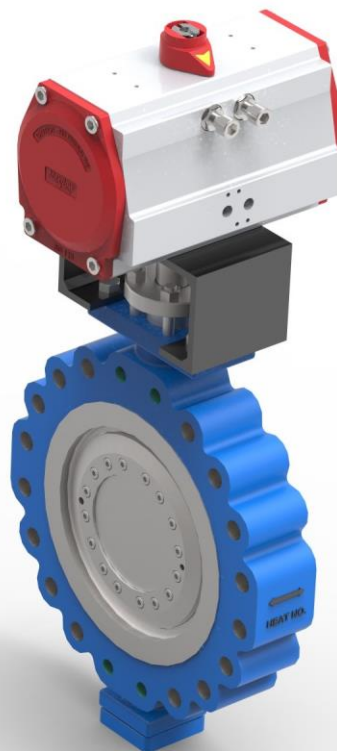
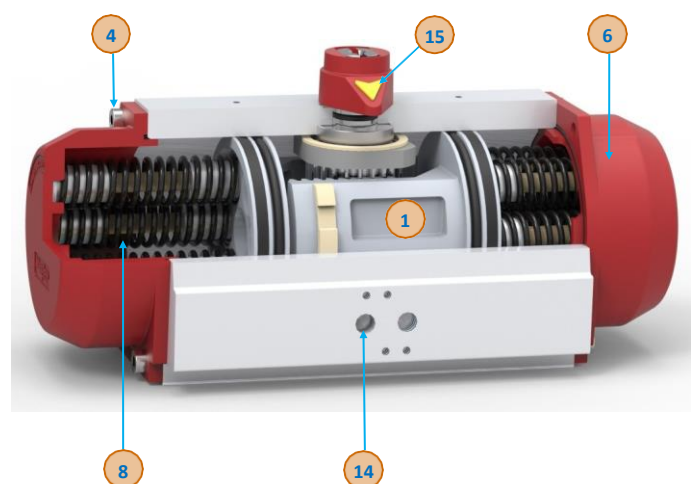
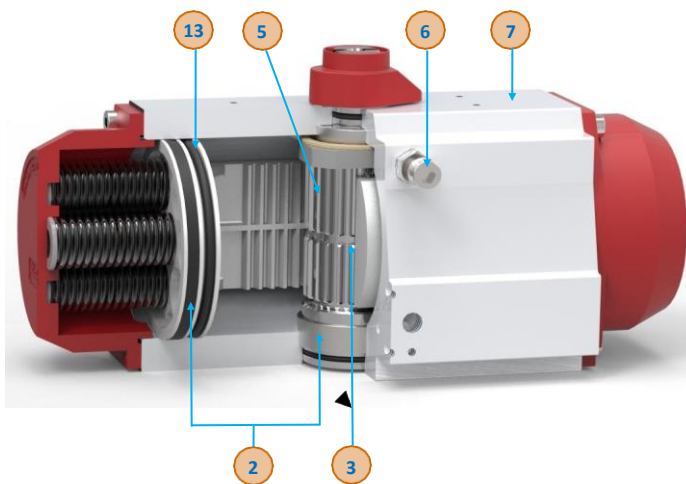


Maxflow

Pneumatic Rotary Actuator



FEATURES



1. Dual Rack and Pinion Design:

Dual rack and pinion design offers double acting and fail safe operations in same body. Reverse rotation can be accomplished by simply inverting the pistons.

2. Bearing:

Top quality bearings and seals for low friction and high cycle life to ensure trouble free operation. Same bearings are used for both high and low temperature operations

3. Anti-Blow out Pinion Design:

Guide bar in pistons provides an inherent blow-out proof shaft design.

4. Fasteners:

Internal and external stainless steel fasteners and specially coated springs provide corrosion resistance in a variety of environments.

5. Aluminium Pinion:

Aluminium Pinion for light weight design with hard anodizing for maximum wear and Corrosion resistance.

6. Travel Stops:

Two external travel stops permit adjustments of +/- 5 degree.

7. Extruded Aluminium body:

Hard anodized extruded aluminium body with honed internal surface for strength, high cycle life, and low frictional resistance.

8. Spring Cartridge:

Modular pre-loaded spring cartridges with metal spring guides for use in both high and low temperature applications.

9. Standard ISO mounting PCDs:

Valve mounting as per ISO 5211 with an additional one higher.

