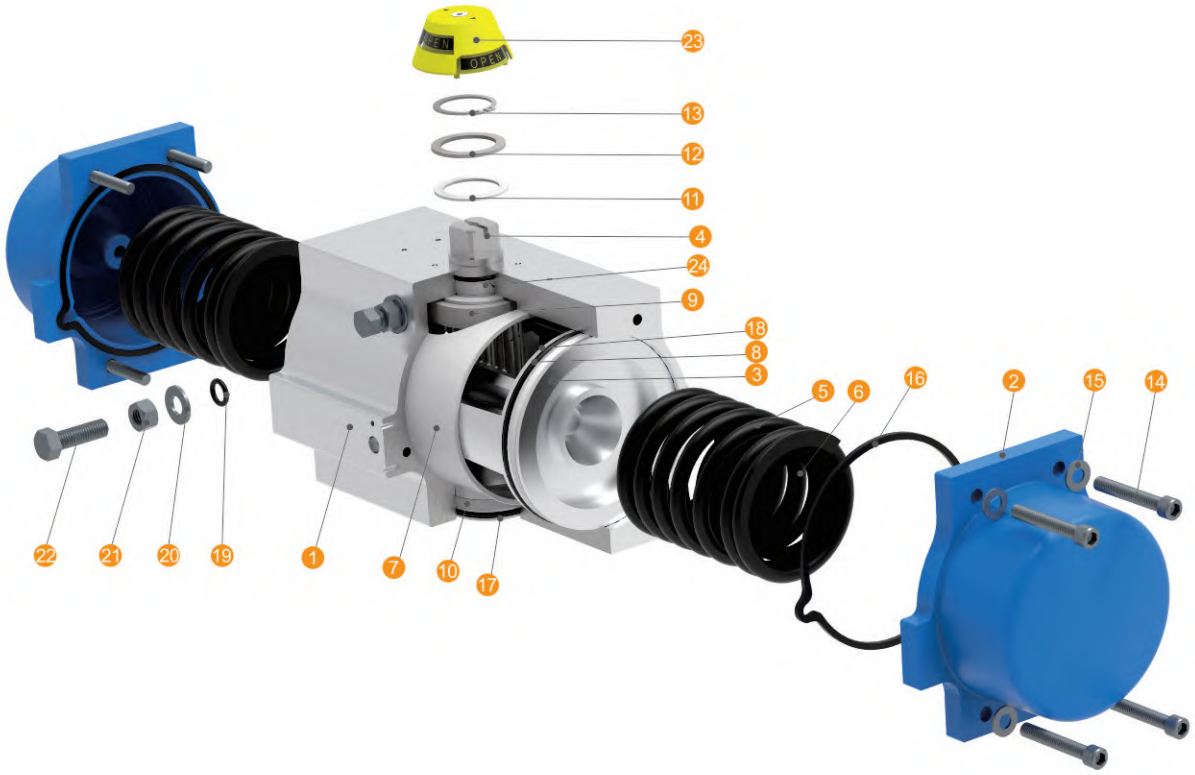
YS SERIES ACTUATOR

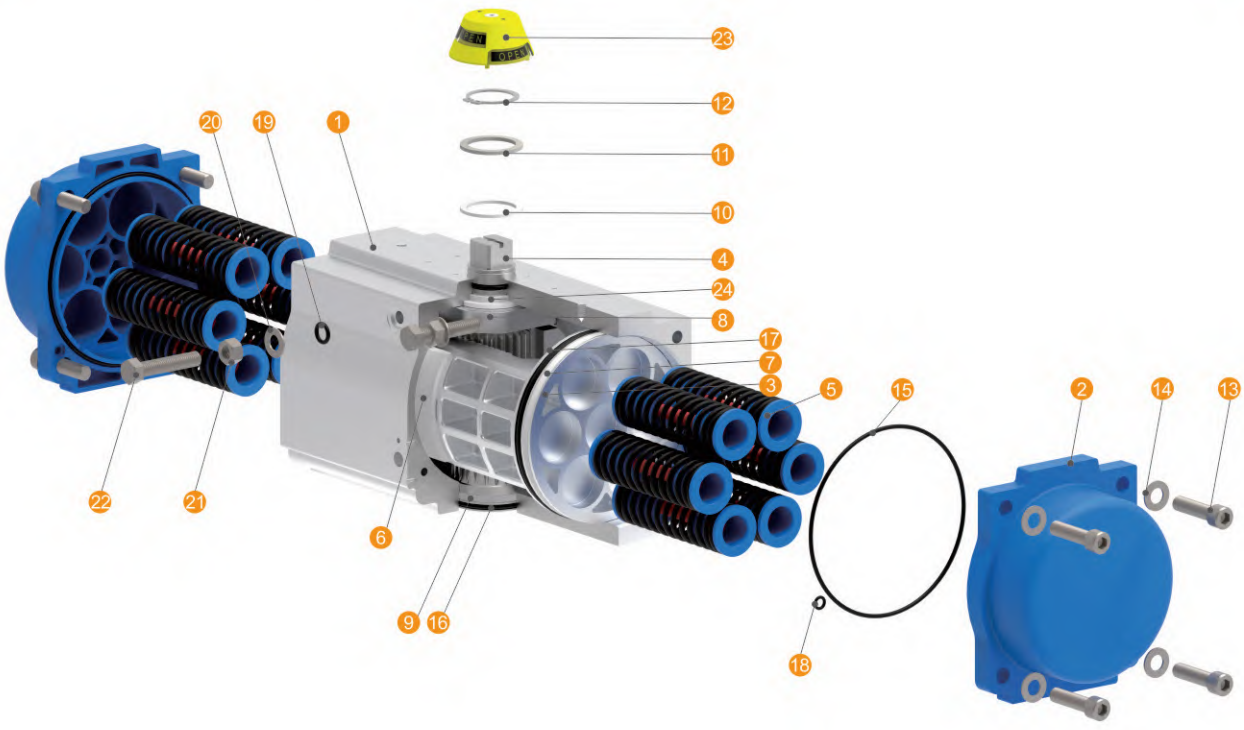
Parts List and Bill of Materials (YS063~YS140)



