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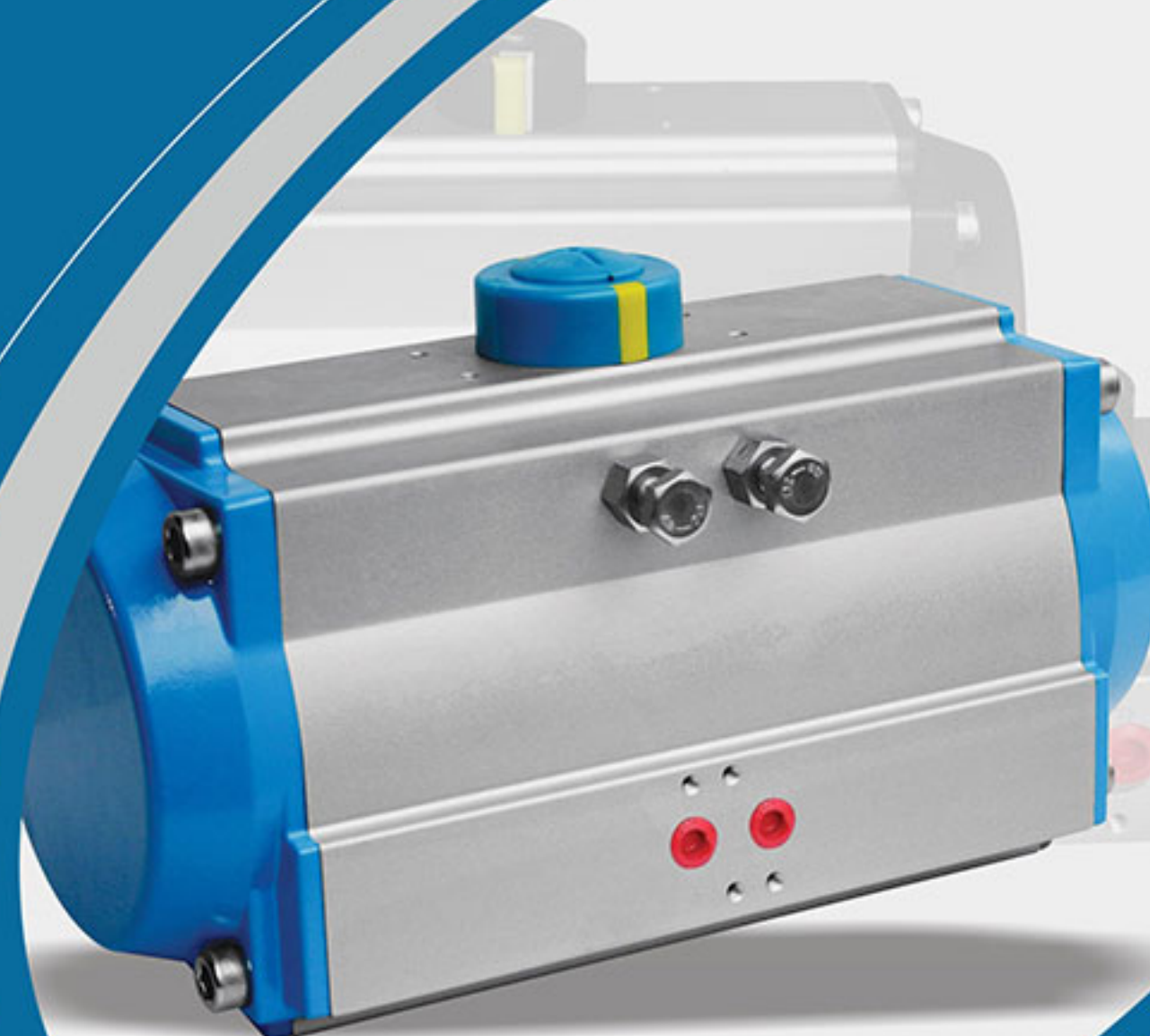
浙江久鼎自控设备有限公司
ZHEJIANG JIUDING AUTOMATIC CONTROL EQUIPMENT CO., LTD.

AT SERIES PNEUMATIC
ACTUATORS
AT 系列气动执行器

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关于久鼎

浙江久鼎自控设备有限公司专业生产制造气动执行器、电动执行器、液动执行器、电动阀、气动阀门（气动蝶阀、气动球阀）、液动阀、调节阀、以及各类工业阀门等各种规格各种系列的自控阀门。

浙江久鼎自控设备有限公司位于“中国泵阀之乡”——浙江省温州市永嘉县瓯北街道一村(温州华鑫贸易有限公司内)，公司将时刻保持以崭新的面貌、全新的理念，不断改革与创新，设计制造出更新更多更好的产品回馈广大用户。面对新的市场竞争态势和全球经济一体化的格局，久鼎自控将秉承“素质决定实力”的发展理念，坚持“诚信为本，信守一言九鼎的承诺，勇于创新，锐意进取，稳健发展”的经营方针，大力推进技术创新，资本运营，国际化拓展三大战略，全面推动久鼎自控由传统企业向高新技术产业转型，尊重知识人才，构筑一种奋发向上，团结拼搏的“久鼎”人文精神，全力打造“实力型企业”争创久鼎自控全新辉煌。

浙江久鼎自控设备有限公司主要生产制造气动阀门、气动蝶阀、气动球阀、以及各类工业阀门等各种规格各种系列的自控阀门。力争在石油、化工、冶金、电力、建筑、热力、给排水、水处理等行业具有较高的知名度及影响力，不断以科技创新，努力开发以国代进，主要按中国GB、JB、美标API、ANSI、英国BS、德标DIN、法国NF、日本JIS、JPI标准生产。并可根据用户特殊要求冶炼和制造。产品广泛用于化工、水处理设备，化肥、冶金、制药、电力、石化引进装置中的阀门配套，产品畅销全国各地，并筹备远销中东、东南亚、欧美等各个发达国家和地区。欢迎来电咨询、订购。

千里之行，始于足下，美誉之声，源于服务。久鼎自控的产品已遍布大江南北，不断演绎与众不同的“久鼎自控”佳作。实施精品战略，创品牌效益，以求实的精神，优质的产品，更完善的售后服务，让所有使用“久鼎”品牌的用户紧密相连，携手共创美好未来。



www.jdacv.com

About JiuDing

Jiuding Automation Equipment Co., Ltd. specializing in the production of pneumatic actuator, electric actuator, hydraulic actuator, electric valve, pneumatic valve manufacturing (gas pneumatic butterfly valve, pneumatic ball valve), hydraulic valve, regulating valve, automatic control valve and all kinds of industrial valves and other various specifications of the various series.

