MCQV series

ISO-VDMA **STANDARD CYLINDERS**



Features:

■ **Non-lubrication:**
Designs of oil-filled alloy.special housing and bushing provide the needed self-lubrication of piston rod.

■ **High quality-long service life:**
Hard anodized aluminum cylinder tubes resist corrosion and abrasion.

■ **ISO-VDMA standard specification:**
Conformance to ISO-6431 & VDMA-24562 specification.
Unified design, most parts of each type are interchangeable among each other.

■ **Cylinder mountings:**
Available with a comprehensive selection of mountings for fixed or flexible installation.

■ **Port thread PT. NPT. are also available.**

Table for standard stroke

Tube I.D.	Stroke (mm)
ϕ32,40	50,75,100,125,150,175,200,250,300,350,400,450,500
ϕ50,63	↑ 600
ϕ80,100,125,160	↑ 600,700

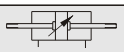
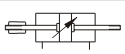
- Stroke out of specification is also available.
- Please consult us if stroke out of specification.

Model	MCQV				
Tube I.D. (mm)	32,40	50,63	80,100	125	160
Medium	Air				
Operating pressure range	0.5~9.9 kgf/cm^2				
Proof pressure	15 kgf/cm^2				
Ambient temperature	−5~+60℃ (No freezing)				
Sensor switch	RCA				
Sensor switch holder	HV1	HV2	HV3	HV4	PM16

Order example:

MCQV − 11 − 40 − 100(M)

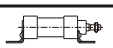
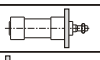
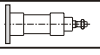
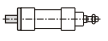
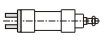
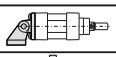
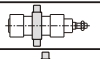
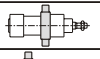
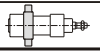
- MCQV — MODEL
- 11 — STYLE:
  - **1**: Single Rod
  - **2**: Double Rod
- 40 — TUBE I.D.
- 100 — STROKE
- (M) — **M**: Magnet

Code		Symbol	Description
1	1		Double acting / Male thread
2	1		Dual rod / Male thread
2	7		Dual rod / Adjustable male thread (Please mark "adjustable distance(mm)" at order list)

Mounting accessories:

FAC − MCQV − 40

- FAC — MOUNTING TYPE
- MCQV — MODEL
- 40 — TUBE I.D.

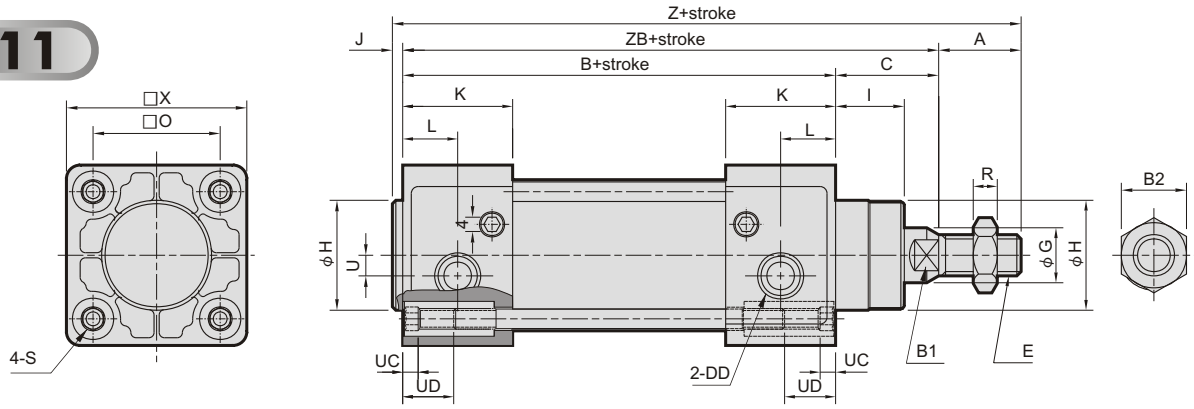
	**LB**
	**FAC**
	**FBC**
	**CA**
	**CB**
	**CDB** (+CB+Pin)
	**TC**
	**TA**
	**TB**

