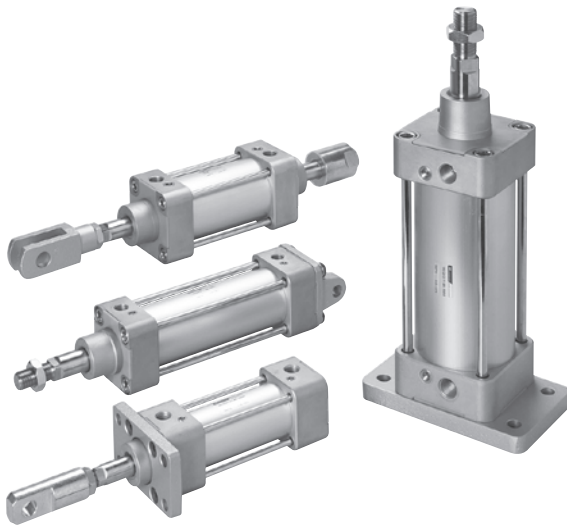


# MCQV / MCQV2 series

ISO 15552 **STANDARD CYLINDER**



## Features

### ■ Non lubrication

Special housing and bushing enables self lubrication of piston rod.

### ■ High quality long service life

Hard anodised aluminium cylinder tubes offer a high resistance to corrosion and low internal friction.

### ■ ISO 15552 standard specification

Conforms to ISO 15552 specification enabling worldwide interchangeability.

### ■ Cylinder mountings

Available with comprehensive internationally recognised range of fixed and flexible mountings.

## Specification

Model	MCQV2			MCQV		
Tube I.D. (mm)	32,40	50,63	80,100	125	160	200
Medium	Air					
Operating pressure range	0.05~1 MPa					
Proof pressure	1.5 MPa					
Ambient temperature	-5~+60°C (No freezing)					
Available speed range	50~500 mm/sec					
Sensor switch	RCA (Please refer to page 8-8)					
Sensor switch holder	HV1	HV2	HV3	HV4	PM16	HA5

**Table for standard stroke**

Tube I.D.	Stroke (mm)	Max. stroke (mm)
ø32,40	50,75,100,125,150,175, 200,250,300,350,400, 450,500	1800
ø50,63		2000
ø80,100		2500
ø125		2000
ø160		1800
ø200		1500

\* Intermediate stroke are available, please contact us.

## Order example

**MCQV2 – 11 – 40 – 100M – T**

1: Single rod  
2: Double rod

TUBE I.D.    STROKE    M: Magnet

TYPE

T: With magnet, TA/TB is assembled  
\* Tube, piston rod and tie rod are extended, and an extra piston is added.

MODEL	Tube I.D.	Code	Symbol	Description
MCQV2	ø32~ø100	1 1		Double acting / Male thread
MCQV	ø125~ø200	2 1		Double rod / Male thread
		2 7		Double rod / Adjustable male thread Please mark "adjustable stroke" at order list

\* Order example for special specification, refer to page 0-7.

\* Rc or NPT thread are also available, please contact us.

### Accessories & Connector

Code	Accessories						Rod nut
	LB (Purchase 2 pcs)	CA	CB	CDB (Purchase CB+PIN)	FAC	FBC	NUT
Mounting Tube I.D.							
ø32	LB-Q2-32	CA-Q2-32	CB-Q2-32	CDB-Q2-32	FAC-Q2-32		NUT-M10x1.25x5Hx17B
ø40	LB-Q2-40	CA-Q2-40	CB-Q2-40	CDB-Q2-40	FAC-Q2-40		NUT-M12x1.25x6Hx19B
ø50	LB-Q2-50	CA-Q2-50	CB-Q2-50	CDB-Q2-50	FAC-Q2-50		NUT-M16x1.5x8Hx24B
ø63	LB-Q2-63	CA-Q2-63	CB-Q2-63	CDB-Q2-63	FAC-Q2-63		
ø80	LB-Q2-80	CA-Q2-80	CB-Q2-80	CDB-Q2-80	FAC-Q2-80		NUT-M20x1.5x10Hx30B
ø100	LB-Q2-100	CA-Q2-100	CB-Q2-100	CDB-Q2-100	FAC-Q2-100		
ø125	LB-Q2-125	CA-Q2-125	CB-Q2-125	–	FAC-Q2-125		NUT-M27x2.0x13.5Hx41B
ø160	LB-Q2-160	CA-Q2-160	CB-Q2-160	–	FAC-Q2-160		NUT-M36x2.0x18Hx55B
ø200	LB-Q2-200	CA-Q2-200	CB-Q2-200	–	FAC-Q2-200		

Code	Accessories  Factory assembled and shipped (self-assembled is not recommended)				Connector		
	TA	TB	TC	SDS Mid section support (Stroke over 1000mm)	Y	I	YS (Y+Floating pin)
Mounting Tube I.D.							
ø32		TC-Q2-32		SDS-Q2-32	Y-Q2-32	I-Q2-32	YS-Q2-32
ø40		TC-Q2-40		SDS-Q2-40	Y-Q2-40	I-Q2-40	YS-Q2-40
ø50		TC-Q2-50		SDS-Q2-50	Y-Q2-50	I-Q2-50	YS-Q2-50
ø63		TC-Q2-63		SDS-Q2-63			
ø80		TC-Q2-80		SDS-Q2-80	Y-Q2-80	I-Q2-80	YS-Q2-80
ø100		TC-Q2-100		SDS-Q2-100			
ø125		TC-Q2-125		SDS-Q2-125	Y-Q2-125	I-Q2-125	–
ø160		TC-Q2-160		SDS-Q2-160	Y-Q2-160	I-Q2-160	–
ø200		TC-Q2-200		SDS-Q2-200			

### Pin

Applicable	YS connector	Y&I connector	CA&CB accessories
Code	PIN-S	PIN-Y-P (with split pin)	PIN-CB-P (with split pin)
Fig Tube I.D.			
ø32	PIN-Q2-32-S	PIN-Q2-32-2-P	PIN-Q2-32-1-P
ø40	PIN-Q2-40-S	PIN-Q2-40-2-P	PIN-Q2-40-1-P
ø50	PIN-Q2-50-S	PIN-Q2-50-2-P	PIN-Q2-50-1-P
ø63			PIN-Q2-63-1-P
ø80	PIN-Q2-80-S	PIN-Q2-80-2-P	PIN-Q2-80-1-P
ø100			PIN-Q2-100-1-P
ø125	–	PIN-Q2-125-2-P	PIN-Q2-125-1-P
ø160	–	PIN-Q2-160-2-P	PIN-Q2-160-1-P
ø200	–		

### Order example of self-assembled

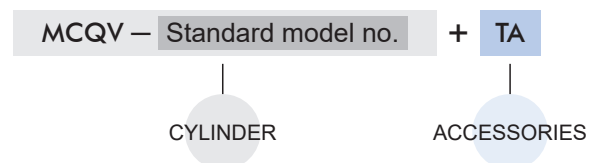
The tube I.D. ø40 of LB accessories, Y connector and pin.

No.	Order number	Qty
1	LB-Q2-40	2
2	Y-Q2-40	1
3	PIN-Q2-40-2-P	1

\* To order accessories/ connectors/ pin separately, please place orders separately according to the order codes in the above table.

### Order example of factory assembled

Cylinders and accessories are distinguished by the symbol " + ".



# MCQV\*-11 Inside structure & Parts list

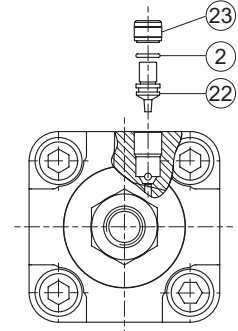
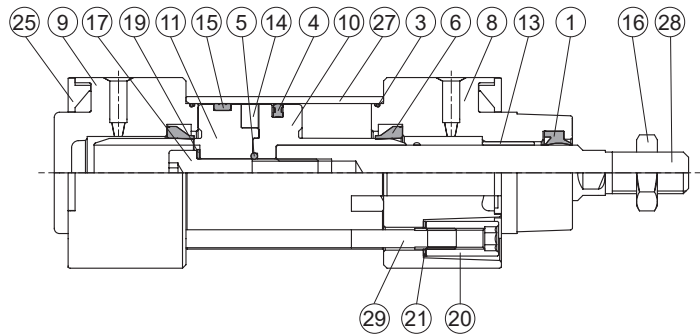


ISO 15552 STANDARD CYLINDER

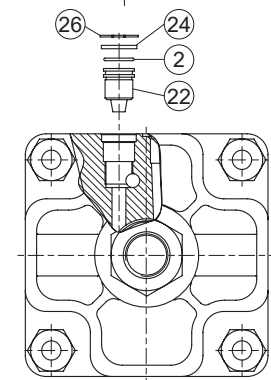
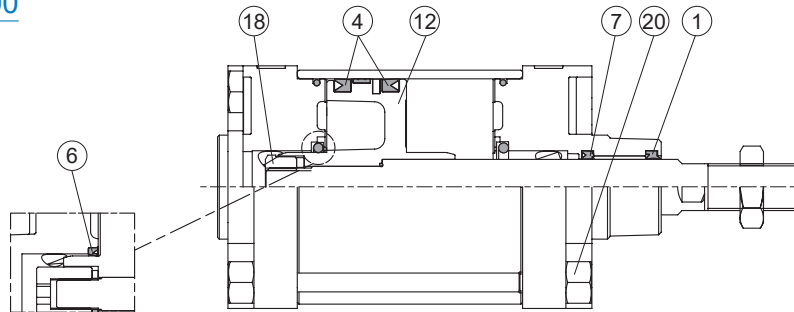
mindman

## Single rod 11 type

ø32~ø100



ø125~ø200



ø200

No.	Part name	Material	Q'y	Component parts (inclusion)		Repair kits (inclusion)		Note
				ø32~ø100	ø125~ø200	ø32~ø100	ø125~ø200	
1	Rod packing	NBR	1	●	●	●	●	
2	O-ring	NBR	2	●	●		●	
3	O-ring	NBR	2	●	●	●	●	
4	Piston packing	NBR	1 or 2	●	●	●	●	ø125~ø200 (Q'y 2)
5	O-ring	NBR	1	●	●	●	●	
6	Cushion packing	NBR	2	●	●	●	●*1	
7	Rod packing	NBR	1		●		●	
8	Rod cover	Aluminum alloy	1	●	●			
9	Head cover	Aluminum alloy	1	●	●			
10	Piston-R	Aluminum alloy	1	●				
11	Piston-H	Aluminum alloy	1	●				
12	Piston	Aluminum alloy	1		●			
13	Bush	Bearing alloy	1	●	●			
14	Magnet ring	Magnet material	1	◎	◎			◎ Option
15	Wear ring	Resin	1	●	●			
16	Hex nut	Carbon steel	1	●	●			
17	Bolt	Carbon steel	1	●				
18	Piston nut	Carbon steel	1		●			
19	Washer	Carbon steel	1	●	●			ø32 does not contain item #19
20	Tie rod nut	Carbon steel	8	●	●			
21	Tie rod washer	Carbon steel	8	●				
22	Needle valve	Copper alloy	2	●	●			
23	Insert nut	Copper alloy	2	●				
24	Needle valve washer	Carbon steel	2		●			
25	Cover plate	Plastic	2	●				
26	Snap ring	Carbon steel	2		●			
27	Cylinder tube	Aluminum alloy	1					
28	Piston rod *2	Carbon steel	1					
29	Tie rod	Carbon steel	4					

\*1. Cushion packing is not included in ø200 repair kits.