Jiuding Automation Equipment Co., Ltd. is located in "China valve village" - Oubei Town Code No. 62 North Road (next to the building, pump technology) company will keep with a new look, new ideas, continuous reform and innovation, design and produce more and better products to update the users feedback. Facing the new market competition and the pattern of global economic integration, Jiuding automation will be adhering to the "development concept of quality decision power", adhere to the "integrity-based, authoritative, abide by the commitment, innovation, forge ahead, steady development" policy, vigorously promote technological innovation, capital operation, internationalization development strategy three promote the transformation from the traditional enterprise Jiuding automation to high-tech industry, respect knowledge talent, build an uplifting, unity and hard work of the "Jiuding" humanistic spirit, to create "strength of enterprises" striving for the new brilliant Jiuding automatic control.

Jiuding Automatic Control Equipment Co., Ltd. mainly produces pneumatic valves, pneumatic butterfly valves, pneumatic ball valves, and various industrial valves and other specifications of a variety of series of automatic control valves. Strive in the petroleum and chemical industry, metallurgy, electric power, building, heating, water supply and drainage, water treatment and other industries with high visibility and influence, continuous innovation in science and technology, and strive to develop the country generation, mainly by Chinese GB, JB, API, ANSI American Standard, British BS, German standard DIN, France, NF Japan JIS, JPI standard production. And, according to the special requirements of users smelting and manufacturing. The products are widely used in chemical industry, water treatment equipment, fertilizer, metallurgy, power, pharmaceutical, petrochemical introduction of the valve device ancillary products sold throughout the country and exported to the Middle East, Southeast Asia, Europe and the United States for all developed countries and regions. Welcome to inquire, order.

 久鼎自控
JIUDING AUTOMATIC CONTROL



The longest journey begins with the first step, the reputation of sound source in service. Jiu Ding automatic control products have been all over the north and south, continue to deduce a unique "Jiu Ding Automatic Control" masterpiece. The implementation of boutique strategy, create brand benefits, with the spirit of truth-seeking, quality products, more perfect after-sales service, so that all users using "JIU DING" brand closely linked to join hands in creating a better future.

千里之行，始于足下，
美誉之声，源于服务。

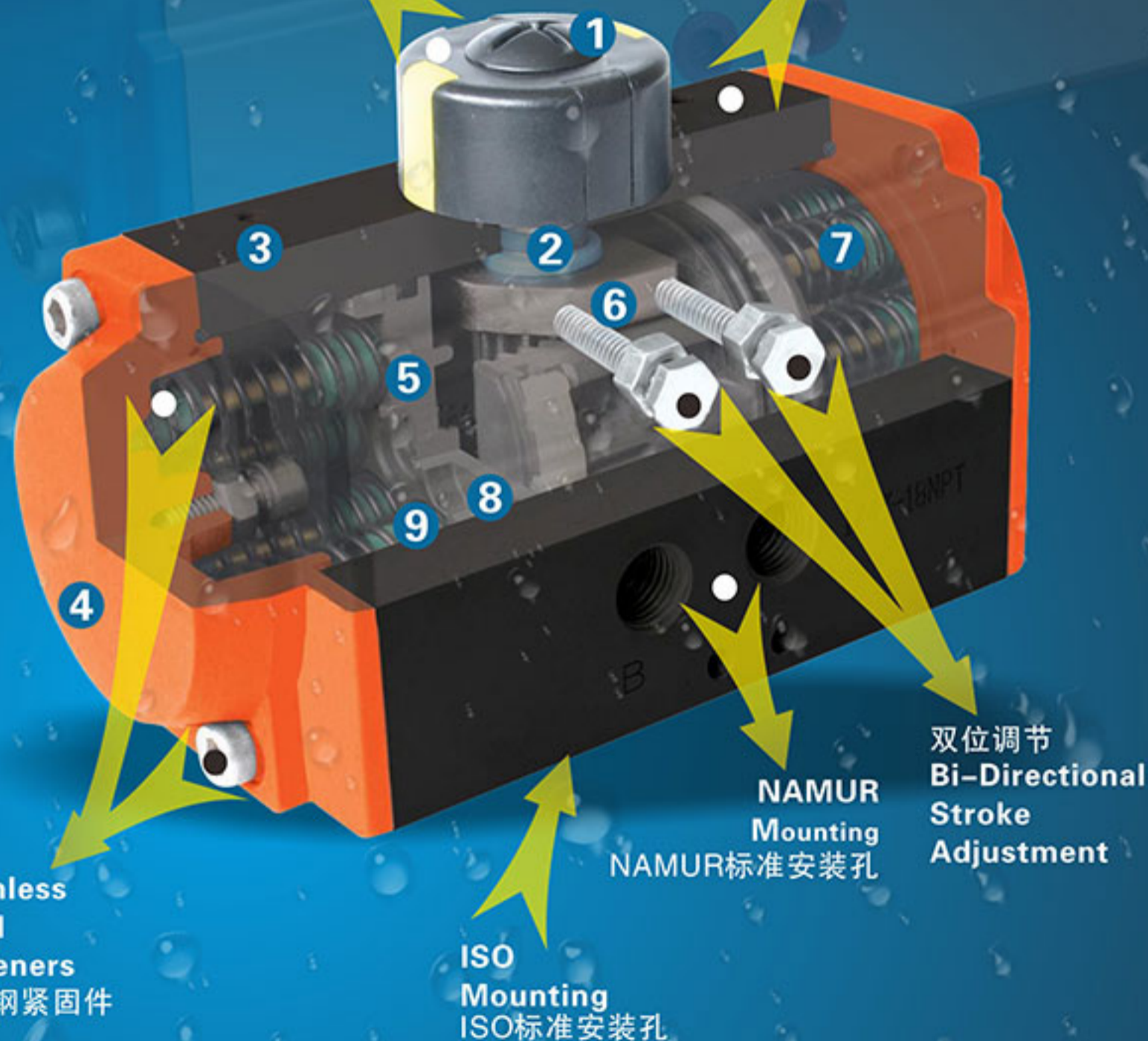
The Longest Journey Begins
With The First Step,
The Reputation Of Sound
Source In Service