MCQV Dimensions ϕ32~ϕ100

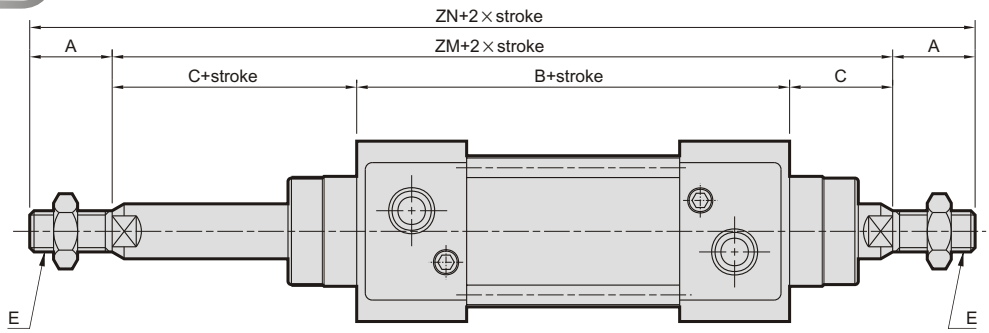
ISO-VDMA **STANDARD CYLINDERS**

Mindman

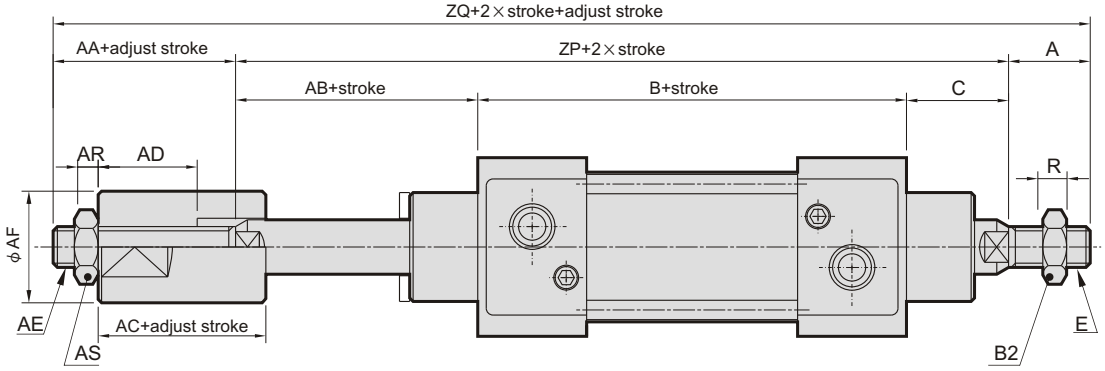
11



21

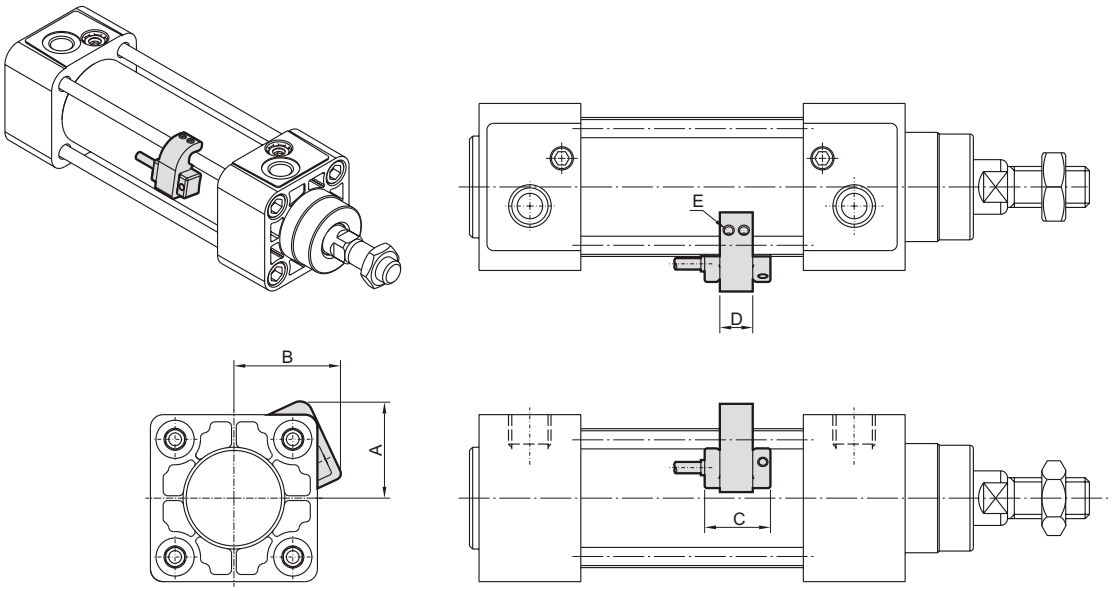


27



Code / Tube I.D.	A	AA	AB	AC	AD	AE	AF	AR	AS	B	B1	B2	C	DD	E	G	H	I	J	K	L	O	R
32	22	19	23	12	7	M10×1.25	20	6	17	94	10	17	26	G 1/8	M10×1.25	12	30	16	4	26	13	32.5	5
40	24	20	27	12	7	M12×1.25	30	7	19	105	13	19	30	G 1/4	M12×1.25	16	35	20	4	30	15	38	6
50	32	20	32	15	10	M16×1.5	40	8	24	106	16	24	37	G 1/4	M16×1.5	20	40	25	4	30	15	46.5	8
