









Compact cylinder—ACE Series

In accordance with ISO21287 standard

Product series

Series name	Mounting type								Acting type	Bore size	Collocation of sensor switch		
	Basic	FA	FB	CA	CB	CR	FTC	LB			SDB	CS1-E	DS1-E
Double acting type: ACE 	●	●	●	●	●	●	●	●	●	Double acting	12	●	●
Double rod type: ACED 	●	●	●	●	●	●	●	●	●		16	●	●
Adjustable stroke type: ACEJ 	●	●	●	●	●	●	●	●	●		20	●	●
Single acting type: ASE, ATE 	●	●	●	●	●	●	●	●	●		25	●	●
	●	●	●	●	●	●	●	●	●		32	●	●
Double acting non-rotating with yoke: TACE 	●	●	●	●	●	●	●	●	●		Double acting	40	●
Double rod non-rotating with yoke: TACED 	●	●	●	●	●	●	●	●	●	50		●	●
	●	●	●	●	●	●	●	●	●	63		●	●
	●	●	●	●	●	●	●	●	●	80		●	●
	●	●	●	●	●	●	●	●	●	100		●	●

Page	242	246	397
------	-----	-----	-----

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 40 μ m or below.
- As both of the front cover and piston of the cylinder are short, typically too large stroke can not be selected.
- Anti-freezing measure shall be adopted under low temperature environment to prevent moisture freezing.
- 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. The front and back cover can not be dismantled, which shall be especially noticed.

Criteria for selection: Cylinder thrust

Unit: Newton(N)

Bore size (mm)	Rod size (mm)	Acting type	Pressure area (mm ²)	Operating pressure(MPa)							Bore size (mm)	Rod size (mm)	Acting type	Pressure area (mm ²)	Operating pressure(MPa)									
				0.1	0.2	0.3	0.4	0.5	0.6	0.7					0.1	0.2	0.3	0.4	0.5	0.6	0.7			
12	6	Single acting	Push side	113.1	-	6.1	17.4	28.7	40.0	51.4	62.7	40	12	Single acting	Push side	1256.6	54.2	179.8	305.5	431.2	556.8	682.5	808.1	
			Pull side	84.8	-	0.5	8.9	17.4	25.9	34.4	42.9				1143.5	42.9	157.2	271.6	385.9	500.3	614.6	729.0		
		Double acting	Push side	113.1	11.3	22.6	33.9	45.2	56.5	67.9	79.2			1256.6	125.7	251.3	377.0	502.7	628.3	754.0	879.6			
			Pull side	84.8	8.5	17.0	25.4	33.9	42.4	50.9	59.4			1143.5	114.4	228.7	343.1	457.4	571.8	686.1	800.5			
16	8	Single acting	Push side	201.1	-	18.1	38.2	58.3	78.4	98.5	118.6	50	16	Single acting	Push side	1963.5	90.1	286.5	482.8	679.2	875.5	1071.9	1268.2	
			Pull side	150.8	-	8.1	23.1	38.2	53.3	68.4	83.5				1762.4	70.0	246.3	422.5	598.8	775.0	951.3	1127.5		
		Double acting	Push side	201.1	20.1	40.2	60.3	80.4	100.5	120.6	140.7			1963.5	196.3	392.7	589.0	785.4	981.7	1178.1	1374.4			
			Pull side	150.8	15.1	30.2	45.2	60.3	75.4	90.5	105.6			1762.4	176.2	352.5	528.7	705.0	881.2	1057.5	1233.7			
20	10	Single acting	Push side	314.2	-	33.1	64.5	96.0	127.4	158.8	190.2	63	16	Single acting	Push side	3117.2	173.6	485.3	797.1	1108.8	1420.5	1732.2	2044.0	
			Pull side	235.6	-	17.4	41.0	64.5	88.1	111.7	135.2				2916.2	153.5	445.1	736.8	1028.4	1320.0	1611.6	1903.2		
		Double acting	Push side	314.2	31.4	62.8	94.2	125.7	157.1	188.5	219.9			3117.2	311.7	623.4	935.2	1246.9	1558.6	1870.3	2182.1			
			Pull side	235.6	23.6	47.1	70.7	94.2	117.8	141.4	164.9			2916.2	291.6	583.2	874.9	1166.5	1458.1	1749.7	2041.3			
25	10	Single acting	Push side	490.9	-	13.8	62.9	112.0	161.0	210.1	259.2	308.3	80	20	Single acting	Push side	5026.5	305.6	808.2	1310.9	1813.5	2316.2	2818.8	3321.5
			Pull side	412.3	5.9	47.2	88.4	129.6	170.9	212.1	253.3	4712.4				274.1	745.4	1216.6	1687.9	2159.1	2630.3	3101.6		
		Double acting	Push side	490.9	49.1	98.2	147.3	196.3	245.4	294.5	343.6	5026.5			502.7	1005.3	1508.0	2010.6	2513.3	3015.9	3518.6			
			Pull side	412.3	41.2	82.5	123.7	164.9	206.2	247.4	288.6	4712.4			471.2	942.5	1413.7	1885.0	2356.2	2827.4	3298.7			
32	12	Single acting	Push side	804.2	-	30.8	111.2	191.7	272.1	352.5	432.9	513.4	100	20	Single acting	Push side	7854.0	499.1	1284.5	2069.9	2855.3	3640.7	4426.1	5211.5
			Pull side	691.2	19.5	88.6	157.7	226.9	296.0	365.1	434.2	7539.8				467.7	1221.7	1975.7	2729.6	3483.6	4237.6	4991.6		
		Double acting	Push side	804.2	80.4	160.8	241.3	321.7	402.1	482.5	563.0	7854.0			785.4	1570.8	2356.2	3141.6	3927.0	4712.4	5497.8			
			Pull side	691.2	69.1	138.2	270.3	350.7	431.1	511.5	591.9	7539.8			753.9	1508.0	2262.0	3015.9	3769.9	4523.9	5277.9			
Double acting	Push side	804.2	80.4	160.8	241.3	321.7	402.1	482.5	563.0	12271.8	1227.2	2454.4	3681.5	4908.7	6135.9	7363.1	8590.3							
	Pull side	691.2	69.1	138.2	270.3	350.7	431.1	511.5	591.9	11780.9	1178.1	2356.2	3534.3	4712.4	5890.5	7086.5	8246.6							



Compact cylinder

ACE Series



Specification

Bore size(mm)	12	16	20	25	32	40	50	63	80	100	125
Acting type	Double acting										
	Single acting-Push type, Single acting-Pull type										-
Fluid	Air(to be filtered by 40 μm filter element)										
Operating pressure	0.1~1.0MPa(14~145psi)										
	0.2~1.0MPa(28~145psi)										
Proof pressure	1.5MPa(215psi)										
Temperature °C	-20~80										
Speed range mm/s	Double acting: 30~500										
	Single acting: 50~500										
Stroke tolerance	Stroke ≤ 150+ ¹ ₀										
	Stroke > 150+ ¹ _{0.4}										
Cushion type	Bumper										
Port size ①	M5 × 0.8					G1/8			G1/4		

① PT thread, NPT thread and G thread are available. Add) Refer to P397~420 for detail of sensor switch.

