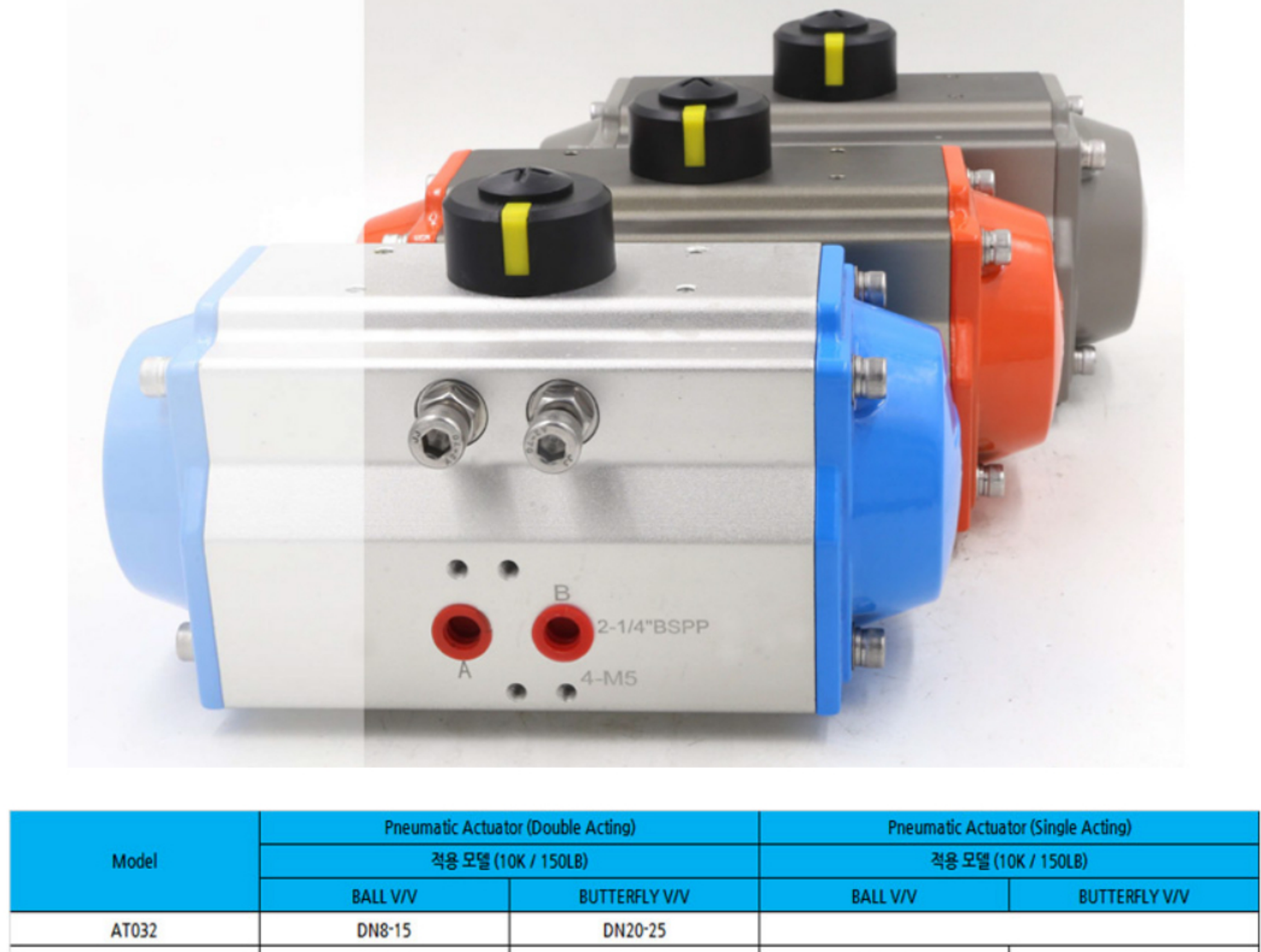
