



Standard cylinder——SI Series

— In accordance with ISO15552 standard

■ 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)

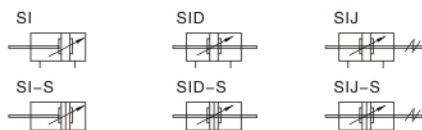
Bore size(mm)	Rod size(mm)	Acting type		Pressure area (mm²)	Operating pressure (MPa)								
					0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
32	12		Push side	804	80.4	160.8	241.2	321.6	402.0	482.4	562.8	643.2	723.6
			Pull side	690	69.0	138.0	207.0	276.0	345.0	414.0	483.0	552.0	621.0
40	16		Push side	1256	125.6	251.2	376.8	502.4	628.0	753.6	879.2	1002.4	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		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	1399.2	1484.1
63	20		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		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	2948.6	3681.0	4417.2	5153.4	5889.6	6625.8
125	32		Push side	12272	1227.2	2454.4	3681.6	4908.8	6136.0	7363.2	8590.4	9817.6	11044.8
			Pull side	11468	1146.8	2293.6	3440.4	4587.2	5734.0	6880.8	8027.6	9174.4	10321.2
160	40		Push side	20106	2010.6	4021.2	6031.8	8042.4	10053.0	12063.6	14074.2	16084.8	18095.4
			Pull side	18849	1884.9	3769.8	5654.7	7539.6	9424.5	11309.4	13194.3	15079.2	16964.1
200	40		Push side	31416	3141.6	6283.2	9424.8	12566.4	15708.0	18849.6	21991.2	25132.8	28274.4
			Pull side	30157	3015.7	6031.4	9047.1	12062.8	15078.5	18094.2	21109.9	24125.6	27141.3

■ Product series

Series name	Mounting type									Acting type	Bore size	Collocation of sensor switch			
	Basic	LB	FA	FB	CA	CB	CR	TC	FTC			CS1-B	CS1-BX	CS1-BN	CS1-BP
Double acting type: SI	●	●	●	●	●	●	●	●	●	Double acting	32	●	●	●	●
Double rod type: SID	●	●	●	●	●	●	●	●	●		40	●	●	●	●
Adjustable stroke type: SIJ	●	●	●	●	●	●	●	●	●		50	●	●	●	●
	●	●	●	●	●	●	●	●	●		63	●	●	●	●
	●	●	●	●	●	●	●	●	●		80	●	●	●	●
	●	●	●	●	●	●	●	●	●		100	●	●	●	●
	●	●	●	●	●	●	●	●	●		125	●	●	●	●
	●	●	●	●	●	●	●	●	●		160	●	●	●	●
	●	●	●	●	●	●	●	●	●		200	●	●	●	●
Page	III-08											VI-39			



Symbol



Product feature

1. ISO15552 (original ISO6431) standard cylinder;
2. The piston seal is composed of two Y-shape one-way seal structure, which has compensation function, long service life and low start-up pressure;
3. The 米-shaped aluminum pipe without tie rod has good corrosion resistance;
4. The buffer adjustment of cylinder is smooth and steady;
5. Cylinders and accessories for installation with several specifications are optional.

Specification

Bore size		mm	32	40	50	63	80	100	125	160	200
Acting type			Double acting								
Fluid			Air(to be filtered by 40um filter element)								
Mounting type	SI	Basic FA FB CA CB CR LB TC FTC TF TM									
	SID	Basic FA LB TC FTC TF TM									
	SIJ										
Operating pressure			0.1~1.0MPa(14~145Psi)								
Proof pressure			1.5MPa(215Psi)								
Temperature ℃			-20~80								
Speed range	mm/s	30~800							30~500		
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			27		30		36		40		50
Port size	①	1/8"	1/4"		3/8"			1/2"		3/4"	

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

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	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
125	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	600	700	800	900	1000	1500	1800
160	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	600	700	800	900	1000	1500	2000
200	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	600	700	800	900	1000	1500	2000

Remark: Consult us for non-standard stroke.