Stroke

Common type	Bore size (mm)	Standard stroke (mm)											Max. std stroke														
		12	16	20	25	30	35	40	45	50	55	60		70	75												
Double acting	12	5	10	15	20	25	30	35	40	45	50					50											
	16	5	10	15	20	25	30	35	40	45	50	55	60	70	75	75											
	20	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100									
	25	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	110	120	125	150					
	32	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	110	120	125	150	160	175	200		
	40	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	110	120	125	150	160	175	200	250	
Single acting	50	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	110	120	125	150	160	175	200	225	250
	63	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	110	120	125	150	160	175	200	225	250
	80	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	110	120	125	150	160	175	200	225	250
	100	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	110	120	125	150	160	175	200	225	250
	125	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	110	120	125	150	160	175	200	225	250
	300	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	110	120	125	150	160	175	200	225	250
Non-rotating with yoke	12	5	10										10														
	16~100	5	10	15	20	25						25															
	12	5	10	15	20	25	30	35	40	45	50					50											
	16	5	10	15	20	25	30	35	40	45	50	55	60	70	75			75									
	20	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	100								
	25	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	100								
Double acting	32	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	100								
	40	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	100								
	50	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	100								
	63	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	100								
80	5	10	15	20	25	30	35	40	45	50	55	60	70	75	80	90	100	100									

Note) 1. Please contact the company for other special strokes.

2. The dimensions of non-std stroke cylinder has the same dimensions as the next longer stroke std. stroke cylinder. e.g. 23mm stroke cylinder has the same dimensions of 25 std. stroke cylinder.

Ordering code

ACE 20 × 30	S	B	<input type="checkbox"/>	<input type="checkbox"/>
ACED 20 × 30	S	B	<input type="checkbox"/>	<input type="checkbox"/>
ACEJ 20 × 30~30	S	B	<input type="checkbox"/>	<input type="checkbox"/>

Model

- ACE: Compact cylinder(Double acting)
- ASE: Compact cylinder (Single acting-push)
- ATE: Compact cylinder (Single acting-pull)
- ACED: Compact cylinder(Double rod)
- ACEJ: Compact cylinder (Adjustable stroke)
- TACE: Compact cylinder (Double acting non-rotating with yoke)
- TACED: Compact cylinder (Double rod non-rotating with yoke)

Thread type ①

- Blank: PT
- T: NPT
- G: G

Mounting type ②

Model	Mounting type
All model	Blank: No accessories
ACE	FA: FA type
	FB: FB type
	CA: CB type
	CB: CB type
	CR: CR type
	FTC: FTC type
ACED	LB: LB type
	SDB: SDB type
	FA: FA type
	FTC: FTC type
ACEJ	LB: LB type
	FB: FB type
	CA: CB type
	CB: CB type
TACE	CR: CR type
	FTC: FTC type
	FB: FB type
TACED	FB: FB type

Rod type

Model	Rod type
ACE/ASE/ATE	Blank: Female thread
ACED/ACEJ	B: Male thread
TACE/TACED	No this code

Magnet

- Blank: Without magnet
- S: With magnet

Bore size

Model	Bore size
ACE	12 16 20 25 32 40
ACED/ACEJ	50 63 80 100 125
ASE/ATE	12 16 20 25 32 40
TACE/TACED	50 63 80 100

Stroke

Refer to stroke table for details

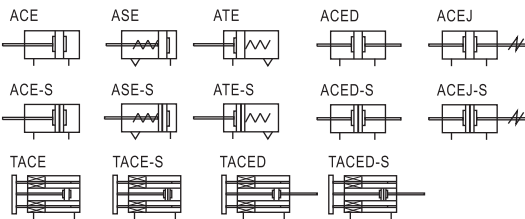
Adjustable stroke

Model	Adjustable stroke
ACEJ	10: 10mm
	20: 20mm
	30: 30mm
	40: 40mm
	50: 50mm
	75: 75mm
100: 100mm	
Others	No this code

① Standard thread is blank here.

② Please refer to page 246 for accessory parts; CR must be used with CA, FTC must be used with TCM2.

Symbol



Product feature

- In accordance with ISO21287 standard, the mounting size is vogue.
- The cylinder body connects with the threads of the front and back cover, forming high strength and convenient maintenance.
- The internal diameter of the body is treated with rolling followed by the treatment of hard anodizing, forming an excellent abrasion resistance and durability.
- The seal of piston adopts heterogeneous two-way seal structure. It has compact dimension and the function of oil reservation.
- Compact structure can effectively save fifty percent installation space with ISO15552 standard cylinder.
- There are magnetic switch slots around the cylinder body, which is convenient to install inducting switch.
- Bumper is available and it can availably absorb excrement energy.
- Installing accessories with various specifications are optional.

