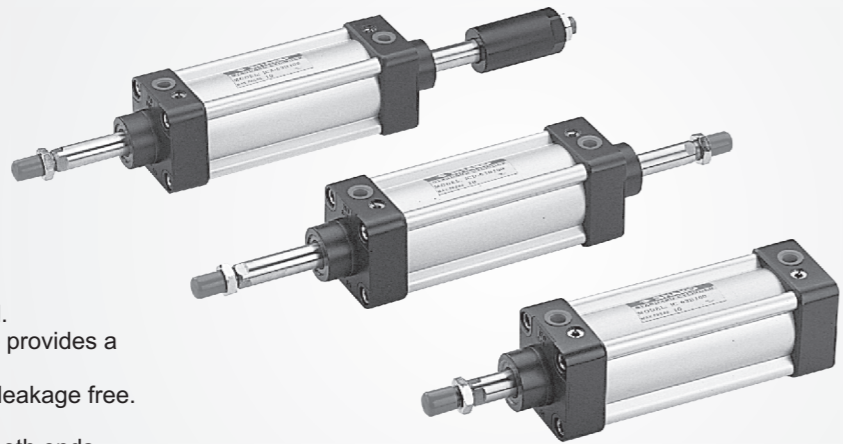
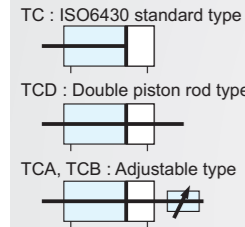


Symbol



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	Y
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 pc	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	Y Double knuckle joint
TCA Stroke adjustable 25mm	50 ϕ 50			ST LED on top		FB Rear flange	I Single knuckle joint
TCB Stroke adjustable 50mm	63 ϕ 63					TC Central trunnion	P Eyebolt floating joint
	80 ϕ 80					CA Male clevis	T Basic floating joint
	100 ϕ 100					CB Female clevis	
						LB Foot mounting	

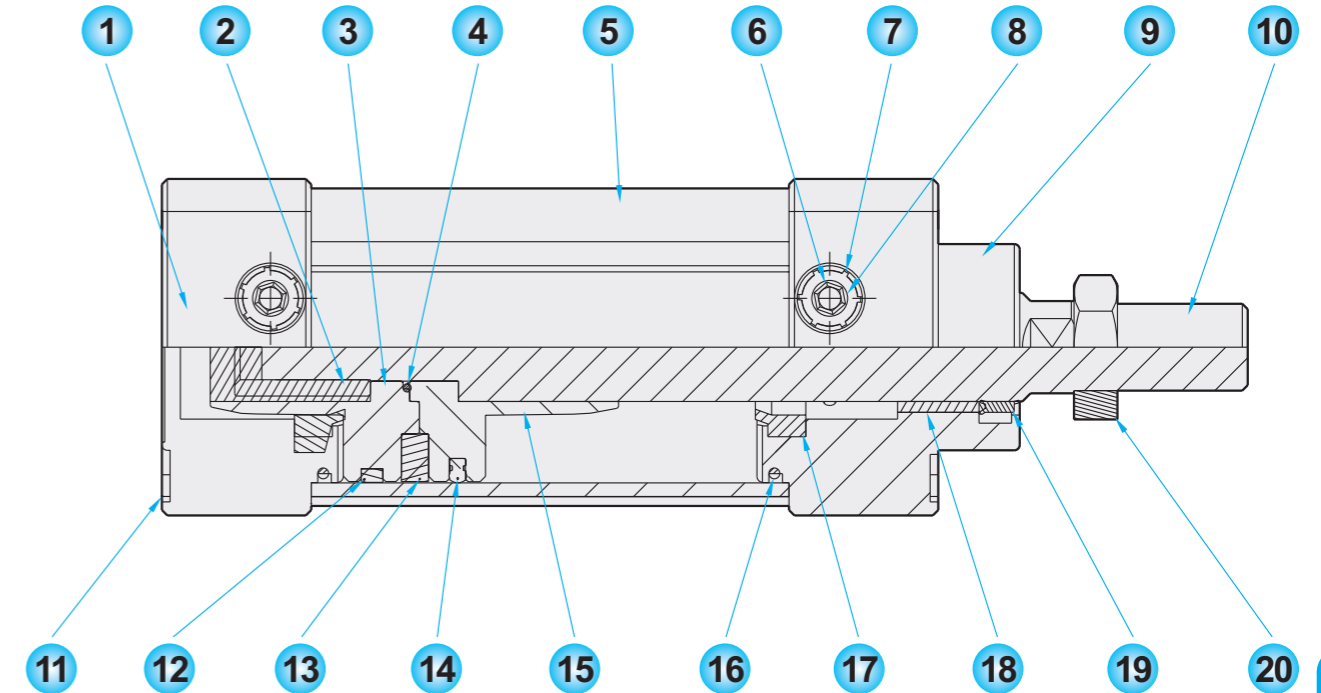
How to order Mounting parts / Rod end joints

