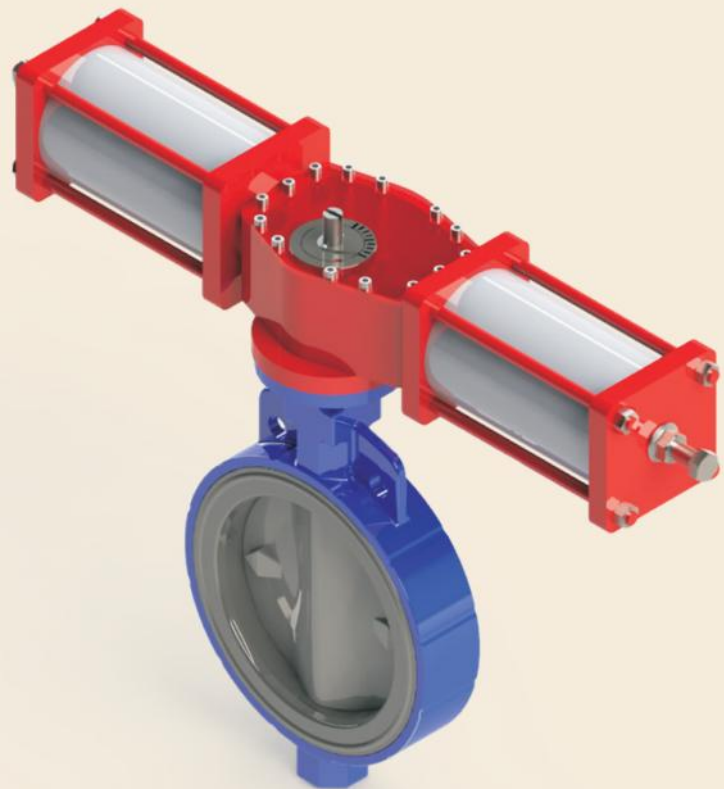


PNEUMATIC ACTUATOR MICRO SERIES SS & CS MODELS



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PNEUMATIC ACTUATOR ICS MICRO SERIES:

INTRODUCTION:

SUSIN I-TORK range MICRO Series pneumatic actuators designed for powerful, high performance application in ON/OFF or controlling for double offset butterfly valve automation.

The cylinder range is MICRO100, MICRO150 and MICRO200.

A suitable solution for quarter turn movement control valves, because of its higher thrust capability, stiffness, precision movement and higher frequency response.

The pneumatic accessories such as limit switch, solenoid valve and positioned can be provided.

MICRO series actuators available in 2 ranges,

a. MICRO SS:

Ductile iron centre body with stainless steel cylinders


b. MICRO CS

Ductile iron centre body with carbon steel cylinders

Both the series designed for modular interchange for spring return and double acting models



FEATURES :

- Operating pressure : 3.7 to 10 bar
 - Operating temperature : -20 to 80°C
 - Modular interchange is possible between double acting and spring return model
 - Centre body, piston and end covers made of ductile iron for durable And long life cycle
 - Output shaft made of alloy steel or stainless steel transmit torque without failure
 - Bushings made of PTFE on output shaft eliminate side loading of valve stem to maximize stem packing performance
 - Piston rod with chrome plating provides strength and corrosion resistance for enduring high cycle applications
 - Heat treated roller and roller pin transfer piston force to stainless steel or ductile iron yoke by rolling to reduce friction for longer life & more efficient torque life & more efficient
 - Guide bushing made of CFT provides low friction and guides piston on the inner cylinder walls from scoring and extend the sealing effect
 - Stopper provided at the cylinder ends adjust the stroke to required level
 - Mountings are with ISO 5211 standards allow the actuator to mount globally anywhere
 - Micro series actuators are rated IP66
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MECHANISM :

Scotch yoke mechanism:

- Micro series actuators operated by scotch yoke mechanism
- The heart of the actuator is yoke, which is made of rugged material like stainless steel or ductile iron, since the stresses at this particular part is high
- Yoke mechanism used to convert linear force to torque
- All linear or rotational moving parts are supported by replaceable PTFE bushings

Bidirectional stopper:

- Stopper bolt provided at both cylinder ends use to adjust the valve rotation accurately at the end of 'open' and 'close' stroke
- The stopper bolt position can be adjusted from 85° to 95°

