



**Solutions that turn  
things around for you**



## **SAFEAir Series Pneumatic Actuators**

Rack and Pinion

Scotch Yoke Symmetric and Canted





## » Company Profile



Sanyata Actuation and Fluid Engineering (S.A.F.E.), is an innovative actuation start-up focused on creating an all new and exciting range of actuation products. It is driven by a group of actuator industry veterans with unwavering customer focus and unmatched engineering excellence. End users and valve OEMs will find optimally engineered products that are fit for purpose across a wide range of applications. All products reflect our deeply held passion for design innovation and a commitment to world-class manufacturing.



## » SAFEAir Pneumatic Actuators

The SAFEAir pneumatic range of actuators provide the user with the widest selection of actuators with the shortest heights, superb weight/torque ratios, packaged together with several accessories as standard. Packed with several innovative features, the entire range has been rigorously tested and comes with all the right credentials for your valve application. The lead times for these products are amongst the shortest of any major manufacturer and we are the first to offer a seamless online ordering experience.





## » Key Features

- Focused actuator manufacturer with unwavering focus on serving valve OEMs and end users.
- Widest range of torque selections available, from 5 N-m to 7,800 N-m (44 lb-in to 69,000 lb-in).
- One of the best torque to weight ratios in the market.
- Tailored end caps for double acting applications for reduced air consumption.
- Actuators are field convertible from double acting to single acting and vice versa.
- High visibility indicator and Double End Stops are standard, not a cost adder!
- Zero leak stop bolts achieved by carefully designed seals.
- Hard Anodised housing is a standard for all aluminium body actuators.
- Also available in carbon steel and stainless steel enclosures.



**Reliable** Hard anodized body and Electroless nickel plated steel pinion, which provides high wear and corrosion resistance, thus ensuring consistent performance over an extended operating life.

**Strong** Best in class industry processes are used to manufacture these actuators which result in class leading torque/weight ratios.

**Compact** Designed to provide high torque with minimum space and weight. Spring package, if present, is installed inside the cylinder.

**Safe** Springs can be easily removed/replaced due to the use of cartridges.





## » Technical Specification

### Working Pressures

2 - 10 bar (29 - 145 psig) for Rack and Pinion

2 - 7 bar (29 - 102 psig) for Scotch Yoke

### Working Environment

Standard: -50°C to 70°C (-58°F to 158°F) with NBR Seals

High Temperature: -15°C to 160°C (5°F to 320°F) with Viton Seals

Extended Temperature - 60°C to 200°C (-76°F to 392°F) with Silicone Seals

Food safe version also available

### Endurance Testing

Standard working life is 500,000 cycles according EN15714-3

(certified by TUV Nord)

### Valve Interface

Valve Shaft Interface: ISO 5211

double square, DIN 3337

### Air Supply Ports

VDI/VDE3845 NAMUR,

EN ISO228 G1/8", G1/4", G1/2" based on the actuator size

### Accessories

VDI/VDE3845 NAMUR

### Involute Teeth

Facilitates smooth engagement and operation of rack & pinion

### Machined Steel Rack Insert

Rugged design enabling it to be used even in demanding manual override situations offering better serviceability and precise control for modulating applications with minimal backlash.

### Anti-blowout design

Stem retained with steel circlip

### Lubrication

Lubricated for life

### Extruded body

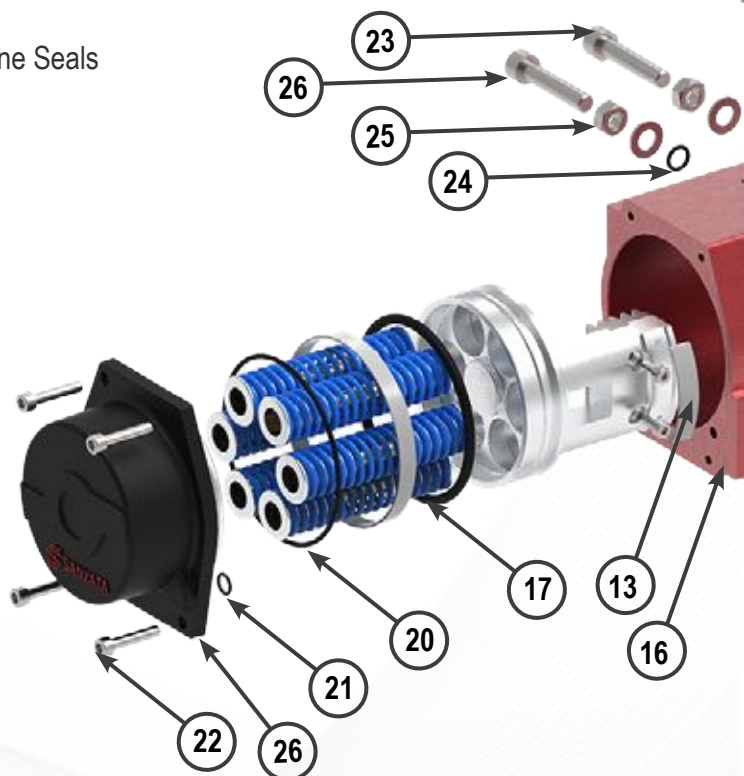
Low weight, better strength and hard anodised finish.

### Springs

Cartridge type, pocketed design for compactness and easy serviceability. Shot peened, oil tempered alloy steel springs with powder coated finish, each spring is enclosed in an aluminium cartridge. These cartridge type springs ensure the best fit for your valve with guaranteed fail-safe action.

### Manual Override

An integral and de-clutchable handwheel is available as an option across all models.



