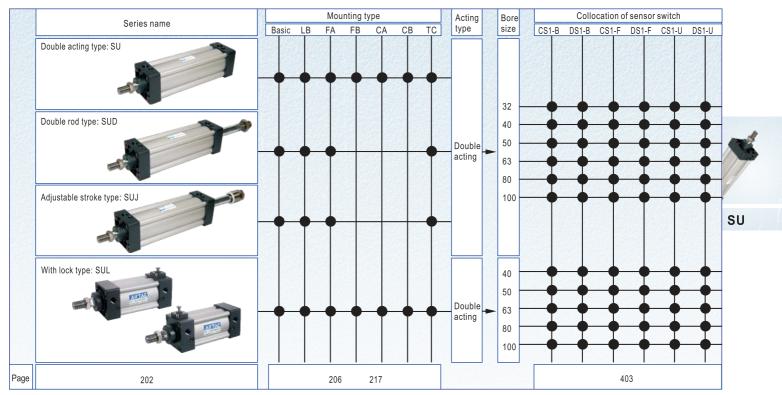


Standard cylinder——SU Series

Profile type

Product series



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.
- 3. Necessary protection measure shall be taken in the environment with higher humidity, much dust or water drops, oil dust and welding dregs.

 4. Dirty substances in the pipe must be eliminated before cylinder is connected with pipeline to prevent the entrance of particles
- 5. The medium used by cylinder shall be filtered to 40 μ m or below.
- 6. Anti-freezing measure shall be adopted under low temperature environment to prevent moisture freezing.
 7. 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.
- 8. The cylinder shall avoid the influence of side load in operation to maintain the normal work of cylinder and extend the service life.
- 9. 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	Rod size	Acting t	vna	Pressure area			0	peratin	g press	ure(MP	a)		
(mm)	(mm)	Acting t	уре	(mm²)	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
20	40	Double	Push side	804	80.4	160.8	241.2	321.6	402.0	482.4	562.8	643.2	723.6
32	12	acting	Pull side	690	69.0	138.0	207.0	276.0	345.0	414.0	483.0	552.0	621.0
40	40	Double	Push side	1256	125.6	251.2	376.8	502.4	628.0	753.6	879.2	1004.8	1130.4
40	16	acting	Pull side	1055	105.5	211.0	316.5	422.0	527.5	633.0	738.5	844.0	949.5
50	00	Double	Push side	1963	196.3	392.6	588.9	785.2	981.5	1177.8	1374.1	1570.4	1766.7
50	20	acting	Pull side	1649	164.9	329.8	494.7	659.6	824.5	989.4	1154.3	1319.2	1484.1
00	00	Double	Push side	3117	311.7	623.4	935.1	1246.8	1558.5	1870.2	2181.9	2493.6	2805.3
63	20	acting	Pull side	2803	280.3	560.6	840.9	1121.2	1401.5	1681.8	1962.1	2242.4	2522.7
00	05	Double	Push side	5026	502.6	1005.2	1507.8	2010.4	2513.0	3015.6	3518.2	4020.8	4523.4
80	25	acting	Pull side	4536	453.6	907.2	1360.8	1814.4	2268.0	2721.6	3175.2	3628.8	4082.4
400	05	Double	Push side	7853	785.3	1570.6	2355.9	3141.2	3926.5	4711.8	5497.1	6282.4	7067.7
100	25	acting	Pull side	7362	736.2	1472.4	2208.6	2944.8	3681.0	4417.2	5153.4	5889.6	6625.8



SII Series





SU

Symbol



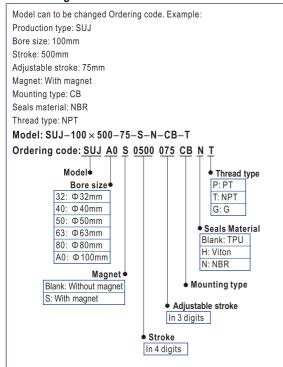




Product feature

- 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.
- $5. \ \ \text{The buffer adjustment of cylinder is smooth and steady}.$
- 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 $^{\circ}$ C.

