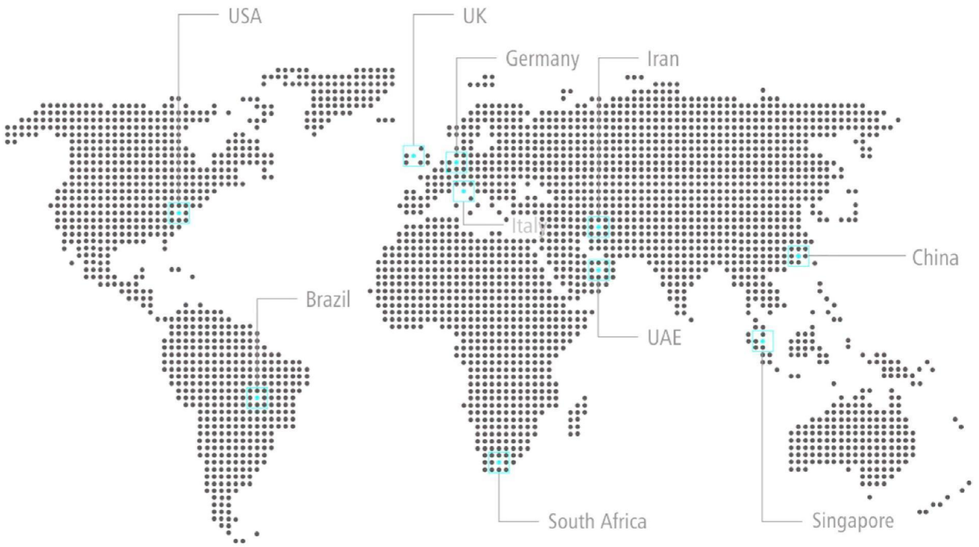
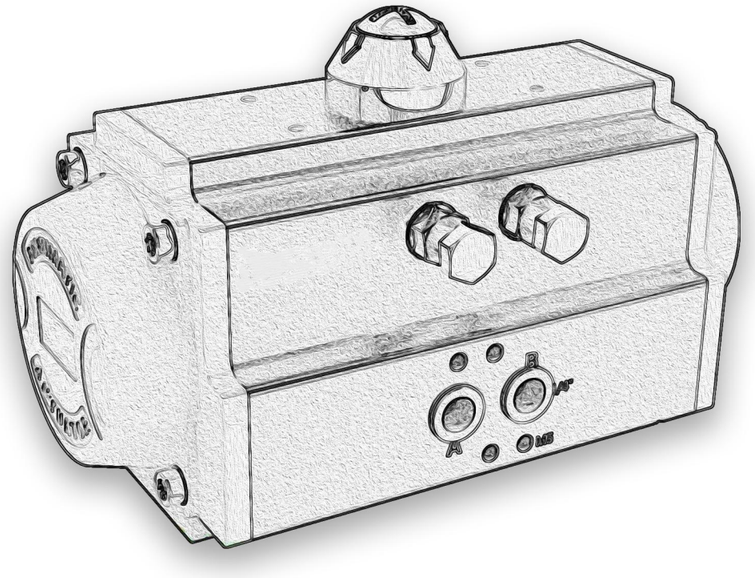




Pneumatic Actuator

OUR ACTUATORS YOUR POWER

PRODUCTION

PRODUCTION

Technology is the foundation, quality is the reputation, and service is the guarantee. We focus on product technological innovation,improvement quality control, and testing throughout the production process.

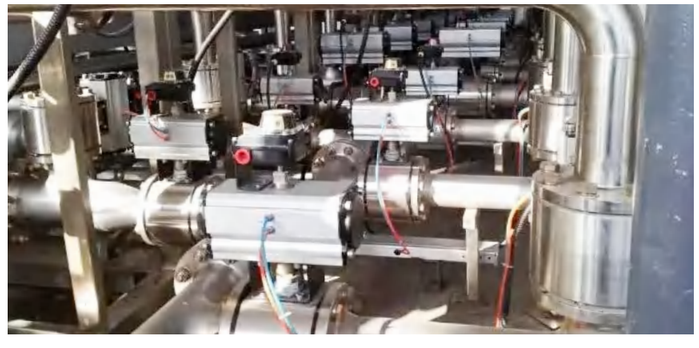
APPLICATION FIELD

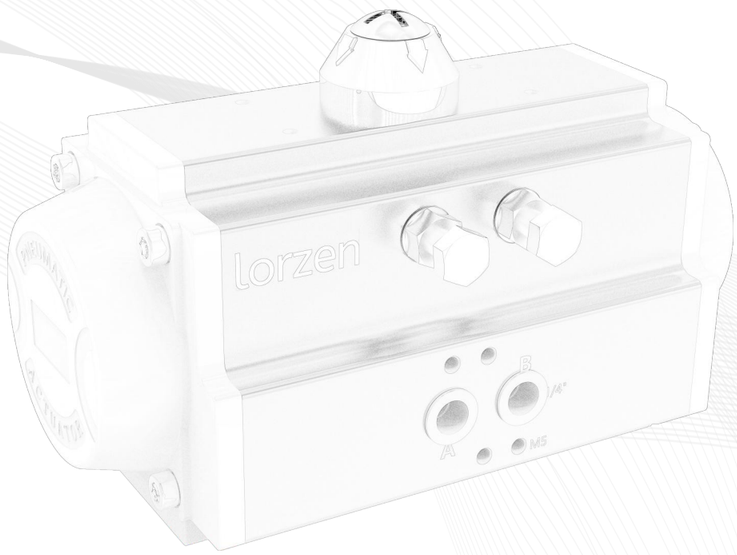
Oil

Electricity

Chemical industry

Pharmacy





OUR ACTUATORS YOUR POWER

CONTENTS

Pneumatic actuators

Technical features

The AT series pneumatic actuators incorporate advanced precision machining equipment, high-quality materials, and industrial artistic design techniques. Through rigorous testing and production line optimization, this series of actuators exhibit smooth and reliable operation, long service life, wide adjustable range,high corrosion resistance, flexible selection, and cost-effectiveness.

Piston

The piston tooth surface is CNC processed with higher precision, smoother operation and more reliable performance; the surface anodized treatment increases the corrosion resistance and wear resistance.

End cap

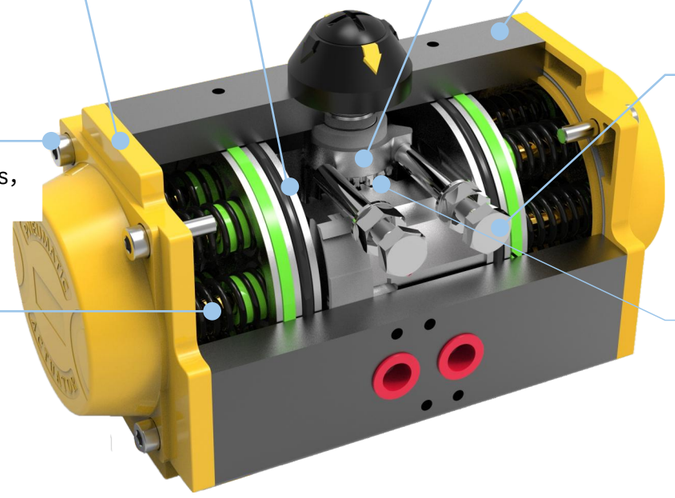
The end cap of the product has been optimized with a 95-degree limit function, eliminating the need for additional bolt installation for limit purposes. This enhancement improves the reliability of the product.

