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.

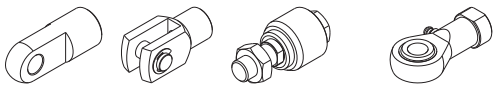
Adjustable air buffer

With adjustable air buffer on the front and back cover

Convenient and fast fix sensor switch

Sensor switch can be directly fixed onto the groover of the cylinder, which is convenient and fast.
the counterpart sensor switch type is: CS1－G、DS1－G

Four kinds of cylinder joints



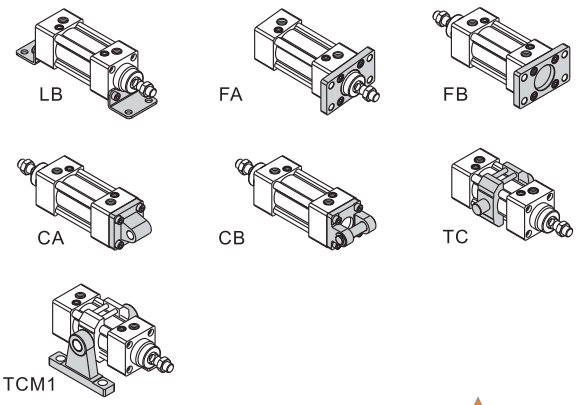
I Knuckle　Y Knuckle　Floating Joint　Universal Joint

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^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
			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

TRIMANTEC
Click to shop online @ www.trimantec.com or call 336-767-1379

Installation and application

1. When load changes in the work, the cylinder with abundant output capacity shall be selected.
2. Relative cylinder with high temperature resistance or corrosion resistance shall be chosen under the condition of high temperature or corrosion.
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 into the cylinder.
5. The medium used by cylinder shall be filtered to 40 μm 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.

Standard cylinder(Profile)

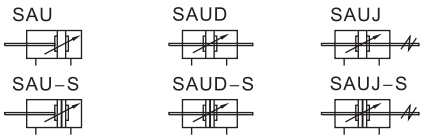
SAU Series

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	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 $^{+1.0}_{0}$	251~1000 $^{+1.5}_{0}$		1001~1500 $^{+2.0}_{0}$		
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 P313 for detail of sensor switch.

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℃.

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

SAU 50×50 S □ □ □
SAUD50×50 S □ □ □
SAUJ 50×50-20 S □ □ □

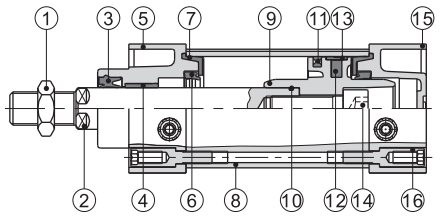
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Model	② Bore size	③ Stroke	④ Adjustable stroke	⑤ Magnet	⑥ Mounting type[Note1]	⑦ Seals Material	⑧ 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 LB FA FB CA CB TC	Blank: TPU H: Viton N: NBR	Blank: PT G: G T: NPT
SAUD: Double rod type					Blank LB		
SAUJ: Adjustable stroke type			10 20 30 40 50 75 100		FA TC		

[Note1] The accessories are the same as SC series, please refer to page 51~54 for details; TC is used with TCM1.

