ISO9001 DNV·GL SIL3

ASCEND TORQUE



ART系列
气动执行机构

ART SERIES PNEUMATIC ACTUATORS

爱圣拓克(无锡)流体控制集团有限公司
Ascend Torque Flow Controls Co., Ltd.



爱圣拓克是中国较早研制、开发和生产齿轮齿条式气动执行器的工厂之一。经过近多年的改革与创新，爱圣拓克正向世界各地供应高质量的气动执行器和阀门控制产品。

为了给客户创造价值，爱圣拓克坚持不断改进并引进先进的生产工艺，严格控制产品质量。高精度的加工中心和专业的产品研发团队，为产品质量的可靠性、稳定性提供了有力保障，同时也保证了新产品研发的质量和效率。

公司本着“传承匠心，融合创新”的核心理念，竭诚为新老客户提供更周到的服务，更专业的技术，更卓越的产品。



关于我们



ABOUT US

ASCEND TORQUE is a professional manufacturer of rack & pinion pneumatic actuator. With many years reform and innovation, ASCEND TORQUE is supplying the high-quality pneumatic actuators and other valve control products to all over the world.

To create customer value, **ASCEND TORQUE** continues to improve and introduce advanced production technology and strict control of product quality all the time. The world class production equipment and professional engineering team provides strong guarantee for the reliability and stability of product quality, and also for the quality and efficiency of researching and developing new products.

ASCEND TORQUE will offer all of our new and regular customers more attentive service, more professional technology and more excellent products.

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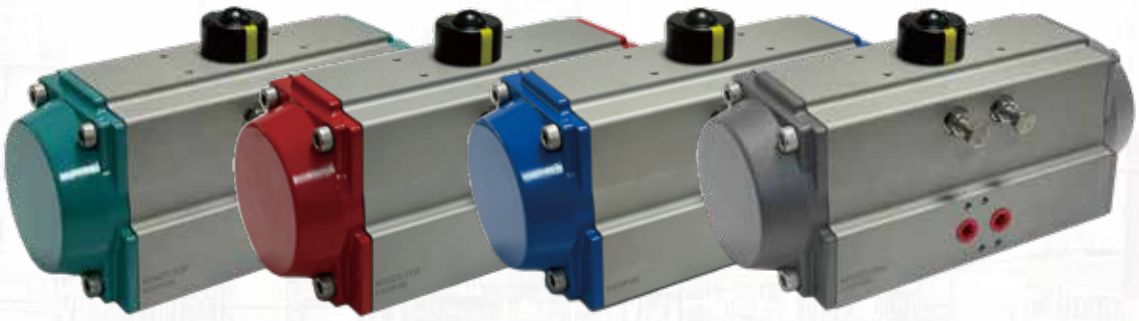
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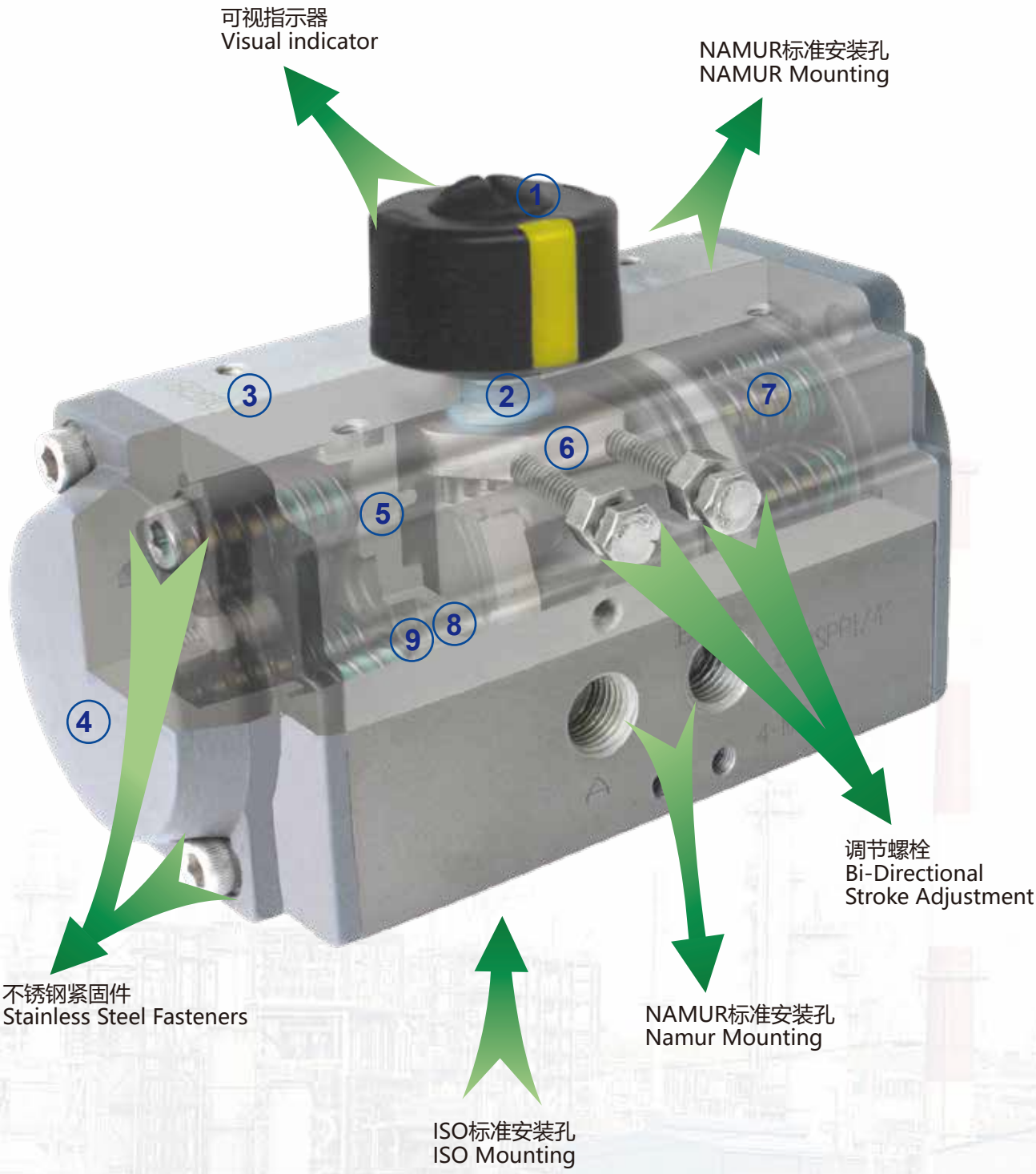
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PT7474 RAL3020 RAL5017 RAL7024

产品结构 Construction



① 指示器 Indicator

NAMUR 标准指示器便于安装位置开关、定位器等附件。
Position indicator with NAMUR is convenient for mounting accessories such as Limit Switch box,Positioner and so on.

② 输出轴 Pinion

镀镍合金钢、高精密一体式输出轴同时符合NAMUR、 ISO5211、DIN3337标准。可根据客户要求定制尺寸和不锈钢材料。
The pinion is high-precision and integrative, made from nickelled-alloy steel, full conform to the lastest standards of ISO5211, DIN3337, NAMUR.The dimensions can be customized and the stainless steel is available.