Material List

No.	QTY	Description	Material	Optional Material
1	1	Cylinder Block	Aluminum Alloy	
2	2	End Cap	Aluminum Alloy	
3	2	Piston	Aluminum Alloy	
4	1	Pinion	1045 Steel	Carbon Steel
5	Max. 2	Outer Spring	Spring Steel	
6	Max. 2	Inner Spring	Spring Steel	
7	1	Piston Guide Sleeve	POM	PTFE
8	2	Piston Bearing	25% Carbon Cilled PTFE	POM
9	1	Limit Cam	Stainless Steel	
10	2	Pinion Bearing	POM	PTFE
11	1	Thrust Washer	POM	PTFE
12	2	Washer	Stainless Steel	
13	1	Circlip	Stainless Steel	Spring Steel
14	8	End Cap Screw	Stainless Steel	
15	8	End Cap Screw Washer	Stainless Steel	
16	2	End Cap Seal	Nitrile Rubber	Fluororubber/ Silicone Rubber
17	2	Pinion Seal O-ring	Nitrile Rubber	Fluororubber/ Silicone Rubber
18	2	Piston Seal O-ring	Nitrile Rubber	Fluororubber/ Silicone Rubber
19	2	Stopper Seal O-ring	Nitrile Rubber	Fluororubber/ Silicone Rubber
20	2	Limit Washer	Stainless Steel	
21	2	Limit Nut	Stainless Steel	
22	2	Limit Screw	Stainless Steel	
23	1	Position Indicator	ABS +Stainless Steel Screws	
24	1	Cam Washer	POM	

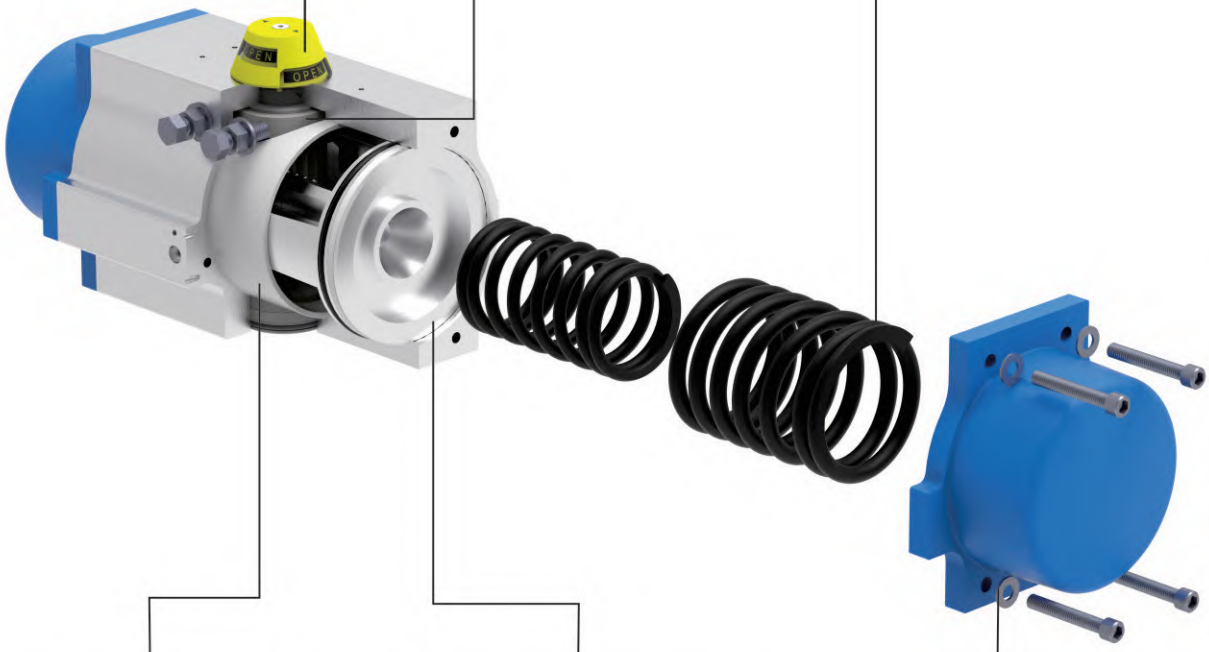
Parts List and Bill of Materials (YS160~YS240)



Materials List

No.	QTY	Description	Material	Optional Material
1	1	Cylinder Block	Aluminum Alloy	
2	2	End Cap	Aluminum Alloy	
3	2	Piston	Aluminum Alloy	
4	1	Pinion	1045 Steel	Carbon steel
5	Max. 12	Spring Group	Spring Steel	
6	2	Piston Support Bearing	POM	PTFE
7	2	Piston Bearing	25%Carbon Filled PTFE	POM
8	1	Limit Cam	Stainless Steel	
9	2	Pinion Bearing		PTFE
10	1	Washer	POM	
11	2	Thrust Washer	Stainless Steel	PTFE
12	1	Circlip	POM	Spring Steel
13	8	End Cap Screw	Stainless Steel	
14	8	End Cap Screw Washer	Stainless Steel	
15	2	End Cap Seal O-ring	Stainless Steel	Fluororubber / Silicone Rubber
16	2	Pinion Seal O-ring	Nitrile Rubber	Fluororubber / Silicone Rubber
17	2	Piston Seal O-ring	Nitrile Rubber	Fluororubber / Silicone Rubber
18	2	B Air Inlet Seal O-ring	Nitrile Rubber	Fluororubber / Silicone Rubber
19	2	Stopper Seal O-ring	Nitrile Rubber	Fluororubber / Silicone Rubber
20	2	Limit Washer	Nitrile Rubberel	
21	2	Limit Nut	Stainless Steel	
22	2	Limit Screw	Stainless Steel	
23	1	Position Indicator	ABS +Stainless Steel Screws	
24	1	Gear Bearing	POM	PTFE

Design Ddvantage (YS063~YS140)



General Specifications

General Specifications

Torque Range

- 328 to 20766 lbf.in (37 to 2346 Nm)

Pressure Range

Double Action:

- 40 to 120 psig (2.5 barg to 8.2 barg)

Spring Reset

- 87 to 120 psig (6 to 8.3 barg), Maximum Spring Setting
- 43.5 to 120 psig (2.5 to 8.3 barg), Reducing the Amount of Spring

Finish

- Cylinder: hard anodizing
- End cap: epoxy coating
- Piston: Hard anodizing
- Pinion: Nickel plating
- Fasteners: Stainless steel

Option

-Low temperature: -40℉to176℉ (-40℃to80℃)

-High temperature: -20℉to248℉ (-20℃to120℃)

Rotation Angle

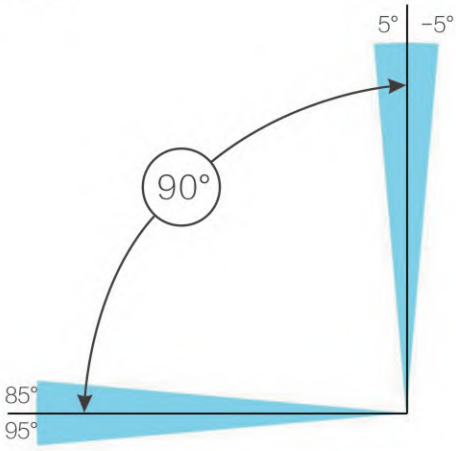
-Factory setting is 90°

-Adjustable range

-Size 063 to 240: -5° to + 5° and+ 85° to 95°

Pressure Medium

- Air, dry or lubricated and inert gases
- Dew point at least 10K below temperature
- For sub-zero applications, take appropriate measures
- Mentioned pressure levels are "gauge pressures". Gauge pressure is equal to absolute pressure minus atmospheric pressure.