### Approvals and Industry Standards:

Management System in Accordance with ISO 9001:2015

**Valve flange:** ISO 5211/DIN3337

**Solenoid flange:** VDE/VDI 3845 (NAMUR)

**Accessory flange:** VDE/VDI 3845 (NAMUR)

Complies with EN60529 for IP68

**European Directives:** ATEX, PED and CE

### Coating Options:

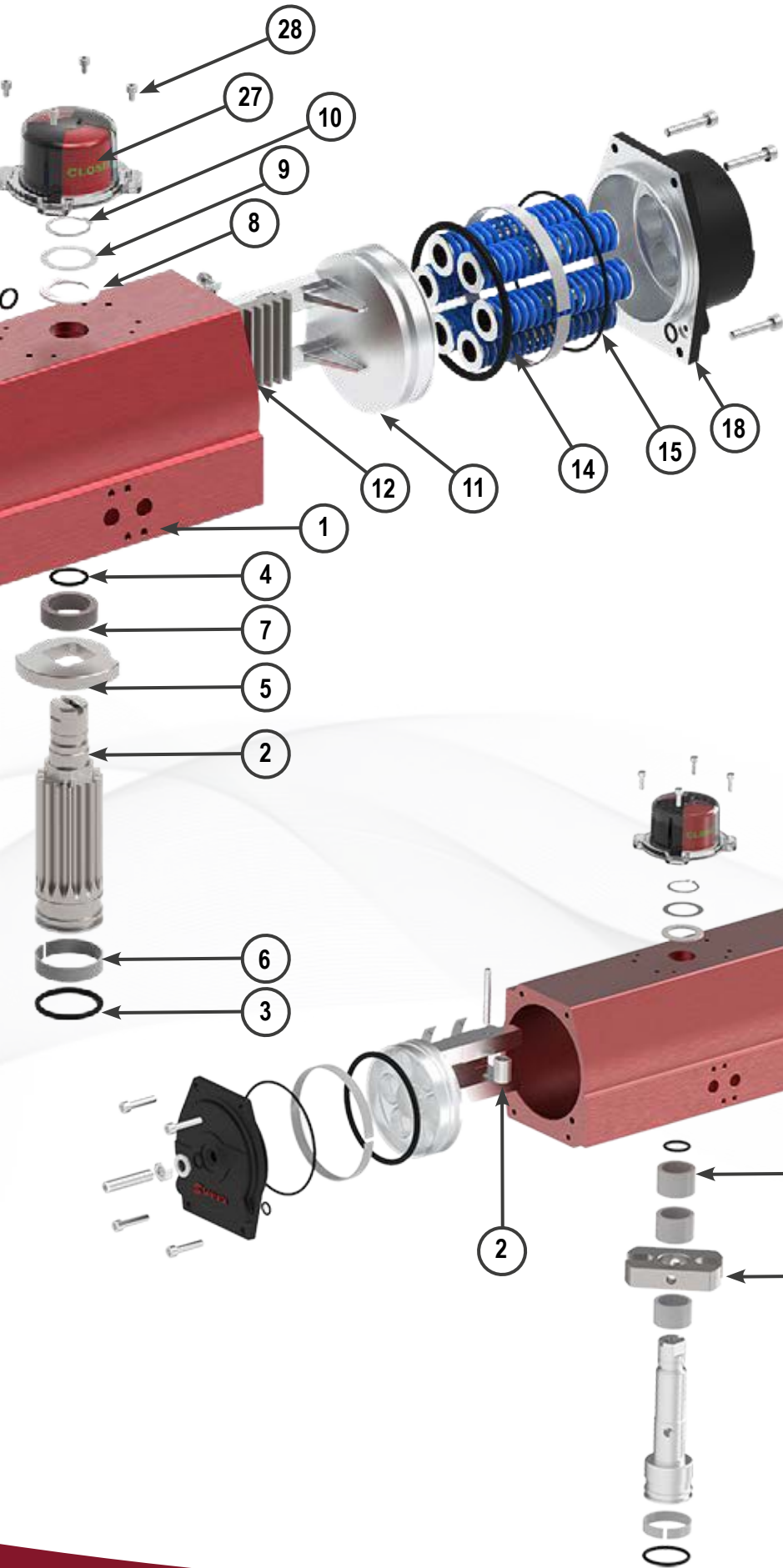
1 Hard Anodised

2 Epoxy coated (200+ Hours Salt Spray Test)

3 Duraflon PTFE coating

4 FDA Compliant Epoxy Polyester Coating





Parts Lists - Rack and Pinion		
ITEM	DESCRIPTION	MATERIAL
1	Housing	Aluminium
2	Pinion	Steel
3	O-Ring	Rubber
4	O-Ring	Rubber
5	Stopper	Steel
6	Wear Ring	DELRIN®/Nylon
7	Bearing Bush	DELRIN®/Nylon
8	Thrust Washer	DELRIN®/Nylon
9	Shim	Stainless Steel
10	Circlip	Stainless Steel
11	Piston	Aluminium
12	Rack	Steel
13	Socket Head Cap Screw	Stainless Steel
14	O-Ring	Rubber
15	Wear Ring	DELRIN®/Nylon
16	Wear Strip	DELRIN®/Nylon
17	Spring Cartridge	Spring Steel
18	End Cover	Aluminium
19	End Cover	Aluminium
20	O-Ring	Rubber
21	O-Ring	Rubber
22	Socket Head Cap Screw	Stainless Steel
23	Socket Head Cap Screw	Stainless Steel
24	O-Ring	Rubber
25	Washer	Stainless Steel
26	Hex Nut	Stainless Steel
27	Indicator	Plastic
28	Hexagon Socket Head Cap Screw	Stainless Steel

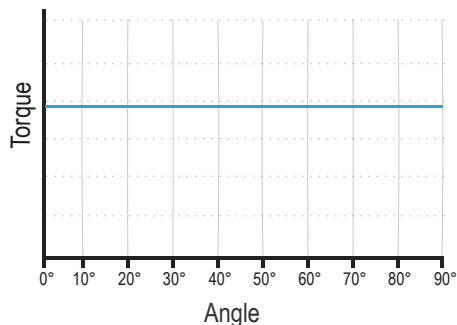
Key Parts - Scotch Yoke		
ITEM	DESCRIPTION	MATERIAL
1	Yoke	Steel
2	Yoke Rollers	Steel
3	Support Rollers	DELRIN®/Nylon



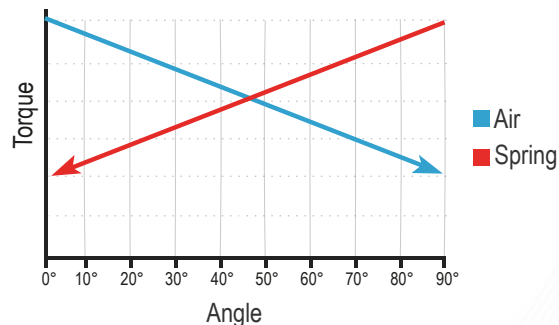


## » Pick the right solution for your application

For applications that demand constant torque across the valve stroke, pick our Rack and Pinion Actuators.