63	32	20	32	15	10	M16×1.5	40	8	24	121	16	24	37	G 3/8	M16×1.5	20	45	25	4	32	16	56.5	8
80	40	32	41	20	14	M22×1.5	50	13	32	128	21	30	46	G 3/8	M20×1.5	25	45	32	4	38	19	72	10
100	40	32	44	20	14	M22×1.5	50	13	32	138	21	30	51	G 1/2	M20×1.5	25	55	35	4	40	21	89	10

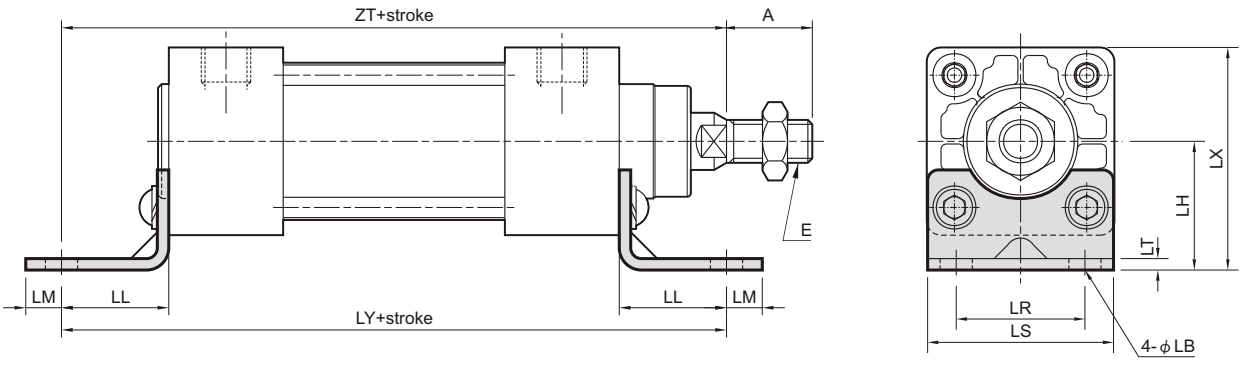
Code / Tube I.D.	S	U	UC	UD	X	Z	ZB	ZM	ZN	ZP	ZQ
32	M6×1.0	5	4	12	47	146	120	146	190	143	184
40	M6×1.0	4	4	12	53	163	135	165	213	162	206
50	M8×1.25	4	4	16	65	179	143	180	244	175	227
63	M8×1.25	7	4	16	75	194	158	195	259	190	242
80	M10×1.5	7	4	18	95	218	174	220	300	215	287
100	M10×1.5	7	4	18	115	233	189	240	320	233	305