ZT	FA	FY	32
TC series	Mounting parts	Rod end joint	Bore size
	Blank W/O mounting parts	Blank W/O rod end joint	32 ϕ 32
	FA Front flange	FY Double knuckle joint	40 ϕ 40
	FB Rear flange	FI Single knuckle joint	63 ϕ 63
	TC Central trunnion	P Eyebolt floating joint	80 ϕ 80
	CA Male clevis	T Basic floating joint	100 ϕ 100
	CB Female clevis		
	LB Foot mounting		

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	Bush bearing	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	ϕ 63	Double acting	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350,
ϕ 40	ϕ 80		400, 450, 500, 550, 600, 650, 700, 750, 800, 850,
ϕ 50	ϕ 100		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)

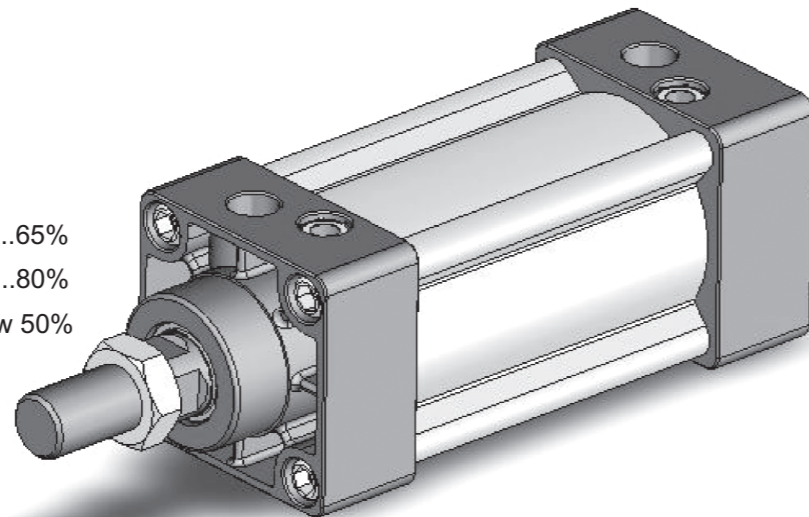
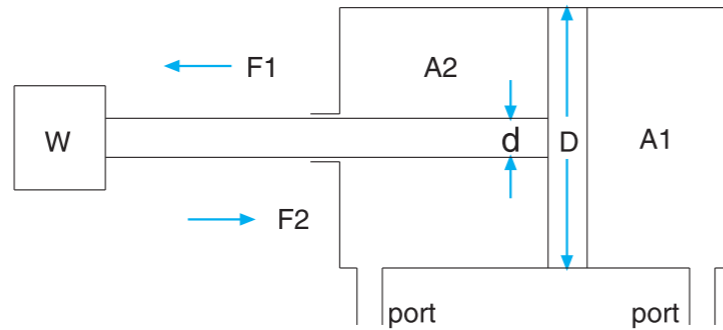
P : Operating pressure (kgf/cm²)

