



Standard cylinder——SU Series

Profile type

Product series

Series name	Mounting type							Acting type	Bore size	Collocation of sensor switch					
	Basic	LB	FA	FB	CA	CB	TC			CS1-B	DS1-B	CS1-F	DS1-F	CS1-U	DS1-U
Double acting type: SU															
Double rod type: SUD															
Adjustable stroke type: SUJ															
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Installation and application

- When load changes in the work, the cylinder with abundant output capacity shall be selected.
- Relative cylinder with high temperature resistance or corrosion resistance shall be chosen under the condition of high temperature or corrosion.
- Necessary protection measure shall be taken in the environment with higher humidity, much dust or water drops, oil dust and welding dregs.
- Dirty substances in the pipe must be eliminated before cylinder is connected with pipeline to prevent the entrance of particles into the cylinder.
- The medium used by cylinder shall be filtered to 40 μ m or below.
- Anti-freezing measure shall be adopted under low temperature environment to prevent moisture freezing.
- The cylinder shall be carried out test run without load before application. Prior to run, buffer shall be turned to the minimum and gradually released to avoid the damage on cylinder caused by excessive impact.
- The cylinder shall avoid the influence of side load in operation to maintain the normal work of cylinder and extend the service life.
- If the cylinder is dismantled and stored for a long time, please conduct anti-rust treatment to the surface. Anti-dust caps shall be added in air inlet and outlet ports.

Criteria for selection: Cylinder thrust

Unit: Newton(N)

Bore size (mm)	Rod size (mm)	Acting type	Pressure area (mm ²)	Operating pressure(MPa)								
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
32	12	Double acting Push side	804	80.4	160.8	241.2	321.6	402.0	482.4	562.8	643.2	723.6
		Double acting Pull side	690	69.0	138.0	207.0	276.0	345.0	414.0	483.0	552.0	621.0
40	16	Double acting Push side	1256	125.6	251.2	376.8	502.4	628.0	753.6	879.2	1004.8	1130.4
		Double acting Pull side	1055	105.5	211.0	316.5	422.0	527.5	633.0	738.5	844.0	949.5
50	20	Double acting Push side	1963	196.3	392.6	588.9	785.2	981.5	1177.8	1374.1	1570.4	1766.7
		Double acting Pull side	1649	164.9	329.8	494.7	659.6	824.5	989.4	1154.3	1319.2	1484.1
63	20	Double acting Push side	3117	311.7	623.4	935.1	1246.8	1558.5	1870.2	2181.9	2493.6	2805.3
		Double acting Pull side	2803	280.3	560.6	840.9	1121.2	1401.5	1681.8	1962.1	2242.4	2522.7
80	25	Double acting Push side	5026	502.6	1005.2	1507.8	2010.4	2513.0	3015.6	3518.2	4020.8	4523.4
		Double acting Pull side	4536	453.6	907.2	1360.8	1814.4	2268.0	2721.6	3175.2	3628.8	4082.4
100	25	Double acting Push side	7853	785.3	1570.6	2355.9	3141.2	3926.5	4711.8	5497.1	6282.4	7067.7
		Double acting Pull side	7362	736.2	1472.4	2208.6	2944.8	3681.0	4417.2	5153.4	5889.6	6625.8



Standard cylinder(Profile)

SU Series



Specification

Bore size(mm)		32	40	50	63	80	100
Acting type		Double acting					
Fluid		Air(to be filtered by 40 μ m filter element)					
Mounting type	SU	Basic FA FB CA CB LB TC TCM1					
	SUD, SUJ	Basic FA LB TC TCM1					
Operating pressure		0.1~1.0MPa(15~145psi)(1.0~10.0bar)					
Proof pressure		1.5MPa(215psi)(15bar)					
Temperature °C		-20~80					
Speed range mm/s		30~800					
Stroke tolerance		0~250 ^{+1.0} ₀ 251~1000 ^{+1.4} ₀ 1001~1500 ^{+1.8} ₀					
Cushion type		Variable cushion					
Adjustable cushion stroke mm		21				28	29
Port size ①		1/8"	1/4"	3/8"		1/2"	

① PT thread, NPT thread and G thread are available.