Ordering code



Specification

Bore size(mr	n)	32	40	50	63	80	100							
Acting type			Double acting											
Fluid		Air(to be filtered by 40 μ m filter element)												
Mounting	SU		Basic	FA FB CA	CB LB TC	TCM1								
type	SUD, SUJ	Basic FA LB TC TCM1												
Operating pro	essure	0.1~1.0MPa(15~145psi)(1.0~10.0bar)												
Proof pressu	re	1.5MPa(215psi)(15bar)												
Temperature	°C	-20~80												
Speed range	mm/s	30~800												
Stroke tolera	nce	$0 \sim 250^{+1.0}_{0.0}$ $251 \sim 1000^{+1.4}_{0.0}$ $1001 \sim 1500^{+1.8}_{0.0}$												
Cushion type	;			Variable	cushion									
Adjustable cu	ushion stroke mm		2	21		28	29							
Port size ①		1/8"	1.	/4"	3/	/8"	1/2"							

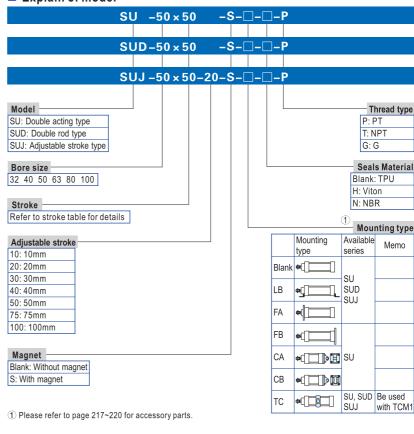
① PT thread, NPT thread and G thread are available. Add) Refer to P403~426 for detail of sensor switch.

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

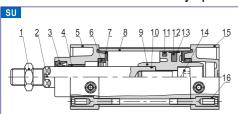
Note) Consult us for non-standard stroke.

Explain of model



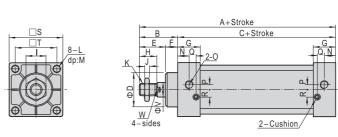
202

Inner structure and material of major parts



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	Cushing 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

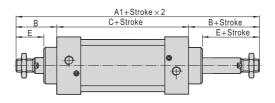
Dimensions



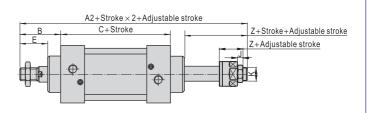
Bore size\Item	Α	В	С	D	Е	F	G	Н	1		K	
32	140	47	93	28	32	15	27.5	22	17	6	M10>	1.25
40	142	49	93	32	34	15	27.5	24	17	7	M12>	1.25
50	150	57	93	38	42	15	27.5	32	23	8	M16>	1.5
63	153	57	96	38	42	15	27.5	32	23	8	M16>	1.5
80	182	75	107	47	54	21	33	40	26	10	M20>	1.5
100	188	75	113	47	54	21	33	40	26	10	M20>	1.5
Bore size\Item	L		M	N	0	Р	Q	R	S	T	٧	W
32	M6×1	.0	9.5	14	1/8"	5.5	6	6.5	45	33	12	10
40	M6×1	.0	9.5	15	1/4"	6	5	8.5	50	37	16	14
50	M6×1	.0	9.5	17	1/4"	8.5	2.5	10	62	47	20	17
63	M8×1	.25	9.5	15	3/8"	9.5	4	8.5	75	56	20	17
80	M10×	1.5	11.5	19.5	3/8"	10	4.5	14	94	70	25	22
100	M10×	1.5	11.5	16.5	1/2"	11	6.5	14	112	84	25	22

 $\label{thm:continuous} Remark: The \ dimensions \ of \ magnet \ type \ cylinder \ are \ the \ same \ as \ non-magnet \ type \ cylinder.$





SUJ



Bore size\Item	A1	A2	В	С	Е	Z	J	K
32	187	182	47	93	32	27	6	M10X1.25
40	191	185	49	93	34	28	7	M12X1.25
50	207	194	57	93	42	29	8	M16X1.5
63	210	197	57	96	42	29	8	M16X1.5
80	257	238.5	75	107	54	35.5	10	M20X1.5
100	263	244.5	75	113	54	35.5	10	M20X1.5

- 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.

SU

Standard cylinder(Profile)



SUL Series(Lockable type)



Symbol







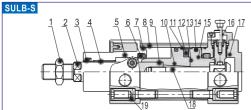




- 1. Lockable cylinders can be divided into two types: front cover lock type and back cover lock type.

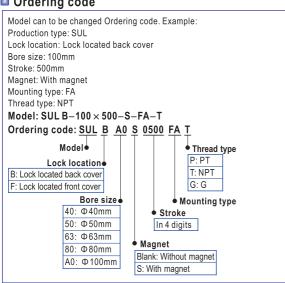
 2. Unlock method: automatic and manual.

