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DAMING

VALVE

无锡大明阀门自控设备有限公司

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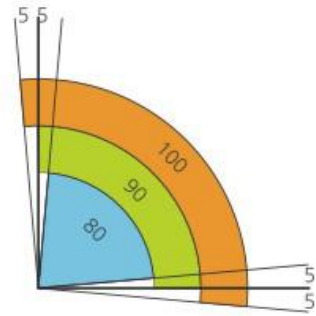
Luqu Yangshan Town Wuxi City

无锡大明阀门自控设备有限公司

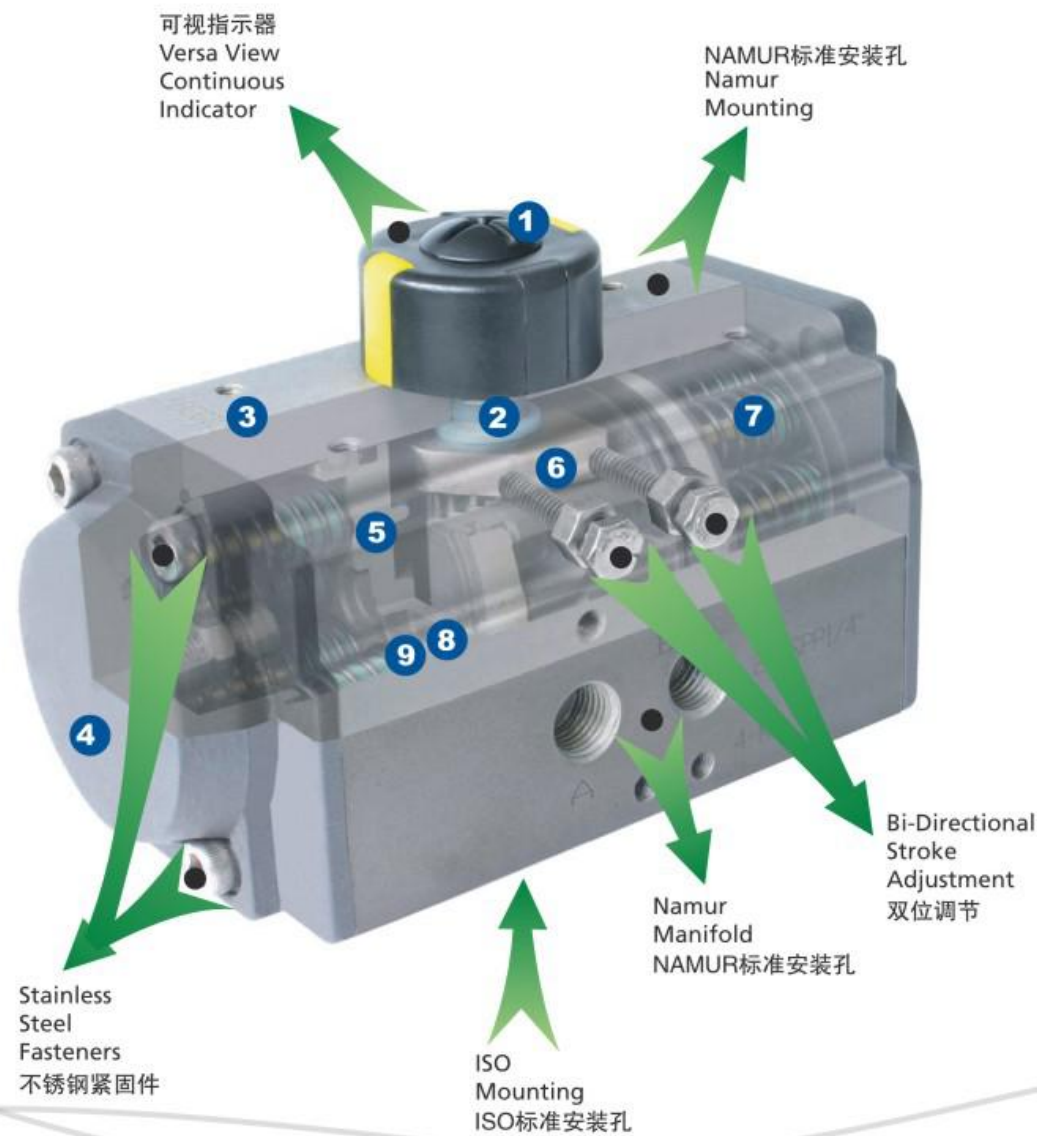
Wuxi DAMING Valve Automatic Control Equipment CO.,LTD.

工作技术条件 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 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℃~+80℃
低温：-35℃~+80℃
高温：-150℃~+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 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℃~+80℃
Low temperature: -35℃~+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



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、高精度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 latest 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。

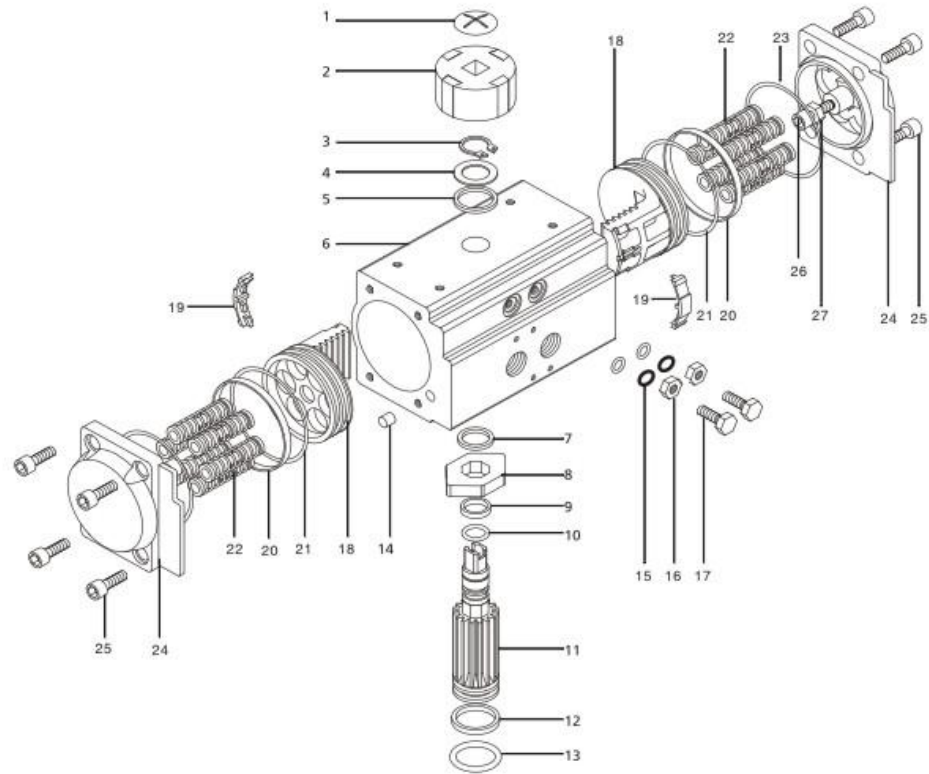
Made from low friction, long-life compound material, to avoid the direct contact between metals. The maintenance and