Fastener

Stainless steel fasteners offer a combination of safety, aesthetics, and excellent corrosion resistance.

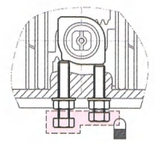
Spring

The preloaded assembly of the spring utilizes high-quality materials and undergoes a coating treatment, resulting in enhanced corrosion resistance and extended lifespan. This configuration allows for safe and straightforward disassembly of the single-acting actuator. By adjusting the number of springs, different torque output ranges can be accommodated.



Cam

During the cam upgrade process, when it is necessary to secure the actuator in the fully open position (90 °) or fully closed position (0 °), the actuator can be equipped with specialized bolts and dedicated devices to lock its position, effectively preventing any inadvertent manipulation.



Cylinder

The aluminum alloy cylinder block can be treated with hard anodization, outdoor-grade polyester powder coating (applied in black, blue, orange, red, etc., as per specific requirements), PTFE coating, or electroless nickel-phosphorus alloy plating to meet various demands.

Adjustable bolt

Two independent stroke adjustment bolts, very convenient for precise adjustment of open and closed positions (within +5°).

Drive shaft

The nickel-phosphorus alloy, high-precision integrated drive shaft, complies with NAMUR, ISO5211, and DIN3337 standards. Custom dimensions and stainless steel materials can be provided based on customer requirements.

Pneumatic actuators

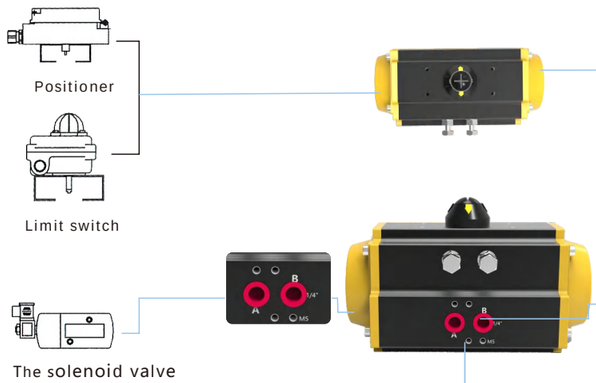
Installation specification

Limit switch

Pneumatic FRL Unit

Intelligent Positioner

Solenoid valve



NAMUR

Drive shaft head and upper mounting hole conform to NAMUR standard (VDI/VDE3845), can directly install limit switches, positioner and other accessories.

NAMUR

Air source interface conforms to NAMUR standard, simple and convenient installation of solenoid valves.

ISO 5211/DIN3337

Drive shaft bottom hole and bottom mounting hole comply withISO5211/ DIN3337 standard, it can be installed directly on the valve, and the clutch type hand wheel or bracket can also be selected.

Butterfly valve

Ball valve

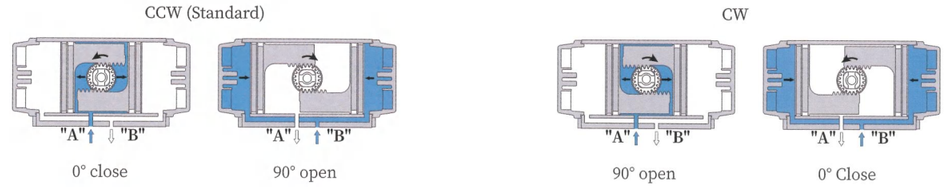
Plug valve

Hand wheel mechanism

Pneumatic actuators

Working principle

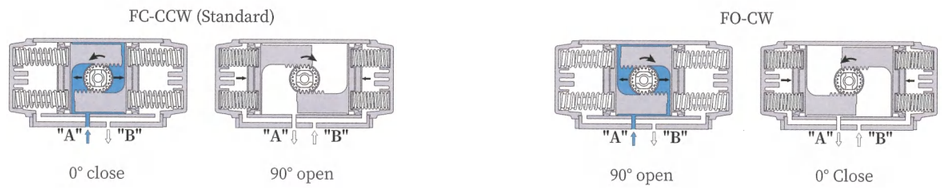
Double acting actuator



Inlet A, compressed air pushes the piston outward, causing the actuator output shaft to rotate counterclockwise
The needle rotates (0 ° → 90 °) and the B port is vented. Inlet at port B, compressed air pushes the piston Move inward to rotate the output shaft of the actuator clockwise (90 ° → 0 °), A port row.

Inlet A, compressed air pushes the piston outward, causing the actuator output shaft to rotate counterclockwise
The needle rotates (0 ° → 90 °) and the B port is vented.
Inlet at port B, compressed air pushes the piston Move inward to rotate the output shaft of the actuator clockwise (90 ° → 0 °), A port row.

Single acting actuator



Inlet A, compressed air overcomes spring force, pushes the piston outward, and the actuator Output shaft rotates counterclockwise (0 ° → 90 °), B port exhausts: actuator loses air, piston Under the action of the spring force, it moves inward and the actuator output shaft rotates clockwise (90 °→ 0 °), exhaust at port A.

Inlet air from port A, compressed air overcomes spring force and pushes the piston outward. The output shaft of the actuator rotates clockwise (90 ° 0 °), and port B exhausts; The actuator loses air, and the piston moves inward under the action of spring force . The output shaft of the actuator rotates counterclockwise (0 ° 90 °), exhaust at port A.

Pneumatic actuators

working conditions

◆ Operating medium

Dry or lubricated air or non-corrosive gas, the maximum particle size must be less than30um

◆ Air supply pressure

The minimum air supply pressure is 2bar, the maximum supply pressure is 8bar

◆ Operating temperature

Standard type (NBR O-ring) -20℃~+ 80℃

High temperature type (fluorine rubber O-ring) -20℃~+ 150℃

Low temperature type (low temperature NBR O-ring) -40℃~+ 120℃

◆ Stroke adjustment

The rotation adjustment range at 0° and 90° is ±5°

◆ Lubricating

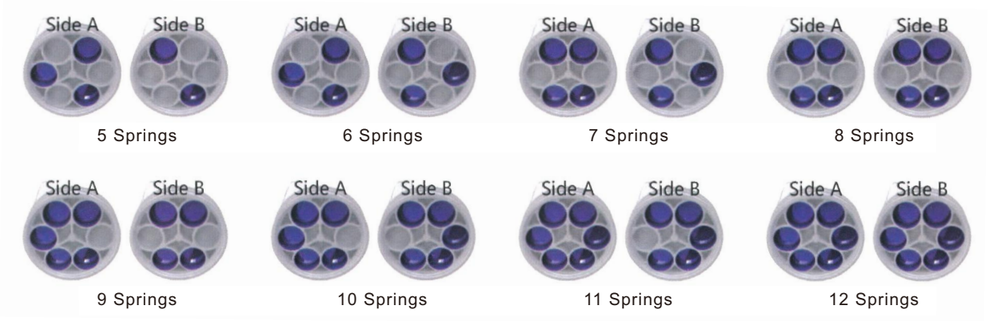
Under normal operating conditions, no additional lubricant is required

◆ Application

Can be installed indoors or outdoors

spring configuration

Installation form of single-acting actuator
In the matching process of single-acting actuators, if it is possible to understand the opening, running and closing of the valve.When the torque distribution is closed, we can choose the actuator more economically and reasonably.