\*2. When customized material is bearing steel, only two-side across flat (wrench flat) is available.

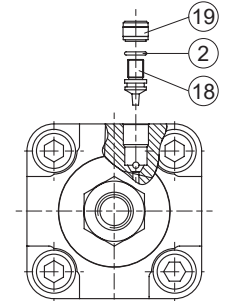
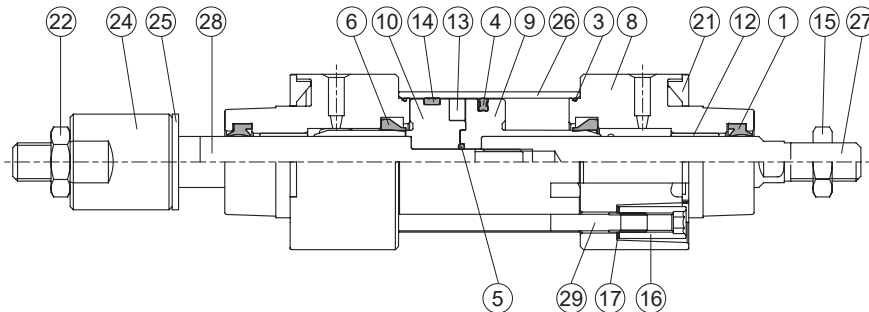
# MCQV\*-2\* Inside structure & Parts list

ISO 1552 STANDARD CYLINDER

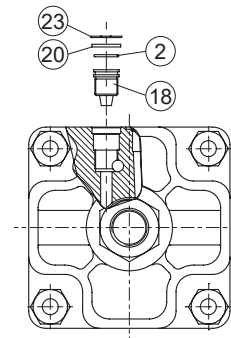
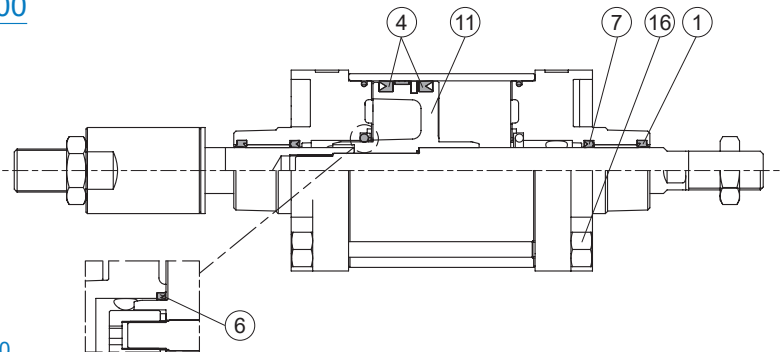


## Double rod 21 / 27 type

ø32~ø100



ø125~ø200



ø200

A: ø40~ø100  
B: ø125~ø200

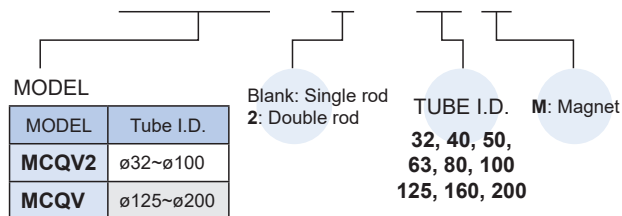
No.	21 type		27 type		Part name	Material	Q'y	Component parts (inclusion)		Repair kits (inclusion)		Note
	A	B	A	B				ø40~ø100	ø125~ø200	ø40~ø100	ø125~ø200	
1	●	●	●	●	Rod packing	NBR	2	●	●	●	●	
2	●	●	●	●	O-ring	NBR	2	●	●		●	
3	●	●	●	●	O-ring	NBR	2	●	●	●	●	
4	●	●	●	●	Piston packing	NBR	1 or 2	●	●	●	●	ø125~ø200 (Q'y 2)
5	●	●	●	●	O-ring	NBR	1	●	●	●	●	
6	●	●	●	●	Cushion packing	NBR	2	●	●	●	●	*1
7		●		●	Rod packing	NBR	2		●		●	
8	●	●	●	●	Rod cover	Aluminum alloy	2	●	●			
9	●		●		Piston-R	Aluminum alloy	1	●				
10	●		●		Piston-H	Aluminum alloy	1	●				
11		●		●	Piston	Aluminum alloy	1		●			
12	●	●	●	●	Bush	Bearing alloy	2	●	●			
13	◎	◎	◎	◎	Magnet ring	Magnet material	1	◎	◎			◎ Option
14	●	●	●	●	Wear ring	Resin	1	●	●			
15	●	●	●	●	Screw	Carbon steel	1	●	●			
16	●	●	●	●	Tie rod nut	Carbon steel	8	●	●			
17	●		●		Tie rod washer	Carbon steel	8	●				
18	●	●	●	●	Needle valve	Copper alloy	2	●	●			
19	●		●		Insert nut	Copper alloy	2	●				
20		●		●	Needle valve washer	Carbon steel	2		●			
21	●		●		Cover plate	Plastic	2	●				
22	●	●	●	●	Hex nut	Carbon steel	1	●	●			
23		●		●	Snap ring	Carbon steel	2		●			
24			●	●	Adjustable nut	Carbon steel	1					
25			●	●	Gasket	PU	1					
26	●	●	●	●	Cylinder tube	Aluminum alloy	1					
27	●	●	●	●	Piston rod #1 *2	Carbon steel	1					
28	●	●	●	●	Piston rod #2 *2	Carbon steel	1					
29	●	●	●	●	Tie rod	Carbon steel	4					

\*1. Cushion packing is not included in ø200 repair kits.

\*2. When customized material is bearing steel, only two-side across flat (wrench flat) is available.

■ Order example of component parts

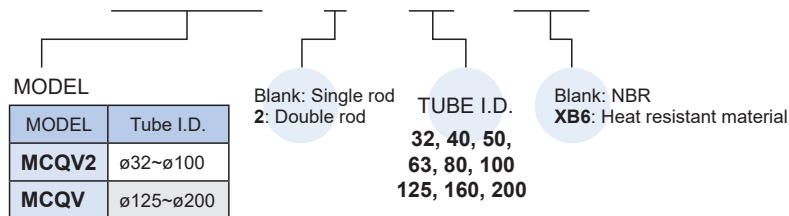
CP – MCQV2 – 2 – 40 M



\* Order example for Rc or NPT thread please consult us.

■ Order example of repair kits

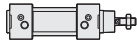
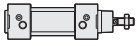
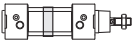
PS – MCQV2 – 2 – 40 – XB6