③ 缸体 Actuator Body

ASTM6005压铸铝合金缸体可以采用硬质氧化、环氧树脂喷涂（根据要求喷涂兰色、橙色、黄色等）、PTFE涂层或镀镍满足不同要求。
According to the different requirements, the extruded aluminum alloy ASTM6005 Body can be treated with hard anodized, powder polyester painted (different colours is available such as blue, orange, yellow etc.), PTFE or Nickel plated.

④ 端盖 End caps

压铸铝合金表面金属粉末喷涂各种颜色、PTFE涂层或镀镍处理。
Die-casting aluminum powder polyester painted in different colours ,PTFE or Nickel plated.

⑤ 活塞 Pistons

双活塞齿条、采用铸铝硬质氧化或者铸钢镀锌处理，安装位置对称、运作迅速、使用寿命长，简单的颠倒活塞可以改变旋转方向。
The twin rack pistons are made from Die-casting aluminum treated with Hard anodized or made from Cast steel with galvanization. Symmetric mounting position,long cycle life and fast operation, reversing rotation by simply inverting the pistons.

⑥ 行程调节 Travel adjustment

两个独立的行程调节螺钉可以进行方便、精确±5°的调节开、关位置。
The two independent external travel stop adjustment bolts can adjust ±5°at both open and close directions easily and precisely.

⑦ 高性能弹簧 High performance springs

采用优质材料、涂层处理，预压装配。具有较强的抗腐蚀性和使用寿命。能够安全、简单的拆卸单作用执行器，通过改变弹簧数量满足不同的力矩输出范围。
Preloaded coating springs are made from the high quality material for resistant to corrosion and longer service life, which can be demounted safely and conveniently to satisfy different requirements of torque by changing quantity of springs.

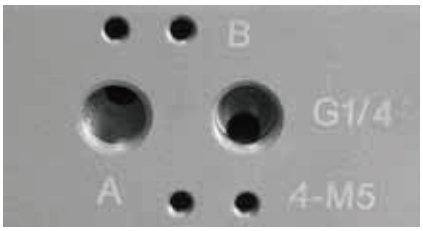
⑧ 轴承、导板 Bearings & Guides

采用低摩擦、长寿命复合材料，避免了金属与金属的直接接触，维修更换简单方便。
Made from low friction,long-life compound material,to avoid the direct contact between metals. The maintenance and replacement are easy and convenient.

⑨ 密封圈 O-rings

在常温工作条件下使用丁腈橡胶，在高温或低温时采用氟橡胶或低温丁腈橡胶。
NBR rubber O-rings provide trouble-free operation at standard temperature ranges.For high and low temperature applications FKM or LTNBR.

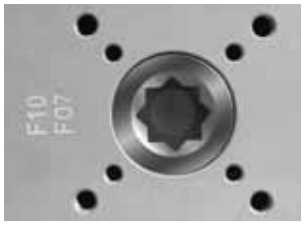
安装标准 Mounting Standard



气源接口符合NAMUR标准，可简单方便地安装电磁阀。
Air supply connection is designed in accordance with NAMUR Standard to install solenoid valves.

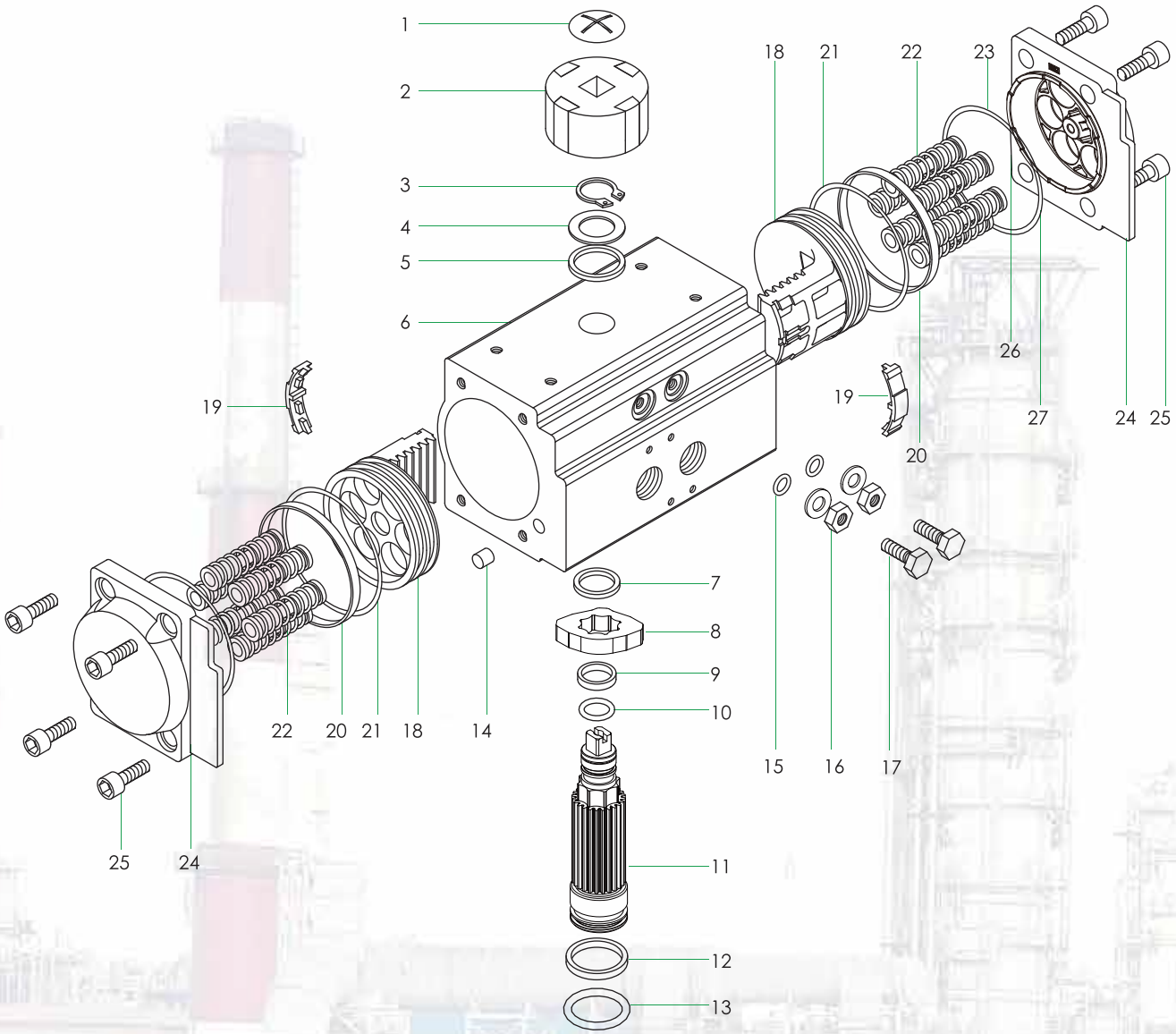


输出轴的NAMUR标准槽和缸体上部标准安装孔，可使限位开关、定位器直接啮合和安装。
The Namur drive pinion and the Namur top mounting connection permit direct installation of accessories such as limit switch box and positioner.



