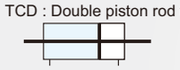
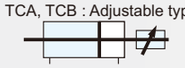
Symbol

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

TC	ISO6430 standard type
TCD	Double piston rod type
TCA	Stroke adjustable 25mm
TCB	Stroke adjustable 50mm

Bore size

32	ϕ 32
40	ϕ 40
50	ϕ 50
63	ϕ 63
80	ϕ 80
100	ϕ 100

Magnet

B	W/I magnet
C	W/O magnet

Stroke

Sensor type

Blank	W/O sensor
SF	LED in front

AL-20R

ST	LED on top

AL-21R

Number of sensor

1 pcs
2 pcs

Mounting parts

Blank	W/O mounting parts
FA	Front flange
FB	Rear flange
TC	Central trunnion
CA	Male clevis
CB	Female clevis
LB	Foot mounting

Rod end joint

Blank	W/O rod end joint
FY	Double knuckle joint
FI	Single knuckle joint
FP	Eyebolt floating joint
FT	Basic floating joint
FL	Axial foot type floating joint
FF	Flange type floating joint

How to order Mounting parts / Rod end joints

ZT	FA	/	ZN	FY	—	32

TC series

Mounting parts

FA	Front flange	CA	Male clevis
FB	Rear flange	CB	Female clevis
TC	Central trunnion	LB	Foot mounting

* Please refer to P5-19~20

Rod end joint

FY	Double knuckle joint
FI	Single knuckle joint
FP	Eyebolt floating joint
FT	Basic floating joint
FL	Axial foot type floating joint
FF	Flange type floating joint

Bore size

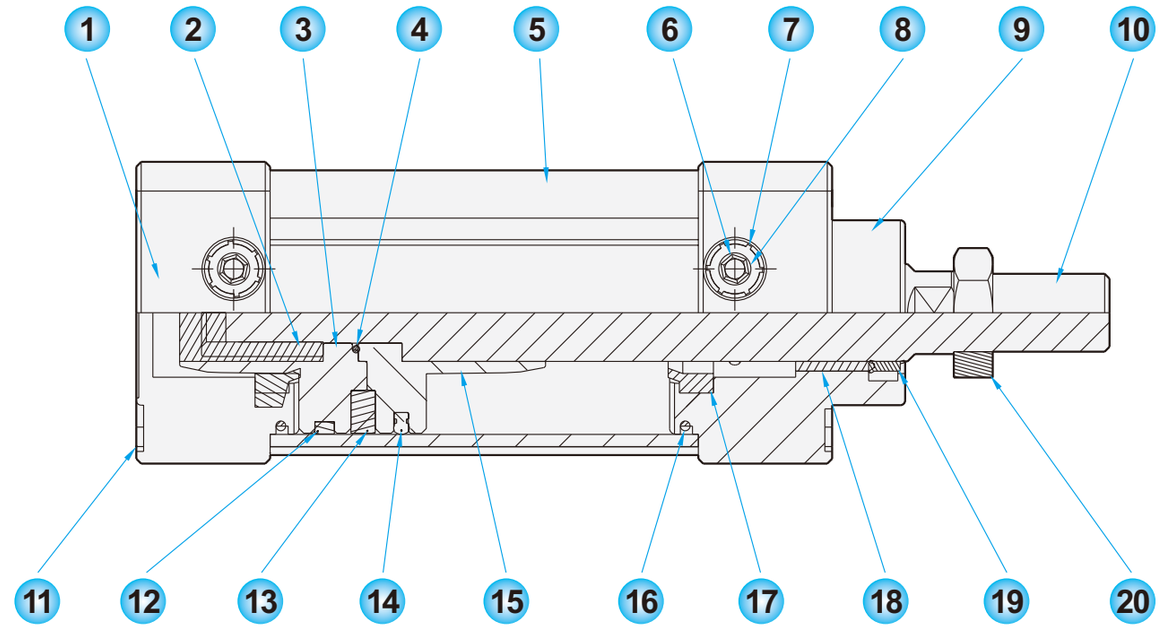
32	ϕ 32	63	ϕ 63
40	ϕ 40	80	ϕ 80
50	ϕ 50	100	ϕ 100

* 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℃ ~ 60℃					
Piston speed	50~700mm/Sec.					