Add) Refer to P397~420 for detail of sensor switch.

Stroke

Bore size (mm)	Standard stroke (mm)																Max. std stroke	Max. stroke					
32	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500		1000	1800				
40	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	600	700	800	1200	1800		
50	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	600	700	800	900	1000	1200	1800
63	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	600	700	800	900	1000	1500	1800
80	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	600	700	800	900	1000	1500	1800
100	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	600	700	800	900	1000	1500	1800

Note) Consult us for non-standard stroke.

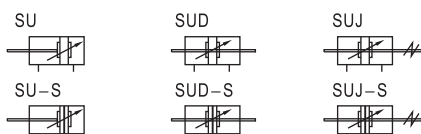
Ordering code

SU	50 × 50	S			
SUD	50 × 50	S			
SUJ	50 × 50-20	S			

Model	Thread type
SU: Double acting type	Blank: PT
SUD: Double rod type	T: NPT
SUJ: Adjustable stroke type	G: G
Bore size	Seals Material
32 40 50 63 80 100	Blank: TPU
Stroke	H: Viton
Refer to stroke table for details	N: NBR
Adjustable stroke	Mounting type ①
10: 10mm	
20: 20mm	
30: 30mm	
40: 40mm	
50: 50mm	
75: 75mm	
100: 100mm	
Magnet	
Blank: Without magnet	
S: With magnet	

① Please refer to page 197~200 for accessory parts.

Symbol



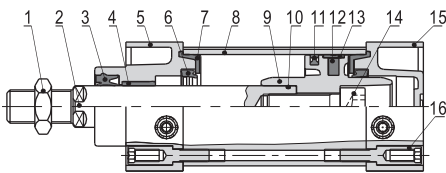
Product feature

1. Standard cylinder manufactured by our enterprise.
2. The seal of piston adopts heterogeneous two way seal structure. It's dimension is tight and it has the function of oil reservation.
3. It is no tie rod cylinder. The cylinder barrel is "Mickey Mouse" shape ,and have good corrosion.
4. Compared with ISO15552 standard cylinder, SU series cylinder with the same bore size is shorter.
5. The buffer adjustment of cylinder is smooth and steady.
6. Mounting accessories are the same as SC series.
7. The seal material with high temperature resistance is adopted to guarantee the normal operation of cylinder at 150℃.

Standard cylinder(Profile)

SU Series

Inner structure and material of major parts

SU		
		
NO.	Item	Material
1	Rod nut	Carbon steel
2	Piston rod	Carbon steel with 20 μ m chrome plated
3	Front cover packing	TPU
4	Bushing	Wear resistant material
5	Front cover	Aluminum alloy
6	Cushion O-ring	NBR
7	Cushion gasket	TPU
8	Barrel	Aluminum alloy
9	Piston	Aluminum alloy
10	Piston rod O-ring	NBR
11	Piston seal	NBR
12	Magnet	Plastic
13	Wear ring	Wear resistant material
14	Bolt	Carbon steel
15	Back cover	Aluminum alloy
16	Tie-rod nut	Carbon steel

Dimensions

SU

Technical drawing of the SU series cylinder. The side view shows dimensions: A+Stroke, AC+Stroke, AB, DA, MA, AD, PA, AE, 2-P, PB, F, ΦM, ΦD, H, 4-sides, and Cushion. The front view shows dimensions: B, KB, F, and 8-K Dp:KA.

