



Compact cylinder——ACE Series

In accordance with ISO21287 standard

Compendium of ACE Series

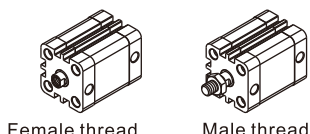
In accordance with ISO21287 standard

In accordance with ISO21287 standard,
the mounting size is vogue.

Magnetic switch slots around the cylinder body

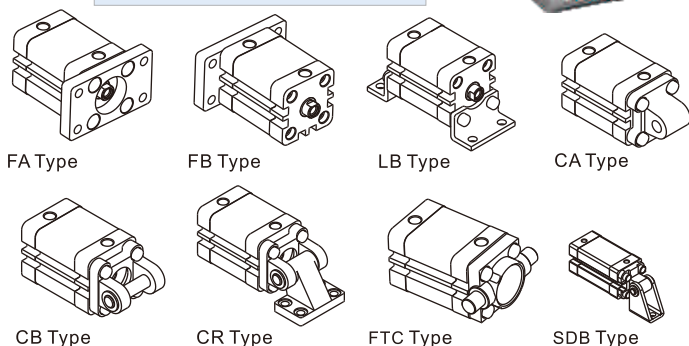
There are magnetic switch slots around the cylinder
body convenient to install inducting switch.

Two kinds of rod type



Female thread Male thread

Multi-mounting accessories



Multi-type cylinder

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)



Compact structure

Compact structure can effectively save fifty percent
installation space with ISO15552 standard cylinder.

Eleven bore size are available

Bore size: 12, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125

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
12	6	Single Push side	113.1	-	6.1	17.4	28.7	40.0	51.4	62.7
		Single Pull side	84.8	-	0.5	8.9	17.4	25.9	34.4	42.9
		Double Push side	113.1	11.3	22.6	33.9	45.2	56.5	67.9	79.2
		Double Pull side	84.8	8.5	17.0	25.4	33.9	42.4	50.9	59.4
16	8	Single Push side	201.1	-	18.1	38.2	58.3	78.4	98.5	118.6
		Single Pull side	150.8	-	8.1	23.1	38.2	53.3	68.4	83.5
		Double Push side	201.1	20.1	40.2	60.3	80.4	100.5	120.6	140.7
		Double Pull side	150.8	15.1	30.2	45.2	60.3	75.4	90.5	105.6
20	10	Single Push side	314.2	-	33.1	64.5	96.0	127.4	158.8	190.2
		Single Pull side	235.6	-	17.4	41.0	64.5	88.1	111.7	135.2
		Double Push side	314.2	31.4	62.8	94.2	125.7	157.1	188.5	219.9
		Double Pull side	235.6	23.6	47.1	70.7	94.2	117.8	141.4	164.9
25	10	Single Push side	490.9	13.8	62.9	112.0	161.0	210.1	259.2	308.3
		Single Pull side	412.3	5.9	47.2	88.4	129.6	170.9	212.1	253.3
		Double Push side	490.9	49.1	98.2	147.3	196.3	245.4	294.5	343.6
		Double Pull side	412.3	41.2	82.5	123.7	164.9	206.2	247.4	288.6
32	12	Single Push side	804.2	30.8	111.2	191.7	272.1	352.5	432.9	513.4
		Single Pull side	691.2	19.5	88.6	157.7	226.9	296.0	365.1	434.2
		Double Push side	804.2	80.4	160.8	241.3	321.7	402.1	482.5	563.0
		Double Pull side	691.2	69.1	138.2	207.3	276.5	345.6	414.7	483.8