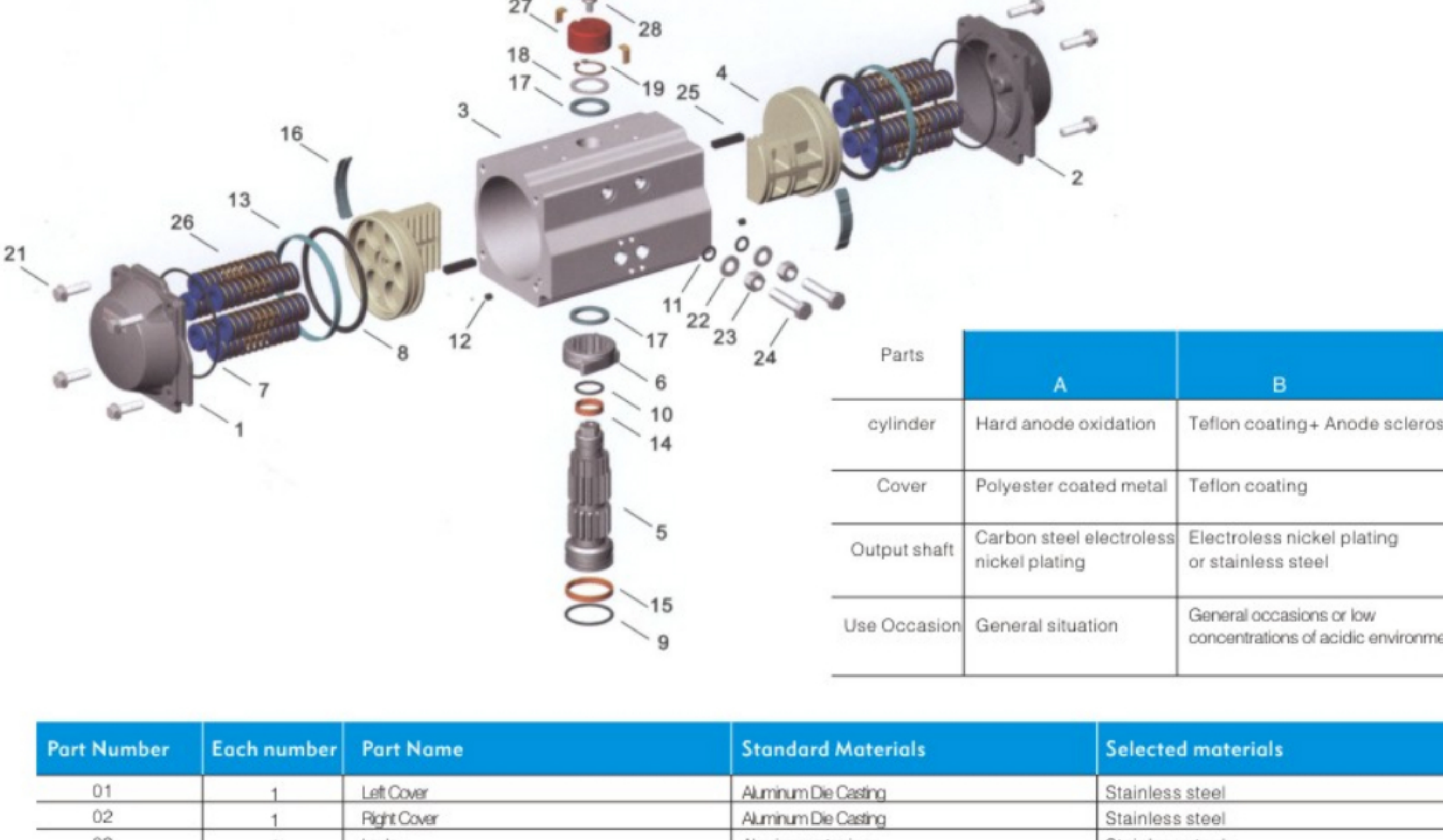