Bore size\Item	A	AB	AC	AD	AE	B	D	DA	E	EA	F	FA	H	M	MA
32	140	47	93	27.5	27.5	45	12	32	M10×1.25	22	17	6	10	28	15
40	142	49	93	27.5	27.5	50	16	34	M12×1.25	24	17	7	14	32	15
50	150	57	93	27.5	27.5	62	20	42	M16×1.5	32	23	8	17	38	15
63	153	57	96	27.5	27.5	75	20	42	M16×1.5	32	23	8	17	38	15
80	182	75	107	33	33	94	25	54	M20×1.5	40	26	10	22	47	21
100	188	75	113	33	33	112	25	54	M20×1.5	40	26	10	22	47	21

Bore size\Item	K(Without TC)	K(With TC)	KA(Without TC)	KA(With TC)	KB	P	PA	PB
32	M6×1.0	M5×0.8	9.5	10	33	1/8"	14	5.5
40	M6×1.0	M5×0.8	9.5	9	37	1/4"	15	6
50	M6×1.0	M5×0.8	9.5	9.5	47	1/4"	17	8.5
63	M8×1.25	M6×1.0	9.5	7.5	56	3/8"	15	9.5
80	M10×1.5	M8×1.25	11.5	11	70	3/8"	19.5	10
100	M10×1.5	M8×1.25	11.5	11	84	1/2"	16.5	11

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

SUD

SUJ

Bore size\Item Model	A		AB	AC	DA	DB	E	FA
	SUD	SUJ						
32	187	182	47	93	32	27	M10X1.25	6
40	191	185	49	93	34	28	M12X1.25	7
50	207	194	57	93	42	29	M16X1.5	8
63	210	197	57	96	42	29	M16X1.5	8
80	257	238.5	75	107	54	35.5	M20X1.5	10
100	263	244.5	75	113	54	35.5	M20X1.5	10

Remark :

1. The dimensions of magnet type cylinder are the same as non-magnet type cylinder.
2. The unmarked dimension is the same as SU standard type.

Remark:

1. The dimensions of magnet type cylinder are the same as non-magnet type cylinder.
2. The unmarked dimension is the same as SU standard type.

Standard cylinder(Profile)

Accessories

Ordering code

F-SU 50 TC			
Accessory	Model	Bore size	Accessory type ①
			Mounting accessory TC: TC type

① The listed accessories are for SU cylinder. Accessories that are adaptable to other cylinders are not shown. Please refer to accessory list for selection and ordering information.

Accessory selection

Cylinder model	SU	SUD	SUJ
Accessories	Standard With magnet	Standard With magnet	Standard With magnet
Mounting accessory			
LB	●	●	●
FA	●	●	●
FB	●	×	×
CA	●	×	×
CB	●	×	×
TC	●	●	●
TCM1	●	●	●
Knuckle			
I	●	●	●
Y	●	●	●
U	●	●	●
① F	●	●	●
Sensor switch ②			
CS1-B	×	×	×
DS1-B	×	×	×
CS1-F	×	×	×
DS1-F	×	×	×
CS1-U	×	×	×
DS1-U	×	×	×

① Please refer to P393~396 for knuckle detail.

② Please refer to P397~420 for detail of sensor switch.

Material of accessories

Accessories	Mounting accessories	Knuckle
Bore size	LB FA FB CA CB TC TCM1 I Y F U	
32~100	□ ● ● ◇ ◇ ◇ ◇ □ □ □ □	

● — Aluminum alloy, ◇ — Cast steel, □ — Carbon steel.

List for ordering code of accessories

Accessories	Mounting accessory
Bore size	FA FB CA
32	F-SC32LB F-SC32FA F-SC32CA
40	F-SC40LB F-SC40FA F-SC40CA
50	F-SC50LB F-SC50FA F-SC50CA
63	F-SC63LB F-SC63FA F-SC63CA
80	F-SC80LB F-SC80FA F-SC80CA
100	F-SC100LB F-SC100FA F-SC100CA

