

Configuration

1 .End Caps

Die-casting aluminum powder polyester painted in different colors, PTFE.

2 .Actuator Body

According to the different requirements, the extruded aluminum alloy ASTM6005 Body can be treated with hard anodized, powder polyester painted (different colors is available such as blue, orange, yellow etc.), PTFE or Nickel plated.

3 .Indicator

The indicator is made with high quality engineering plastics; it is the embed dual-color configuration, with the clear sign and the definite direction; and the indicator can also be conveniently installed with other auxiliaries, such as the position switch, localizer, and so on.

4 .Pinion

The pinion is high-precision and integrative, made from galvanized or 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.

5 .Travel Adjustment

The two independent travel stop adjustment bolts can operated $\pm 5^\circ$ at both open and close directions easily and precisely.

6 .Pistons

The twin rack pistons are made from the heat-treated high-strength die-casting aluminum alloy or the galvanized cast steel. Symmetric mounting position, long cycle life and fast operation, reversing rotation by simply inverting the pistons.

7 .Bearings & Guides

Made from low friction, long-life engineering plastics, to avoid the direct contact between metals. The maintenance and replacement are easy and convenient.

8 .O-rings

NBR rubber O-rings provide trouble-free operation at standard temperature ranges. For high and low temperature applications Viton or Silicone.

9 .Fastener

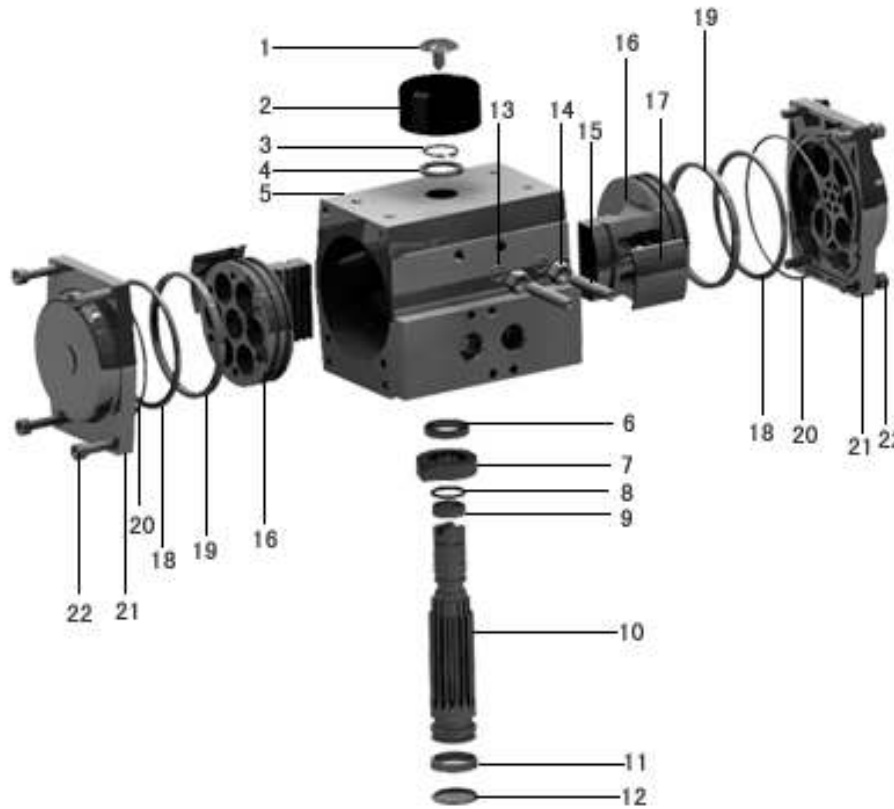
Adopt the domestic and abroad high-strength standard nickel-plated fasteners according to the requirements.