9 O-rings 密封

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。

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

零件和材料 Parts And Materials



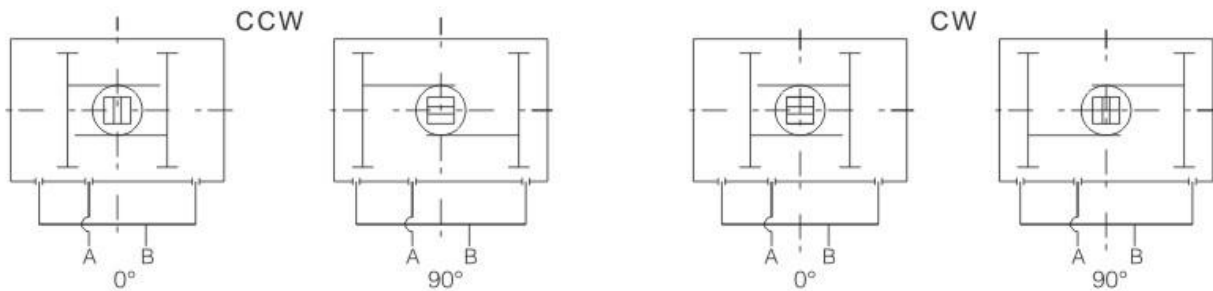
No.	Description	Qty	STANDARD METERIAL	PROTECTION	OPTIONAL METERIAL
1	Indicator screw	1	plastic		
2	Indicator	1	plastic		
3	Spring clip	1	Stainless Steel		
4	Thrust washer	1	Stainless Steel		
5	Outside washer	1	engineering plastics		
6	Body	1	Extruded alluminum alloy	Hard anodized etc	
7	Inside washer	1	engineering plastics		
8	Cam	1	Alloy steel		
9	O-ring (pinion top)	1	NBR		Viton/Silicone
10	Bearing(pinion top)	1	engineering plastics		
11	Pinion	1	Alloy steel	Nickel plated	Stainless Steel
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 alluminum/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 alluminum	powder polyster painted etc	
25	Cap screw	8	Stainless Steel		
26	Stop screw	2	Stainless Steel		
27	Nut(stop screw)	2	Stainless Steel		

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	上轴轴承	1	工程塑料		
10	上轴O圈	1	丁腈橡胶		氟橡胶/硅橡胶
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		



工作原理和输出扭矩 Operating Principle And Out Torque

双作用执行器 Double Acting Actuators



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.

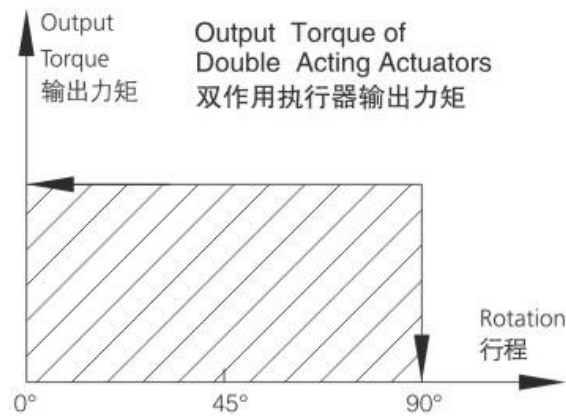
Air to Port B forces the pistons inwards, causing the pinion to turn clockwise while the air is being exhausted from Port A.

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.

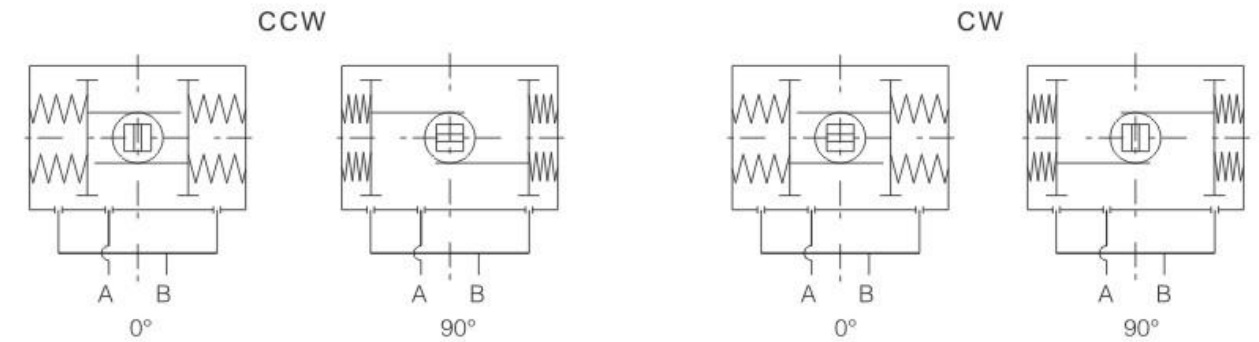
Air to Port B forces the pistons inwards, causing the pinion to turn counterclockwise while the air is being exhausted from Port A.