10. Identical End Caps Design:

Identical end caps for ease of assembly and for optimum use of inventory

11. Compact Design:

Different end caps for DA and SR actuator makes it compact design and provides optimum air consumption for Specific requirement.

12. Octagonal Drive Shaft:

Octagonal drive shaft for ease of mounting.

13. Special Compound NBR O-rings:

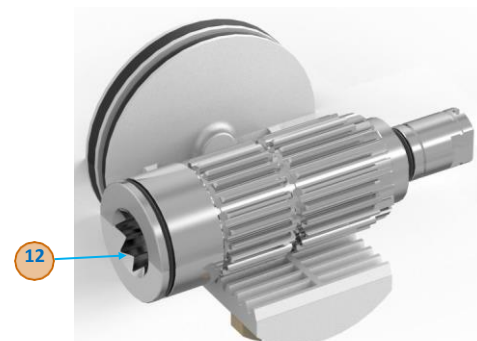
Special compound NBR O-rings for higher number of cycles.

14. Actuator Mounting:

Manufactured in full compliance with the latest requirements of EN ISO 5211, with provisions for mounting solenoid valves and accessories, comply with NAMUR VDI / VDE 3845.

15. Position Indicator:

Unique position indicator can be indexed to show alternate positions and also allows access to top of actuator which has a NAMUR slot to engage with all popular sensors and positioners.



TORQUE DATA

Actuator Weight (kg)											
Size	40	52	65	75	85	100	110	125	150	175	200
Double Acting	1.0	1.2	1.8	2.1	2.7	4.5	7.5	8.1	18.9	22.4	32.9
Spring Return	1.2	1.5	2.4	3.0	4.1	6.8	9.7	13.4	28.1	36.0	55.2
Actuator Volume (cm ³)											
Size	40	52	65	75	85	100	110	125	150	175	200
Opening	58	116	209	316	464	715	1228	1563	3025	4504	6877
Closing	60	124	224	342	476	800	1208	1600	3016	4432	6410
Actuator Cycle Time (sec) at 5.5 Bar											
Size	40	52	65	75	85	100	110	125	150	175	200
Opening Stroke/ Closing Stroke	0.2	0.3	0.35	0.4	0.5	0.7	1.0	1.2	1.5	2.0	3.5

Double Acting Actuator Torque Data (N-m)							
Size	Air Supply Pressure (bar)						
	3	4	5	5.5	6	7	8
40	6	8	10	11	12	14	17
52	12	16	20	22	24	28	32
65	22	30	37	41	45	52	60
75	35	47	58	64	70	81	93
85	51	68	85	94	102	119	137
100	80	106	133	146	159	186	213
110	133	177	221	243	265	310	354
125	173	231	288	317	346	404	461
150	356	474	594	653	713	831	950
175	529	706	882	970	1058	1235	1411
200	806	1075	1344	1478	1613	1881	2150