AT 系列气动执行器

AT SERIES PNEUMATIC ACTUATORS

可视指示器
Versa View
Continuous
Indicator

NAMUR标准安装孔
NAMUR
Mounting



Stainless
Steel
Fasteners
不锈钢紧固件

ISO
Mounting
ISO标准安装孔

双位调节
Bi-Directional
Stroke
Adjustment

NAMUR
Mounting
NAMUR标准安装孔

AT SERIES PNEUMATIC ACTUATORS AT 系列气动执行器



Construction 结构

1、Indicator 指示器

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

2、Pinion 输出轴

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

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。

3、Actuator Body 缸体

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.

ASTM6005压铸铝合金缸体可以采用硬质氧化、环氧树脂喷涂(根据要求喷涂蓝色、橙色、黄色等)、PTFE涂层或电镀满足不同要求。

4、End caps 端盖

Die-casting aluminum powder polyester painted in different colours, PTFE or Nickel plated.

压铸铝合金表面金属粉末喷涂各种颜色、PTFE涂层或电镀处理。

5、Pistons 活塞

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.

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。

6、Travel adjustment 行程调节

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

两个独立的行程调节螺钉可以进行方便、精确 $\pm 5^\circ$ 的调节开关位置。



7、High performance springs 高性能弹簧

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.