■ Cylinder & accessories weight













Cylinder weight

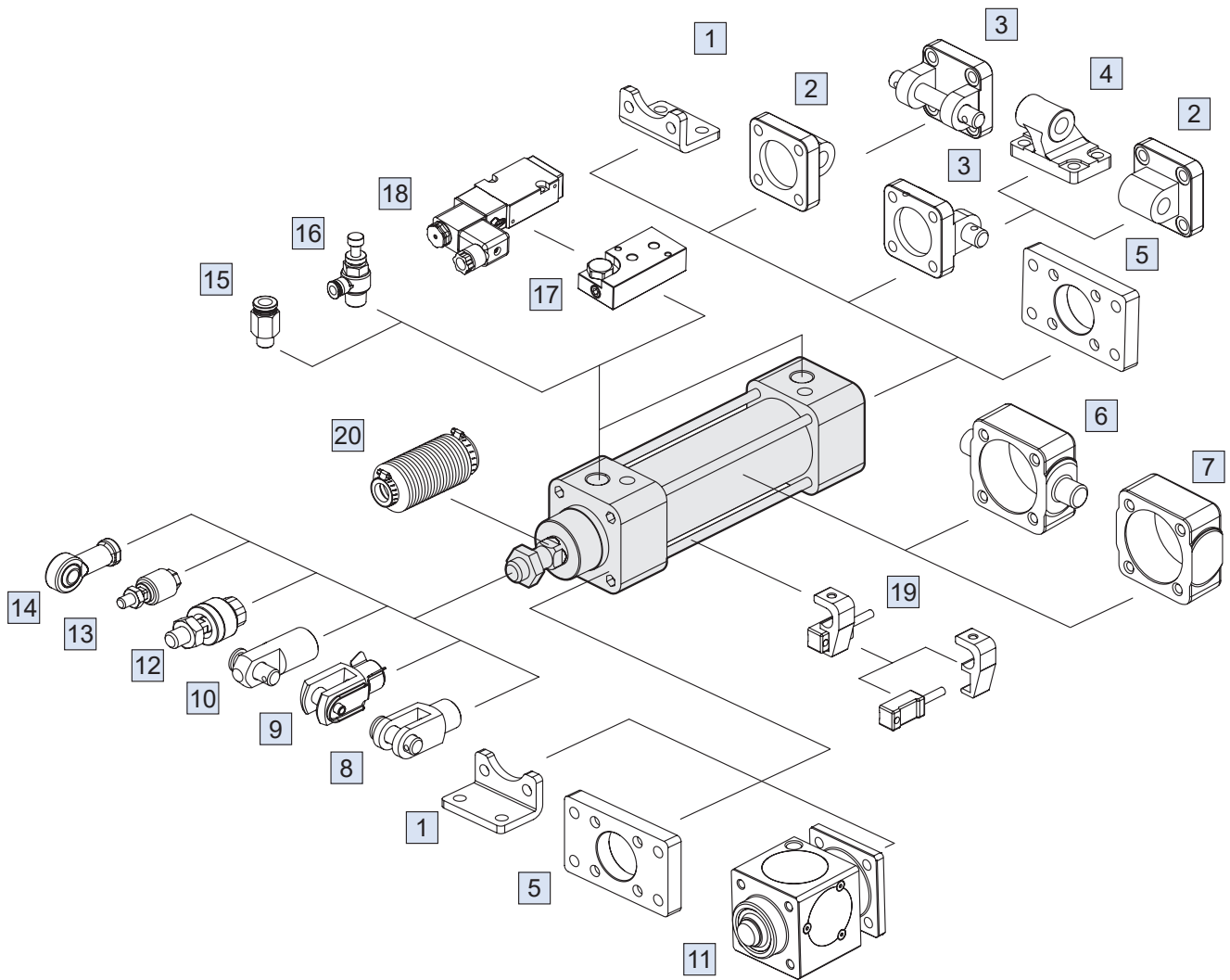
Unit: kg

Model	Basic weight MCQV*-11	Basic weight (magnet) MCQV*-11	Stroke 25 mm MCQV*-11
Tube I.D.			
ø32	0.520	0.526	0.053
ø40	0.770	0.782	0.075
ø50	1.200	1.217	0.115
ø63	1.700	1.720	0.128
ø80	2.770	2.797	0.181
ø100	3.960	3.995	0.220
ø125	7.345	7.388	0.372
ø160	13.864	13.974	0.555
ø200	19.450	19.560	0.570

Accessories weight

Unit: kg

Model	LB	CA	CB	CDB	FAC/FBC	TA/TB/TC	SDS	Y	I	Pin		YS
										Y / I	CA / CB	
Tube I.D.												
ø32	0.163	0.213	0.185	0.170	0.235	0.208	0.157	0.067	0.082	0.016	0.036	0.018
ø40	0.211	0.253	0.211	0.230	0.265	0.282	0.179	0.115	0.141	0.029	0.057	0.031
ø50	0.315	0.390	0.352	0.410	0.460	0.377	0.289	0.272	0.334	0.067	0.063	0.070
ø63	0.395	0.670	0.544	0.550	0.684	0.675	0.474	0.272	0.334	0.067	0.128	0.070
ø80	0.816	1.076	0.982	0.870	1.508	1.025	0.846	0.551	0.553	0.142	0.158	0.150
ø100	1.014	1.587	1.493	1.400	1.975	1.680	1.373	0.551	0.553	0.142	0.292	0.150
ø125	2.500	3.780	3.560	–	4.020	2.750	2.528	1.160	1.400	0.382	0.525	–
ø160	4.600	7.400	7.140	–	7.170	5.130	3.907	2.482	1.727	0.567	0.906	–
ø200	7.342	9.440	9.208	–	10.852	6.981	6.627	2.482	1.727	0.567	0.906	–



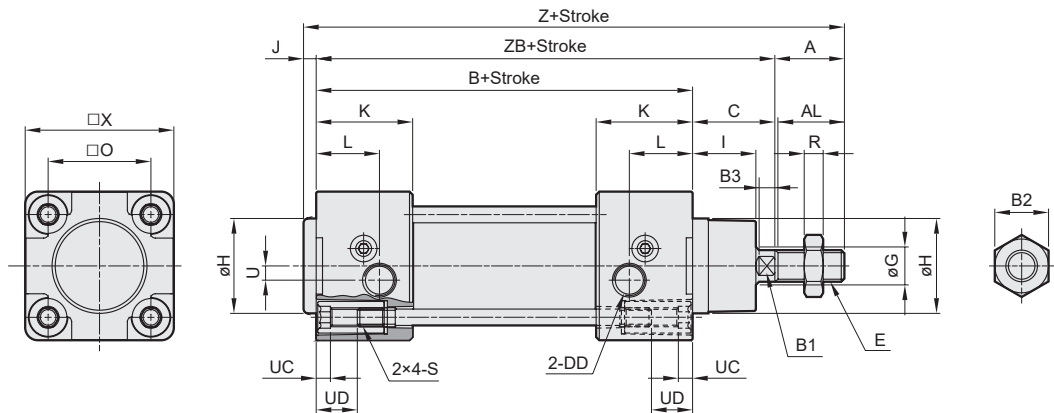
No.	Accessories	Material	Page
1	Mounting accessories LB	Carbon steel	1-36, 42
2	Mounting accessories CA	Cast iron	1-38, 43
3	Mounting accessories CB+PIN	Cast iron / *1	1-38, 43, 46, 47
4	Mounting accessories CDB	Cast iron	1-39
5	Mounting accessories FAC/FBC	Carbon steel	1-37, 42
6	Mounting accessories TA/TB/TC	Cast iron	1-39, 40, 44, 45
7	Mounting accessories SDS	Cast iron	1-39, 44
8	Accessories Y+PIN	Cast iron / *1	1-46, 47
9	Accessories YS (Y+Floating pin)	Carbon steel	1-46
10	Accessories I+PIN	Carbon steel	1-46, 47

No.	Accessories	Material	Page
11	Locking unit MCBQV*	Aluminum alloy+*2	1-88
12	Floating joint MFC	Carbon steel	8-2
13	Floating joint MFCS	Carbon steel	8-5
14	Female rod ends PHS	Carbon steel	8-6
15	Fitting PC (PISCO)	—	8-3 (Vol.1)
16	Speed controller JSC (PISCO)	—	8-15 (Vol.1)
17	Cylinder link seats MVSN-300-C	Aluminum alloy	1-69 (Vol.1)
18	Solenoid valve MVSN-220 / 300	—	1-65, 67 (Vol.1)
19	Sensor switch RCA+HV*	—	8-8
20	Protective bellows kit	NBR	—

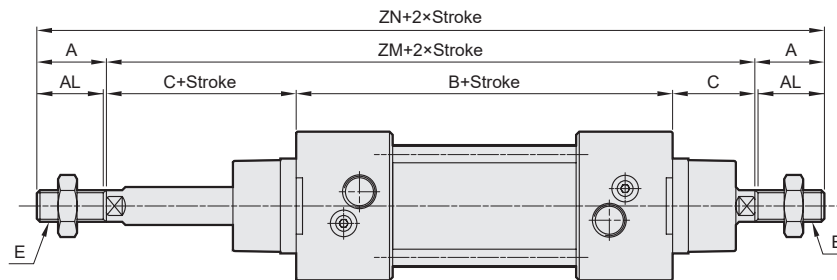
\*1. PIN material is carbon steel.

\*2. Bronze alloy.

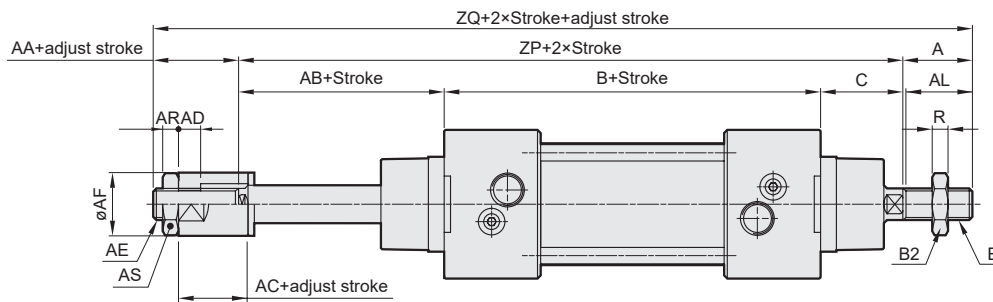
11



21

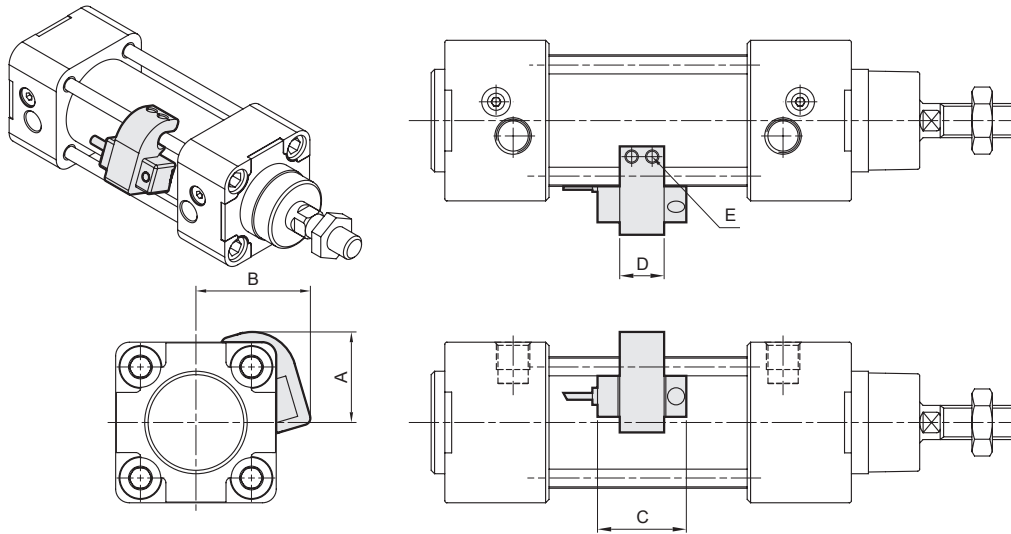


27



Code Tube I.D.	A	AA	AB	AC	AD	AE	AF	AL	AR	AS	B	B1	B2	B3	C	DD	E	G	H	I	J	K	L	O
32	22	16	26	12	7	M10×1.25	20	20	5	17	94	10	17	4	26	G1/8	M10×1.25	12	30	20	4	30.5	20	32.5
40	24	20	27	12	7	M12×1.25	30	22	6	19	105	13	19	6.5	30	G1/4	M12×1.25	16	35	20.5	4	34	14.5	38
50	32	18	34	15	10	M16×1.5	40	30	8	24	106	17	24	6	37	G1/4	M16×1.5	20	40	28	4	31	16	46.5
63	32	20	32	15	10	M16×1.5	40	30	8	24	121	17	24	8	37	G3/8	M16×1.5	20	45	26	4	33	16	56.5
80	40	32	41	20	14	M22×1.5	50	38	13	32	128	22	30	10	46	G3/8	M20×1.5	25	45	32.5	4	35.5	20.5	72
100	40	30	46	20	14	M22×1.5	50	38	13	32	138	22	30	10	51	G1/2	M20×1.5	25	55	37.5	4	37	19	89

