.46	5.79	3.44	5.8	3.42	5.83	3.4
210DA	5	4	210SR	8.25	4.8	8.4	4.6	8.42	4.58	8.44	4.56	8.46	4.54	8.48	4.52	8.5	4.5
240DA	6	6	240SR	16.2	5.14	16.4	5.12	16.42	5.1	16.44	4.9	16.6	4.98	16.8	4.86	17	4.84
270DA	8	8	270SR	17.6	6.28	17.8	6.26	17.6	6.24	17.8	6.2	18	6.18	18.2	6.16	18.4	6.14
300DA	12	12	300SR	24	13.2	24.5	13	24.4	12.8	24.3	12.6	24.5	12.58	24.7	12.56	24.9	12.54
350DA	14	14	350SR	31	17.3	31.5	17	31.3	16.8	31	16.6	31.2	16.58	31.4	16.56	31.6	16.54
400DA	15	15	400SR	45	27	51	27	51.3	26.8	51.5	26.8	51.7	26.6	51.9	26.4	52.1	26.2

* The operation time of the actuator depends on the CV values of the solenoid valves, filter regulator and pipes, it also depends on the air pressure, operating load and so on.

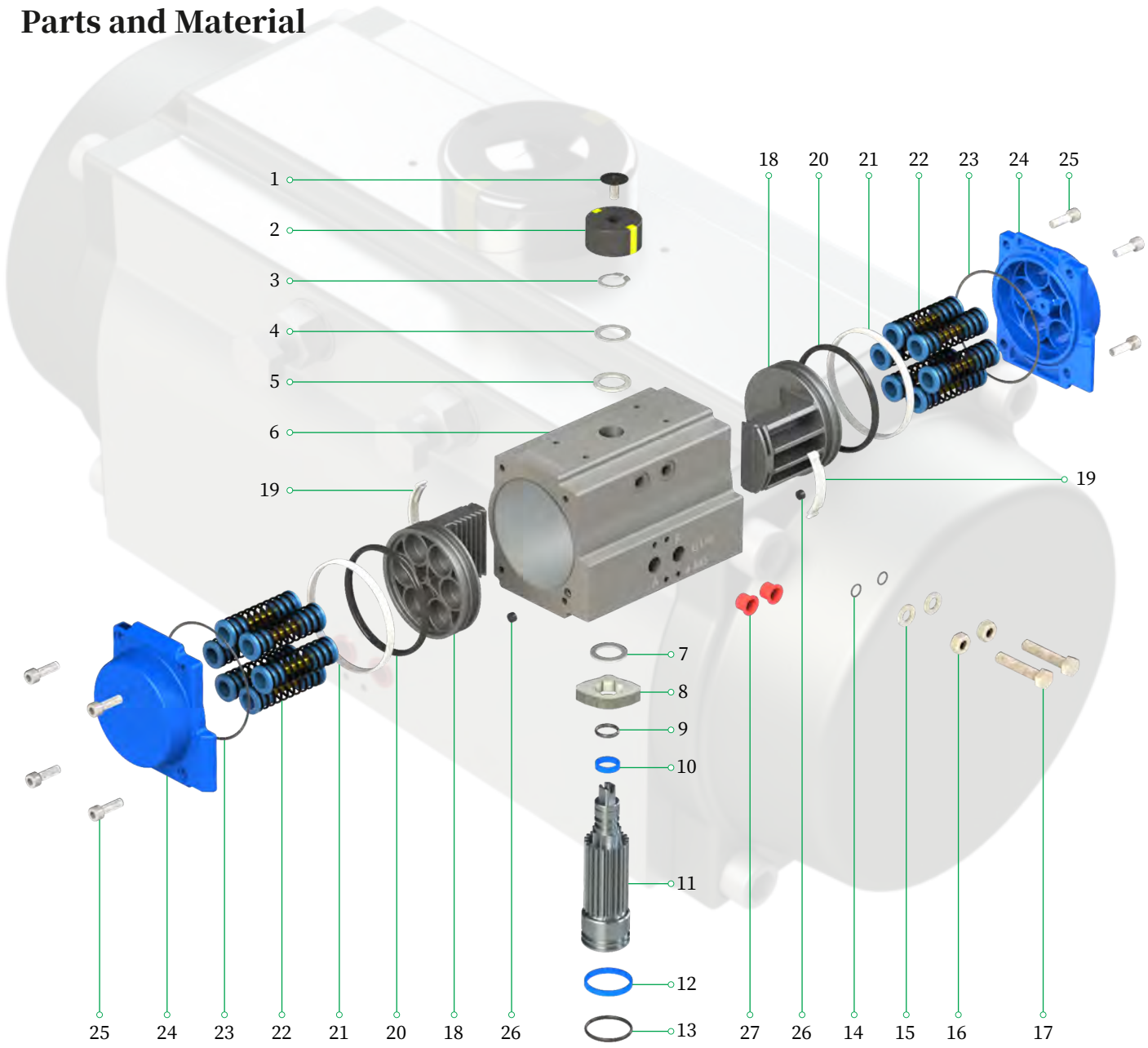
Air Consumption

Unit: L

Model	Air volume opening	Air volume closing	Model	Air volume opening	Air volume closing
AOX-32	0.04	0.05	AOX-140	2.5	2.2
AOX-40	0.08	0.11	AOX-160	3.7	3.2
AOX-52	0.12	0.16	AOX-190	5.9	5.4
AOX-63	0.21	0.23	AOX-210	7.5	7.5
AOX-75	0.30	0.34	AOX-240	11.0	9.0
AOX-83	0.43	0.47	AOX-270	17.0	14.0
AOX-92	0.64	0.73	AOX-300	23.8	29.7
AOX-105	0.95	0.88	AOX-350	35.1	46.3
AOX-115	1.3	1.2	AOX-400	52.6	56.0
AOX-125	1.6	1.4			