底部安装孔设计符合ISO5211、DIN3337标准，可以直接安装离合器(气动手轮机构)或安装支架。
Bottom mounting connection is designed in accordance with ISO5211 and DIN3337 standards for direct mounting with valve gear boxes or mounting brackets.

零件和材料 Parts and Material



序号	名称	数量	材料	防腐处理	可选材料
1	指示器螺钉	1	塑料+不锈钢		
2	指示器	1	塑料		
3	卡簧	1	不锈钢		
4	垫圈	1	不锈钢		
5	外垫片	1	工程塑料		
6	缸体	1	铸铝	硬质氧化等	
7	内垫片	1	工程塑料		
8	凸轮	1	合金钢		
9	上轴轴承	1	工程塑料		
10	上轴O型圈	1	丁腈橡胶		氟橡胶/低温丁腈橡胶
11	齿轴	1	合金钢	镀镍	不锈钢
12	下轴轴承	1	工程塑料		
13	下轴O型圈	1	丁腈橡胶		氟橡胶/低温丁腈橡胶
14	堵头	2	丁腈橡胶		
15	调节螺钉O型圈	2	丁腈橡胶		氟橡胶/低温丁腈橡胶
16	调节螺母和垫片	4	不锈钢		
17	调节螺栓	2	不锈钢		
18	活塞	2	铸铝	氧化	
19	活塞导板	2	工程塑料		
20	活塞轴承	2	工程塑料		
21	活塞O型圈	2	丁腈橡胶		氟橡胶/低温丁腈橡胶
22	弹簧	0~12	弹簧钢	电泳漆	
23	端盖O型圈	2	丁腈橡胶		氟橡胶/低温丁腈橡胶
24	端盖	2	铸铝	粉末喷涂等	
25	端盖螺栓	8	不锈钢		
26	限位螺栓	2	不锈钢		
27	限位螺母	2	不锈钢		

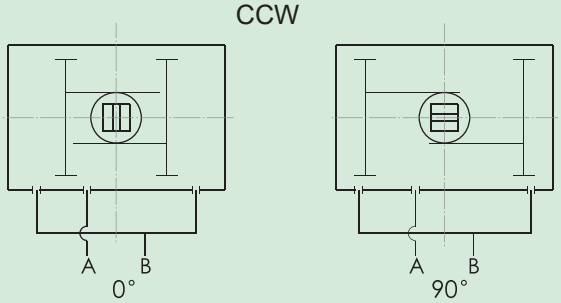


No.	Description	Qty	STANDARD METERIAL	PROTECTION	OPTIONAL METERIAL
1	Indicator screw	1	Plastic+Stainless Steel		
2	Indicator	1	Plastic		
3	Spring clip	1	Stainless Steel		
4	Thrust washer	1	Stainless Steel		
5	Outside washer	1	Engineering plastics		
6	Body	1	Extruded aluminum alloy	Hard anodized etc	
7	Inside washer	1	Engineering plastics		
8	Cam	1	Alloy steel		
9	O-ring (pinion top)	1	NBR		
10	Bearing(pinion top)	1	Engineering plastics		FKM/LTNBR
11	Pinion	1	Alloy steel	Nickel plated	Stainless Steel
12	O-ring pinion bottom)	1	Engineering plastics		
13	Bearing(pinion bottom)	1	NBR		FKM/LTNBR
14	Plug	2	NBR		
15	O-ring(Adjust screw)	2	NBR		FKM/LTNBR
16	Nut(Adjust screw) & Gasket	4	Stainless Steel		
17	Adjust screw	2	Stainless Steel		
18	Piston	2	Cast aluminum/casting	Anodized	
19	Guide(Piston)	2	Engineering plastics		
20	Bearing(Piston)	2	Engineering plastics		
21	O-ring(Piston)	2	NBR		FKM/LTNBR
22	Spring	0~12	Spring steel	Electrophoretic paint	
23	O-ring(End cap)	2	NBR		FKM/LTNBR
24	End cap	2	Cast aluminum	Powder polyster painted etc	
25	Cap screw	8	Stainless Steel		
26	Stop screw	2	Stainless Steel		
27	Nut(stop screw)	2	Stainless Steel		

工作原理 Operating Principle

双作用执行器 Double Acting Actuators

CCW



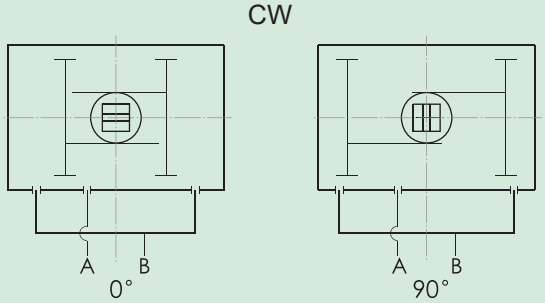
A口进气，压缩空气推动活塞向外运动，使执行器输出轴逆时针旋转(0°→90°)，B口排气。

B口进气，压缩空气推动活塞向内运动，使执行器输出轴顺时针旋转(90°→0°)，A口排气。

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

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

CW



A口进气，压缩空气推动活塞向外运动，使执行器输出轴顺时针旋转(0°→90°)，B口排气。

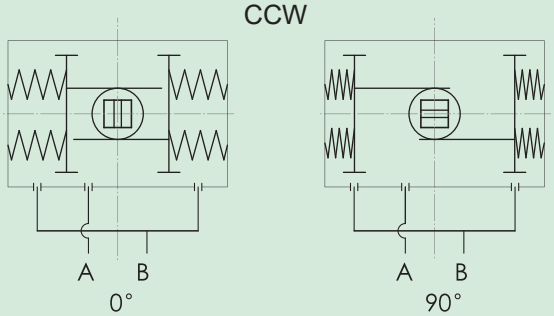
B口进气，压缩空气推动活塞向内运动，使执行器输出轴逆时针旋转(90°→0°)，A口排气。

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

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

单作用执行器 Spring Return Actuators

CCW



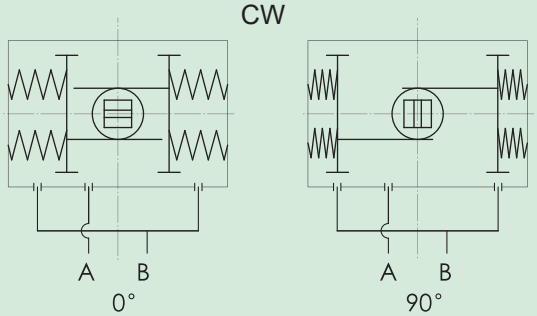
A口进气,压缩空气克服弹簧力，推动活塞向外运动，执行器输出轴逆时针转动(0°→90°)，B口排气；

执行器失气，活塞在弹簧力的作用下向内运动，执行器输出轴顺时针转动(90°→0°)，A口排气。

Air to port A forces the pistons outwards, causing the springs to compress, The pinion 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 pinion turns clockwise while air is being exhausted from port A.