Name: 공압 Actuator AT Series



Model	Pneumatic Actuator (Double Acting)		Pneumatic Actuator (Single Acting)	
	작동 모델 (10K / 150LB)		작동 모델 (10K / 150LB)	
	BALL V/V	BUTTERFLY V/V	BALL V/V	BUTTERFLY V/V
AT032	DN8-15	DN20-25		
AT050	DN20-25	DN32-40	DN10	DN32
AT063	DN32-40	DN50-65	DN15-25	DN40
AT075	DN40-50	DN80-100	DN32-40	DN65
AT088	DN50-65	DN100-125	DN40-50	DN80-100
AT100	DN65-80	DN125-150	DN50-65	DN100-125
AT115	DN80-100	DN150-200	DN65-80	DN125
AT125				DN125-150
AT145	DN100-125	DN250-300	DN80-100	DN150-200
AT160	DN125-150	DN300-350	DN100-125	DN250-300
AT190	DN150-200	DN350-400	DN125-150	DN300-350
AT210	DN200	DN400	DN150	DN350
AT240	DN250-300	DN450-500	DN150-200	DN350-400
AT270	DN300-350	DN500-600	DN200-250	DN400-500

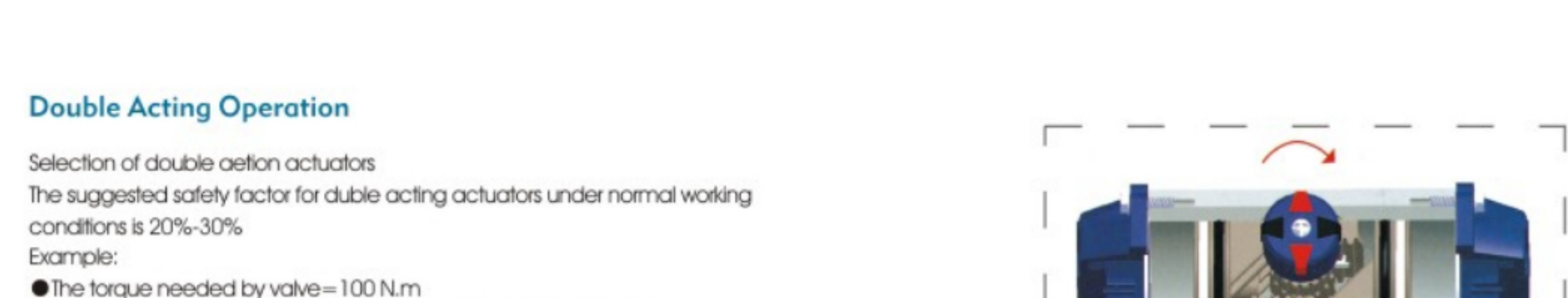
Components and materials, corrosion



Parts	A	B
cylinder	Hard anode oxidation	Teflon coating+ Anode sclerosis
Cover	Polyester coated metal	Teflon coating
Output shaft	Carbon steel electroless nickel plating	Electroless nickel plating or stainless steel
Use Occasion	General situation	General occasions or low concentrations of acidic environment

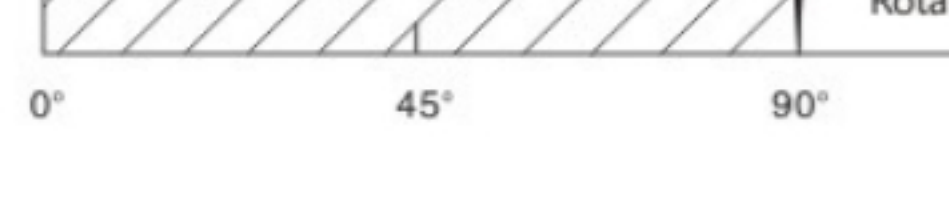
Part Number	Each number	Part Name	Standard Materials	Selected materials
01	1	Left Cover	Aluminum Die Casting	Stainless steel
02	1	Right Cover	Aluminum Die Casting	Stainless steel
03	1	body	Aluminum extrusion	Stainless steel
04	2	Piston	Aluminum Die Casting	-----
05	1	Output shaft	Carbon Steel	Stainless steel
06	1	Cam adjustment	Stainless steel	-----
07*	2	O-ring (cover)	NBR	Fluorine or silicone rubber
08*	2	O-ring (Piston)	NBR	Fluorine or silicone rubber
09*	1	O-ring (output shaft bottom)	NBR	Fluorine or silicone rubber
10*	1	O-ring (output shaft at the top)	NBR	Fluorine or silicone rubber
11*	2	O-ring (adjusting screw)	NBR	Fluorine or silicone rubber
12*	2	Plug (Cylinder)	NBR	Fluorine or silicone rubber
13*	2	Bearing (Piston)	Nylon 66+30% POF composites	-----
14*	1	Bearing (output shaft at the top)	Nylon 66	-----
15*	1	Bearing (output shaft bottom)	Nylon 66	-----
16*	1	Guide with Bearing (Piston back)	Nylon 66	-----
17*	2	Thrust bearings (output shaft)	Nylon 66	-----
18	2	Gasket (output shaft)	Stainless steel	-----
19	1	Flexible bearing	-----	-----
20	4	Cover bolt	Stainless steel	-----
21	4	Cover Gasket	Stainless steel	-----
22	2	Gasket	Stainless steel	-----
23	2	Nut	Stainless steel	-----
24	2	Adjustment bolt	Stainless steel	-----
25	2	grade-pad	Nylon 66+30% FG	-----
26	5~12	Spring Components	Alloy spring steel	-----
27	1	Position indicator	Polypropylene PP+30% GF	-----
28	1	Screw of indicator	Plastic	-----