S : Spring force (kgf)

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

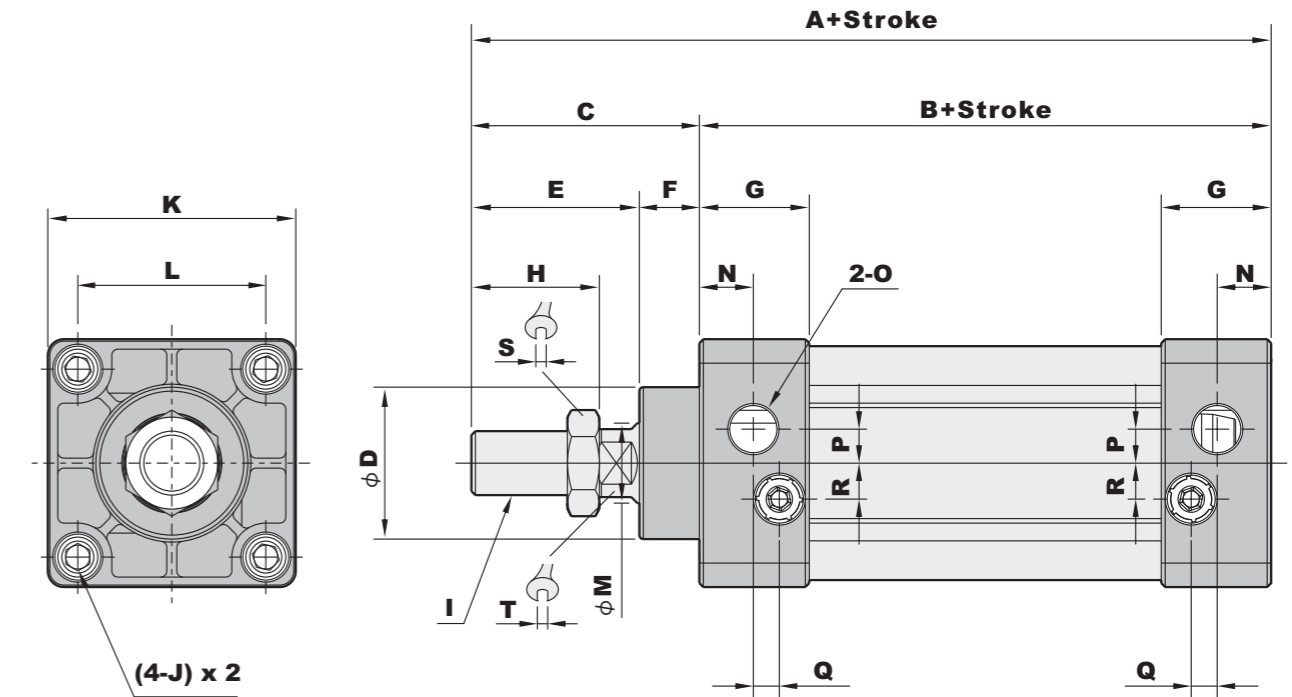
Low speed.....80%

High speed.....Below 50%



Dimensions

ISO6430 standard type



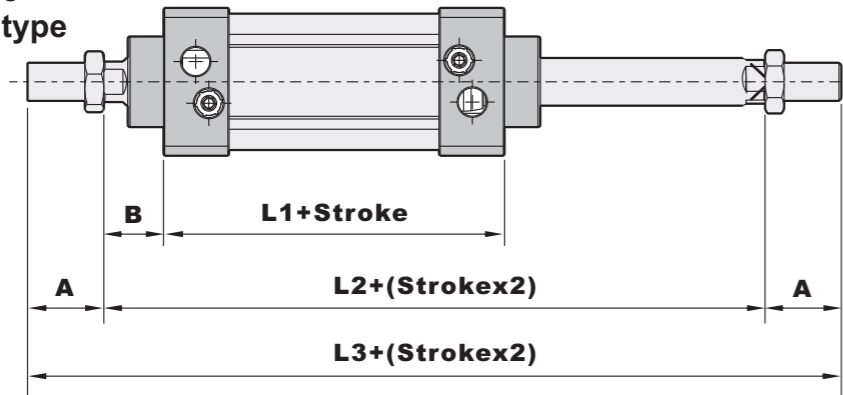
(Unit : mm)