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。

8、Bearings & Guides 轴承、导板

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

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。

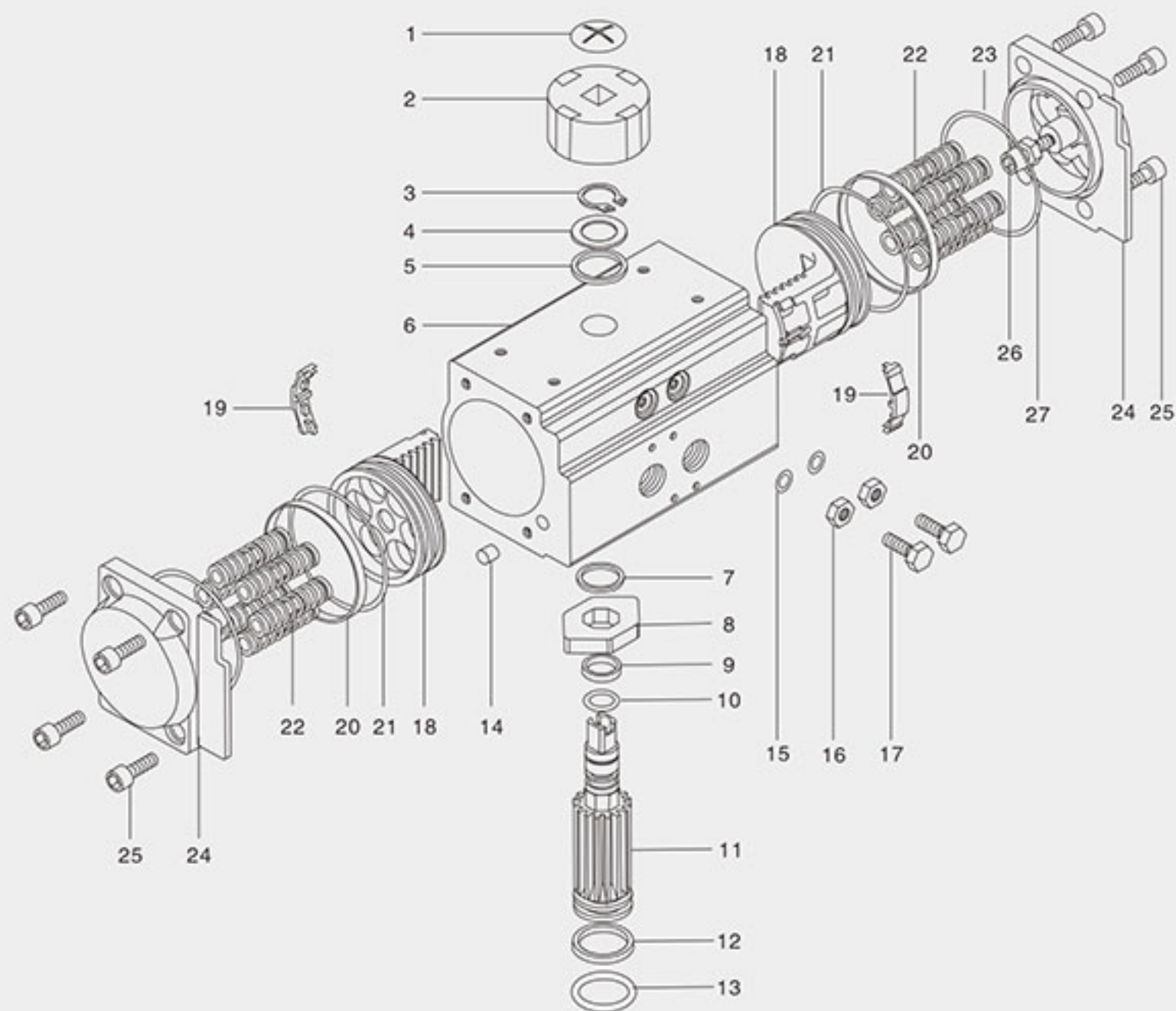
9、O-rings 密封

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

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硅橡胶。



Parts and Material 零件和材料

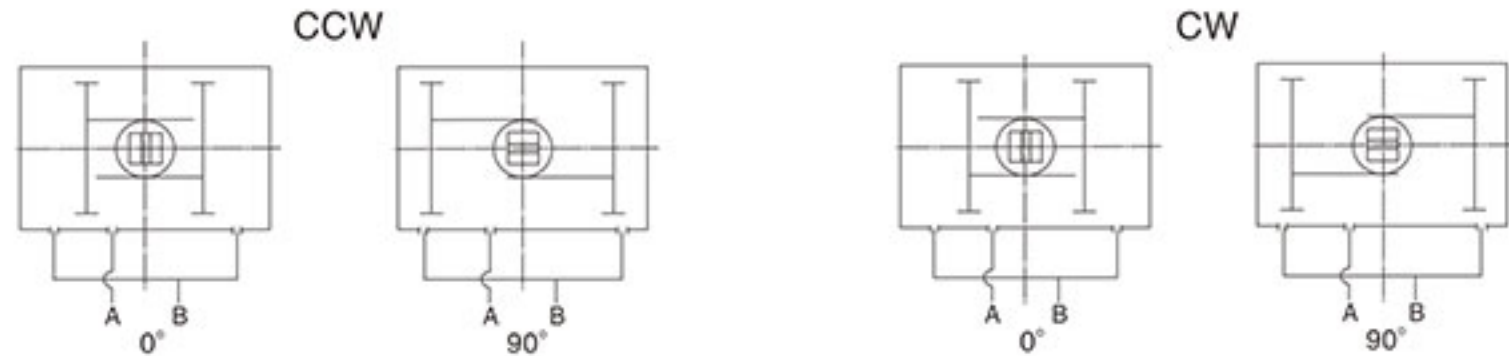


序号	名称	数量	材料	防腐处理	可选材料
1	指示器螺钉	1	塑料		
2	指示器	1	塑料		
3	卡簧	1	不锈钢		
4	垫圈	1	不锈钢		
5	外垫片	1	工程塑料		
6	缸体	1	铸铝	硬质氧化等	
7	内垫片	1	工程塑料		
8	凸轮	1	合金钢		
9	上轴O圈	1	丁腈橡胶		氟橡胶/硅橡胶
10	上轴轴承	1	工程塑料		不锈钢
11	齿轴	1	合金钢	镀锌	
12	下轴轴承	1	工程塑料		
13	下轴O圈	1	丁腈橡胶		氟橡胶/硅橡胶
14	堵头	2	丁腈橡胶		氟橡胶/硅橡胶
15	调节螺钉O圈	2	丁腈橡胶		氟橡胶/硅橡胶
16	调节螺钉螺母	2	不锈钢		
17	调节螺栓	2	不锈钢		
18	活塞	2	铸铝/铸钢	氧化/镀锌	不锈钢
19	活塞导板	2	工程塑料		
20	活塞轴承	2	工程塑料		
21	活塞O圈	2	丁腈橡胶		氟橡胶/硅橡胶
22	弹簧	0-12	弹簧钢	浸漆	
23	端盖O圈	2	丁腈橡胶		氟橡胶/硅橡胶
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 MATERIAL	PROTECTION	OPTIONAL MATERIAL
1	Indicator screw	1	Plastic		
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		Viton/Silicone
10	Bearing (pinion top)	1	Engineering plastics		Stainless Steel
11	Pinion	1	Alloy steel	Nickel plated	
12	O-ring (pinion bottom)	1	Engineering plastics		
13	Bearing (pinion bottom)	1	NBR		Viton/Silicone
14	Plug	2	NBR		Viton/Silicone
15	O-ring (Adjust screw)	2	NBR		Viton/Silicone
16	Nut (Adjust screw)	2	Stainless Steel		
17	Adjust screw	2	Stainless Steel		
18	Piston	2	Cast aluminum/casting	Anodized/Zinc galvanized	Stainless Steel
19	Guide (Piston)	2	Engineering plastics		
20	Bearing (Piston)	2	Engineering plastics		
21	O-ring (Piston)	2	NBR		Viton/Silicone
22	Spring	0-12	Spring steel	Dip coating	
23	O-ring (End cap)	2	NBR		Viton/Silicone
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		



Double Acting Actuators 双作用执行器



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.
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 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.
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Output Torque Of Double Acting Actuators 双作用执行器输出力矩(Unit:N.m)

Model 型号	Air supply pressure (Unit: Bar) 输入气源压力(单位: 巴)									
	2	2.5	3	4	4.5	5	5.5	6	7	8
AT52DA	8.0	10.0	12.0	16.0	18.0	20.0	21.9	23.9	27.9	31.9
AT65DA	14.6	18.2	21.9	29.2	32.8	36.5	40.1	43.8	51.1	58.4
AT75DA	20.1	25.1	30.1	40.1	45.1	50.2	55.2	60.2	70.2	80.3
AT85DA	31.4	39.2	47.0	62.7	70.5	78.4	86.2	94.1	109.7	125.4
AT92DA	45.1	56.4	67.7	90.3	101.6	112.9	124.1	135.4	158.0	180.6
AT105DA	66.1	82.7	99.2	132.2	148.8	165.3	181.8	198.4	231.4	264.5
AT125DA	100.3	125.4	150.5	200.6	225.7	250.8	275.9	301.0	351.1	401.3
AT140DA	171.0	213.8	256.5	342.0	384.8	427.5	470.3	513.0	598.5	684.0
AT160DA	266.0	332.5	399.0	532.0	598.5	665.0	731.5	798.0	931.0	1064.0
AT190DA	425.6	532.0	638.4	851.2	957.6	1064.0	1170.4	1276.8	1489.6	1702.4
AT210DA	532.0	665.0	798.0	1064.0	1197.0	1330.0	1463.0	1596.0	1862.0	2128.0
AT240DA	769.5	961.9	1154.3	1539.0	1731.4	1923.8	2116.1	2308.5	2693.3	3078.0
AT270DA	1169.6	1462.1	1754.5	2339.3	2631.7	2924.1	3216.5	3508.9	4093.7	4678.6

Selection of 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 choose the minimum model is AT160DA.