CW



A口进气,压缩空气克服弹簧力，推动活塞向外运动，执行器输出轴顺时针转动(0°→90°)，B口排气；

执行器失气，活塞在弹簧力的作用下向内运动，执行器输出轴逆时针转动(90°→0°)，A口排气。

Air to port B forces the pistons outwards, causing the springs to compress, The pinion 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 pinion turns clockwise while air is being exhausted from port A.

选型办法 Sizing Method

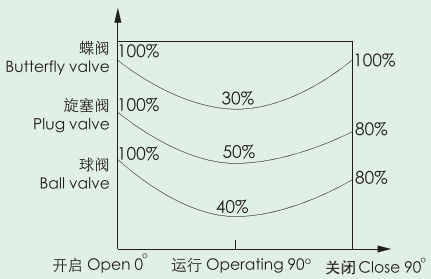
双作用执行器的选型:
在正常工作条件下，双作用执行器考虑的安全系数为20%-30%。
示例:
阀门力矩=100Nm
安全力矩=100×(1+30%)=130Nm
气源压力=5Bar
对照双作用力矩表，选配双作用执行器最小规格为ART105DA。

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=100Nm
The torque considered safety factor (1+30%)=130Nm
Air Supply=5Bar
According to the above table, we can choose the minimum model is ART105DA.

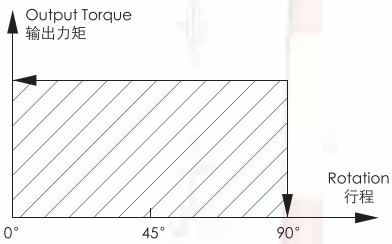
单作用执行器的选型:
在正常工作条件下，单作用执行器考虑的安全系数为30%-50%
示例:
阀门需要力矩=120N.m
安全力矩=120×(1+30%)=156N.m
气源压力=5Bar
对照单作用执行器输出力矩表，我们可以查到
ART140SR K10输出力矩为
空气行程0°=256N.m　空气行程90°=169N.m
弹簧行程90°=258N.m　弹簧行程0°=172N.m
所有输出力矩均大于需求力矩。

Sizing: Spring Return Actuator
The suggested safety factor for spring return actuator under normal working conditions is 30-50%
Example:
The torque needed by valve=120N.m
The torque consider safety factor =120×(1+30%)=156N.m
Air Supply=5Bar
According to the table of spring return actuators output we find output torque of ART140SR K10 is:
Air stroke 0°=256N.m　　Air stroke 90°=169N.m
Spring stroke 90°=258N.m　Spring stroke 0°=172N.m
All the output torque is larger than we needed.

在单作用执行器的选配过程中，如果能够了解阀门在开启、运行和关闭时的扭矩分配，我们就可以更加经济、更加合理地选配执行器。
During sizing the spring return actuators, we can choose the more reasonable and more economical actuators, if we konw the different torque needed by the valve working at opening, operating and closing.



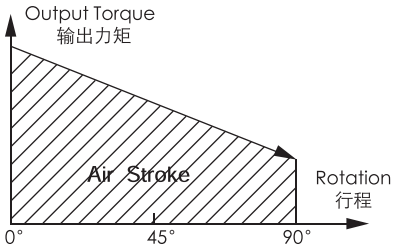
双作用输出力矩
Output Torque of Double Acting Actuators

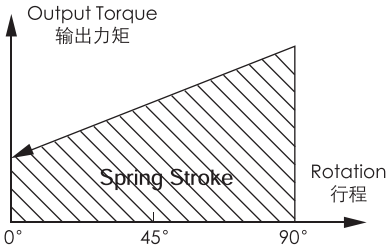


单位：牛米 / Unit: Nm

型号	气源压力(单位：巴) Air supply pressure (Unit: bar)									
Model	2Bar	2.5Bar	3Bar	4Bar	4.5Bar	5Bar	5.5Bar	6Bar	7Bar	8Bar
ART32DA	3	4	5	6	7	8	8	9	11	12
ART40DA	5	6	7	10	11	12	13	14	17	19
ART52DA	8	10	12	16	18	20	22	24	28	32
ART63DA	15	18	22	29	33	36	40	44	51	58
ART75DA	20	25	30	40	45	50	55	60	70	80
ART83DA	31	39	47	63	70	78	86	94	110	125
ART92DA	45	56	68	90	102	113	124	135	158	181
ART105DA	66	83	99	132	149	165	182	198	231	264
ART125DA	100	125	150	200	226	251	276	301	351	401
ART140DA	171	214	256	342	385	427	470	513	598	684
ART160DA	266	332	399	532	598	665	731	798	931	1064
ART190DA	426	532	638	851	958	1064	1170	1277	1490	1702
ART210DA	532	665	798	1064	1197	1330	1463	1596	1862	2128
ART240DA	769	962	1154	1539	1731	1924	2116	2308	2693	3078
ART270DA	1170	1462	1754	2339	2632	2924	3216	3509	4094	4679
ART300DA	1526	1908	2289	3052	3434	3815	4197	4578	5341	6104
ART350DA	2285	2856	3427	4570	5141	5712	6283	6854	7997	9139
ART400DA	3256	4070	4884	6512	7326	8140	8954	9768	11396	13024

