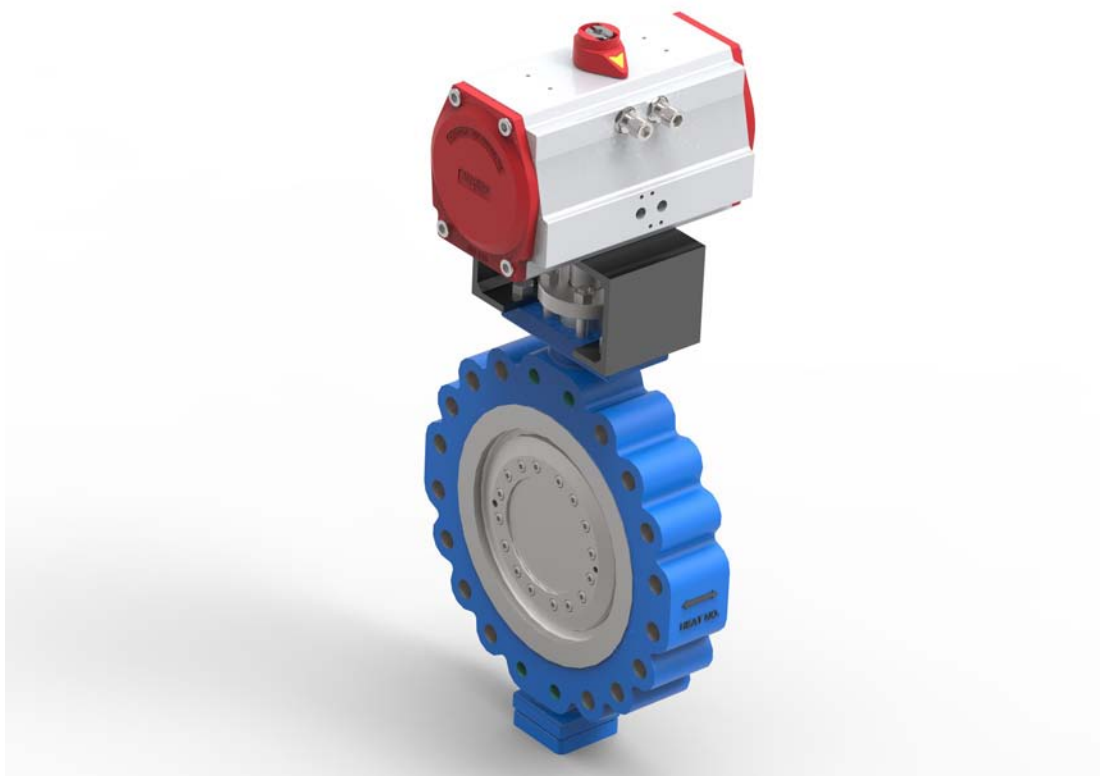
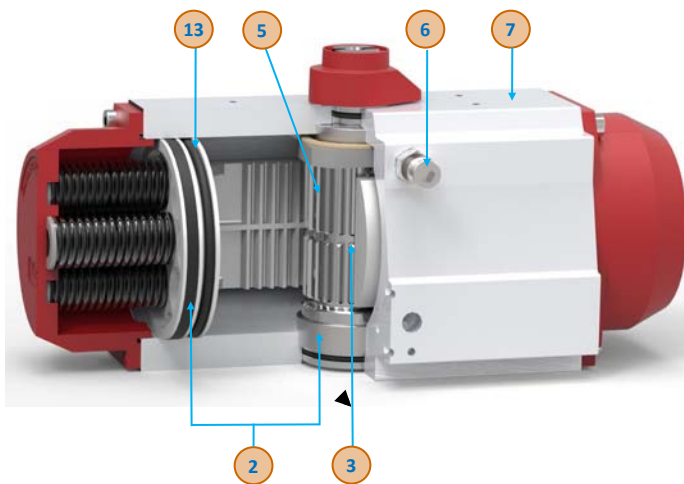


Maxflow

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:

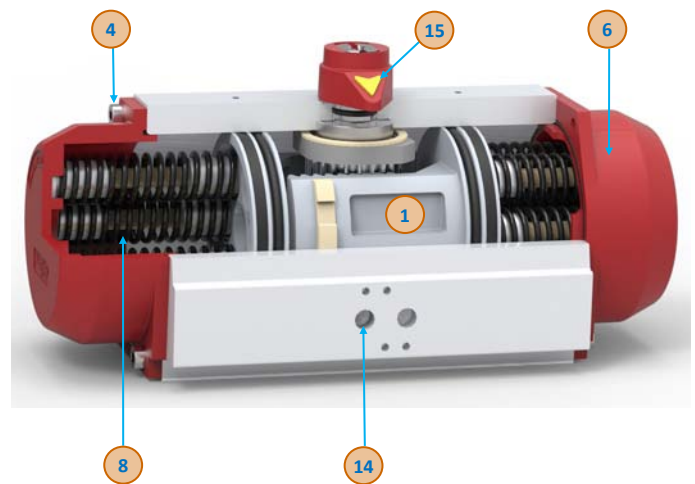
Hard anodized extruded aluminium body with honed internal surface for strength, high cycle life, and low frictional resistance.

