Installation and application

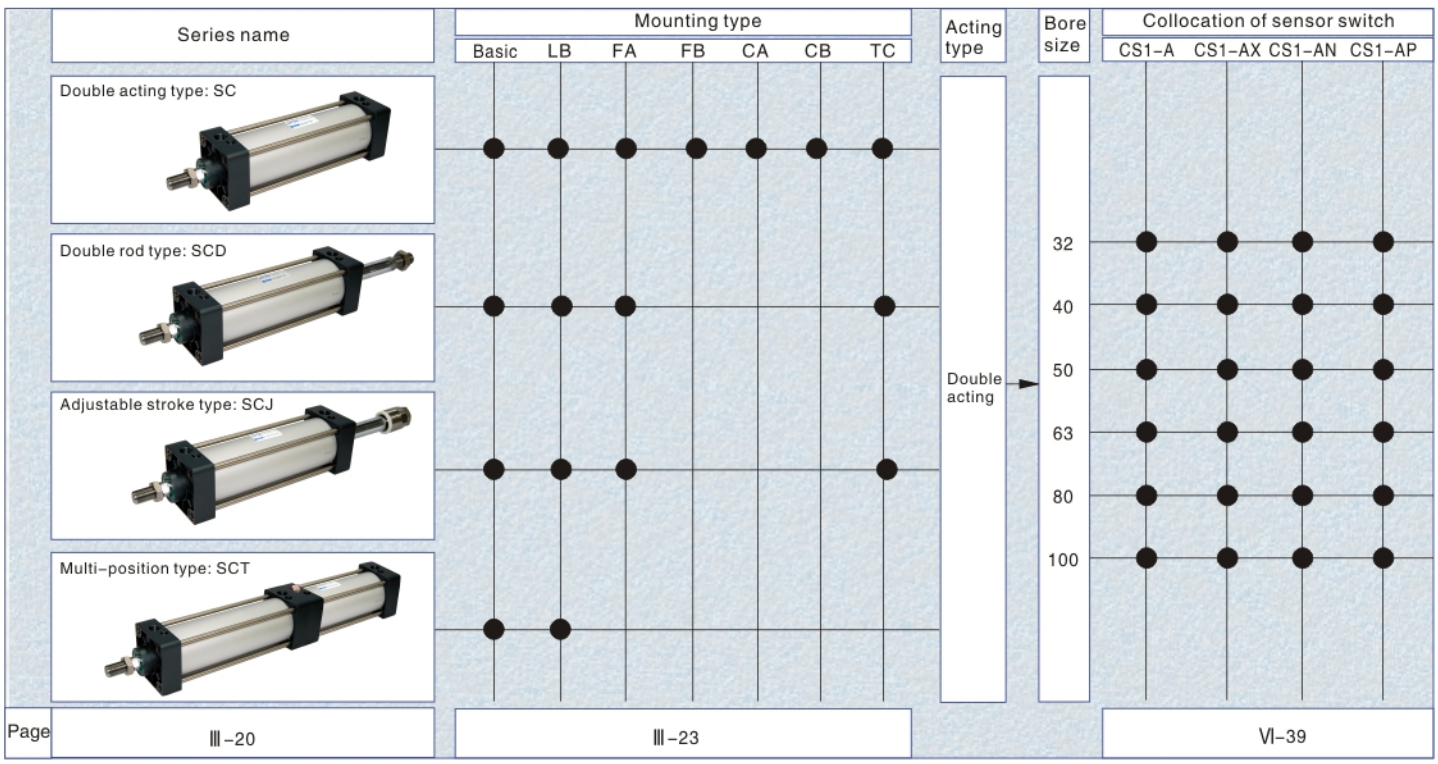
1、When load changes in the work, the cylinder with abundant output capacity shall be selected;
2、Relative cylinder with high temperature resistance or corrosion resistance shall be chosen under the condition of high temperature or corrosion;
3、Necessary protection measure shall be taken in the environment with larger humidity, much dust or water drops, oil dust and welding dregs;
4、Dirty substances in the pipe must be cleared away before cylinder is connected with pipeline to prevent the entrance of sundries into the cylinder;
5、The medium used by cylinder shall be filtered by the filter core of above 40um;
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 jam cap shall be added in air intake and outlet orifices.