Inner structure and material of major parts

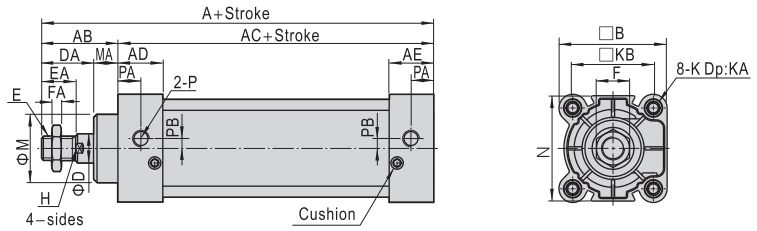
SAU



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

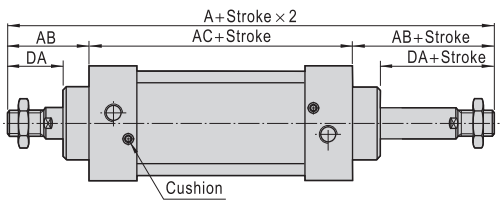
SAU



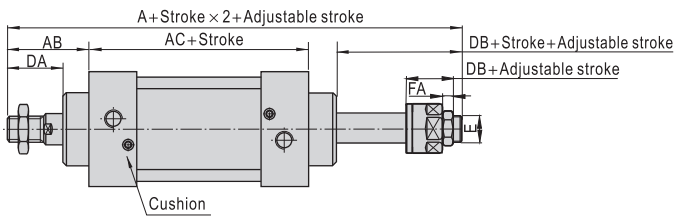
Bore size\Item	A	AB	AC	AD	AE	B	D	DA	E	EA	F	FA	M	MA	H	K(Without TC)	K(With TC)	KA(Without TC)	KA(With TC)	KB	P	PA	PB
32	140	47	93	27.5	27.5	45	12	32	M10×1.25	22	17	6	28	15	10	M6×1.0	M5×0.8	9.5	10	33	1/8"	14	5.5
40	142	49	93	27.5	27.5	50	16	34	M12×1.25	24	17	7	32	15	14	M6×1.0	M5×0.8	9.5	9	37	1/4"	15	6
50	150	57	93	27.5	27.5	62	20	42	M16×1.5	32	23	8	38	15	17	M6×1.0	M5×0.8	9.5	9.5	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	M6×1.0	9.5	7.5	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	M8×1.25	11.5	11	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	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.

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

List for ordering code of accessories

Accessories / Bore size	Mounting accessories					
	LB	FA\FB	CA	CB	TC	TCM1
32	F-SC32LB	F-SC32FA	F-SC32CA	F-SC32CB	F-SU32TC	F-SI32TCM1
40	F-SC40LB	F-SC40FA	F-SC40CA	F-SC40CB	F-SU40TC	F-SC40TCM1
50	F-SC50LB	F-SC50FA	F-SC50CA	F-SC50CB	F-SU50TC	F-SC40TCM1
63	F-SC63LB	F-SC63FA	F-SC63CA	F-SC63CB	F-SU63TC	F-SC40TCM1
80	F-SC80LB	F-SC80FA	F-SC80CA	F-SC80CB	F-SU80TC	F-SC80TCM1
100	F-SC100LB	F-SC100FA	F-SC100CA	F-SC100CB	F-SU100TC	F-SC80TCM1

Accessories / Bore size	Knuckle				Sensor switch	
	I：I Knuckle	Y：Y Knuckle	F：F Knuckle	U：U Knuckle	CS1-G	DS1-G
32	F-M10X125I	F-M10X125Y	F-M10X125F	F-M10X125U	CS1-G	DS1-G
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	CS1-G	DS1-G
SAU	Standard	●	●	●	●	●	●	●	●	●	●	●	×	×
	With magnet	●	●	●	●	●	●	●	●	●	●	●	●	●
SAUD	Standard	●	●	×	×	×	●	●	●	●	●	●	×	×
	With magnet	●	●	×	×	×	●	●	●	●	●	●	●	●
SAUJ	Standard	●	●	×	×	×	●	●	●	●	●	●	×	×
	With magnet	●	●	×	×	×	●	●	●	●	●	●	●	●

[Note1] Please refer to P302~305for knuckle detail.

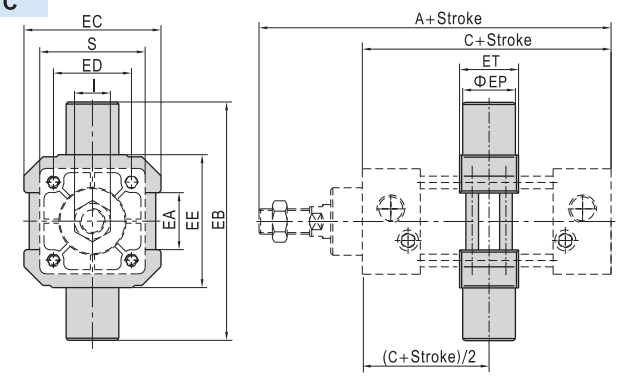
Material of accessories

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

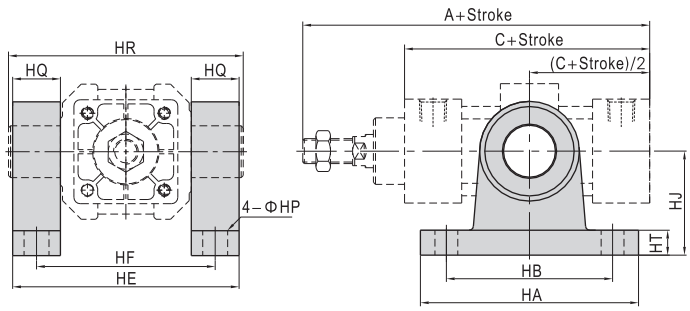
Dimensions

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

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 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 P51~54 for details.