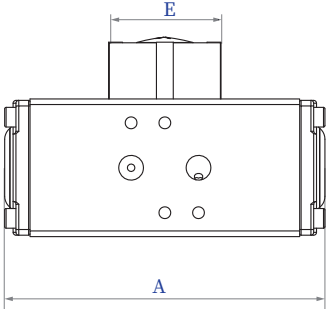
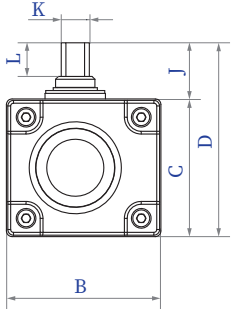
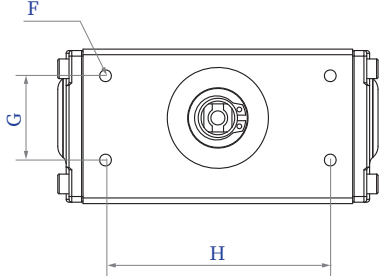
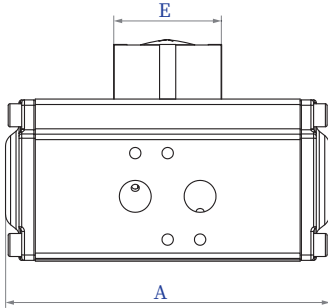
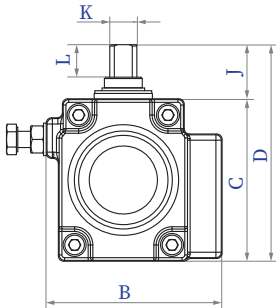
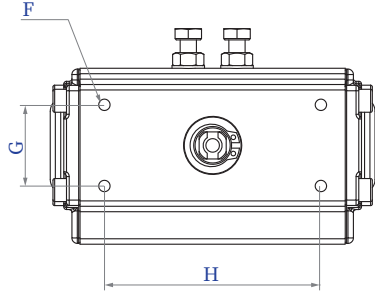
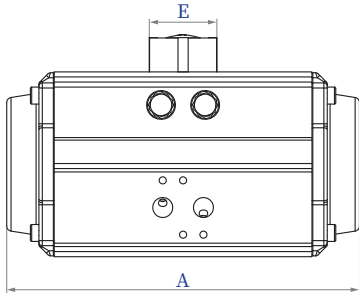
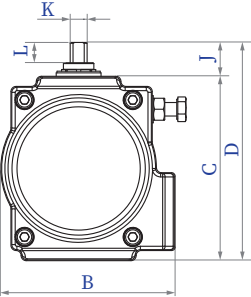
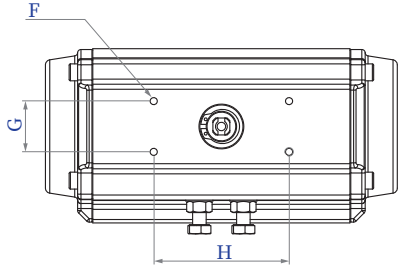
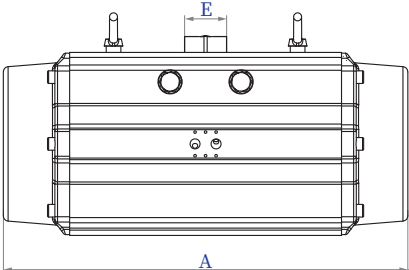
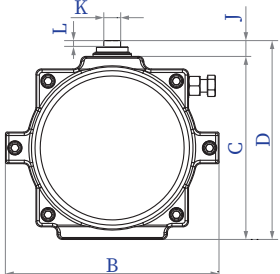
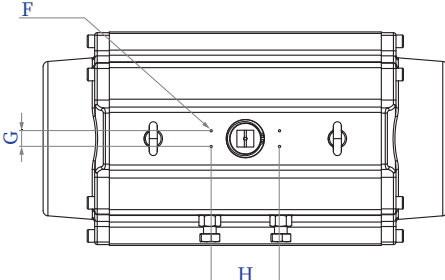
Air consumption rest with Air Supply. Air volume and Action cycle times, expressions:
 $L/Min = \text{Air volume}(\text{Air volume Opening} + \text{Air volume closing}) \times [(\text{Air Supply (Kpa)} + 101.3) \div 101.3] \times \text{Action cycle times}/min$