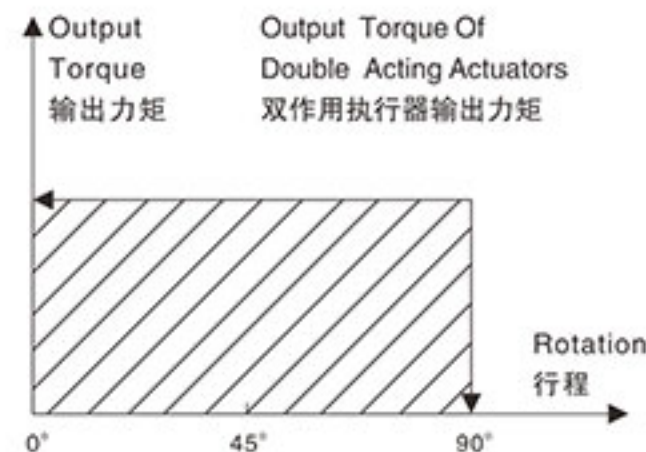
双作用执行器的选型:

在正常操作条件下, 双作用执行器考虑的安全系数为20%-30%。

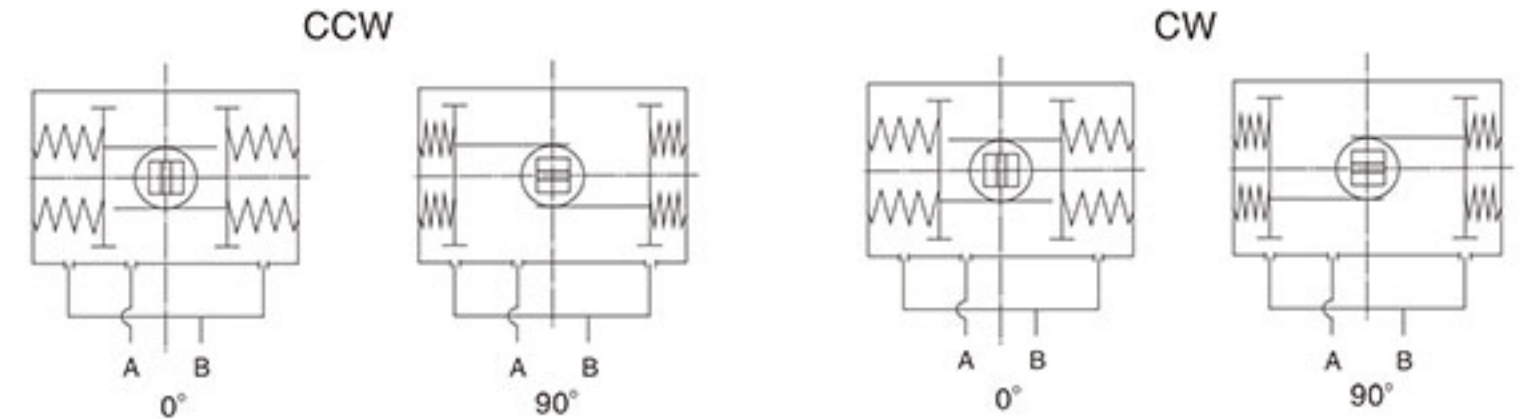
示例:

- 阀门力矩=100N.m
- 安全力矩=100×(1+30%)=130N.m
- 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AT160DA。



Spring Acting Actuators 单作用执行器



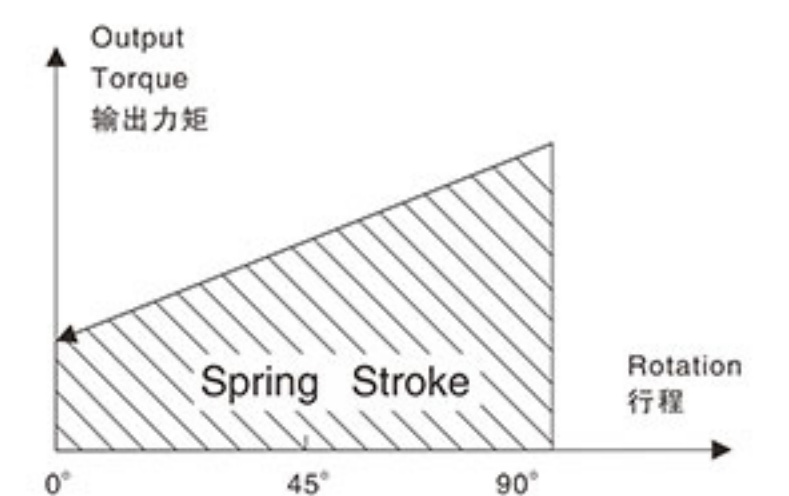
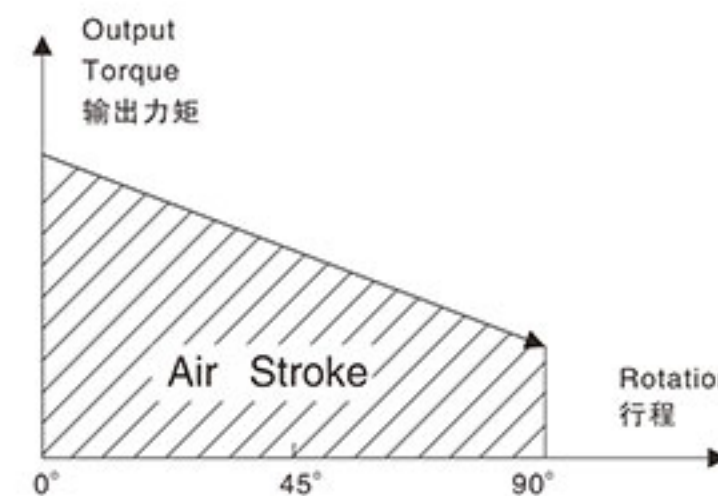
Air to port A forces the pistons outwards, causing the springs to compress. The pinion turns counter clockwise while air is being exhausted from port B.
Loss of air pressure on port A, the stored energy in the springs forces the pistons inwards. The pinion turns clockwise while air is being exhausted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

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 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.

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。

Output Torque Of Spring Return Actuators 单作用执行器输出力矩



NOTE:

Make sure that the torque necessary to operate the valve is compatible with the actuator torque (It depends on both actuator type and air supply).

Please note that the requested torque depends not only on the valve, but on the working conditions and the safety margins of the plant in question, too.