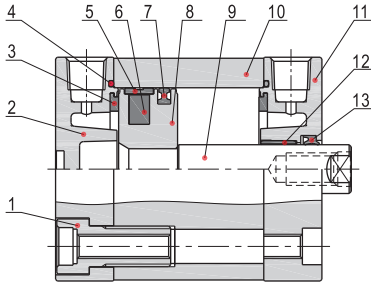


Compact cylinder

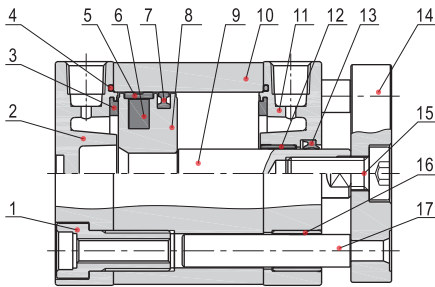
ACE Series

Inner structure and material of major parts

ACE-S



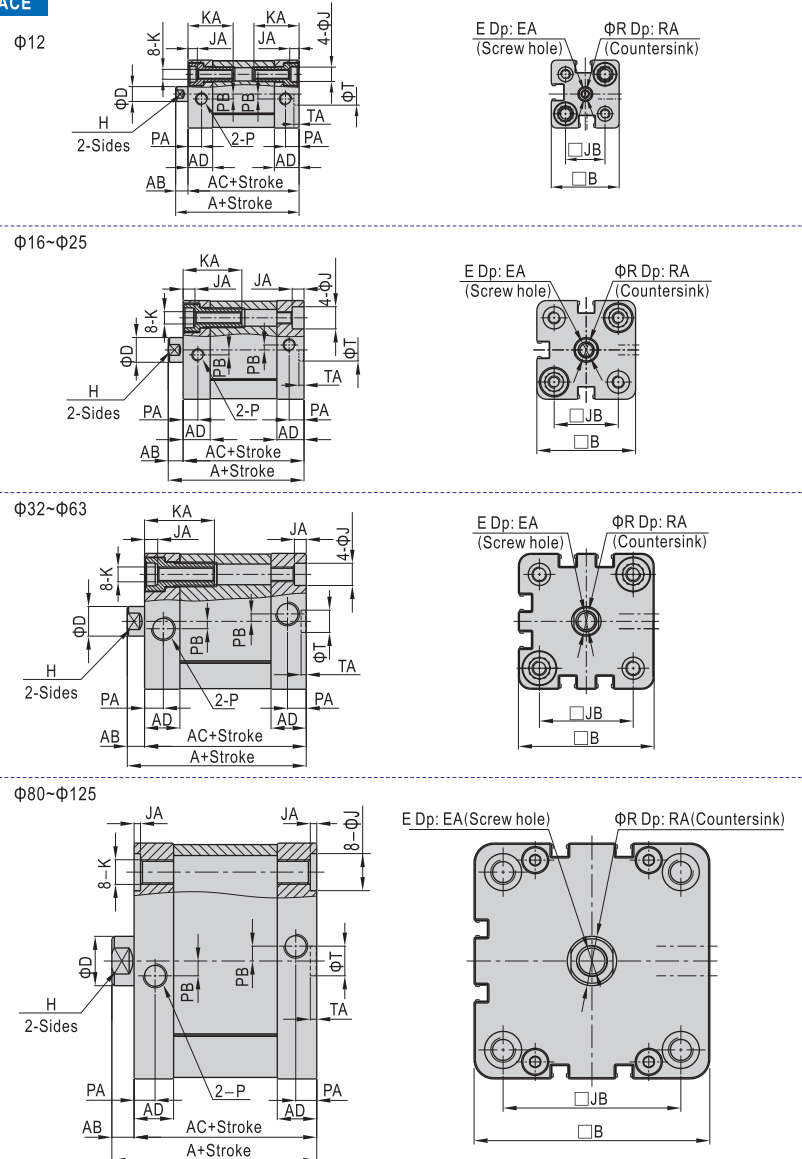
TACE-S



NO.	Item	Material
1	Screw	Carbon steel
2	Back cover	Aluminum alloy
3	Bumper	TPU
4	O-ring	NBR
5	Wear ring	No(Φ 12~20)\Wear resistant material(Others)
6	Magnet	Sintered metal(Neodymium-iron-boron)(Φ 12~20) Plastic(Others)
7	Piston seal	NBR
8	Piston	Aluminum alloy
9	Piston rod	S45C
10	Body	Aluminum alloy
11	Front cover	Aluminum alloy
12	Bushing	No(Φ 12~25)\Wear resistant material(Others)
13	Front cover packing	NBR
14	Panel	Aluminum alloy
15	Screw	Carbon steel
16	Bushing	Wear resistant material
17	Guide rod	Stainless steel(Φ 12~40)\S45C(Others)

Dimensions

ACE



Bore size/Item	A	AB	AC	AD	B	D	E	EA	H	J	JA	JB	K	KA
12	40	5	35	10	27.5	6	M3 × 0.5	8	5	6	3.5	16	M4 × 0.7	18.5
16	40	5	35	10	30	8	M4 × 0.7	10	7	6	3.5	18	M4 × 0.7	18.5
20	43	6	37	10.5	35.5	10	M6 × 1.0	14	9	9	4.5	22	M5 × 0.8	23.5
25	45	6	39	11	40	10	M6 × 1.0	14	9	9	4.5	26	M5 × 0.8	23.5
32	51	7	44	14	49.5	12	M8 × 1.25	16	10	9	4.5	32.5	M6 × 1.0	28.5
40	52.5	7	45.5	14.5	55	12	M8 × 1.25	16	10	9	4.5	38	M6 × 1.0	28.5
50	53.5	8	45.5	14.5	65.5	16	M10 × 1.5	20	13	11	4.5	46.5	M8 × 1.25	30.5
63	57	8	49	15	75.5	16	M10 × 1.5	20	13	11	4.5	56.5	M8 × 1.25	30.5
80	63	9	54	16	95.5	20	M12 × 1.75	20	17	15	2.5	72	M10 × 1.5	—
100	76	9	67	19	113.5	20	M12 × 1.75	20	17	15	2.5	89	M10 × 1.5	—
125	92	11	81	20	134.5	25	M16 × 2.0	25	21	—	—	110	M12 × 1.75	—

Bore size/Item	P	PA	PB	R	RA	T	TA
12	M5 × 0.8	5.5	2	3.5	1.5	9	2.1
16	M5 × 0.8	5.5	2	4.5	1.5	9	2.1
20	M5 × 0.8	6	2	6.5	2.5	9	2.1
25	M5 × 0.8	6	2	6.5	2.5	9	2.1
32	G1/8	7.5	3	8.5	3.5	9	2.1
40	G1/8	7.5	3	8.5	3.5	9	2.1
50	G1/8	7.5	3	10.5	4.5	12	2.6
63	G1/8	7.5	4	10.5	4.5	12	2.6
80	G1/8	8.5	6	12.5	6	12	2.6
100	G1/8	10.5	7	12.5	6	12	2.6
125	G1/4	10.5	8	16.5	7	12	2.6

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.
Please refer to page 245 for male thread dimensions.