Bore size	A	B	C	D	E	F	G	H	I	J
φ32	140	93	47	φ 28	32	15	27.5	22	M10xP1.25	M6xP1.0
φ40	142	93	49	φ 32	34	15	27.5	24	M12xP1.25	M6xP1.0
φ50	150	93	57	φ 34	42	15	27.5	32	M16xP1.5	M6xP1.0
φ63	153	96	57	φ 34	42	15	29	32	M16xP1.5	M8xP1.25
φ80	183	108	75	φ 47	54	21	33	40	M20xP1.5	M10xP1.5
φ100	189	114	75	φ 47	54	21	33	40	M20xP1.5	M10xP1.5

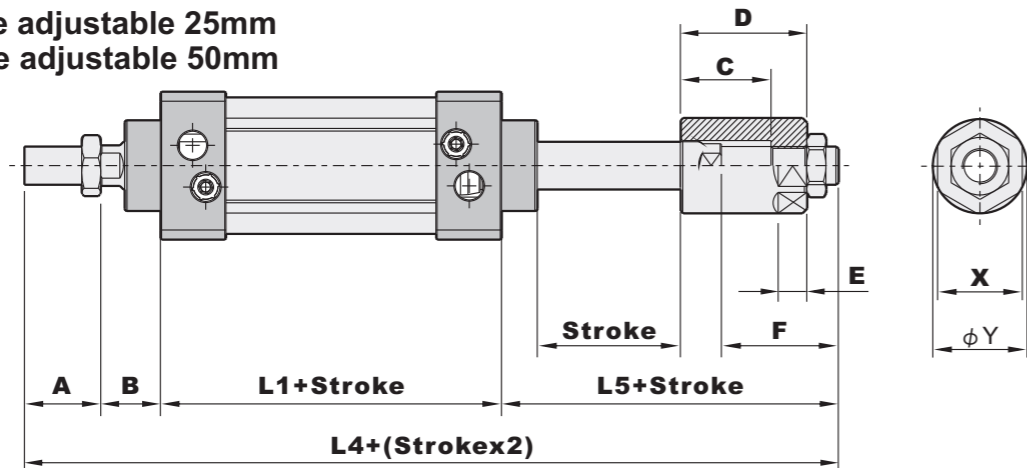
Bore size	K	L	M	N	O	P	Q	R	S	T
φ32	45	33	φ 12	13.75	PS 1/8	3.5	6.5	7	17	10
φ40	50	37	φ 16	13.5	PS 1/4	6	6	7	19	13
φ50	62	47	φ 20	13.5	PS 1/4	8.5	5.5	9	24	17
φ63	75	56	φ 20	14.5	PS 3/8	8.5	5.5	9	24	17
φ80	94	70	φ 25	16.5	PS 3/8	10	7.5	14	30	22
φ100	112	84	φ 25	16.5	PS 1/2	11	7.5	14	30	22