Pneumatic actuators

Product weight

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

*KW-40 single acting only has 2 springs.
Notice:KW-32 ~ KW-270 weight includes packing box.

Travel time

Air source pressure: 5bar

Unit: seconds

Double acting			Single acting (number of springs)													
				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

Note: Actuator action time and electrofusion time, pressure reducing valve, gas pipe and other accessories CV value, gas source pressure negative weight and other factors.,

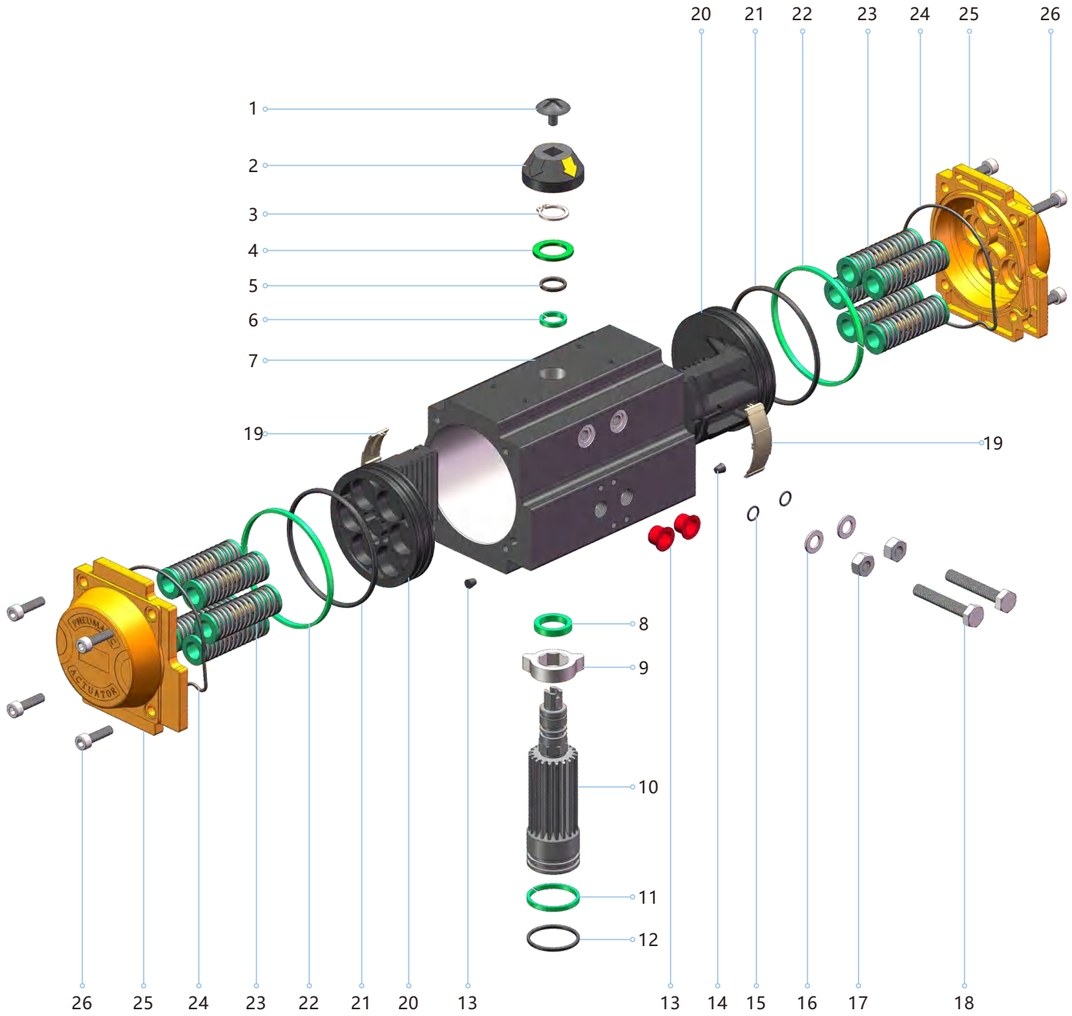
Air consumption

Model	air open	air off	Model	air open	air off
DA/SR-32	0.04	0.05	DA/SR125	1.6	1.4
DA/SR-40	0.08	0.11	DA/SR-140	2.5	2.2
DA/SR-52	0.12	0.16	DA/SR-160	3.7	3.2
DA/SR-63	0.21	0.23	DA/SR-190	5.9	5.4
DA/SR-75	0.30	0.34	DA/SR-210	7.5	7.5
DA/SR-83	0.43	0.47	DA/SR-240	11.0	9.0
DA/SR-92	0.64	0.73	DA/SR-270	17.0	14.0
DA/SR105	0.95	0.88	DA/SR-300	23.8	29.7
DA/SR-115	1.3	1.2	-	-	-

Air consumption depends on air supply pressure, switch stroke, volume and number of actions, calculated as follows:
Liter/min = cylinder volume (opening volume + closing volume) × (air supply pressure (Kpa)+101.3) - 101.3]×times/minute

Pneumatic actuators

Parts and materials

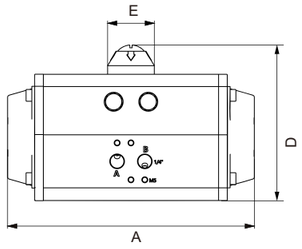


Pneumatic actuators

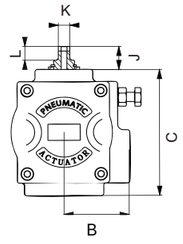
Serial number	Name	Quantity	Material	Anti-corrosion treatment	Optional material
1	Indicator screw	11	Engineering plastic + stainless steel		
2	Indicator	1	Engineering plastics		
3	Card reed	1	Stainless steel (304)		
4	Outer gasket	1	Engineering plastics		
5	Cylinder body	1	Aluminum profile (6005-T5)		
6	Inner Gasket	1	Engineering plastics	Hard oxidation, etc.	
7	Cam	1	45 # steel		
8	Upper shaft O pottery	1	NBR		
9	Upper shaft support ring	1	Engineering plastics		Viton /HNBR
10	Drive shaft	1	Alloy steel		
11	Lower shaft support ring	1	Engineering piastics	Nickel Phosphorus	Stainless steel (304)
12	Lower shaftO-ring	1	Plasticmaterial		
13	Defend Dust plug	1	NBR		Viton/HNBR
14	Plug	1	NBR		Viton/HNBR
15	Adjusting bolt O-ring	1	Stainless steel (304)		
16	Pad piece	1	Stainless steel (304)		
17	Nut	1	Stainless steel (304)		
18	Adjusting bolt	1	NBR	Oxygenchange	
19	Piston guide	2	Engineering plastics		
20	Piston	2	Cast aluminum		Viton/HNBR
21	Piston O-ring	2	NBR		
22	Piston bearing ring	2	Engineering plastics	Electricity swimming paint	
23	Spring	0-12	Spring steel		Viton/HNBR
24	Build O-ring	2	NBR	Powder coating etc.	
25	End cap	2	Cast aluminum		
26	End Cap Screws	2	Stainless steel (304)		