注意:

确保执行器的输出扭矩和驱动阀门所需要的扭矩相符(执行器的型号和气源压力)。

请注意, 选型扭矩不仅取决于阀门, 还要考虑相关工况、安全系数等参数。



■ Selection of Single Acting Actuator

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

Example:

The torque needed by valve=80N.m

The torque consider safety factor=80(1+30%)=104N.m

Air Supply=5Bar

According to the table of spring return actuators' output, we find output torque of AT140SR K7 is:

Air stroke 0° =308N.m

Air stroke 90° =247N.m

Spring stroke 90° =181N.m

Spring stroke 0° =120N.m

All the output torque is larger than we needed.

Attention:

During the spring reset of the single acting actuator, the actuator B port ventilation does not affect the actuator output torque, instead, it helps the spring reset.

■ Single Acting Actuator Spring Installation 单作用执行器弹簧安装形式



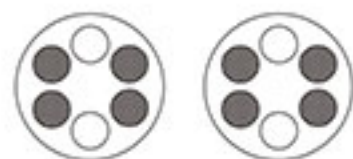
5 Springs



6 Springs



7 Springs



8 Springs



9 Springs



10 Springs



11 Springs



12 Springs

■ 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%。

例如:

阀门需要力矩=80N.m

安全力矩=80(1+30%)=104N.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AT140SRK7输出力矩为:

空气行程0° =308N.m

空气行程90° =247N.m

弹簧行程90° =181N.m

弹簧行程0° =120N.m

所有输出力矩均大于我们需求。

注意:

单作用执行器弹簧复位过程中, 执行器B口通气不影响执行器输出力矩, 相反帮助弹簧的复位。

During selecting the spring return actuators, we can choose the more reasonable and more economical actuators, if we know the different torque needed by the valve working at opening, operating and closing.

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。

Example:

The max torque needed by the butterfly valve=104N.m

The torque after opened (operating)104x30%=32N.m

Air Supply=5Bar

We can select the AT125SR K11 output torque is:

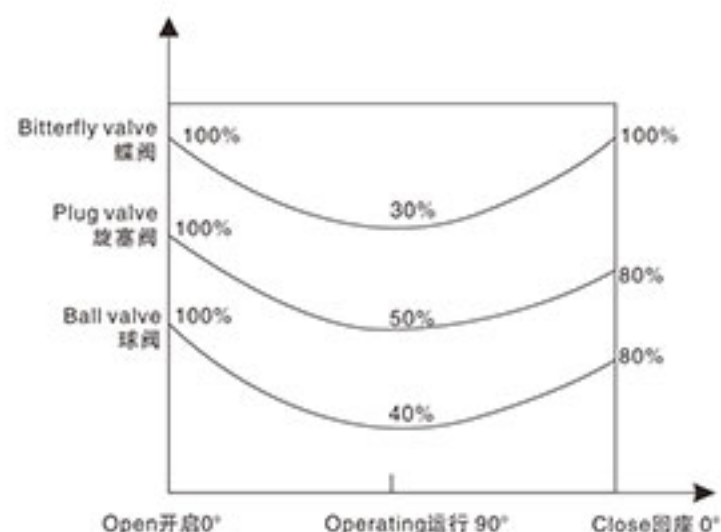
• Air stroke 0° =136N.m >104N.m

• Air stroke 90° =78N.m >32N.m

• Spring stroke 90° =173N.m >32N.m

• Spring stroke 0° =115N.m >104N.m

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



例如:

蝶阀原最大扭矩=104N.m

打开后扭矩104x30%=32N.m

气源压力=5Bar

我们可以选择AT125SR K11

• 空气行程0° =136N.m >104N.m

• 空气行程90° =78N.m >32N.m

• 弹簧行程90° =173N.m >32N.m

• 弹簧行程0° =115N.m >104N.m

以上数据显示可以满足该蝶阀的正常启闭。

■ Operating Conditions

1. Operating media

Dry or lubricated air, or the non-corrosive gases the maximum particle diameter must less than 30 μm.

2. Air supply pressure the minimum supply pressure is 2.5 Bar, the maximum supply pressure is 8 Bar.

3. Operating temperature

Standard: -20°C~+80°C

Low temperature: -35°C~+80°C

High temperature: -15°C~+150°C

4. Travel adjustment

Have adjustment range of ±5° for the rotation at 0° and 90°.

5. Application

Either indoor or outdoor.

■ 工作技术条件

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 μm。

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°C~+80°C

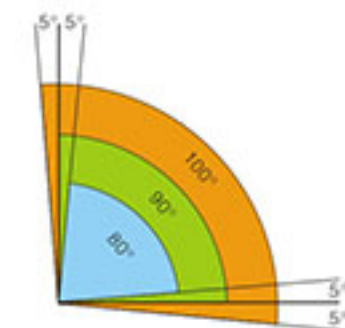
低温: -35°C~+80°C

高温: -15°C~150°C

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。



■ Operating type(Single action and double action) 动作形式(单作用和双作用)



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

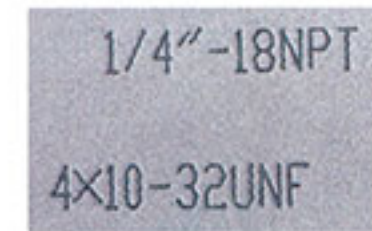
The Namur drive pinion and the Namur top mounting connection permit direct installation of accessories such as limit switch box and positioner. 输出轴的NAMUR标准槽和缸体上部标准安装孔, 可使限位开关、定位器直接啮合和安装。



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



Each actuator is marked with a serial number, air connection and bottom mounting holes are marked for easy track and distinction.