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Material

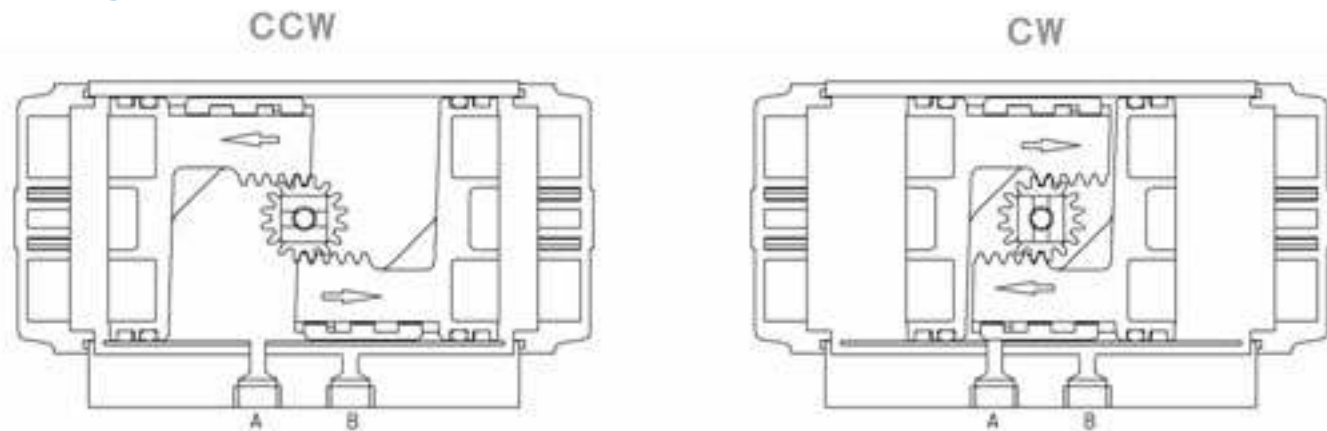


N°	Description	Qty	Standar Material	Protection	Optional Material
1	Indicator Screw	1	Plastics		
2	Indicator	1	Plastics		
3	Circlip	1	Carbon Steel	Nickel Plated	Stainless Steel
4	Gasket	1	Engineering Plastics		
5	Body	1	Cast Aluminum	Hard Anodize, Etc	
6	Retainer Ring	1	Engineering Plastics		
7	Cam	1	Steel Alloy		
8	O Ring(Upper Bearing)	1	NBR		Fluorine Rubber/Silicone Rubber
9	Upper Bearing	1	Engineering Plastics		
10	Pinion	1	Carbon Steel/Stainless Steel	Nickel Plated	
11	Lower Bearing	1	Engineering Plastics		Stainless Steel
12	O Ring(Lower Bearing)	1	NBR		
13	O Ring(Adjust Screw)	2	NBR		Fluorine Rubber/Silicone Rubber
14	Nut(Adjust Screw)	2	Carbon Steel	Nickel Plated	
15	Adjust Screw	2	Carbon Steel	Nickel Plated	Fluorine Rubber/Silicone Rubber
16	Piston	2	Cast Aluminum/Casting	Anodized/Zinc Galvanized	Rubber
17	Guide(Piston)	2	Engineering Plastics		Stainless Steel
18	Washer(Piston)	2	Engineering Plastics		Stainless Steel
19	O Ring(Piston)	2	NBR		Stainless Steel
20	O Ring(End Cap)	2	NBR		
21	End Cap	2	Cast Aluminum	Powder Coating, Etc	
22	Cap Screw	8	Carbon Steel	Nickel Plated	Fluorine Rubber/Silicone

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Operating Principle



CCW

Input the compressed air from the A, the left and right plungers move reversely, the output pinion rotates counter-clockwise, and the air at the sides of the both plungers exhausts from B.

CW

Input the compressed air from the B, the left and right plungers move to the center, the output pinion rotates clockwise, and the air between the two plungers exhausts from A. Input the compressed air from the B, the left and right plungers move to the center, the output pinion rotates clockwise, and the air between the two plungers exhausts from A.

Operating Conditions

1. Operating Media

Dry and clear air, or the non-corrosive gases
The maximum particle diameter must less than 40 μ m

2. Air Supply Pressure

The minimum supply pressure is 2.5Bar
The maximum supply pressure is 10Bar

3. Operating Temperature

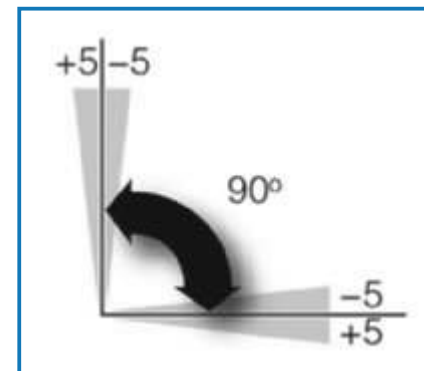
Standard: -20 $^{\circ}$ ~ +80 $^{\circ}$
Low temperature: -35 $^{\circ}$ ~ +80 $^{\circ}$ (can be customized)
High temperature: -15 $^{\circ}$ ~ +150 $^{\circ}$ (can be customized)

4. Travel Adjustment

Have adjustment range of $\pm 5^{\circ}$ for the rotation at 0 $^{\circ}$ and 90 $^{\circ}$