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

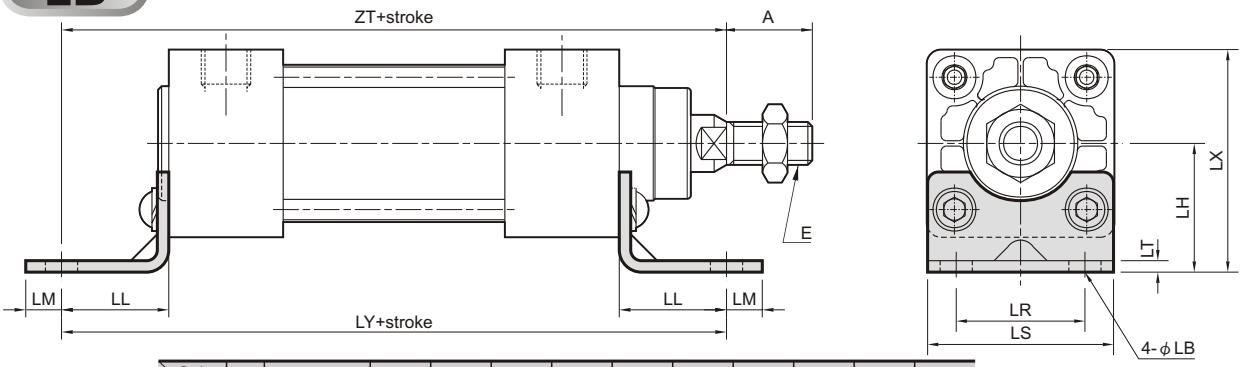
■ Mounting accessories

LB



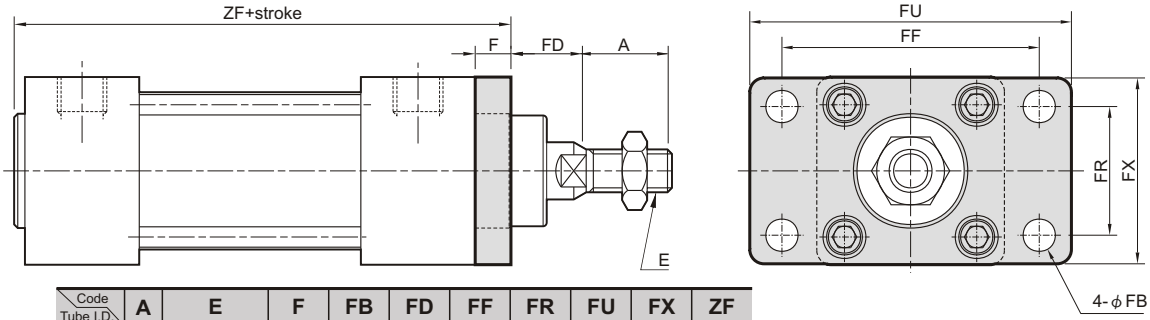
Code / Tube I.D.	A	E	LB	LH	LL	LM	LR	LS	LT	LX	LY	ZT
32	22	M10×1.25	7	32	24	8	32	47	5	55.5	142	144
40	24	M12×1.25	9	36	28	10	36	53	5	62.2	161	163
50	32	M16×1.5	9	45	32	10	45	65	5	77.5	170	175
63	32	M16×1.5	9	50	32	10	50	75	5	87.5	185	190
80	40	M20×1.5	12	63	41	13	63	95	6	110.5	210	215
100	40	M20×1.5	14	71	41	13	75	115	6	128.5	220	230