Dimensions

TCD Double piston rod type



TCA Stroke adjustable 25mm TCB Stroke adjustable 50mm



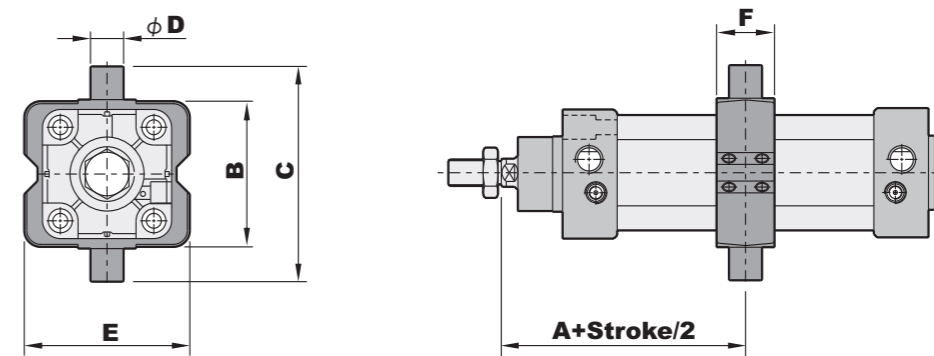
(Unit : mm)

Bore size	A	B	C		D		E	F	
			TCA	TCB	TCA	TCB		TCA	TCB
φ32	22	25	35	62	47	72	10	47	72
φ40	24	25	37	62	47	72	10	48	73
φ50	32	25	38	63	53	78	12	52	77
φ63	32	25	38	63	53	78	12	52	77
φ80	40	35	40	65	60	85	15	58	83
φ100	40	35	40	65	60	85	15	58	83

Bore size	L1	L2	L3	L4		L5		X	Y
				TCA	TCB	TCA	TCB		
φ32	93	143	187	212	237	72	97	22	φ 25
φ40	93	143	191	215	240	73	98	27	φ 30
φ50	93	143	207	227	252	77	102	36	φ 40
φ63	96	146	210	230	255	77	102	36	φ 40
φ80	108	178	258	276	301	93	118	46	φ 50
φ100	114	184	264	282	307	93	118	46	φ 50

Dimension of mounting parts

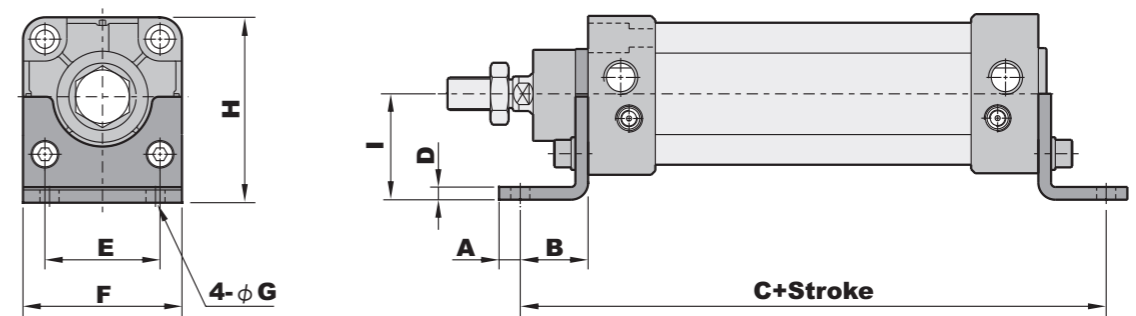
TC Central trunnion



(Unit : mm)

Bore size	A	B	C	D	E	F
φ32	73	55	87	φ 16 (e8)	55	22
φ40	82.5	63	113	φ 25 (e8)	63	28
φ50	90	76	126	φ 25 (e8)	76	32
φ63	97.5	88	138	φ 25 (e8)	88	35
φ80	110	114	164	φ 25 (e8)	114	40
φ100	120	132	182	φ 25 (e8)	132	45