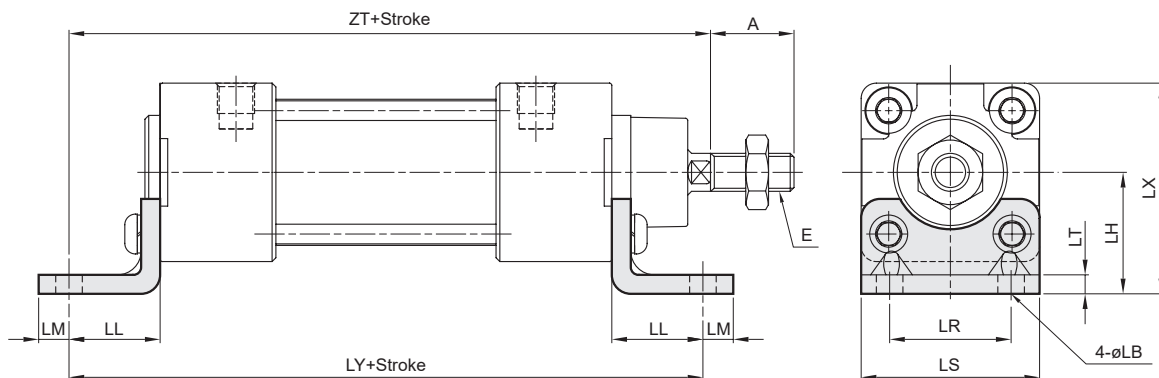
Code Tube I.D.	R	S	U	UC	UD	X	Z	ZB	ZM	ZN	ZP	ZQ
32	5	M6×1.0	4.5	4.5	12	47	146	120	146	190	146	184
40	6	M6×1.0	5.3	4.5	12	55	163	135	165	213	162	206
50	8	M8×1.25	8.5	4.5	16	65	179	143	180	244	177	227
63	8	M8×1.25	8	4.5	16	78	194	158	195	259	190	242
80	10	M10×1.5	9	4.5	18	95	218	174	220	300	215	287
100	10	M10×1.5	13	4.5	18	115	233	189	240	320	235	305



Code Tube I.D.	Sensor switch	Hold	A	B	C	D	E
MCQV2-32	RCA	HV1	26.5	33.5	26	13	M4×10L
MCQV2-40	RCA	HV1	29.5	36.5	26	13	M4×10L
MCQV2-50	RCA	HV2	37.5	41.5	26	13	M4×10L
MCQV2-63	RCA	HV2	42.5	46.5	26	13	M4×10L
MCQV2-80	RCA	HV3	49.5	54.5	26	13	M5×16L
MCQV2-100	RCA	HV3	57.5	62.5	26	13	M5×16L
MCQV-125	RCA	HV4	—	—	26	13	M4×10L
MCQV-160	RCA	PM16	—	—	26	12	M4×10L
MCQV-200	RCA	HA5	—	—	26	15	M4×16L

### ■ Mounting accessories

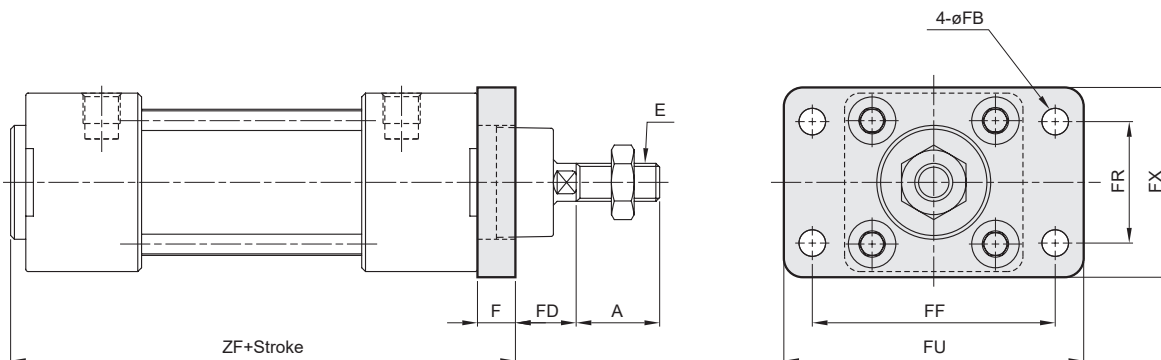
#### LB



Code Tube I.D.	A	E	LB	LH	LL	LM	LR	LS	LT	LX	LY	ZT
32	22	M10×1.25	7	32	24	8	32	47	5	55.5	142	144
40	24	M12×1.25	9	36	28	10	36	53	5	63.2	161	163
50	32	M16×1.5	9	45	32	10	45	65	5	77.5	170	175
63	32	M16×1.5	9	50	32	10	50	75	5	89.0	185	190
80	40	M20×1.5	12	63	41	13	63	95	6	110.5	210	215
100	40	M20×1.5	14	71	41	13	75	115	6	128.5	220	230

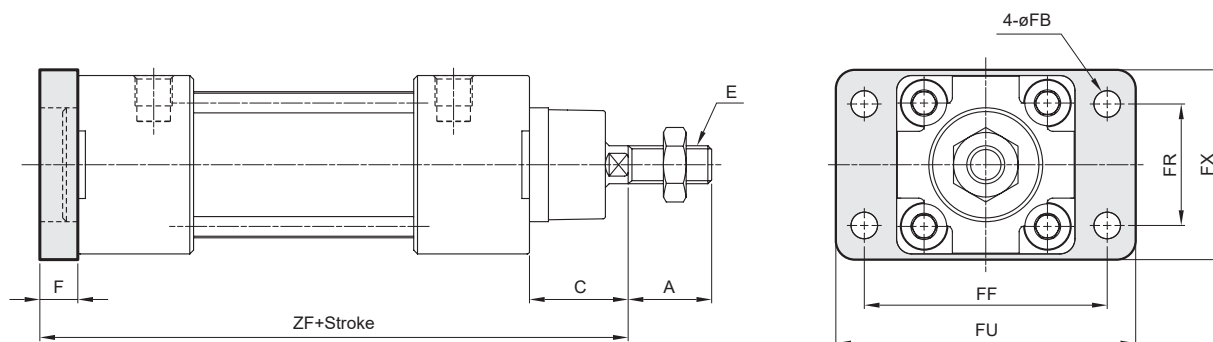


### FAC



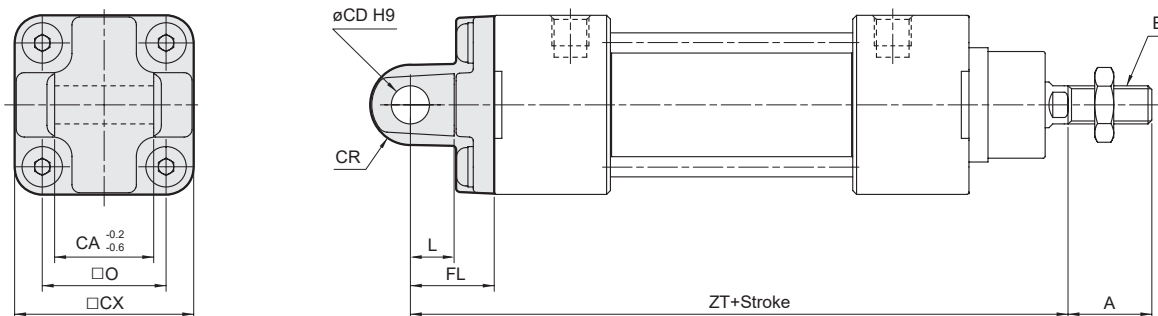
Code Tube I.D.	A	E	F	FB	FD	FF	FR	FU	FX	ZF
32	22	M10×1.25	10	7	16	64	32	79	50	108
40	24	M12×1.25	10	9	20	72	36	90	52	119
50	32	M16×1.5	12	9	25	90	45	110	65	122
63	32	M16×1.5	12	9	25	100	50	125	76	137
80	40	M20×1.5	16	12	30	126	63	154	94	148
100	40	M20×1.5	16	14	35	150	75	180	112	158

### FBC



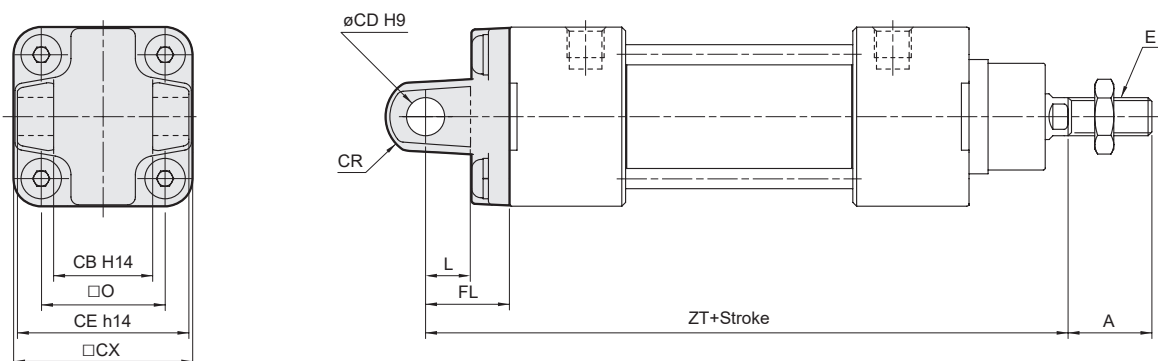
Code Tube I.D.	A	C	E	F	FB	FF	FR	FU	FX	ZF
32	22	26	M10×1.25	10	7	64	32	79	50	130
40	24	30	M12×1.25	10	9	72	36	90	52	145
50	32	37	M16×1.5	12	9	90	45	110	65	155
63	32	37	M16×1.5	12	9	100	50	125	76	170
80	40	46	M20×1.5	16	12	126	63	154	94	190
100	40	51	M20×1.5	16	14	150	75	180	112	205

