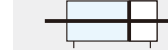


Symbol

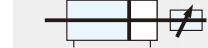
TC : ISO6430 standard type



TCD : Double piston rod type



TCA, TCB : Adjustable type



Features

- * Identical to ISO6430 standard.
- * High quality of aluminum tube provides a long service life.
- * High quality of seals ensures leakage free.
- * Various sensors for option.
- * With adjustable cushions on both ends.



How to order

*For ϕ TC32 ~ ϕ TC100 non-rotated type, please contact our sales.

TC	32	B	50	SF	1	FA	FY
Type	Bore size	Magnet	Stroke	Sensor type	Number of sensor	Mounting parts	Rod end joint
TC ISO6430 standard type	32 ϕ 32	B W/I magnet		Blank W/O sensor	1 pcs	Blank W/O mounting parts	Blank W/O rod end joint
TCD Double piston rod type	40 ϕ 40	C W/O magnet		SF LED in front	2 pcs	FA Front flange	FY Double knuckle joint
TCA Stroke adjustable 25mm	50 ϕ 50			AL-20R		FB Rear flange	FI Single knuckle joint
TCB Stroke adjustable 50mm	63 ϕ 63			ST LED on top		TC Central trunnion	FP Eyebolt floating joint
	80 ϕ 80					CA Male clevis	FT Basic floating joint
	100 ϕ 100					CB Female clevis	FL Axial foot type floating joint
						LB Foot mounting	FF Flange type floating joint

How to order Mounting parts / Rod end joints

ZT	FA	ZN	FY	32
TC series	Mounting parts		Rod end joint	Bore size
	FA Front flange		FY Double knuckle joint	32 ϕ 32 63 ϕ 63
	FB Rear flange		FI Single knuckle joint	40 ϕ 40 80 ϕ 80
	TC Central trunnion		FP Eyebolt floating joint	50 ϕ 50 100 ϕ 100
	CA Male clevis		FT Basic floating joint	
	CB Female clevis		FL Axial foot type floating joint	
	LB Foot mounting		FF Flange type floating joint	