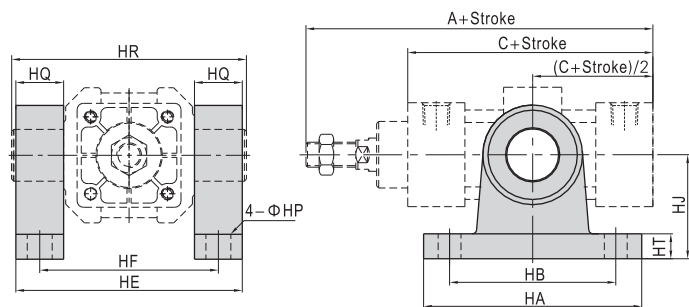
Accessories	Mounting accessory
Bore size	TC TCM1
32	F-SU32TC F-SI32TCM1
40	F-SC40CB F-SU40TC F-SC40TCM1
50	F-SC50CB F-SU50TC F-SC40TCM1
63	F-SC63CB F-SU63TC F-SC40TCM1
80	F-SC80CB F-SU80TC F-SC80TCM1
100	F-SC100CB F-SU100TC F-SC80TCM1

Accessories	Knuckle
Bore size	I: I Knuckle Y: Y Knuckle F: F Knuckle U: U Knuckle
32	F-M10X125I F-M10X125Y F-M10X125F F-M10X125U
40	F-M12X125I F-M12X125Y F-M12X125F F-M12X125U
50	F-M16X150I F-M16X150Y F-M16X150F F-M16X150U
63	F-M16X150I F-M16X150Y F-M16X150F F-M16X150U
80	F-M20X150I F-M20X150Y F-M20X150F F-M20X150U
100	F-M20X150I F-M20X150Y F-M20X150F F-M20X150U

Accessories	Sensor switch
Bore size	CS1-B DS1-B CS1-F DS1-F CS1-U DS1-U
32	CS1-B1 DS1-B1
40	CS1-B1 DS1-B1
50	CS1-B1 DS1-B1
63	CS1-B2 DS1-B2
80	CS1-B3 DS1-B3
100	CS1-B4 DS1-B4

Dimensions

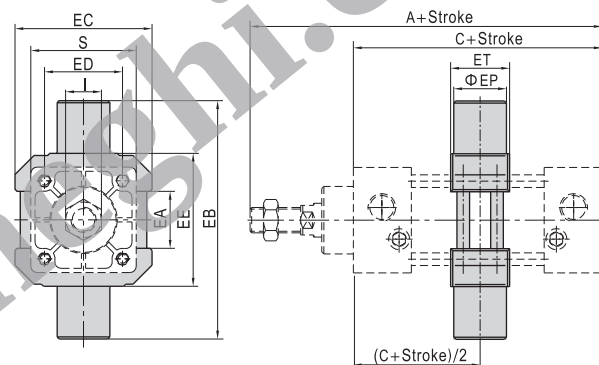
TCM1



Bore size/Item	A	C	HA	HB	HE	HF	HP	HQ	HR	HT	HJ
32	140	93	80	60	72	62	9	12	74	11	40
40	142	93	103	80	109	86	11	23	113	12	50
50	150	93	103	80	122	99	11	23	126	12	50
63	153	96	103	80	134	111	11	23	138	12	50
80	182	107	110	85	160	137	13	23	164	12	70
100	188	113	110	85	178	155	13	23	182	12	70

Note) The installation position of the accessories can not be adjusted arbitrarily.

TC



Bore size/Item	A	C	EA	EB	EC	ED	EE	EP	ET	I	S
32	140	93	20	74	52	33	50	12	22	17	45
40	142	93	27	113	65	37	63	25	28	17	50
50	150	93	31	126	75	47	76	25	28	23	62
63	153	96	42	138	90	56	88	25	30	23	75
80	182	107	54	164	112	70	114	25	32	26	94
100	188	113	68	182	135	84	132	25	38	26	112

Note) The installation position of the accessories can not be adjusted arbitrarily.

The others accessories are the same as SC series's accessories, please refer to P197~200 for details.