单作用输出力矩 Output Torque of Spring Return Actuators





单位：牛米 / Unit: Nm

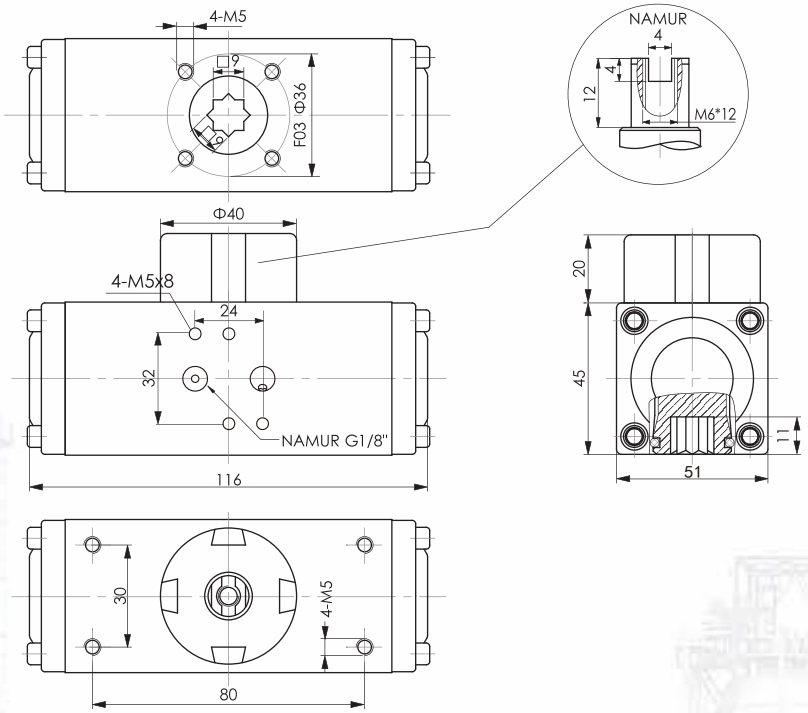
输出扭矩 Output torque of air to springs																						弹簧输出扭矩 Spring's output	
气压 Air Pressure		2.5 Bar		3 Bar		3 .5Bar		4 Bar		4.5 Bar		5 Bar		5.5 Bar		6 Bar		7 Bar		8 Bar			
型号 Model	弹簧数量 Spring Qty.	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	90° 开始 Start	0° 结束 End
ART40	SR2					4.0	1.8	5.6	3.4	6.4	4.2	7.6	5.4	**8.8**	**5.4**	9.6	7.4	12.6	10.4	14.6	12.4	**6.6**	**4.4**
ART52	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
	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
ART63	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
	SR12									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
ART75	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
	SR12									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
ART83	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
ART92	SR5	33.1	22.0	44.2	33.2	55.8	44.7	66.8	55.9	78.4	67.3											34.4	23.3
	SR6	28.4	15.2	39.6	26.4	51.1	37.9	62.2	49.0	73.7	60.5	84.8	71.6	96.3	83.1							41.2	28.0
	SR7	23.8	8.2	34.9	19.4	46.4	31.0	57.5	42.1	69.0	53.6	80.2	64.7	91.6	76.2							48.1	32.7
	SR8			31.3	12.6	41.8	24.1	52.9	35.2	64.4	46.7	75.5	57.9	87.0	69.3	98.1	80.5	120.7	103.0			55.0	37.3
	SR9					37.1	17.2	48.2	28.4	59.7	39.8	70.9	51.0	82.3	62.4	93.5	73.6	116.0	96.1			61.9	42.0
	SR10					32.4	10.4	43.6	21.5	55.0	33.0	**66.2**	**44.1**	77.6	55.6	88.8	66.7	111.3	89.2	134.0	111.8	**68.7**	**46.7**
	SR11									50.3	26.1	61.5	37.2	72.9	48.7	84.1	59.9	106.6	82.4	129.2	105.0	75.6	51.4
	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	82.5	56.0
ART105	SR5	51.0	33.4	67.5	49.9	83.9	66.3	100.6	83.0	116.9	99.3											49.2	31.6
	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							59.1	38.0
	SR7	38.4	13.7	54.9	30.3	71.2	46.6	87.9	63.4	104.2	79.6	121.0	96.4	137.2	112.6							68.9	44.3
	SR8			48.5	20.4	64.9	36.8	81.6	53.5	97.9	69.8	114.7	86.5	130.9	102.8	147.7	119.6	180.8	152.7			78.7	50.6
	SR9					58.6	26.9	75.3	43.7	91.6	59.9	108.4	76.8	124.6	92.9	141.5	109.8	174.5	142.9			88.6	56.9
	SR10					52.2	17.1	68.9	33.4	85.2	50.1	**102.0**	**66.5**	118.2	83.1	135.1	99.6	168.2	132.6	201.2	165.7	**98.4**	**63.3**
	SR11									78.9	40.2	95.7	57.0	111.9	73.2	128.7	90.1	161.8	123.1	194.8	156.2	108.3	69.6
	SR12									72.6	30.4	89.4	47.5	105.6	63.4	122.5	80.6	155.5	113.6	188.6	146.7	118.1	75.9
ART125	SR5	73	47	98	72	123.7	96.7	148	122	174	147											79	52
	SR6	63	31	88	56	112.7	81.7	138	107	163	132	188	157	213	182							94	63
	SR7	52	15	77	40	102.7	65.7	127	90	153	116	178	141	203	166							110	73
	SR8			67	25	91.7	50.7	117	75	142	101	167	125	192	151	217	176	268	226			125	84
	SR9					81.7	34.7	107	59	132	85	157	109	182	135	207	159	257	210			141	94
	SR10					70.7	18.7	96	44	121	69	**146**	**94**	171	119	196	144	247	194	297	245	**157**	**105**
	SR11									111	53	136	78	161	103	186	128	236	178	286	228	173	115
	SR12									101	38	125	63	151	88	176	113	226	163	276	213	188	125