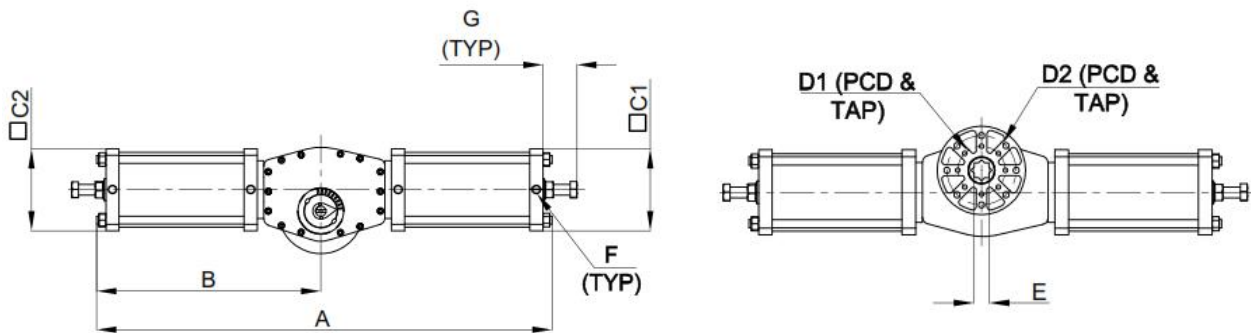
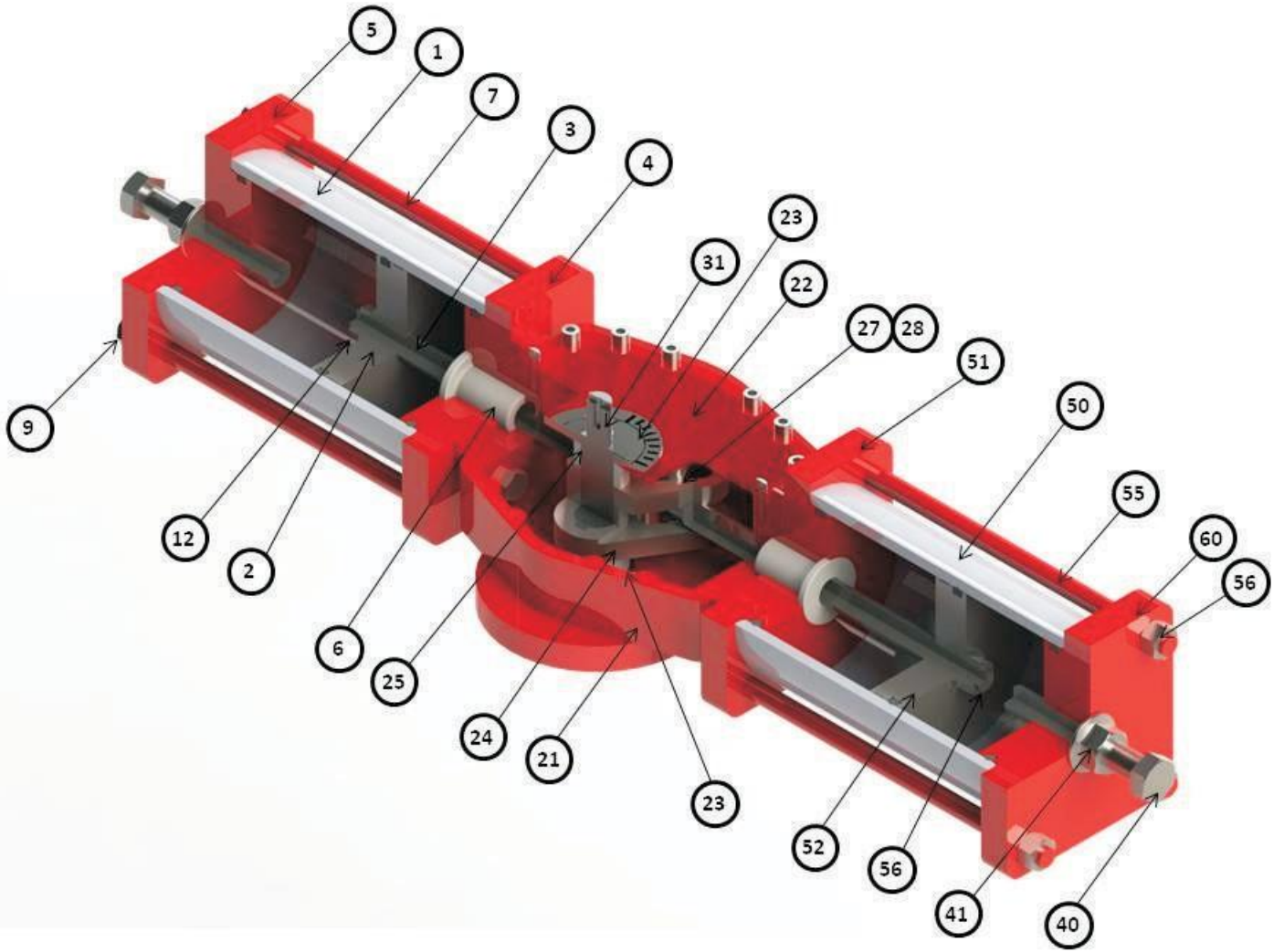
Spring return mechanism:

- The spring return mechanism is used in both 'fail open' or 'fail close' application based on requirement
- Safe loading and unloading of spring by means of tie rod without any special toolings

Symmetry Vs Canted yoke:

- Micro IS series is the symmetrical design yoke that produces maximum torque at both ends of the 90° cycle providing travel stops
- Micro IC series is the canted design yoke that produces maximum torque at either close or open end
- Both series actuators come along with a complete line of controls and monitoring accessories including Manual Handwheel (jackscrew), hydraulic overrides, limit switches, solenoid valves, positioners and other controls accessories.
- Its modular design and construction provides maximized convenience during installation, maintenance and storage.





ICS MICRO SERIES ACTUATORS											
MODEL	A	B	C1	C2	D1		D2		E	F	G
					PCD	TAP	PCD	TAP			
ICS MICRO 01-12	695	342	175	175	70	M8	102	M10	22 X 22	1/4 NPT	52
ICS MICRO 01-15	695	342	175	175	70	M8	102	M10	22 X 22	1/4 NPT	52
ICS MICRO 01-17	695	342	200	200	70	M8	102	M10	22 X 22	1/4 NPT	52

Technical Data:-

Symmetry-Double Acting												
Model	2.8			4.2			5.5			7		
	Start	Run	End	Start	Run	End	Start	Run	End	Start	Run	End
ISD-01-12	280	198	280	420	297	420	550	389	550	701	495	701
ISD-01-15	412	291	412	618	437	618	810	573	810	1,031	729	1,031
ISD-01-17	535	378	535	803	568	803	1,051	743	1,051	1,338	946	1,338

Symmetry-Single Acting													
Model		Spring Torque (Nm)			Air Torque (Nm)								
					4.2			5.5			7		
		Start	Run	End	Start	Run	End	Start	Run	End	Start	Run	End
ISR-01-12	4.2	273	139	169	251	158	147	381	250	277	531	356	427
	5.5	358	182	222	199	115	63	329	207	193	479	313	343
ISR-01-15	4.2	402	205	249	369	232	216	561	368	408	781	524	629
	5.5	526	268	326	292	169	92	483	304	283	704	460	504
ISR-01-17	4.2	522	266	323	479	301	281	728	307	529	1,014	680	816
	5.5	683	348	424	379	219	119	627	224	368	914	597	654

Canted-Double Acting												
Model	2.8			4.2			5.5			7		
	Start	Run	End	Start	Run	End	Start	Run	End	Start	Run	End
ICD-01-12	309	198	266	463	297	399	606	389	523	772	495	665
ICD-01-15	454	291	391	681	437	587	892	573	769	1,135	729	978
ICD-01-17	589	378	508	884	568	762	1,158	743	998	1,474	946	1,270

Canted-Single Acting													
Model		Spring Torque (Nm)			Air Torque (Nm)								
					4.2			5.5			7		
		Start	Run	End	Start	Run	End	Start	Run	End	Start	Run	End
ICR-01-12	4.2	259	132	161	520	165	140	446	257	263	611	363	406
	5.5	340	173	211	252	124	123	396	216	183	561	322	325
ICR-01-15	4.2	382	195	237	445	243	205	655	378	387	899	534	597
	5.5	500	255	310	371	182	182	582	318	269	825	474	479
ICR-01-17	4.2	495	253	307	374	315	267	851	491	502	1,166	693	775
	5.5	649	331	402	279	237	236	756	412	349	1,071	615	621