### CA



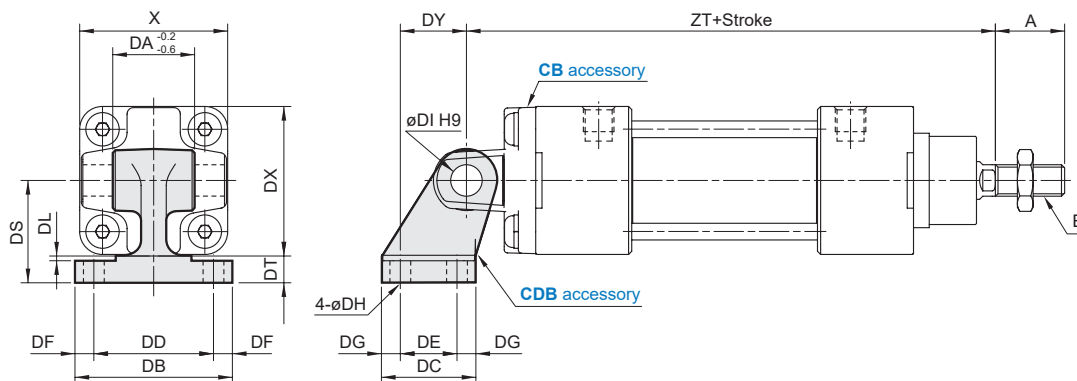
Code Tube I.D.	A	CA	CD	CR	CX	E	FL	L	O	ZT
32	22	26	10	R10.5	46.5	M10×1.25	22	12	32.5	142
40	24	28	12	R12	54	M12×1.25	25	15	38	160
50	32	32	12	R13	64	M16×1.5	27	15	46.5	170
63	32	40	16	R17	75	M16×1.5	32	20	56.5	190
80	40	50	16	R17	93	M20×1.5	36	20	72	210
100	40	60	20	R21	114	M20×1.5	41	25	89	230

### CB



Code Tube I.D.	A	CB	CD	CE	CR	CX	E	FL	L	O	ZT
32	22	26	10	45	R10.5	46.5	M10×1.25	22	12	32.5	142
40	24	28	12	52	R12	54	M12×1.25	25	15	38	160
50	32	32	12	60	R14	64	M16×1.5	27	15	46.5	170
63	32	40	16	70	R17	75	M16×1.5	32	20	56.5	190
80	40	50	16	90	R17	93	M20×1.5	36	20	72	210
100	40	60	20	110	R21	114	M20×1.5	41	25	89	230

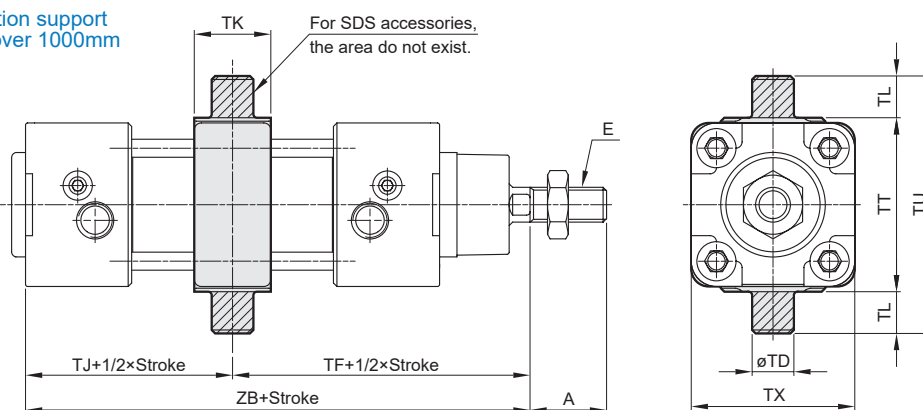
### CDB CB+Pin (Extra purchase)



Code Tube I.D.	A	DA	DB	DC	DD	DE	DF	DG	DH	DI	DL	DS	DT	DX	DY	E	X	ZT
32	22	26	50	30	38	18	6	6	6.6	10	1.5	32	8	47.5	21	M10×1.25	47	142
40	24	28	53	34	41	22	6	6	6.6	12	1.5	36	10	53.5	24	M12×1.25	55	160
50	32	32	65	45	50	30	7.5	7.5	9	12	1.5	45	12	65.5	33	M16×1.5	65	170
63	32	40	67	50	52	35	7.5	7.5	9	16	1.5	50	12	77	37	M16×1.5	78	190
80	40	50	86	60	66	40	10	10	11	16	2.5	63	14	96.5	47	M20×1.5	95	210
100	40	60	96	70	76	50	10	10	11	20	2.5	71	15	113.5	55	M20×1.5	115	230

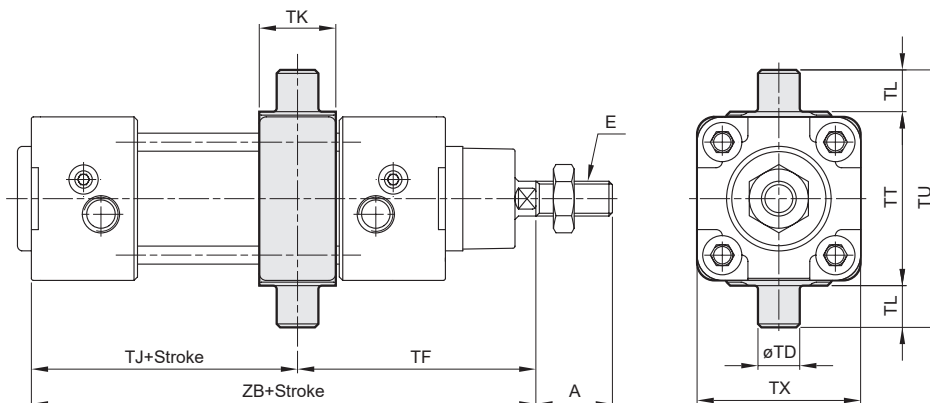
### TC

### SDS Mid section support Stroke over 1000mm



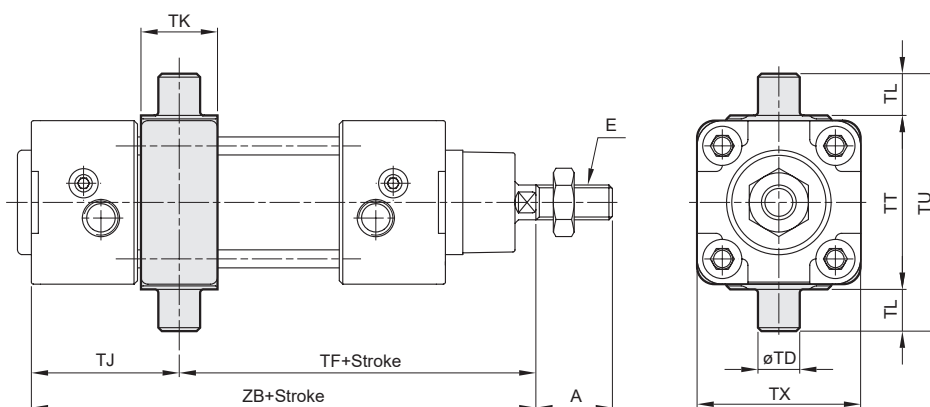
Code Tube I.D.	A	E	TD	TF	TJ	TK	TL	TT		TU	TX	ZB
								TC	SDS			
32	22	M10×1.25	12e8	73	47	22	12	50	49	74	47	120
40	24	M12×1.25	16e8	82.5	52.5	22	16	63	55	95	53	135
50	32	M16×1.5	16e8	90	53	22	16	75	68	107	66	143
63	32	M16×1.5	20e8	97.5	60.5	28	20	90	82	130	80	158
80	40	M20×1.5	20e8	110	64	34	20	110	108	150	106	174
100	40	M20×1.5	25e8	120	69	40	25	132	130	182	126	189

### TA



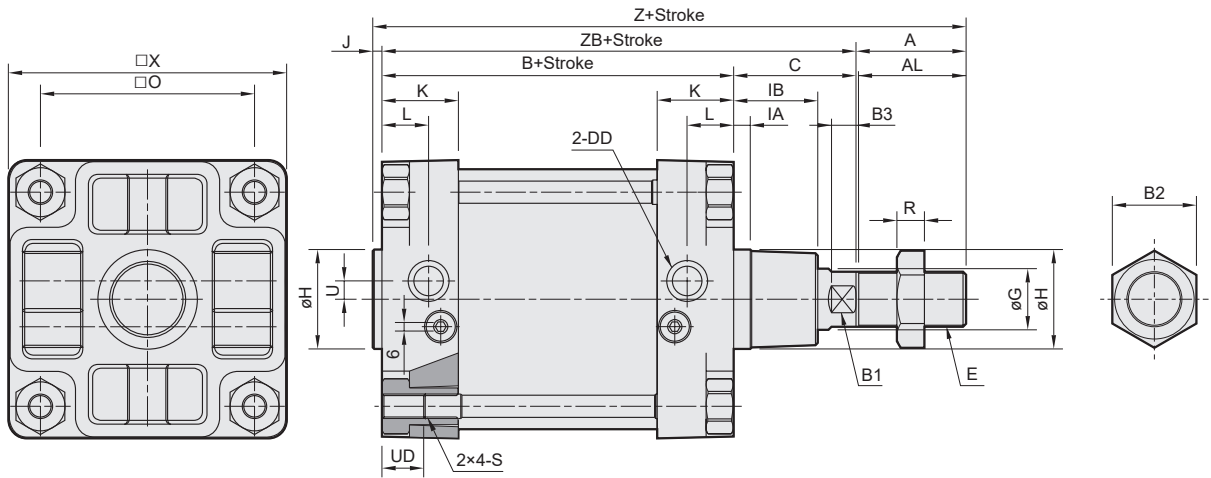
Code Tube I.D.	A	E	TD	TF	Without magnet		Magnet		TK	TL	TT	TU	TX
					TJ	ZB	TJ	ZB					
32	22	M10×1.25	12e8	68.5	51.5	120	81.5	150	22	12	50	74	47
40	24	M12×1.25	16e8	76	59	135	89	165	22	16	63	95	53
50	32	M16×1.5	16e8	80	63	143	93	173	22	16	75	107	66
63	32	M16×1.5	20e8	85	73	158	103	188	28	20	90	130	80
80	40	M20×1.5	20e8	99.5	74.5	174	114.5	214	34	20	110	150	106
100	40	M20×1.5	25e8	109	80	189	120	229	40	25	132	182	126