Lubrication Method

-Castrol High Temperature grease (or equivalent)

Temperature Range

-Standard: -4℉to175℉ (-20℃ to 80℃)

Compliance to International Standards

- Valve flange: ISO 5211/DIN3337
- Solenoid flange: VDE/VDI 3845 (NAMUR)
- Accessory flange: VDE/VDI 3845 (NAMUR)
- European Directives: ATEX, PED and Machinery Directive

Actuator Weight

Actuator Model	Double-Acting		Spring Return Full spring	
	lbs	(kg)	lbs	(kg)
063	3.3	1.485	4.0	1.8
085	7.5	3.375	9.5	4.275
100	11.1	5.2	14.5	6.525
125	22.1	9.95	29.6	13.32
140	35.7	16.06	48.5	21.825
160	43.7	19.66	77.2	34.74
190	72.8	32.76	99.2	44.65
210	106	47.7	126	56.7
240	152	68.4	179	80.55

Operating Speed

Actuator Model	Cycle time in seconds			
	Spring-Return		Double-Acting	
	A-port pressurized	Spring Stroke	A-port pressurized	B-port pressurized
063	0.4	0.3	0.4	0.3
085	0.5	0.5	0.6	0.5
100	0.7	0.6	0.6	0.5
125	1.2	0.9	0.6	0.6
140	1.8	1.6	1.2	1.3
160	2.1	1.8	1.5	1.7
190	2.4	2.8	2	2.2
210	3.5	3.9	2.7	3.2
240	4.1	4.6	3.5	4

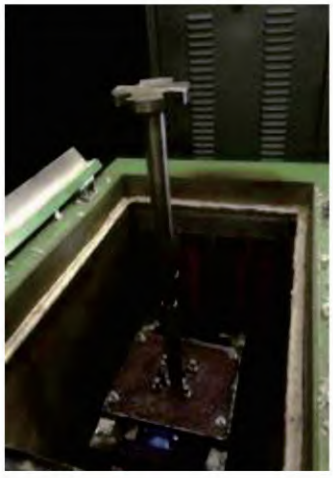
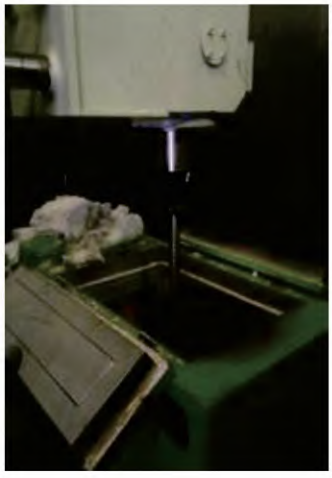
Test Conditions:

1. Solenoid with flow capacity: 0.6 m3/hr
2. Pipe diameter: 6 mm
3. Medium: clean air
4. Supply pressure: 5.5 bar
5. Load: with average load
6. Stroke: 90°
7. Temperature: Room temperature

Testing Procedure

By professional equipment and standards in order to ensure quality.

Torque Test Machine

Ultra-high Temperature Test

Temperature Data Record (Mod YS125)

Temp (° C)	0° in.lbs	90° in.lbs
24° C	1239	2036
50° C	1248	1920
100° C	1221	1912
150° C	1248	1859
200° C	1177	1814
250° C@0 Min	1204	1850
250° C@10 Mins	1080	1805
250° C@20 Mins	1009	1664
250° C@30 Mins	1071	1655
250° C@40 Mins	1071	1655
250° C@50 Mins	1062	1628
250° C@60 Mins	1053	1637

Features

- The hard-anodized actuator body along with the control modules is protected from corrosive environments with a protective finish that has passed a 500 hour-salt spray test per ASTM B117.
- Over 500000 circle test to conform BS EM 15714-3.

Product Configuration Code

YS 063 G U 04 CW AL T N11 S K A

- A — Color/Finishing
- K — Visual Indicator
- S — Temperature Range
- N11 — Stem Connection
- T — Valve Interface
- AL — Pinion Material
- CW — Turn Direction
- 04 — Spring Set
- U — Thread Type
- G — Rotation Angle
- 063 — Size
- YS — Type

Type	
YD	Double Action
YS	Spring Reset

Rotation Angle	
G	90° Rotation

Turn Direction	
CW	Turn Counterclockwise
CC	Clockwise To Close Rotation

Temperature Ranges	
S	Standard:-4℉ to +176℉ (-20℃ to +80℃)
H	High :-4 ℉ to +248 ℉(-20℃ to +120℃)
L	Lower : -40℉ to +176℉ (-40℃ to +80℃)

Product Configuration Code

Size	
063	Size 063
075	Size 075
085	Size 085
100	Size 100
125	Size 125
140	Size 140
160	Size 160
190	Size 190
210	Size 210
240	Size 240

Spring Set	
02	Spring Set 2
04	Spring Set 4
05	Spring Set 5
06	Spring Set 6
07	Spring Set 7
08	Spring Set 8
09	Spring Set 9
10	Spring Set 10
11	Spring Set 11
12	Spring Set 12

Valve Stem Connection (Insert Sizes)			
Parallel Drive	Diagonal Drive	Square	Actuator Sizes
Insert Codes		No Insert	
N09	Y09	9mm/0.354"	063
N11	Y11	11mm/0.433"	063
N14	Y14	14mm/0.551"	085
N19	Y17	17mm/0.669"	100
	Y19	19mm/0.748"	
N22	Y22	22mm/0.866"	125
N27	Y27	22mm/0.866"	140
		27mm/1.063"	

Visual Indicator Code	
K	Standard
N	No Visual Indicator

Finishing	
A	Standard Coating

Threads	
M	Metric ISO 5211
U	UNC/NPT

Pinion Material	
AL	Aluminum alloy
CS	1045 Steel

Valve Interface	
T	Standard ISO 5211 Interface
D	DIN3337 Interface

Spring Placement (YS063~YS140)

When replacing spring cartridges in a spring-return actuator, ensure that the cartridges are replaced in their identical position from where they were removed.

Check below figure to see where to place the spring cartridges in case of spring set conversion.

Before assembling the spring cartridges and end caps, make sure that the pistons are completely inwards.

S=05 mentioned in the following view is only a number of spring codes, not the number of springs fitted with a pneumatic actuator.