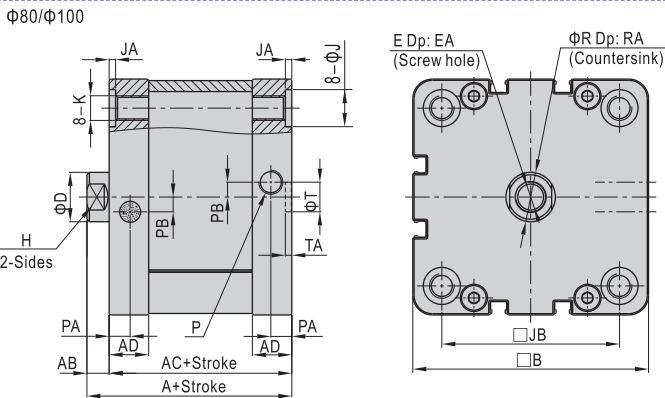
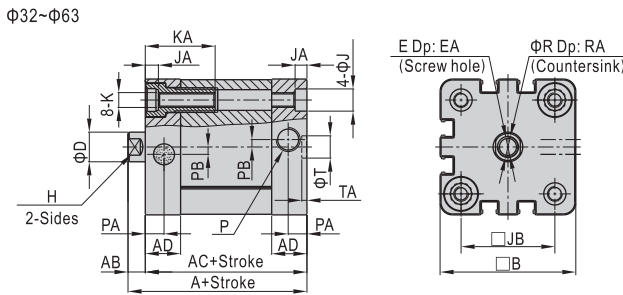
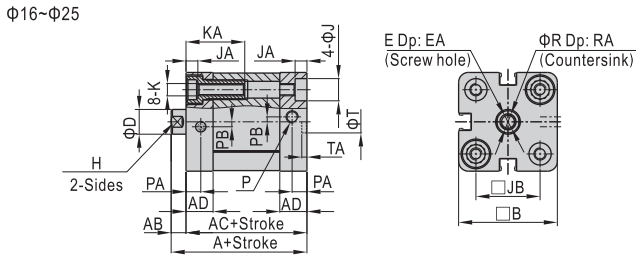
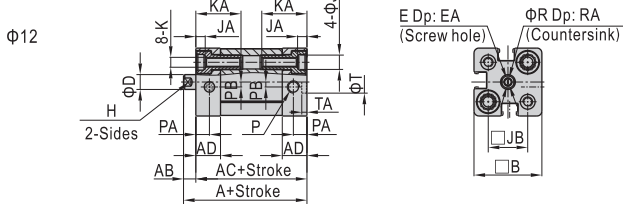


ACE

Compact cylinder

ACE Series

ASE

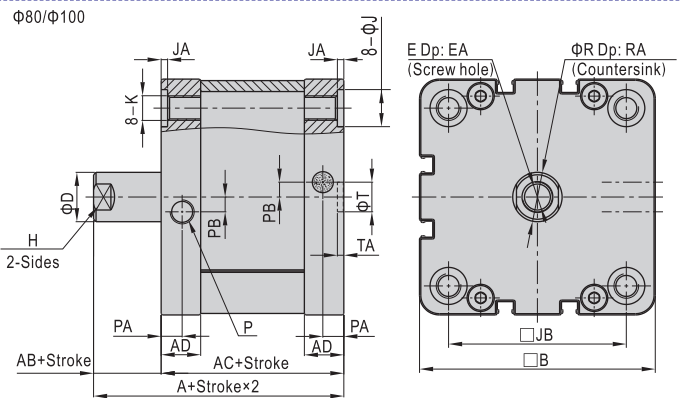
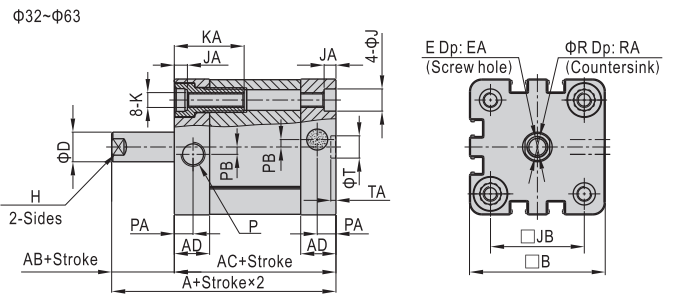
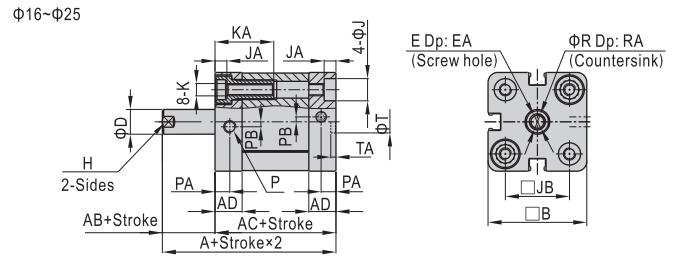
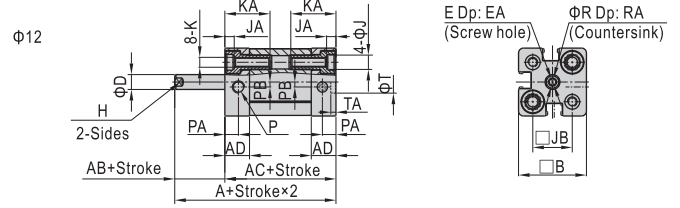


Bore size\Item	A	AB	AC	AD	B	D	E	EA	H	J	JA	JB
12	40	5	35	10	27.5	6	M3 × 0.5	8	5	6	3.5	16
16	40	5	35	10	30	8	M4 × 0.7	10	7	6	3.5	18
20	43	6	37	10.5	35.5	10	M6 × 1.0	14	9	9	4.5	22
25	45	6	39	11	40	10	M6 × 1.0	14	9	9	4.5	26
32	51	7	44	14	49.5	12	M8 × 1.25	16	10	9	4.5	32.5
40	52.5	7	45.5	14.5	55	12	M8 × 1.25	16	10	9	4.5	38
50	53.5	8	45.5	14.5	65.5	16	M10 × 1.5	20	13	11	4.5	46.5
63	57	8	49	15	75.5	16	M10 × 1.5	20	13	11	4.5	56.5
80	63	9	54	16	95.5	20	M12 × 1.75	20	17	15	2.5	72
100	76	9	67	19	113.5	20	M12 × 1.75	20	17	15	2.5	89

Bore size\Item	K	KA	P	PA	PB	R	RA	T	TA
12	M4 × 0.7	18.5	M5 × 0.8	5.5	2	3.5	1.5	9	2.1
16	M4 × 0.7	18.5	M5 × 0.8	5.5	2	4.5	1.5	9	2.1
20	M5 × 0.8	23.5	M5 × 0.8	6	2	6.5	2.5	9	2.1
25	M5 × 0.8	23.5	M5 × 0.8	6	2	6.5	2.5	9	2.1
32	M6 × 1.0	28.5	G1/8	7.5	3	8.5	3.5	9	2.1
40	M6 × 1.0	28.5	G1/8	7.5	3	8.5	3.5	9	2.1
50	M8 × 1.25	30.5	G1/8	7.5	3	10.5	4.5	12	2.6
63	M8 × 1.25	30.5	G1/8	7.5	4	10.5	4.5	12	2.6
80	M10 × 1.5	—	G1/8	8.5	6	12.5	6	12	2.6
100	M10 × 1.5	—	G1/8	10.5	7	12.5	6	12	2.6

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder. Please refer to page 245 for male thread dimensions.