### TB

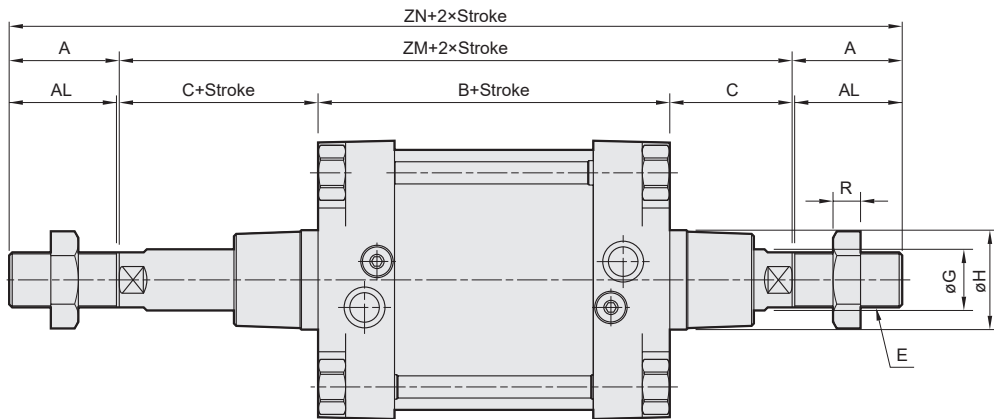


Code Tube I.D.	A	E	TD	Without magnet		Magnet		TJ	TK	TL	TT	TU	TX
				TF	ZB	TF	ZB						
32	22	M10×1.25	12e8	77.5	120	107.5	150	42.5	22	12	50	74	47
40	24	M12×1.25	16e8	89	135	119	165	46	22	16	63	95	53
50	32	M16×1.5	16e8	100	143	130	173	43	22	16	75	107	66
63	32	M16×1.5	20e8	110	158	140	188	48	28	20	90	130	80
80	40	M20×1.5	20e8	120.5	174	160.5	214	53.5	34	20	110	150	106
100	40	M20×1.5	25e8	131	189	171	229	58	40	25	132	182	126

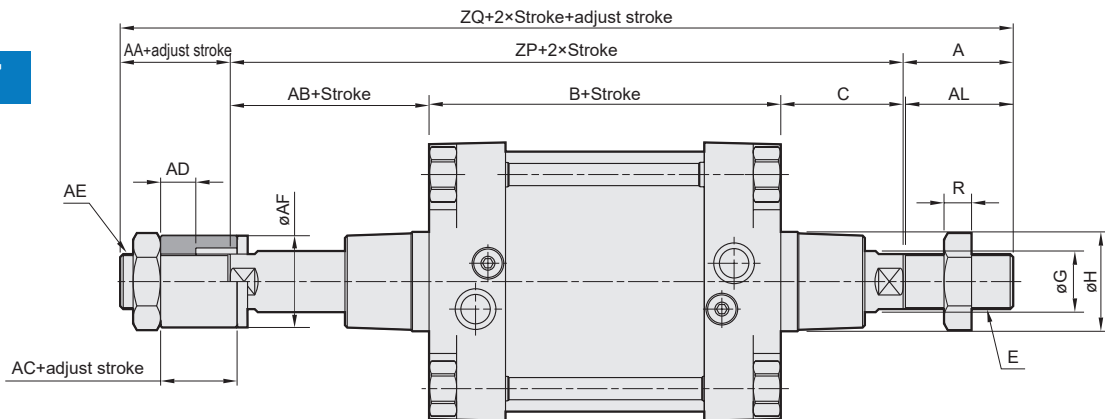
11



21



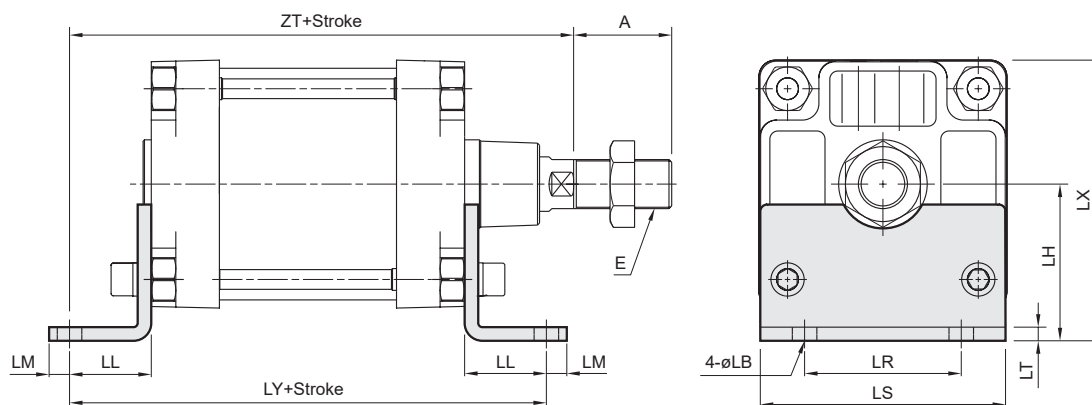
27



Code Tube I.D.	A	AA	AB	AC	AD	AE	AF	AL	B	B1	B2	B3	C	DD	E	G	H	IA	IB	J	K	L	O	R
125	54	38	55	30	18	M30×1.5	60	52	160	27	41	13	65	G1/2	M27×2	32	60e11	10	40	6	40	25	110	13.5
160	72	38	71	30	18	M30×1.5	60	70	180	36	55	16	80	G3/4	M36×2	40	65e11	10	55	6	50	30.5	140	18
200	72	40	70	30	18	M36×2.0	60	70	180	36	55	16	95	G3/4	M36×2	40	75e11	15	55	6	56	36.5	175	18

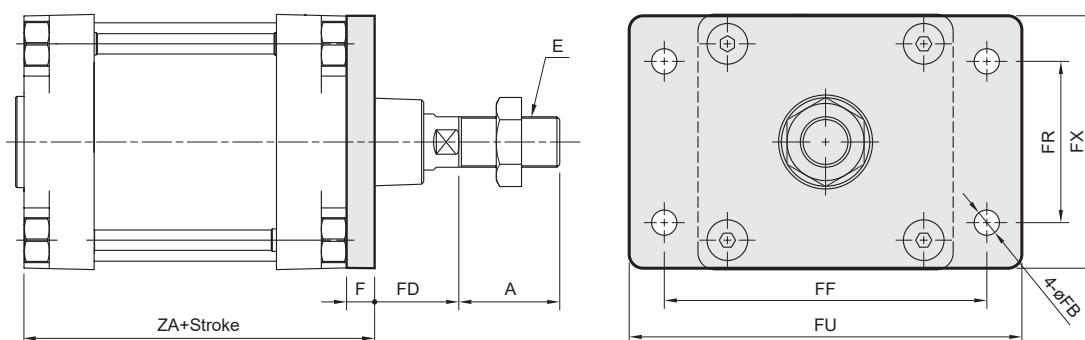
Code Tube I.D.	S	U	UD	X	Z	ZB	ZM	ZN	ZP	ZQ
125	M12×1.75	11	22	140	285	225	290	398	280	372
160	M16×2.0	12	27	182	338	260	340	484	331	441
200	M16×2.0	12	27	220	353	275	370	514	369.5	457

### LB

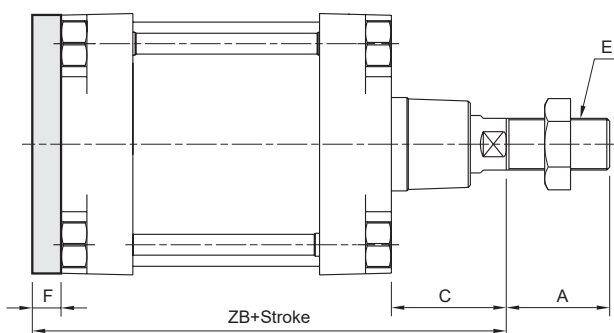


Code Tube I.D.	A	E	LB	LH	LL	LM	LR	LS	LT	LX	LY	ZT
125	54	M27×2.0	16	90	45	25	90	140	9	160	250	270
160	72	M36×2.0	18	115	60	15	115	180	10	206	300	320
200	72	M36×2.0	24	135	70	35	135	220	12	245	320	345