Parts and Material



No.	Description	Qty.	Standard Material	Protection	Optional Material
1	Indicator screw	1	Plastic+Stainless steel		
2	Indicator	1	ABS Plastic		
3	Spring clip	1	304 Stainless steel		
4	Thrust washer	1	304 Stainless steel		
5	Outside washer	1	POM		
6	Body	1	Extruded aluminum(6005-T5)	Hard anodized etc	
7	Inside washer	1	POM		
8	Cam	1	45# steel		
9	O-ring (Shaft top)	1	NBR		Viton / LTNBR
10	Bearing (Shaft top)	1	POM		
11	Drive Shaft	1	Alloy steel	Nickel plated	304 Stainless steel
12	Bearing (Shaft bottom)	1	POM		
13	O-ring (Shaft bottom)	1	NBR		Viton / LTNBR
14	O-ring (Adjust screw)	2	NBR		Viton / LTNBR
15	Gasket	2	304 Stainless steel		
16	Nut	2	304 Stainless steel		
17	Adjust screw	2	304 Stainless steel		
18	Piston	2	Cast aluminum	Anodized	
19	Guide (Piston)	2	Nylon 66		
20	O-ring (Piston)	2	NBR		Viton / LTNBR
21	Bearing (Piston)	2	POM		
22	Spring	0~12	Spring steel	Electrophoretic paint	
23	O-ring (End cap)	2	NBR		Viton / LTNBR
24	End cap	2	Cast aluminum	Powder polyester painted etc	
25	Cap screw	8	304 Stainless steel		
26	Plug	2	NBR		
27	Dustproof plug	2	Plastic		

Dimensions

	FRONT VIEW	SIDE VIEW	TOP VIEW
AOX-32			
AOX-40			
AOX-52~270			
AOX-300~400			

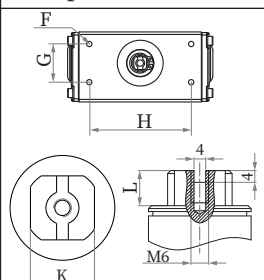
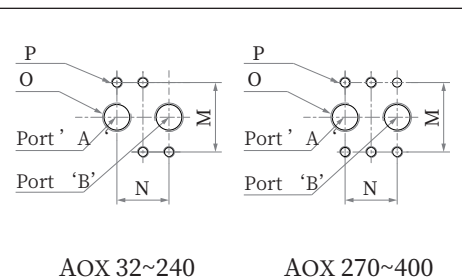
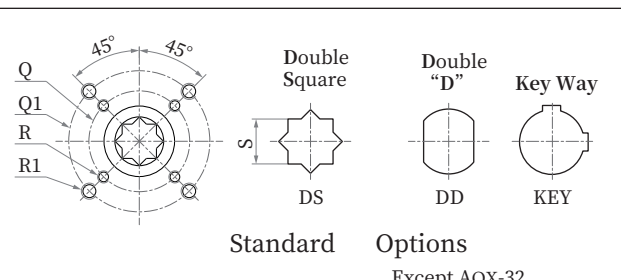


Dimensions

Unit:mm

Model	32	40	52	63	75	83	92	105	115	125	140	160	190	210	240	270	300	350	400
A	116	120	147	165	182	208	262	270	298	301	395	454	528	536	608	721	769	909	925
B	51	65	71.5	83	95	103	108.5	124.5	134	142	152.5	174	206	226	260	294	406	460	516
C	45	60	72	88	99.5	109	116.5	133	144	155	172	197	230	255	289	328	348	408	480
D	65	80	92	108	119.5	129	136.5	153	164	175	192	217	260	285	319	358	378	438	510
E	Ø40	Ø40	Ø40	Ø40	Ø40	Ø40	Ø40	Ø40	Ø55	Ø55	Ø55	Ø55	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80	Ø80

Connection

Top view NAMUR	Air connection NAMUR	Bottom view ISO 5211/DIN 3337
	 <p>AOX 32~240 AOX 270~400</p>	 <p>Standard Options Except AOX-32</p>

Connection

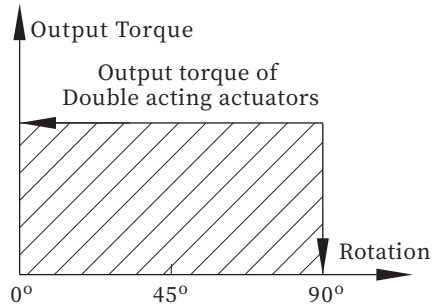
Unit:mm

Model	32	40	52	63	75	83	92	105	115	125	140	160	190	210	240	270	300	350	400
F	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8
G	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
H	80	80	80	80	80	80	80	80	80	80	80	80	130	130	130	130	130	130	130
J	20	20	20	20	20	20	20	20	20	20	20	20	30	30	30	30	30	30	30
K	10	10	10	10	10	10	14	14	22	22	22	22	32	32	32	32	32	32	32
L	12	12	12	12	12	12	12	12	10	10	10	10	12	12	12	12	12	12	12
M	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	45	45	45	45
N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	40	40	40	40
O	G1/8"	G1/4"	G1/4"	G1/4"	G1/4"	G1/4"	G1/4"	G1/4"	G1/4"	G1/4"	G1/4"	G1/4"	G1/4"	G1/4"	G1/4"	G1/2"	G1/2"	G1/2"	G1/2"
P	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M6x10	M6x10	M6x10	M6x10
Q	/	F03	F03	F05	F05	F05	F05	F07	F07	F07	F10	F10	/	/	/	/	F16	F16	F16
Q1	F03	F05	F05	F07	F07	F07	F07	F10	F10	F10	F12	F12	F14	F14	F16	F16	Ø215	F25	F25
R	/	M5x8	M5x8	M6x10	M6x10	M6x10	M6x10	M8x13	M8x13	M8x13	M10x16	M10x16	/	/	/	/	M20x25	M20x25	M20x25
R1	M5x8	M6x9	M6x9	M8x13	M8x13	M8x13	M8x13	M10x16	M10x16	M10x16	M12x19	M12x19	M16x24	M16x24	M20x25	M20x25	M20x25	M16x24*	M16x24*
S	9x11	11x14	11x14	14x18	14x18	17x21	17x21	22x26	22x26	22x26	27x31	27x31	36x40	36x40	46x50	46x50	46x60	46x60	55x60