LB



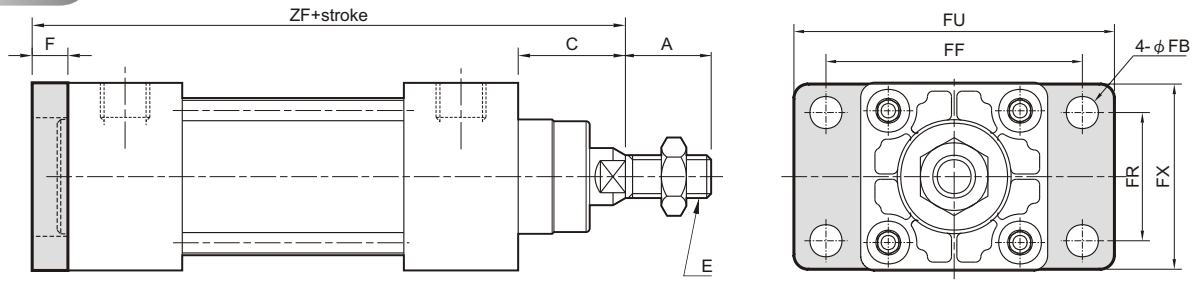
Code / Tube I.D.	A	E	LB	LH	LL	LM	LR	LS	LT	LX	LY	ZT
32	22	M10×1.25	7	32	24	8	32	47	5	55.5	142	144
40	24	M12×1.25	9	36	28	10	36	53	5	62.2	161	163
50	32	M16×1.5	9	45	32	10	45	65	5	77.5	170	175
63	32	M16×1.5	9	50	32	10	50	75	5	87.5	185	190
80	40	M20×1.5	12	63	41	13	63	95	6	110.5	210	215
100	40	M20×1.5	14	71	41	13	75	115	6	128.5	220	230

FAC



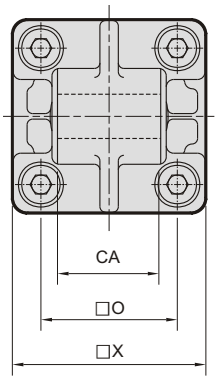
Code / Tube I.D.	A	E	F	FB	FD	FF	FR	FU	FX	ZF
32	22	M10×1.25	10	7	16	64	32	79	50	108
40	24	M12×1.25	10	9	20	72	36	90	52	120
50	32	M16×1.5	12	9	25	90	45	110	65	123
63	32	M16×1.5	12	9	25	100	50	125	76	137
80	40	M20×1.5	16	12	30	126	63	154	94	148
100	40	M20×1.5	16	14	35	150	75	180	112	158