ATE



Bore size\Item	A	AB	AC	AD	B	D	E	EA	H	J	JA	JB
12	40	5	35	10	27.5	6	M3 × 0.5	8	5	6	3.5	16
16	40	5	35	10	30	8	M4 × 0.7	10	7	6	3.5	18
20	43	6	37	10.5	35.5	10	M6 × 1.0	14	9	9	4.5	22
25	45	6	39	11	40	10	M6 × 1.0	14	9	9	4.5	26
32	51	7	44	14	49.5	12	M8 × 1.25	16	10	9	4.5	32.5
40	52.5	7	45.5	14.5	55	12	M8 × 1.25	16	10	9	4.5	38
50	53.5	8	45.5	14.5	65.5	16	M10 × 1.5	20	13	11	4.5	46.5
63	57	8	49	15	75.5	16	M10 × 1.5	20	13	11	4.5	56.5
80	63	9	54	16	95.5	20	M12 × 1.75	20	17	15	2.5	72
100	76	9	67	19	113.5	20	M12 × 1.75	20	17	15	2.5	89

Bore size\Item	K	KA	P	PA	PB	R	RA	T	TA
12	M4 × 0.7	18.5	M5 × 0.8	5.5	2	3.5	1.5	9	2.1
16	M4 × 0.7	18.5	M5 × 0.8	5.5	2	4.5	1.5	9	2.1
20	M5 × 0.8	23.5	M5 × 0.8	6	2	6.5	2.5	9	2.1
25	M5 × 0.8	23.5	M5 × 0.8	6	2	6.5	2.5	9	2.1
32	M6 × 1.0	28.5	G1/8	7.5	3	8.5	3.5	9	2.1
40	M6 × 1.0	28.5	G1/8	7.5	3	8.5	3.5	9	2.1
50	M8 × 1.25	30.5	G1/8	7.5	3	10.5	4.5	12	2.6
63	M8 × 1.25	30.5	G1/8	7.5	4	10.5	4.5	12	2.6
80	M10 × 1.5	—	G1/8	8.5	6	12.5	6	12	2.6
100	M10 × 1.5	—	G1/8	10.5	7	12.5	6	12	2.6

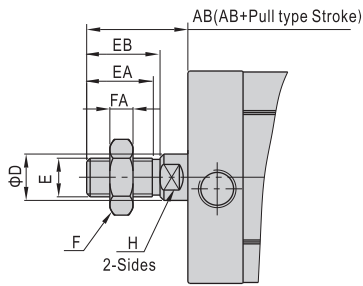
Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder. Please refer to page 245 for male thread dimensions.



Compact cylinder

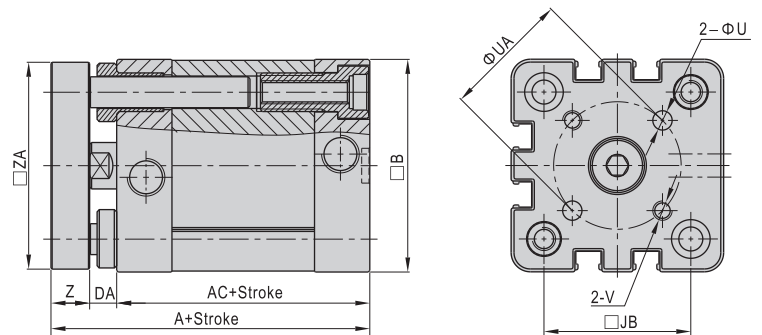
ACE Series

Male thread

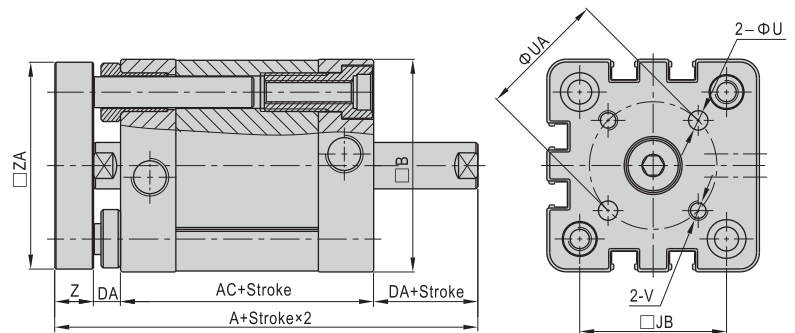


Bore size\Item	AB	D	E	EA	EB	F	FA	H
12	15	6	M5 × 0.8	9	10	8	4	5
16	17	8	M6 × 1.0	11	12	10	5	7
20	22	10	M8 × 1.25	15	16	12	6	9
25	22	10	M8 × 1.25	15	16	12	6	9
32	26	12	M10 × 1.25	17	19	17	6	10
40	26	12	M10 × 1.25	17	19	17	6	10
50	30	16	M12 × 1.25	20	22	17	7	13
63	30	16	M12 × 1.25	20	22	17	7	13
80	37	20	M16 × 1.5	26	28	23	8	17
100	37	20	M16 × 1.5	26	28	23	8	17
125	51	25	M20 × 1.5	38	40	26	10	21

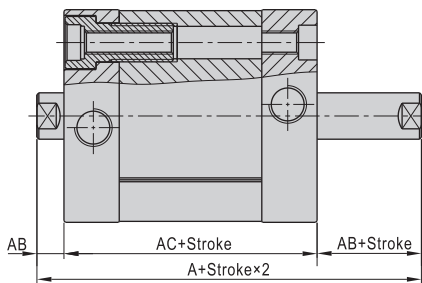
TACE



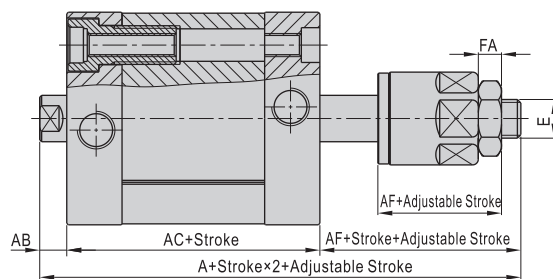
TACED



ACED



ACEJ



Bore size\Item	A(ACED)	A(ACEJ)	AB	AC	AF	FA	E
12	45	57	5	35	17	4	M5 × 0.8
16	45	61	5	35	21	5	M6 × 1.0
20	49	68	6	37	25	6	M8 × 1.25
25	51	70	6	39	25	6	M8 × 1.25
32	58	78	7	44	27	6	M10 × 1.25
40	59.5	79.5	7	45.5	27	6	M10 × 1.25
50	61.5	81.5	8	45.5	28	7	M12 × 1.25
63	65	85	8	49	28	7	M12 × 1.25
80	72	92	9	54	29	8	M16 × 1.5
100	85	105	9	67	29	8	M16 × 1.5
125	103	127.5	11	81	35.5	10	M20 × 1.5

Remark:

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

Bore size\Item	A(TACE)	A(TACED)	AC	B	DA	JB	U	UA	V	Z	ZA
12	46	51	35	27.5	5	16	3	12	M3 × 0.5	6	26.5
16	46	51	35	30	5	18	3	14	M3 × 0.5	6	29
20	51	57	37	35.5	6	22	4	17	M4 × 0.7	8	34.5
25	53	59	39	40	6	26	5	22	M5 × 0.8	8	39
32	61	68	44	49.5	7	32.5	5	28	M5 × 0.8	10	48
40	62.5	69.5	45.5	55	7	38	5	33	M5 × 0.8	10	53.5
50	65.5	73.5	45.5	65.5	8	46.5	6	42	M6 × 1.0	12	64
63	69	77	49	75.5	8	56.5	6	50	M6 × 1.0	12	74
80	77	86	54	95.5	9	72	8	65	M8 × 1.25	14	94
100	90	99	67	113.5	9	89	10	80	M10 × 1.5	14	112

Remark:

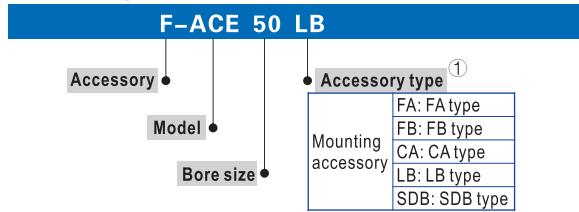
1. The unmarked dimension is the same as ACE standard type
2. The dimensions of magnet type cylinder are the same as non-magnet type cylinder.



ACE

Accessories

Ordering code



① The listed accessories are for ACE cylinder. Accessories that are adaptable to other cylinders are not shown. Please refer to accessory list on P248 for selection and ordering information.

Accessory selection

Cylinder model	Accessories		Mounting accessory						
	LB	FA	FB	CA	CB	CR	SDB	FTC	TCM2
ACE	●	●	●	●	●	●	●	●	●
ASE/ATE	●	●	●	●	●	●	●	●	●
ACED/ACEJ	●	●	×	×	×	×	×	●	●
TACE	×	×	●	●	●	●	●	●	●
TACED	×	×	●	×	×	×	×	×	×

Cylinder model	Accessories	Knuckle ①				Sensor switch②		
		I	Y	F	U	CS1-E	DS1-E	
ACE	Female thread	Standard	×	×	×	×	×	×
	With magnet	×	×	×	×	●	●	
Male thread	Standard	●	●	●	●	×	×	
	With magnet	●	●	●	●	●	●	
ASE/ATE	Female thread	Standard	×	×	×	×	×	
	With magnet	×	×	×	×	●	●	
Male thread	Standard	●	●	●	●	×	×	
	With magnet	●	●	●	●	●	●	
ACED/ACEJ	Female thread	Standard	×	×	×	×	×	
	With magnet	×	×	×	×	●	●	
Male thread	Standard	●	●	●	●	×	×	
	With magnet	●	●	●	●	●	●	
TACE	Standard	×	×	×	×	×	×	
TACED	With magnet	×	×	×	×	●	●	

① The I knuckle and Y knuckle for bore $\Phi 12$ are adaptable to ACQ cylinders, and other knuckles are common parts. Please refer to P393~396 for knuckle detail.
② Please refer to P397~420 for detail of sensor switch.

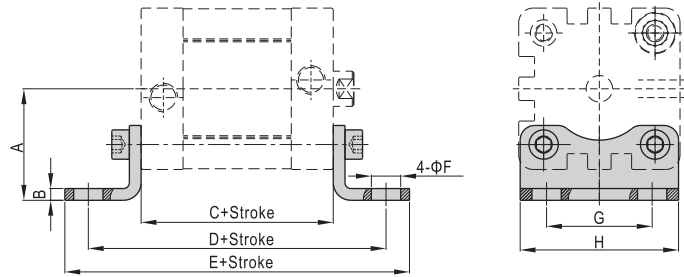
Material of accessories

Bore size	Accessories		Mounting accessory							Knuckle			
	LB	FA	FB	CA	CB	CR	SDB	FTC	TCM2	I	Y	F	U
12~25	△	●	●	●	-	-	△	■	●	□	□	□	□
32~100	△	●	●	◇	◇	◇	-	■	●	□	□	□	□
125	-	◇	◇	◇	◇	◇	-	■	●	□	□	□	□

● — Aluminum alloy; ■ — Cast iron;
◇ — Ductile Iron; △ — SPCC; □ — Carbon Steel;

Dimensions

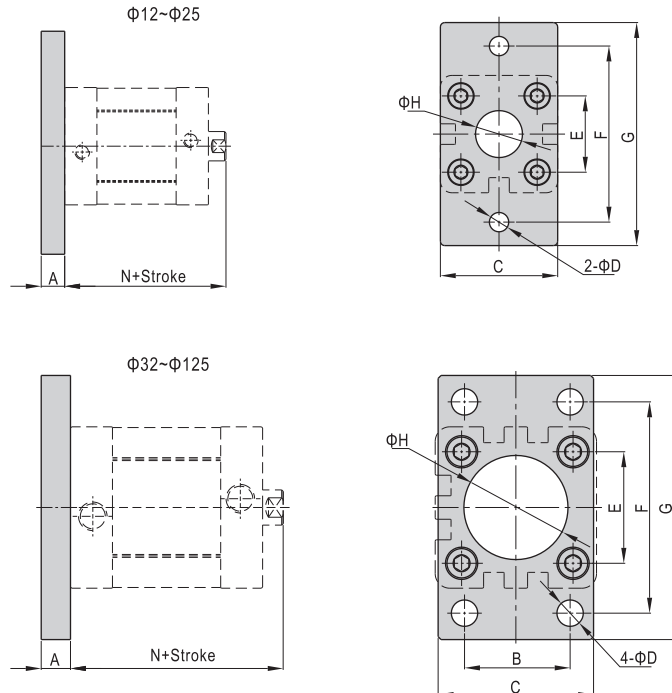
LB



Bore size\Item	A	B	C	D	E	F	G	H
12	21	3	35	61	71	5.5	16	25
16	22	3	35	61	70.6	5.5	18	27
20	27	3.8	37	69	81.6	6.5	22	34
25	29	3.8	39	71	83.6	6.5	26	38
32	33.5	4	44	76	89	7	32	48
40	38	4	45.5	81.5	97.5	10	36	54
50	45	5	45.5	87.5	103.5	10	45	65
63	50	5	49	91	107	10	50	75
80	63	6	54	106	127	12	63	95
100	74	6	67	121	146	14.5	75	112

Note) Valve C in the above table is only for ACE series. Please refer to relevant content for valve C of other series.