LB Foot mounting

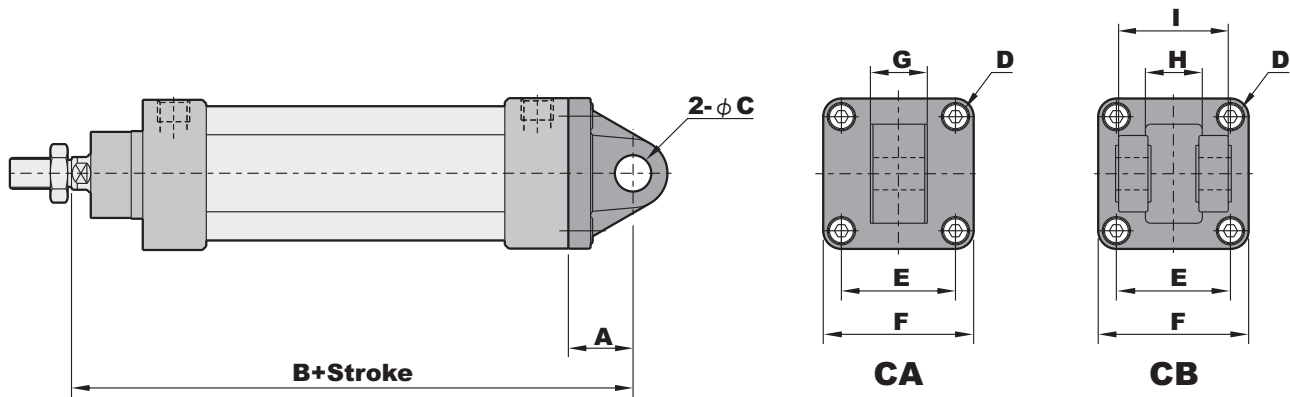


(Unit : mm)

Bore size	A	B	C	D	E	F	G	H	I
φ32	9.5	20.5	134	3	33	50	φ 9	50.5	28
φ40	14.5	23.5	140	3	36	57	φ 12	55	30
φ50	12	28	149	3	47	68	φ 12	67.5	36.5
φ63	13	31	158	3	56	80	φ 12	78.5	41
φ80	16	30	167	4	70	97	φ 14	96	49
φ100	18	30	173	4	84	112	φ 14	113	57

Dimensions

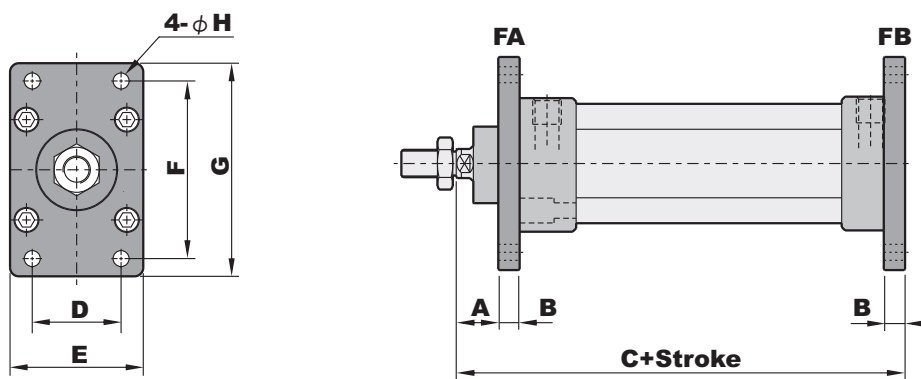
CA, CB clevis



(Unit : mm)

Bore size	A	B	C	D	E	F	G	H	I
φ32	19	137	φ 17	M6XP1.0	33	48	16	16.3	32
φ40	19	137	φ 17	M6XP1.0	37	50	20	20.3	44
φ50	19	137	φ 17	M6XP1.0	47	62	20	20.3	52
φ63	19	140	φ 17	M8XP1.25	56	75	20	20.3	52
φ80	32	175	φ 29	M10XP1.5	70	94	32	32.3	64
φ100	32	175	φ 29	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
φ32	15	10	125	33	47	58	72	φ 7
φ40	15	10	125	36	52	70	84	φ 7
φ50	15	10	125	47	65	86	104	φ 9
φ63	15	12	130	56	76	98	116	φ 9
φ80	19	16	153	70	95	119	143	φ 12
φ100	19	16	153	84	115	138	162	φ 12