Spring Return Actuator Torque Data (N-m)																	
Size	Spring Code	Air supply pressure(bar)															
		3		4		5		5.5		6		7		8		Spring Stroke	
		PB	PE	PB	PE	PB	PE	PB	PE	PB	PE	PB	PE	PB	PE	SE	SB
40	B	3	1	5	3	7	5	8	6							3	5
	C					6	2	7	3	8	4	10	6			4	8
	D									6	1	8	3	10	5	6	11
52	C	8	5	12	9	16	13	18	15	20	17	24	21	28	25	4	7
	G	7	4	11	8	15	12	17	14	19	16	23	20	27	24	5	8
	D			11	7	15	11	17	13	19	15	23	19	27	23	5	9
	H			10	6	14	10	16	12	18	14	22	18	26	22	6	10
	E					13	8	15	10	17	12	21	16	25	20	7	12
	J					13	7	15	9	17	11	21	15	25	19	7	13
65	F							14	8	16	10	20	14	24	18	8	14
	C	15	10	23	17	30	25	34	28	38	32	45	40	53	47	7	13
	G	14	7	22	15	29	22	33	26	37	30	44	37	52	45	8	15
	D			20	13	28	20	32	24	35	28	43	35	50	43	10	17
	H			19	11	27	18	30	22	34	26	42	33	49	41	11	19
	E					25	16	29	20	33	23	40	31	48	38	12	22
75	J					24	14	28	17	32	21	39	29	47	36	13	24
	F							27	15	30	19	38	27	45	34	15	26
	C	23	16	35	27	46	39	52	45	58	50	70	62	81	74	12	19
	G	21	12	33	24	44	36	50	41	56	47	68	59	79	71	14	23
	D			31	21	42	32	48	38	54	44	66	56	77	67	16	26
	H			29	17	40	29	46	35	52	41	64	52	75	64	18	29
85	E					38	26	44	32	50	38	62	49	73	61	20	32
	J					36	23	42	28	48	34	60	46	71	58	22	36
	F							40	25	46	31	58	43	69	54	24	39
	C	34	22	51	39	69	56	77	65	86	74	103	91	120	108	17	29
	G	31	17	49	35	66	52	74	60	83	69	100	86	117	103	20	34
	D			46	30	63	47	71	55	80	64	97	81	114	98	23	39
100	H			43	25	60	42	69	50	77	59	94	76	111	93	25	44
	E					57	37	66	46	74	54	91	71	108	88	28	48
	J					54	32	63	41	71	49	89	66	106	84	31	53
	F							60	36	69	44	86	62	103	79	34	58
	C	52	34	79	60	105	87	119	100	132	114	159	140	185	167	28	46
	G	47	26	74	53	101	79	114	93	127	106	154	133	181	159	32	54
110	D			69	45	96	72	109	85	123	98	149	125	176	151	37	62
	H			65	37	91	64	105	77	118	91	145	117	171	144	42	69
	E					87	56	100	70	113	83	140	109	167	136	46	77
	J					82	49	95	62	109	75	135	102	162	128	51	85
	F							91	54	104	67	131	94	157	121	56	92
	C	88	53	132	97	176	142	199	164	221	186	265	230	309	275	45	80
125	G	80	40	125	84	169	128	191	151	213	173	257	217	302	261	53	93
	D			117	71	161	115	183	137	206	159	250	204	294	248	60	106
	H			109	58	154	102	176	124	198	146	242	190	287	235	68	120
	E					146	89	168	111	191	133	235	177	279	221	75	133
	J					139	75	161	97	183	120	227	164	272	208	83	146
	F							153	84	175	106	220	151	264	195	90	160
150	C	115	74	173	132	231	190	260	219	288	248	346	306	404	363	58	99
	G	105	58	163	116	221	173	250	202	279	231	336	289	394	347	68	115
	D			153	99	211	157	240	186	269	215	327	273	385	330	78	132
	H			144	83	201	140	230	169	259	198	317	256	375	314	87	148
	E					192	124	221	153	250	182	307	240	365	297	97	165
	J					182	108	211	136	240	165	298	223	355	281	107	181

Spring Return Actuator Torque Data (N-m)