Pneumatic actuators

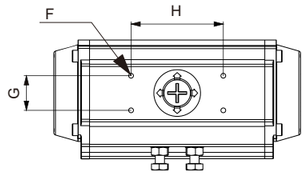
Dimensions



Front



side view



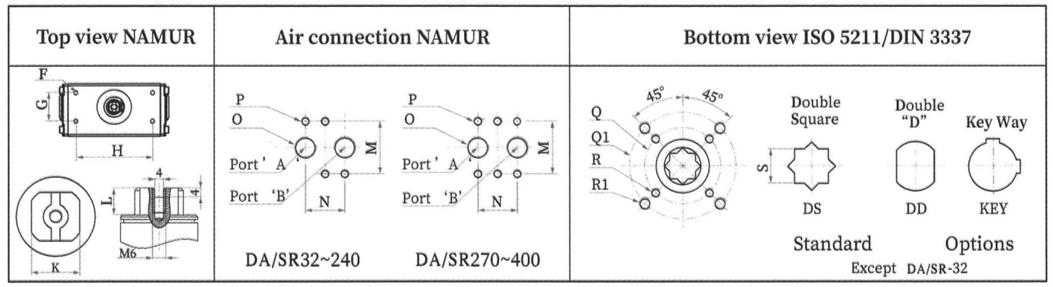
top

Dimensions table

Unit: mm

Model	32	40	52	63	75	83	92	105	125	140	160	190	210	240	270	300
A	116	120	149	169	182	205	262	266	298	394	454	538	538	612	721	769
B	51	65	71.5	83	95	103	108.5	124.5	142	152.5	174	206	226	260	294	406
C	45	60	72	88	99.5	109	116.5	133	155	172	197	230	255	289	328	348
D	65	80	92	108	119.5	129	136.5	153	175	192	217	260	285	319	358	378
E	Φ40	Φ40	Φ40	Φ40	Φ40	Φ40	Φ40	Φ40	Φ55	Φ55	Φ55	Φ80	Φ80	Φ80	Φ80	Φ80

Connection dimension drawing



Connection Size Table

Unit: mm

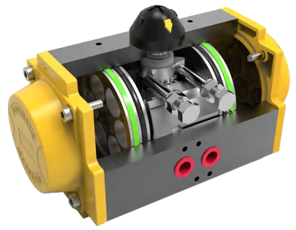
Model	32	40	52	63	75	83	92	105	125	140	160	190	210	240	270	300
F	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8
G	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
H	80	80	80	80	80	80	80	80	80	80	80	130	130	130	130	130
J	20	20	20	20	20	20	20	20	20	20	20	30	30	30	30	30
K	10	10	10	10	10	10	14	14	22	22	22	32	32	32	32	32
L	12	12	12	12	12	12	12	12	10	10	10	12	12	12	12	12
M	32	32	32	32	32	32	32	32	32	32	32	32	32	32	45	45
N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	40	40
0	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"	G1/2"	G1/2"
P	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M6x10	M6x10
Q	/	F03	F03	F05	F05	F05	F05	F07	F07	F10	F10	/	/	/	/	F16
Q1	F03	F05	F05	F07	F07	F07	F07	F10	F10	F12	F12	F14	F14	F16	F16	F15
R	/	M5x8	M5x8	M6x10	M6x10	M6x10	M6x10	M8x13	M8x13	M10x16	M10x16	/	/	/	/	M20x25
R1	M5x8	M6x9	M6x9	M8x13	M8x13	M8x13	M8x13	M10x16	M10x16	M12x19	M12x19	M16x24	M16x24	M20x25	M20x25	M20x25
S	9x11	11x14	11x14	14x18	14x18	17x21	17x21	22x26	22x26	27x31	27x31	36x40	36x40	46x50	46x50	46x60

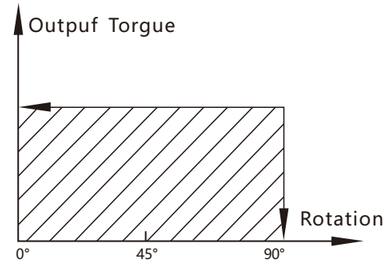
*8 connecting holes.

Pneumatic actuators

Output torque

Double acting





Torque unit: Nm

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

Selection of double-acting actuators:

Under normal operating conditions, a safety factor of 20% - 30% is considered for double acting actuators

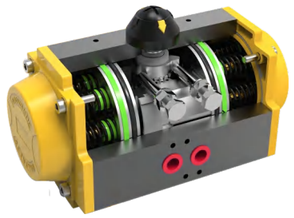
Example:
Valve torque=100N m
Safety torque=100×(1+ 30%) = 1 30N m
Air source pressure=5Ba r

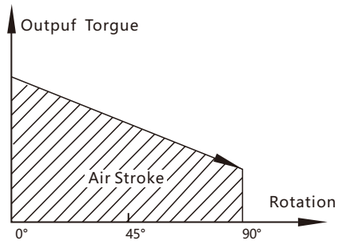
Compared with the double-acting torque table, the specification of the optional

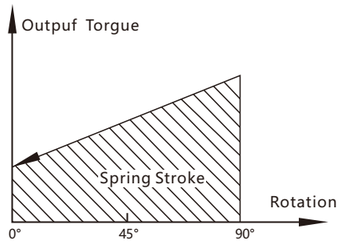
Double-acting actuator is DA105.