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
40	12	Single Push side	1256.6	54.2	179.8	305.5	431.2	556.8	682.5	808.1
		Single Pull side	1143.5	42.9	157.2	271.6	385.9	500.3	614.6	729.0
		Double Push side	1256.6	125.7	251.3	377.0	502.7	628.3	754.0	879.6
		Double Pull side	1143.5	114.4	228.7	343.1	457.4	571.8	686.1	800.5
50	16	Single Push side	1963.5	90.1	286.5	482.8	679.2	875.5	1071.9	1268.2
		Single Pull side	1762.4	70.0	246.3	422.5	598.8	775.0	951.3	1127.5
		Double Push side	1963.5	196.3	392.7	589.0	785.4	981.7	1178.1	1374.4
		Double Pull side	1762.4	176.2	352.5	528.7	705.0	881.2	1057.5	1233.7
63	16	Single Push side	3117.2	173.6	485.3	797.1	1108.8	1420.5	1732.2	2044.0
		Single Pull side	2916.2	153.5	445.1	736.8	1028.4	1320.0	1611.6	1903.2
		Double Push side	3117.2	311.7	623.4	935.2	1246.9	1558.6	1870.3	2182.1
		Double Pull side	2916.2	291.6	583.2	874.9	1166.5	1458.1	1749.7	2041.3
80	20	Single Push side	5026.5	305.6	808.2	1310.9	1813.5	2316.2	2818.8	3321.5
		Single Pull side	4712.4	274.1	745.4	1216.6	1687.9	2159.1	2630.3	3101.6
		Double Push side	5026.5	502.7	1005.3	1508.0	2010.6	2513.3	3015.9	3518.6
		Double Pull side	4712.4	471.2	942.5	1413.7	1885.0	2356.2	2827.4	3298.7
100	20	Single Push side	7854.0	499.1	1284.5	2069.9	2855.3	3640.7	4426.1	5211.5
		Single Pull side	7539.8	467.7	1221.7	1975.7	2729.6	3483.6	4237.6	4991.6
		Double Push side	7854.0	785.4	1570.8	2356.2	3141.6	3927.0	4712.4	5497.8
		Double Pull side	7539.8	754.0	1508.0	2262.0	3015.9	3769.9	4523.9	5277.9
125	25	Double Push side	12271.8	1227.2	2454.4	3681.5	4908.7	6135.9	7363.1	8590.3
		Double Pull side	11780.9	1178.1	2356.2	3534.3	4712.4	5890.5	7086.5	8246.6

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.
- 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.



Compact cylinder

ACE Series—Accessories

List for ordering code of accessories

Accessories Bore size	Mounting accessories								Knuckle				Sensor switch	
	LB	FA/FB	CA	CB	CR	SDB	FTC	TCM2	I	Y	F	U	CMSE	DMSE
12	F-ACE12LB	F-ACE12FA	F-ACE12CA	-	-	F-MI12SDB	-	-	F-ACQ12I	F-ACQ12Y	F-M5X080F	F-M5X080U	CMSE	DMSE
16	F-ACP12LB	F-ACE16FA	F-ACE16CA	-	-	F-MI12SDB	-	-	F-M6X100I	F-M6X100Y	F-M6X100F	F-M6X100U		
20	F-ACP20LB	F-ACE20FA	F-ACE20CA	-	-	F-MI20SDB	-	-	F-M8X125I	F-M8X125Y	F-M8X125F	F-M8X125U		
25	F-ACP25LB	F-ACE25FA	F-ACE25CA	-	-	F-MI20SDB	-	-						
32	F-ACE32LB	F-SI32FA	F-SE32CA	F-SE32CB	F-SI32CR	-	F-SI32FTC	F-SI32TCM2	F-M10X125I	F-M10X125Y	F-M10X125F	F-M10X125U		
40	F-ACE40LB	F-SI40FA	F-SE40CA	F-SE40CB	F-SI40CR	-	F-SI40FTC	F-SI40TCM2						
50	F-ACE50LB	F-SI50FA	F-SE50CA	F-SE50CB	F-SI50CR	-	F-SI50FTC	F-SI40TCM2	F-M12X125I	F-M12X125Y	F-M12X125F	F-M12X125U		
63	F-ACE63LB	F-SI63FA	F-SE63CA	F-SE63CB	F-SI63CR	-	F-SI63FTC	F-SI63TCM2						
80	F-ACE80LB	F-SI80FA	F-SE80CA	F-SE80CB	F-SI80CR	-	F-SI80FTC	F-SI63TCM2	F-M16X150I	F-M16X150Y	F-M16X150F	F-M16X150U		
100	F-ACE100LB	F-SI100FA	F-SE100CA	F-SE100CB	F-SI100CR	-	F-SI100FTC	F-SI125TCM2						
125	-	F-SI125FA	F-SE125CA	F-SE125CB	F-SI125CR	-	F-SI125FTC	F-SI125TCM2	F-M20X150I	F-M20X150Y	F-M20X150F	F-M20X150U		