双作用执行器输出力矩 Output Torque of Double Acting Actuators (Unit: Nm)

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
AT-DA52	8.0	10.0	12.0	16.0	18.0	20.0	21.9	23.9	27.9	31.9
AT-DA63	14.6	18.2	21.9	29.2	32.8	36.5	40.1	43.8	51.1	58.4
AT-DA75	20.1	25.1	30.1	40.1	45.1	50.2	55.2	60.2	70.2	80.3
AT-DA83	31.4	39.2	47.0	62.7	70.5	78.4	86.2	94.1	109.7	125.4
AT-DA92	45.1	56.4	67.7	90.3	101.6	112.9	124.1	135.4	158.0	180.6
AT-DA105	66.1	82.7	99.2	132.2	148.8	165.3	181.8	198.4	231.4	264.5
AT-DA125	100.3	125.4	150.5	200.6	225.7	250.8	275.9	301.0	351.1	401.3
AT-DA140	171.0	213.8	256.5	342.0	384.8	427.5	470.3	513.0	598.5	684.0
AT-DA160	266.0	332.5	399.0	532.0	598.5	665.0	731.5	798.0	931.0	1064.0
AT-DA190	425.6	532.0	638.4	851.2	957.6	1064.0	1170.4	1276.8	1489.6	1702.4
AT-DA210	532.0	665.0	798.0	1064.0	1197.0	1330.0	1463.0	1596.0	1862.0	2128.0
AT-DA240	769.5	961.9	1154.3	1539.0	1731.4	1923.8	2116.1	2308.5	2693.3	3078.0
AT-DA270	1169.6	1462.1	1754.5	2339.3	2631.7	2924.1	3216.5	3508.9	4093.7	4678.6

单作用执行器 Spring Return Actuators



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.

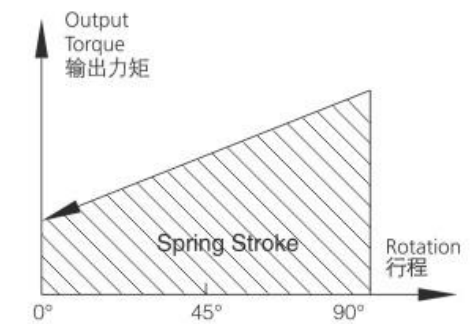
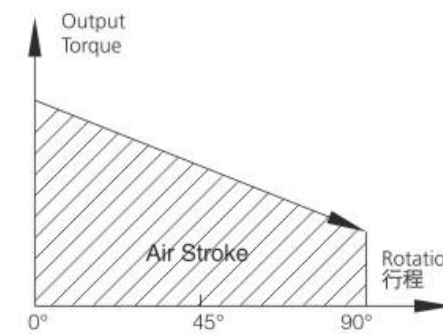
A口进气, 压缩空气克服弹簧力, 推动活塞向外运动, 执行器输出轴顺时针转动(0°→90°), B口排气;

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.

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



Series	Model 型号	Spring Qty. 弹簧数量	Series
	52	K5	120°, 140°, 180° for special degree operation
	63	K6	
	75	K7	
	83	K8	
	92	K9	SS Stainless Steel Pinion
	105	K10	
	125	K11	
		K12	

Series	Model 型号	Spring Qty. 弹簧数量	Series
	140	K5	120°, 140°, 180° for special degree operation
	160	K6	
	190	K7	
	210	K8	
	240	K9	SS Stainless Steel Pinion
	270	K10	
		K11	
		K12	



(Unit: Nm)

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

Air pressure 气压压力		气源克服弹簧输出力矩 Output torque of air to springs														Springs' output 弹簧输出力矩		
		2.5Bar		3Bar		4Bar		5Bar		6Bar		7Bar		8Bar				
Model 型号	Spring Q.ty	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	
AT-SR52	5	5.7	3.8	7.6	5.7											6.2	4.3	
	6	4.9	2.5	6.9	4.5	10.9	8.5									7.4	5.0	
	7	4.0	1.3	6.0	3.3	9.8	7.3	14.0	10.4							8.6	5.9	
	8			5.2	2.0	9.2	6.0	13.2	9.1	17.2	14.1					9.9	6.7	
	9			4.3	0.8	8.3	4.8	12.3	7.9	16.3	12.8	20.3	16.8			11.1	7.6	
	10					7.4	3.6	11.5	6.7	15.5	11.6	19.5	15.6			12.4	8.5	
	11					6.6	2.3	10.6	5.4	14.6	10.4	18.6	14.3	22.6	18.3	13.6	9.3	
	12							9.7	4.2	13.8	9.1	17.8	12.2	21.8	17.1	14.8	10.2	
	AT-SR63	5	11.4	7.7	15.0	11.4	22.3	14.9									10.4	6.8
		6	10.1	5.7	13.6	9.3	20.9	16.6	28.3	23.9							12.5	8.2
		7	8.6	3.6	12.5	7.2	19.5	14.5	26.8	21.9							14.6	9.6
		8			10.9	5.1	18.2	12.4	25.5	19.8	32.8	27.0	40.1	34.3			16.7	10.9
9						16.8	10.4	24.1	17.7	31.4	24.9	38.7	32.2			18.8	12.3	
10						1.4	8.2	22.8	15.6	30.0	22.8	37.3	30.1	44.7	37.4	20.9	13.7	
11								21.5	13.5	28.7	20.7	36.0	28.0	43.3	35.3	22.9	15.0	
12								20.0	11.4	27.3	18.6	34.6	25.9	41.9	33.3	25.0	16.4	
AT-SR75		5	14.5	10.6	19.4	15.5	29.5	25.7									14.5	10.5
		6	12.4	7.6	17.3	12.6	27.4	22.7	37.5	32.8							17.4	12.7
		7	10.4	4.8	15.2	9.7	25.3	19.9	35.4	29.9							20.3	14.8
		8			13.1	6.8	23.1	16.9	33.3	27.0	43.2	37.0	53.3	47.0			23.2	16.9
	9					21.0	14.1	31.2	24.1	41.1	34.1	51.2	44.2			26.1	19.0	
	10					19.0	11.1	28.8	21.2	39.0	31.2	49.1	41.2	59.1	51.2	29.0	21.1	
	11							27.0	18.3	37.0	28.3	47.0	38.4	57.0	48.4	31.9	23.2	
	12							24.9	15.4	34.9	25.4	44.9	35.4	54.9	45.4	34.7	25.3	
	AT-SR83	5	23.3	16.1	31.1	24.0	46.8	39.7									23.0	15.8
		6	20.1	11.5	28.0	19.3	43.7	35.1	59.4	50.7							27.6	19.0
		7	17.0	6.9	24.8	14.8	40.5	30.5	56.2	46.2							32.2	22.1
		8			21.7	10.1	37.4	25.8	53.1	41.5	68.8	57.2	84.5	72.9			36.8	25.3
9						34.2	21.3	49.9	37.0	65.6	52.6	81.2	68.3			41.4	28.5	
10						31.0	16.6	46.7	32.3	62.4	48.0	78.1	63.7	93.8	79.3	46.0	31.6	
11								43.6	27.7	59.3	43.4	75.0	59.1	90.6	74.8	50.6	34.8	
12								40.4	23.2	56.1	38.9	71.7	54.5	87.4	70.2	55.2	38.0	
AT-SR92		5	33.1	22.0	44.2	33.2	66.8	55.9									34.4	23.3
		6	28.4	15.2	39.6	26.4	62.2	49.0	84.8	71.6							41.2	28.0
		7	23.8	8.2	34.9	19.4	57.5	42.1	80.2	64.7							48.1	32.7
		8			31.3	12.6	52.9	35.2	75.5	57.9	98.1	80.5	120.7	103.0			55.0	37.3
	9					48.2	28.4	70.9	51.0	93.5	73.6	116.0	96.1			61.9	42.0	
	10					43.6	21.5	66.2	44.1	88.8	66.7	111.3	89.2	134.0	111.8	68.7	46.7	
	11							61.5	37.2	84.1	59.9	106.6	82.4	129.2	105.0	75.6	51.4	
	12							56.8	30.4	79.4	53.0	101.9	75.5	124.5	98.1	82.5	56.0	
	AT-SR105	5	51.0	33.4	67.5	49.9	100.6	83.0									49.2	31.6
		6	44.7	23.5	61.1	40.0	94.2	73.2	127.3	106.2							59.1	38.0
		7	38.4	13.7	54.9	30.3	87.9	63.4	121.0	96.4							68.9	44.3
		8			48.5	20.4	81.6	53.5	114.7	86.5	147.7	119.6	180.8	152.7			78.7	50.6
9						75.3	43.7	108.4	76.8	141.5	109.8	174.5	142.9			88.6	56.9	
10						68.9	33.4	102.0	66.5	135.1	99.6	168.2	132.6	201.2	165.7	98.4	63.3	
11								95.7	57.0	128.7	90.1	161.8	123.1	194.8	156.2	108.3	69.6	
12								89.4	47.5	122.5	80.6	155.5	113.6	188.6	146.7	118.1	75.9	