Torque Diagram



Double Acting Operation

Selection of double action actuators
The suggested safety factor for double acting actuators under normal working conditions is 20%-30%
Example:
● The torque needed by valve=100 N.m
● The required safety factor 100× (1+30%) =130 N.m
● Air Supply=5 Bar
According to double acting torque table, we can choose the minimum model is AT-125.



Spring Return Operation

Selection of single action actuators
Under normal operating conditions, a single actuator to consider the role of the safety factor of 30%-50%.
For example:
Valve required torque = 100N.m
Safety torque = (1 + 30%) = 130N.m
according to single acting actuator output torque table, we can find AT-145S
Torque following
Implementation process 0° = 324N.m air
Implementation process 90° = 212N.m air
Spring stroke 0° = 197N.m
Spring stroke 90° = 310N.m

output Torque bigger than all our needs

Note:
Single action during the spring return actuators, actuator B hole ventilation does not affect actuator output torque.instead it's helpful of spring return

* Spring force makes the actuator clockwise when the air is exhausted at port " A "
* When air fail to counterclockwise is required, the pistons must be inverted

Single Acting Actuator Output Torque(Nm)

Model	Spring Qty	2.5 bar	3.0 bar	3.5 bar	4.0 bar	4.5 bar	5.0 bar	5.5 bar	6.0 bar	7.0 bar	8.0 bar	9.0 bar	Spring's Output Torque
AT50S	5	4.6	2.3	6.3	4	7.9	5.6	9.6	7.3	11.3	9	12.9	10.6
	6	3.9	1.1	5.6	2	7.2	4.4	8.9	6.1	10.8	7.8	12.2	9.4
	7			4.8	1.6	6.4	3.2	8.1	4.9	9.8	6.6	11.4	8.2
	8					5.7	2	7.4	3.7	9.1	5.4	10.7	7
	9							6.7	2.5	7.6	3	9.2	4.6
	10											8.5	3.1
	11											7.6	2.5
	12											6.3	3

AT63S	5	6.1			14	9.9	16.9	12.8	19.9	15.8	22.8	18.5	21.5
	6	8.8	4.9		12.7	7.8	15.6	10.7	18.2	13.7	21.5	16.6	24.4
	7		1.9		11.4	5.7	14.3	8.6	17.3	11.6	20.2	14.5	23.1
	8				10.1	3.5	13	6.4	16	9.4	18.9	12.3	21.8
	9						11.7	4.4	14.7	7.4	17.6	10.3	20.5
	10										16.3	8.1	19.2
	11										15	6	17.9
	12										13.1	6.5	15.3

AT75S	5	16.1	8	22.1	14	27.8	19.7	33.6	25.5	39.4	31.3	45.2	37.1
	6	13.5	3.8		20.7	11.3	28.5	17.1	34.3	22.9	40.1	28.7	48.5
	7				22.1	7.1	25.9	12.9	31.7	18.7	37.5	24.5	43.4
	8						23.3	8.7		14.5	34.9	20.3	40.7
	9									14.5	34.9	20.3	40.7
	10									32.3	16.1	38.2	22
	11									29.8	11.9	35.7	17.8
	12									30.1	27	75.4	31