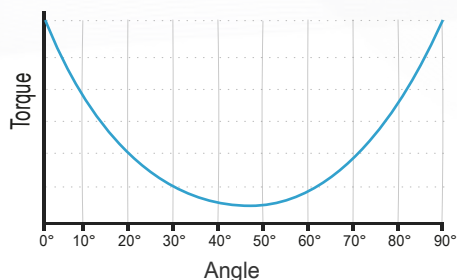


Rack and Pinion Double Acting

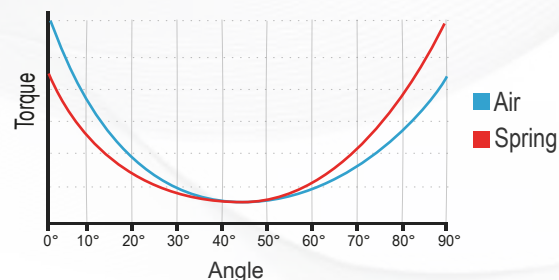


Rack and Pinion Spring Return

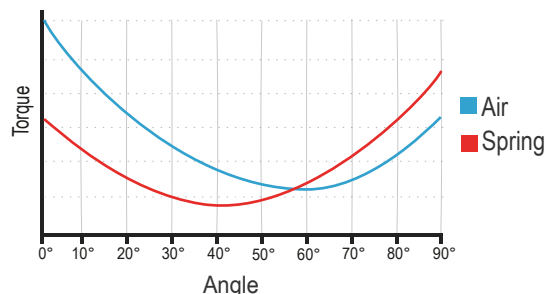
For applications requiring varying torque across the stroke with higher break and end torque, choose our symmetric Scotch yoke actuators. For applications that demand a very high break torque, our Canted Scotch Yoke actuator is a better choice.



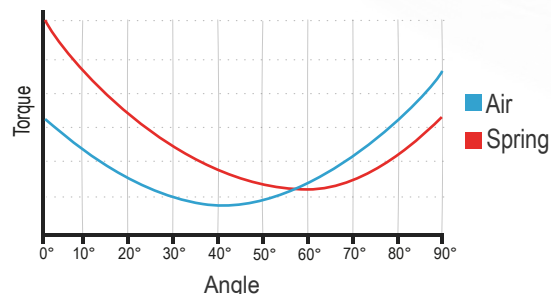
Scotch Yoke Symmetric Double Acting



Scotch Yoke Symmetric Spring Return



Scotch Yoke Canted Spring to Close



Scotch Yoke Canted Spring to Open





## » Air Consumption

Actuator Displacement Volume - 90° Operation				
Model	Litres		Cubic inches	
	Inward Stroke	Outward Stroke	Inward Stroke	Outward Stroke
RP005	0.19	0.13	11	8
RP010	0.19	0.11	11	7
RP020	0.22	0.17	14	10
RP030	0.39	0.25	24	15
RP040	0.49	0.39	30	24
RP050	0.77	0.55	47	34
RP060	0.87	0.71	53	44
RP070	1.03	0.95	63	58
RP080	1.28	1.37	78	83
RP090	1.55	1.78	95	109
RP100	1.89	2.32	116	141
RP110	2.80	3.01	171	184
RP120	3.39	3.95	207	241
RP130	4.19	5.44	255	332
RP140	5.64	6.45	344	394
RP150	7.15	8.45	437	516
RP160	8.47	10.85	517	662
RP170	13.58	11.85	829	723
RP180	15.54	14.67	948	895
RP190	17.44	18.82	1064	1148

## » Torque Data - Double Acting

Double Acting Pneumatic Torque (Nm)														
Model	2 bar	2.5 bar	3 bar	3.5 bar	4 bar	4.5 bar	5 bar	5.5 bar	6 bar	6.5 bar	7 bar	8 bar	9 bar	10 bar
RP005	5	6	7	8	9	10	11	12	13	14	15	18	20	22
RP010	9	11	13	15	17	20	22	24	26	28	30	35	39	43
RP020	13	16	20	23	26	29	33	36	39	42	46	52	59	65
RP030	19	24	29	34	39	43	48	53	58	63	68	77	87	97
RP040	31	39	46	54	62	69	77	85	93	100	108	124	139	154
RP050	42	53	63	74	84	95	106	116	127	137	148	169	190	211
RP060	54	68	81	95	109	122	136	149	163	176	190	217	244	271
RP070	72	90	109	127	145	163	181	199	217	235	253	290	326	362
RP080	92	115	138	161	183	206	229	252	275	298	321	367	413	459
RP090	122	153	183	214	245	275	306	336	367	398	428	489	550	612
RP100	163	204	245	285	326	367	408	449	489	530	571	652	734	816
RP110	208	261	313	365	417	469	521	573	625	677	730	834	938	1042
RP120	278	347	417	486	556	625	695	764	834	903	973	1112	1251	1390
RP130	371	463	556	649	741	834	926	1019	1112	1204	1297	1482	1668	1853
RP140	507	634	760	887	1014	1141	1267	1394	1521	1648	1774	2028	2281	2535
RP150	634	792	951	1109	1267	1426	1584	1743	1901	2060	2218	2535	2852	3169
RP160	760	951	1141	1331	1521	1711	1901	2091	2281	2472	2662	3042	3422	3802
RP170	905	1131	1357	1583	1810	2036	2262	2488	2714	2941	3167	3619	4072	4524
RP180	1131	1414	1696	1979	2262	2545	2827	3110	3393	3676	3958	4524	5089	5655
RP190	1357	1696	2036	2375	2714	3054	3393	3732	4072	4411	4750	5429	6107	6786