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:

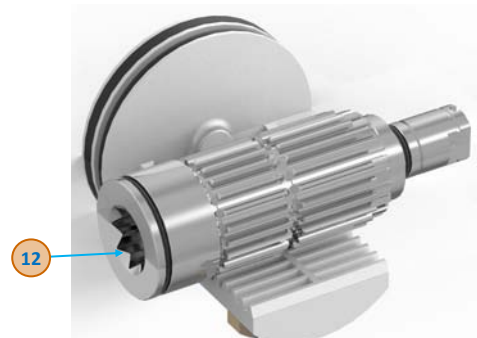
Special compound NBR O-rings for higher number of cycles.

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

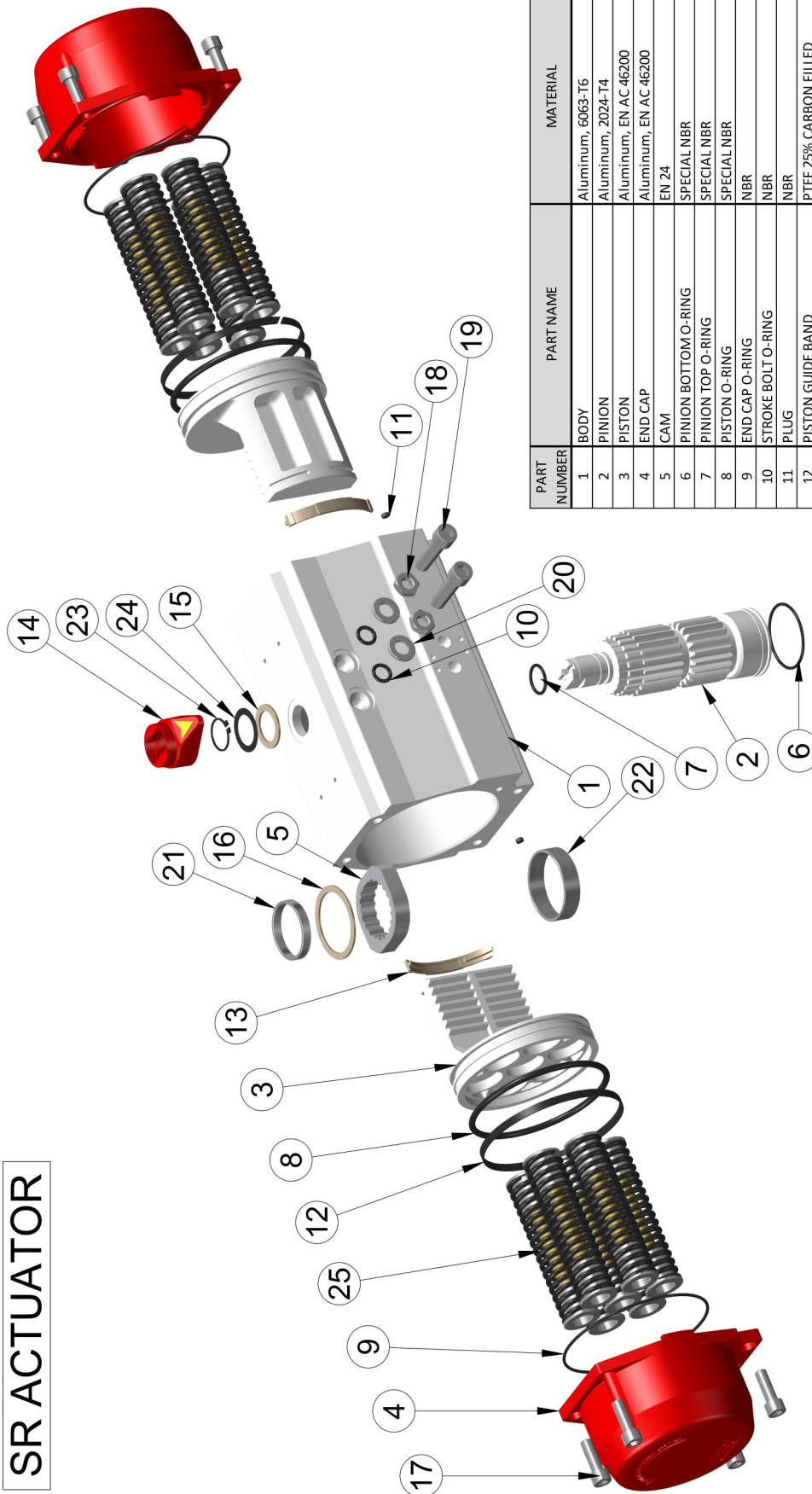
Spring Return Actuator Torque Data (N-m)																	
Size	Spring Code	Air supply pressure(bar)															
		3		4		5		5.5		6		7		8		Spring Stroke	
		PB	PE	PB	PE	PB	PE	PB	PE	PB	PE	PB	PE	PB	PE	SB	SE
40	B	3	1	5	3	7	5	8	6							6	3
	C					6	2	7	3	8	4	10	6			9	5
	D									6	1	8	3	10	5	12	6
52	B	9	5	13	9	17	13	19	15							7	3
	C			11	6	15	9	17	11	19	13	23	17			11	5
	D					14	6	16	8	18	10	21	14	25	18	14	6
	E					12	3	14	5	16	7	20	11	24	15	18	8
	F							13	2	15	3	18	7	22	11	21	9
65	B	17	10	24	17	31	24	35	28							13	6
	C			21	11	29	18	32	22	36	26	43	33			19	8
	D					26	12	30	16	33	20	41	27	48	34	26	11
	E					23	6	27	10	31	14	38	21	45	28	32	14
	F							24	4	28	7	35	15	42	22	38	17
75	B	25	16	36	28	47	39	53	45							19	10
	C			31	19	43	30	48	36	54	41	65	53			28	15
	D					38	21	43	27	49	32	61	44	72	55	38	20
	E					34	13	39	19	45	25	56	36	68	47	46	25
	F							34	9	40	15	51	26	62	37	56	30
85	B	37	23	53	40	70	56	78	65							28	14
	C			46	26	63	43	72	51	80	60	97	76			43	21
	D					56	29	65	38	73	46	90	63	107	79	57	28
	E					50	16	58	24	66	32	83	49	100	66	71	36
	F							51	10	60	19	76	36	93	52	85	43
100	B	59	42	85	69	112	96	125	109							39	22
	C			75	50	101	77	115	90	128	103	154	130			59	33