*8 screw holes

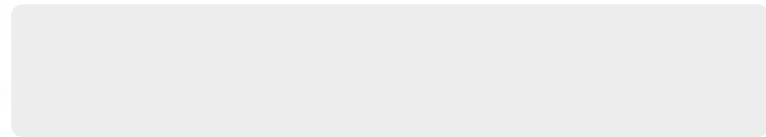
Output Torque

For Double Acting Actuator



Torque Unit: Nm

Model	Air supply pressure (Unit: Bar)										
	2Bar	2.5Bar	3Bar	3.5Bar	4Bar	4.5Bar	5Bar	5.5Bar	6Bar	7Bar	8Bar
AOX-32DA	3	4	5	6	6	7	8	8	9	11	12
AOX-40DA	5	6	7	8	10	11	12	13	14	17	19
AOX-52DA	8	10	12	14	16	18	20	22	24	28	32
AOX-63DA	15	18	22	25	29	33	36	40	44	51	58
AOX-75DA	20	25	30	35	40	45	50	55	60	70	80
AOX-83DA	31	39	47	55	63	70	78	86	94	110	125
AOX-92DA	45	56	68	79	90	102	113	124	135	158	181
AOX-105DA	66	83	99	116	132	149	165	182	198	231	264
AOX-115DA	86	108	130	151	173	194	216	238	259	302	346
AOX-125DA	100	125	150	176	200	226	251	276	301	351	401
AOX-140DA	171	214	256	299	342	385	427	470	513	598	684
AOX-160DA	266	332	399	466	532	598	665	731	798	931	1064
AOX-190DA	426	532	638	745	851	958	1064	1170	1277	1490	1702
AOX-210DA	532	665	798	931	1064	1197	1330	1463	1596	1862	2128
AOX-240DA	769	962	1154	1347	1539	1731	1924	2116	2308	2693	3078
AOX-270DA	1170	1462	1754	2047	2339	2632	2924	3216	3509	4094	4679
AOX-300DA	1526	1908	2289	2671	3052	3434	3815	4197	4578	5341	6104
AOX-350DA	2285	2856	3427	3998	4570	5141	5712	6283	6854	7997	9139
AOX-400DA	3256	4070	4884	5698	6512	7326	8140	8954	9768	11396	13024



Sizing: Double Acting Actuator

The suggested safety factor for double acting actuators under normal working conditions is 20%-30%

Example:

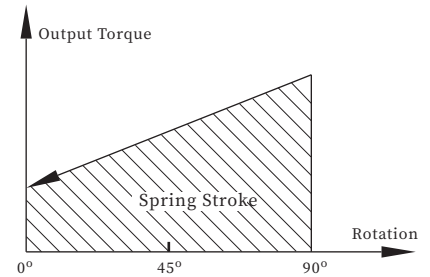
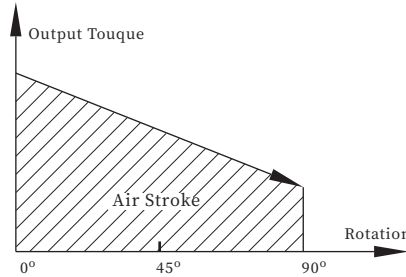
The torque needed by valve=100N.m

The torque considered safety factor (1+30%)=130N.m

Air Supply=5Bar

According to the above table, we can select the model AOX105-DA.