Figure 1. Location of the spring

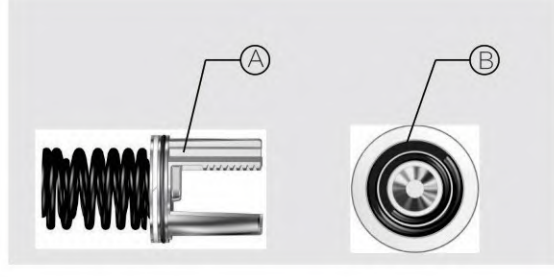
S=01

S=02

S=03

S=04

S=05



Notes:

A=Piston top view

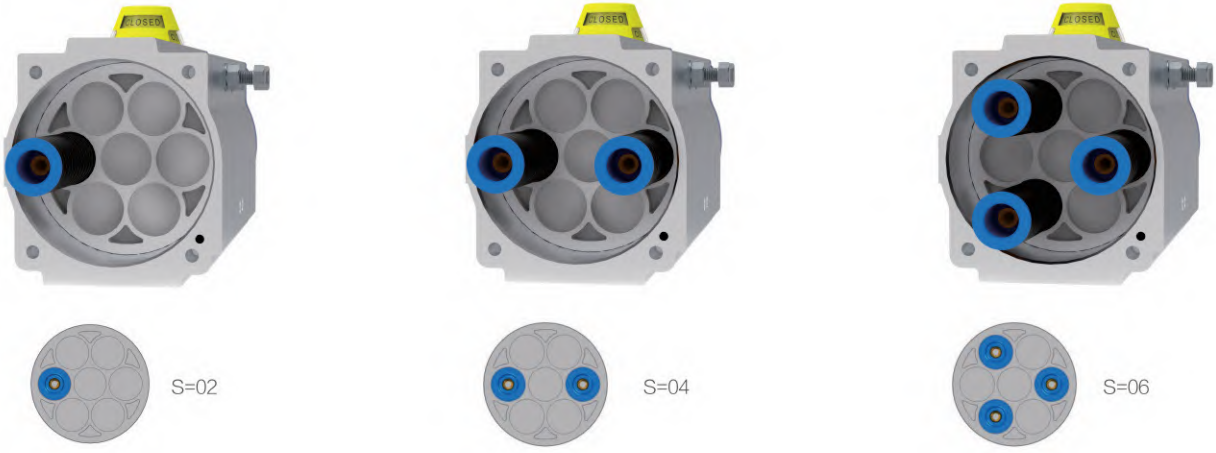
B=Position of piston gear rack

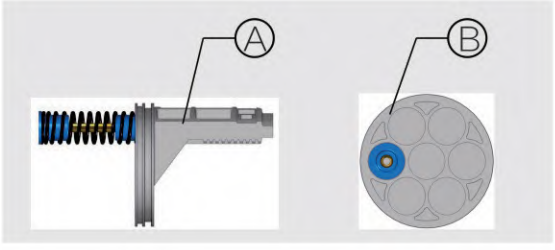
Spring Placement (YS160~YS240)

When replacing spring cartridges in a spring-return actuator, ensure that the cartridges are replaced in their identical position from where they were removed.
Check below figure to see where to place the spring cartridges in case of spring set conversion.
Before assembling the spring cartridges and end caps, make sure that the pistons are completely inwards.

S=05 mentioned in the following view is only a number of spring codes, not the number of springs fitted with a pneumatic actuator.

Figure 2. Location of the spring



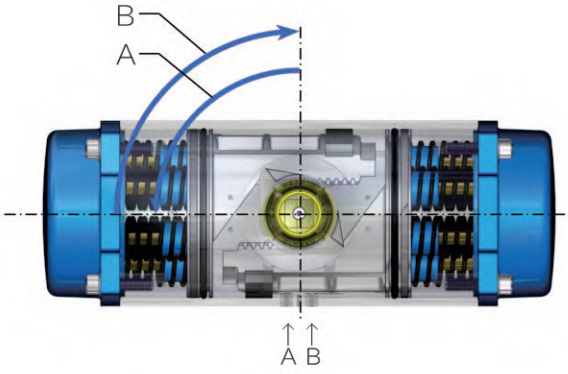


Notes:
A=Piston top view
B=Position of piston gear rack

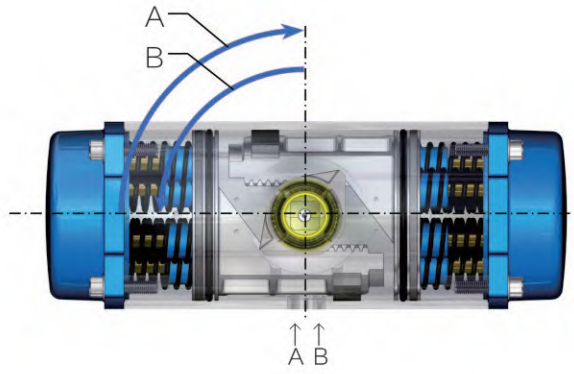
Assembly Codes

Spring-return Actuators

Assembly code : CW
=Standard , Clockwise-to-Close rotation
=Fail-to-Close



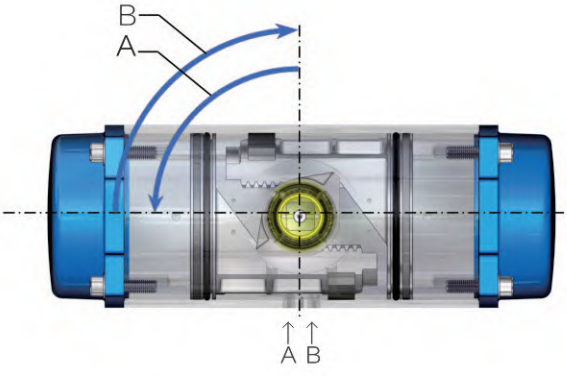
Assembly code : CC
=Reverse, Counterclockwise-to-Open
=Fail-to-Open



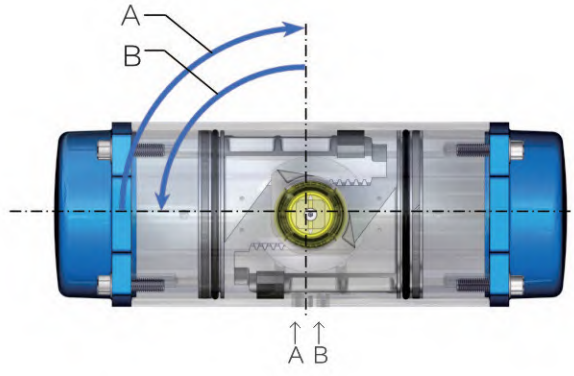
A=central Air Chamber Pressurized
B=Spring Stroke

Double-acting Actuators

Assembly code : CW
=Standard , Clockwise-to-Close rotation



Assembly code : CC
=Reverse, Counterclockwise-to-Open



A=Central Air Chamber Pressurized
B=Eend Cap Air Chambers Pressurized

Notes:
All views are from above. Pistons are shown in inward position.