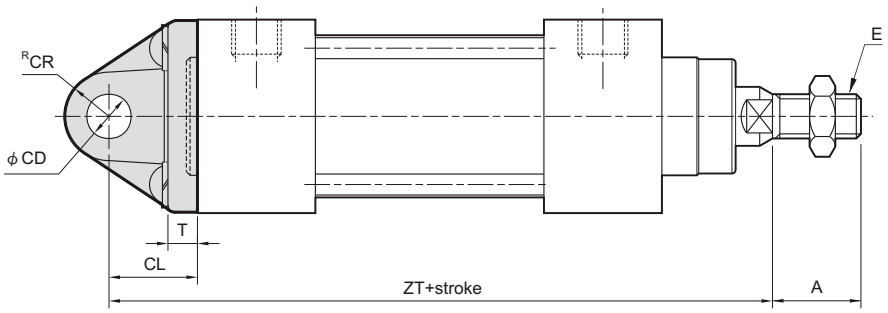
FBC



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

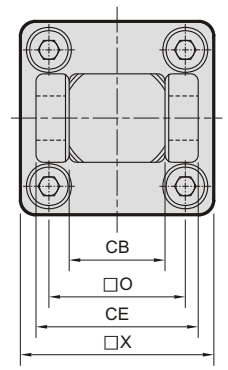
CA

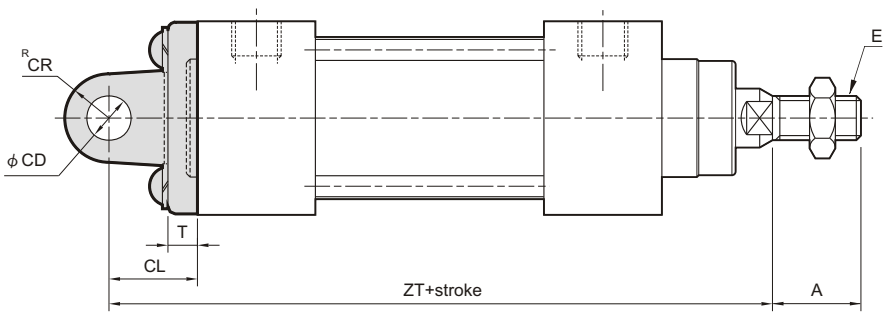




Code / Tube I.D.	A	CA	CD	CL	CR	E	O	T	X	ZT
32	22	$26^{-0.1}_{-0.3}$	10^{H9}	22	10.5	M10×1.25	32.5	10	47	142
40	24	$28^{-0.1}_{-0.3}$	12^{H9}	25	12	M12×1.25	38	9	53	160
50	32	$32^{-0.1}_{-0.3}$	12^{H9}	27	12	M16×1.5	46.5	9	65	170
63	32	$40^{-0.1}_{-0.3}$	16^{H9}	32	18	M16×1.5	56.5	9	75	190
80	40	$50^{-0.1}_{-0.3}$	16^{H9}	36	17	M20×1.5	72	12	95	210
100	40	$60^{-0.1}_{-0.3}$	20^{H9}	41	21	M20×1.5	89	12	112	230