	D					91	58	104	72	117	85	144	111	170	138	78	44
	E					80	40	94	53	107	66	133	93	160	119	98	55
	F							83	34	96	47	123	74	149	101	117	66
110	B	99	56	142	99	186	142	207	164							78	32
	C			127	62	170	105	192	127	214	148	257	192			117	48
	D					155	68	177	90	198	111	241	154	285	198	156	65
	E					140	31	161	52	183	74	226	117	269	161	195	81
	F							146	15	167	37	211	80	254	123	234	97
125	B	124	78	180	134	237	191	265	219							96	48
	C			157	89	214	145	242	173	270	201	327	258			144	72
	D					191	99	219	128	248	156	304	212	360	269	192	96
	E					168	54	197	82	225	110	281	166	338	223	240	120
	F							174	36	202	64	258	121	315	177	288	144
150	B	288	187	406	306	525	425	585	484							169	69
	C			372	222	491	340	550	400	610	459	728	578			254	103
	D					456	256	516	315	575	375	694	493	813	612	338	137
	E					422	171	481	231	541	290	660	409	778	528	423	172
	F							447	146	507	206	625	324	744	443	507	206
175	B	426	301	602	477	779	654	867	742							228	103
	C			551	363	727	539	815	628	903	716	1080	892			343	155
	D					676	425	764	513	852	602	1028	778	1205	954	457	206
	E					624	311	712	399	800	487	977	664	1153	840	571	258
	F							661	285	749	373	925	550	1101	726	685	310
200	B	647	426	916	695	1185	964	1319	1098							380	159
	C			837	505	1105	774	1240	908	1374	1042	1643	1311			570	238
	D					1026	584	1160	718	1295	852	1563	1121	1832	1390	760	318
	E					946	394	1081	528	1215	662	1484	931	1753	1200	950	397
	F							1001	338	1136	472	1405	741	1673	1010	1140	477