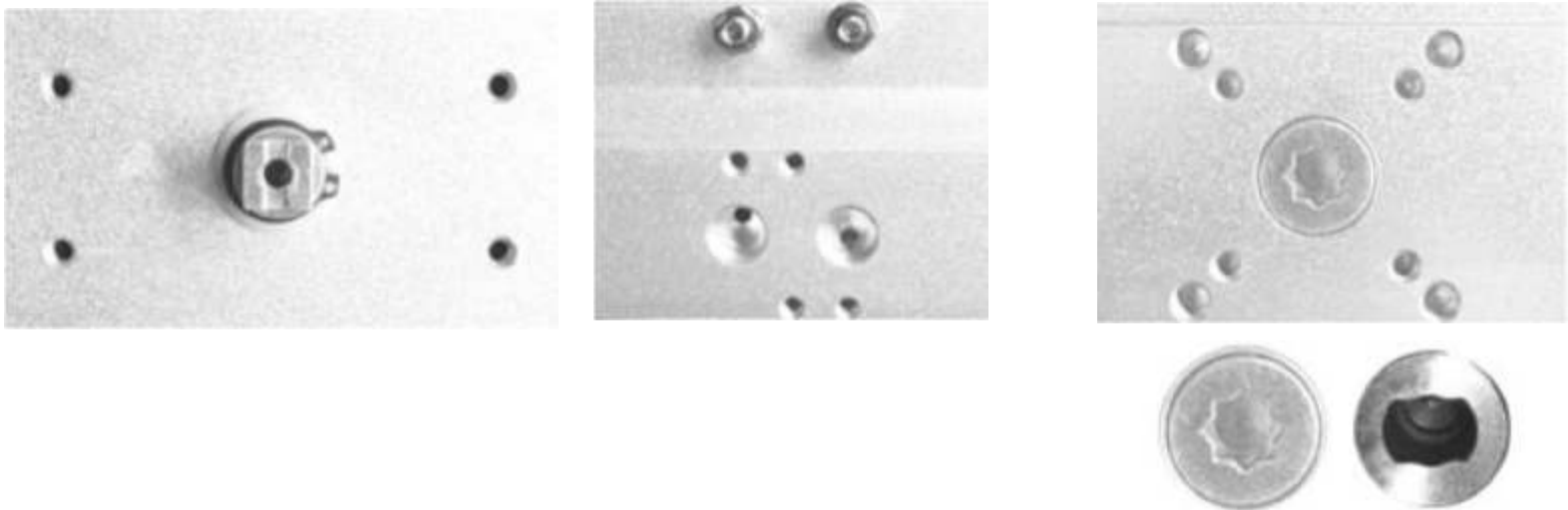
5. Application

Either indoor or outdoor



Connection Type

1. Air supply connection is designed in accordance with NAMUR Standard to install solenoid valves.
2. The NAMUR drive pinion and the NAMUR top mounting connection permit direct installation of accessories such as limit switch box and positioner.
3. Bottom mounting connection is designed in accordance with ISO5211 and DIN3337 standards for direct mounting with valve gear boxes or mounting brackets.



New Type

New connection types are continued researching and developing.

