

# Standard cylinder——SAU Series

——Profile type

## Compendium of SAU Series

**Standard cylinder manufactured by our enterprise**

Bore size: 32, 40, 50, 63, 80, 100

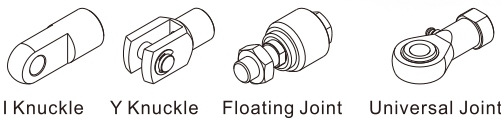
**No tie rod cylinder**

The cylinder barrel is "Mickey Mouse" shape, and have good corrosion.

**Adjustable air buffer**

With adjustable air buffer on the front and back cover

**Four kinds of cylinder joints**



**Convenient and fast fix sensor switch**

Sensor switch can be directly fixed onto the groove of the cylinder, which is convenient and fast.  
the counterpart sensor switch type is: CMSG、DMSG(S)

**Multi-type cylinder**



SAU: Double acting type

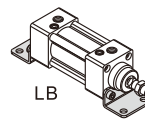


SAUD: Double rod type

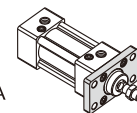


SAUJ: Adjustable stroke type

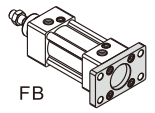
**Multi-mounting accessories**



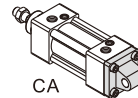
LB



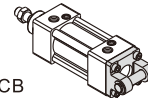
FA



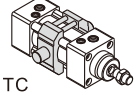
FB



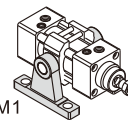
CA



CB



TC



TCM1

## Criteria for selection: Cylinder thrust

Unit □ Newton(N)

Bore size	Rod size	Acting type	Pressure area(mm <sup>2</sup> )	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
		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
		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
		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
		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
		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
		Pull side	7362	736.2	1472.4	2208.6	2944.8	3681.0	4417.2	5153.4	5889.6	6625.8

## Installation and application



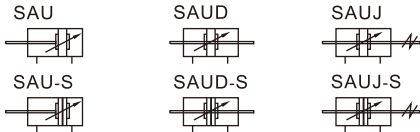
- When load changes in the work, the cylinder with abundant output capacity shall be selected.
- Relative cylinder with high temperature resistance or corrosion resistance shall be chosen under the condition of high temperature or corrosion.
- Necessary protection measure shall be taken in the environment 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 40μm 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.

# Standard cylinder(Profile)

## SAU Series



### Symbol



### Specification

Bore size(mm)	32	40	50	63	80	100
Acting type	Double acting					
Fluid	Air(to be filtered by 40μm filter element)					
Mounting type	SAU	Basic FA FB CA CB LB TC TCM1				
	SAUD SAUJ	Basic FA LB TC TCM1				
Operating pressure	0.15~1.0MPa(22~145psi)(1.5~10.0bar)					
Proof pressure	1.5MPa(215psi)(15bar)					
Temperature	-20~70					
Speed range mm/s	30~800					
Stroke tolerance	0~250 <sup>+1.0</sup> <sub>0</sub>		251~1000 <sup>+1.5</sup> <sub>0</sub>		1001~1500 <sup>+2.0</sup> <sub>0</sub>	
Cushion type	Variable cushion					
Adjustable cushion stroke	21			28		29
Port size [Note1]	1/8"	1/4"	3/8"		1/2"	

[Note1] PT thread, G thread and NPT thread are available.  
Add) Refer to P337 for detail of sensor switch.

### Product feature

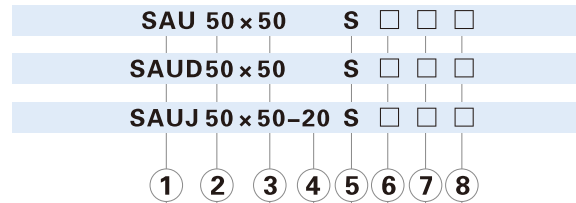
- Standard cylinder manufactured by our enterprise.
- The seal of piston adopts heterogeneous two way seal structure. It's dimension is tight and it has the function of oil reservation.
- It is no tie rod cylinder. The cylinder barrel is "Mickey Mouse" shape, and have good corrosion.
- Compared with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

### 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 80 100 125 150 160 175 200 250 300 350 400 450 500 600 700 800 900 1000	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