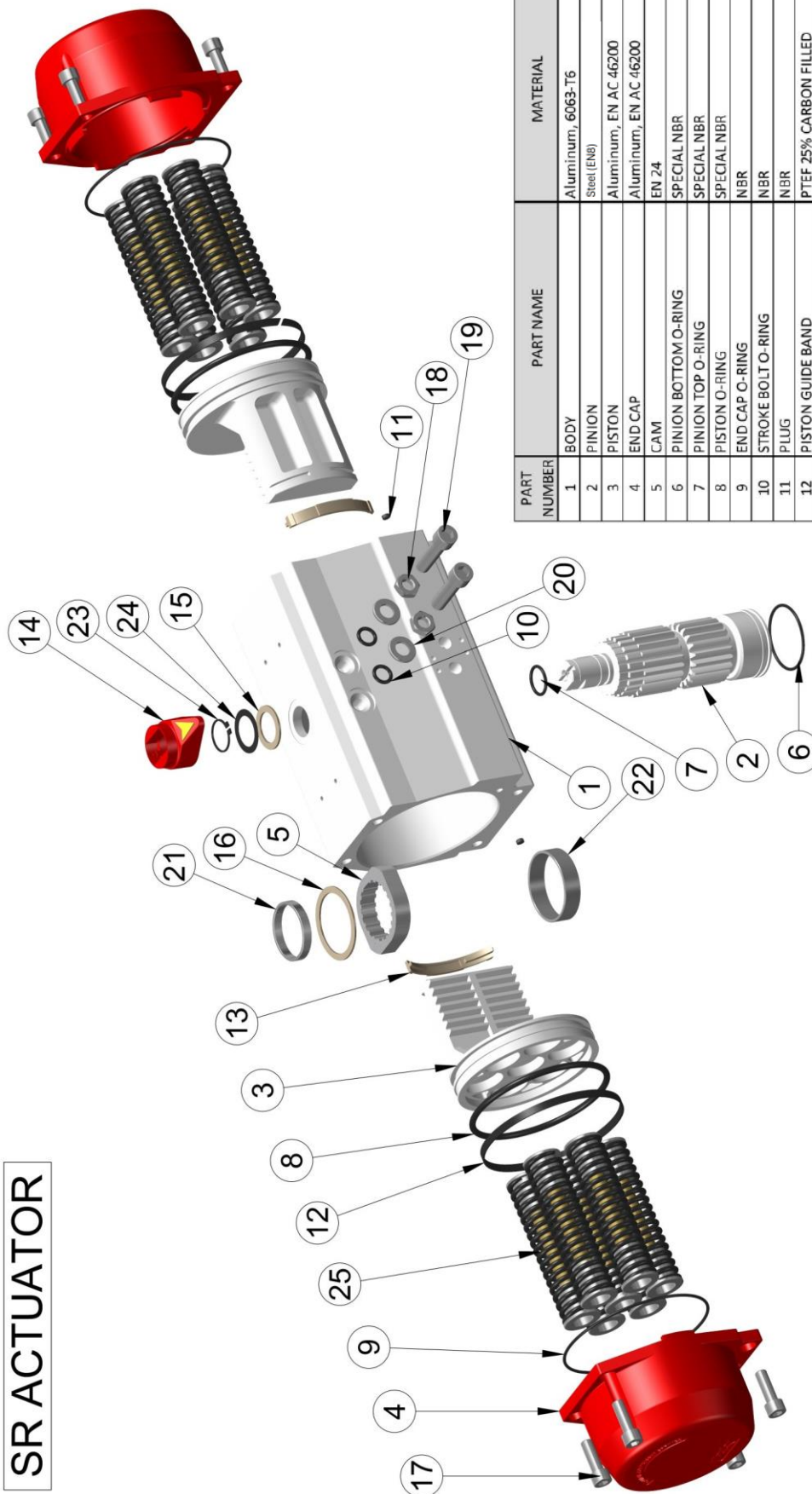
Size	Spring Code	Air supply pressure(bar)															
		3		4		5		5.5		6		7		8		Spring Stroke	
		PB	PE	PB	PE	PB	PE	PB	PE	PB	PE	PB	PE	PB	PE	SE	SB
150	C	254	103	373	222	492	341	551	401	611	460	730	579	849	698	103	254
	G	237	61	356	180	475	299	534	359	594	418	713	537	832	656	120	296
	D			339	138	457	257	517	316	576	376	695	495	814	614	137	338
	H			321	95	440	214	500	274	559	333	678	452	797	571	155	381
	E					423	172	483	232	542	291	661	410	780	529	172	423
	J					406	130	465	189	525	249	644	368	763	487	189	465
	F							448	147	508	207	627	326	746	445	206	507
175	C	378	209	555	386	731	563	820	651	908	740	1085	916	1261	1093	152	321
	G	353	156	529	333	706	509	794	598	883	686	1059	863	1236	1039	177	374
	D			504	279	681	456	769	544	857	633	1034	809	1211	986	203	427
	H			479	226	655	403	744	491	832	579	1009	756	1185	933	228	481
	E					630	349	718	437	807	526	983	702	1160	879	254	534
	J					605	296	693	384	781	472	958	649	1135	826	279	588
	F							668	331	756	419	933	596	1109	772	304	641
200	C	547	352	816	621	1085	890	1220	1025	1355	1160	1624	1429	1893	1698	261	456
	G	504	276	773	545	1042	814	1177	949	1311	1084	1580	1353	1850	1622	304	532
	D			729	469	999	738	1133	873	1268	1008	1537	1277	1806	1546	348	608
	H			686	393	955	662	1090	797	1224	932	1494	1201	1763	1470	391	684
	E					912	586	1046	721	1181	856	1450	1125	1719	1394	435	760
	J					868	510	1003	645	1137	780	1407	1049	1676	1318	478	836
	F							959	569	1094	704	1363	973	1632	1242	521	912

Actual torque values are in the range of $\pm 10\%$ of above values.

In between torque values to be interpolated.