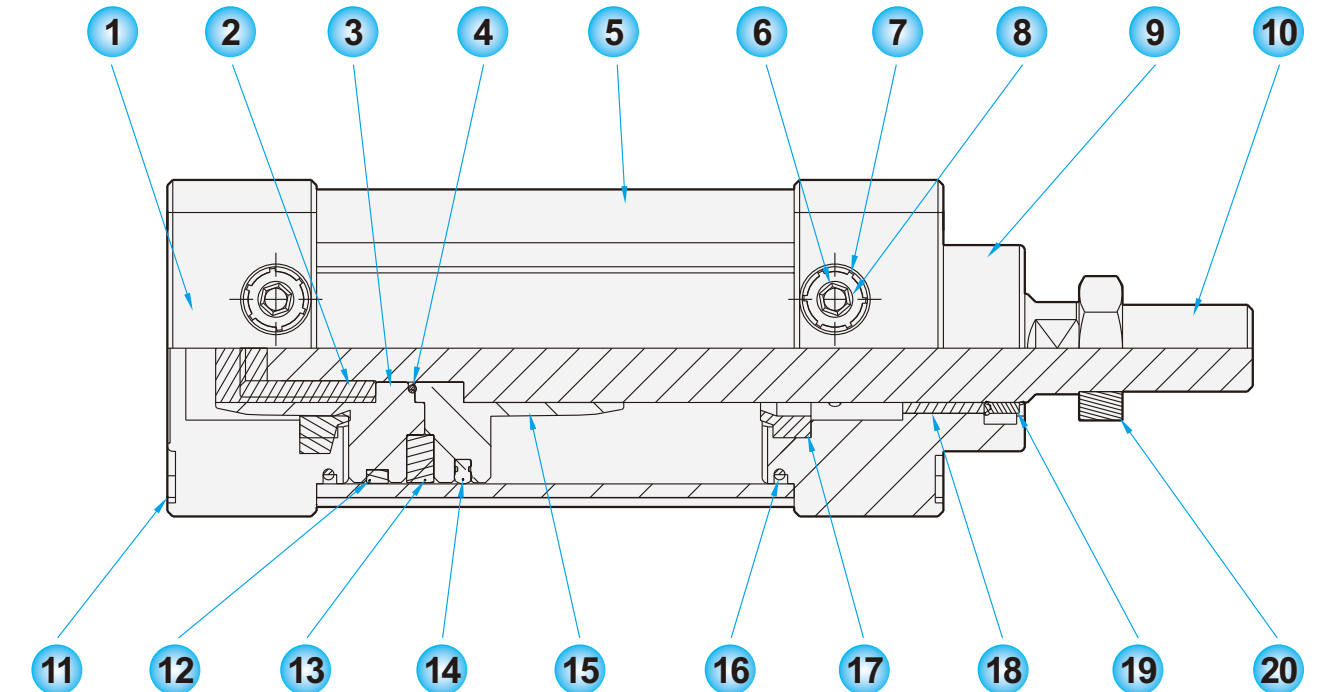
* Please refer to P5-19~20

* Please refer to P5-40~41

Specifications

Bore size	ϕ 32	ϕ 40	ϕ 50	ϕ 63	ϕ 80	ϕ 100
Port size	1/8"	1/4"		3/8"		1/2"
Fluid	Compressed air					
Acting	Double acting					
Operating pressure range	1.5 ~ 9.5 kgf/cm ² (150~950Mpa)					
Barrel material	Aluminum alloy					
Cushion	Built in					
Magnet	Option					
Ambient temperature	-5°C ~ 60°C					
Piston speed	50~700mm/Sec.					

Material of parts



No.	Description	Material	Qty.	No.	Description	Material	Qty.
1	Rear cover	Aluminum alloy	1	11	Fixing bolt	Fe+Ni	8
2	Piston mounting nut	Brass+Ni	1	12	Wear ring	Teflon+Graphite	1
3	Rear piston	Aluminum alloy	1	13	Magnet	Rubber	1
4	O-ring	NBR	1	14	U-Piston seal	NBR	1
5	Barrel	Aluminum alloy	1	15	Front piston	Aluminum alloy	1
6	Cushion needle	Brass	1	16	O-ring	NBR	2
7	Fixing nut	Brass+Ni	2	17	Cushion	PU	2
8	O-ring	NBR	2	18	Bushing	Brass	1
9	Front cover	Aluminum alloy	1	19	Rod seal	PU	1
10	Piston rod	S45C+Cr	1	20	Nut	Fe+Ni	1

Stroke table

Bore size	Acting	Standard stroke(mm)
ϕ 32	Double acting	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350,
ϕ 40		400, 450, 500, 550, 600, 650, 700, 750, 800, 850,
ϕ 50		900, 950, 1000

Note: Please contact our sales for non-standard stroke.

Theoretical force

Bore size		φ 32		φ 40		φ 50		φ 63		φ 80		φ 100	
Rod diameter		φ 12		φ 16		φ 20		φ 20		φ 25		φ 25	
Acting		Double acting		Double acting		Double acting		Double acting		Double acting		Double acting	
		Push	Pull	Push	Pull	Push	Pull	Push	Pull	Push	Pull	Push	Pull
Operating pressure (kgf/cm ²)	1	8.04	6.91	12.5	10.5	19.6	16.5	31.1	28	50.2	45.3	78.5	73.6
	2	16	9.8	25.1	21	39.2	33	62.3	56	100	90.7	157	147
	3	24.1	13.8	37.6	31.5	58.9	49.5	93.5	84	150	136	235	220
	4	32.1	20.7	50.2	42	78.5	66	124	112	201	181	314	294
	5	40.2	27.6	62.8	52.5	98.1	82.5	155	140	251	226	392	368
	6	48.2	34.6	75.3	63	117	99	187	168	301	272	417	441
	7	56.2	41.5	87.9	73.5	137	116	218	196	351	317	549	515
	8	64.3	48.4	100	84	157	132	249	224	402	362	628	589
	9	72.3	55.3	113	94.5	176	149	280	252	452	408	706	662
	10	80.4	62.2	125	105	196	165	311	280	502	453	785	736

Push : $F_1 = A_1 \times P \times B$ (kgf)

Pull : $F_2 = A_2 \times P \times B$ (kgf)

Single acting force : $F_3 = (A_1 \times P - S) \times B$ (kgf)

(Spring return)

Single acting force : $F_4 = (A_2 \times P - S) \times B$ (kgf)

(Spring extend)

A1 : Piston area for push

$$A_1 = \frac{\pi}{4} D^2$$

A2: Piston area for pull

$$A_2 = \frac{\pi}{4} (D^2 - d^2)$$

D : Bore size (mm)

d : Rod diameter (mm)