Criteria for selection: Cylinder thrust

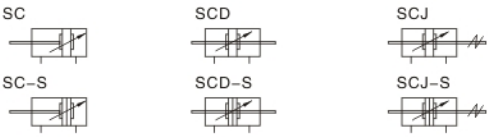
Unit：Newton (N)

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

Product series



Symbol



Product feature

1、Standard cylinder manufactured by our enterprise;
2、The seal of piston adopts heterogeneous two way seal structure. Its dimension is tight and it has the function of oil reservation;
3、It is tie rod cylinder. The cylinder barrel and front/rear cap is jointed by tie rods with high reliability;
4、Compared with ISO15552 standard cylinder, SC series cylinder with the same bore size is shorter;
5、The buffer adjustment of cylinder is smooth and steady;
6、Cylinders and mounting accessories with several specifications are optional;
7、The seal material with high temperature resistance is adopted to guarantee the normal operation of cylinder at 150℃.

Specification

Bore size mm		32	40	50	63	80	100
Acting type		Double acting					
Fluid		Air(to be filtered by 40um filter element)					
Mounting type	SC	Basic FA FB CA CB LB TC TF					
	SCD、SCJ	Basic FA LB TC TF					
Operating pressure		0.1~1.0MPa(14~145Psi)					
Proof pressure		1.5MPa(215Psi)					
Temperature ℃		-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 PⅥ-39~Ⅵ-50 for detail of sensor switch.

Stroke

Unit：mm

Series Name	Bore size (mm)	Standard stroke	Max.stroke	Available stroke
SC SCD SCJ	32	25 50 75 80 100 125 150 175 200 225 250 300 350 400 450 500	1000	2000
	40	25 50 75 80 100 125 150 175 200 225 250 300 350 400 450 500 600 700 800 900 1000	1200	2000
	50		1200	2000
	63		1500	2000
	80		1500	2000
	100		1500	2000

Note: if the stroke is ⩾1600mm within the maximum stroke scope, it is treated as non-standard one. Please contact the company for other special strokes.

Ordering code

SC — 50 × 50 — S — □ — □ — P
SCD — 50 × 50 — S — □ — □ — P
SCJ — 50 × 50 — 20 — S — □ — □ — P

Model
SC：Double acting type
SCD：Double rod type
SCJ：Adjustable stroke type

Bore size

Stroke

Adjustable stroke
10：10mm
20：20mm
30：30mm
40：40mm
50：50mm
75：75mm
100：100mm

Magnet
S：With magnet
Blank：Without magnet

Seal material
Blank：TPU
H：Viton
N：NBR

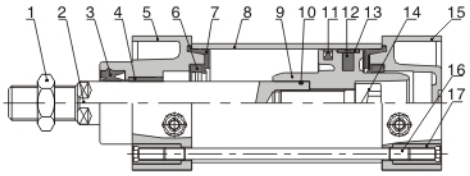
Thread type
P：PT
T：NPT
G：G

② **Mounting type**

	Mounting type	Available series	Memo
Blank		SC SCD SCJ	
LB			
FA		SC SCD SCJ	
FB		SC	
CA			
CB			
TC		SC SCD SCJ	Be used with TF

① Please see PIII-23-III-24 for detail.

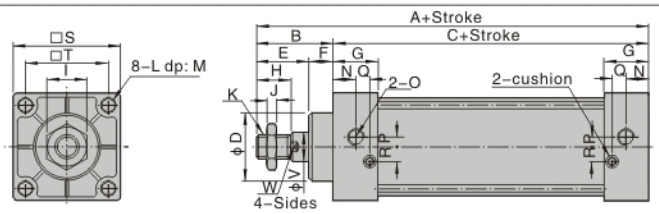
Inner structure and material of major parts



NO.	Item	Material
1	Rod nut	Carbon steel
2	Piston rod	Carbon steel with 20um 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 O-ring	NBR
12	Magnet	Plastic
13	Wear ring	Wear resistant material
14	Bolt	Carbon steel
15	Back cover	Aluminum alloy
16	Tie-rod	Carbon steel
17	Tie-rod nut	Carbon steel