### FAC

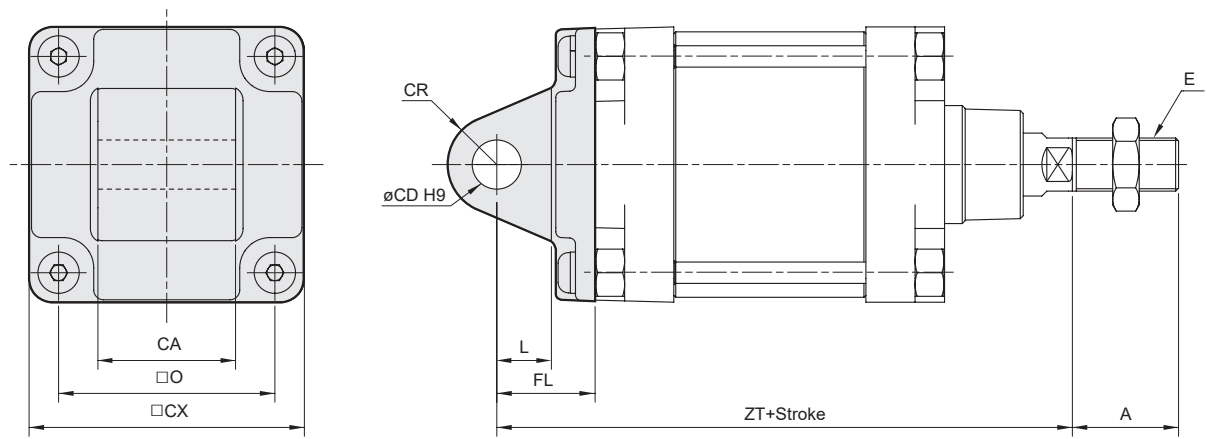


### FBC



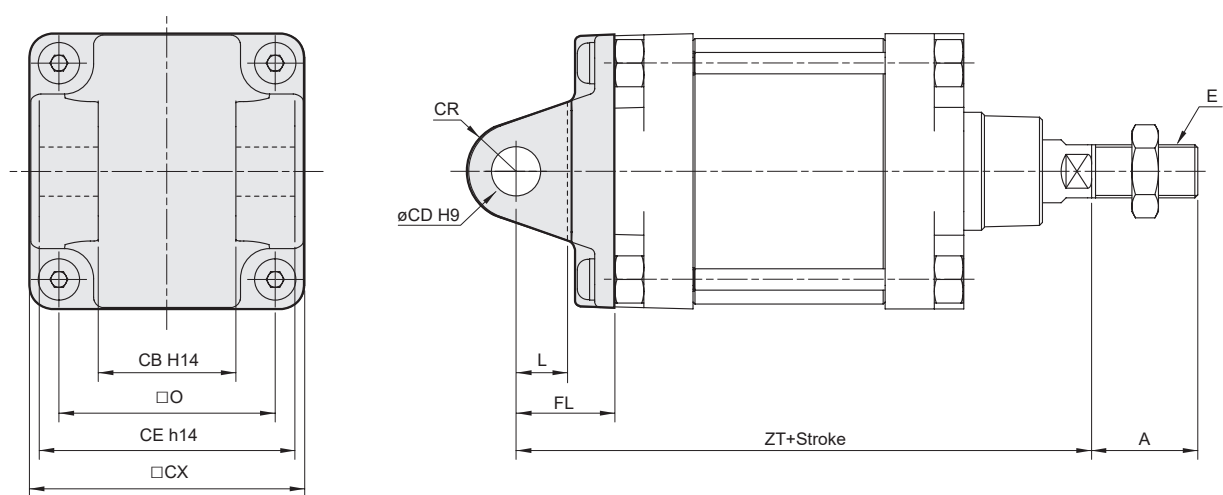
Code Tube I.D.	A	E	F	FB	FD	FF	FR	FU	FX	ZA	ZB
125	54	M27×2.0	20	16	45	180	90	210	140	180	245
160	72	M36×2.0	20	18	60	230	115	280	180	200	280
200	72	M36×2.0	25	22	70	270	135	320	220	205	300

**CA**



Code Tube I.D.	A	CA	CD	CR	CX	E	FL	L	O	ZT
125	54	69.5 <sup>0</sup> <sub>-0.7</sub>	25	R25	139	M27×2.0	50	30	110	275
160	72	89.5 <sup>0</sup> <sub>-0.7</sub>	30	R30	178	M36×2.0	55	35	140	315
200	72	90 <sup>-0.5</sup> <sub>-1.2</sub>	30	R30	218	M36×2.0	60	35	175	335

**CB**

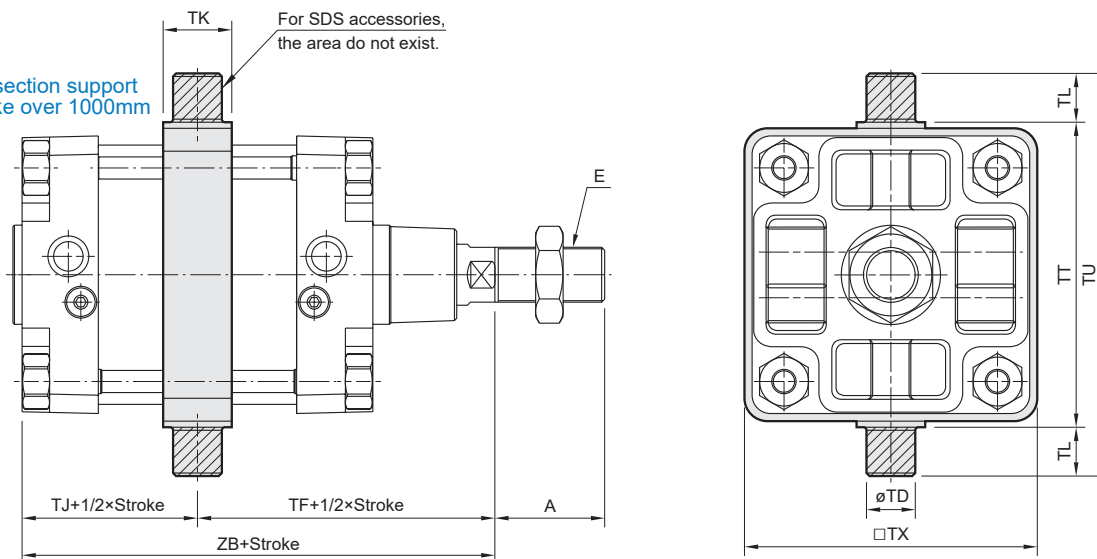


Code Tube I.D.	A	CB	CD	CE	CR	CX	E	FL	L	O	ZT
125	54	70	25	130	R25	139	M27×2.0	50	30	110	275
160	72	90	30	170	R30	178	M36×2.0	55	35	140	315
200	72	90	30	170	R30	218	M36×2.0	60	35	175	335

### TC

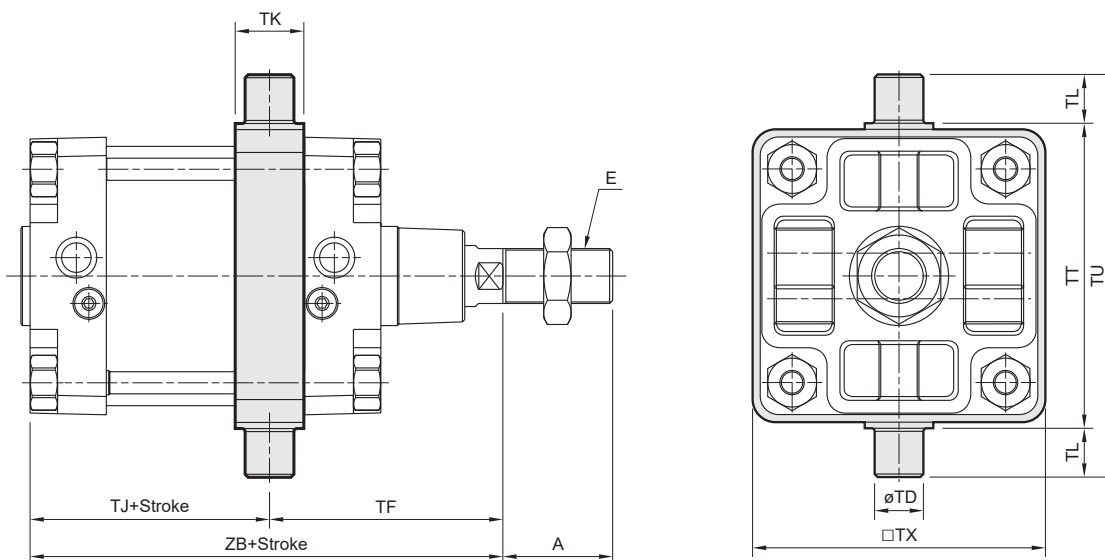
### SDS

Mid section support  
Stroke over 1000mm



Code Tube I.D.	A	E	TD	TF	TJ	TK	TL	TT		TU	TX	ZB
								TC	SDS			
125	54	M27×2.0	25e9	145	80	40	25	160	158	210	155	225
160	72	M36×2.0	32e9	170	90	45	32	200	198	264	192	260
200	72	M36×2.0	32e9	185	90	45	32	250	250	314	240	275

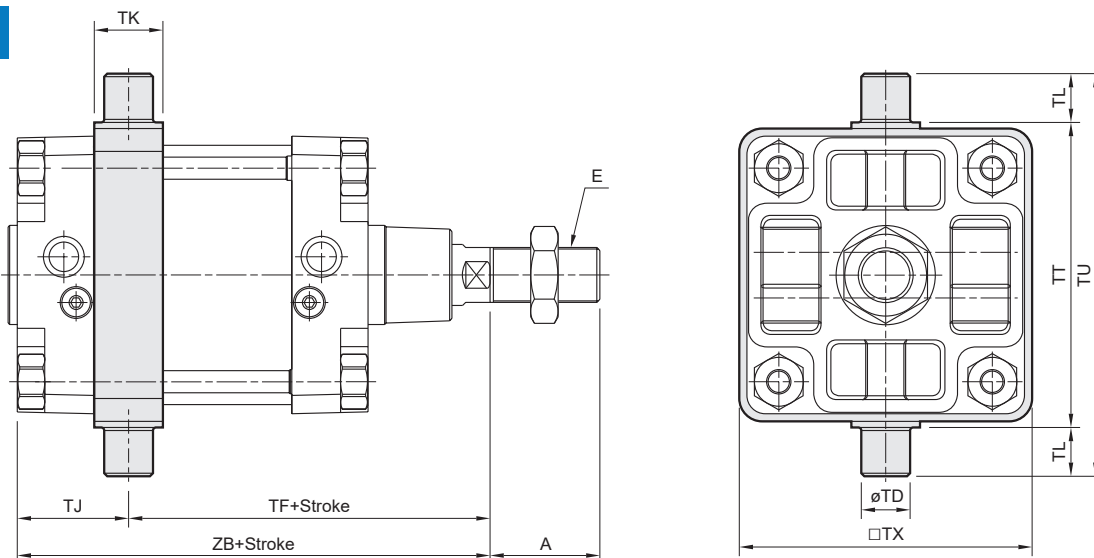
### TA



Code Tube I.D.	A	E	TD	TF	Without magnet		Magnet		TK	TL	TT	TX	TU
					TJ	ZB	TJ	ZB					
125	54	M27×2.0	25e9	125	100	225	146	271	40	25	160	155	210
160	72	M36×2.0	32e9	152.5	107.5	260	157.5	310	45	32	200	192	264
200	72	M36×2.0	32e9	173.5	101.5	275	145.5	319	45	32	250	240	275