For Spring Return Actuator



Torque Unit: Nm

		Output torque of air to springs																				Spring's output	
Air Pressure		2.5 Bar		3 Bar		3.5Bar		4 Bar		4.5 Bar		5 Bar		5.5 Bar		6 Bar		7 Bar		8 Bar			
Model	Spring Qty.	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
		Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
AOX-40	SR2					4.0	1.8	5.6	3.4	6.4	4.2	7.6	5.4	8.8	15.4	9.6	7.4	12.6	10.4	14.6	12.4	6.6	4.4
AOX-52	SR5	5.7	3.8	7.6	5.7	9.7	7.8															6.2	4.3
	SR6	4.9	2.5	6.9	4.5	9.0	6.6	10.9	8.5	13.0	10.6											7.4	5.0
	SR7	4.0	1.3	6.0	3.3	8.1	5.4	9.8	7.3	12.1	9.4	14.0	10.4	16.1	13.4							8.6	5.9
	SR8			5.2	2.0	7.3	4.1	9.2	6.0	11.3	8.1	13.2	9.1	15.3	12.1	17.2	14.1					9.9	6.7
	SR9			4.3	0.8	6.4	2.9	8.3	4.8	10.4	6.9	12.3	7.9	14.4	10.9	16.3	12.8	20.3	16.8			11.1	7.6
	SR10					5.5	1.6	7.4	3.6	9.5	5.6	11.5	6.7	13.5	9.6	15.5	11.6	19.5	15.6			12.4	8.5
	SR11					4.7	0.4	6.6	2.3	8.7	4.4	10.6	5.4	12.7	8.4	14.6	10.4	18.6	14.3	22.6	18.3	13.6	9.3
AOX-63	SR5	11.4	7.7	15.0	11.4	18.4	14.8	22.3	14.9	25.6	22.0											10.4	6.8
	SR6	10.1	5.7	13.6	9.3	17.0	12.7	20.9	16.6	24.2	19.9	28.3	23.9	31.4	27.1							12.5	8.2
	SR7	8.6	3.6	12.5	7.2	15.6	10.6	19.5	14.5	22.8	17.8	26.8	21.9	30.0	25.0							14.6	9.6
	SR8			10.9	5.1	14.3	8.5	18.2	12.4	21.5	15.7	25.5	19.8	28.7	22.9	32.8	27.0	40.1	34.3			16.7	10.9
	SR9					12.9	6.4	16.8	10.4	20.1	13.6	24.1	17.7	27.3	20.8	31.4	24.9	38.7	32.2			18.8	12.3
	SR10					11.5	4.3	14.0	8.2	18.7	11.5	22.8	15.6	25.9	18.7	30.0	22.8	37.3	30.1	44.7	37.4	20.9	13.7
	SR11									17.4	9.5	21.5	13.5	24.6	16.7	28.7	20.7	36.0	28.0	43.3	35.3	22.9	15.0
AOX-75	SR5	14.5	10.6	19.4	15.5	24.5	20.5	29.5	25.7	34.5	30.5											14.5	10.5
	SR6	12.4	7.6	17.3	12.6	22.3	17.6	27.4	22.7	32.3	27.6	37.5	32.8	42.3	37.6							17.4	12.7
	SR7	10.4	4.8	15.2	9.7	20.2	14.7	25.3	19.9	30.2	24.7	35.4	29.9	40.2	34.7							20.3	14.8
	SR8			13.1	6.8	18.1	11.8	23.1	16.9	28.1	21.8	33.3	27.0	38.1	31.8	43.2	37.0	53.3	47.0			23.2	16.9
	SR9					16.0	8.9	21.0	14.1	26.0	18.9	31.2	24.1	36.0	28.9	41.1	34.1	51.2	44.2			26.1	19.0
	SR10					13.9	6.0	19.0	11.1	23.9	16.0	28.8	21.2	33.9	26.0	39.0	31.2	49.1	41.2	59.1	51.2	29.0	21.1
	SR11									21.8	13.1	27.0	18.3	31.8	23.1	37.0	28.3	47.0	38.4	57.0	48.4	31.9	23.2
AOX-83	SR5	23.3	16.1	31.1	24.0	38.8	31.6	46.8	39.7	54.4	47.2											23.0	15.8
	SR6	20.1	11.5	28.0	19.3	35.6	27.0	43.7	35.1	51.2	42.6	59.4	50.7	66.8	58.2							27.6	19.0
	SR7	17.0	6.9	24.8	14.8	32.5	22.4	40.5	30.5	48.1	38.0	56.2	46.2	63.7	53.6							32.2	22.1
	SR8			21.7	10.1	29.3	17.8	37.4	25.8	44.9	33.4	53.1	41.5	60.5	49.0	68.8	57.2	84.5	72.9			36.8	25.3
	SR9					26.1	13.2	34.2	21.3	41.7	28.8	49.9	37.0	57.3	44.4	65.6	52.6	81.2	68.3			41.4	28.5
	SR10					23.0	8.6	31.0	16.6	38.6	24.2	46.7	32.3	54.2	39.8	62.4	48.0	78.1	63.7	93.8	79.3	46.0	31.6
	SR11									35.4	19.6	43.6	27.7	51.0	35.2	59.3	43.4	75.0	59.1	90.6	74.8	50.6	34.8
SR12									32.2	15.0	40.4	23.2	47.8	30.6	56.1	38.9	71.7	54.5	87.4	70.2	55.2	38.0	

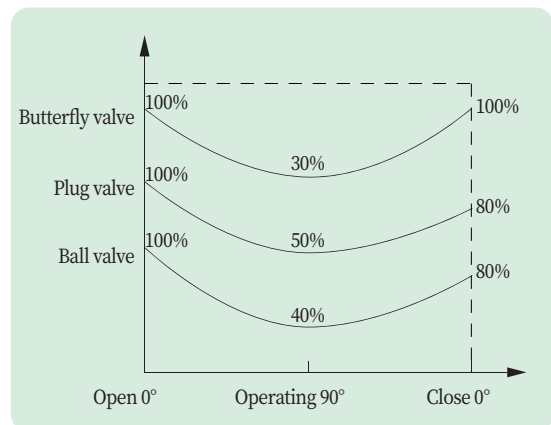
* Standard Sizing: Spring Return

The suggested safety factor for spring return actuator under normal working conditions is 30-50%

Example:

The torque needed by valve=80Nm
 The torque considered safety factor = $80 \times (1+30\%)=104\text{Nm}$
 Air Supply=5Bar

According to the above table, we can select the model ARC-140SR7.



* Economical Sizing: Spring Return

We can choose the more reasonable and more economical actuators, if we know the different torque of the valve by opening, operating and closing.

Example:

The max torque needed by the butterfly valve=104Nm
 The torque after opened (operating) $104 \times 30\%=32\text{Nm}$
 Air Supply=5Bar

We can select the model ARC125SR10, output torque is:



Air stroke 0°=146Nm >104Nm
 Air stroke 90°=94Nm >32Nm
 Spring stroke 90°=157Nm >32Nm
 Spring stroke 0°=105Nm >104Nm

The above datas show the actuator's torque can satisfy the requirement of the butterfly valve.