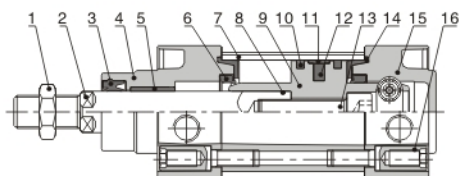
Ordering code

SI — 160 □ × 50 — S — □ — □ — P											
SID—160 □ × 50 — S — □ — □ — P											
SIJ—160 □ × 50 — 20 — S — □ — □ — P											
Model		Bore size		Adjustable stroke		Seal Material		Thread type			
SI: Double acting type		10: 10mm		Blank: TPU		P: PT		① Mounting type			
SID: Double rod type		20: 20mm		H: Viton		T: NPT					
SIJ: Adjustable stroke type		30: 30mm		N: NBR		G: G					
		40: 40mm									
		50: 50mm									
		75: 75mm									
		100: 100mm									

① Please refer to page III-10~III-12 for accessory parts.

Inner structure and material of major parts

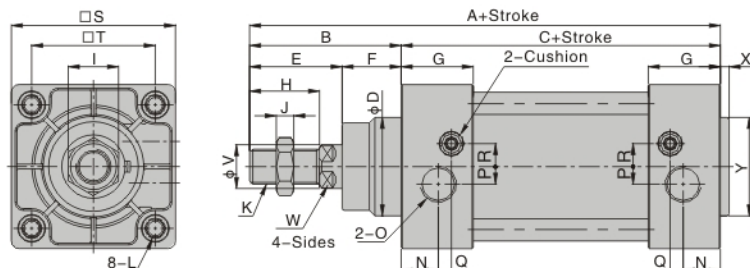
SI-S



NO.	Item	Material
1	Rod nut	Carbon steel
2	Piston rod	Carbon steel with 20um chrome plated Stainless steel
3	Front cover packing	TPU
4	Front cover	Aluminum alloy
5	Bushing	Wear resistant material
6	Cushion O-ring	TPU
7	Barrel	Aluminum alloy
8	Rod O-ring	NBR
9	Piston	Aluminum alloy
10	Piston O-ring	TPU
11	Wear ring	Wear resistant material
12	Magnet	Bore size < ϕ 100: Plastic Others: Rubber
13	Bolt	Carbon steel
14	Buffer gasket	TPU
15	Back cover	Aluminum alloy
16	Tie-rod nut	Carbon steel

■ Dimensions

SI

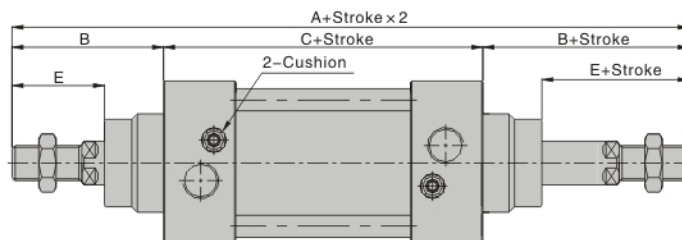


Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

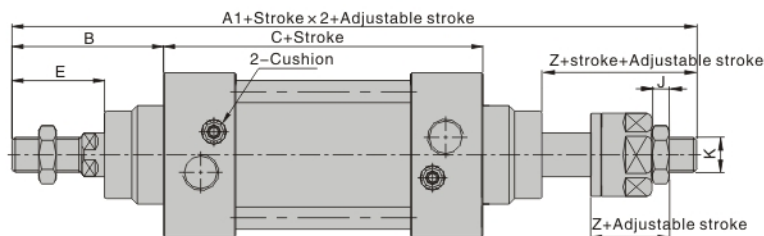
Item Bore size	A	B	C	D	E	F	G	H	I	J	K	L	N
32	142	48	94	30	29	19	27.5	22	17	6	M10 × 1.25	M6	13
40	159	54	105	35	33	21	32	24	17	7	M12 × 1.25	M6	17
50	175	69	106	40	42	27	31	32	23	8	M16 × 1.5	M8	15.5
63	190	69	121	45	42	27	33	32	23	8	M16 × 1.5	M8	16.5
80	214	86	128	45	53	33	33	40	26	10	M20 × 1.5	M10	16.5
100	229	91	138	55	55	36	37	40	26	10	M20 × 1.5	M10	18.5
125	279	119	160	60	74	45	46	54	41	13.5	M27 × 2	M12	23
160	332	152	180	65	94	58	50	72	55	18	M36 × 2	M16	25
200	347	167	180	75	100	67	50	72	55	18	M36 × 2	M16	25