FA/FB

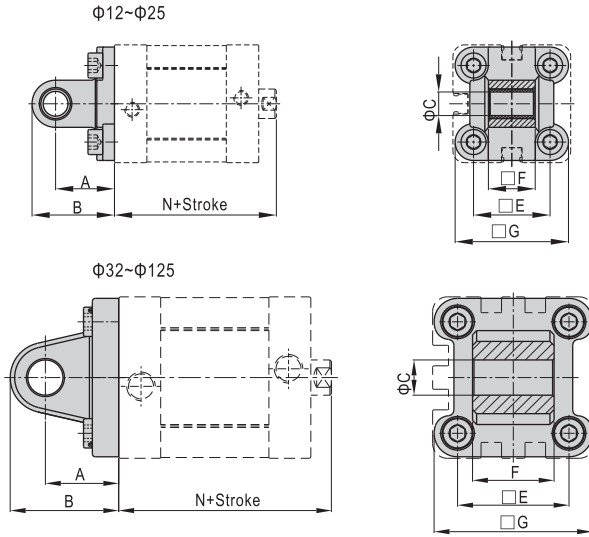


Bore size\Item	A	B	C	D	E	F	G	H	N
12	8	-	25	5.5	16	40	55	10	40
16	8	-	30	5.5	18	43	55	10	40
20	8	-	35	6.6	22	55	68	16	43
25	8	-	39.5	6.6	26	60	76	16	45
32	10	32	47	7	32.5	64	80	30.5	51
40	10	36	53	9	38	72	90	35.5	52.5
50	12	45	65	9	46.5	90	108	40.5	53.5
63	12	50	75	9	56.5	100	118	45.5	57
80	16	63	95	12.5	72	126	150	45.5	63
100	16	75	115	14.5	89	150	176	55.5	76
125	20	90	139	16.5	110	180	218	60.5	92



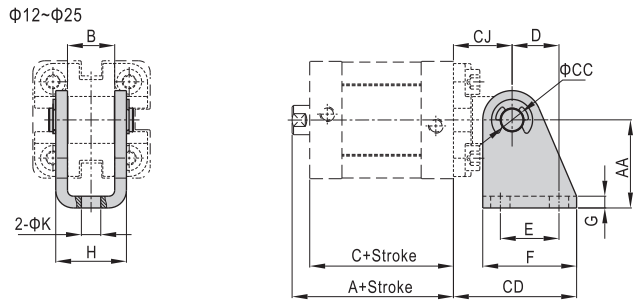
Accessories

CA



Bore size\Item	A	B	C	E	F	G	N
12	16	22	6	16	11.9	24	40
16	16	22	6	18	11.9	28.5	40
20	20	28	8	22	15.9	34.5	43
25	20	28	8	26	15.9	38.5	45
32	22	32.5	10	32.5	25.8	46.5	51
40	25	37	12	38	27.8	54	52.5
50	27	39	12	46.5	31.7	64	53.5
63	32	47	16	56.5	39.7	75	57
80	36	51.5	16	72	49.7	93	63
100	41	61	20	89	59.7	110	76
125	50	74	25	110	69.7	134	92

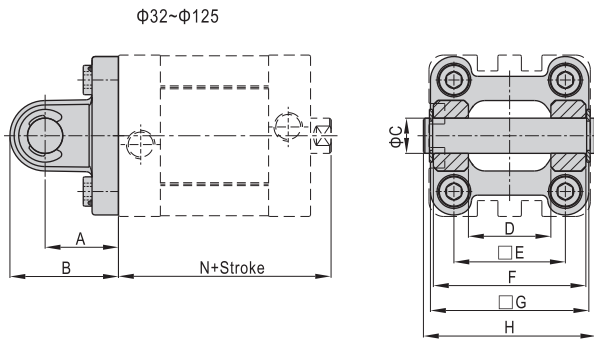
SDB



Bore size\Item	A	AA	B	C	CC	CD	CJ	D	E	F	G	H	K
12	40	27	12.1	35	6	34	16	13	15	25	3	18.1	5.5
16	40	27	12.1	35	6	34	16	13	15	25	3	18.1	5.5
20	43	30	16.1	37	8	42	20	16	20	32	4	24.1	6.6
25	45	30	16.1	39	8	42	20	16	20	32	4	24.1	6.6

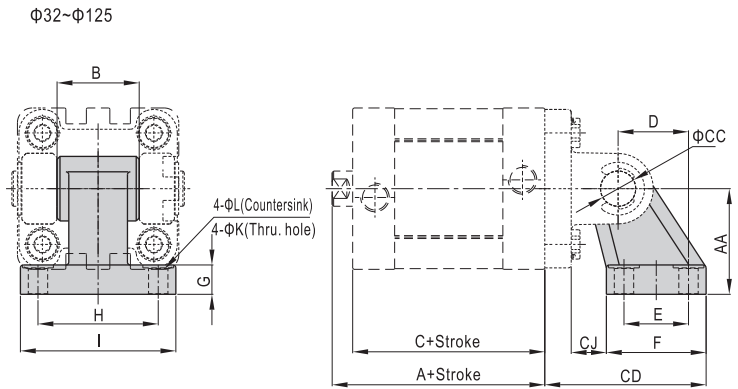
Note) SDB can't be used alone, it must be used with CA.

CB



Bore size\Item	A	B	C	D	E	F	G	H	N
32	22	32.5	10	26	32.5	45	46.5	51	51
40	25	37	12	28	38	52	54	59	52.5
50	27	39	12	32	46.5	60	64	67	53.5
63	32	47	16	40	56.5	70	75	77	57
80	36	51.5	16	50	72	90	93	97	63
100	41	61	20	60	89	110	110	119	76
125	50	74	25	70	110	130	134	139	92

CR



Bore size\Item	A	AA	B	C	CC	CD	CJ	D	E	F	G	H	I	K	L
32	51	32	26	44	10	50	10	21	18	31	8	38	51	6.6	11
40	52.5	36	28	45.5	12	56	12	24	22	35	10	41	54	6.6	11
50	53.5	45	32	45.5	12	68	13	33	30	45	12	50	65	9	14
63	57	50	40	49	16	77	17	37	35	50	12	52	67	9	14
80	63	63	50	54	16	93	19	47	40	60	14	66	86	11	17
100	76	71	60	67	20	106	22	55	50	70	15	76	96	11	17
125	92	90	70	81	25	135	26	70	60	90	20	94	124	14	20

Note) CR can't be used alone, it must be used with CB.