Accessory selection

Cylinder model\Accessories			Mounting accessories									Knuckle[Note1]				Sensor switch	
			LB	FA	FB	CA	CB	CR	SDB	FTC	TCM2	I	Y	U	F	CMSE	DMSE
ACE	Female thread	Without magnet										×	×	×	×	×	×
		With magnet	●	●	●	●	●	●	●	●	●					●	●
	Male thread	Without magnet										●	●	●	●	×	×
		With magnet														●	●
ASE ATE	Female thread	Without magnet										×	×	×	×	×	×
		With magnet	●	●	●	●	●	●	●	●	●					●	●
	Male thread	Without magnet										●	●	●	●	×	×
		With magnet														●	●
ACED ACEJ	Female thread	Without magnet										×	×	×	×	×	×
		With magnet	●	●	×	×	×	×	×	●	●					●	●
	Male thread	Without magnet										●	●	●	●	×	×
		With magnet														●	●
TACE	Female thread	Without magnet	×	×	●	●	●	●	●	●	●	×	×	×	×	×	×
		With magnet														●	●
TACED	Female thread	Without magnet	×	×	●	×	×	×	×	×	×	×	×	×	×	×	×
		With magnet														●	●

[Note1] The I knuckle and Y knuckle for bore Φ12 are adaptable to ACQ cylinders, and other knuckles are common parts. Please refer to P349~352 for knuckle detail.

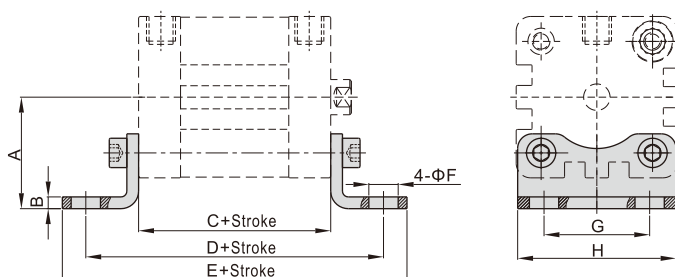
Material of accessories

Accessories Bore size	Mounting accessories									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

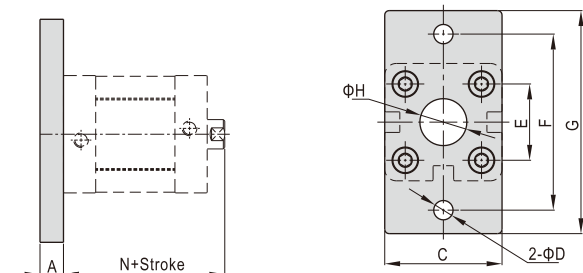
[Note] Valve C in the above table is only for ACE series. Please refer to relevant content for valve C of other series.