Item Bore size	O	P	Q	R	S	T	V	W	X	Y
32	1/8"	5.5	6	6	47	32.5	12	10	3	30
40	1/4"	6	7.5	8.5	53	38	16	13	3.5	35
50	1/4"	7.5	6.5	9.5	65	46.5	20	17	3.5	40
63	3/8"	7.5	7.5	11.5	75	56.5	20	17	4	45
80	3/8"	9	7.5	13.5	95	72	25	22	4	45
100	1/2"	9.5	8.5	13.5	115	89	25	22	4	55
125	1/2"	14	12	14	140	110	32	27	4	60
160	3/4"	15	12	20	180	140	40	36	4	65
200	3/4"	15	12	20	220	175	40	36	5	75

SID



SIJ



Bore size/Item	A	A1	B	C	E	Z	J	K
32	190	188	48	94	29	27	6	M10X1.25
40	213	208	54	105	33	28	7	M12x1.25
50	244	231	69	106	42	29	8	M16X1.5
63	259	246	69	121	42	29	8	M16X1.5
80	300	282.5	86	128	53	35.5	10	M20X1.5
100	320	300.5	91	138	55	35.5	10	M20X1.5
125	398	366.5	119	160	74	42.5	13.5	M27X2
160	484	458	152	180	94	68	18	M36X2
200	514	482	167	180	100	68	18	M36X2

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

Accessories

Ordering code

F	SI	50	CA
Accessory	Model	Bore size	Accessory type

①: Please refer to the accessory list on PIII-12 for detailed information of accessories.

②: CB is attached with relevant PIN.

Mounting accessory	— Accessory type	
	LB	LB type
	FA	FA type
	FB	FB type
	CA	CA type
	CB ²	CB type
	CR	CR type
	TC	TC type
	FTC	FTC type
TF	TF type	
TM	TM type	