Actuator Torque - Spring-Return (in-lbs)

Torque Output Spring Return Actuator YS 063 – YS 140(in-lbs)

Model	Set	Spring torque (in/lbs)		Air Supply Pressure (Psi)															
				40		50		60		70		80		90		100		120	
				Torque Output Spring Return Actuators (in-lbs)															
		Star	End	Star	End	Star	End	Star	End	Star	End	Star	End	Star	End	Star	End	Star	End
YS063	S01	105	57	107	59	148	100	189	141										
	S02	132	68			159	73	178	114	219	155								
	S03	144	80					166	102	207	143	248	184	289	225				
	S04	171	91					155	75	196	116	237	157	278	198	319	239		
	S05	210	114							173	77	214	118	255	159	296	200	378	282
YS085	S01	263	144	290	171	399	280	507	388										
	S02	341	176			367	173	476	337	585	497								
	S03	370	201					450	282	559	391	668	499	776	608				
	S04	421	232					419	231	528	340	636	448	745	557	854	665		
	S05	527	289							471	233	580	342	688	451	797	559	1014	776
YS100	S01	414	242	434	262	603	431	772	600										
	S02	510	303			543	336	712	505	881	674								
	S03	573	333					682	441	851	610	1020	779	1189	948				
	S04	669	393					621	345	790	514	959	684	1128	853	1297	1022		
	S05	828	484							699	355	868	524	1037	693	1207	862	1545	1201
YS125	S01	973	504	963	494	1330	861	1697	1228										
	S02	1151	597			1817	684	1604	1051	1971	1418								
	S03	1371	710					1492	830	1859	1197	2226	1564	2593	1931				
	S04	1549	803					1399	653	1765	1387	2132	1387	2499	1754	2866	2121		
	S05	1947	1008							1560	989	1927	989	2294	1356	2661	1723	3395	2456
YS140	S01	1352	727	1298	673	1804	1179	2311	1685										
	S02	1527	838			1694	1004	2200	1511	2706	2017								
	S03	1941	1036			1496	590	2002	1096	2508	1603	3015	2109	3521	2615				
	S04	2116	1146					1892	922	2398	1428	2904	1934	3411	2441	3917	2947		
	S05	2705	1454							2090	839	2596	1345	3102	1852	3608	2358	4621	3371

Torque Output Spring Return Actuator YS 160 – YS 240 (in-lbs)

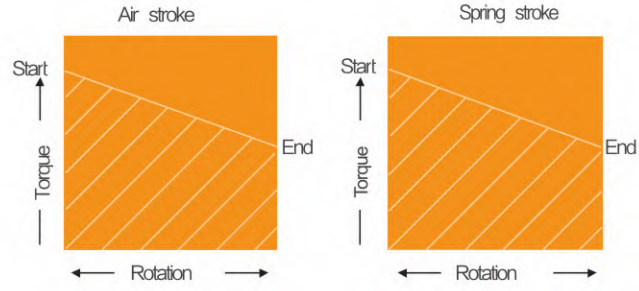
Model	Set	Spring torque (in/lbs)		Air Supply Pressure (Psi)															
				40		50		60		70		80		90		100		120	
				Torque Output Spring Return Actuators (in-lbs)															
		Star	End	Star	End	Star	End	Star	End	Star	End	Star	End	Star	End	Star	End	Star	End
YS160	S05	1732	1164	2010	1442	2804	2235	3597	3029										
	S06	2079	1397	1777	1095	2571	1889	3364	2682	4158	3476								
	S07	2425	1630	1544	749	2338	1542	3131	2336	3925	3129	4719	3923						
	S08	2772	1863			2105	1196	2899	1989	3692	2783	4486	3576	5279	4370	6073	5163		
	S09	3118	2095					2666	1643	3459	2436	4253	3230	5046	4023	5840	4817		
	S10	3465	2328					2433	1296	3227	2090	4020	2883	4814	3677	5607	4470	7194	6057
	S11	3811	2561							2994	1743	3787	2537	4581	3330	5374	4124	6961	5711
	S12	4158	2794							2761	1397	3554	2190	4348	2984	5141	3777	6729	5364
YS190	S05	2502	1729	3018	2245	4205	3432	5392	4619										
	S06	3003	2075	2672	1745	3859	2932	5046	4118	6233	5035								
	S07	3503	2421	2326	1244	3513	2431	4700	3618	5887	4805	7074	5992						
	S08	4003	2767			3167	1931	4354	3117	5541	4304	6728	5491	7914	6678				
	S09	4504	3113					4008	2617	5195	3804	6382	4991	7569	6178	8755	7364		
	S10	5004	3459					3662	2117	4849	3303	6036	4490	7223	5677	8410	6864	10783	9238
	S11	5505	3805							4503	2803	5690	3990	6877	5177	8064	6363	10437	8737
	S12	6005	4150							4157	2303	5344	3489	6531	4676	7718	5863	11091	8237
YS210	S05	3789	2688	4271	3170	6011	1910	7751	6650										
	S06	4547	3225	3734	2413	5474	4152	7214	5892	8953									
	S07	5304	3763	2845	1473	4393	3022	5942	4570	7491	6118	9040	7667						
	S08	66062	4300			3915	2347	5463	3896	7012	5444	8561	6992	10109	8808				
	S09	6820	4838					4985	3221	6534	4770	8724	6318	9631	7866	11179	9415		
	S10	7578	5375					4506	2547	6055	4095	7604	5644	9153	7192	10701	8741	13798	11838
	S11	8335	5913							5577	3421	7125	4969	8674	6518	10223	8066	13320	11163
	S12	9093	6450							5098	2746	6647	4295	8196	5843	9745	7392	12841	10489

Torque Output Spring Return Actuator (YS160~YS240)

Model	Set	Spring torque (in/lbs)		Air Supply Pressure (Psi)															
				40		50		60		70		80		90		100		120	
				Torque Output Spring Return Actuators (in-lbs)															
		Star	End	Star	End	Star	End	Star	End	Star	End	Star	End	Star	End	Star	End	Star	End
YS240	S05	5048	3646	6063	4661	8490	7088	9650	8248										
	S06	6057	4375	5334	3651	7761	6079	8921	7238	12615	10933								
	S07	7067	5105	4604	2641	7031	5068	8191	6228	11885	9922	14312	12350						
	S08	8077	5834			6302	4059	7462	5221	11156	8913	13583	11340	16010	13767				
	S09	9086	6563					6733	4209	10427	7904	12854	10331	15281	12758	17708	15185		
	S10	10095	7292					6004	3200	9698	6894	12125	9321	14552	11749	16979	14176	21834	19030
	S11	11106	6152							9249	5885	11395	8312	13822	10739	12511	13166	21105	18021
	S12	12115	9031							8239	4875	10666	7302	13093	9729	15521	12156	20375	17010

Notes:

1. Manufacturer supply the maximum required torque values (Including any adjustments or suggested safety factors for valve service conditions or application).
2. In addition, the valve manufacturer must determine where and where these maximum requirements occur(counterclockwise or clockwise).