Material of parts



No.	Description	Material	Qty.
1	Rear cover	Aluminum alloy	1
2	Piston mounting nut	Brass+Ni	1
3	Rear piston	Aluminum alloy	1
4	O-ring	NBR	1
5	Barrel	Aluminum alloy	1
6	Cushion needle	Brass	1
7	Fixing nut	Brass+Ni	2
8	O-ring	NBR	2
9	Front cover	Aluminum alloy	1
10	Piston rod	S45C+Cr	1

No.	Description	Material	Qty.
11	Fixing bolt	Fe+Ni	8
12	Wear ring	Teflon+Graphite	1
13	Magnet	Rubber	1
14	U-Piston seal	NBR	1
15	Front piston	Aluminum alloy	1
16	O-ring	NBR	2
17	Cushion	PU	2
18	Bushing	Brass	1
19	Rod seal	PU	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, 400, 450, 500, 550,600, 650, 700, 750, 800, 850, 900, 950, 1000
ϕ 40	ϕ 80		
ϕ 50	ϕ 100		

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

Theoretical force

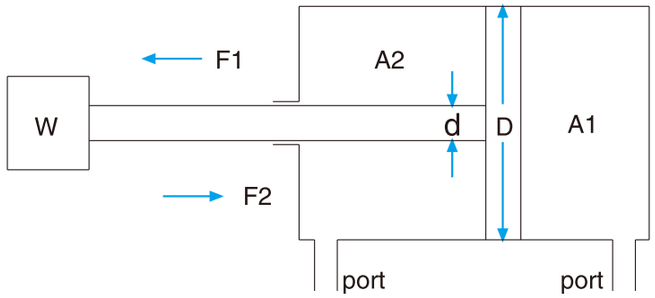
Bore size		ϕ 32		ϕ 40		ϕ 50		ϕ 63		ϕ 80		ϕ 100	
Rod diameter		ϕ 12		ϕ 16		ϕ 20		ϕ 20		ϕ 25		ϕ 25	
Acting		Double acting		Double acting		Double acting		Double acting		Double acting		Double acting	
		Push	Pull	Push	Pull	Push	Pull	Push	Pull	Push	Pull	Push	Pull
Operating pressure (kgf/cm²)	1	8.04	6.91	12.5	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：F1=A1 x P x B (kgf)

Pull：F2=A2 x P x B (kgf)

Single acting force：F3= (A1 x P-S) x B (kgf)
(Spring return)

Single acting force：F4=(A2 x P-S) x B (kgf)
(Spring extend)



A1：Piston area for push

$A1 = \frac{\pi}{4} D^2$

A2:Piston area for pull

$A2 = \frac{\pi}{4} (D^2 - d^2)$

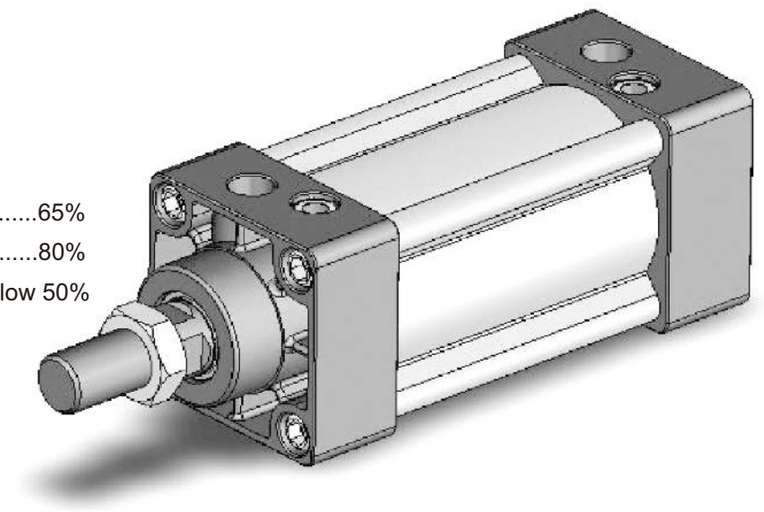
D：Bore size (mm)

d：Rod diameter (mm)

P：Operating pressure (kgf/cm²)