Dimensions

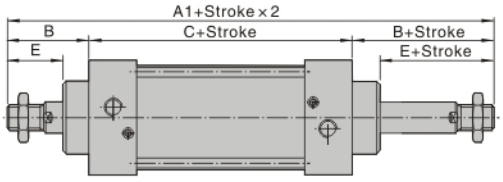
SC



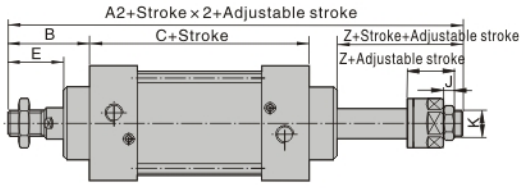
Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

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

SCD



SCJ

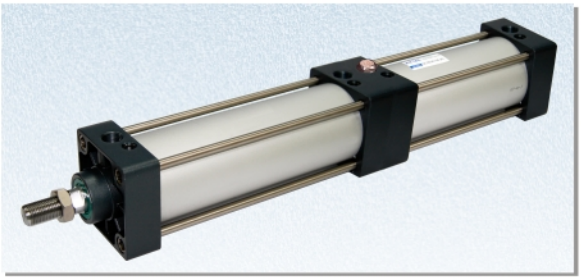


Bore size\Item	A1	A2	B	C	E	Z	J	K
32	187	182	47	93	32	27	6	M10X1.25
40	191	185	49	93	34	28	7	M12X1.25
50	207	194	57	93	42	29	8	M16X1.5
63	210	197	57	96	42	29	8	M16X1.5
80	257	238.5	75	107	54	35.5	10	M20X1.5
100	263	244.5	75	113	54	35.5	10	M20X1.5

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

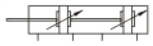
Standard cylinder(Tie-rod)

SCT Series

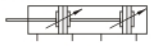


Symbol

SCT

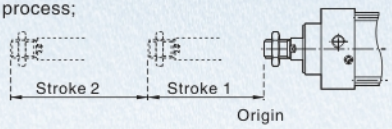


SCT-S



Product feature

1、Standard cylinder manufactured by our enterprise;
2、The seal of piston adopts heterogeneous two way seal structure.Its dimension is tight and it has the function of oil reservation;
3、It is tie rod cylinder. The cylinder barrel and front/rear cap is jointed by tie rods with high reliability;
4、Piston rod can be positioned in several positions in the whole action process;



5、The buffer adjustment of cylinder is smooth and steady;
6、Cylinders and mounting accessories with several specifications are optional;
7、The seal material with high temperature resistance is adopted to guarantee the normal operation of cylinder at 150℃.

Specification

Bore size mm	32	40	50	63	80	100
Acting type	Double acting					
Fluid	Air(to be filtered by 40um filter element)					
Mounting type	Basic LB					
Operating pressure	0.1~1.0MPa(14~145Psi)					
Proof pressure	1.5MPa(215Psi)					
Temperature ℃	-20~80					
Speed range mm/s	30~800					
Stroke tolerance	$0\sim250\ ^{+1.0}_{0}$	$251\sim1000\ ^{+1.4}_{0}$		$1001\sim1500\ ^{+1.8}_{0}$		
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 PVI-39~VI-50 for detail of sensor switch.

Stroke

單位：mm

Bore size(mm)	Standard stroke	Max.stroke	Available stroke
32	25 50 75 80 100 125 150 160 175 200 250 300 350 400 450 500	500	800
40		500	800
50		500	800
63		500	800
80		500	800
100		500	800

Note: if the stroke is ≥1600mm within the maximum stroke scope, it is treated as non-standard one. Please contact the company for other special strokes.

Ordering code

SCT — 50 × 50 × 50 — S — □ — □ — P

Model
SCT: Multi-position type

Bore size

Stroke 1

Stroke 2

Magnet
S: With magnet
Blank: Without magnet

Seal Material
Blank: TPU
H: Viton
N: NBR

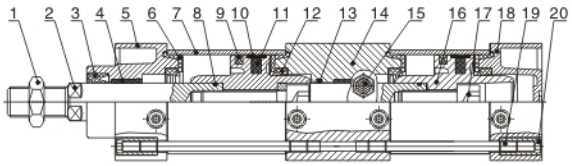
① Please refer to PIII-23~III-24 for the installation accessories.