How To Order

Example: AOX-75SR10 FC-CCW HT

1	2	3	4	5	6	7
AOX	75	SR10	BLANK	FC-CCW	HT	BLANK
Series	Model	Type	Travel	Assembly	Operating Temperature	Connection
AOX	32 40 · ·	DA SR*	BLANK(90) 120 135 180	FC-CCW CCW · ·	BLANK: -20°C~+80°C HT: -20°C~+150°C LT: -40°C~ +120°C	BLANK (Standard) Options*
		*SR+Spring Qty.				*Example: F04,DS11,30°80 H30

Code		Description								
1	AOX	AOX series pneumatic actuators								
2	75	Model of AOX series pneumatic actuators (P09)								
3	SR10	DA: Double Acting								
		SR: Spring Return+Number of springs								
4	BLANK	90° strokes (Standard)								
		120 : 120° strokes (only Double Acting)								
		135 : 135° strokes (only Double Acting)								
		180 : 180° strokes (only Double Acting)								
5	DA	CCW	Air to port A, turn counterclockwise to open (DA Standard)							
		CW	Air to port A, turn clockwise to closed							
	SR	FC-CCW	Failure closed. Air to port A, turn counterclockwise to open (SR Standard)							
		FO-CW	Failure open. Air to port A, turn clockwise to closed							
6	HT	BLANK: Standard (NBR O-ring): -20°C ~ +80°C								
		HT: High temperature (Viton O-ring): -20°C ~ +150°C								
		LT: Low temperature (LTNBR): -40°C ~ +120°C								
7	BLANK	Standard Connection								
		Model	(ISO 5211) Flange Connection		(ISO 5211) Drive Shaft Bottom Hole		(VDI/VDE 3845) Accessory Connection		Air Connection	
			Standard	Options	Standard	Options	Standard	Options	Standard	
		AOX-32DA	F03		DS09	 DD	30×80 H20		G1/8"	
		AOX-40DA	F03+F05	F04	DS11		30×80 H20		G1/4"	
		AOX-52DA	F03+F05	F04	DS11		30×80 H20		G1/4"	
		AOX-63DA	F05+F07	F04+F07	DS14		30×80 H20		G1/4"	
		AOX-75DA	F05+F07	F04+F07	DS14		30×80 H20		G1/4"	
		AOX-83DA	F05+F07		DS17		30×80 H20		G1/4"	
		AOX-92DA	F05+F07		DS17		30×80 H20		G1/4"	
		AOX-105DA	F07+F10		DS22		30×80 H20	30×130 H30 (20)	G1/4"	
		AOX-115DA	F07+F10		DS22		30×80 H20	30×130 H30 (20)	G1/4"	
		AOX-125DA	F07+F10		DS22		30×80 H20	30×130 H30 (20)	G1/4"	
		AOX-140DA	F10+F12		DS27		30×80 H20	30×130 H30 (20)	G1/4"	
		AOX-160DA	F10+F12		DS27		30×80 H20	30×130 H30 (20)	G1/4"	
		AOX-190DA	F14	F12	DS36		 KEY	30×130 H30		G1/4"
		AOX-210DA	F14	F12	DS36			30×130 H30		G1/4"
		AOX-240DA	F16	F14	DS46	30×130 H30			G1/4"	
		AOX-270DA	F16		DS46	30×130 H30			G1/2"	
		AOX-300DA	F16+Ø215		DS46	30×130 H30			G1/2"	
AOX-350DA	F16+F25		DS46	30×130 H30		G1/2"				
AOX-400DA	F16+F25		DS55	30×130 H30		G1/2"				
				AOX-32 Except ARC-32				G1/2"		

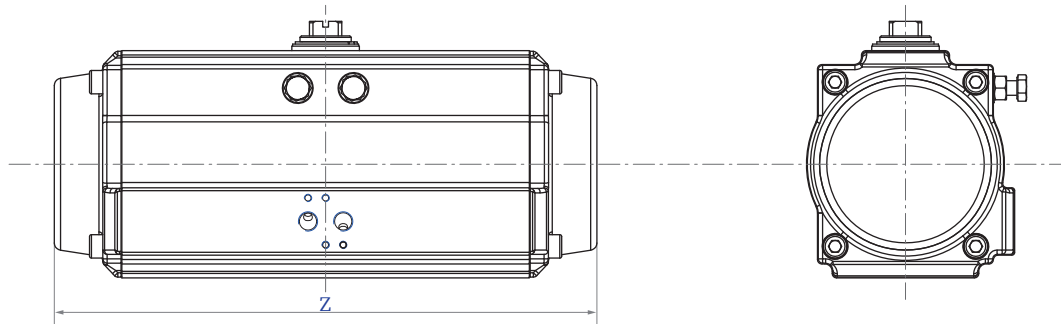
13, 120°, 135°, 180° 120°, 135°, 180° Pneumatic Actuator (Double Acting only)

In order to meet the special requirements of control valve, we produce special strokes actuators on customer request (e.g. 120°,135°,180°etc.).

Output Torque

Output torque of special strokes actuators, please refer to the torque of 90° actuators (P11).