# » Torque Data – Single Acting

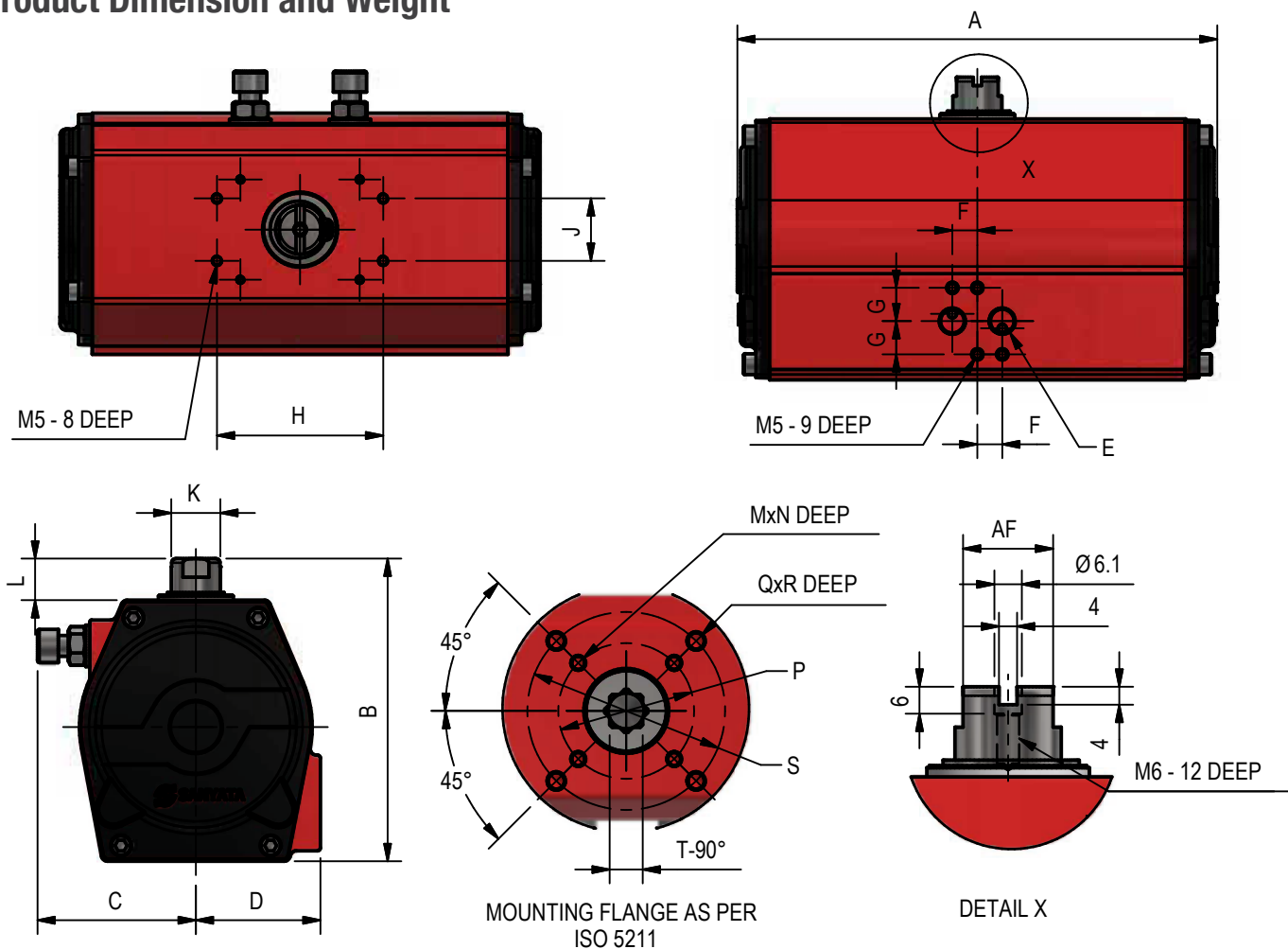
Model	Spring Set	Single Acting Air Torque (Nm)																									
		Spring Torque		2 bar		3 bar		4 bar		4.5 bar		5 bar		5.5 bar		6 bar		6.5 bar		7 bar		8 bar		9 bar		10 bar	
		Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
RP005	1	1.5	1	4	3	6	5	8	7	9	9	10	10	11	11	12	12	13	13	14	14	17	16	19	18	21	20
	2	3	2	3	2	5	4	7	6	8	7	9	8	10	9	11	10	12	11	13	12	16	15	18	17	20	19
	3	4.5	3.5	-	-	3	2	5	4	7	6	8	7	9	8	10	9	11	10	12	11	14	13	16	15	18	17
	4	6	4.5	-	-	2	1	4	3	6	4	7	5	8	6	9	7	10	8	11	9	13	12	15	14	17	16
	5	7.5	5.5	-	-	-	-	3	1	5	3	6	4	7	5	8	6	9	7	10	8	12	10	14	12	16	14
	6	9	6.5	-	-	-	-	-	-	4	1	5	2	6	3	7	4	8	5	9	6	11	9	13	11	15	13
RP010	1	3	2	7	6	11	10	15	14	18	17	20	19	22	21	24	23	26	25	28	27	33	32	37	36	41	40
	2	6	4	5	3	9	7	13	11	16	14	18	16	20	18	22	20	24	22	26	24	31	29	35	33	39	37
	3	9	7	2	0	6	4	10	8	13	11	15	13	17	15	19	17	21	19	23	21	28	26	32	30	36	34
	4	12	9	-	-	4	1	8	5	11	8	13	10	15	12	17	14	19	16	21	18	26	23	30	27	34	31
	5	15	11	-	-	-	-	6	2	9	5	11	7	13	9	15	11	17	13	19	15	24	20	28	24	32	28
	6	18	13	-	-	-	-	-	-	7	2	9	4	11	6	13	8	15	10	17	12	22	17	26	21	30	25
RP020	1	4	3	10	9	17	16	23	22	26	25	30	29	33	32	36	35	39	38	43	42	49	48	56	55	62	61
	2	9	6	7	4	14	11	20	17	23	20	27	24	30	27	33	30	36	33	40	37	46	43	53	50	59	56
	3	13	8	5	0	12	7	18	13	21	16	25	20	28	23	31	26	34	29	38	33	44	39	51	46	57	52
	4	18	11	-	-	9	2	15	8	18	11	22	15	25	18	28	21	31	24	35	28	41	34	48	41	54	47
	5	22	14	-	-	-	-	12	4	15	7	19	11	22	14	25	17	28	20	32	24	38	30	45	37	51	43
	6	27	17	-	-	-	-	-	-	12	2	16	6	19	9	22	12	25	15	29	19	35	25	42	32	48	38
RP030	1	7	5	14	12	24	22	34	32	38	36	43	41	48	46	53	51	58	56	63	61	72	70	82	80	92	90
	2	13	11	8	6	18	16	28	26	32	30	37	35	42	40	47	45	52	50	57	55	66	64	76	74	86	84
	3	20	16	-	-	13	9	23	19	27	23	32	28	37	33	42	38	47	43	52	48	61	57	71	67	81	77
	4	27	21	-	-	8	2	18	12	22	16	27	21	32	26	37	31	42	36	47	41	56	50	66	60	76	70
	5	33	27	-	-	-	-	12	6	16	10	21	15	26	20	31	25	36	30	41	35	50	44	60	54	70	64
	6	40	32	-	-	-	-	-	-	11	3	16	8	21	13	26	18	31	23	36	28	45	37	55	47	65	57
RP040	1	11	7	24	20	39	35	55	51	62	58	70	66	78	74	86	82	93	89	101	97	117	113	132	128	147	143
	2	21	14	17	10	32	25	48	41	55	48	63	56	71	64	79	72	86	79	94	87	110	103	125	118	140	133
	3	32	22	-	-	24	14	40	30	47	37	55	45	63	53	71	61	78	68	86	76	102	92	117	107	132	122
	4	42	29	-	-	17	4	33	20	40	27	48	35	56	43	64	51	71	58	79	66	95	82	110	97	125	112
	5	53	36	-	-	-	-	26	9	33	16	41	24	49	32	57	40	64	47	72	55	88	71	103	86	118	101
	6	64	43	-	-	-	-	-	26	5	34	13	42	21	50	29	57	36	65	44	81	60	96	75	111	90	
RP050	1	14	10	32	28	53	49	74	70	85	81	96	92	106	102	117	113	127	123	138	134	159	155	180	176	201	197
	2	28	19	23	14	44	35	65	56	76	67	87	78	97	88	108	99	118	109	129	120	150	141	171	162	192	183
	3	42	29	13	0	34	21	55	42	66	53	77	64	87	74	98	85	108	95	119	106	140	127	161	148	182	169
	4	56	38	-	-	25	7	46	28	57	39	68	50	78	60	89	71	99	81	110	92	131	113	152	134	173	155
	5	70	48	-	-	-	-	36	14	47	25	58	36	68	46	79	57	89	67	100	78	121	99	142	120	163	141
	6	84	58	-	-	-	-	-	37	11	48	22	58	32	69	43	79	53	90	64	111	85	132	106	153	127	
RP060	1	18	11	43	36	70	63	98	91	111	104	125	118	138	131	152	145	165	158	179	172	206	199	233	226	260	253
	2	36	21	33	18	60	45	88	73	101	86	115	100	128	113	142	127	155	140	169	154	196	181	223	208	250	235
	3	54	32	22	0	49	27	77	55	90	68	104	82	117	95	131	109	144	122	158	136	185	163	212	190	239	217
	4	72	43	-	-	38	9	66	37	79	50	93	64	106	77	120	91	133	104	147	118	174	145	201	172	228	199
	5	90	54	-	-	-	-	55	19	68	32	82	46	95	59	109	73	122	86	136	100	163	127	190	154	217	181
	6	108	64	-	-	-	-	-	58	14	72	28	85	41	99	55	112	68	126	82	153	109	180	136	207	163	
RP070	1	23	15	57	49	94	86	130	122	148	140	166	158	184	176	202	194	220	212	238	230	275	267	311	303	347	339
	2	47	31	41	25	78	62	114	98	132	116	150	134	168	152	186	170	204	188	222	206	259	243	295	279	331	315
	3	70	46	26	2	63	39	99	75	117	93	135	111	153	129	171	147	189	165	207	183	244	220	280	256	316	292
	4	94	61	-	-	48	15	84	51	102	69	120	87	138	105	156	123	174	141	192	159	229	196	265	232	301	268
	5	117	77	-	-	-	-	68	28	86	46	104	64	122	82	140	100	158	118	176	136	213	173	249	209	285	245
	6	141	92	-	-	-	-	53	4	71	22	89	40	107	58	125	76	143	94	161	112	198	149	234	185	270	221
RP080	1	31	24	68	61	114	107	159	152	182	175	205	198	228	221	251	244	274	267	297	290	343	336	389	382	435	428
	2	63	48	44	29	90	75	135	120	158	143	181	166	204	189	227	212	250	235	273	258	319	304	365	350	411	396
	3	94	72	-	-	66	44	111	89	134	112	157	135	180	158	203	181	226	204	249	227	295	273	341	319	387	365
	4	126	96	-	-	42	12	87	57	110	80	133	103	156	126	179	149	202	172	225	195	271	241	317	287	363	333
	5	157	121	-	-	-	-	62	26	85	49	108	72	131	95	154	118	177	141	200	164	246	210	292	256	338	302
	6	189	145	-	-	-	-	-	61	17	84	40	107	63	130	86	153	109	176	132	222	178	268	224	314	270	
RP090	1	42	29	93	80	154	141	216	203	246	233	277	264	307	294	338	325	369	356	399	386	460	447	521	508	583	570
	2	84	58	64	38	125	99	187	161	217	191	248	222	278	252	309	283	340	314	370	344	431	405	492	466	554	528
	3	126	87	-	-	96	57	158	119	188	149	219	180	249	210	280	241	311	272	341	302	402	363	463	424	525	486
	4	168	116	-	-	67	15	129	77	159	107	190	138	220	168	251	199	282	230	312	260	373	321	434	382	496	444
	5	210	145	-	-	-	-	100	35	130	65	161	96	191	126	222	157	253	188	283	218	344	279	405	340	467	402
	6	251	174	-	-	-	-	-	101	24	132	55	162	85	193	116	224	147	254	177	315	238	376	299	438	361	