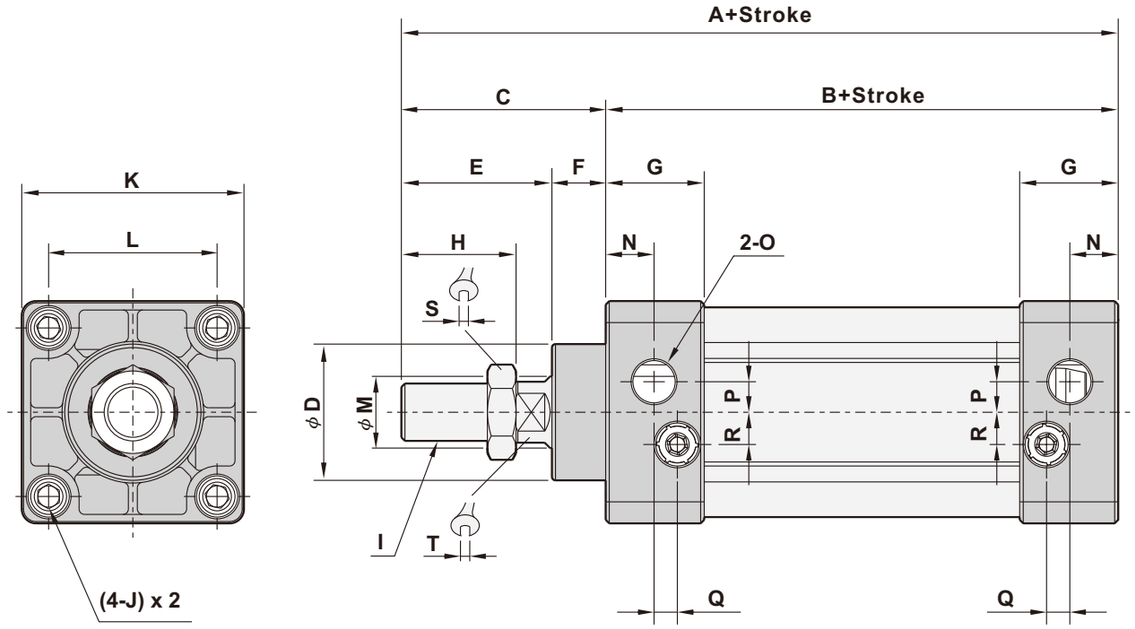
S：Spring force (kgf)

B：Loading rate：Medium speed.....65%
Low speed.....80%
High speed.....Below 50%



Dimensions

ISO6430 standard type



(Unit：mm)

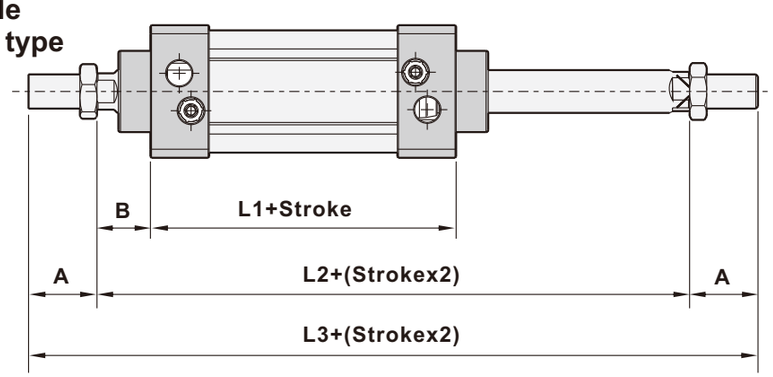
Bore size	A	B	C	D	E	F	G	H	I	J
ϕ 32	140	93	47	ϕ 28	32	15	27.5	22	M10xP1.25	M6xP1.0
ϕ 40	142	93	49	ϕ 32	34	15	27.5	24	M12xP1.25	M6xP1.0
ϕ 50	150	93	57	ϕ 34	42	15	27.5	32	M16xP1.5	M6xP1.0
ϕ 63	153	96	57	ϕ 34	42	15	29	32	M16xP1.5	M8xP1.25
ϕ 80	183	108	75	ϕ 47	54	21	33	40	M20xP1.5	M10xP1.5
ϕ 100	189	114	75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