单位：牛米 / Unit: Nm

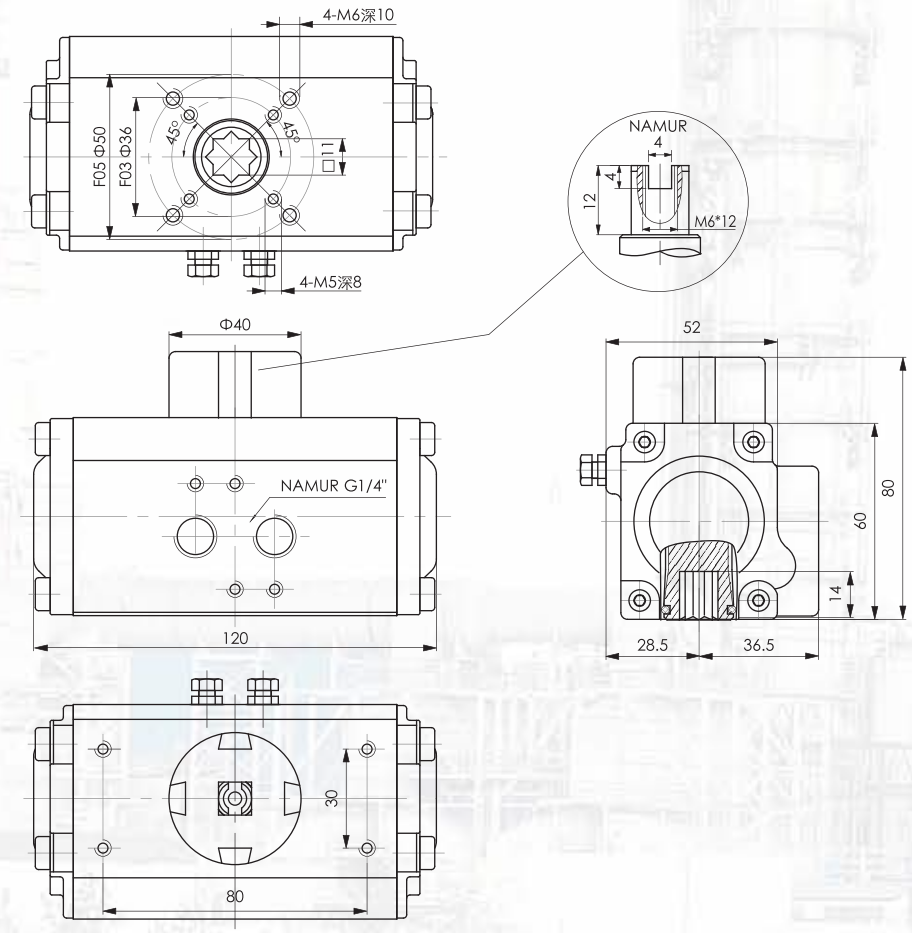
输出扭矩 Output torque of air to springs																						弹簧输出扭矩 Spring's output	
气压 Air Pressure		2.5 Bar		3 Bar		3 .5Bar		4 Bar		4.5 Bar		5 Bar		5.5 Bar		6 Bar		7 Bar		8 Bar			
型号 Model	弹簧数量 Spring Qty.	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	0° 开始 Start	90° 结束 End	90° 开始 Start	0° 结束 End
ART140	SR5	128	85	171	127	212.9	169.9	256	213	298	255											129	86
	SR6	111	59	154	102	195.9	143.9	239	187	281	229	325	273	367	315							155	103
	SR7	94	33	137	76	178.9	117.9	222	162	264	203	308	247	350	289							181	120
	SR8			120	50	161.9	92.9	205	136	247	178	291	221	333	264	376	307	462	392			206	137
	SR9					143.9	66.9	187	110	229	152	273	196	315	238	358	281	444	367			232	155
	SR10					126.9	40.9	170	84	212	126	**256**	**169**	298	212	341	255	427	340	512	426	**258**	**172**
	SR11									195	100	238	143	281	186	324	229	409	314	495	400	284	189
	SR12									178	74	221	118	264	160	307	203	392	289	478	374	310	206
ART160	SR5	193	124	259	191	325.5	257.5	392	324	459	391											208	140
	SR6	165	83	232	149	297.5	215.5	365	282	431	349	498	415	564	482							250	168
	SR7	137	41	203	107	269.5	173.5	336	240	403	307	469	373	536	440							292	196
	SR8			176	66	242.5	132.5	309	199	376	266	442	237	509	399	575	465	708	598			333	223
	SR9					214.5	90.5	280	157	348	224	413	290	481	357	546	423	679	556			375	251
	SR10					186.5	48.5	253	115	320	182	386	248	453	315	519	381	652	514	785	647	417	279
	SR11									292	141	358	207	425	274	491	340	624	473	757	606	458	307
	SR12									264	99	330	165	397	232	463	298	596	431	729	564	500	335
ART190	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
ART210	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
ART240	SR5	552	409	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
ART270	SR5	903	675	1195	968	1486.8	1259.8	1779	1552	2072	1845											787	560
	SR6	790	519	1083	811	1374.8	1103.8	1667	1396	1960	1689	2252	1981	2544	2273							943	672
	SR7	679	316	972	654	1263.8	945.8	1556	1238	1849	1531	2141	1823	2433	2115							1101	783
	SR8			860	497	1151.8	788.8	1444	1081	1737	1374	2029	1666	2321	1958	2614	2252	3199	2836			1258	895
	SR9					1039.8	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
ART300	SR5	1097	729																			1061	730
	SR6	935	494	1316	875	1794.5	1397.5															1273	876
	SR7	772	258	1153	639	1648.5	1185.5	1916	1402	2412	1949											1485	1022
	SR8			991	403	1502.5	973.5	1754	1166	2266	1737	2517	1929	3029	2500							1697	1168
	SR9					1356.5	761.5	1592	930	2120	1525	2355	1693	2883	2288	3118	2456					1909	1314
	SR10					1210.5	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
ART350	SR5	1553	964																			1702	1173
	SR6	1292	586	1863	1157	2590.4	1955.4															2043	1408
	SR7	1031	208	1602	779	2356.4	1615.4	2745	1922	3499	2758											2383	1642
	SR8			1341	401	2121.4	1274.4	2484	1544	3264	2417	3626	2686	4406	3559							2724	1877
	SR9					1886.4	934.4	2224	1165	3029	2077	3336	2307	4171	3219	4508	3449					3064	2112
	SR10					1652.4	593.4	1963	787	2795	1736	**3105**	**1929**	3937	2878	4247	3071	5390	4214	6532	5356	**3405**	**2346**
	SR11									2560	1396	2844	1551	3702	2538	3986	2693	5129	3836	6271	4978	3745	2581
	SR12									2325	1055	2584	1172	3467	2197	3726	2314	4869	3457	6011	4599	4086	2816
ART400	SR7	2028	869																			2880	1837
	SR8	1736	411	2550	1225																	3292	2100
	SR9			2259	768	3336	1995	3887	2396													3703	2362
	SR10			1967	311	3074	1583	3595	1939	4702	3211	5223	3567									4115	2624
	SR11					2811	1172	3303	1482	4439	2800	4931	3110	6067	4428	6559	4738					4526	2887
	SR12					2549	760	3012	1025	4177	2388	**4640**	**2653**	5805	4016	6268	4281	7895	5908	9523	7536	**4938**	**3149**
	SR13									3914	1977	4348	2195	5542	3605	5976	3823	7603	5450	9231	7078	5349	3412
	SR14									3652	1565	4057	1738	5280	3193	5685	3366	7312	4993	8940	6621	5761	3674
	SR15									3389	1154	3765	1281	5017	2782	5393	2909	7020	4536	8648	6164	6172	3937
	SR16													4755	2370	5101	2452	6728	4079	8356	5707	6584	4199