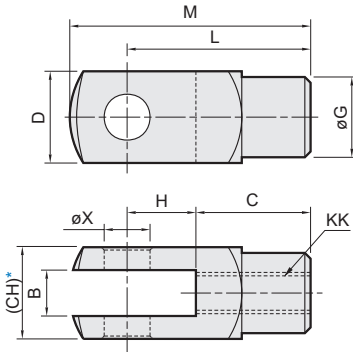
**TB**



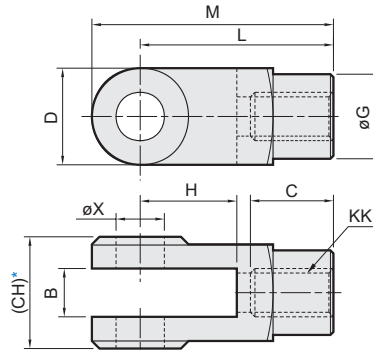
Code Tube I.D.	A	E	TD	TJ	Without magnet		Magnet		TK	TL	TT	TX	TU
					TF	ZB	TF	ZB					
125	54	M27×2.0	25e9	60	165	225	211	271	40	25	160	155	210
160	72	M36×2.0	32e9	72.5	187.5	260	237.5	310	45	32	200	192	264
200	72	M36×2.0	32e9	78.5	196.5	275	240.5	319	45	32	250	240	275

### Y connector

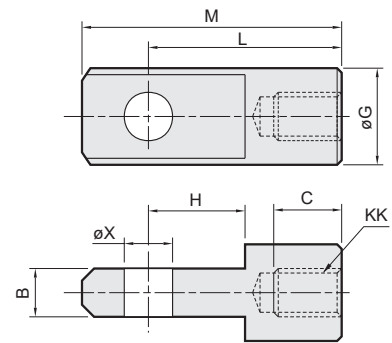
$\phi 32 \sim \phi 40$



$\phi 50 \sim \phi 100$



### I connector

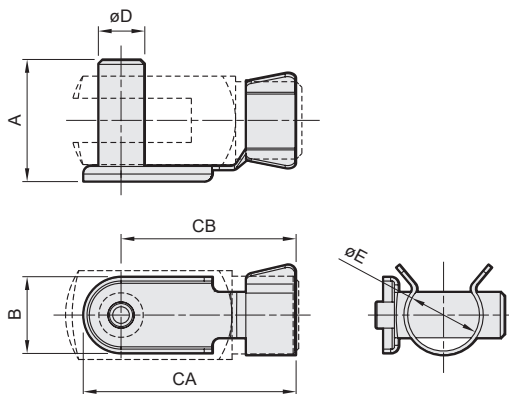


\* Please do not take the sand casting plate as the mounting plate, because we do not machine it. If you have this special demand, please contact our sales representative.

Code Tube I.D.	B		C		CH		D		G		H		KK		L		M		X <sup>H9</sup>
	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	
32	10 <sup>+0.5/+0.15</sup>	10 <sup>-0.1/-0.2</sup>	20	17	19	—	19	—	ø18	ø20	20	15	M10×1.25	40	40	52	52	ø10 <sup>+0.04/0</sup>	
40	12 <sup>+0.5/+0.15</sup>	12 <sup>-0.1/-0.2</sup>	24	21	22	—	22	—	ø20	ø24	24	18	M12×1.25	48	48	62	62	ø12 <sup>+0.04/0</sup>	
50	16 <sup>+0.3/+0.1</sup>	16 <sup>-0.1/-0.3</sup>	28	23	32	—	32	—	ø28	ø32	32	32	M16×1.5	64	64	89	86	ø16 <sup>+0.04/0</sup>	
63	16 <sup>+0.3/+0.1</sup>	16 <sup>-0.1/-0.3</sup>	28	23	32	—	32	—	ø28	ø32	32	32	M16×1.5	64	64	89	86	ø16 <sup>+0.04/0</sup>	
80	20 <sup>+0.3/+0.1</sup>	20 <sup>-0.1/-0.3</sup>	33	30	45	—	40	—	ø36	ø36	40	40	M20×1.5	80	80	100	108	ø20 <sup>+0.05/0</sup>	
100	20 <sup>+0.3/+0.1</sup>	20 <sup>-0.1/-0.3</sup>	33	30	45	—	40	—	ø36	ø36	40	40	M20×1.5	80	80	100	108	ø20 <sup>+0.05/0</sup>	

### PIN

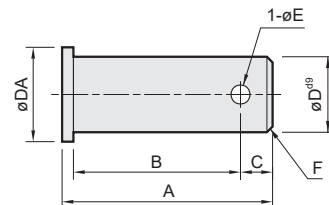
S



for floating pin

Code Tube I.D.	A	B	CA	CB	D <sup>d9</sup>	E
32	26	14	45	38	ø10 <sup>-0.04/-0.07</sup>	17
40	31	16	54	46	ø12 <sup>-0.05/-0.09</sup>	19
50,63	42	20	70	60	ø16 <sup>-0.05/-0.09</sup>	27
80,100	56	30	91	76	ø20 <sup>-0.06/-0.11</sup>	35

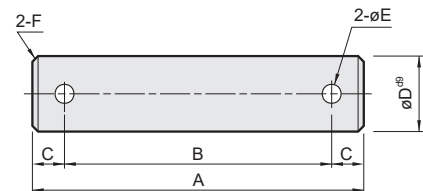
P



for Y & I connector

Code Tube I.D.	A	B	C	D <sup>d9</sup>	DA	E	F	Split pin
32	30	25	3.5	ø10 <sup>-0.06/-0.09</sup>	14	3.2	1	3.2×20L
40	37	30	5	ø12 <sup>-0.06/-0.09</sup>	16	3.2	1	3.2×20L
50,63	47	37	7	ø16 <sup>-0.05/-0.09</sup>	22	4	1	4×25L
80,100	62	50	8	ø20 <sup>-0.06/-0.11</sup>	30	5	1.5	5×35L

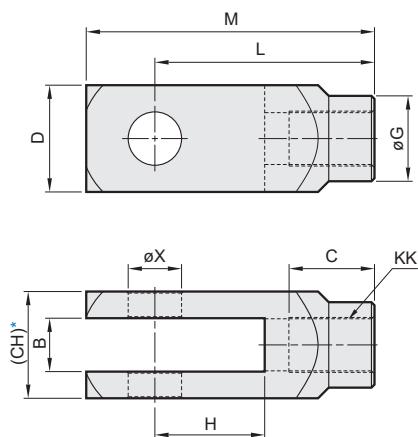
P



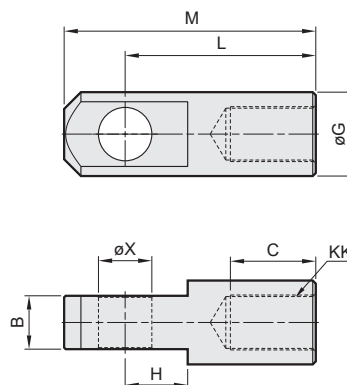
for CA & CB

Code Tube I.D.	A	B	C	D <sup>d9</sup>	E	F	Split pin
32	69	55	7	ø10 <sup>-0.05/-0.09</sup>	4	1.0	4×20L
40	76	62	7	ø12 <sup>-0.05/-0.09</sup>	4	1.0	4×20L
50	84	70	7	ø12 <sup>-0.05/-0.09</sup>	4	1.0	4×20L
63	94	80	7	ø16 <sup>-0.05/-0.09</sup>	4	1.0	4×30L
80	117	100	8.5	ø16 <sup>-0.05/-0.09</sup>	5	1.5	5×30L
100	137	120	8.5	ø20 <sup>-0.05/-0.09</sup>	5	1.5	5×35L

### Y connector



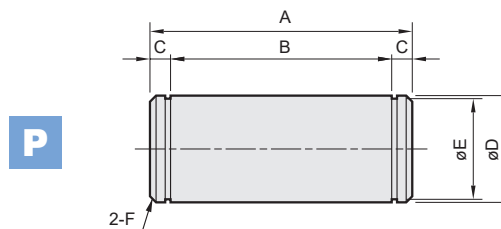
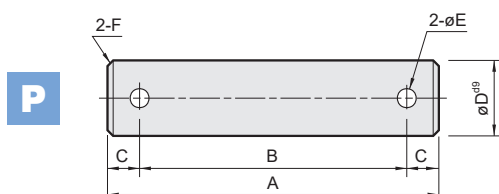
### I connector



\* Please do not take the sand casting plate as the mounting plate, because we do not machine it.  
If you have this special demand, please contact our sales representative.

Code Tube I.D.	B		C		CH		D		G		H		KK		L		M		X <sup>F7</sup>	
	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I
125	30 <sup>+0.52</sup> <sub>0</sub>	30 <sup>-0.2</sup> <sub>-0.3</sub>	56	51	55	—	55	—	48	55	54	40	M27×2.0	110	110	148	145	30 <sup>+0.52</sup> <sub>+0</sub>	30 <sup>+0.04</sup> <sub>+0.02</sub>	
160	35 <sup>+0.62</sup> <sub>0</sub>	35 <sup>-0.2</sup> <sub>-0.3</sub>	56	56	70	—	70	—	56	55	72	41	M36×2.0	144	125	189	165	35 <sup>+0.05</sup> <sub>+0.02</sub>	35 <sup>+0.05</sup> <sub>+0.02</sub>	
200	35 <sup>+0.62</sup> <sub>0</sub>	35 <sup>-0.2</sup> <sub>-0.3</sub>	56	56	70	—	70	—	56	55	72	41	M36×2.0	144	125	189	165	35 <sup>+0.05</sup> <sub>+0.02</sub>	35 <sup>+0.05</sup> <sub>+0.02</sub>	

### PIN



#### for $\phi 125$

Code Type	A	B	C	D <sup>g9</sup>	E	F	Split pin
CB	157	140	8.5	$\phi 25$ <sup>-0.07</sup> <sub>-0.12</sub>	5	1.5	5×36L
Y	81	64	8.5	$\phi 30$ <sup>-0.07</sup> <sub>-0.12</sub>	6.3	1.5	6.3×40L

#### for $\phi 160, \phi 200$

Code Type	A	B	C	D	E	F	Snap ring
CB	186	172	7	$30$ <sup>es</sup> <sub>-0.09</sub>	$28.6$ <sub>-0.21</sub>	2	STW-30
Y	86	72	7	$35$ <sup>h7</sup> <sub>-0.03</sub>	$33$ <sub>-0.25</sub>	2	STW-35