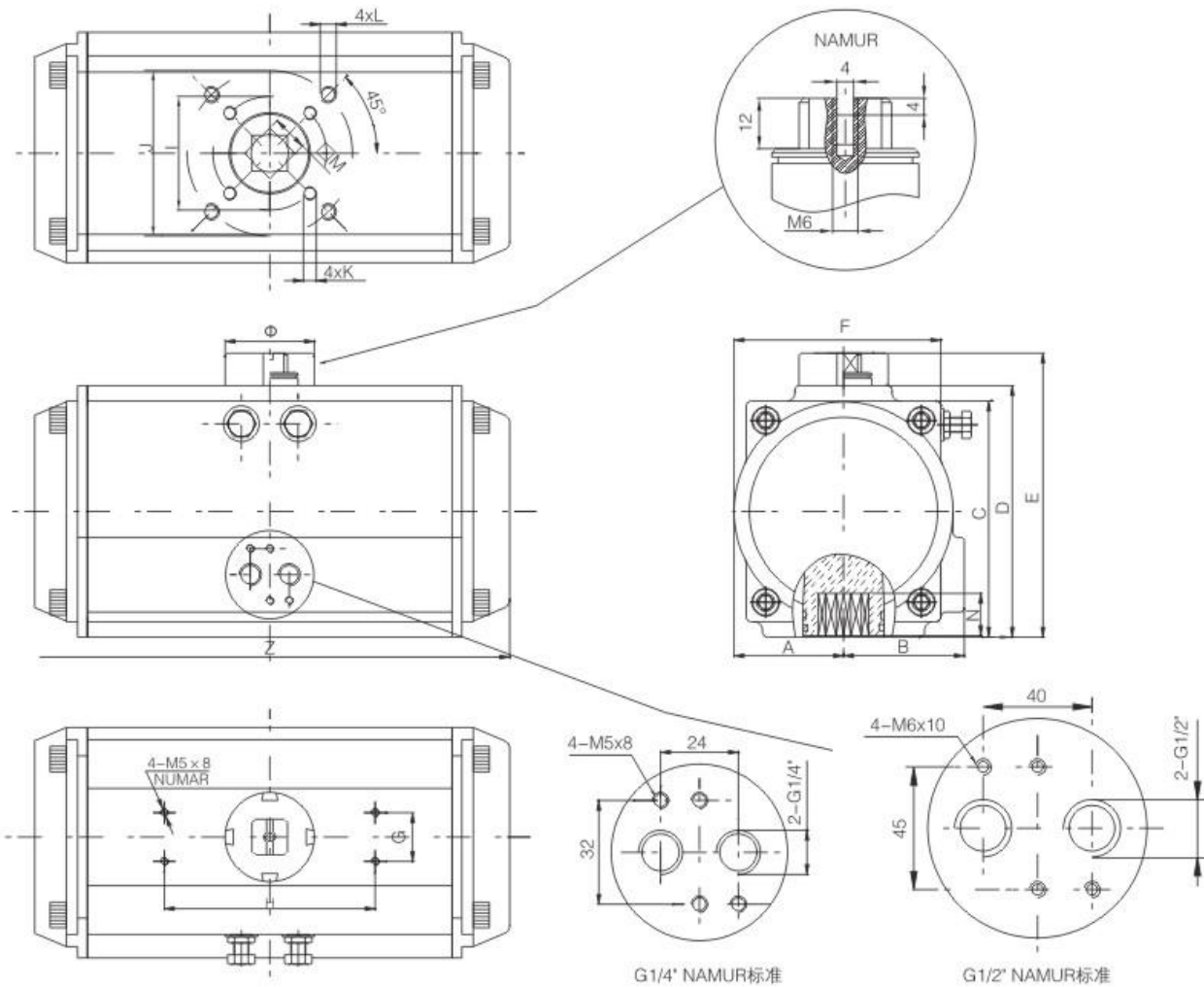
(Unit: Nm)