Thread type
P: PT
T: NPT
G: G

Mounting type

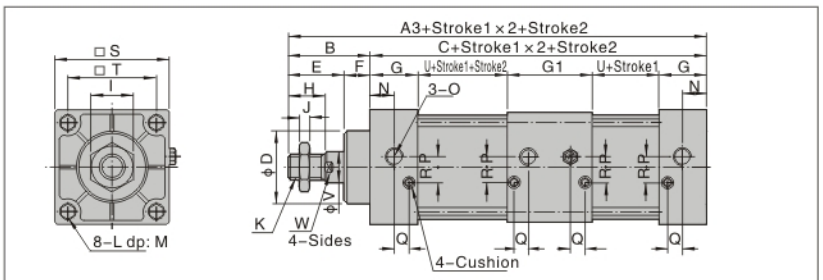
	Mounting type
Blank	
LB	

Inner structure and material of major parts



NO.	Item	Material
1	Rod nut	Carbon steel
2	Piston rod	Carbon steel with 20um chrome plated
3	Front cover packing	TPU
4	Bushing	Wear resistant material
5	Front cover	Aluminum alloy
6	Buffer gasket	TPU
7	Barrel	Aluminum alloy
8	O-ring	NBR
9	Piston O-ring	NBR
10	Wearing ring	Wear resistant material
11	Magnet	Plastic
12	Gasket	NBR
13	O-ring	NBR
14	Joint seat	Aluminum alloy
15	Silencer	
16	Piston	Aluminum alloy
17	Screw	Carbon steel
18	Back cover	Aluminum alloy
19	Tie-rod	Carbon steel
20	Tie-rod nut	Carbon steel

Dimensions



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

Bore size\Item	A3	B	C	D	E	F	G	G1	H	I	J	K	L
32	233	47	186	28	32	15	27.5	55	22	17	6	M10×1.25	M6×1
40	235	49	186	32	34	15	27.5	55	24	17	7	M12×1.25	M6×1
50	243	57	186	38	42	15	27.5	55	32	23	8	M16×1.5	M6×1
63	249	57	192	38	42	15	27.5	55	32	23	8	M16×1.5	M8×1.25
80	296	75	221	47	54	21	33	73	40	26	10	M20×1.5	M10×1.5
100	308	75	233	47	54	21	33	73	40	26	10	M20×1.5	M10×1.5

Bore size\Item	M	N	O	P	Q	R	S	T	V	U	W
32	9.5	14	1/8"	5.5	6	6.5	45	33	12	38	10
40	9.5	15	1/4"	6	5	8.5	50	37	16	38	14
50	9.5	17	1/4"	8.5	2.5	10	62	47	20	38	17
63	9.5	15	3/8"	9.5	4	8.5	75	56	20	41	17
80	11.5	19.5	3/8"	10	4.5	14	94	70	25	41	22
100	11.5	16.5	1/2"	11	6.5	14	112	84	25	47	22

Ordering code

F — SC 50 CA ①

Accessory | Model | Bore size | Accessory type

Mounting accessory	
	LB LB type
	FA FA type
	FB FB type
	CA CA type
	CB② CB type
	TC TC type
	TF TF type

①: Please see accessory list on PIII-24 for accessory detail;
②: CB is attached with relevant PIN.

Accessory selection

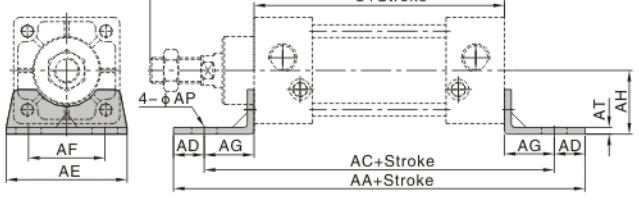
Cylinder model		SC		SCD		SCJ		SCT	
Accessories		Standard	With magnet	Standard	With magnet	Standard	With magnet	Standard	With magnet
Mounting accessory	LB	●	●	●	●	●	●	●	●
	FA	●	●	●	●	●	●	●	●
	FB	●	●	×	×	×	×	●	×
	CA	●	●	×	×	×	×	●	×
	CB	●	●	×	×	×	×	●	×
	TC	●	●	●	●	●	●	×	×
	TF	●	●	●	●	●	●	×	×
① Knuckle	I	●	●	●	●	●	●	●	●
	Y	●	●	●	●	●	●	●	●
	U	●	●	●	●	●	●	●	●
	F	●	●	●	●	●	●	●	●
② Sensor switch	CS1-A	×	●	×	●	×	●	×	●
	CS1-AX	×	●	×	●	×	●	×	●
	CS1-AN	×	●	×	●	×	●	×	●
	CS1-AP	×	●	×	●	×	●	×	●

①: Please refer to PVI-33~VI-38 for knuckle detail;
②: Please refer to PVI-39~VI-50 for detail of sensor switch.