Length of 180° pneumatic actuator



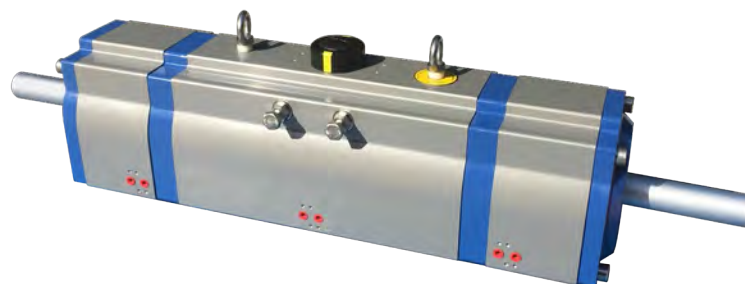
Unit:mm

Model	AOX52 -180	AOX63 -180	AOX75 -180	AOX83 -180	AOX92 -180	AOX105 -180	AOX125 -180	AOX140 -180	AOX160 -180	AOX190 -180	AOX210 -180
Z	210	241	258	302	375	396	443	579	668	781	789

Please contact us for more information.

Three Position Pneumatic Actuator

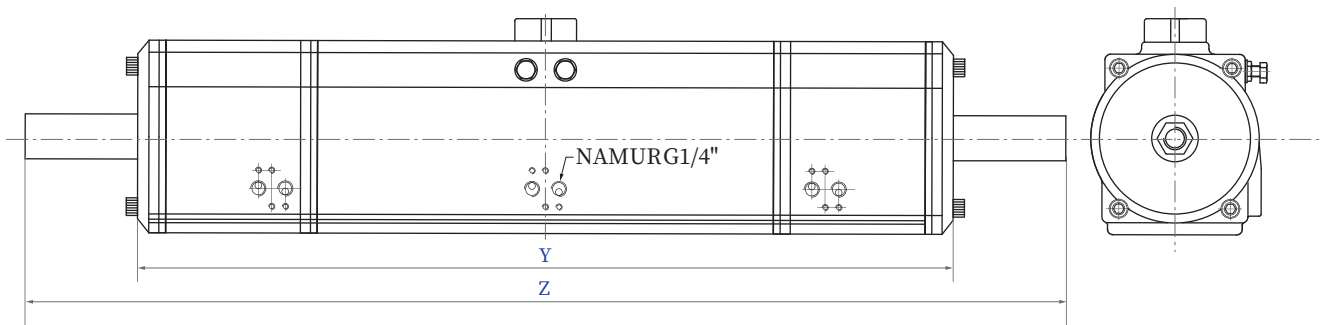
Three position actuator provide an operation of 0°, 45°, 90° or 0°, 90°, 180°. The midway position is achieved by a mechanical stop of movement on the 2 auxiliary pistons. This midway stop position is adjustable, for example, 90° three position actuator can provide midway position of 20°, 30°, 40°, 50°, 70° or else.



Output Torque

Output torque of three position actuators, please refer to the torque of 90° actuators (P11~P14).

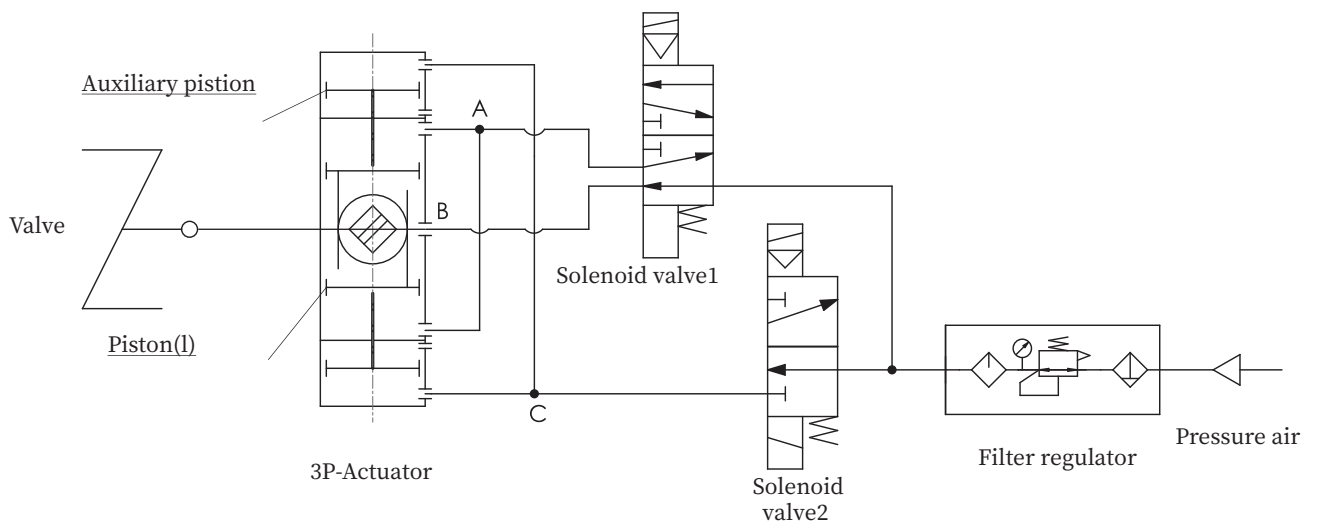
Length of three position pneumatic actuator (90°)