SUL Inner structure and material of major parts



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

Ordering code



Specification

Bore size(mm)		40	50	63	80	100					
Acting type			Double acting								
Fluid		Air(to be filtered by 40 μ m filter element)									
Mounting type		Basic FA FB CA CB 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	3	30~800									
Stroke tolerance		$0 \sim 250^{+1.0}_{0}$ $251 \sim 1000^{+1.4}_{0}$ $1001 \sim 1500^{+1.8}_{0}$									
Cushion type		Variable cushion									
Adjustable cushion	No lock end		24	24 32							
stroke (mm)	With lock end	1	3.5	15	1	8					
Port size ①		1	/4"	3.	/8"	1/2"					

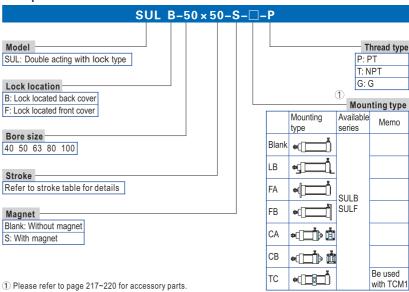
1) PT thread, NPT thread and G thread are available. Add) Refer to P403~426 for detail of sensor switch.

Stroke

Bore size (mm)	Standard stroke (mm)	Max. std stroke	Max. stroke
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.

Explain of model

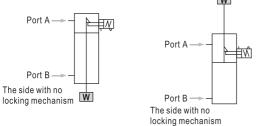




SUL Series(With lock type)

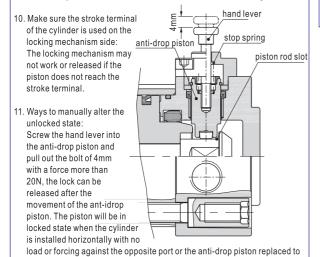
The Operation Manual and Maintenance

In locked state, if pressure is supplied to the port A when both ports are under no force, either the lock's not being released or being released abruptly may cause the flying out of the piston rod. Before the lock being released, please make sure pressure is supplied to the port B and the locking mechanism is released in unloaded state.



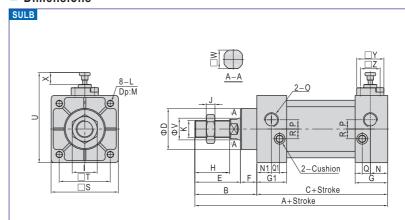
- 2. If a quick exhaust valve is used to accelerate the descending speed, the cylinder body may move earlier than the lock pin, and the lock will not be released normally. Therefore, the lockable cylinder can not be used with a quick exhaust valve.
- 3. Please do not integrate with 3 port solenoid valve:

 Please do not integrate with 3 port solenoid valve (especially with metal mid-sealing style). The lock will not work if there is pressure in the port on the lock mechanism side. In addition, even if the cylinder is locked temporarily, the air leaking out of the solenoid valve will entry the cylinder and the lock mechanism is released.
- 4. The lock may be released if locking mechanism side bears back pressure. Therefore, it is recommended to use an individual exhaust type manifold or individual valves.
- 5. Regarding an adjustable buffered cylinder, the piston may be restrained at the end of the stroke and cause damage to the lock mechanism if the needle of the cushion valve is over used. Therefore, the needle valve should be adjusted so that the piston may not be restrained.
- 6. When manual operation to the lock mechanism is over, make sure the manual operation device is placed to the root position. In addition, it is dangerous to proceed the manual operation beyond adjustment time.
- Release the lock before installation and adjustment of the cylinder:
 Operations like installation under locked state may cause damage of locking
 part.
- 8. Do not use more than one cylinder:
 One workpiece cannot be drove by 2 or more than 2 lockable cylinders because the other locks may not be released.
- 9. Please use speed control valve in exhaust throttle controlling state:
 The lock may not be released in air suction and throttle controlling.



the root position and enter into the piston rod slot with the function of stop

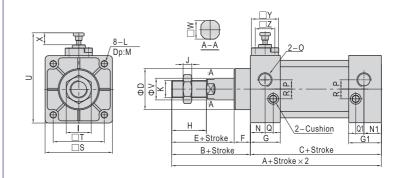
Dimensions





SUL

SULF



Bore size\Item	A	В	С	D	E	F	=	G	G1	Н	I	J	K		L	
40	144.5	49	95.5	32	34	. 1	15	30	27.5	24	17	7	M12	2×1.25	M6×	1.0
50	152.5	57	95.5	38	42	. 1	15	30	27.5	32	23	8	M16	3×1.5	M6×	1.0
63	157	57	100	38	42	. 1	15	31.5	27.5	32	23	8	M16	3×1.5	M8×	1.25
80	188	75	113	47	54	. 2	21	39	33	40	26	10	M20	0×1.5	M10	×1.5
100	194	75	119	47	54	. 2	21	39	33	40	26	10	M20	0×1.5	M10	×1.5
Bore size\Item	М	N	N1	0	Р	Q	Q1	R	S	T	U	V	W	Χ	Υ	Z
40	9.5	16	13.5	1/4"	6	8.2	8.2	9	50	37	71	16	14	10	25	18
50	9.5	16	13.5	1/4"	8.5	7.5	7.5	9	62	47	83	20	17	10	25	18
63	9.5	16.5	13.5	3/8"	7	8.5	7.5	8.5	75	56	96	20	17	8	30	21
80	11.5	19	16.5	3/8"	10	13	9.5	14	94	70	116	25	22	8	33	24
100	11.5	19	16.5	1/2"	11	13	9.5	14	112	84	134	25	22	8	33	24