CYLINDER ASSEMBLY			
S.NO	PART NAME	MATERIAL	QTY
1	CYLINDER	STAINLESS STEEL	1 NO
2	PISTON	DUCTILE IRON / CARBON STEEL	1 NO
3	PISTON ROD	STEEL CHROME PLATED	1 NO
4	CYLINDER FRONT COVER	DUCTILE IRON / CARBON STEEL	1 NO
5	CYLINDER END COVER	DUCTILE IRON / CARBON STEEL	1 NO
6	CYLINDER FRONT COVER BUSHING	PTFE	1 NO
7	TIE ROD	STAINLESS STEEL	4 NOS
8	CYLINDER SIDE LIFTING LUG	CARBON STEEL	1 NO
9	TIE ROD HEX NUT	STEEL	4 NOS
10	TIE ROD PLAIN WASHER	STEEL	4 NOS
11	TIE ROD SPRING WASHER	STEEL	4 NOS
12	PISTON ROD HEX NUT	STEEL	1 NO
13	1/2" NPT PORT NIPPLE & SILENCER	STAINLESS STEEL	4 NOS
14	CYLINDER FRONT & END COVER (FLANGE) O RING	NBR	2 NOS
15	CYLINDER FRONT COVER GROOVING ORING	NBR	1 NO
16	PISTON O RING	NBR	1 NO
17	PISTON ROD GROOVE O RING	NBR	1 NO
18	PISTON ROD CHAMFER O RING	NBR	1 NO
19	CYLINDER FRONT COVER BUSH O RING	NBR	2 NOS
20	BACK-UP RING (SEAL RING)	CFT	1 NO
CENTRE BODY ASSEMBLY			
S.NO	PART NAME	MATERIAL	QTY
21	CENTER BODY	DUCTILE IRON / CARBON STEEL	1 NO
22	CENTER BODY COVER	DUCTILE IRON / CARBON STEEL	1 NO
23	OUTPUT SHAFT	STAINLESS STEEL	1 NO
24	YOKE	STAINLESS STEEL	1 NO
25	UPPER BUSH	PTFE	1 NO
26	LOWER BUSH	PTFE	1 NO
27	SLIDE PIN	STAINLESS STEEL	1 NO
28	SLIDE ROLLER	STAINLESS STEEL	2 NO
29	BUSH PISTON ROD	PTFE	2 NO
30	SNAPE RING	STAINLESS STEEL	1 NO
31	POSITION INDICATOR	STAINLESS STEEL	1 NO
32	POSITION INDICATOR PLATE	STAINLESS STEEL	1 NO
33	POSITION INDICATOR STEM	STAINLESS STEEL	1 NO
34	POINTER TOP	STAINLESS STEEL	1 NO
35	POINTER BOTTOM	STAINLESS STEEL	1 NO
36	CENTRE BODY GASKET	FIBRE GASKET	1 NO
37	CENTER BODY COVER END CAP SCREW	STAINLESS STEEL	16 NOS
38	CENTER BODY COVER PLAIN WASHER	STAINLESS STEEL	16 NOS
39	SLIDE PIN EXTERNAL CIRCLIP	STAINLESS STEEL	2 NOS
40	STOPPER BOLT	STEEL	2 NOS
41	STOPPER BOLT HEX NUT	STEEL	2 NOS
42	POSITION INDICATOR STEM & PLATE ASSY END CAP SCREW	STAINLESS STEEL	2 NOS

CYLINDER BODY ASSEMBLY			
S.NO	PART NAME	MATERIAL	QTY
43	POSITION INDICATOR HOLDING PLATE END CAP SCREW	STAINLESS STEEL	2 NOS
44	POSITION INDICATION HOLDING PLATE PLAIN WASHER	STAINLESS STEEL	2 NOS
45	POINTER END CAP SCREW	STAINLESS STEEL	2 NOS
46	CYLINDER FRONT COVER WITH CENTRE BODY JOINED HEX BOLT	STEEL	4 NOS
47	CYLINDER FRONT COVER WITH CENTRE BODY JOINED SPRING WASHER	STEEL	
48	UPPER ,LOWER BUSH O RING	NBR	2 NOS
49	CENTRE BODY YOKE ASSY O RING	NBR	2 NOS
CYLINDER WITH SPRING ASSEMBLY			
S.NO	PART NAME	MATERIAL	QTY
50	SPRING CASE	STAINLESS STEEL	1 NO
51	SPRING CASE FRONT COVER	DUCTILE IRON / CARBON STEEL	1 NO
52	PISTON	DUCTILE IRON / CARBON STEEL	1 NO
53	BACK-UP RING (SEAL RING)	CFT	1 NO
54	PISTON O RING	NBR	1 NO
55	TIE ROD	STAINLESS STEEL	4 NOS
56	TIE ROD HEX NUT	STEEL	4 NOS
57	TIE ROD PLAIN WASHER	STEEL	4 NOS
58	TIE ROD SPRING WASHER	STEEL	4 NOS
59	SPRING ROD HEX BOLT	STEEL	1 NO
60	SPRING CASE END COVER	DUCTILE IRON / CARBON STEEL	1 NO
61	SPRING CASE SIDE LIFTING LUG	CARBON STEEL	1 NO
62	SPRING CASE FRONT COVER INTERNAL CIRCLIP	STAINLESS STEEL	1 NO
63	SPRING CASE FRONT COVER WITH BODY JOINED HEX BOLT	STEEL	4 NOS
64	SPRING CASE FRONT COVER WITH BODY JOINED SPRING WASHER	STEEL	4 NOS
65	SPRING	SPRING STEEL	1 NO



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