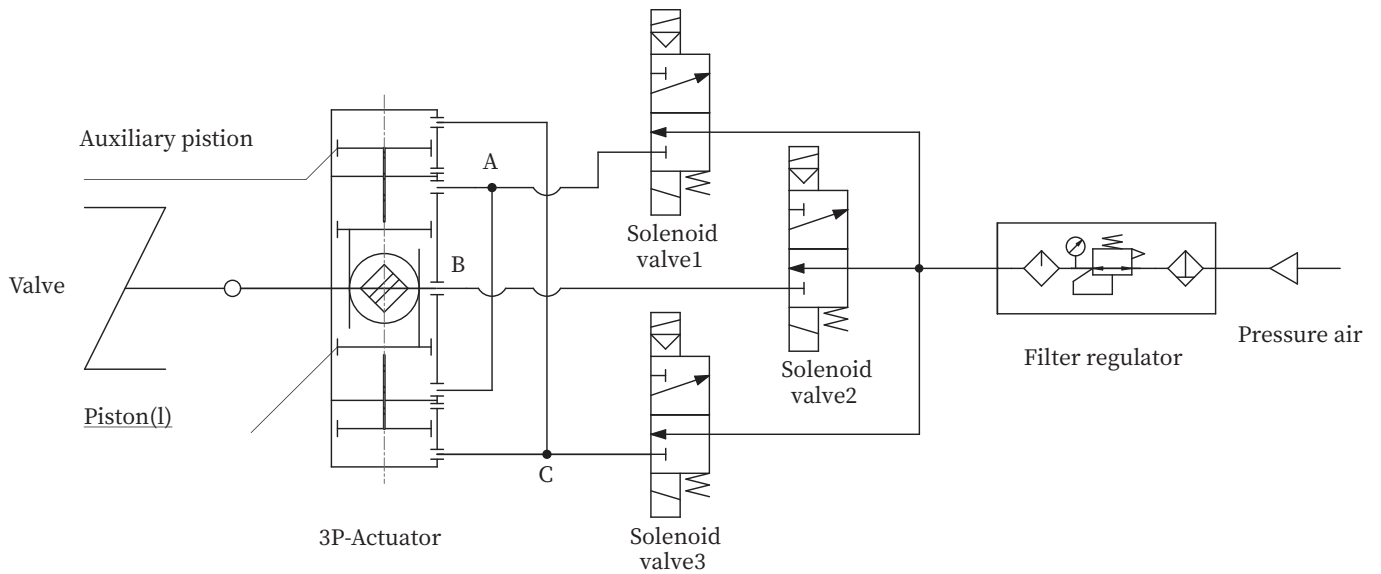
Unit:mm

	AOX 52-3P	AOX 63-3P	AOX 75-3P	AOX 83-3P	AOX 92-3P	AOX 105-3P	AOX 125-3P	AOX 140-3P	AOX 160-3P	AOX 190-3P	AOX 210-3P
Y	246	299	326	362	434	446	491	625	718	852	855
Z	364	427	454	523	613	634	689	867	984	1174	1177

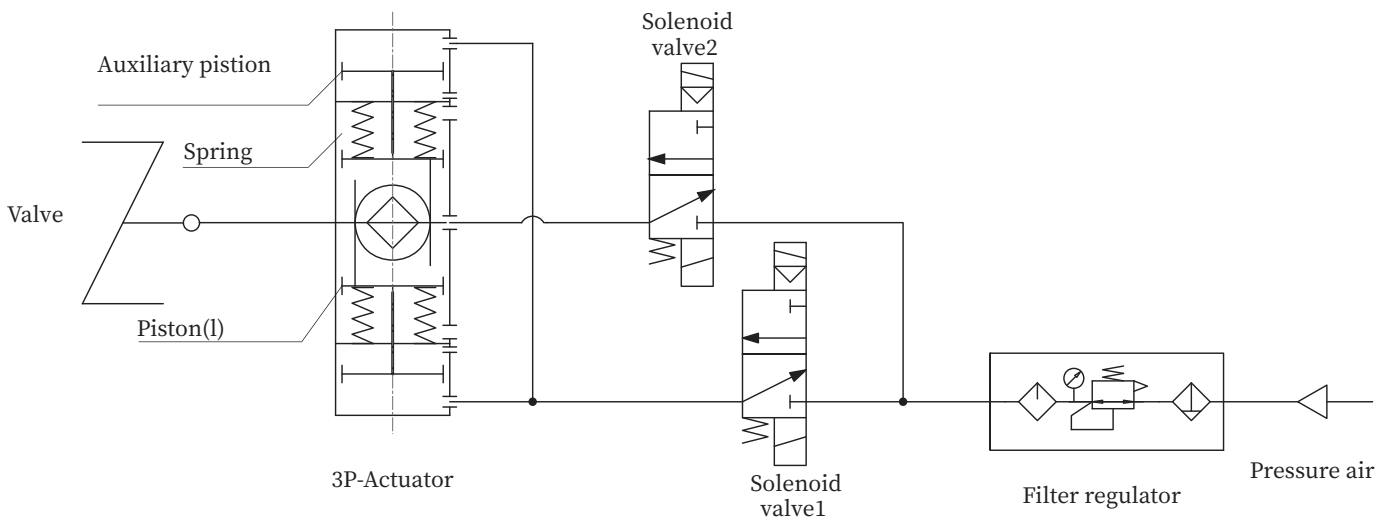
Schematic Diagram



	0°	90°	30°	0°
SOLENOID VALVE1	OFF	ON	OFF	OFF
SOLENOID VALVE2	OFF	OFF	ON	OFF



	0°	30°	90°	30°	0°
SOLENOID VALVE1	OFF	OFF	ON	OFF	OFF
SOLENOID VALVE2	ON	OFF	OFF	ON	ON
SOLENOID VALVE3	OFF	ON	ON	ON	OFF



	0°	30°	90°	30°	0°
SOLENOID VALVE1	OFF	ON	OFF	ON	OFF
SOLENOID VALVE2	OFF	ON	ON	ON	OFF