外形尺寸 Dimension

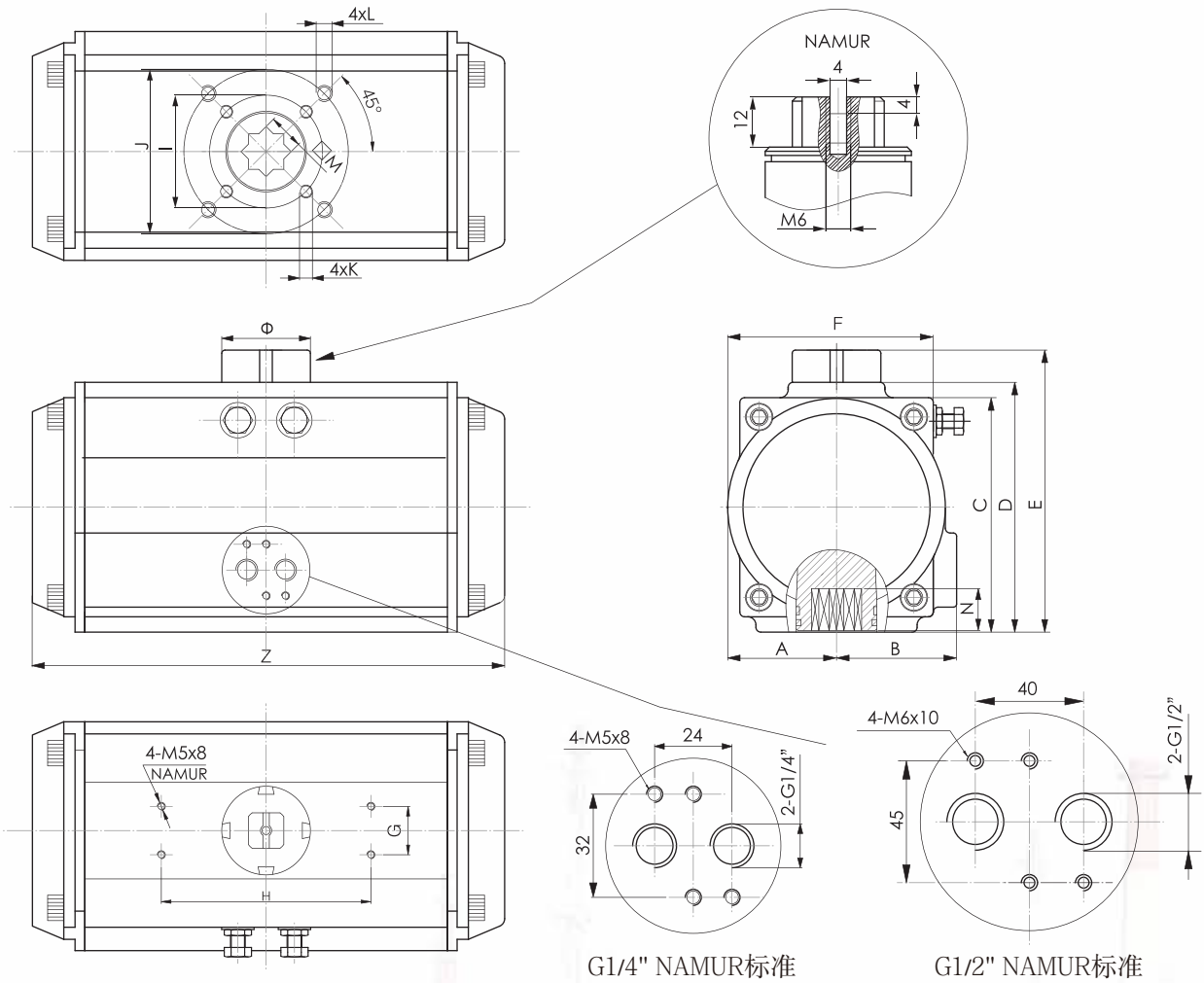
ART32



ART40



ART52 ~ ART400

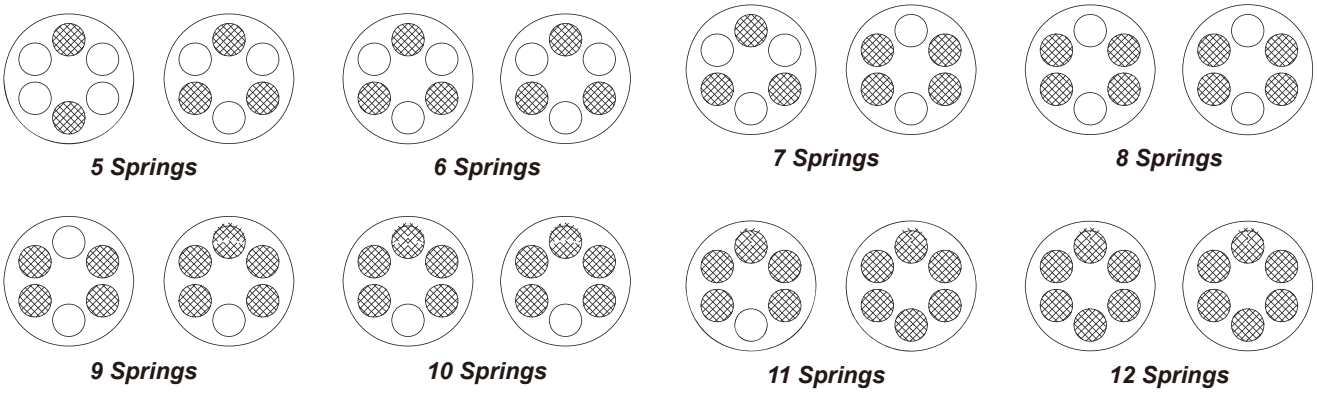


G1/4" NAMUR标准　　G1/2" NAMUR标准

单位：毫米 / Unit: mm

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Z	Φ	气源接口 Air Connection
ART52DA	30	41.5	65.5	72	92	65	30	80	Φ36	Φ50	M5x8	M6x10	11	14	147	Φ40	NAMUR G1/4"
ART63DA	36	47	81	87.5	107.5	72	30	80	Φ50	Φ70	M6x10	M8x13	14	18	168	Φ40	NAMUR G1/4"
ART75DA	42	53	94	99.5	119.5	81	30	80	Φ50	Φ70	M6x10	M8x13	14	18	184	Φ40	NAMUR G1/4"
ART83DA	46	57	98.5	108.7	128.7	92	30	80	Φ50	Φ70	M6x10	M8x13	17	21	204	Φ40	NAMUR G1/4"
ART92DA	50	58.5	111	116.5	136.5	98	30	80	Φ50	Φ70	M6x10	M8x13	17	21	262	Φ40	NAMUR G1/4"
ART105DA	57.5	64	122.5	133	153	109.5	30	80	Φ70	Φ102	M8x13	M10x16	22	26	268	Φ40	NAMUR G1/4"
ART125DA	67.5	74.5	145.5	155	175	127.5	30	80/130	Φ70	Φ102	M8x13	M10x16	22	26	301	Φ55	NAMUR G1/4"
ART140DA	75	77	161	172	192	137.5	30	80/130	Φ102	Φ125	M10x16	M12x20	27	31	390	Φ55	NAMUR G1/4"
ART160DA	87	87	184	197	217	158	30	80/130	Φ102	Φ125	M10x16	M12x20	27	31	458	Φ55	NAMUR G1/4"
ART190DA	103	103	213	230	260	189	30	130		Φ140		M16x25	36	40	525	Φ80	NAMUR G1/4"
ART210DA	113	113	235.5	255	285	210	30	130		Φ140		M16x25	36	40	532	Φ80	NAMUR G1/4"
ART240DA	130	130	264.5	289	319	245	30	130		Φ165		M20x25	46	50	602	Φ80	NAMUR G1/4"
ART270DA	147	147	299	326	356	273	30	130		Φ165		M20x25	46	50	722	Φ80	NAMUR G1/2"
ART300DA	162	162	348	348	378	324	30	130	Φ165	Φ215	M20x25	M20x25	46	60	742	Φ80	NAMUR G1/2"
ART350DA	190	190	402	402	432	380	30	130	Φ165	Φ215	M20x25	M20x25	55	60	860	Φ80	NAMUR G1/2"
ART400DA	258	258	464	464	494	298	30	130	Φ165	Φ254	M20x25	8-M16x25	55	60	924	Φ80	NAMUR G1/2"

单作用执行器弹簧安装形式 Spring Mounting Form for Spring Return Actuators



重量表 Weight Table

单位：千克 / Unit:KG

型号/Model	ART32	ART40	ART52	ART63	ART75	ART83	ART92	ART105	ART125
双作用/DA	0.7	1	1.4	2	2.7	3.1	4.6	6.8	8.9
单作用/SR	-	1.1	1.5	2.1	2.9	3.6	5.2	6.9	10.1

型号/Model	ART140	ART160	ART190	ART210	ART240	ART270	ART300	ART350	ART400
双作用/DA	13	20	31	47	67	97	110	186	289
单作用/SR	15	24	35	55	80	118	130	234	360

注：1、SR为12根弹簧；2、重量为净重量。/ Note: 1. SR is 12 springs; 2. Weight is net weight.