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

Air pressure 气压压力		气源克服弹簧输出力矩 Output torque of air to springs														Springs' output 弹簧输出力矩		
		2.5Bar		3Bar		4Bar		5Bar		6Bar		7Bar		8Bar				
Model 型号	Spring Q.ty	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	
AT-SR125	5	73	47	98	72	148	122									79	52	
	6	63	31	88	56	138	107	188	157							94	63	
	7	52	15	77	40	127	90	178	141							110	73	
	8			67	25	117	75	167	125	217	176	268	226			125	84	
	9					107	59	157	109	207	159	257	210			141	94	
	10					96	44	146	94	196	144	247	194	297	245	157	105	
	11							136	78	186	128	236	178	286	228	173	115	
	12							125	63	176	113	226	163	276	213	188	125	
	AT-SR140	5	128	85	171	127	256	213									129	86
		6	111	59	154	102	239	187	325	273							155	103
		7	94	33	137	76	222	162	308	247							181	120
		8			120	50	205	136	291	221	376	307	462	392			206	137
9						187	110	273	196	358	281	444	367			232	155	
10						170	84	256	169	341	255	427	340	512	426	258	172	
11								238	143	324	229	409	314	495	400	284	189	
12								221	118	307	203	392	289	478	374	310	206	
AT-SR160		5	193	124	259	191	392	324									208	140
		6	165	83	232	149	365	282	498	415							250	168
		7	137	41	203	107	336	240	469	373							292	196
		8			176	66	309	199	442	237	575	465	708	598			333	223
	9					280	157	413	290	546	423	679	556			375	251	
	10					253	115	386	248	519	381	652	514	785	647	417	279	
	11							358	207	491	340	624	473	757	606	458	307	
	12							330	165	463	298	596	431	729	564	500	335	
	AT-SR190	5	332	222	438	329	651	542									309	200
		6	292	161	398	267	611	480	824	693							371	240
		7	252	99	358	205	571	418	784	631							433	280
		8			318	143	531	356	744	569	957	782	1169	995			495	320
9						491	295	704	507	917	720	1130	933			557	360	
10						451	233	664	446	877	658	1090	871	1302	1084	618	400	
11								624	384	837	597	1050	809	1263	1022	680	440	
12								584	322	797	535	1010	748	1223	960	742	480	
AT-SR210		5	390	285	523	418	789	684									380	275
		6	335	209	468	342	734	608	1000	874							456	330
		7	280	133	413	266	679	532	945	798							532	385
		8			358	190	624	456	890	722	1156	988	1422	1254			608	440
	9					569	380	835	646	1101	912	1367	1178			684	495	
	10					514	304	780	570	1046	836	1312	1102	1578	1368	760	550	
	11							725	494	991	760	1257	1026	1523	1292	836	605	
	12							670	418	936	684	1202	950	1468	1216	912	660	
	AT-SR240	5	552	409	744	600	1129	985									554	410
		6	470	297	662	489	1047	874	1432	1259							665	492
		7	388	187	580	379	964	764	1349	1149							775	575
		8			498	268	883	653	1267	1037	1652	1422	2037	1807			886	656
9																		



外形尺寸 Dimension

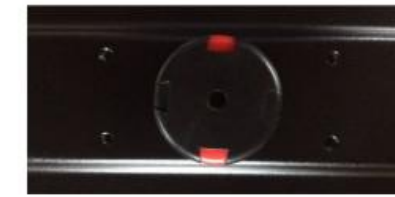


Model 型号	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Z	Φ	气源接口 Air connection
AT-52	30	41.5	65.5	72	92	65	30	80	Φ36	Φ50	M5x8	M6x10	11	14	147	Φ40	NAMUR G1/4"
AT-63	36	47	81	87.5	107.5	72	30	80	Φ50	Φ70	M6x10	M8x13	14	18	168	Φ40	NAMUR G1/4"
AT-75	42	53	94	99.5	119.5	81	30	80	Φ50	Φ70	M6x10	M8x13	14	18	184	Φ40	NAMUR G1/4"
AT-83	46	57	98.5	108.7	128.7	92	30	80	Φ50	Φ70	M6x10	M8x13	17	21	204	Φ40	NAMUR G1/4"
AT-92	50	58.5	111	116.5	136.5	98	30	80	Φ50	Φ70	M6x10	M8x13	17	21	262	Φ40	NAMUR G1/4"
AT-105	57.5	64	122.5	133	153	109.5	30	80	Φ70	Φ102	M8x13	M10x16	17	26	268	Φ40	NAMUR G1/4"
AT-125	67.5	74.5	145.5	155	175	127.5	30	80	Φ70	Φ102	M8x13	M10x16	22	26	301	Φ55	NAMUR G1/4"
AT-140	75	77	161	172	192	137.5	30	80	Φ102	Φ125	M10x16	M12x20	27	31	390	Φ55	NAMUR G1/4"
AT-160	87	87	184	197	217	158	30	80	Φ102	Φ125	M10x16	M12x20	27	31	458	Φ55	NAMUR G1/4"
AT-190	103	103	213	230	260	189	30	130		Φ140		M16x25	36	40	525	Φ80	NAMUR G1/4"
AT-210	113	113	235.5	255	285	210	30	130		Φ140		M16x25	36	40	532	Φ80	NAMUR G1/4"
AT-240	130	130	264.5	289	319	245	30	130		Φ165		M20x25	46	50	602	Φ80	NAMUR G1/4"
AT-270	147	147	299	326	356	273	30	130		Φ165		M20x25	46	50	722	Φ80	NAMUR G1/2" NAMUR G1/4"

接口标准 Interface Standards



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.

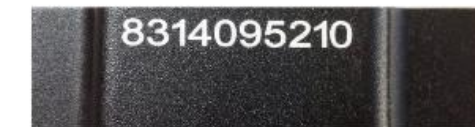


输出轴的NAMUR标准槽和缸体上部标准安装孔,可使限位开关、定位器直接啮合和安装。
The Namur drive pinion and the Namur top mounting connection permit direct installation of accessories such as limit switch box and positioner.



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.

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



耗气量 Air Consumption

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

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)
AT-52	0.12	0.16	AT-140	2.5	2.2
AT-63	0.21	0.23	AT-160	3.7	3.2
AT-75	0.3	0.34	AT-190	5.9	5.4
AT-83	0.43	0.47	AT-210	7.5	7.5
AT-92	0.64	0.73	AT-240	11	9
AT-105	0.95	0.88	AT-270	17	14
AT-125	1.6	1.4			

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

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

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:

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

重量表 Weight Table

Model 型号	AT-52	AT-63	AT-75	AT-83	AT-92	AT-105	AT-125
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	AT-140	AT-160	AT-190	AT-210	AT-240	AT-270
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。

选型与订购 Sizing information and How to Order

双作用执行器的选型

Sizing : Double Acting Actuators

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 = 100Nm

安全力矩 = $100 \times (1+30\%) = 130\text{Nm}$

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DA105。

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 DA105.