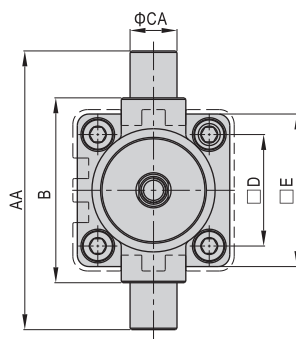
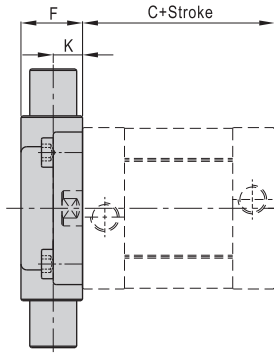


Compact cylinder

Accessories

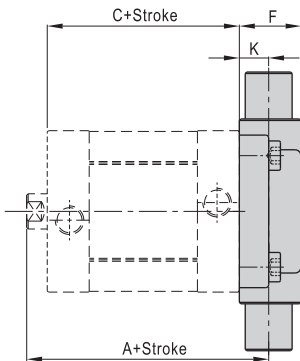
FTC

Φ32~Φ125



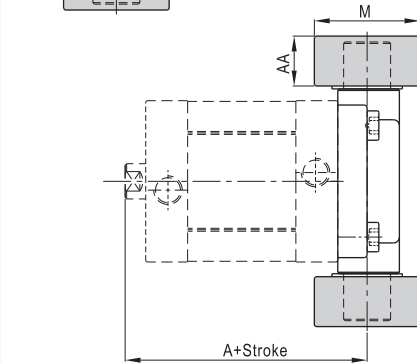
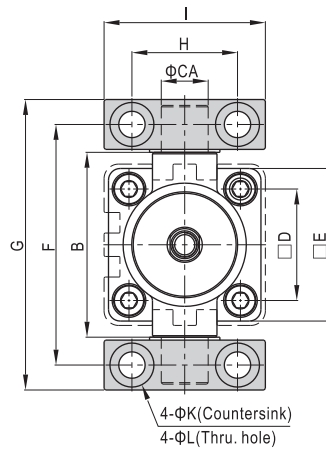
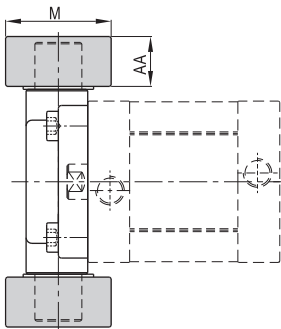
Bore size\Item	A	AA	B	C	CA
32	63	74	50	44	12
40	66.5	95	63	45.5	16
50	71.5	107	75	45.5	16
63	77	130	90	49	20
80	85	150	110	54	20
100	102	185	132	67	25
125	124	210	160	81	25

Bore size\Item	D	E	F	K
32	32.5	46	19	10
40	38	52	21	10
50	46.5	64	26	12
63	56.5	74	28	12
80	72	94	31	16
100	89	114	35	16
125	110	139	43	20



TCM2

Φ32~Φ125

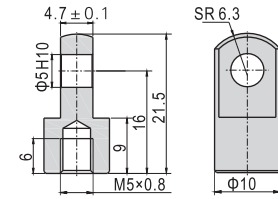


Bore size\Item	A	AA	B	CA	D	E	F	G	H	I	K	L	M
32	63	14	52	12	32.5	46	66	80	32	46	11	7	30
40	66.5	17	65	16	38	52	82	99	36	55	15	9	36
50	71.5	17	75	16	46.5	64	94	111	36	55	15	9	36
63	77	20.5	90	20	56.5	74	113.5	134	42	65	18	11	40
80	85	20.5	112	20	72	94	133.5	154	42	65	18	11	40
100	102	24.5	135	25	89	114	159.5	184	50	75	20	14	50
125	124	24.5	170	25	110	139	187.5	212	50	75	20	14	50

Note) TCM2 can't be used alone, it must be used with FTC.
The installation position of the accessories can not be adjusted arbitrarily.

I knuckle

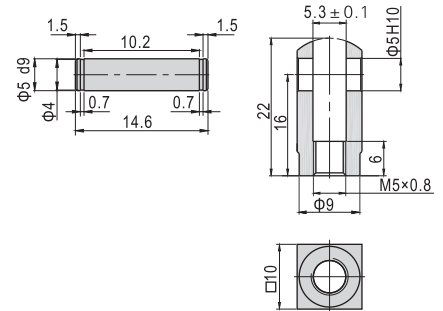
F-ACQ12I



Note) Other I knuckles are common parts. Please refer to P393 for knuckle detail.

Y knuckle

F-ACQ12Y



Note) Other Y knuckles are common parts. Please refer to P394 for knuckle detail.

List for ordering code of accessories

Bore size	Accessories		Mounting accessory	
	LB	FA/FB	CA	CB
12	F-ACE12LB	F-ACE12FA	F-ACE12CA	-
16	F-ACP12LB	F-ACE16FA	F-ACE16CA	-
20	F-ACP20LB	F-ACE20FA	F-ACE20CA	-
25	F-ACP25LB	F-ACE25FA	F-ACE25CA	-
32	F-ACE32LB	F-SI32FA	F-SE32CA	F-SE32CB
40	F-ACE40LB	F-SI40FA	F-SE40CA	F-SE40CB
50	F-ACE50LB	F-SI50FA	F-SE50CA	F-SE50CB
63	F-ACE63LB	F-SI63FA	F-SE63CA	F-SE63CB
80	F-ACE80LB	F-SI80FA	F-SE80CA	F-SE80CB
100	F-ACE100LB	F-SI100FA	F-SE100CA	F-SE100CB
125	-	F-SI125FA	F-SE125CA	F-SE125CB

Bore size	Accessories		Mounting accessory	
	CR	SDB	FTC	TCM2
12	-	F-MI12SDB	-	-
16	-	F-MI12SDB	-	-
20	-	F-MI20SDB	-	-
25	-	F-MI20SDB	-	-
32	F-SI32CR	-	F-SI32FTC	F-SI32TCM2
40	F-SI40CR	-	F-SI40FTC	F-SI40TCM2
50	F-SI50CR	-	F-SI50FTC	F-SI40TCM2
63	F-SI63CR	-	F-SI63FTC	F-SI63TCM2
80	F-SI80CR	-	F-SI80FTC	F-SI63TCM2
100	F-SI100CR	-	F-SI100FTC	F-SI125TCM2
125	F-SI125CR	-	F-SI125FTC	F-SI125TCM2

Bore size	Accessories			
	I: I Knuckle	Y: Y Knuckle	F: F Knuckle	U: U Knuckle
12	F-ACQ12I	F-ACQ12Y	F-M5X080F	F-M5X080U
16	F-M6X100I	F-M6X100Y	F-M6X100F	F-M6X100U
20				
25	F-M8X125I	F-M8X125Y	F-M8X125F	F-M8X125U
32				
40	F-M10X125I	F-M10X125Y	F-M10X125F	F-M10X125U
50				
63	F-M12X125I	F-M12X125Y	F-M12X125F	F-M12X125U
80				
100	F-M16X150I	F-M16X150Y	F-M16X150F	F-M16X150U
125	F-M20X150I	F-M20X150Y	F-M20X150F	F-M20X150U

Bore size	Accessories		Sensor switch	
	CS1-E		DS1-E	
12~125	CS1-E		DS1-E	