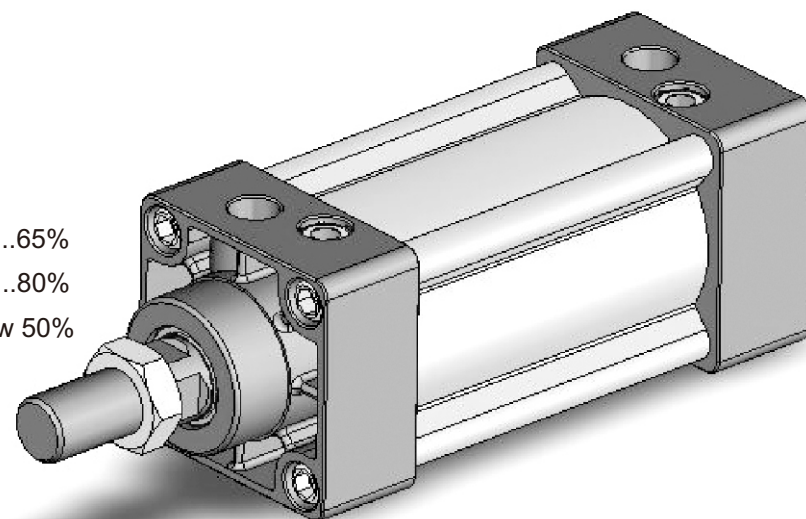
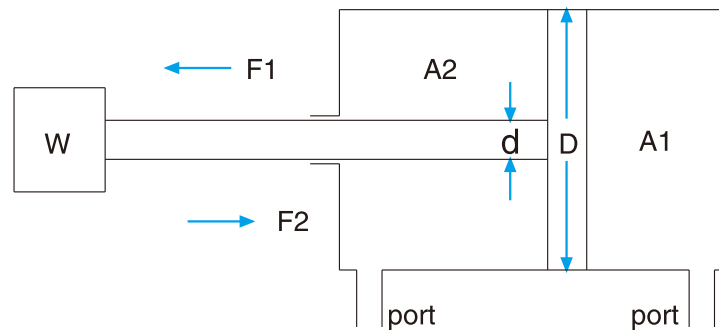
P : Operating pressure (kgf/cm²)

S : Spring force (kgf)