## » Product Dimension and Weight



MODEL	A		B	C	D	E	F	G	H	J	K	L	AF	M	N	P	Q	R	S	T-90	ISO	Weights (Kg)	
	DA	SR																				DA	SR
RP005	110.5	-	100	47	45	1/8"	12	16	50	25	11	20.1	9	M5	8	36	M6	9	50	11	F03/F05	0.98	-
RP010	139	173.1	100	47	45	1/8"	12	16	50	25	11	20	9	M5	8	36	M6	9	50	11	F03/F05	1.3	1.72
RP020	167	202	100	50	45	1/8"	12	16	80	30	13.7	20	12	M5	8	42	-	-	-	14	F04	1.6	1.9
RP030	158	180	126	68	50.5	1/4"	12	16	80	30	13.7	19.9	12	M6	9	50	M8	12	70	14	F05/F07	2.4	3.8
RP040	199	220	126	70	50.5	1/4"	12	16	80	30	17.7	19.9	15	M8	12	70	-	-	-	17	F05/F07	3.2	4.6
RP050	202	270	146	73	60	1/4"	12	16	80	30	23.6	20	20	M8	12	70	M10	15	102	17	F07/F10	5.6	6.5
RP060	231	299	146	83	60	1/4"	12	16	80	30	23.6	20	20	M8	12	70	M10	15	102	17	F07/F10	6.4	7
RP070	274	342	146	82	60	1/4"	12	16	80	30	23.6	20	20	M8	12	70	M10	15	102	22	F07/F10	7.55	8.1
RP080	255	304	186	105	73	1/4"	12	16	80	30	23.7	20.3	20	M10	15	102	M12	18	125	22	F10/F12	9.3	10.6
RP090	300	359	186	102	73	1/4"	12	16	80	30	29.7	19.2	24	M10	15	102	M12	18	125	27	F10/F12	9.9	13.5
RP100	353	485	186	106	73	1/4"	12	16	80	30	29.7	20	24	M10	15	102	M12	18	125	27	F10/F12	13.7	17.6
RP110	345	423	218	140	88.5	1/4"	12	16	80	30	34.6	19.9	30	M12	18	125	-	-	-	27	F12	19.3	26.1
RP120	399	486	218	142	88.5	1/4"	12	16	80	30	34.6	19.9	28	M16	24	140	-	-	-	36	F14	22.3	30
RP130	484	631	218	152	88.5	1/4"	12	16	80	30	34.6	19.9	30	M16	24	140	-	-	-	36	F14	25.8	32.2
RP140	441	541	270	168	113	1/4"	12	16	80	30	51.6	20	40	M16	24	140	-	-	-	36	F14	33.5	45.1
RP150	498	594	270	170	113	1/4"	12	16	80	30	52	20	40	M16	24	140	-	-	-	36	F14	42.6	55.2
RP160	585	789.5	270	168	113	1/4"	12	16	80	30	51.6	20	40	M20	30	165	-	-	-	46	F16	50.7	57.4
RP170	565	647	353	199.5	145	1/2"	20	22.5	130	30	50	19.9	40	M20	30	165	M16	24	254	55	F16/F25	142.6	165.1
RP180	648	729	353	237	145	1/2"	20	22.5	130	30	50	19.9	36	M20	30	165	M16	24	254	55	F16/F25	157	179.8
RP190	736	904	353	232	145	1/2"	20	22.5	130	30	59.5	19.5	48	M20	30	165	M16	24	254	55	F16/F25	162.6	187.5