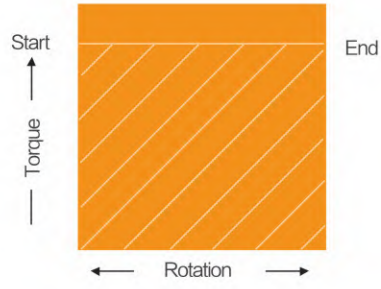


Actuator Torque - Double-Acting (in-lbs)

Model	Air Supply Pressure (Psi)							
	40	50	60	70	80	90	100	120
	Output Torque (in-lbs)							
Yd063	164	205	246	287	328	369	410	492
YD085	434	543	652	760	869	977	1086	1303
YD100	676	845	1014	1184	1353	1522	1691	2029
YD125	1468	1835	2202	2568	2935	3302	3669	4403
YD140	2025	2531	3038	3544	4050	4557	5063	6076
YD160	3174	3968	4761	5555	6348	7142	7935	9522
YD190	4747	5934	7121	8308	9495	10681	11868	14242
YD210	6326	7908	9490	11072	12653	14235	15816	18980
Yd240	9444	11805	12933	16526	18887	21248	23609	28331

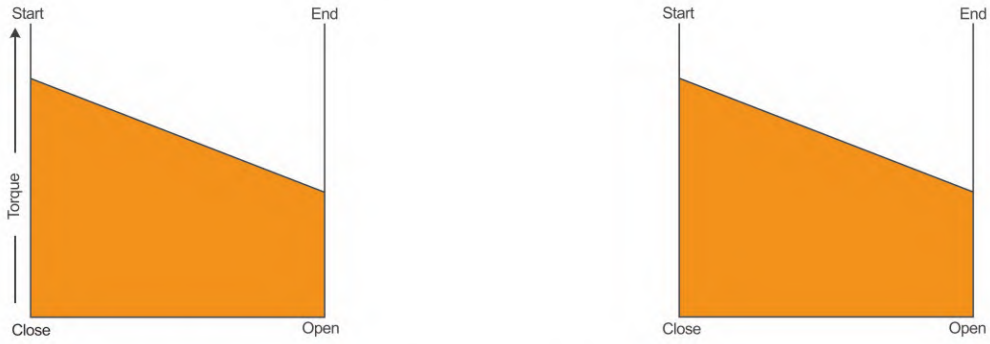
Notes:

1. Manufacturer supply the maximum required torque values (Including any adjustments or suggested safety factors for valve service conditions or application).
2. Additionally, the valve manufacturer must identify at which position(s) and direction(s) of rotation (Counterclockwise or Clockwise) these maximum requirements occur.



Sizing Spring-return Actuators

Figure 3. Spring-to-Close configuration



Spring Reset Size Calculation Case For Spring Closing Application

Published Valve Torque				
-Breaking torque:	1327in-lbs	Announce maximum rod torque:	3496in-lbs	
-Open running torque:	398in-lbs	Recommended safety factor:	1.5 (50%)	
-Turn off running torque:	398in-lbs	Minimum supply pressure:	5.5 bar	(80psi)
-Reset torque:	796in-lbs	Maximum supply pressure:	6.0 bar	(87psi)

Calculation

1.Because the recommended safety factor is 1.5

The torque is:

- Breaking torque: 1327in-lbs x 1.5=1990in-lbs
- Turn on running torque: 398in-lbs x 1.5=597in-lbs
- Hit - off running torque: 398in-lbs x 1.5=597in-lbs
- Reset torque 796in-lbs x1.5 =1194in-lbs

2.Look in the spring return torque table in the "spring return" torque meter. From top to bottom, the first actuator size produces more than 1194in-lbs of reset torque.

3.The YS140 with spring kit S05 is the first choice for actuators with multiple sets of springs. Final torque 1454in-lbs

4.Now check if the torque of the other three position actuators exceeds the valve torque.

5.The maximum torque output of the YS140 with spring group is 3102in-lbs at a maximum pressure of 6 bar.This is below the maximum stem torque of 3496in-lbs

Actuator Action	Valve Action
Air begins:3102in-lbs	>Breaking torque: 1990in-lbs
End of air: 1852in-lbs	>Open running torque: 597in-lbs
Spring starting torque:2705in-lbs	>Close running torque: 597in-lbs
Spring return torque:1454in-lbs	>Reset torque: 1194in-lbs

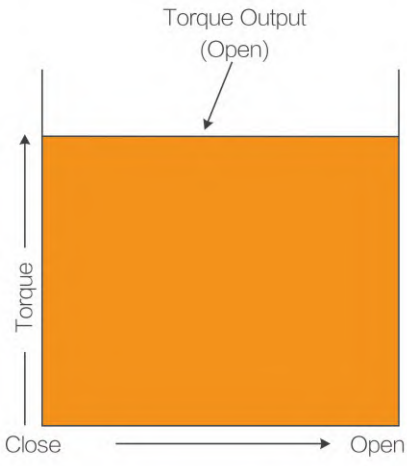
Calculation

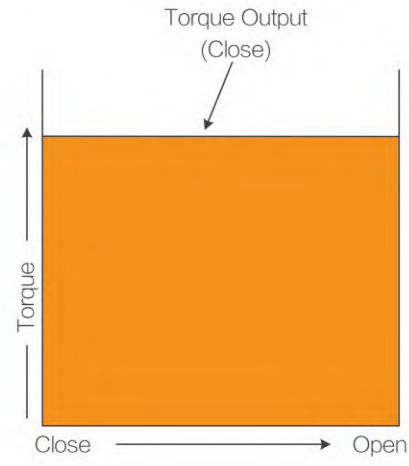
Since the torque provided by YS140 n = S05 is greater than the sizing torque (see point 3) and less than the maximum rod torque (see point 5), the size YS140 n = S05 is suitable for operating this valve.

Note: If the first actuator found does not exceed the valve torque in all positions, check the actuator of the next size. If the actuator of the next size exceeds the valve torque at all positions but fails at the maximum rod torque, check for the same actuator, but the spring setting is higher to meet this requirement.

Selection Double Acting Actuator

Figure 4. Double Acting Torque Characteristics





Double Acting Size Calculation Case

- Published valve opening torque: 354in.lbs
-Announced maximum stem torque: 929in.lbs
-Recommended safety factor: (20%)
- Minimum supply pressure: 5.5 bar (80 psi)
- Maximum supply pressure: 6.5 bar (94 psi)

Calculation

1. Since the recommended safety factor is 1.2,
Therefore the selection torque will be 354 x 1.2 = 425 in.lbs

2.In the 5.5 bar column (or 80 PSI) of the double-acting torque meter, a top-down lookup yields the first actuator of 425 in.lbs.