单作用执行器的选型

Sizing : Spring Return Actuators

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RT435SR

K7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。

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 (1+30%)=104 N.m

Air Supply=5Bar

According to the table of spring return actuators' output, we find output toque of RT435SR K7 is:

Air stroke 0°=308N.m

Air stroke 90°=247N.m

Spring stroke 90°=181 N.m

Spring stroke 0°=120N.m

All the output torque is larger than we needed.

Attention

During the restoration, the spring return actuators' output torque will not be affected by the inputing air from the port B. On the contrary, it will help the restoration of springs.

例如：

蝶阀原最大扭矩=104N.m

打开后扭矩 $104 \times 30\% = 32\text{N.m}$

气源压力=5Bar

我们可以选择RT255SR K11

空气行程0°=136N.m>104N.m

空气行程90°=78N.m>32N.m

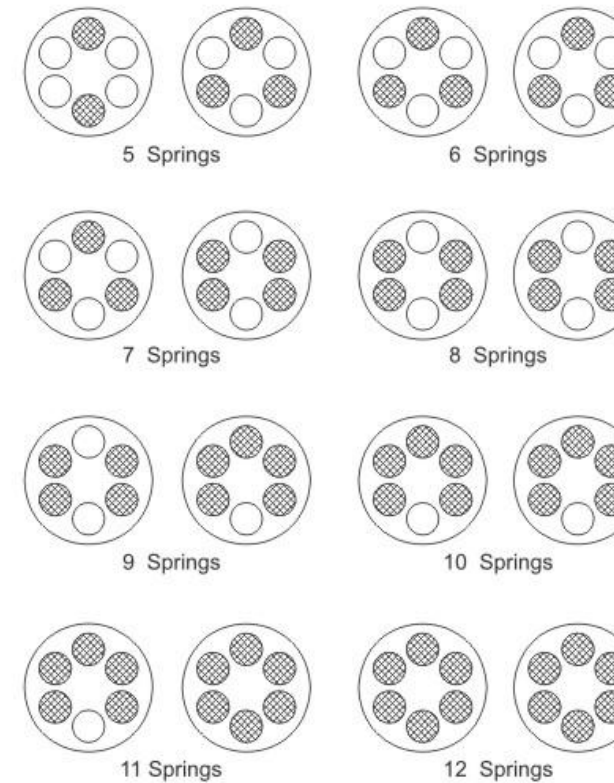
弹簧行程90°=173N.m>32N.m

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。

单作用执行器弹簧安装形式

Sizing mounting form for Spring Return Actuators



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 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.

Example:

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

The torque after opened (operating) $104 \times 30\% = 32\text{N.m}$

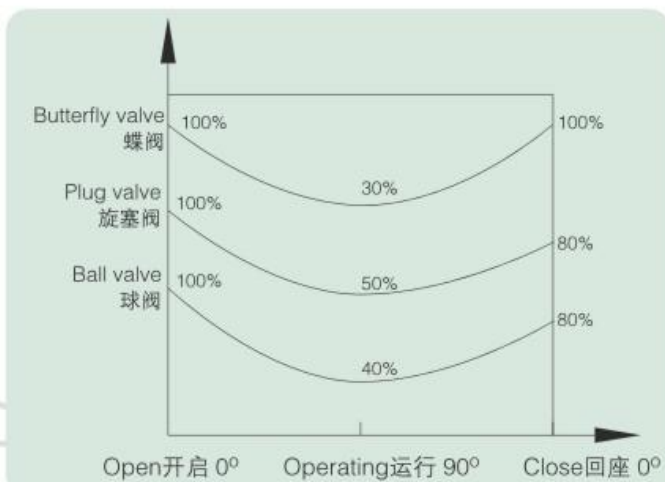
Air Supply=5Bar

We can select the RT255SR 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



PNEUMATIC VALVE FITTINGS

• 气动阀门配件

迷你型手动机构主要用途

本减速器与气动装置联合使用，用于90度开启度的蝶阀、旋塞阀等实现手动或气动驱动。

特点

- ①体积小、重量轻，设计合理、式样新颖。此型号克服了老型号难操作、易损坏的特点，客户可以放心使用。
- ②产品系列化，输出转矩与气动装置，各种阀门匹配；蜗轮连接内孔有相隔90度的两个键槽，以使用户根据需要选择装置同阀体的相对装置。输入转矩70NM-900NM；输出转矩300NM-2000NM。
- ③转动手柄，旋转偏心装置180度，限位橡胶螺母旋紧，实现气动；反之，实现手动。
- ④产品出厂时，装有专用润滑脂，与阀门装配后，整体密封、防尘、防水、防护等级为IP65。

使用说明

- ①手轮机构底面与阀门连接，支架面与气缸连接，阀轴与蜗轮内孔配合穿过，阀轴端四方与气缸方孔配合。（工作过程：气动时，气缸带动阀轴、蜗轮同转。手动时，蜗杆与蜗轮啮合，带动阀轴转动，气缸活塞随动。）
- ②转动手柄在合上蜗杆时，会出现齿顶现象，需转动手轮一个角度即可合上。操作手柄转动到位时，限位橡胶螺母需旋紧。
- ③旋出限位橡胶螺母，手柄位于合位置，手动操作，此时不能气动。转动手柄至离，蜗轮、蜗杆脱开，实现气动。
- ④旋出限位橡胶螺母，手柄位于离位置，气动切换手动。旋出限位橡胶螺母，手柄到合位置，可能会出现顶齿现象，需来回转动手柄，以确保蜗轮、蜗杆正确啮合。
- ⑤气动与手动不能同时驱动。

Model 型号	Connect The Heart 连接方心上	Connect The Heart Under 连接方心下	Pneumatic Actuator 气动执行器	Globe Valve 球阀
SD-1	11*11/14*14	11*11/14*14	AT52-AT83	Q641F-16P/DN15-DN50
SD-2	17*17/14*14	17*17/14*14	AT83-AT105	Q641F-16P/DN65-DN80
SD-3	22*22/27*27	22*22/17*17	AT125-AT160	Q641F-16P/DN100-DN125
SD-4	27*27/36*36	27*27/22*22	AT190-AT210	Q641F-16P/DN150-DN200