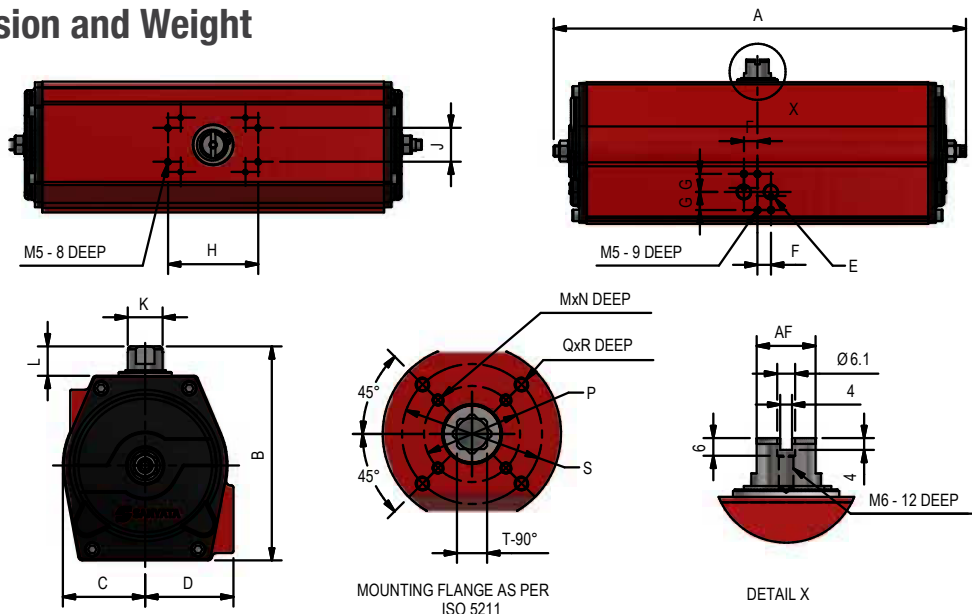




## » Air Consumption

Actuator Displacement Volume - 90° Operation				
Model	Litres		Cubic inches	
	Inward Stroke	Outward Stroke	Inward Stroke	Outward Stroke
SY/SYC020	0.29	0.29	17	18
SY/SYC040	0.76	0.72	47	44
SY/SYC070	1.26	1.42	77	86
SY/SYC100	2.46	3.03	150	185
SY/SYC130	4.69	5.89	286	359
SY/SYC160	9.82	12.68	599	774
SY/SYC190	20.29	25.04	1238	1528

## » Product Dimension and Weight



Model	A		B	C	D	E	F	G	H	J	K	L	AF	M	N	P	Q	R	S	T-90	ISO	Weight (Kg)	
	DA	SR																				DA	SR
SY/SYC020	228	247	100	34	45	1/8"	12	16	80	30	13.7	20	12	M6	9	50	-	-	-	14	F04	1.9	2.3
SY/SYC040	277	320	126	43	50.5	1/4"	12	16	80	30	19.7	19.5	17	M8	12	70	M6	9	50	17	F05/F07	4.2	5.1
SY/SYC070	366	402	146	56	60	1/4"	12	16	80	30	23.7	20	21	M8	12	70	M10	15	102	22	F07/F10	8.1	9.2
SY/SYC100	426	535	187	71	73	1/4"	12	16	80	30	34.7	20	28	M10	15	102	M12	18	125	27	F10/F12	13.9	18
SY/SYC130	510	654	218	88	88.5	1/4"	12	16	80	30	47.5	20	40	M16	24	140	-	-	-	36	F14	25	31
SY/SYC160	526	841	270	111.5	113	1/4"	12	16	80	30	59.6	20	50	M20	30	165	-	-	-	46	F16	48.3	54.6
SY/SYC190	866	1040	353	245	145	1/2"	20	22.5	130	30	59.5	19.5	48	M20	30	165	M16	24	254	55	F16/F25	179.5	195.2