3. Model YD085 provides over 869 in.lbs of torque at 5.5 Bar and is therefore the preferred actuator.

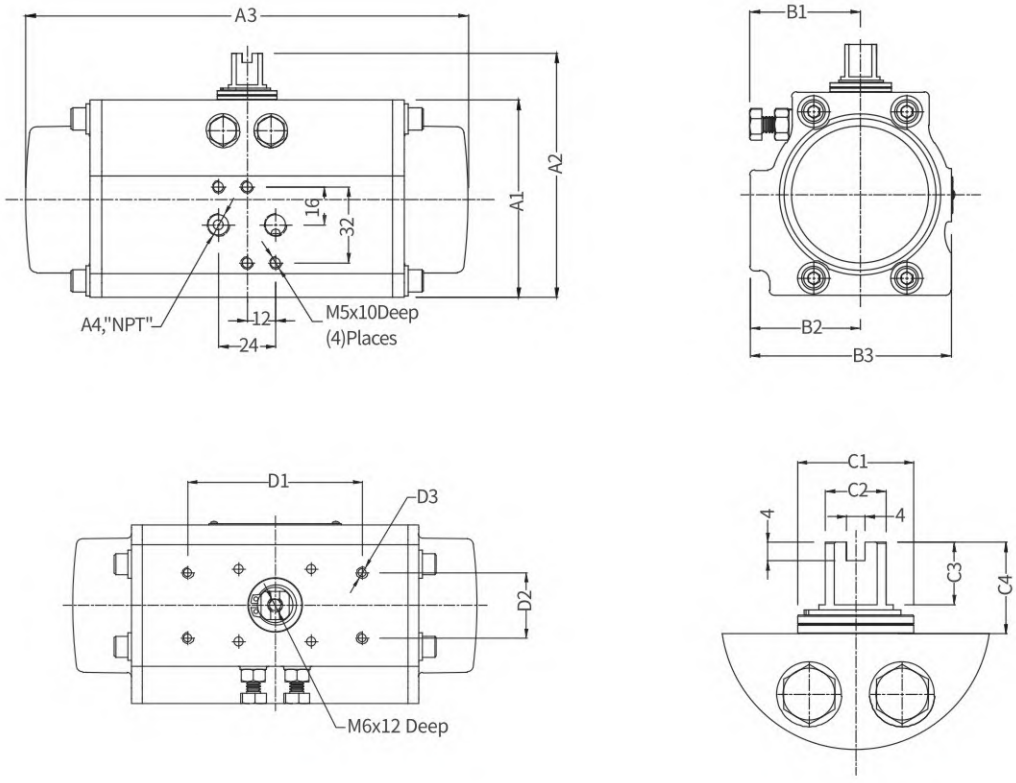
4. The YD085's torque at 5.5 Bar is 869 in.lbs, which is lower than the maximum stem torque of 929in.lbs.

Calculation

Since the YD085 provides more torque than the selected torque (see point 3) and less than the maximum stem torque (see point 4), the specification YD085 is suitable for operating this valve.

Size - Imperial (ISO5211)

Housing size. Solenoid interface. Top mounting interface

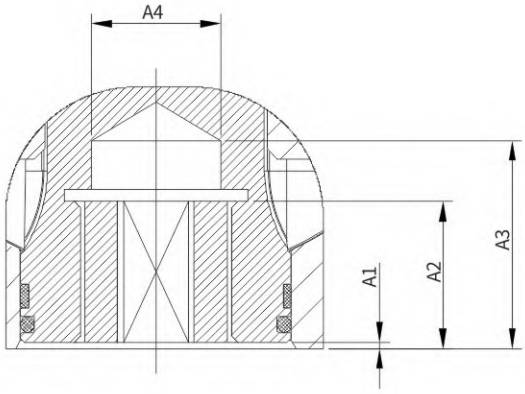


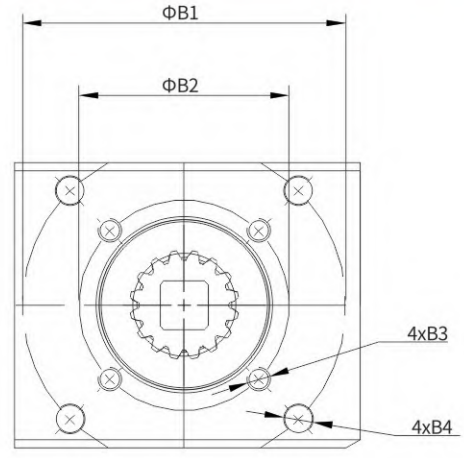
Actuator Size

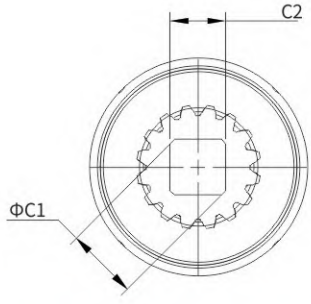
Code	063	085	100	125	140	160	190	210	240
A1	3.19	5.26	5.08	6.26	7.16	7.68	9.06	10.16	12.82
A2	4.12	4.33	6.01	7.60	8.50	8.94	10.24	11.42	11.56
A3	7.32	10.12	11.81	15.35	17.66	19.13	21.73	23.54	27.59
B1	1.78	2.21	2.65	3.19	3.39	4.34	5.03	5.39	6.03
B2	3.17	2.28	2.68	3.15	3.54	3.45	4.06	4.49	5.12
B3	1.77	4.13	4.84	5.85	6.54	6.89	8.11	8.98	10.24
C1	0.98	1.38	1.50	2.05	2.05	2.25	2.25	2.76	3.25
C2	0.51	0.75	0.87	1.06	1.06	0.88	0.88	1.26	1.26
C3	0.53	0.50	0.44	0.79	0.79	0.81	0.79	0.67	0.69
C4	0.79	0.79	0.79	1.18	1.18	1.18	1.18	1.18	1.18
D1	3.15	3.15	3.15	5.12	5.12	5.12	5.12	5.12	5.12
D2	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
D3	4xM5	4xM5	4xM5	4xM5	4xM5	4xM5	4xM5	4xM5	4xM5

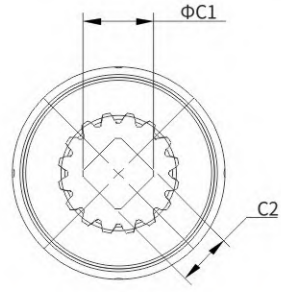
Dimensions - Imperial(ISO5211)

Valve Flange And Drive Details









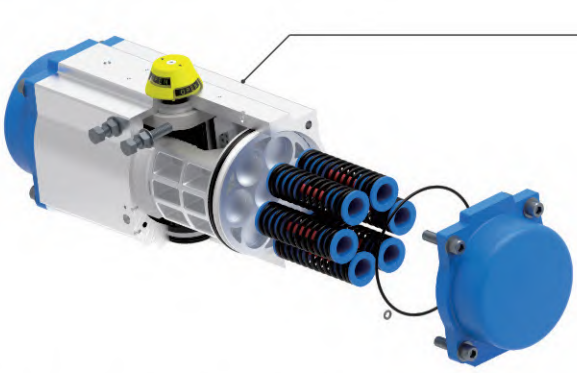
Actuator Size (inches)