耗气量 Air Consumption

单位：升 / Unit: L

Model 型 号	Air volume opening 开向体积(升)	Air volume closing 关向体积(升)
ART32DA	0.04	0.05
ART40DA	0.08	0.11
ART52DA	0.12	0.16
ART63DA	0.21	0.23
ART75DA	0.3	0.34
ART83DA	0.43	0.47
ART92DA	0.64	0.73
ART105DA	0.95	0.88
ART125DA	1.6	1.4

Model 型 号	Air volume opening 开向体积(升)	Air volume closing 关向体积(升)
ART140DA	2.5	2.2
ART160DA	3.7	3.2
ART190DA	5.9	5.4
ART210DA	7.5	7.5
ART240DA	11	9
ART270DA	17	14
ART300DA	23.8	29.7
ART350DA	35.1	46.3
ART400DA	52.6	56

耗气量取决于供气压力、开关行程、体积及动作次数，计算如下：

升/分=气缸体积(开向体积+关向体积)× $\left[\frac{\text{供气压力(Kpa)+101.3}}{101.3}\right]$ ×次数/分钟

Air consumption rest with Air Supply. Air volume and Action cycle times, expressions:

L/Min=Air volume (Air volume Opening+Air volume closing)× $\left[\frac{\text{Air Supply(Kpa)+101.3}}{101.3}\right]$ ×Action cycle times (/min).

120°, 135°, 180°双作用气动执行器
120°, 135°, 180° Pneumatic Actuator (Double Acting only)

为满足不同类型阀门及机械自动化的驱动要求，我司可根据客户要求定制不同行程(例120°、135°、180°等)的气动执行器。

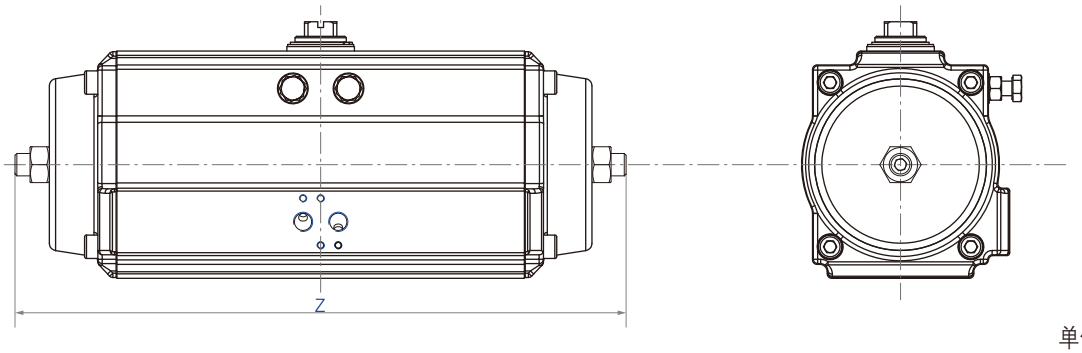
In order to meet the special requirements of control valve, we produce special strokes actuators on customer request (e.g. 120°,135°,180°etc.).

输出扭矩 Output Torque

输出扭矩请参考 90°行程气动执行器扭矩表。

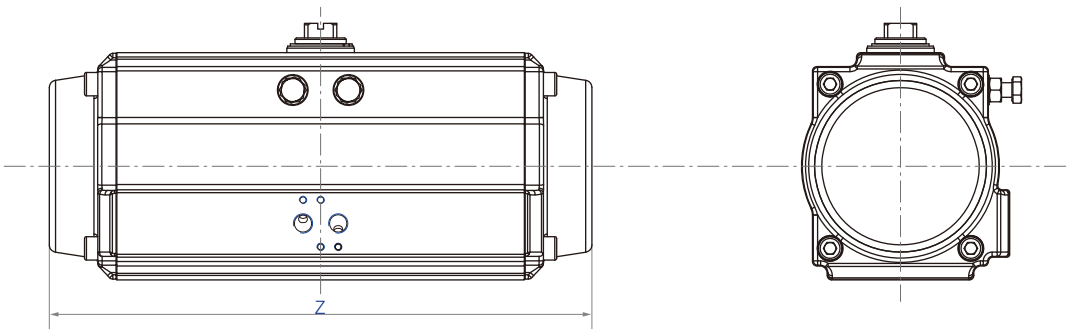
Output torque of special strokes actuators, please refer to the torque of 90° actuators (P11).

180°双作用执行器尺寸表 Length of 180° pneumatic actuator



单位：毫米 / Unit:mm

型号 Model	ART52 -180	ART63 -180	ART75 -180	ART83 -180	ART92 -180	ART105 -180	ART125 -180	ART140 -180	ART160 -180	ART190 -180	ART210 -180	ART240 -180
长度(Z)	219	247	270	319	380	410	450	613	691	813	813	929



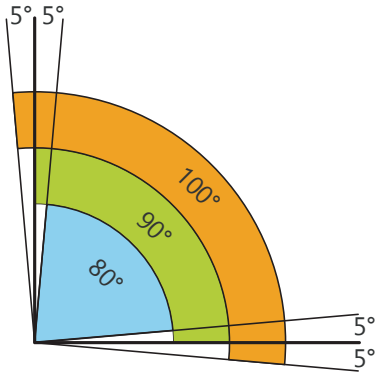
单位：毫米 / Unit:mm

型号 Model	ART52 -180-C	ART63 -180-C	ART75 -180-C	ART83 -180-C	ART92 -180-C	ART105 -180-C	ART125 -180-C	ART140 -180-C	ART160 -180-C	ART190 -180-C	ART210 -180-C	ART240 -180-C
长度(Z)	199	227	252	293	355	387	420	578	655	752	755	870

联系我们获取更多信息。Please contact us for more information.

工作条件 Operating Conditions

1、工作介质
干燥或润滑的空气或无腐蚀性气体介质中杂质微粒小于30 um。
2、气源压力
最小气源压力2.5巴，最大气源压力8巴。
3、介质环境温度
标准：-20℃~+80℃
低温：-40℃~+80℃
高温：-15℃~+150℃
4、行程调节
0° 和90° 两个位置
有 ± 5° 的调节范围
5、使用场合
室内或室外安装



1.Operating media
Dry or lubricated air, or the non-corrosive gases The maximum particle diameter must less than 30 um.
2. Air supply pressure
The minimum supply pressure is 2.5 Bar
The maximum supply pressure is 8 Bar
3.Operating temperature
Standard:-20℃~+80℃
Low temperature:-40℃~+80℃
High temperature:-15℃~+150℃
4.Travel adjustment
Have adjustment range of ± 5° for the rotation at 0° and 90°
5.Application
Either indoor or outdoor

订购 How to Order

示例/Sample：ART32DA / ART52SR K10 FC

1 代号	2 型号	3 动作形式	4 弹簧数量	5 行程	6 功能
ART系列	32 40 52 63 75 ... 400	DA-双作用 SR-单作用	SR K2-2根弹簧 SR K3-3根弹簧 SR K4-4根弹簧 ... SR K16-16根弹簧	空-90° 120-120° 135-135° 180-180°	FC-失效关闭 FO-失效打开 3P-三位式 其他

1 Code	2 Model	3 Acting Type	4 Spring Qty.	5 Travel	6 Function
ART Series	32 40 52 63 75 ... 400	DA-Double Acting SR-Spring Acting	SR K2-2Pcs SR K3-3Pcs SR K4-4Pcs ... SR K16-16Pcs	None-90° 120-120° 135-135° 180-180°	FC-Failure Close FO-Failure Open 3P-Three Position Others

注：ART32仅双作用 / Note: ART32DA only
ART40单作用仅2根弹簧 / Note: ART40SR K2 use 2 springs only



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Pioneering Excellence

爱圣拓克(无锡)流体控制集团有限公司

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2026-10-27