Pneumatic actuators

Single acting







Torque unit: Nm

Barometric pressure		Output torque																				Spring output torque	
		2.5Bar		3Bar		3.5Bar		4Bar		4.5Bar		5Bar		5.5Bar		6Bar		7Bar		8Bar			
Mode	Spring Qty	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°6	90°
		Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
DA/SR-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	.66.	4.4
DA/SR-52	SR5	5.7	3.8	7.6	5.7	9.7	7.8															27.	4.3
	SR6	4.9	2.5	6.9	4.5	9.0	6.6	10.9	8.5	13.0	10.6											48.	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							69.	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					911	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			.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
	SR12									7.8	3.2	9.7	4.2	11.8	7.2	13.8	9.1	17.8	12.2	21.8	17.1	14.8	10.2
DA/SR-63	SR5	11.	7.7	15.0	11.4	18.4	14.	22.3	14.	25.6	22.0											10.4	6.8
	SR6	410.	5.7	13.6	9.3	17.0	812.	20.9	916.	24.2	19.9	28.3	23.9	31.4	27.1							12.5	8.2
	SR7	1	3.6	12.5	7.2	15.6	710.	19.5	614.	22.8	17.8	26.8	21.9	30.0	25.0							14.6	9.6
	SR8	8.6		10.9	5.1	14.3	6	18.2	512.	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	8.5	16.8	410.	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	6.4	14.0	4	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						4.3		8.2	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
	SR12	14.5	10.6	19.4	15.5	24.5	20.5	29.5	25.7	16.0	7.4	20.0	11.4	23.2	14.6	27.3	18.6	34.6	25.9	41.9	33.3	25.0	16.4
DA/SR-75	SR5	12.4	7.6	17.3	12.6	22.3	17.6	27.4	22.7	34.5	30.5											14.5	10.5
	SR6	10.4	4.8	15.2	9.7	20.2	14.7	25.3	19.9	32.3	27.6	37.5	32.8	42.3	37.6							17.4	12.7
	SR7			13.1	6.8	18.1	11.8	23.1	16.9	30.2	24.7	35.4	29.9	40.2	34.7							20.3	14.8
	SR8					16.0	8.9	21.0	14.1	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					13.9	6.0	19.0	11.1	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									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
DA/SR-83	SR12	23.3	16.1	31.1	24.0	38.8	31.6	46.8	39.7	19.7	10.3	24.9	15.4	29.7	20.3	34.9	25.4	44.9	35.4	54.9	45.4	34.7	25.3
	SR5	20.1	11.5	28.0	19.3	35.6	27.0	43.7	35.1	54.4	47.2											23.0	15.8
	SR6	17.0	6.9	24.8	14.8	32.5	22.4	40.5	30.5	51.2	42.6	59.4	50.7	66.8	58.2							27.6	19.0
	SR7			21.7	10.1	29.3	17.8	37.4	25.8	48.1	38.0	56.2	46.2	63.7	53.6							32.2	22.1
	SR8					26.1	13.2	34.2	21.3	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					23.0	8.6	31.0	16.6	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									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

Pneumatic actuators

Torque unit : Nm

Air pressure		Output torque																				Spring output torque	
		2.5Bar		3Bar		3.5Bar		4Bar		4.5Bar		5Bar		5.5Bar		6Bar		7Bar		8Bar			
Model	Spring Qty	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
		Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
DA/SR-92	SR5	33.	22.0	44.	33.	55.8	44.	66.	55.	78.4	67.3											34.	23.
	SR6	128.	15.2	239.	226.	51.1	737.	862.	949.	73.7	60.5	84.8	71.6	96.3	83.1							441.	328.
	SR7	423.	8.2	634.	419.	46.4	931.	257.	042.	69.0	53.6	80.2	64.7	91.6	76.2							248.	032.
	SR8	8		931.	412.	41.8	024.	552.	135.	64.4	46.7	75.5	57.9	87.0	69.3	98.1	80.5	120.7	103.0			155.	737.
	SR9			3	6	37.1	117.	948.	228.	59.7	39.8	70.9	51.0	82.3	62.4	93.5	73.6	116.0	96.1			061.	342.
	SR10					32.4	210.	243.	421.	55.0	33.0	66.2	44.1	77.6	55.6	88.8	66.7	111.3	89.2	134.0	111.8	968.	046.
	SR11						4	6	5	50.3	26.1	61.5	37.2	72.9	48.7	84.1	59.9	106.6	82.4	129.2	105.0	775.	751.
	SR12									45.7	19.2	56.8	30.4	68.3	41.8	79.4	53.0	101.9	75.5	124.5	98.1	682.	456.
DA/SR-105	SR5	51.0	33.4	67.5	49.9	83.9	66.3	100.6	83.0	116.9	99.3											549.	
	SR6	44.7	23.5	61.1	40.0	77.5	56.4	94.2	73.2	110.5	89.4	127.3	106.2	143.5	122.4							259.	031.
	SR7	38.4	13.7	54.9	30.3	71.2	46.6	87.9	63.4	104.2	79.6	121.	96.4	137.2	112.6							168.	638.
	SR8			48.5	20.4	64.9	36.8	81.6	53.5	97.9	69.8	0114.	86.5	130.9	102.8	147.7	119.6	180.8	152.7			978.	440
	SR9					58.6	26.9	75.3	43.7	91.6	59.9	7108.	76.8	124.6	92.9	141.5	109.8	174.5	142.9			788.	350.
	SR10					52.2	17.1	68.9	33.4	85.2	50.1	4102.	66.5	118.2	83.1	135.1	99.6	168.2	132.6	201.2	165.7	698.	656.
	SR11									78.9	40.2	0	57.0	111.9	73.2	128.7	90.1	161.8	123.1	194.8	156.2		963.
	SR12									72.6	30.4	95.7	47.5	105.6	63.4	122.5	80.6	155.5	113.6	188.6	146.7	104.3	369.
DA/SR-115	SR5	65	43	87	65	108.2	86.2	130	108	151	129	89.4										118.1	675.
	SR6	56	30	78	52	99.2	73.2	121	95	142	116	164	138	186	160							65	9
	SR7	47	17	69	39	90.2	60.2	112	82	133	103	155	125	177	147							78	43
	SR8			61	26	82.2	47.2	104	69	125	90	147	112	169	134	190	155	233	198			91	52
	SR9					73.2	34.2	95	56	116	77	138	99	160	121	181	142	224	185			104	61
	SR10					64.2	21.2	86	43	107	64	129	86	151	108	172	129	215	172	259	216	117	69
	SR11									99	51	121	73	143	95	164	116	207	159	251	203	130	78
	SR12									90	38	112	60	134	82	156	104	198	146	242	190	143	87
DA/SR-125	SR5	73	47	98	72	123.	96.7	148	122	174	147											156	95
	SR6	63	31	88	56	7112.	81.7	138	107	163	132	188	157	213	182							79	104
	SR7	52	15	77	40	7102.	65.7	127	90	153	116	178	141	203	166							94	62
	SR8			67	25	7	50.7	117	75	142	101	167	125	192	151	217	176	268	226			110	73
	SR9					91.7	34.7	107	59	132	85	157	109	182	135	207	159	257	210			125	84
	SR10					81.7	18.7	96	44	121	69	146	94	171	119	196	144	247	194	297	245	141	94
	SR11					70.7				111	53	136	78	161	103	186	128	236	178	286	228	157	105
	SR12									101	38	125	63	151	88	176	113	226	163	276	213	173	115
DA/SR-140	SR5	128	85	171	127	212.9	169.9	256	213	298	255											188	125
	SR6	111	59	154	102	195.9	143.9	239	187	281	229	325	273	367	315							129	86
	SR7	94	33	137	76	178.9	117.9	222	162	264	203	308	247	350	289							155	103
	SR8			120	50	161.9	92.9	205	136	247	178	291	221	333	264	376	307	462	392			181	120
	SR9					143.9	66.9	187	110	229	152	273	196	315	238	358	281	444	367			206	137
	SR10					126.9	40.9	170	84	212	126	256	169	298	212	341	255	427	340	512	426	232	155
	SR11									195	100	238	143	281	186	324	229	409	314	495	400	258	172
	SR12									178	74	221	118	264	160	307	203	392	289	478	374	284	189
DA/SR-160	SR5	193	124	259	191	325.5	257.5	392	324	459	391											310	206
	SR6	165	83	232	149	297.5	215.5	365	282	431	349	498	415	564	482							208	140
	SR7	137	41	203	107	269.5	173.5	336	240	403	307	469	373	536	440							250	168
	SR8			176	66	242.5	132.5	309	199	376	266	442	237	509	399	575	465	708	598			292	196
	SR9					214.5	90.5	280	157	348	224	413	290	481	357	546	423	679	556			333	223
	SR10					186.5	48.5	253	115	320	182	386	248	453	315	519	381	652	514	785	647	375	251
	SR11									292	141	358	207	425	274	491	340	624	473	757	606	417	279
	SR12									264	99	330	165	397	232	463	298	596	431	729	564	458	307
																						500	335