Code	063	085	100	125	140	160	190	210	240
A1	0.06	0.06	0.06	0.06	0.08	0.08	0.08	0.12	0.12
A2	0.55	0.71	0.71	1.10	1.10	x.xx	x.xx	x.xx	x.xx
A3	1.25	1.50	1.50	2.00	2.00	x.xx	x.xx	x.xx	x.xx
A4	0.71	0.83	0.83	1.10	1.10	x.xx	x.xx	x.xx	x.xx
DIN 1	F07	F07	F10	F12	F12	F12	F12	F16	F16
⌀B1	2.76	2.76	4.02	4.92	4.92	4.92	4.92	6.50	6.50
DIN 2	F05	F05	F07	F10	F10	F10	F10	F12	F12
⌀B2	1.97	1.97	2.76	4.02	4.02	4.02	4.02	4.92	4.92
B3	M8x0.47	M8x0.47	M10x0.59	M12x0.71	M12x0.71	M12x0.71	M12x0.71	M20x0.79	M20x0.79
B4	M6x0.39	M6x0.39	M8x0.47	M10x0.59	M10x0.59	M10x0.59	M10x0.59	M12x0.71	M12x0.71
⌀C1	0.55	0.71	1.00	1.10	1.47	1.47	2.29	2.37	2.37
C2 Max	0.43	0.55	0.67	0.87	1.06	1.06	1.42	1.82	1.82

Low Temperature Execution

Description

Double piston, rack and pinion pneumatic actuators with explosion-proof pinions and piston support systems with high-load synthetic bearings at all bearing points.
This version is a standard aluminum actuator, but combines grease, O-ring seals and bearing materials, for use at temperatures down to -40° F (-40° C).



Low temperature components:
-TT1 grease
-Silicone (MVQ70 rubber) O-ring seal

Note: When operating the actuator below zero temperature (<0° C or <32° F), care should be taken to prevent the effects of icing inside the actuator.

Specification

Maximum Pressure: 120 psig (8.3 barg)
Torque: Standard
Medium: Air or non-Corrosive Gases
Temperature: -40° F to + 176° F (-40° C to + 80° C)
Surface Treatment: Hard Anodizing

Spare Parts

A dedicated low temperature spare kit can be used to maintain or convert standard actuators to versions suitable for low temperature operation.

Description	Material
Cylinder Block	Aluminum Alloy
End Cap	Aluminum Alloy
Piston	Aluminum Alloy
Pinion	Carbon Steel
Spring Group	Spring Steel
Piston Support Bearing	Ptfe
Piston Bearing	25% Carbon Filled Ptfe
Limit Cam	Stainless Steel
Pinion Bearing	PTFE
Washer	Stainless Steel
Thrust Washer	Pom
Circlip	Stainless Steel
End Cap Screw	Stainless Steel
End Cap Screw Washer	Stainless Steel
End Cap Seal O-ring	Silica Gel
Pinion Seal O-ring	Silica Gel
Piston Seal O-ring	Silica Gel
B Air Inlet Seal O-ring	Silica Gel
Stopper Seal O-ring	Silica Gel
Limit Washer	Stainless Steel
Limit Nut	Stainless Steel
Limit Screw	Stainless Steel
Indicator Assembly	Abs + Stainless Steel Screws
Adapters	Aluminum Alloy

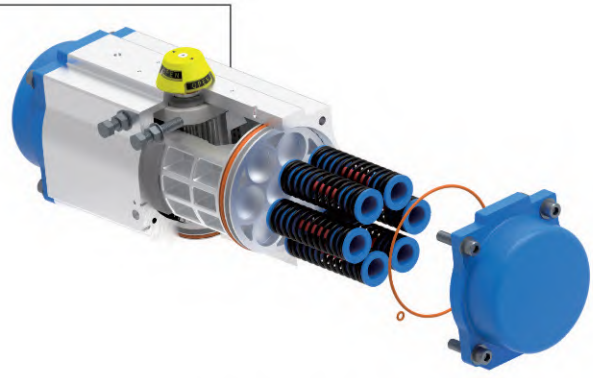
High Temperature Execution

Description

Double piston, rack and pinion pneumatic actuator with explosion-proof pinion and piston support system with high-load synthetic bearings at all bearing points.

This version is a standard aluminum actuator, but combines grease, O-ring seals and bearing materials，suitable for use at high temperatures of 248 ° F (120 ° C).

High Temperature Components:
-High temperature grease
-Fluororubber (FPM) O-ring
-PTFE 25% carbon filled piston bearing
-Nylon 66 resin containing aramid fiber and PTFE for bearing rod piston rack and pinion bearing



Specification

Maximum Pressure: 120 psig (8.3 bar)
Torque: Standard
Medium: Air or non-corrosive Gases

Temperature: -4° F to +248° F (-20° C to +120° C)
Surface Treatment: Hard Anodizing

Spare Parts

A dedicated low temperature spare kit can be used to maintain or convert standard actuators to versions suitable for low temperature operation.

Description	Material
Cylinder Block	Aluminum Alloy
End Cap	Aluminum Alloy
Piston	Aluminum Alloy
Pinion	Carbon Steel
Spring Group	Spring Steel
Piston Support Bearing	Nylon
Piston Bearing	25% Carbon Filled PTFE
Limit Cam	Stainless Steel
Pinion Bearing	Nylon
Washer	Stainless Steel
Thrust Washer	POM
Circlip	Stainless Steel
End Cap Screw	Stainless Steel
End Cap Screw Washer	Stainless Steel
End Cap Seal O-ring	Fluorine Rubber
Pinion Seal O-ring	Fluorine Rubber
Piston Seal O-ring	Fluorine Rubber
B Air Inlet Seal O-ring	Fluorine Rubber
Stopper Seal O-ring	Fluorine Rubber
Limit Washer	Stainless Steel
Limit Nut	Stainless Steel
Limit Screw	Stainless Steel
Indicator Assembly	ABS +Stainless Steel Screws
Adapters	Aluminum Alloy

Visual Indicator Evermark Y Series Actuator

Description

The Evermark Y series actuators have a visual position indicator that clearly indicates the position of the valve in almost any position.

The Evermark Y-Series indicator is designed for the actuator to be mounted "in-line" with the pipe and mounted on the "crossing line" with the pipe.

The conversion can be easily accomplished by rotating the indicator 90° and reinstalling it. By default, the position indicator will be installed in tandem.

Specification

Material
Indicator Knob: ABS + PC Molded Plastic
Indicator arrow: ABS molded plastic and printing
Indicator screw: hexagon socket screw M6x12

Actuator Open

Actuator Off