## » Torque Data - Double Acting

Model	Position	Scotch Yoke Symmetric Double Acting Pneumatic Torque (Nm)											Model	Position	Scotch Yoke Canted Double Acting Pneumatic Torque (Nm)										
		2 bar	2.5 bar	3 bar	3.5 bar	4 bar	4.5 bar	5 bar	5.5 bar	6 bar	6.5 bar	7 bar			2 bar	2.5 bar	3 bar	3.5 bar	4 bar	4.5 bar	5 bar	5.5 bar	6 bar	6.5 bar	7 bar
SY020	Start	22	27	32	38	43	49	54	59	65	70	76	SYC020	Start	27	33	40	47	53	60	67	73	80	87	93
	45°	13	17	20	23	26	30	33	36	40	43	46		60°	13	17	20	23	27	30	33	37	40	43	47
	End	23	29	35	41	47	53	58	64	70	76	82		End	20	25	30	35	40	45	50	55	60	66	71
SY040	Start	53	66	79	93	106	119	132	146	159	172	185	SYC040	Start	65	82	98	114	131	147	163	179	196	212	228
	45°	32	41	49	57	65	73	81	89	97	106	114		60°	33	41	49	57	65	73	81	90	98	106	114
	End	57	72	86	100	115	129	143	157	172	186	200		End	49	62	74	87	99	111	124	136	148	161	173
SY070	Start	108	134	161	188	215	242	269	296	323	350	376	SYC070	Start	133	166	199	232	265	298	331	365	398	431	464
	45°	66	82	99	115	132	148	165	181	198	214	231		60°	66	83	99	116	132	149	166	182	199	215	232
	End	116	145	174	204	233	262	291	320	349	378	407		End	100	126	151	176	201	226	251	276	301	326	351
SY100	Start	245	306	367	428	489	550	612	673	734	795	856	SYC100	Start	302	377	452	528	603	679	754	829	905	980	1056
	45°	150	188	225	263	300	338	375	413	450	488	525		60°	151	188	226	264	301	339	377	414	452	490	527
	End	265	331	397	463	529	595	662	728	794	860	926		End	228	286	343	400	457	514	571	628	685	742	800
SY130	Start	455	569	683	797	911	1024	1138	1252	1366	1480	1594	SYC130	Start	561	702	842	982	1123	1263	1403	1544	1684	1824	1965
	45°	279	349	419	489	559	628	698	768	838	908	977		60°	280	350	420	491	561	631	701	771	841	911	981
	End	492	616	739	862	985	1108	1231	1354	1477	1601	1724		End	425	531	638	744	850	957	1063	1169	1275	1382	1488
SY160	Start	991	1239	1486	1734	1982	2229	2477	2725	2972	3220	3468	SYC160	Start	1221	1527	1832	2138	2443	2748	3054	3359	3664	3970	4275
	45°	608	760	912	1063	1215	1367	1519	1671	1823	1975	2127		60°	610	763	915	1068	1220	1373	1525	1678	1830	1983	2135
	End	1072	1340	1608	1875	2143	2411	2679	2947	3215	3483	3751		End	925	1156	1388	1619	1850	2082	2313	2544	2775	3007	3238
SY190	Start	1810	2262	2714	3167	3619	4072	4524	4977	5429	5881	6334	SYC190	Start	2231	2789	3346	3904	4462	5020	5577	6135	6693	7251	7808
	45°	1110	1387	1665	1942	2220	2497	2775	3052	3330	3607	3885		60°	1114	1393	1671	1950	2228	2507	2785	3064	3342	3621	3899
	End	1957	2447	2936	3425	3915	4404	4893	5383	5872	6361	6851		End	1690	2112	2534	2957	3379	3802	4224	4646	5069	5491	5914





## » Torque Data - Single Acting

Model	Operation	Position	Symmetric Yoke Single Acting Torque (Nm)										
			2 bar	2.5 bar	3 bar	3.5 bar	4 bar	4.5 bar	5 bar	5.5 bar	6 bar	6.5 bar	7 bar
SY020	Air	Start	18	22	26	30	34	38	43	47	51	56	60
		45°	9	10	12	14	16	18	19	21	23	26	28
		End	11	13	15	17	19	21	22	24	26	32	34
	Spring	Start	11	15	19	22	26	30	34	37	41	41	45
		45°	5	7	9	10	12	14	16	17	19	19	21
		End	6	8	10	12	14	16	19	21	23	23	25
SY040	Air	Start	39	47	56	65	73	82	90	99	107	121	129
		45°	20	24	28	32	36	40	44	48	52	61	65
		End	29	34	39	44	49	54	59	64	69	83	88
	Spring	Start	26	35	43	52	61	69	78	87	95	95	104
		45°	12	16	20	25	29	33	37	41	45	45	49
		End	15	20	25	30	35	41	46	51	56	56	61
SY070	Air	Start	80	98	115	133	151	168	186	204	221	248	266
		45°	41	50	58	66	74	83	91	99	108	124	132
		End	59	69	79	89	99	110	120	130	140	169	179
	Spring	Start	53	70	88	106	123	141	158	176	193	193	211
		45°	25	33	41	49	58	66	74	82	90	90	99
		End	30	40	50	60	70	80	90	99	109	109	119
SY100	Air	Start	181	221	261	301	341	381	421	461	501	562	602
		45°	92	110	128	146	164	182	201	219	237	274	293
		End	128	149	170	190	211	232	252	273	294	360	380
	Spring	Start	126	168	210	252	294	336	378	421	463	463	505
		45°	58	78	97	116	136	155	175	194	213	213	233
		End	69	92	115	137	160	183	206	229	252	252	275
SY130	Air	Start	338	412	487	561	636	711	785	860	934	1048	1123
		45°	173	208	242	277	311	346	380	415	449	519	554
		End	246	287	328	369	410	451	492	533	574	698	739
	Spring	Start	228	304	379	455	531	607	683	759	835	835	911
		45°	106	141	177	212	247	282	318	353	388	388	424
		End	127	170	212	255	297	339	382	424	467	467	509
SY160	Air	Start	741	906	1070	1234	1399	1563	1728	1892	2057	2305	2469
		45°	392	472	552	632	711	791	871	951	1031	1183	1263
		End	580	684	788	892	996	1100	1204	1308	1412	1680	1784
	Spring	Start	487	649	812	974	1136	1299	1461	1623	1786	1786	1948
		45°	231	309	386	463	540	617	694	771	848	848	926
		End	289	386	482	579	675	772	868	965	1061	1061	1158
SY190	Air	Start	1333	1627	1920	2214	2507	2801	3094	3388	3681	4134	4427
		45°	685	820	956	1092	1228	1363	1499	1635	1771	2048	2184
		End	973	1134	1296	1457	1618	1780	1941	2102	2263	2753	2914
	Spring	Start	910	1213	1517	1820	2123	2426	2730	3033	3336	3336	3640
		45°	425	567	709	850	992	1134	1276	1417	1559	1559	1701
		End	516	687	859	1031	1203	1375	1547	1718	1890	1890	2062