Pneumatic actuators

Torque unit： Nm

barometric pressure		output torque																				Spring output torque	
		2.5Bar		3Bar		3.5Bar		4Bar		4.5Bar		5Bar		5.5Bar		6Bar		7Bar		8Bar			
model	spring quantity	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
		Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
DA/SR-190	SR5	332	222	438	329	544.8	435.8	651	542	758	649											309	200
	SR6	292	161	398	267	504.8	373.8	611	480	718	587	824	693	930	799							371	240
	SR7	252	99	358	205	464.8	311.8	571	418	678	525	784	631	890	737							433	280
	SR8			318	143	424.8	249.8	531	356	638	463	744	569	850	675	957	782	1169	995			495	320
	SR9					384.8	187.8	491	295	598	401	704	507	810	613	917	720	1130	933			557	360
	SR10					344.8	126.8	451	233	558	340	664	446	770	552	877	658	1090	871	1302	1084	618	400
	SR11									518	278	624	384	730	490	837	579	1050	809	1263	1022	680	440
	SR12									478	216	584	322	690	428	797	535	1010	748	1223	960	742	480
DA/SR-210	SR5	390	285	523	418	656	551	789	684	922	817											380	275
	SR6	335	209	468	342	601	475	734	608	867	741	1000	874	1133	1007							456	330
	SR7	280	133	413	266	546	399	679	532	812	665	945	798	1078	931							532	385
	SR8			358	190	491	323	624	456	757	589	890	722	1023	855	1156	988	1422	1254			608	440
	SR9					436	247	569	380	702	513	835	646	968	779	1101	912	1367	1178			684	495
	SR10					381	171	514	304	647	437	780	570	913	703	1046	836	1312	1102	1578	1368	760	550
	SR11									592	361	725	494	858	627	991	760	1257	1026	1523	1292	836	605
	SR12									537	285	670	418	803	551	936	684	1202	950	1468	1216	912	660
DA/SR-240	SR5	552	109	744	600	936.8	792.8	1129	985	1322	1178											554	410
	SR6	470	297	662	489	854.8	681.8	1047	874	1240	1067	1432	1259	1624	1451							665	492
	SR7	388	187	580	379	771.8	571.8	964	764	1157	957	1349	1149	1541	1341							775	575
	SR8			498	268	690.8	460.8	883	653	1076	846	1267	1037	1460	1230	1652	1422	2037	1807			886	656
	SR9					607.8	348.8	800	542	993	734	1185	926	1377	1118	1569	1311	1954	1696			998	739
	SR10					525.8	238.8	718	431	911	624	1103	816	1295	1008	1488	1201	1872	1586	2257	1970	1108	821
	SR11									829	513	1021	705	1213	897	1406	1090	1791	1474	2176	1859	1219	903
	SR12									747	402	939	594	1131	786	1323	979	1708	1363	2093	1748	1330	985
DA/SR-270	SR5	903	675	1195	968	1487	1260	1779	1552	2072	1845											787	560
	SR6	790	519	1083	811	1375	1104	1667	1396	1960	1689	2252	1981	2544	2273							943	672
	SR7	679	316	972	654	1264	945.8	1556	1238	1849	1531	2141	1823	2433	2115							1101	783
	SR8			860	497	1152	788.8	1444	1081	1737	1374	2029	1666	2321	1958	2614	2252	3199	2836			1258	895
	SR9					1040	630.8	1332	923	1625	1216	1917	1509	2209	1800	2502	2094	3087	2678			1416	1007
	SR10					927.8	474.8	1220	767	1513	1060	1805	1352	2097	1644	2390	1937	2974	2521	3560	3107	1572	1119
	SR11					815.8	316.8			1401	902	1693	1194	1985	1486	2278	1779	2862	2364	3448	2949	1730	1231
	SR12					704.8	159.8			1290	745	1582	1037	1874	1329	2167	1623	2751	2207	3336	2792	1887	1342
DA/SR-300	SR5	1097	729																			1061	730
	SR6	935	494	1316	875	1795	1398															1273	876
	SR7	772	258	1153	639	1649	1186	1916	1402	2412	1949											1485	1022
	SR8			991	403	1503	973.5	1754	1166	2266	1737	2517	1929	3029	2500							1697	1168
	SR9					1357	761.5	1592	930	2120	1525	2355	1693	2883	2288	3118	2456					1909	1314
	SR10					1211	548.5	1430	695	1974	1312	2193	1458	2737	2075	2956	2221	3719	2984	4482	3747	2122	1460
	SR11									1828	1100	2030	1222	2591	1863	2793	1985	3556	2748	4319	3511	2334	1606
	SR12									1682	888	1868	986	2445	1651	2631	1749	3394	2512	4157	3275	2546	1752

Pneumatic actuators

Single-acting actuator standard selection:

Under normal operating conditions, a safety factor of 30% - 50% is considered for single acting actuators

Example:

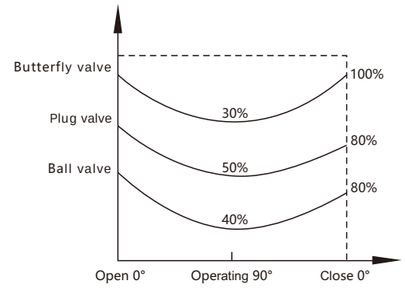
Valve required torque = 80N. m
Safety torque=80×(1 + 30%) = 104Nm
Air source pressure=5Bar

Compared with the single-acting torque table, the optional single -acting execution, The device specification is SR-140.

Economic selection of single-acting actuators:

If you can better understand the torque distribution when the valve is opened, operated, and closed, you can be more economical. Economical and reasonable selection of actuators.