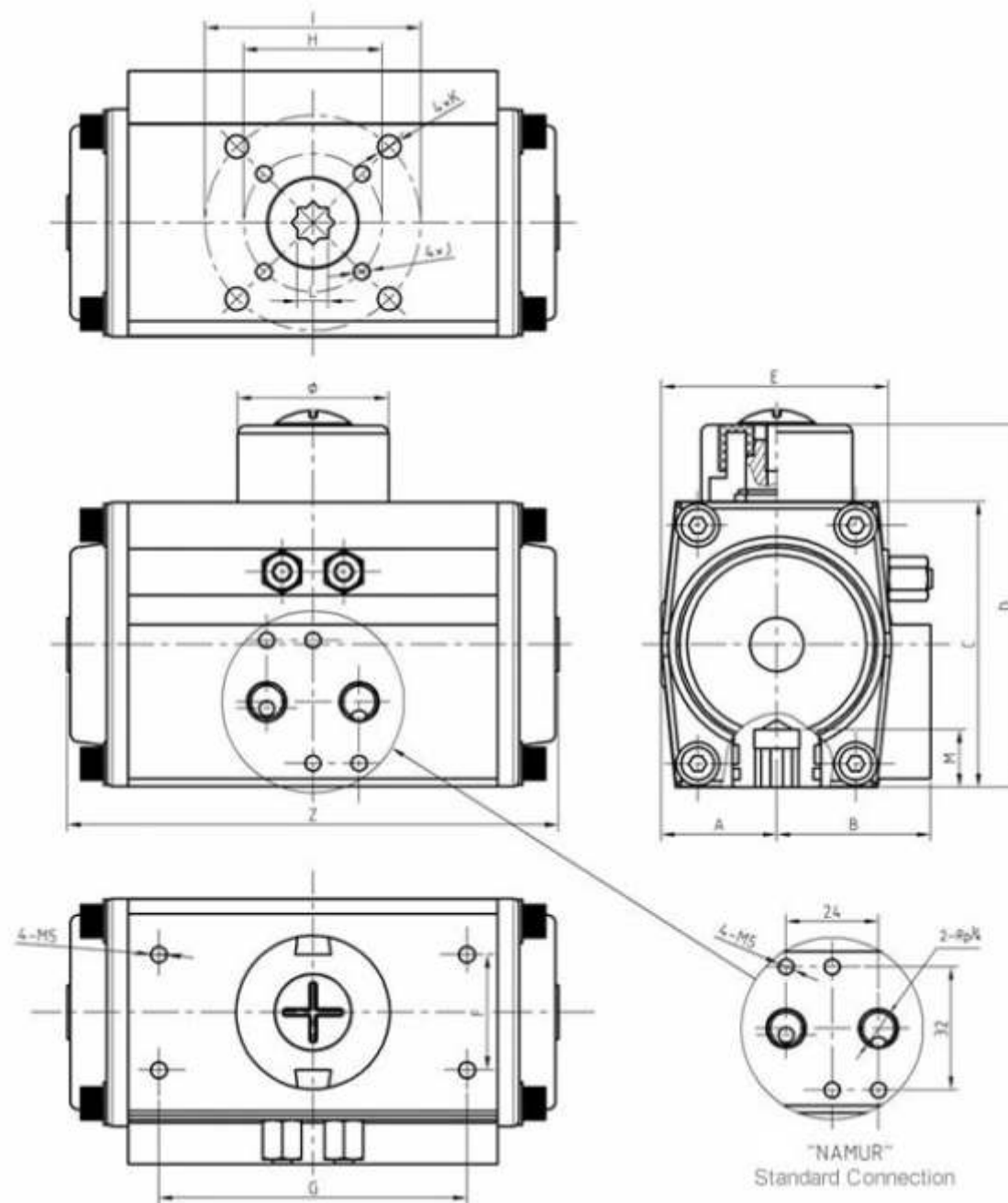
Customer Need

We can design and produce all kinds of connection types according to customer' needs.

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Dimension Table



Model	A	B	C	D	E	F	G	H	I	J	K	LxL	M	Z	Ø	Air Connection
10052DA	30	40	74.3	95	59	30	80	Ø36		M5x8		8x8	15	135	Ø40	NAMUR Rp1/4"
10063DA	36	44	88	107.5	74	30	80	Ø50	Ø70	M6x10	M8x13	9x9	15	142	Ø40	NAMUR Rp1/4"
10075DA	42	50	100.5	121	80.5	30	80	Ø50	Ø70	M6x10	M8x13	11x11	18	168	Ø40	NAMUR Rp1/4"
10083DA	46	57	108.5	128.7	88	30	80	Ø50	Ø70	M6x10	M8x13	11x11	18	188	Ø40	NAMUR Rp1/4"
10092DA	50	56	117	137	96.5	30	80	Ø50	Ø70	M6x10	M8x13	17x17	23	192	Ø40	NAMUR Rp1/4"
10105DA	57.5	64	133	153	109.5	30	80	Ø70	Ø102	M8x13	M10x16	22x22	26	258	Ø40	NAMUR Rp1/4"
10127DA	68.5	69	161	181	132	30	130	Ø70	Ø102	M8x13	M10x16	22x22	26	310	Ø55	NAMUR Rp1/4"
10140DA	75	77	180	200	137.5	30	130	Ø102	Ø125	M10x16	M12x20	27x27	31	370	Ø55	NAMUR Rp1/4"
10160DA	86	78	198	218	158	30	130	Ø102	Ø125	M10x16	M12x20	27x27	31	397	Ø55	NAMUR Rp1/4"
10210DA	113	105	255	285	210	30	130		Ø140		M16x25	36x36	40	498	Ø88	NAMUR Rp1/4"
10255DA	137	130	302	332	245	30	130		Ø165		M20x25	46x46	50	697	Ø88	NAMUR Rp1/4"

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Speed and Weight



:: Speeds(Seconds)