AT88S	5	25.4		34.8	22	43.8	31	53	40.2	62.1	49.3	71.2	58.1
	6	21.5	6.1		29.7	11.1	48.9	33.6	44.7	67.3	53.1	75.3	61.4
	7				35.7	17.7	44.9	26.9	54	36	63.1	48.5	72.7
	8				31.6	11.1	40.8	20.3	49.9	29.4	55	31.9	64.6
	9						36.8	13.7		16.3	50.9	25.4	60.5
	10									46.9	18	26.6	132
	11									40.5	11.7	48.5	35.8
	12									30.1	27	75.4	31

AT100S	5	37	18.4	50.3	31.7	63.6	45	76.6	58	90.6	72	103.6	85
	6	31.1	8.7		25.7	15.4	51.8	25.7	64.8	78.8	62.7	91.8	75.3
	7				46	16.1	59	29.1	73	43.1	86	56.1	95
	8						53			50.9	25.4	60.5	35
	9									46.9	18	26.6	132
	10									40.5	11.7	48.5	35.8
	11									30.1	27	75.4	31
	12									30.1	27	75.4	31

AT115S	5	49.8	29.3	81.4	51.3	103.4	72.3	124	94.3	145	115	167	137
	6	44.4	13.8		46	18.9	116	232	160	275	203	316	246
	7				102.4	74	135	81	163	139	148	106	169
	8				83.4	21	105	63	126	84	139	91	160
	9				73.8	26	86.3	48	117	69	129	92	150
	10						86.3	32	98	38	110	44	144
	11												
	12												

AT125S	5	76.7	38	104.7	66	132.7	94	160	121	188	149	216	177
	6	64.4	18		108	54	133	81	151	149	187	137	218
	7				96.2	34	111	61	139	69	167	97	194
	8				80.2	26	106	46	126	84	148	106	169
	9						106.2	34	133	81	139	91	160
	10										129	92	150
	11										154	77	181
	12										142	57	157

AT145S	5	130.7	60	164.7	104	207.7	147	252	191	295	234	338	274
	6	101	29		167	84	213	128	256	171	239	217	343
	7				209	150	175	65	218	108	261	151	305
	8						175	65	218	108	261	151	305
	9										241	120	285
	10										207	108	244
	11										154	77	181
	12										142	57	157

AT160S	5	158	78	215	135	272	192	328	248	385	305	452	372
	6	131	37	164	53	227	161	267	360	264	350	265	417
	7					207	147	252	191	295	234	338	274
	8					167	84	213	128	256	171	239	217
	9					150	53	175	65	218	108	261	151
	10							175	65	218	108	261	151
	11										241	120	285
	12										207	108	244

AT190S	5	259	129	352	222	448	316	539	409	632	502	736	595
	6	218	61	270	154	405	248	498	341	591	434	684	527
	7					364	181	457	274	550	367	643	460
	8					323	113	374	139	467	326	560	325
	9										519	258	613
	10										427	192	477
	11										301	127	372
	12										301	127	372

AT210S	5	380	189	517	326	654	463	790	599	927	736	1064	873
	6	319	90	456	277	533	365	660	491	806	538	943	675
	7					563	265	698	509	816	540	882	614
	8					472	167	548	203	685	340	822	477
	9												
	10												
	11												
	12												

7	1077	34	1284	720	1821	1092	2193	1484	2565	1837	2237	2208	3309	2580		1883	1154
8				1484	1451	1658	823	2028	1586	1586	2972		1314	3888	3055	1310	2420
9					1491	555		1698	657	2070	1029	2442	1401	1773	3558	2517	4301
10										1905	760	2277	1132	2614	1504	3393	2248
11												2113	863	2485	1235	3229	1979
12																3972	2722
AT350S	5	1661	825	2258	1422	2854	2018	3451	2615	4047	3211	4644	3808			2158	1322