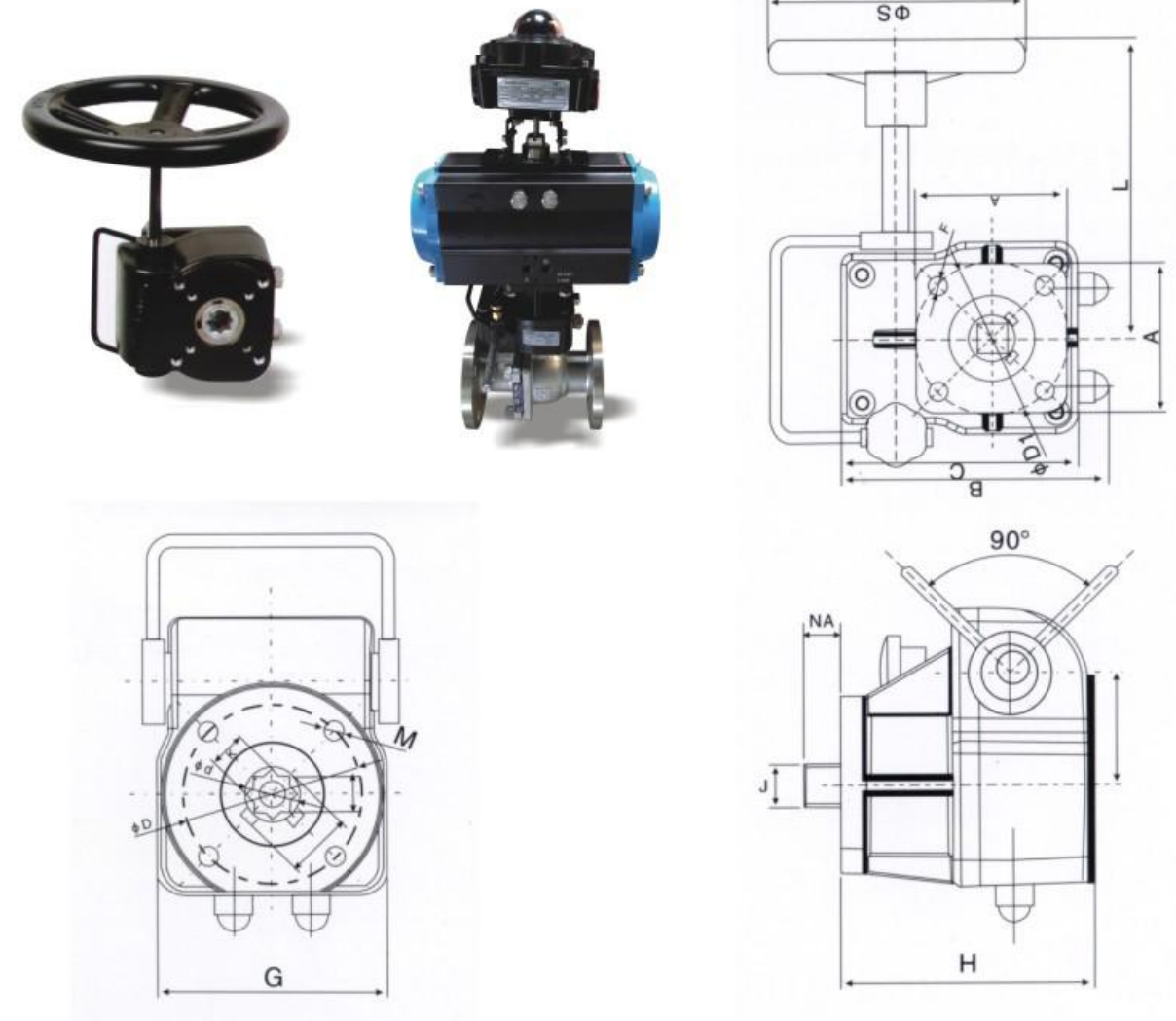
Model 型号	Connect The Heart 连接方心上	Key 键	Shaft hole diameter 轴孔直径	Pneumatic Actuator 气动执行器	Butterfly valve type 蝶阀型号
SD-1	11*11/14*14	3	12.6/12.6/15.9	AT52-AT83	D671X-16 DN50-DN80-DN100
SD-2	17*17/14*14	5	19.1	AT83-AT105	D671X-16 DN125-DN150
SD-3	22*22/27*27	5/8	22.3/28.7	AT125-AT160	D671X-16 DN200-DN250
SD-4	27*27/36*36	8	31.8	AT190-AT210	D671X-16 DN300-DN400

PNEUMATIC VALVE FITTINGS

• 气动阀门配件

Model 型号	Output torque 输出转矩	A	B	C	D	D1	F	G	H	J	K	M	L	NA	S	Weight 重量(kg)
MSD-1	150	70	125	110	50	50	6.5	90	100	11 14	11 14	M6	130	15	180	2.3
					70	70	8.5					M8				
MSD-2	300	95	150	135	70	70	8.5	125	118	14 17	14 17	M10	150	20	220	3.5
					102	102	8.5					M10				
MSD-3	800	115	185	160	102	102	10.5	140	125	17 22 27	17 22	M10	180	22	270	5.6
					125	125	12.5					M12				
MSD-4	1500	140	230	210	125	125	12.5	190	162	22 27 36	22 27	M12	300	32	320	12.5
					140	140	16.5					M16				

迷你型手动机构



OPTIONAL ACCESSORIES

• 供选附件

二位五通电磁阀 Two-position five-way solenoid valve

产品简介

二位五通电磁阀主要用于控制各种类型液（气）动阀门的启闭，能实现自动控制，远程控制和集中控制，是给排水行广泛使用的专用换向阀。

特点

二位五通电磁阀主要由阀体、阀芯、压差式活塞、先导阀等组成，具有结构紧凑、换向灵活、工作可靠、无噪音、无污染等优点。该阀设有手动操作柄，供停电应急或调试时使用，手柄为垂直安装，当需要手动换向时，将手柄向左或向右转动90°即为通电工程。

Product introduction

Two-position five-way solenoid valve is mainly use in opening and various of hydraulic(pneumatic)valve and it can realize automatic control,remote control and concentrated control,it is the dedicated valve widely used in water discharge industry.

Feature

Two-position five-way solenoid valve is mainly of valve body, valve core, differential piston and pilot valve etc, it has the characteristics of compact structure, flexible direction conversion, reliable operation, noise free and pollution free etc. This valve is equipped with manual operation handle for use in conditions of electric out or debugging, the handle is vertically installed. In case that manual reversing is needed, rotate the handle leftward or rightward for 90 degree, this is galvanization situation.