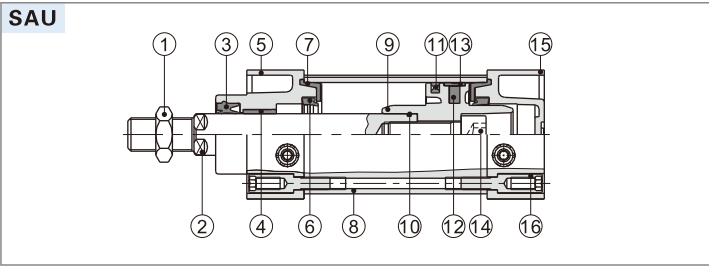
Model	Bore size	Stroke	Adjustable stroke	Magnet	Mounting type[Note1]	Seals Material	Thread type
SAU: Double acting type	32 40 50 63 80 100	Refer to stroke table for details	No this code	Blank: Without magnet S: With magnet	Blank	Blank: TPU H: Viton N: NBR	Blank: PT G: G T: NPT
SAUD: Double rod type	LB						
	FA						
					FB		
					CA		
					CB		
					TC		
					Blank		
					LB		
					FA		
					TC		

[Note1] The accessories are the same as SC series, please refer to page 48~51 for details. TC is used with TCM1.

# Standard cylinder(Profile)

## SAU Series

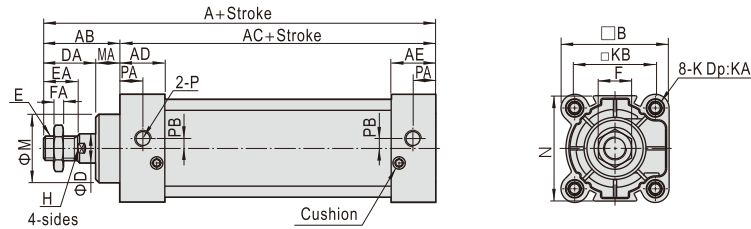
### Inner structure and material of major parts



Item	Material	
1	Rod nut	Carbon steel
2	Piston rod	Carbon steel with 20μm 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

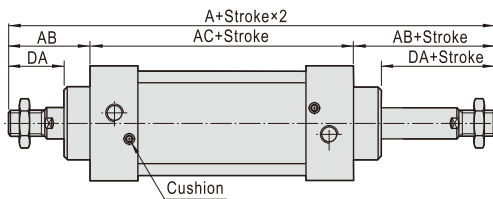
#### SAU



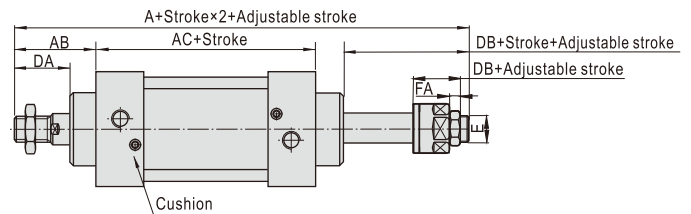
Bore size\Item	A	AB	AC	AD	AE	B	D	DA	E	EA	F	FA	M	MA	H	K	KA	KB	P	PA	PB
32	140	47	93	27.5	27.5	45	12	32	M10×1.25	22	17	6	28	15	10	M6×1.0	16	33	1/8"	14	5.5
40	142	49	93	27.5	27.5	50	16	34	M12×1.25	24	17	7	32	15	14	M6×1.0	16	37	1/4"	15	6
50	150	57	93	27.5	27.5	62	20	42	M16×1.5	32	23	8	38	15	17	M6×1.0	16	47	1/4"	17	8.5
63	153	57	96	27.5	27.5	75	20	42	M16×1.5	32	23	8	38	15	17	M8×1.25	16	56	3/8"	15	9.5
80	182	75	107	33	33	94	25	54	M20×1.5	40	26	10	47	21	22	M10×1.5	18	70	3/8"	19.5	10
100	188	75	113	33	33	112	25	54	M20×1.5	40	26	10	47	21	22	M10×1.5	18	84	1/2"	16.5	11

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

#### SAUD



#### SAUJ



Bore size\Item	A(SAUD)	A(SAUJ)	AB	AC	DA	DB	E	FA
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:

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

# Standard cylinder(Profile)

## SAU Series—Accessories

### List for ordering code of accessories

Accessories Bore size	Mounting accessories					
	LB	FA/FA	CA	CB	TC	TCM1
32	F-SC32LB	F-SC32FA	F-SC32CA	F-SC32CB	F-SAU32TC	F-SI32TCM1
40	F-SC40LB	F-SC40FA	F-SC40CA	F-SC40CB	F-SAU40TC	F-SC40TCM1
50	F-SC50LB	F-SC50FA	F-SC50CA	F-SC50CB	F-SAU50TC	F-SC40TCM1
63	F-SC63LB	F-SC63FA	F-SC63CA	F-SC63CB	F-SAU63TC	F-SC40TCM1
80	F-SC80LB	F-SC80FA	F-SC80CA	F-SC80CB	F-SAU80TC	F-SC80TCM1
100	F-SC100LB	F-SC100FA	F-SC100CA	F-SC100CB	F-SAU100TC	F-SC80TCM1