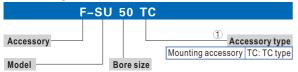
Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

A

spring

Accessories

Ordering code



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

SU

	Cylinder model	SL	J,SUL	5	SUD	5	SUJ
Acc	essories	Standard	With magnet	Standard	With magnet	Standard	With magnet
3	LB	•	•	•	•	•	•
0 L	FA	•	•	•	•	•	•
Mounting	FB	•	•	×	×	×	×
	CA	•	•	×	×	×	×
accessory	СВ	•	•	×	×	×	×
SSO	TC	•	•	•	•	•	•
Š	TCM1	•	•	•	•	•	•
죽	I	•	•	•	•	•	•
Knuckle	Υ	•	•	•	•	•	•
	U	•	•	•	•	•	•
1	F	•	•	•	•	•	•
S	CS1-B	×	•	×	•	×	•
ens	DS1-B	×	•	×	•	×	•
9	CS1-F	×	•	×	•	×	•
₩it	DS1-F	×	•	×	•	×	•
Sensor switch	CS1-U	×	•	×	•	×	•
(2)	DS1-U	×	•	×	•	×	•

- 1 Please refer to P397~402 for knuckle detail,
- 2 Please refer to P403~426 for detail of sensor switch.

■ Material of accessories

Accessories		Mo	ountir	ng ac	Knuckle						
Bore size	LB	FA	FB	CA	СВ	TC	TCM1	1		F	U
32~100		•	•	\Diamond	\Diamond	\Diamond	\Diamond				

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

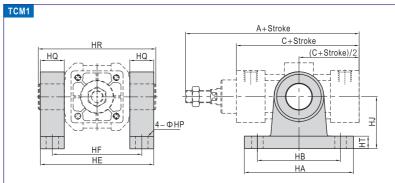
List for ordering code of accessories

Accessories	Mounting accessory							
Bore size	LB	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	ı	F-SC63CA				
80	F-SC80LB	F-SC80FA		F-SC80CA				
100	F-SC100LB	F-SC100FA		F-SC100CA				
	Mounting accessory							
Accessories		Mounting :	accessory	/				
Accessories Bore size	СВ	Mounting : TC	accessory	/ TCM1				
Bore size	СВ	TC		TCM1				
Bore size 32	CB F-SC32CB	TC F-SU32TC		TCM1 F-SI32TCM1				
Bore size 32 40	CB F-SC32CB F-SC40CB	TC F-SU32TC F-SU40TC		TCM1 F-SI32TCM1 F-SC40TCM1				
Bore size 32 40 50	CB F-SC32CB F-SC40CB F-SC50CB	TC F-SU32TC F-SU40TC F-SU50TC		TCM1 F-SI32TCM1 F-SC40TCM1 F-SC40TCM1				

100	1 0010010 1 000010111							
Accessories	Knuckle							
Bore size	I: I Knuckle	Y: Y Knuckle	F: F Knuckle	U: U Knuckle				
32	F-M10125II	F-M10125YI	F-M10125F	F-M10125U				
40	F-M12125II	F-M12125YI	F-M12125F	F-M12125U				
50	F-M16150II	F-M16150YI	F-M16150F	F-M16150U				
63	F-M16150II	F-M16150YI	F-M16150F	F-M16150U				
80	F-M20150II	F-M20150YI	F-M20150F	F-M20150U				
100	F-M20150II	F-M20150YI	F-M20150F	F-M2015011				

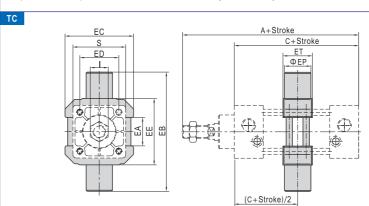
100								
Accessories	Sensor switch							
Bore size	CS1–B□	DS1–B□	CS1-F	DS1-F	CS1-U	DS1-U		
32	CS1-B1	DS1-B1						
	CS1-B1	DS1-B1			CS1-U	DS1-U		
50	CS1-B1	DS1-B1	004 5	DS1-F				
63	CS1-B2	DS1-B2	CS1-F					
80	CS1-B3	DS1-B3						
100	CS1-B4	DS1-B4						

Dimensions



Bore size\Item	Α	С	НА	НВ	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.



Bore size\Item	Α	С	EA	EB	EC	ED	EE	EP	ET]	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

The others accessories are the same as SC series's accessories, please refer to P217~220 for details.

206