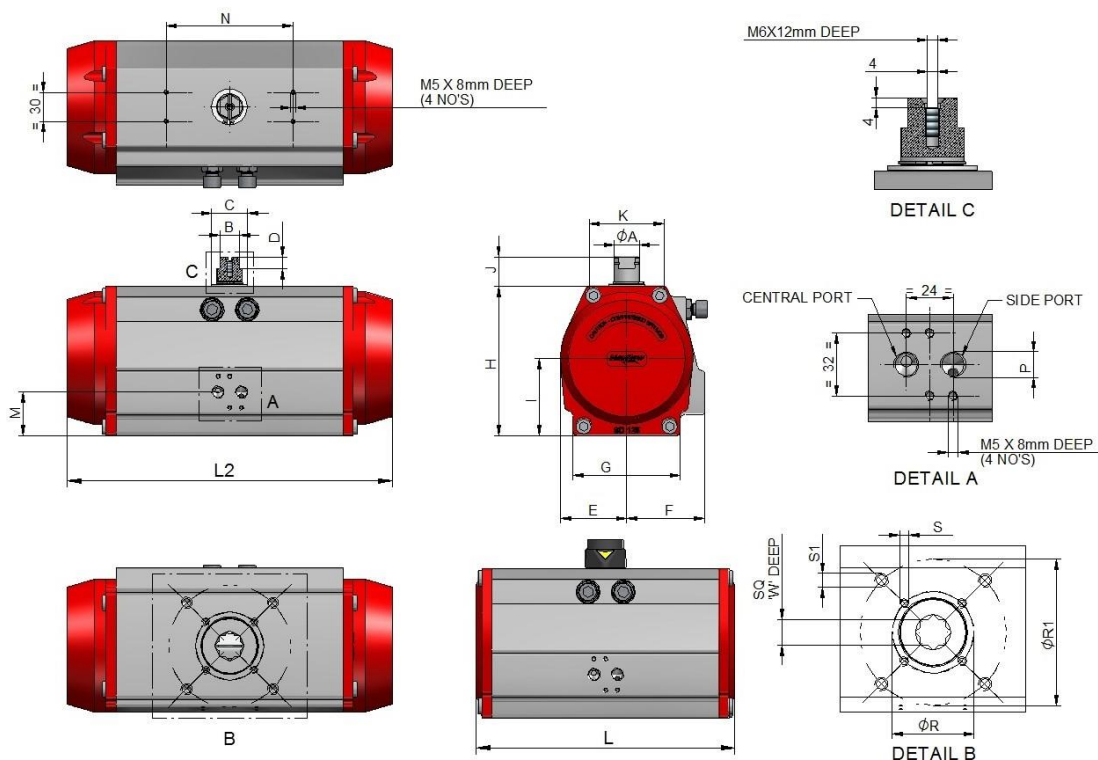
SE = Spring End Torque, SB = Spring Break Torque, PE = Pneumatic End Torque, PB = Pneumatic Break Torque

EXPLODED VIEW



PART NUMBER	PART NAME	MATERIAL	QUANTITY
1	BODY	Aluminum, 6063-T6	1
2	PINION	Steel (EN8)	1
3	PISTON	Aluminum, EN AC 46200	2
4	END CAP	Aluminum, EN AC 46200	2
5	CAM	EN 24	1
6	PINION BOTTOM O-RING	SPECIAL NBR	1
7	PINION TOP O-RING	SPECIAL NBR	1
8	PISTON O-RING	SPECIAL NBR	2
9	END CAP O-RING	NBR	2
10	STROKE BOLT O-RING	NBR	2
11	PLUG	NBR	2
12	PISTON GUIDE BAND	PTFE 25% CARBON FILLED	2
13	PISTON PAD	DELIN 500 CL	2
14	VISUAL INDICATOR	DELIN	1
15	THRUST BEARING	DELIN 500 CL	1
16	SPACER	DELIN	1
17	END CAP ALLEN BOLT	(SS 304) ASTM A 193 Gr. B8 CL1	8
18	STROKE ADJUSTMENT LOW HEX NUT	ASTM A 194 Gr. 8	2
19	STROKE ADJUSTMENT ALLEN BOLT	(SS 304) ASTM A 193 Gr. B8 CL1	2
20	MACHINED WASHER	(SS 304) ASTM A 193 Gr. B8 CL1	2
21	PINION TOP DU BUSH	Low Carbon Steel (PTFE Coated)	1
22	PINION BOTTOM DU BUSH	Low Carbon Steel (PTFE Coated)	1
23	CIRCLIP	HIGH CARBON SPRING STEEL	1
24	THIN WASHER (SHIM)	(SS 304) ASTM A 193 Gr. B8 CL1	1
25	SPRING CARTRIDGE ASSEMBLY		14