Accessories Bore size	Knuckle				Sensor switch	
	I: I Knuckle	Y: Y Knuckle	F: F Knuckle	U: U Knuckle	CMSG	DMSG(S)
32	F-M10X125I	F-M10X125Y	F-M10X125F	F-M10X125U	CMSG	DMSG(S)
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		

### Accessory selection

Accessories Cylinder model	Mounting accessories							Knuckle [Note1]				Sensor switch	
	LB	FA	FB	CA	CB	TC	TCM1	I	Y	U	F	CMSG	DMSG(S)
SAU	Standard	●	●	●	●	●	●	●	●	●	●	×	×
	With magnet	●	●	●	●	●	●	●	●	●	●	●	●
SAUD	Standard	●	●	×	×	×	●	●	●	●	●	×	×
	With magnet	●	●	×	×	×	●	●	●	●	●	●	●
SAUJ	Standard	●	●	×	×	×	●	●	●	●	●	×	×
	With magnet	●	●	×	×	×	●	●	●	●	●	●	●

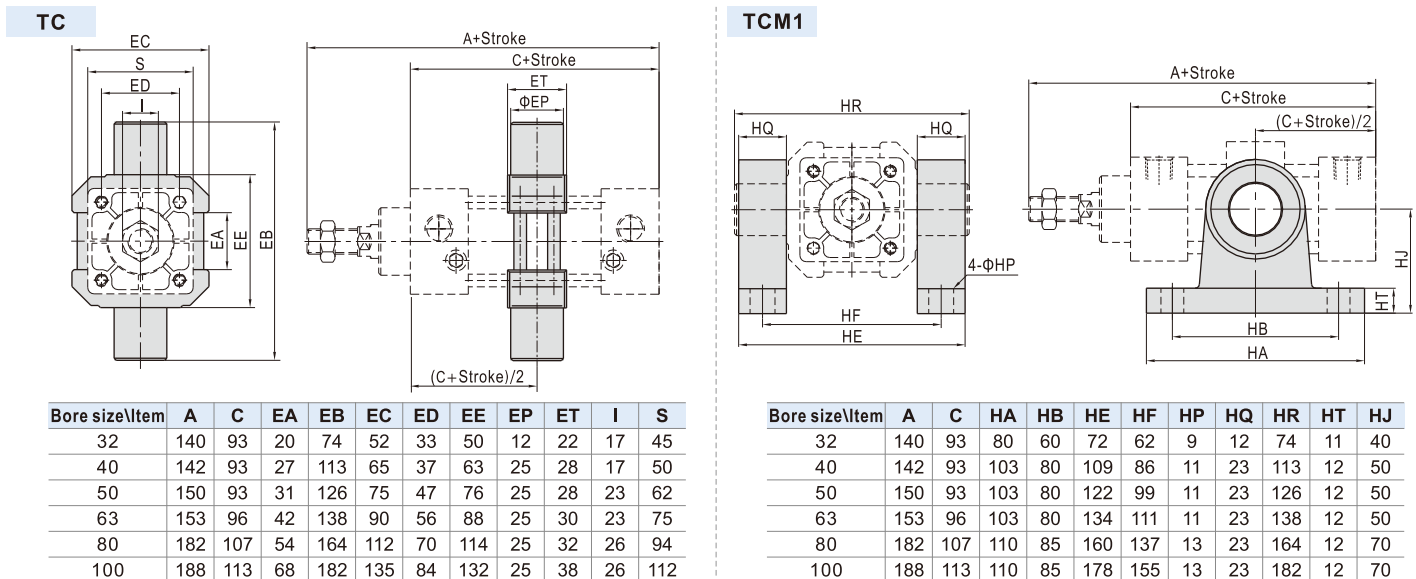
[Note1] Please refer to P333-336 for knuckle detail.

### Material of accessories

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

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

### Dimensions



[Note] The TC accessory has been installed on the barrel of cylinder before it worked off, and the position of the accessories can not be adjusted arbitrarily. If consumer orders the TC solely, he will not install it on the barrel of standard cylinder directly. The others accessories are the same as SC series's accessories, please refer to P48~51 for details.