Example: Butterfly valve requires torque=104Nm (including safety torque)
Torque after the valve is opened = 104 × 30% = 32Nm
Air source pressure=5Bar.
Compared with the single-acting actuator torque table,
The torque of SR-125 is
Pneumatic stroke 0°=146Nm>104Nm
Pneumatic travel 90°=94Nm>32Nm
Spring stroke 90°=157Nm>32Nm
Spring stroke 0°=105Nm>104Nm



The above data show that,SR-125 meets the opening and closing requirements of this butterfly valve.

selection

LZ	32	DA	BLANK	FC-CCW	HT	BLANK
Company code	Mode	Type	Journey	Assembly type	Operating temperature	Connect

Code		Description
LZ		DA/SR series pneumatic actuator company characteristic code
32		DA/SR series pneumatic actuator model
DA		IDA: double acting
		SR: Single acting + number of springs
BLANK		90: 90° travel (standard)
		120: 120°stroke (double-acting actuator only)
		135: 135°stroke (double-acting actuator only)
		180: 180°stroke (double-acting actuator only)
DA	CCW	A port air intake, open counterclockwise (double-acting default)
	CW	Air intake from port A, clockwise to close
SR	FC-CCW	Fault closes. A port air intake, open counterclockwise (single acting default)
	FO-CW	Fault open. Air intake from port A, clockwise to close
HT		BLANK: Standard type: 20℃ ~ +80℃
		HT: High temperature type: -20℃ ~ + 150℃
		LT: Low temperature type: -40℃ ~ + 126℃
BLANK		standard connection

Pneumatic actuators

Standard connection

Model	Air pressure		Air pressure		Air pressur		Gas source connection
	standard	option	standard	option	standard	option	standard
LZ-32DA	F03		DS09		30x80 H20		G1/8"
LZ-40DA	F03+F05	F04	DS11		30x80 H20		G1/4"
LZ-52DA	F03+F05	F04	DS11		30x80 H20		G1/4"
LZ-63DA	F05+F07	F04+F07	DS14		30x80H20		G1/4"
LZ-75DA	F05+F07	F04+F07	DS14		30x80 H20		G1/4"
LZ-83DA	F05+F07		DS17		30x80 H20		G1/4"
LZ-92DA	F05+F07		DS17		30x80 H20		G1/4"
LZ-105DA	F07+F10		DS22	DD	30x80 H20	30x130 H30(20)	G1/4"
LZ-115DA	F07+F10		DS22		30x80 H20	30x130 H30(20)	G1/4"
LZ-125DA	F07+F10		DS22		30x80 H20	30x130 H30(20)	G1/4"
LZ-140DA	F10+F12		DS27		30x80 H20	30x130 H30(20)	G1/4"
LZ-160DA	F10+F12		DS27		30x80H20	30x130 H30(20)	G1/4"
LZ-190DA	F14	F12	DS36	KEY	30x130H30		G1/4"
LZ-210DA	F14	F12	DS36		30x130H30		G1/4"
LZ-240DA	F16	F14	DS46		30x130H30		G1/4"
LZ-270DA	F16		DS46		30x130H30		G1/2"
LZ-300DA	F16+Φ15		DS46		30x130H30		G1/2"
LZ-350DA	F16+F25		DS46		30x130H30		G1/2"
LZ-400DA	F16+F25		DS55		30x130 H30		G1/2"

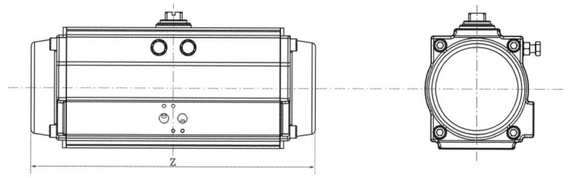
120°, 135°, 180° double acting pneumatic actuator

To meet the driving requirements of different types of valves and mechanical automation, our company can customize pneumatic actuators with different strokes (such as 120°, 135°, 180°, etc.) according to customer requirements.

Output torque

Output for torque, please refer to the 90° stroke pneumatic actuator torque table.

80° Double Acting Actuator Size Chart



Model	DA/SR52 -180	DA/SR63 -180	DA/SR75 -180	DA/SR83 -180	DA/SR92 -180	DA/SR105 -180	DA/SR125 -180	DA/SR140 -180	DA/SR160 -180	DA/SR190 -180	DA/SR210 -180
Z	210	210	210	210	210	210	375	443	579	781	789

Three-position actuator

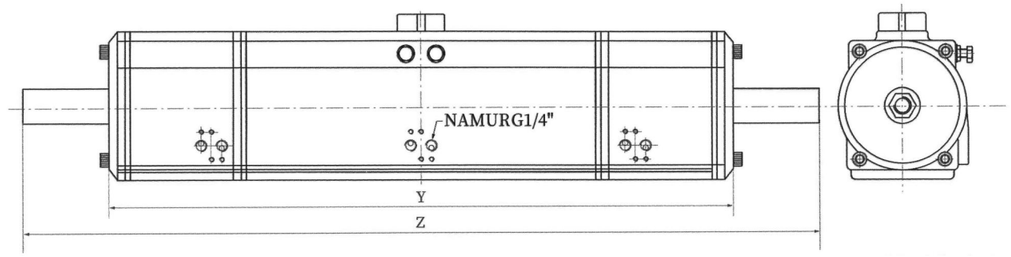
The three-position pneumatic actuator is a special type of actuator,provides 0°, 45°, 90° or 0° , 90°, 180° three-position operation way. The middle position is the mechanical movement generated by the movement of two auxiliary pistons and achieved by mechanical braking. The middle position is adjustable. Such as 90° travel. The actuator can provide intermediate positions of 20°, 30°, 50°, 70°, etc.

Pneumatic actuators

Output torque

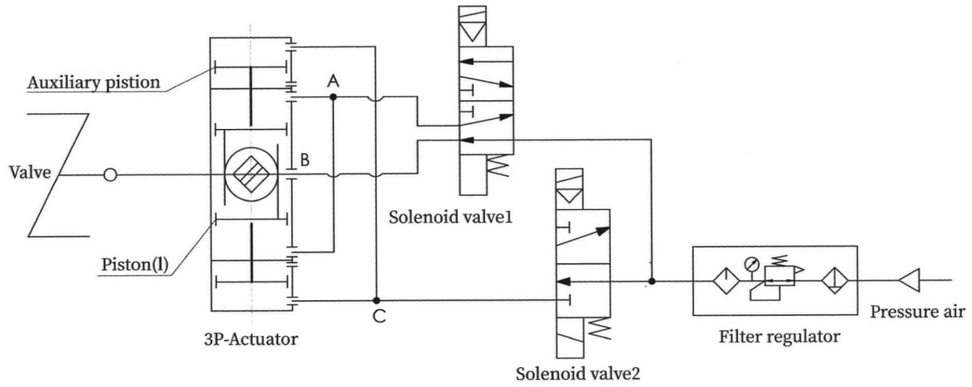
For the output torque, please refer to the 90° stroke pneumatic actuator torque table.