Compact cylinder

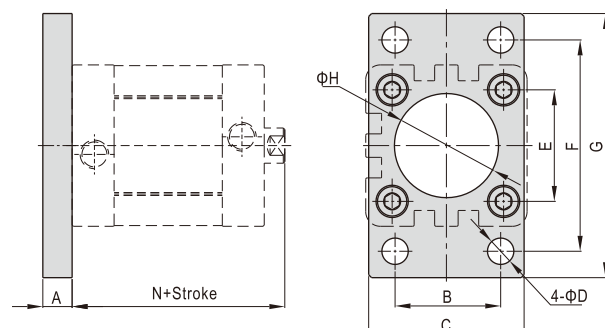
ACE Series—Accessories

FA/FB

Φ 12~Φ 25



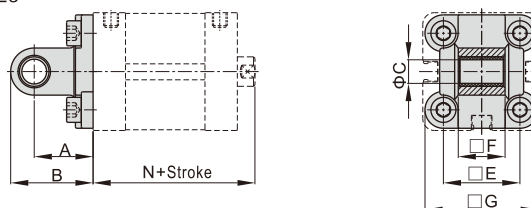
Φ 32~Φ 125



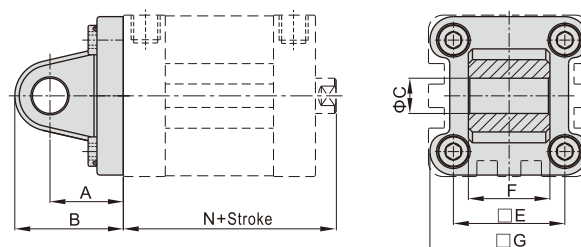
Bore size\Item	A	B	C	D	E	F	G	H	N
12	8	-	25	5.5	16	40	55	10	40
16	8	-	30	5.5	18	43	55	10	40
20	8	-	35	6.6	22	55	68	16	43
25	8	-	39.5	6.6	26	60	76	16	45
32	10	32	47	7	32.5	64	80	30.5	51
40	10	36	53	9	38	72	90	35.5	52.5
50	12	45	65	9	46.5	90	108	40.5	53.5
63	12	50	75	9	56.5	100	118	45.5	57
80	16	63	95	12.5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

CA

Φ 12~Φ 25

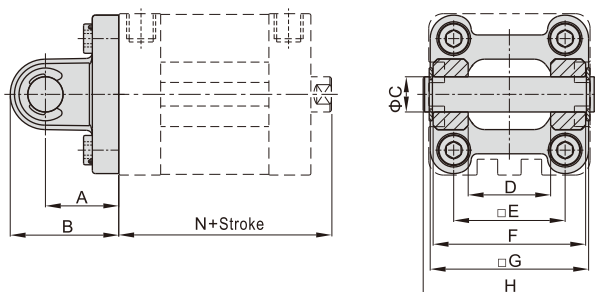


Φ 32~Φ 125



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

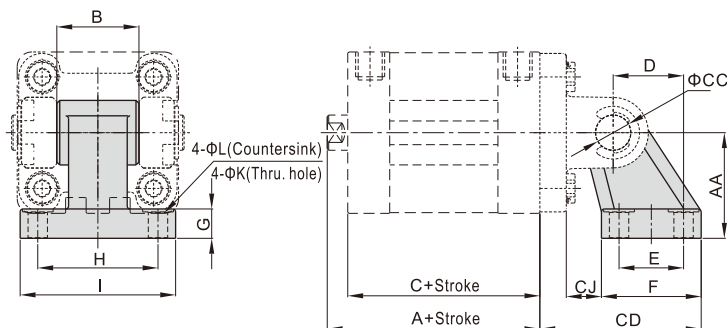
CB Φ 32~Φ 125



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

[Note] CB is attached with relevant PIN.

CR Φ 32~Φ 125



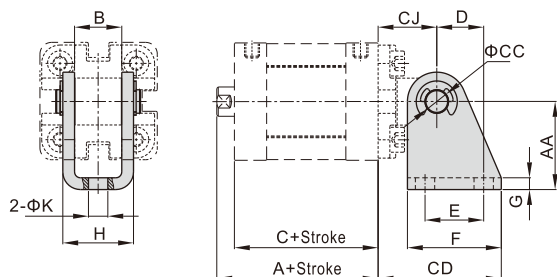
Bore size\Item	A	AA	B	C	CC	CD	CJ	D	E	F	G	H	I	K	L
32	51	32	26	44	10	50	10	21	18	31	8	38	51	6.6	11
40	52.5	36	28	45.5	12	56	12	24	22	35	10	41	54	6.6	11
50	53.5	45	32	45.5	12	68	13	33	30	45	12	50	65	9	14
63	57	50	40	49	16	77	17	37	35	50	12	52	67	9	14
80	63	63	50	54	16	93	19	47	40	60	14	66	86	11	17
100	76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