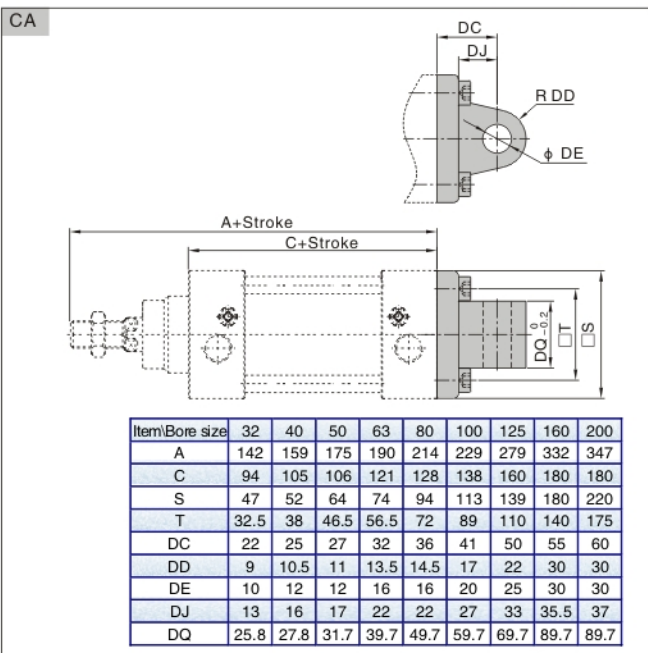
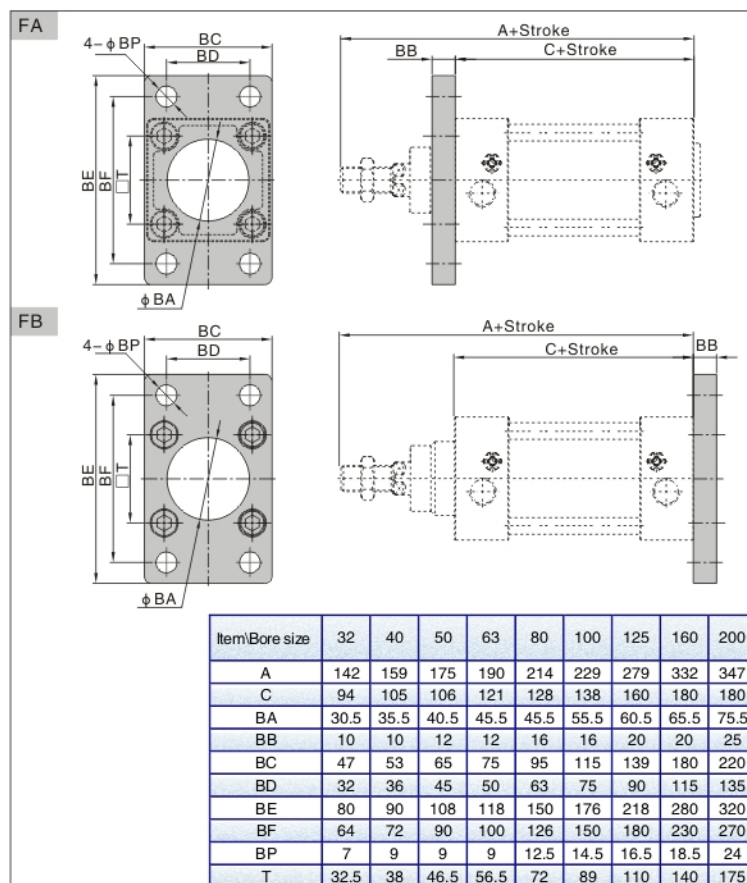
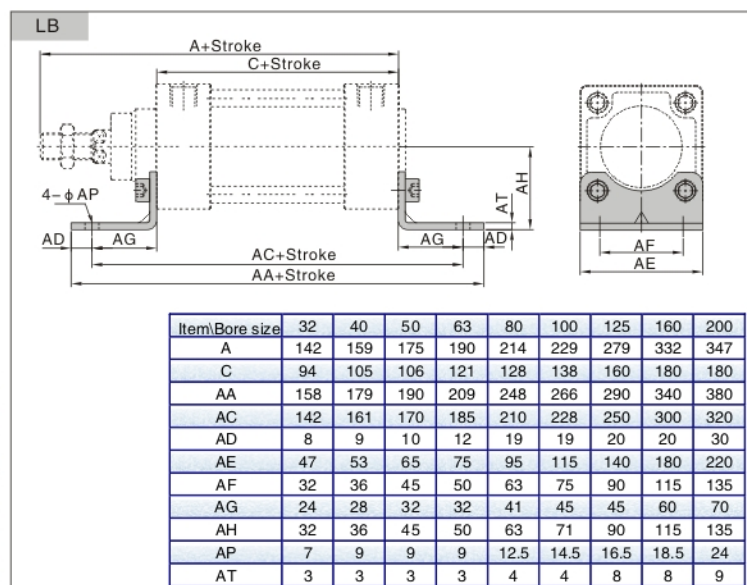
Accessory selection

Cylinder model	SI	SI	SI
Accessory	Standard	With magnet	Standard
LB	●	●	●
FA	●	●	●
FB	●	●	×
CA	●	●	×
CB	●	●	×
CR	●	●	×
TC	●	●	●
FTC	●	●	●
TF	●	●	●
TM	●	●	●
Knuckle	●	●	●
①	●	●	●
Y	●	●	●
U	●	●	●
F	●	●	●
Sensor switch	●	●	●
②	●	●	●
CS1-B	×	●	×
CS1-BX	×	●	×
CS1-BN	×	●	×
CS1-BP	×	●	×

①: Please refer to PVI-33~VI-38 for knuckle detail;

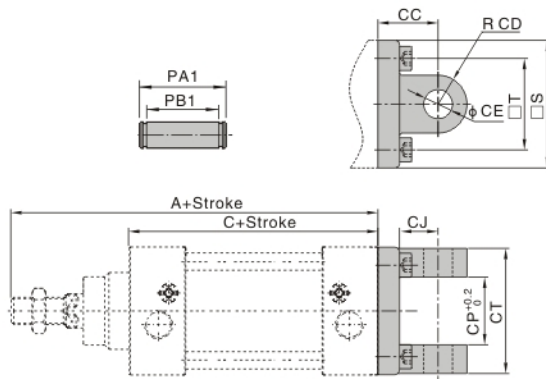
②: Please refer to PVI-39~VI-50 for detail of sensor switch.