Model	Operation	Position	Canted Yoke Single Acting Torque (Nm) - Spring to Open										
			2 bar	2.5 bar	3 bar	3.5 bar	4 bar	4.5 bar	5 bar	5.5 bar	6 bar	6.5 bar	7 bar
SYC020	Air	90°	14	17	20	23	26	29	32	35	38	43	46
		30°	8	10	11	13	14	16	17	19	20	24	25
		0°	14	16	18	20	23	25	27	29	32	39	41
	Spring	0°	14	18	23	28	32	37	41	46	51	51	55
		60°	5	6	8	9	11	12	14	15	17	17	18
		90°	5	7	9	11	12	14	16	18	20	20	21
SYC040	Air	90°	34	41	48	56	63	70	78	85	93	104	111
		30°	21	25	28	32	36	40	44	48	52	61	65
		0°	36	42	48	54	60	66	72	79	85	102	108
	Spring	0°	32	43	53	64	75	85	96	107	118	118	128
		60°	11	15	18	22	26	29	33	37	40	40	44
		90°	13	17	22	26	31	35	39	44	48	48	52
SYC070	Air	90°	69	84	100	115	130	145	161	176	191	214	230
		30°	42	50	58	66	74	82	90	98	106	124	132
		0°	73	85	98	110	123	135	147	160	172	208	220
	Spring	0°	65	87	108	130	152	173	195	217	239	239	260
		60°	22	29	36	44	51	58	66	73	80	80	88
		90°	26	34	43	52	60	69	77	86	94	94	103
SYC100	Air	90°	156	191	225	260	294	329	363	398	433	485	520
		30°	93	110	127	145	162	179	196	214	231	272	289
		0°	158	183	209	234	260	285	311	336	362	443	469
	Spring	0°	156	207	259	311	363	415	467	518	570	570	622
		60°	51	69	86	103	120	137	154	172	189	189	206
		90°	59	79	99	119	138	158	178	198	217	217	237
SYC130	Air	90°	291	356	420	485	549	613	678	742	807	905	969
		30°	176	209	242	276	309	342	375	409	442	518	551
		0°	304	354	405	455	506	556	607	658	708	860	911
	Spring	0°	281	374	468	561	655	749	842	936	1029	1029	1123
		60°	94	125	157	188	220	251	282	314	345	345	376
		90°	110	147	183	220	256	293	330	366	403	403	440
SYC160	Air	90°	624	761	898	1035	1172	1309	1445	1582	1719	1933	2070
		30°	384	457	530	603	676	748	821	894	967	1133	1205
		0°	672	786	900	1013	1127	1241	1355	1469	1583	1913	2027
	Spring	0°	600	800	1001	1201	1401	1601	1801	2001	2201	2201	2401
		60°	208	277	347	416	485	555	624	693	763	763	832
		90°	250	333	416	500	583	666	749	833	916	916	999
SYC190	Air	90°	1151	1404	1657	1911	2164	2418	2671	2924	3178	3568	3822
		30°	695	826	957	1087	1218	1349	1480	1610	1741	2044	2175
		0°	1200	1399	1597	1796	1995	2194	2393	2592	2790	3394	3592
	Spring	0°	1122	1496	1870	2243	2617	2991	3365	3739	4113	4113	4487
		60°	379	505	631	758	884	1010	1136	1263	1389	1389	1515
		90°	445	593	742	890	1038	1187	1335	1483	1632	1632	1780





Model	Operation	Position	Canted Yoke Single Acting Torque (Nm) - Spring to Close										
			2 bar	2.5 bar	3 bar	3.5 bar	4 bar	4.5 bar	5 bar	5.5 bar	6 bar	6.5 bar	7 bar
SYC020	Air	0°	20	24	28	33	37	41	45	50	54	61	65
		60°	9	10	12	14	16	18	19	21	23	26	28
		90°	10	11	13	14	16	17	19	21	22	27	29
	Spring	90°	10	13	16	19	23	26	29	32	35	35	39
		30°	6	8	11	13	15	17	19	21	23	23	25
		0°	8	10	13	15	18	20	23	25	28	28	30
SYC040	Air	0°	48	59	69	80	90	101	111	122	132	149	159
		60°	22	26	31	35	40	44	48	53	57	66	70
		90°	25	29	34	38	42	46	51	55	59	72	76
	Spring	90°	22	30	37	45	52	60	67	75	82	82	90
		30°	15	20	25	30	35	40	45	49	54	54	59
		0°	19	25	31	37	44	50	56	62	69	69	75
SYC070	Air	0°	99	120	142	164	186	208	229	251	273	306	328
		60°	44	54	63	72	81	91	100	109	118	135	144
		90°	51	60	68	77	86	95	103	112	121	146	154
	Spring	90°	46	61	76	91	106	121	137	152	167	167	182
		30°	30	40	50	60	70	80	90	100	110	110	120
		0°	37	49	61	74	86	98	110	123	135	135	147
SYC100	Air	0°	223	273	322	371	420	470	519	568	618	693	742
		60°	99	120	140	161	181	202	222	243	263	301	321
		90°	111	128	146	164	182	200	218	236	253	310	328
	Spring	90°	109	145	182	218	254	290	327	363	399	399	436
		30°	71	95	118	142	166	189	213	237	260	260	284
		0°	85	113	141	169	198	226	254	282	311	311	339
SYC130	Air	0°	416	508	600	692	784	876	968	1060	1152	1292	1384
		60°	186	225	264	302	341	380	418	457	496	566	605
		90°	213	248	283	319	354	390	425	460	496	602	638
	Spring	90°	197	262	328	393	459	524	590	655	721	721	786
		30°	129	172	215	258	301	344	387	429	472	472	515
		0°	157	209	262	314	366	418	471	523	575	575	628
SYC160	Air	0°	892	1087	1282	1478	1673	1869	2064	2260	2455	2760	2956
		60°	402	485	568	652	735	818	901	984	1068	1220	1303
		90°	470	550	630	710	789	869	949	1028	1108	1339	1419
	Spring	90°	420	561	701	841	981	1121	1261	1401	1541	1541	1682
		30°	279	372	465	558	651	744	837	930	1023	1023	1116
		0°	357	476	595	714	832	951	1070	1189	1308	1308	1427
SYC190	Air	0°	1643	2005	2367	2729	3091	3453	3815	4176	4538	5096	5458
		60°	735	888	1040	1192	1344	1497	1649	1801	1953	2232	2384
		90°	840	979	1119	1258	1397	1536	1675	1815	1954	2376	2515
	Spring	90°	785	1047	1309	1571	1833	2095	2356	2618	2880	2880	3142
		30°	516	688	860	1033	1205	1377	1549	1721	1893	1893	2065
		0°	636	847	1059	1271	1483	1695	1907	2118	2330	2330	2542





## » Naming Scheme

RP 060 FC 4 N A 2 1 S 1 X

### Product Series

RP, SY, SYC

### Size

005, 010, 020, 030, 040, 050, 060, 070, 080, 090,  
100, 110, 120, 130, 140, 150, 160, 170, 180, 190

### Action

DA: Double Acting  
FC: Spring Return, Fail to Close (Clockwise)  
FO: Spring Return, Fail to Open (Counter Clockwise)

### Spring Set

X, 1, 2, 3, 4, 5, 6 (Use X for Double Acting)

### Manual Override

Y: Yes  
N: No

### Material of Construction

A: Aluminium  
C: Carbon Steel  
S: Stainless Steel

### Valve Flange Interface

1: F03    5: F10    9: F25  
2: F04    6: F12  
3: F05    7: F14  
4: F07    8: F16

### Valve Stem Interface

1: Double Square  
2: Bore and Keyway  
3: Double D

### Environment

S: Standard Temp  
E: Extended Temp  
H: High Temp  
F: Food Grade

### Coating

1: Hard Anodised  
2: Epoxy coated (200+ Hours Salt Spray Test)  
3: Duraflon PTFE coating  
4: FDA Compliant Epoxy Polyester coating

### Specials

X-None





## CONTACT US

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