ACE Series—Accessories

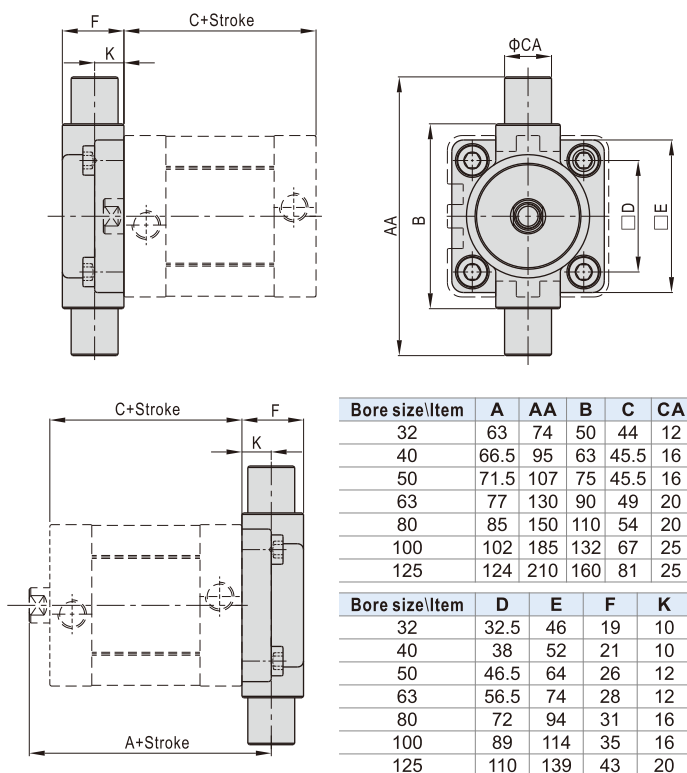
SDB $\Phi 12 \sim \Phi 25$



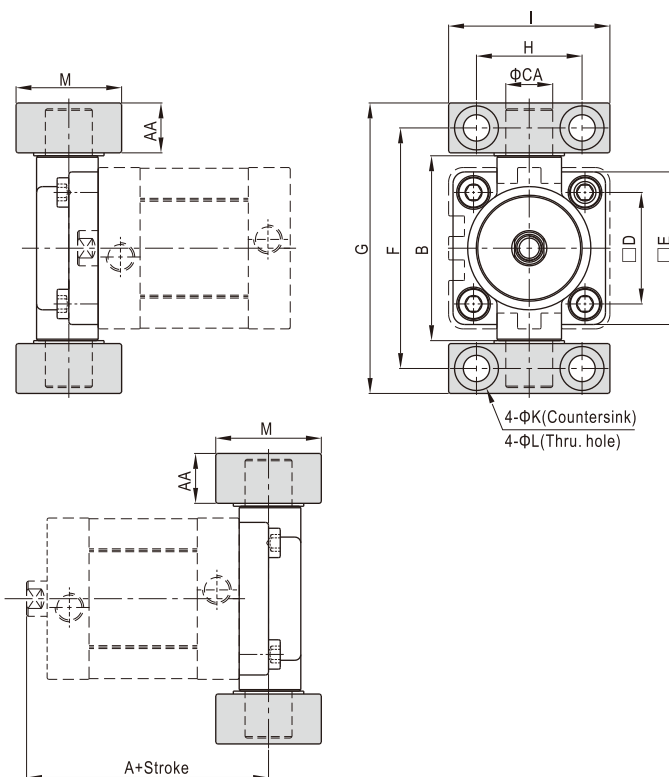
Bore size\Item	A	AA	B	C	CC	CD	CJ	D	E	F	G	H	K
12	40	27	12.1	35	6	34	16	13	15	25	2	18.1	5.5
16	40	27	12.1	35	6	34	16	13	15	25	2	18.1	5.5
20	43	30	16.1	37	8	42	20	16	20	32	2.5	24.1	6.6
25	45	30	16.1	39	8	42	20	16	20	32	2.5	24.1	6.6

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

FTC $\Phi 32 \sim \Phi 125$



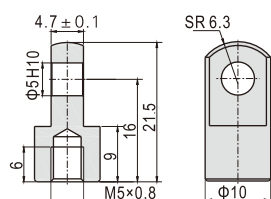
TCM2 $\Phi 32 \sim \Phi 125$



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

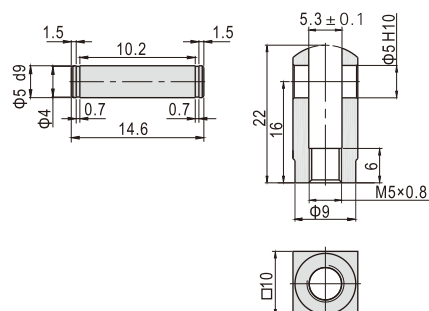
[Note] TCM2 can't be used alone, it must be used with FTC.
The installation position of the accessories can not be adjusted arbitrarily.

I Knuckle F-ACQ12I



[Note] Other I knuckles are common parts.
Please refer to P349 for knuckle detail,

Y Knuckle F-ACQ12Y



[Note] Other Y knuckles are common parts.
Please refer to P350 for knuckle detail.