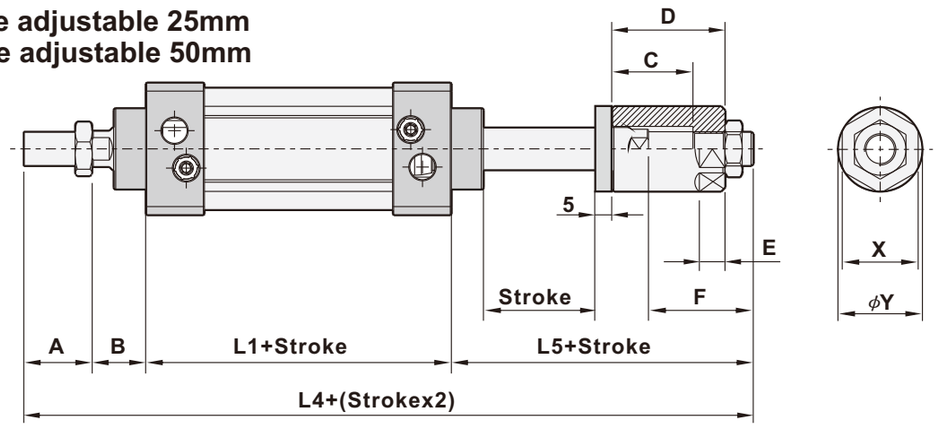
PNEUMATIC CYLINDER

Dimensions

TCD Double piston rod type



TCA Stroke adjustable 25mm
TCB Stroke adjustable 50mm



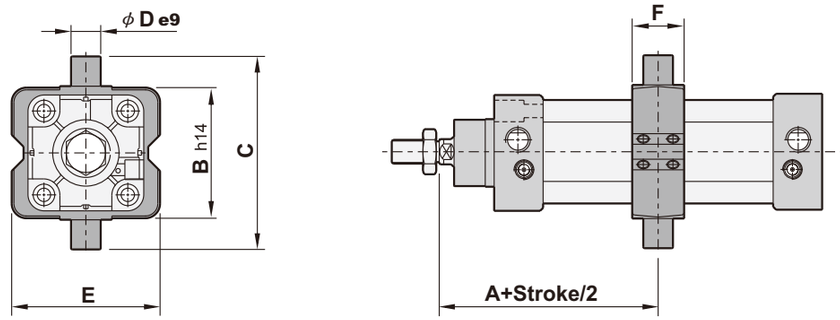
(Unit: mm)

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	57	82
φ63	32	25	38	63	53	78	12	57	82
φ80	40	35	40	65	60	85	12	57	82
φ100	40	35	40	65	60	85	12	58	88

Bore size	L1	L2	L3	L4		L5		X	Y
				TCA	TCB	TCA	TCB		
φ32	93	143	187	214	239	74	99	22	φ25
φ40	93	143	191	217	242	75	100	27	φ30
φ50	93	143	207	232	257	82	107	36	φ40
φ63	96	146	210	235	260	82	107	36	φ40
φ80	108	178	258	280	305	97	122	36	φ40
φ100	114	184	264	286	312	97	123	36	φ40

Dimension of mounting parts

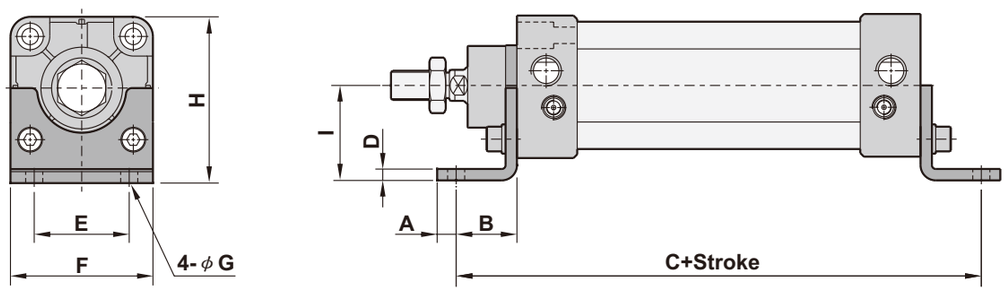
TC Central trunnion



(Unit: mm)

Bore size	A	B	C	D	E	F
φ32	73	55	87	φ16	55	22
φ40	82.5	63	113	φ25	63	28
φ50	90	76	126	φ25	76	32
φ63	97.5	88	138	φ25	88	35
φ80	110	114	164	φ25	114	40
φ100	120	132	182	φ25	132	45