Dimensions



Accessories

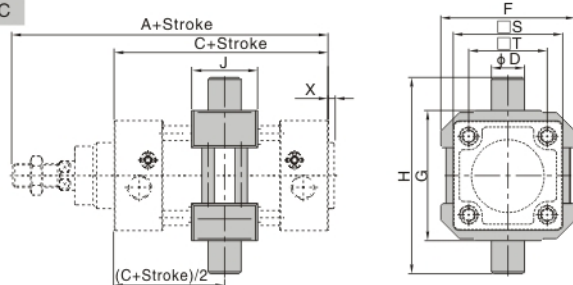
CB



Bore size Item	32	40	50	63	80	100	125	160	200
A	142	159	175	190	214	229	279	332	347
C	94	105	106	121	128	138	160	180	180
CC	22	25	27	32	36	41	50	55	60
CD	9	10.5	11	13	14	17.5	21.5	30	30
CE	10	12	12	16	16	20	25	30	30
CJ	13	16	17	22	22	27	33	35.5	36

Bore size Item	32	40	50	63	80	100	125	160	200
CP	26	28	32	40	50	60	70	90	90
CT	45	52	60	70	90	110	130	170	170
PA1	51	59	67	77	97	119	139	181	181
PB1	45.5	52.5	60.5	70.5	90.5	110.5	130.5	170.5	170.5
S	47	52	64	74	94	113	139	180	220
T	32.5	38	46.5	56.5	72	89	110	140	175

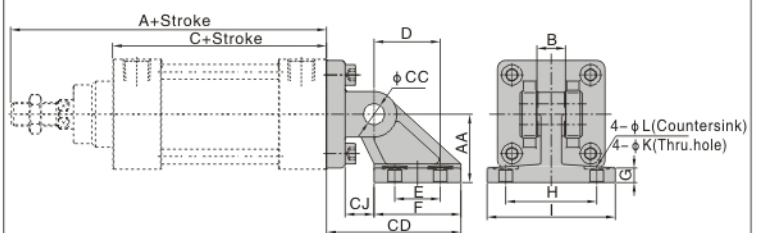
TC



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

Bore size Item	A	C	D	F	G	H	J	S	X	T
32	142	94	12	52	50	74	22	47	3	32.5
40	159	105	16	65	63	95	28	53	3.5	38
50	175	106	16	75	75	107	28	65	3.5	46.5
63	190	121	20	90	90	130	30	75	4	56.5
80	214	128	20	112	110	150	32	95	4	72
100	229	138	25	135	132	182	38	115	4	89
125	279	160	25	170	160	210	40	140	4	110
160	332	180	32	210	200	264	50	180	4	140
200	347	180	32	255	250	314	50	220	5	175

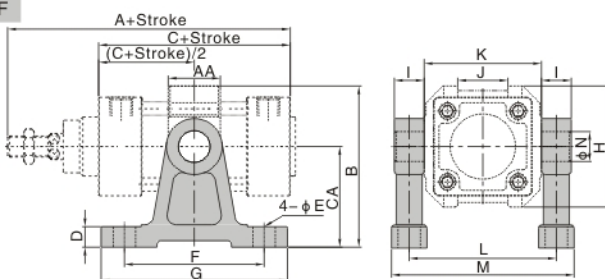
CR(Be used with CB)



Bore size Item	32	40	50	63	80	100	125	160	200
A	142	159	175	190	214	229	279	332	347
AA	32	36	45	50	63	71	90	115	135
B	26	28	32	40	50	60	70	90	90
C	94	105	106	121	128	138	160	180	180
CC	10	12	12	16	16	20	25	30	30
CD	50	56	68	77	93	106	135	171	185
CJ	10	12	13	17	19	22	26	25	31