B : Loading rate : Medium speed.....65%

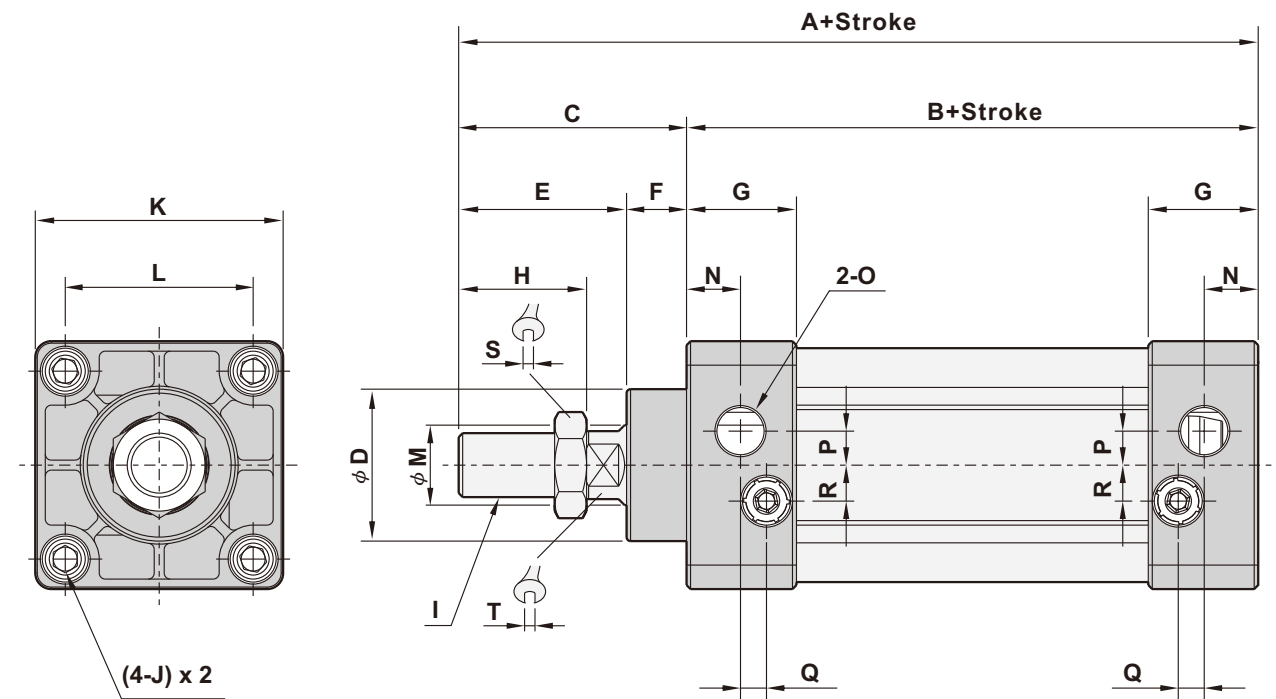
Low speed.....80%

High speed.....Below 50%



Dimensions

ISO6430 standard type



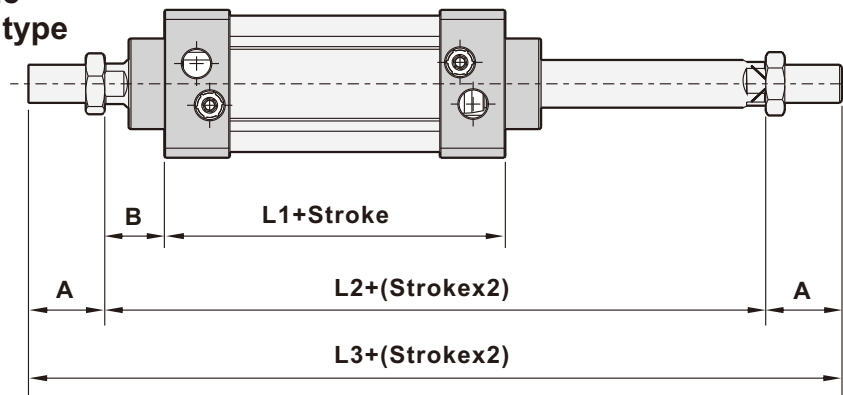
(Unit : mm)

Bore size	A	B	C	D	E	F	G	H	I	J
φ 32	140	93	47	φ 28	32	15	27.5	22	M10xP1.25	M6xP1.0
φ 40	142	93	49	φ 32	34	15	27.5	24	M12xP1.25	M6xP1.0
φ 50	150	93	57	φ 34	42	15	27.5	32	M16xP1.5	M6xP1.0
φ 63	153	96	57	φ 34	42	15	29	32	M16xP1.5	M8xP1.25
φ 80	183	108	75	φ 47	54	21	33	40	M20xP1.5	M10xP1.5
φ 100	189	114	75	φ 47	54	21	33	40	M20xP1.5	M10xP1.5

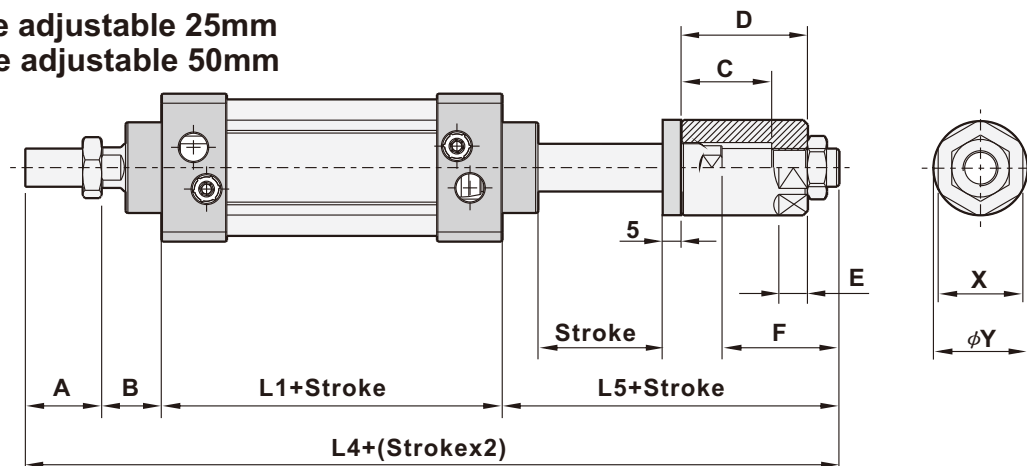
Bore size	K	L	M	N	O	P	Q	R	S	T
φ 32	45	33	φ 12	13.75	G 1/8	3.5	6.5	7	17	10
φ 40	50	37	φ 16	13.5	G 1/4	6	6	7	19	13
φ 50	62	47	φ 20	13.5	G 1/4	8.5	5.5	9	24	17
φ 63	75	56	φ 20	14.5	G 3/8	8.5	5.5	9	24	17
φ 80	94	70	φ 25	16.5	G 3/8	10	7.5	14	26	22
φ 100	112	84	φ 25	16.5	G 1/2	11	7.5	14	26	22