产品序列号、气源接口及底部安装孔全部电脑打字, 易于辨识和跟踪服务。

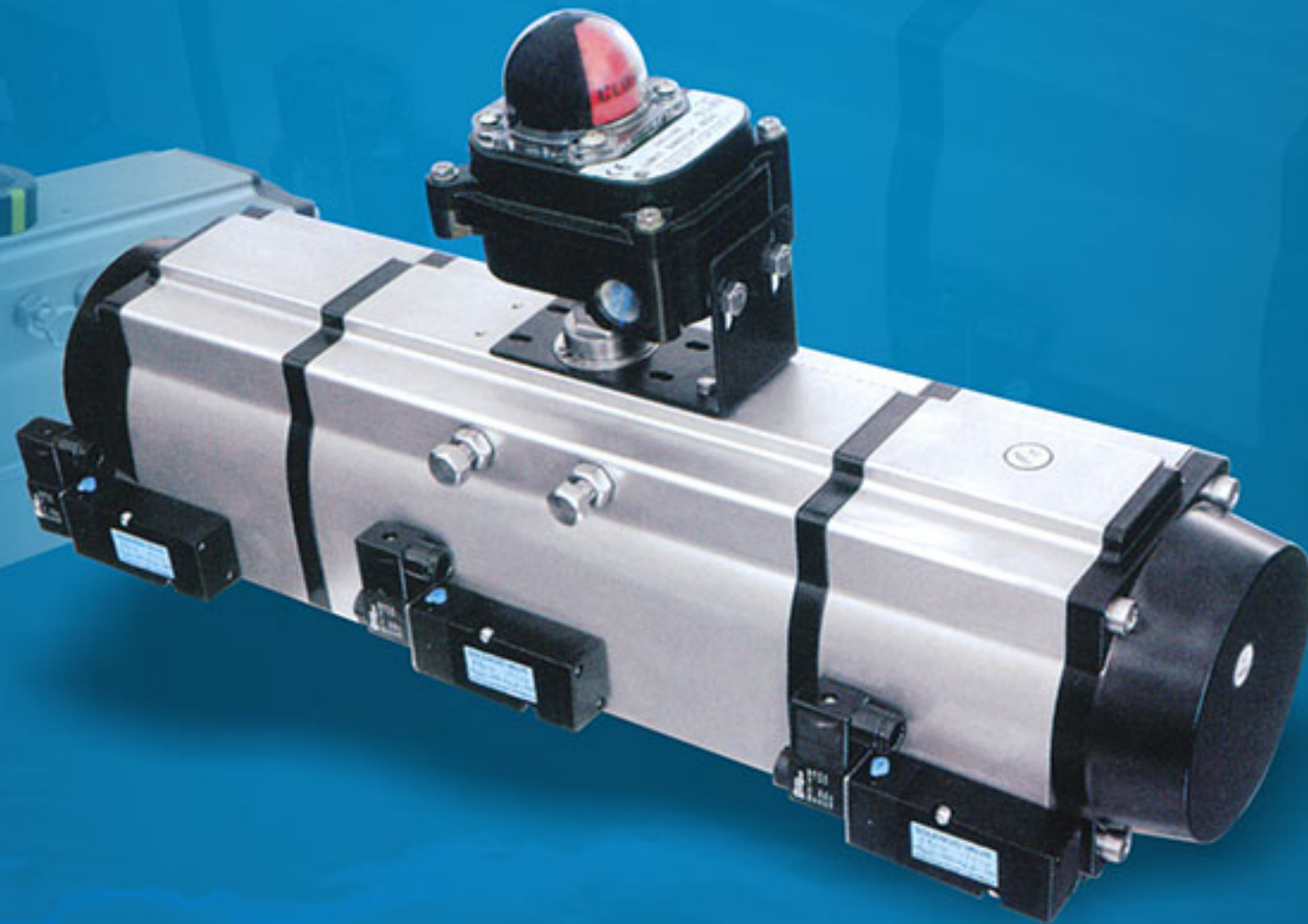


特殊执行器

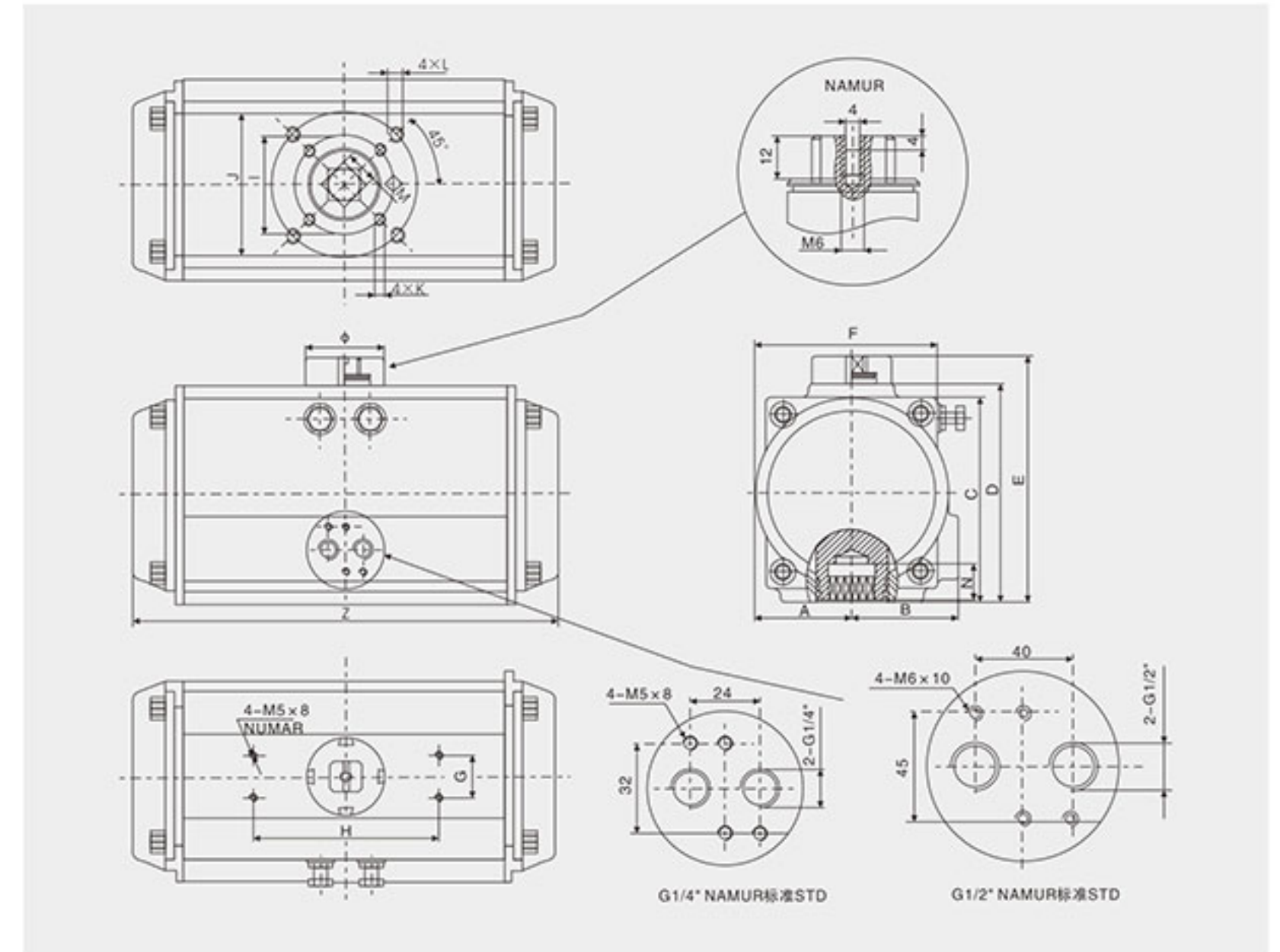
钢外壳体执行器
 不锈钢轴不锈钢活塞执行器
 120°、145°、180° 转角执行机构
 三位执行器
 快速或慢速动作执行器