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

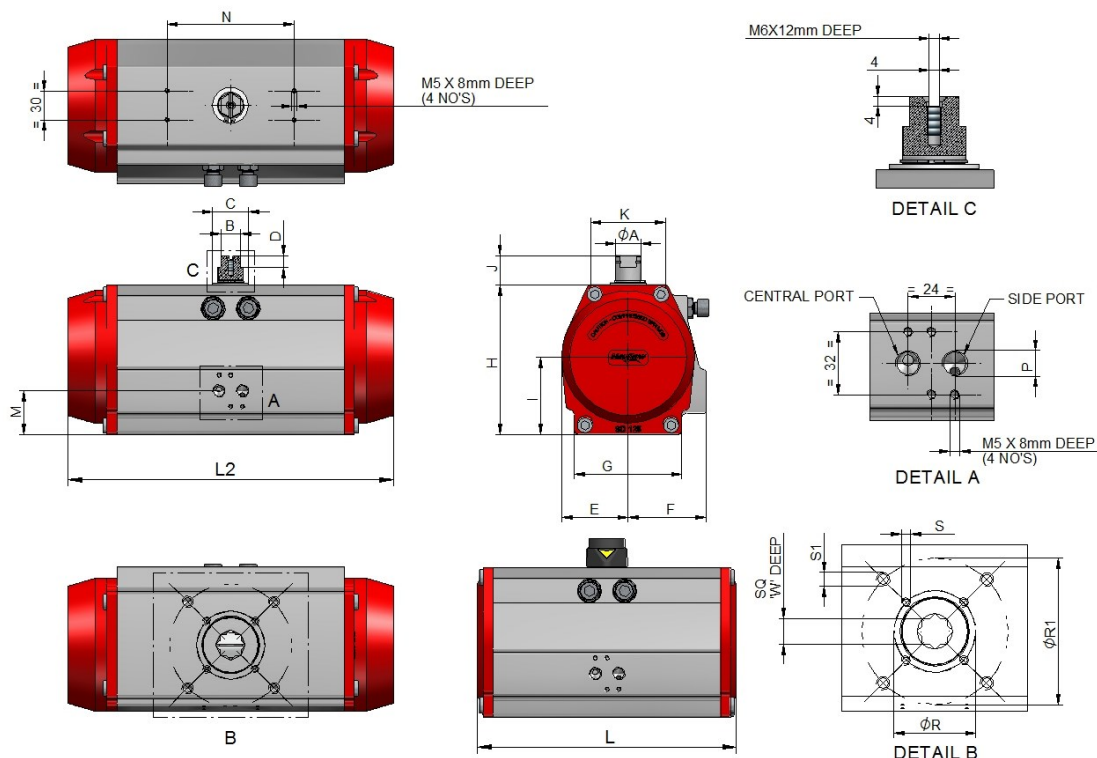
EXPLODED VIEW



PART NUMBER	PART NAME	MATERIAL	QUANTITY
1	BODY	Aluminum, 6063-T6	1
2	PINION	Aluminum, 2024-T4	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 CL	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 CL	2
20	MACHINED WASHER	(SS 304) ASTM A 193 Gr. B8 CL	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 CL	1
25	SPRING CARTRIDGE ASSEMBLY		14

SR ACTUATOR

DIMENSIONAL DATA



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

OPTIONAL ACCESSORIES

- LIMIT SWITCH BOX
- 100% TRAVEL STOPPER
- QUICK EXHAUST VALVE
- SPEED CONTROLLER
- AIR LOCK
- VOLUME BOOSTER
- DE CLUTCHABLE MOR
- VALVE POSITIONER

MODEL NUMBER

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

1 SERIES

M - MAXFLOW ACTUATOR

2 ACTUATOR TYPE

S - SINGLE ACTING
D - DOUBLE ACTING

3 ACTUATOR SIZE

040	110
052	125
065	150
075	175
085	200
100	

4 PINION & SEAL KIT

A - ALUMINIUM / NBR
B - ALUMINIUM / VITON
C - ALUMINIUM / POLYETHYLENE
D - STEEL (EN8) / NBR
E - STEEL (EN8) / VITON
F - STEEL (EN8) / POLYETHYLENE
G - SS 304 / NBR
H - SS 304 / VITON
J - SS 304 / POLYETHYLENE
K - SS 316 / NBR
L - SS 316 / VITON
M - SS 316 / POLYETHYLENE

5 MANUAL OVERRIDE

0 - BASIC
A - MANUAL OVERRIDE

6 ROTATION

0 - 90 (DA - Clock wise)
1 - 90 (DA - Counter Clock wise)
2 - 90 (SR - Clock wise, Fail Safe Close)
3 - 90 (SR - Counter Clock Wise, Fail Safe Open)
4 - External 100% travel stop

7 SPRING SET

A* - 00 — Only for Double Acting
B - 02
C - 03
D - 04
E - 05
F - 06

Only for Single Acting

EXAMPLES

M — **D** — **040** — **A** — **0** — **0** — **A**

Above stands Maxflow Actuator, Double Acting of 40 Size with Aluminium Pinion & NBR Seal Kit, Basic with 90° Clockwise Rotation with Spring Set 00

M — **S** — **040** — **B** — **0** — **0** — **C**

Above stands Maxflow Actuator, Single Acting of 40 Size with Aluminium Pinion & Viton Seal Kit, Basic with 90° Clockwise Rotation with Spring Set 03

Note: i) Above marked with “*” is only for Double Acting Actuator.

ii) For Single Acting Actuator Size 040 available Spring Sets for selection are B, C and D.



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