Dimensions

● **TCD Double piston rod type**



- **TCA Stroke adjustable 25mm**
- TCB Stroke adjustable 50mm**

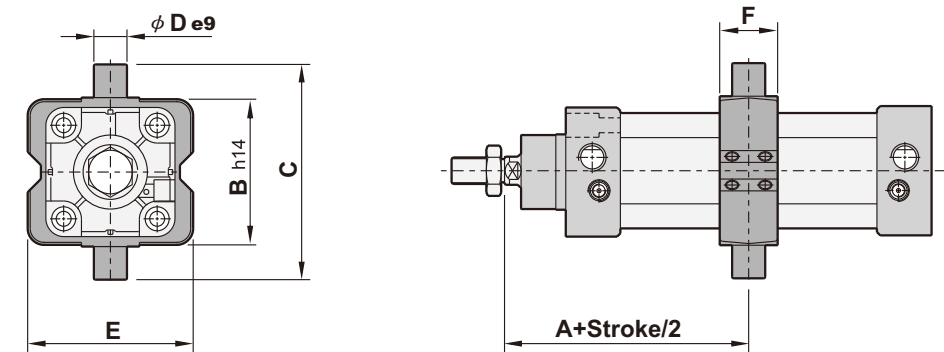


(Unit: mm)									
Bore size	A	B	C		D		E	F	
			TCA	TCB	TCA	TCB		TCA	TCB
φ 32	22	25	35	62	47	72	10	47	72
φ 40	24	25	37	62	47	72	10	48	73
φ 50	32	25	38	63	53	78	12	57	82
φ 63	32	25	38	63	53	78	12	57	82
φ 80	40	35	40	65	60	85	12	57	82
φ 100	40	35	40	65	60	85	12	58	88

Bore size	L1	L2	L3	L4		L5		X	Y
				TCA	TCB	TCA	TCB		
ϕ 32	93	143	187	214	239	74	99	22	ϕ 25
ϕ 40	93	143	191	217	242	75	100	27	ϕ 30
ϕ 50	93	143	207	232	257	82	107	36	ϕ 40
ϕ 63	96	146	210	235	260	82	107	36	ϕ 40
ϕ 80	108	178	258	280	305	97	122	36	ϕ 40
ϕ 100	114	184	264	286	312	97	123	36	ϕ 40

Dimension of mounting parts

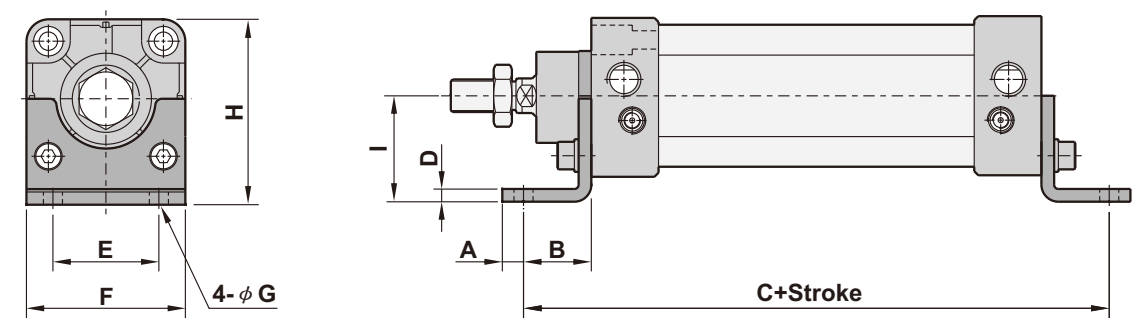
TC Central trunnion



(Unit: mm)

Bore size	A	B	C	D	E	F
φ 32	73	55	87	φ 16	55	22
φ 40	82.5	63	113	φ 25	63	28
φ 50	90	76	126	φ 25	76	32
φ 63	97.5	88	138	φ 25	88	35
φ 80	110	114	164	φ 25	114	40
φ 100	120	132	182	φ 25	132	45