Bore size Item	32	40	50	63	80	100	125	160	200
D	21	24	33	37	47	55	70	97	105
E	18	22	30	35	40	50	60	88	90
F	31	35	45	50	60	70	90	126	130
G	8	10	12	12	14	15	20	25	30
H	38	41	50	52	66	76	94	118	122
I	51	54	65	67	86	96	124	156	162
K	6.6	6.6	9	9	11	11	14	14	18
L	-	-	-	-	18	18	20	20	26

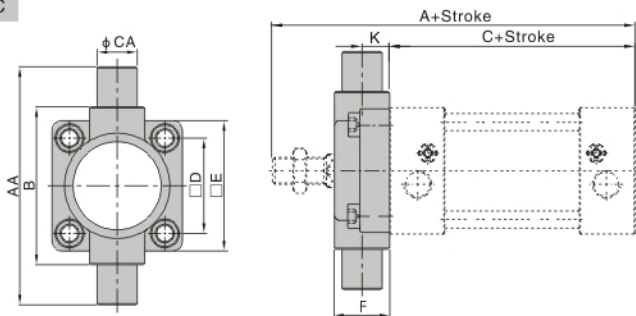
TF



Note: The installation position of the accessories can not be adjusted arbitrarily.
Please refer to PIII-05 for mounting method when it is used with FTC.

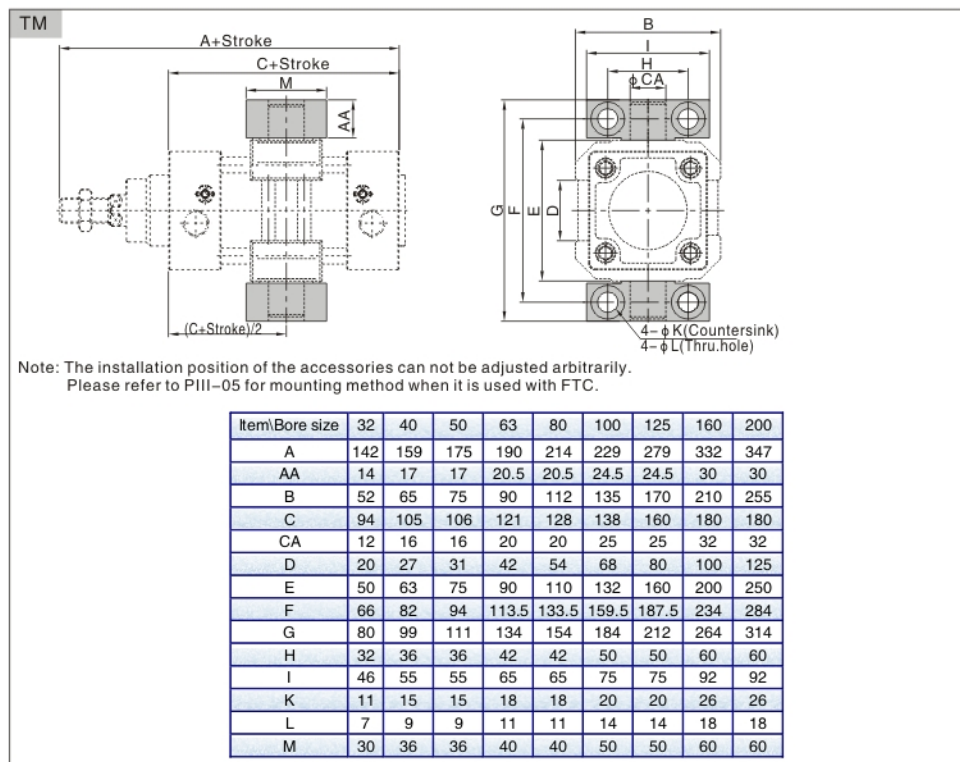
Item\Bore size	32	40	50	63	80	100	125	160	200
A	142	159	175	190	214	229	279	332	347
AA	22	28	28	30	32	38	40	50	50
B	66	86.5	91.5	115	126	157.5	175	215	262.5
C	94	105	106	121	128	138	160	180	180
CA	40	54	54	70	70	90	90	110	135
D	11	11	11	11	11	19	19	24	27
E	9	12	12	12	12	18	18	22	22
F	60	75	75	85	85	115	115	140	150
G	80	100	100	110	110	155	155	190	200
H	52	65	75	90	112	135	170	210	255
I	12	16	16	20	20	25	25	32	32
J	20	27	31	42	54	68	80	100	125
K	50	63	75	90	110	132	160	200	250
L	62	79	91	110	130	157	185	232	282
M	77	98	110	133	153	185	213	267	317
N	12	16	16	20	20	25	25	32	32