Material of accessories

Accessories	Mounting accessories							Joint accessories			
Bore size	LB	FA	FB	CA	CB	TC	TF	I	Y	U	F
32~100	Carbon steel	Aluminum alloy	Nodular castiron					Carbon steel			

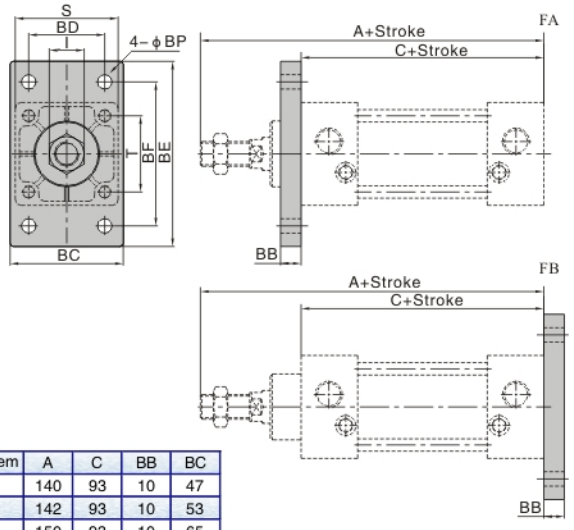
LB



Bore size\Item	A	C	AA	AC	AD	AE	AF	AG	AH	AP	AT
32	140	93	153	134	9.5	50	33	20.5	28	9	3
40	142	93	169	140	14.5	57	36	23.5	30	12	3
50	150	93	173	149	12	68	47	28	36.5	12	3
63	153	96	184	158	13	80	56	31	41	12	3
80	182	107	199	167	16	97	70	30	49	14	4
100	188	113	209	173	18	112	84	30	57	14	4

Dimensions

FA、FB

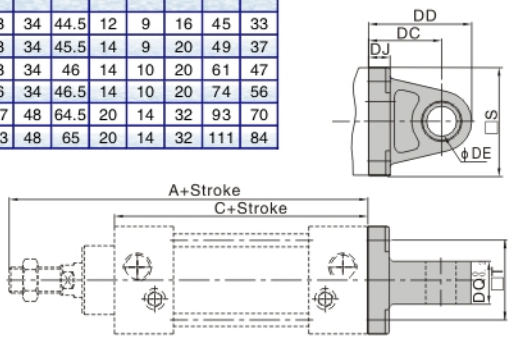


Bore size\Item	A	C	BB	BC
32	140	93	10	47
40	142	93	10	53
50	150	93	10	65
63	153	96	12	75
80	182	107	16	95
100	188	113	16	115

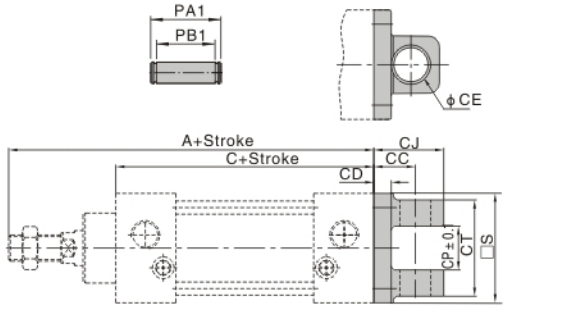
Bore size\Item	BD	BE	BF	BP	I	S	T
32	33	80	58	7	17	45	33
40	36	90	70	7	17	50	37
50	47	104	86	9	23	62	47
63	56	118	98	9	23	75	56
80	70	140	119	11	26	94	70
100	84	160	138	11	26	112	84