SPECIAL ACTUATORS

Actuators with steel body
 Actuators with stainless steel pinion and pistons
 120°, 145°, 180° actuators
 Three-positions actuator
 Speedy or slow act actuators



AT SERIES PNEUMATIC ACTUATORS AT 系列气动执行器



■ Dimension Table 尺寸表

型号 Mode	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Z	φ	气源接口 Air connection
AT52	30	41.5	65.5	72	92	65	30	80	φ36	φ50	4-M5x8	4-M6x10	11	14	147	φ40	NAMUR G1/4"
AT65	37.5	46	81	89	109	73.5	30	80	φ50	φ70	4-M6x10	4-M8x13	14	18	170	φ40	NAMUR G1/4"
AT75	42	53	94	100	120	81	30	80	φ50	φ70	4-M6x10	4-M8x13	14	18	184	φ40	NAMUR G1/4"
AT85	46	57	98.5	108.5	128.5	92	30	80	φ50	φ70	4-M6x10	4-M8x13	17	21	206	φ40	NAMUR G1/4"
AT92	50	58.5	111	116.5	136.5	98	30	80	φ50	φ70	4-M6x10	4-M8x13	17	21	262	φ40	NAMUR G1/4"
AT105	57.5	64	122.5	134	154	109.5	30	80	φ70	φ102	4-M8x13	4-M10x16	22	26	282	φ40	NAMUR G1/4"
AT125	71	74.5	150	160	180	133.5	30	80	φ70	φ102	4-M8x13	4-M10x16	22	26	304	φ55	NAMUR G1/4"
AT140	75	77	162	174	194	137.5	30	80	φ102	φ125	4-M10x16	4-M12x20	27	31	396	φ55	NAMUR G1/4"
AT160	87	87	185	198.5	218.5	158.5	30	80	φ102	φ125	4-M10x16	4-M12x20	27	31	445	φ55	NAMUR G1/4"
AT190	103	103	216	232	262	189	30	130		φ140		4-M16x25	36	50	532	φ80	NAMUR G1/4"
AT210	113	113	235.5	257	287	210	30	130		φ140		4-M16x25	36	50	536	φ80	NAMUR G1/4"
AT240	130	130	264.5	292	322	245	30	130		φ165		4-M20x25	46	60	602	φ80	NAMUR G1/4"
AT270	147	147	299	332	362	273	30	130		φ165		4-M20x25	46	60	722	φ80	NAMUR G1/2"



■ Air Consumption 耗气量

开向体积和关向体积 Air volume opening & closing

单位Unit:L

Model 型号	Air volume opening 开向体积 (升)	Air volume closing 关向体积 (升)	Model 型号	Air volume opening 开向体积 (升)	Air volume closing 关向体积 (升)
AT52	0.12	0.16	AT140	2.5	2.2
AT65	0.21	0.23	AT160	3.7	3.2
AT75	0.3	0.34	AT190	5.9	5.4
AT85	0.43	0.47	AT210	7.5	7.5
AT92	0.64	0.73	AT240	11	9
AT105	0.95	0.88	AT270	17	14
AT125	1.6	1.4			

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

L/Min=Air volume(Air volume Opening+Air volume closing)

$$\times \left[\frac{\text{Air Supply (Kpa)}+101.3}{101.3} \right] \times \text{Action cycle times(/min)}$$

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）

$$\times \left[\frac{\text{供气压力(Kpa)}+101.3}{101.3} \right] \times \text{次数/分钟}$$

Series 系列	Model 型号	Spring Q.ty 弹簧数量	Options 选项
AT □ DA	52	K5	120°,140°,180° for special degree operation
	65	K6	
	75	K7	
AT □ SR □	85	K8	SS Stainless Steel Pinion
	92	K9	
AT □ □ Ni	105	K10	SS Stainless Steel Pinion
	125	K11	
		K12	

Series 系列	Model 型号	Spring Q.ty 弹簧数量	Options 选项
AT □ DA	140	K5	120°,140°,180° for special degree operation
	160	K6	
	190	K7	
AT □ SR □	210	K8	SS Stainless Steel Pinion
	240	K9	
AT □ □ Ni	270	K10	SS Stainless Steel Pinion
		K11	
		K12	

■ Weight Table 重量表

Model 型号	AT52(Φ52)	AT65(Φ65)	AT75(Φ75)	AT85(Φ85)	AT92(Φ92)	AT105(Φ105)	AT125(Φ125)
重量(DA)	1.38kg	2.03kg	2.7kg	3.13kg	4.6kg	6.77kg	8.9kg
重量(SR)	1.45kg	2.05kg	2.9kg	3.6kg	5.22kg	6.85kg	10.11kg

Model 型号	AT140(Φ140)	AT160(Φ160)	AT190(Φ190)	AT210(Φ210)	AT240(Φ240)	AT270(Φ270)
重量(DA)	13.25kg	20.14kg	31.3kg	46.80kg	67.28kg	96.9kg
重量(SR)	15.55kg	24kg	35.25kg	54.8kg	80.2kg	118kg

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.