Size	52 63 83 92 105 127 140 160 210 255
Open Stroke / Close Stroke	0.25 0.25 0.25 0.25 0.5 0.5 1.0 1.0 2.0 2.75

Weights (Kgs)

Model	52 63 75 83 92 105 127 140 160 210 255
Double Acting	1.3 1.7 2.4 3.1 4.3 6.4 10 14.5 17.5 37.6 75

Torque List

Torque Model Model	Air Pressure Bar										
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
10052DA	8.4	10.5	12.6	14.7	16.8	18.9	21.0	23.1	25.2	29.4	33.6
10063DA	12.4	15.5	18.6	21.7	24.8	27.9	31.0	34.1	37.2	43.4	49.6
10075DA	22.3	27.9	33.5	39.1	44.6	50.2	55.8	61.4	67.0	78.1	89.3
10083DA	30.3	37.9	45.4	53.0	60.6	68.1	75.7	83.3	90.8	106.0	121.1
10092DA	42.5	53.2	63.8	74.4	85.0	95.7	106.3	116.9	127.6	148.8	170.1
10105DA	69.2	86.6	103.9	121.2	138.5	155.8	173.1	190.4	207.7	242.3	277.0
10127DA	121.6	152.1	182.5	212.9	243.3	273.7	304.1	334.5	364.9	425.7	486.6
10140DA	184.6	230.8	277.0	323.1	369.3	415.4	461.6	507.8	553.9	646.2	738.6
10160DA	241.2	301.5	361.7	422.0	482.3	542.6	602.9	663.2	723.5	844.1	964.6
10210DA	498.5	623.2	747.8	872.4	997.0	1121.7	1246.3	1370.9	1495.6	1744.8	1994.1
10255DA	1162.3	1452.9	1743.5	2034.1	2324.6	2615.2	2905.8	3196.4	3487.0	4068.1	4649.3

TYPE: Double acting pneumatic actuator

The suggested safe factor for double acting actuators under normal working conditions is 20%~30%.

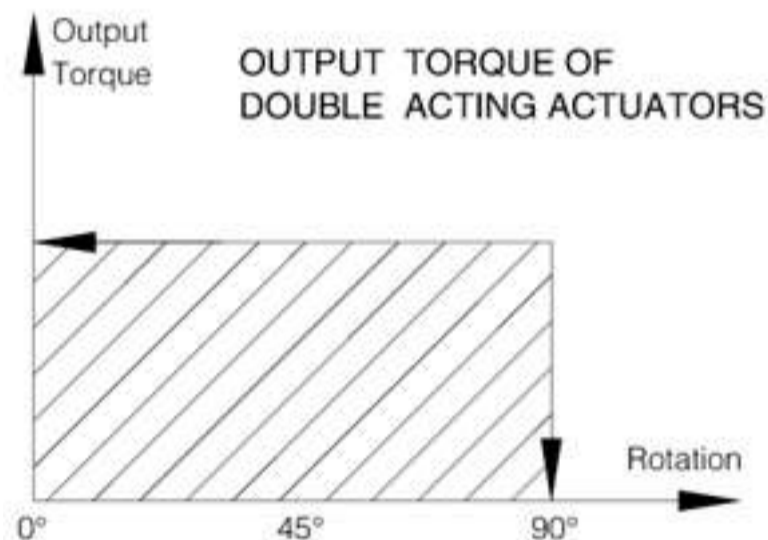
Example:

The torque needed by valve=100 N.m

The torque considered safe factor=100 (1+30%)=130 N.m

Air supply pressure=5Bar

According to the above table, we can choose the minimum model is 10105DA.



Reference Selection

Model	If Air Pressure 5 Bar, Torque(Nm)	Reference Valve Size (mm)	Reference Valve Size (inch)	Valve Torque P=10Bar	Valve Torque P=16Bar	Double Square	Standard ISO 5211
10052DA	21.0	40	1.5	8	9	8x8	F03/F07
10063DA	31.0	50	2	10	11	9x9	F05/F07
10075DA	55.8	65	2.5	14	20	11x11	F05/F07
10083DA	75.7	80	3	18	29	11x11	F05/F07
10092DA	106.3	100	4	31	47	17x17	F05/F07
10105DA	173.1	125	5	59	82	22x22	F07/F10
10127DA	304.1	150	6	93	130	22x22	F07/F10
10140DA	461.6	200	8	206	210	27x27	F10/F12
10160DA	602.9	250	10	330	360	27x27	F10/F12
10210DA	1246.3	350	14	425	475	36x36	F10/F16
10255DA	2905.8	400	16	640	760	46x46	F16/200x120