90° three-position actuator dimension table



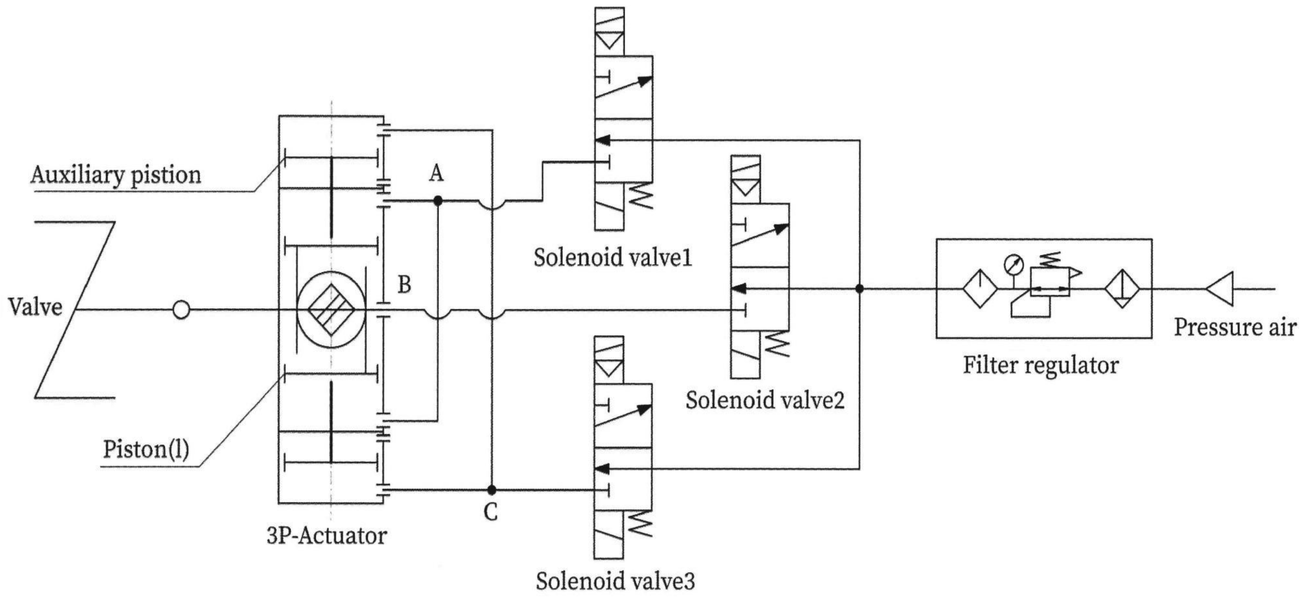
Model	LZ 52-3P	LZ 63-3P	LZ 75-3P	LZ 83-3P	LZ 92-3P	LZ 105-3P	LZ 125-3P	LZ 140-3P	LZ 160-3P	LZ 190-3P	LZ 210-3P
Y	246	299	326	362	434	446	491	625	718	852	855
Z	364	472	454	523	613	634	689	867	984	1174	1177

Working principle diagram of three-position pneumatic actuator

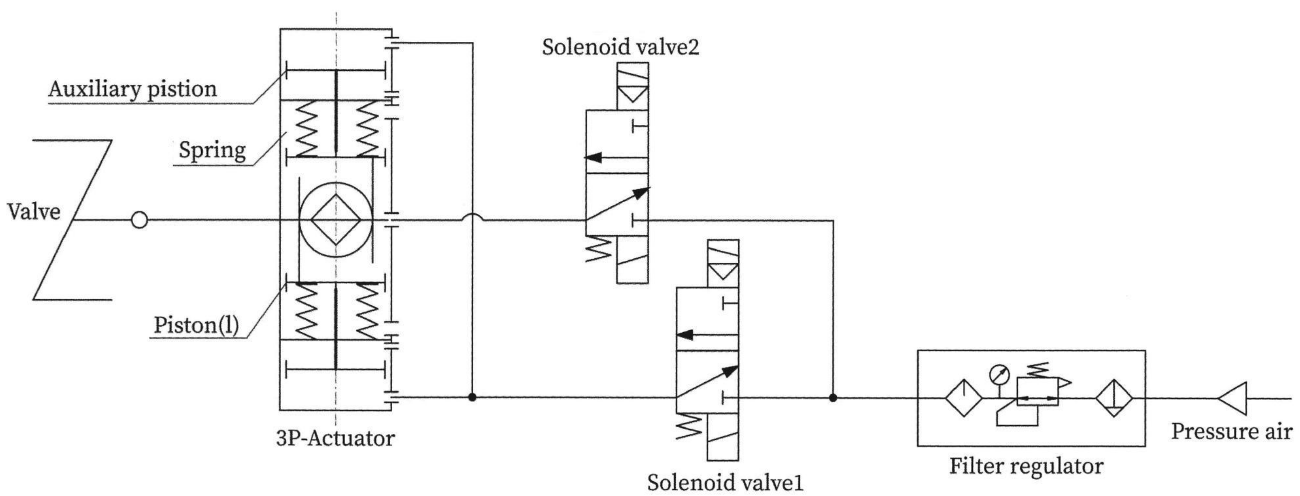


	0°	90°	30°	0°
Solenoid valve 1	OFF	ON	OFF	OFF
Solenoid valve 2	OFF	OFF	ON	OFF

Pneumatic actuators



	0°	30°	90°	30°	0°
Solenoid valve 1	OFF	OFF	ON	OFF	OFF
Solenoid valve 2	OFF	OFF	OFF	ON	ON
Solenoid valve 3	OFF	ON	ON	ON	OFF



	0°	30°	90°	30°	0°
Solenoid valve 1	OFF	ON	OFF	ON	OFF
Solenoid valve 2	OFF	ON	ON	ON	OFF

Pneumatic actuators

Product color

For more personalized customization needs, please contact us.

COMPLETE PRODUCT DISPLAY

Compl**e**te s**e**t **o**f pr**od**ucts

Electric adjustable flange ball valve

Electric explosion-proof three-way flange ball valve

Electric explosion-proof flange ball valve

Pneumatic adjustable flange ball valve

Pneumatic switch flange ball valve

Pneumatic three-piece clamp ball valve

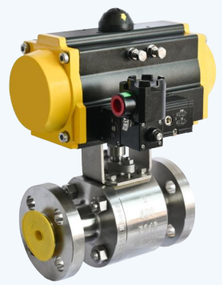
Electric wafer butterfly valve

Pneumatic wafer butterfly valve

Pneumatic PVC butterfly valve

COMPLETE PRODUCT DISPLAY

Compl**e**te s**e**t **o**f pr**od**ucts



Pneumatic high pressure ball valve

Pneumatic PVC ball valve

Electric internal thread ball valve

Pneumatic three-way internal thread ball valve

Pneumatic three-way flange ball valve

Pneumatic flange butterfly valve

Electric explosion-proof flange butterfly valve

Pneumatic wafer V type ball valve

pneumatic flange V type ball valve