SR ACTUATOR



SIZE	ØA	B	D	E	F	G	H	I	J	K	L	L2	M	N	P	ØR	ØR1	S	S1	Sq	W
40	14	8	13	30	41	45	68	36	20	37	110	160	26	80	1/8" BSP	36	50	M5 X 8mm	M6 X 10mm	11	12
52	14	8	13	30	46	48	78	40	20	35	126	166	30	80	1/8" BSP	36	50	M5 X 8mm	M6 X 9mm	11	12
65	14	8	13	38	50	64	93	47	20	39	141	199	29	80	1/4" BSP	50	70	M6 X 9mm	M8 x 12mm	14	16
75	20	14	13	42	54	64	101	53	20	47	158	219	33	80	1/4" BSP	50	70	M6 X 9mm	M8 x 12mm	17	19
85	20	14	13	47	58	72	109	56	20	54	174	251	35	80	1/4" BSP	50	70	M6 X 9mm	M8 x 12mm	17	18
100	26	20	13	55	68	92	127	66	30	64	208	295	42	130	1/4" BSP	70	102	M8 x 12mm	M10 x 15mm	22	24
110	26	20	13	61	74	96	145	74	30	68	270	355	38	130	1/4" BSP	70	102	M8 x 12mm	M10 x 15mm	22	24
125	26	20	13	68	81	110	155	80	30	80	265	391	46	130	1/4" BSP	102	125	M10 x 15mm	M12 x 18mm	22	24
150	55	40	18	85	95	115	197	97	30	94	362	513	44	130	1/4" BSP	102	125	M10 x 15mm	M12 x 18mm	36	40
175	55	40	18	96	115	132	215	108	30	132	396	570	108	130	1/4" BSP	102	125	M10 x 15mm	M12 x 18mm	36	40
200	55	40	18	109	129	160	248	126	30	160	440	663	126	130	1/4" BSP	125	165	M12 x 18mm	M20 x 30mm	46	48

1	2	3,4,5	6	7	8	9	10
SERIES	ACTUATOR TYPE	ACTUATOR SIZE	PINION & SEAL KIT	MANUAL OVERRIDE	ROTATION	SPRING SET	CERTIFICATION
M	S D	040 052 065 075 085 100 110 125 150 175 200	D E F G H J K L M	0	0 2 6	A B C D E F G H J	0 1 2 3 4 5 6 7

1 SERIES
M - MAXFLOW ACTUATOR

2 ACTUATOR TYPE
S - SINGLE ACTING
D - DOUBLE ACTING

3,4,5 ACTUATOR SIZE
040, 052, 065, 075,
085, 100, 110, 125,
150, 175, 200

6 PINION & SEAL KIT
D - STEEL (EN8)/NBR
E - STEEL(EN8)/VITON
F - STEEL(EN8)/FLUOROSILICON
G - SS304/NBR
H - SS304/VITON
J - SS304/FLUOROSILICON
K - SS316/NBR
L - SS316/VITON
M - SS316/FLUOROSILICON

7 MANUAL OVERRIDE
0 - BASIC

8 ROTATION
0 - 90° (DA-CLOCKWISE)
2 - SPRING TO CLOSE (CW)
6 - SPRING TO OPEN (CCW)

9 SPRING SET
A* - 00 - Only for Double Acting
B - 02
C - 03
D - 04
E - 05
F - 06
G - 34
H - 45
J - 56

Only for Single Acting

10 CERTIFICATION
0 - NO APPROVALS
1 - SIL
2 - ATEX
3 - CE
4 - SIL+ATEX
5 - SIL+CE
6 - ATEX+CE
7 - SIL+STEX+CE

Notes:

1. ACCESSORIES AS MOR NOT PART OF SIL APPROVALS.
2. SPRING SET G - 34 (7 SPRING), H - 45 (9 SPRING) & J - 56 (11 SPRING)
3. 10th DIGIT OF CODE IS OPTIONAL
4. FOR SINGLE ACTING ACTUATOR SIZE 040 AVAILABLE SPRING SETS FOR SELECTION ARE B,C & D



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Doc No. : DEL-CT-ENG-06 R03 Date-17/2025