LB Foot mounting



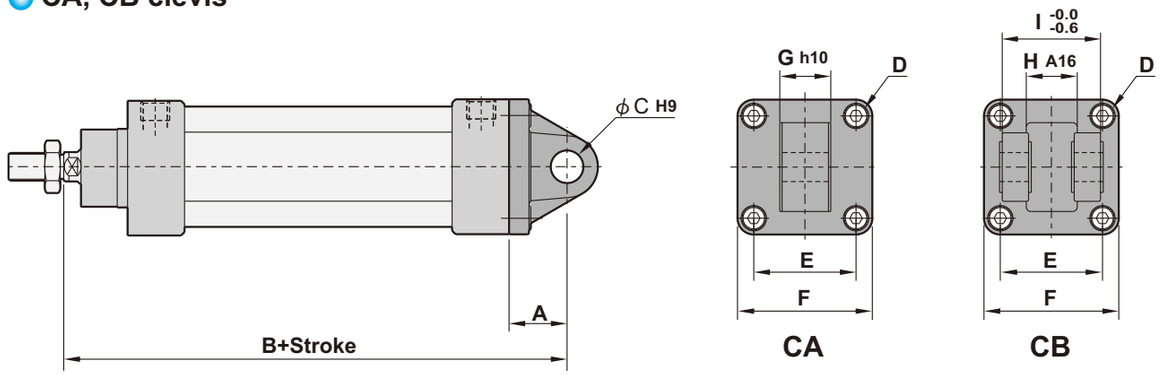
(Unit: mm)

Bore size	A	B	C	D	E	F	G	H	I
φ32	9.5	20.5	134	3	33	50	φ9	51	28.5
φ40	14.5	23.5	140	3	37	57	φ12	56	31
φ50	12	28	149	3	47	68	φ12	68	37
φ63	13	31	158	3	56	80	φ12	80	42.5
φ80	16	30	168	4	70	97	φ14	97.5	49
φ100	18	30	174	4	84	112	φ14	114.5	58.5

PNEUMATIC CYLINDER

Dimensions

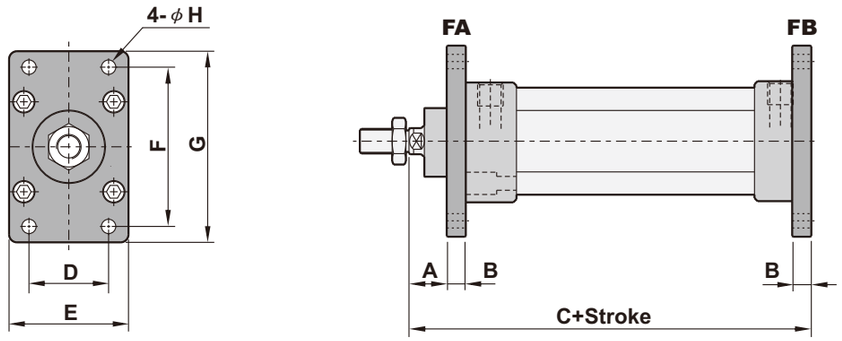
CA, CB clevis



(Unit: mm)

Bore size	A		B		C	D	E	F	G	H	I
	CA	CB	CA	CB							
ϕ**32**	34	19	152	137	ϕ12	M6XP1.0	33	48	16	16.3	32
ϕ**40**	34	19	152	137	ϕ14	M6XP1.0	37	50	19	20.3	44
ϕ**50**	34	19	152	137	ϕ14	M6XP1.0	47	62	20	20.3	52
ϕ**63**	34	19	155	140	ϕ14	M8XP1.25	56	75	20	20.3	52
ϕ**80**	48	32	191	175	ϕ20	M10XP1.5	70	94	32	32.3	64
ϕ**100**	48	32	197	181	ϕ20	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	ϕ7
ϕ**40**	15	10	125	36	52	70	84	ϕ7
ϕ**50**	15	10	125	47	65	86	104	ϕ9
ϕ**63**	15	12	130	56	76	98	116	ϕ9
ϕ**80**	19	16	153	70	95	119	143	ϕ12
ϕ**100**	19	16	153	84	115	138	162	ϕ12

PNEUMATIC CYLINDER