● LB Foot mounting

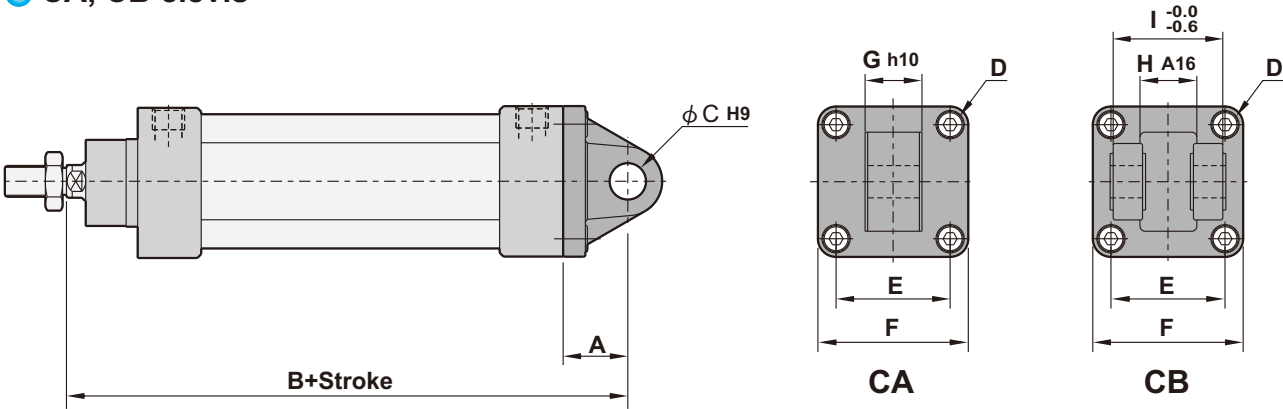


(Unit: mm)

Bore size	A	B	C	D	E	F	G	H	I
ϕ 32	9.5	20.5	134	3	33	50	ϕ 9	51	28.5
ϕ 40	14.5	23.5	140	3	37	57	ϕ 12	56	31
ϕ 50	12	28	149	3	47	68	ϕ 12	68	37
ϕ 63	13	31	158	3	56	80	ϕ 12	80	42.5
ϕ 80	16	30	168	4	70	97	ϕ 14	97.5	49
ϕ 100	18	30	174	4	84	112	ϕ 14	114.5	58.5

Dimensions

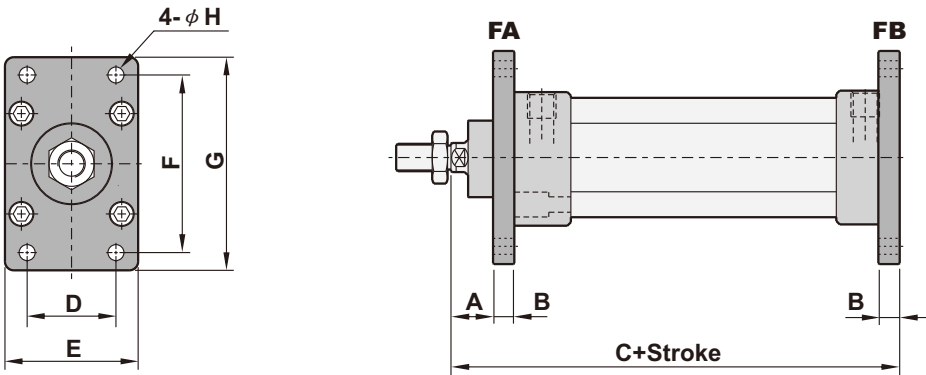
CA, CB clevis



(Unit: mm)

Bore size	A		B		C	D	E	F	G	H	I
	CA	CB	CA	CB							
φ 32	34	19	152	137	φ 12	M6XP1.0	33	48	16	16.3	32
φ 40	34	19	152	137	φ 14	M6XP1.0	37	50	19	20.3	44
φ 50	34	19	152	137	φ 14	M6XP1.0	47	62	20	20.3	52
φ 63	34	19	155	140	φ 14	M8XP1.25	56	75	20	20.3	52
φ 80	48	32	191	175	φ 20	M10XP1.5	70	94	32	32.3	64
φ 100	48	32	197	181	φ 20	M10XP1.5	84	112	32	32.3	64

FA, FB Front & Rear flange



(Unit: mm)

Bore size	A	B	C	D	E	F	G	H
φ 32	15	10	125	33	47	58	72	φ 7
φ 40	15	10	125	36	52	70	84	φ 7
φ 50	15	10	125	47	65	86	104	φ 9
φ 63	15	12	130	56	76	98	116	φ 9
φ 80	19	16	153	70	95	119	143	φ 12
φ 100	19	16	153	84	115	138	162	φ 12