CA

Item / Bore size	A	C	DC	DD	DE	DJ	DQ	S	T
32	140	93	34	44.5	12	9	16	45	33
40	142	93	34	45.5	14	9	20	49	37
50	150	93	34	46	14	10	20	61	47
63	153	96	34	46.5	14	10	20	74	56
80	182	107	48	64.5	20	14	32	93	70
100	188	113	48	65	20	14	32	111	84



CB

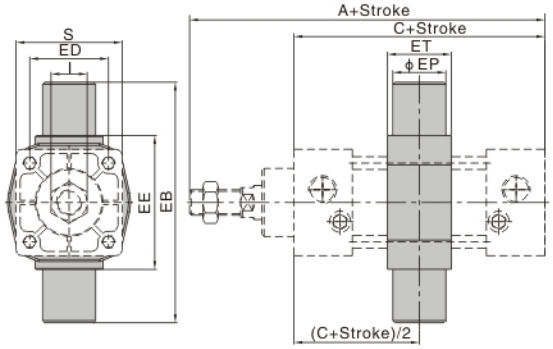


Item / Bore size	A	C	S	CC	CD	CE	CJ	CP	CT	PA1	PB1
32	140	93	45	19	9	12	29.5	16.3	32	39	32.8
40	142	93	49	19	9	14	30.5	20.3	44	51	44.8
50	150	93	61	19	10	14	31	20.3	52	59	52.8
63	153	96	74	19	10	14	31.5	20.3	52	59	52.8
80	182	107	93	32	14	20	48.5	32.3	64	73	64.8
100	188	113	111	32	14	20	49	32.3	64	73	64.8

TC

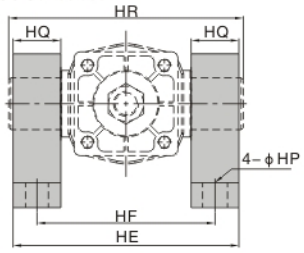
Item / Bore size	A	C	EB	ED	EE	EP	ET	I	S
32	140	93	87	33	55	16	22	17	45
40	142	93	113	37	63	25	28	17	50
50	150	93	126	47	76	25	28	23	62
63	153	96	138	56	88	25	30	23	75
80	182	107	164	70	114	25	32	26	94
100	188	113	182	84	132	25	38	26	112

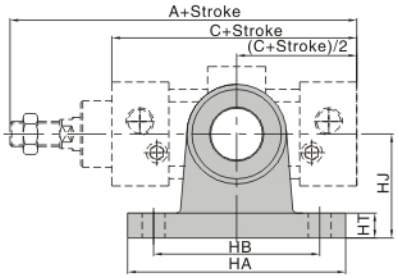
Note: The installation position of the accessories can not be adjusted arbitrarily.



TF

SC Series use





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

Bore size \Item	A	C	HA	HB	HE	HF	HP	HQ	HR	HT	HJ
32	140	93	100	75	90	71	12	16	87	11	54
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

List for ordering code of accessories

Accessories \ Bore size		32	40	50	63	80	100
Mounting accessory	LB	F-SC32LB	F-SC40LB	F-SC50LB	F-SC63LB	F-SC80LB	F-SC100LB
	FA	F-SC32FA	F-SC40FA	F-SC50FA	F-SC63FA	F-SC80FA	F-SC100FA
	FB						
	CA	F-SC32CA	F-SC40CA	F-SC50CA	F-SC63CA	F-SC80CA	F-SC100CA
	CB	F-SC32CB	F-SC40CB	F-SC50CB	F-SC63CB	F-SC80CB	F-SC100CB
	TC	F-SC32TC	F-SC40TC	F-SC50TC	F-SC63TC	F-SC80TC	F-SC100TC
	TF	F-SI40TF	F-SC40TF			F-SC80TF	
Knuckle	I: I Knuckle	F-M10125II	F-M12125II	F-M16150II		F-M20150II	
	Y: Y Knuckle	F-M10125YI	F-M12125YI	F-M16150YI		F-M20150YI	
	U: U Knuckle	F-M10125U	F-M12125U	F-M16150U		F-M20150U	
	F: F Knuckle	F-M10125F	F-M12125F	F-M16150F		F-M20150F	
Sensor switch	CS1-A	CS1-A					
	CS1-AX	CS1-AX					
	CS1-AN	CS1-AN					
	CS1-AP	CS1-AP					