气源过滤调压器 Air Filtration Booster

产品简介

(YN)OFH空气过滤减压阀将来自空气压缩机0.3-1MPa的空气压力，经过滤净化后，可调节在0-0.16；0-0.25；0-0.4；0-0.6MPa范围内任一输出压力值，保持稳定的辅助元件。

特点

- 当输入压力和流量被动时，总能保持稳定的输出压力
- 重量轻，尺寸小，已安装和维护
- 可过滤5微米的微小颗粒
- 如果输出压力比设定压力高，那么排出大气来维持稳定的输出压力

Product introduction

(YN)OFH air filtration boosters is the auxiliary component to make the 0.3-1MPa air pressure from the air compressor capable of any output pressure value within the range of 0-0.16; 0-0.25; 0-0.4; 0-0.6MPa and make the pressure stable.

Feature

- When the input pressure and flow rate vibrate, it can always keep stable output pressure.
- They have light weight, small dimension and they are easy to install and maintain.
- They can filter small granules of 5 millimeter.
- If the output pressure is higher than set pressure, then they will discharge the air to maintain stable output pressure.



APL/ITS300系列回讯器 APL/ITS300 Series Position Monitoring Switchalizer

产品简介

- 压铸铝合金壳体、粉末涂层，外形美观，质量可靠。
- 开光位置可由指示器清楚辨识。
- 快速置位凸轮，通过花键轴和弹簧安装，不用工具即可方便调整。
- 多接点端子排，有8个标准接点，接线安全、方便。
- 标准的电线接口。
- 防脱螺栓，拆装时螺栓附在上盖上不会脱离。
- 安装方便，不锈钢主轴连接部分及安装支架均符合NAMUR标准。

Product introduction

- Die-cast aluminum alloy casing with powder coating, beautiful appearance and reliable quality.
- The switch position can be clearly identified by the indicator.
- Rapid positioning cam, installed with spline shaft and spring, capable of adjusting without any tool.
- Multi-joint terminal strip with 8 standard joints, the connecting wire is safe & convenient.
- Standard electric wire interface.
- The anti-dropping bolts, the bolts can be attached on the upper cover and will not drop off in case of disassembling and assembling.
- It can be conveniently installed, the stainless steel main shaft connecting part and installation bracket all conform to



YT1000L/R系列电气阀门定位器 YT1000L/R Series Electric Valve Localizer

产品简介

(YN)YT-1000系列电气定位器与气动调节阀配套使用，构成闭环控制回路。把控制系统给出的直流电流信号转换成驱动调节的气信号，控制调节阀的动作。同时根据调节阀的开度进行反馈，使阀门位置能够按系统输出的控制信号进行正确定位。该电气定位器可用于单作用型（弹簧复位型）和双作用型气动执行机构。

Product introduction

(YN) YT-1000 series electric localizers are used with in coordination with pneumatic adjusting valve and they can construct closed loop control circuit. They can transform the DC signal provided by the control system into pneumatic signal driving the adjusting valve to control action of the adjusting valve. In the meantime it can carry out feedback according to opening extent of the adjusting valve to make valve position capable of positioning according to control signal output by the system. The electric localizer can be used in single action type (spring reposition type) and dual action type of pneumatic actuating mechanism.



OPTIONAL ACCESSORIES

• 供选附件

西门子定位器 Siemens Localizer

产品简介

应用最广泛的智能电气阀门定位器可用于直行程和角行程的阀门。

SIPART Ps2 在世界阀门定位器市场是绝对领先的产品。我们有着多年的现场应用经验，在过去、现在和将来都会给你的现场应用带来安全。

它的操作非常简单，可以在现场通过按键和LCD进行操作，也可以通过HART接口或PROH-BUS Pa协议选用SIMATIC PDMI工程设备管理软件对其进行操作。

自动初始化设定节省了大量的时间，低耗气量大大地降低了运行成本，SIPART Ps2 新增多种诊断功能，可以提供定位器及阀门的状态，操作条件等各种信息。



Product introduction

Intelligent electric valve positioner is the most widely used and can be used for direct stroke and angular travel valve.

SIPART Ps2 is the absolute leading products in the world market valve positioner. We have years of experience in the field of application, in the past, the present and the future will give you bring security field application.

Its operation is very simple, and can be operated by the key and the LCD at the scene, also can through the HART interface or the PROH-BUS Pa protocol SIMATIC PDMI engineering software to operate the equipment management.

Automatic initialization and save a lot of time, low air consumption and greatly reduces the cost of operation, SIPART Ps2 added a variety of diagnostic function, can provide the positioner and the state of the valve, the operating conditions of all kinds of information.

ABB型智能定位器 ABB Intelling Localizer

产品简介

ABB (TZID-C) 智能阀门定位器的引进，为现场执行器的数字化通讯，全厂的一体化管理通过了先进的工具。TZID-TZID-C 突破传统的定位器概念。

采用TEIP11作为核心部件，结合为处理技术，内置通讯功能。通过安装，适合转动型及直行程阀门的控制，定位精度高，行程范围大；直行程：20-150mm，转动型：达1.25度。气容 $\geq 13.5\text{kg/小时}$ ，气耗 $\leq 0.03\text{kg/小时}$ ，通过自动零点/量程的调整，简化调试。



Product introduction

We provide advanced tools for digital communication of the on-site actuator and integrated management of the whole plant through introduction of ABB (TZID-C) intelligent localizer. TZID-TZID-C breaks through traditional conception of localizer.

It uses TEIP11 as the core part in combination with microprocessing technology and built-in communication function. High positioning precision and broad range of stroke are achieved through installation of applicable controlling devices of rotating and straight stroke valve, the straight stroke is 20-150mm with rotating mode, the angle achieve 1.25 degree. The gas capacity $\geq 13.5\text{kg/hour}$, gas consumption $\leq 0.03\text{kg/hour}$, the debugging can be simplified through adjustment of automatic zero point and measuring range.

PNEUMATIC VALVE SHOW

• 气动阀门展示



气动法兰球阀



防爆型气动球阀



气动超薄型球阀



气动UPVC蝶阀



气动UPVC球阀



气动调节通风蝶阀



气动软密封开关蝶阀



气动硬密封调节蝶阀



气动硬密封开关蝶阀