FTC



Item\Bore size	32	40	50	63	80	100	125	160	200
A	142	159	175	190	214	229	279	332	347
AA	74	95	107	130	150	182	210	264	314
B	50	63	75	90	110	132	160	200	250
C	94	105	106	121	128	138	160	180	180
CA	12	16	16	20	20	25	25	32	32
D	32.5	38	46.5	56.5	72	89	110	140	175
E	46	52	64	74	94	114	139	179	218
F	19	21	26	28	31	35	43	56	64
K	10	10	12	12	16	16	20	20	20

Accessories



List for ordering code of accessories

Bore size		32	40	50	63	80	100	125	160	200
Accessories										
Mounting accessory	LB	F-SI32LB	F-SI40LB	F-SI50LB	F-SI63LB	F-SI80LB	F-SI100LB	F-SI125LB	F-SI160LB	F-SI200LB
	FA	F-SI32FA	F-SI40FA	F-SI50FA	F-SI63FA	F-SI80FA	F-SI100FA	F-SI125FA	F-SI160FA	F-SI200FA
	FB	F-SI32FB	F-SI40FB	F-SI50FB	F-SI63FB	F-SI80FB	F-SI100FB	F-SI125FB	F-SI160FB	F-SI200FB
	CA	F-SI32CA	F-SI40CA	F-SI50CA	F-SI63CA	F-SI80CA	F-SI100CA	F-SI125CA	F-SI160CA	F-SI200CA
	CB	F-SI32CB	F-SI40CB	F-SI50CB	F-SI63CB	F-SI80CB	F-SI100CB	F-SI125CB	F-SI160CB	F-SI200CB
	CR	F-SI32CR	F-SI40CR	F-SI50CR	F-SI63CR	F-SI80CR	F-SI100CR	F-SI125CR	F-SI160CR	F-SI200CR
	TC	F-SI32TC	F-SI40TC	F-SI50TC	F-SI63TC	F-SI80TC	F-SI100TC	F-SI125TC	F-SI160TC	F-SI200TC
	FTC	F-SI32FTC	F-SI40FTC	F-SI50FTC	F-SI63FTC	F-SI80FTC	F-SI100FTC	F-SI125FTC	F-SI160FTC	F-SI200FTC
	TF	F-SI32TF	F-SI40TF	F-SI50TF	F-SI63TF	F-SI80TF	F-SI100TF	F-SI125TF	F-SI160TF	F-SI200TF
	TM	F-SI32TM	F-SI40TM	F-SI50TM	F-SI63TM	F-SI80TM	F-SI100TM	F-SI125TM	F-SI160TM	F-SI200TM
Knuckle	I: I Knuckle	F-M10125I	F-M12125I	F-M16150I	F-M20150I	F-M27200I	F-M36200I			
	Y: Y Knuckle	F-M10125Y	F-M12125Y	F-M16150Y	F-M20150Y	F-M27200Y	F-M36200Y			
	U: U Knuckle	F-M10125U	F-M12125U	F-M16150U	F-M20150U	F-M27200U	F-M36200U			
	F: F Knuckle	F-M10125F	F-M12125F	F-M16150F	F-M20150F					
Sensor switch	CS1-B	CS1-B1	CS1-B2	CS1-B3	CS1-B4	CS1-B5	CS1-B6	CS1-B7		
	CS1-BX	CS1-B1X	CS1-B2X	CS1-B3X	CS1-B4X	CS1-B5X	CS1-B6X	CS1-B7X		
	CS1-BN	CS1-B1N	CS1-B2N	CS1-B3N	CS1-B4N	CS1-B5N	CS1-B6N	CS1-B7N		
	CS1-BP	CS1-B1P	CS1-B2P	CS1-B3P	CS1-B4P	CS1-B5P	CS1-B6P	CS1-B7P		