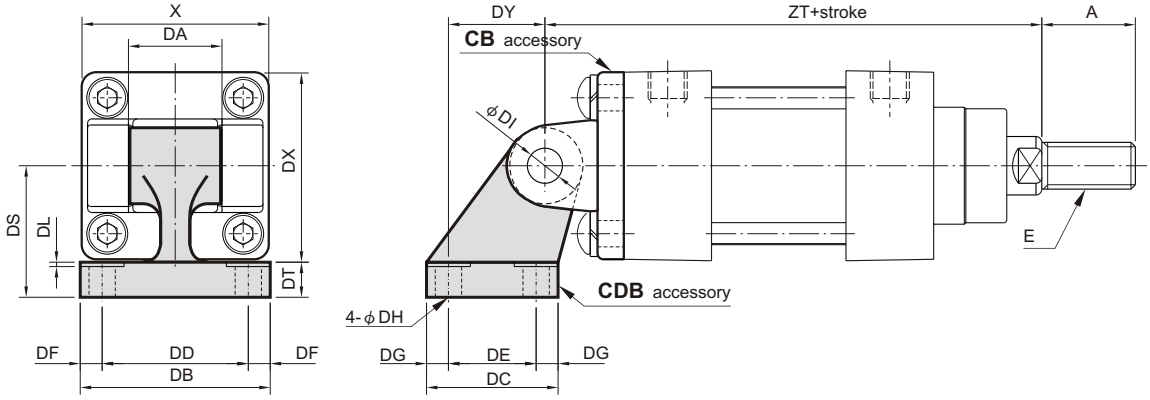
CB





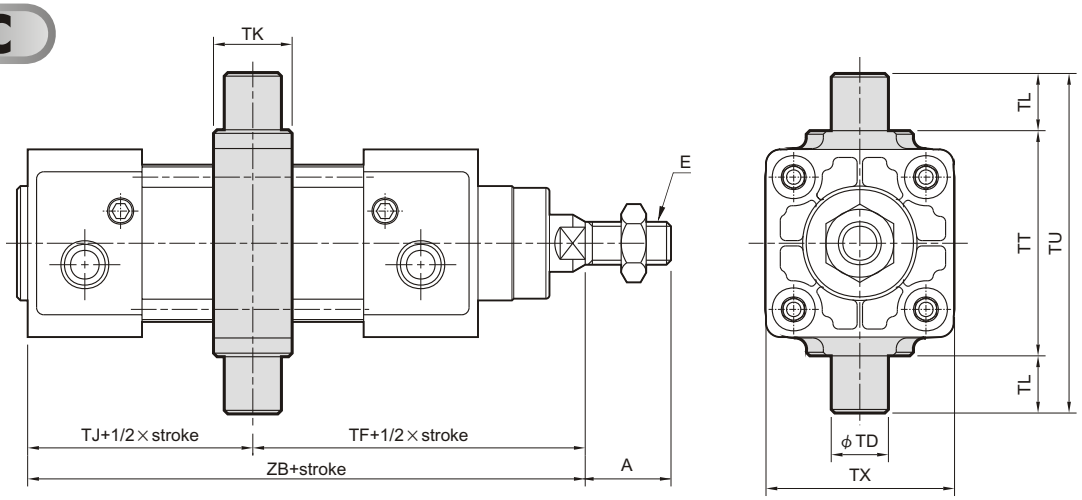
Code / Tube I.D.	A	CB	CD	CE	CL	CR	E	O	T	X	ZT
32	22	$26^{+0.3}_{+0.1}$	10^{H9}	45	22	10.5	M10×1.25	32.5	10	47	142
40	24	$28^{+0.3}_{+0.1}$	12^{H9}	52	25	12	M12×1.25	38	9	53	160
50	32	$32^{+0.3}_{+0.1}$	12^{H9}	60	27	12	M16×1.5	46.5	9	65	170
63	32	$40^{+0.3}_{+0.1}$	16^{H9}	70	32	18	M16×1.5	56.5	9	75	190
80	40	$50^{+0.3}_{+0.1}$	16^{H9}	90	36	17	M20×1.5	72	12	95	210
100	40	$60^{+0.3}_{+0.1}$	20^{H9}	110	41	21	M20×1.5	89	12	112	230

CDB CB+Pin (Extra purchase)



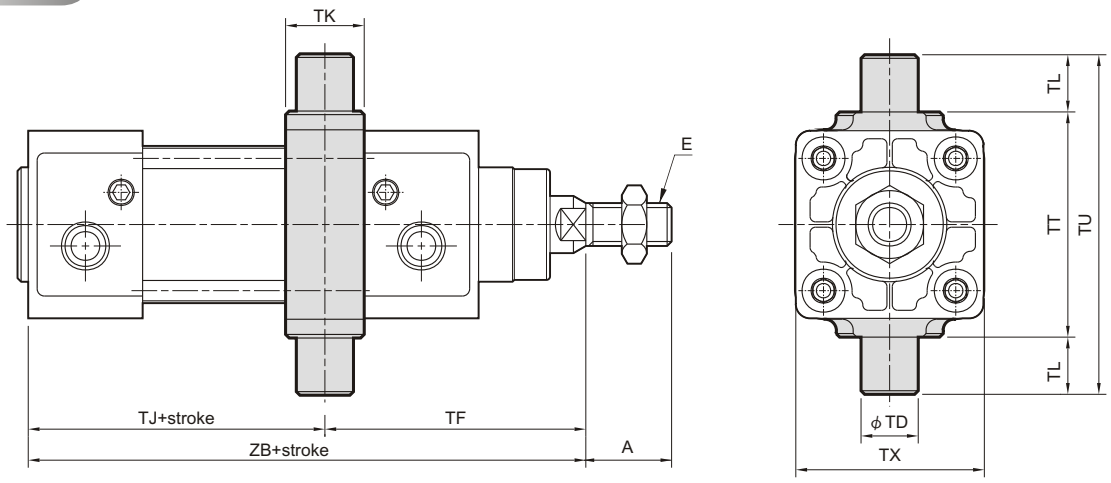
Code / Tube I.D.	A	DA	DB	DC	DD	DE	DF	DG	DH	DI	DL	DS	DT	DX	DY	E	X	ZT
32	22	26	50	30	38	18	6	6	6.6	10	1.5	32	8	47.5	21	M10×1.25	47	142
40	24	28	53	34	41	22	6	6	6.6	12	1.5	36	10	52.5	24	M12×1.25	53	160
50	32	32	65	45	50	30	7.5	7.5	9	12	1.5	45	12	65.5	33	M16×1.5	65	170
63	32	40	67	50	52	35	7.5	7.5	9	16	1.5	50	12	75.5	37	M16×1.5	75	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



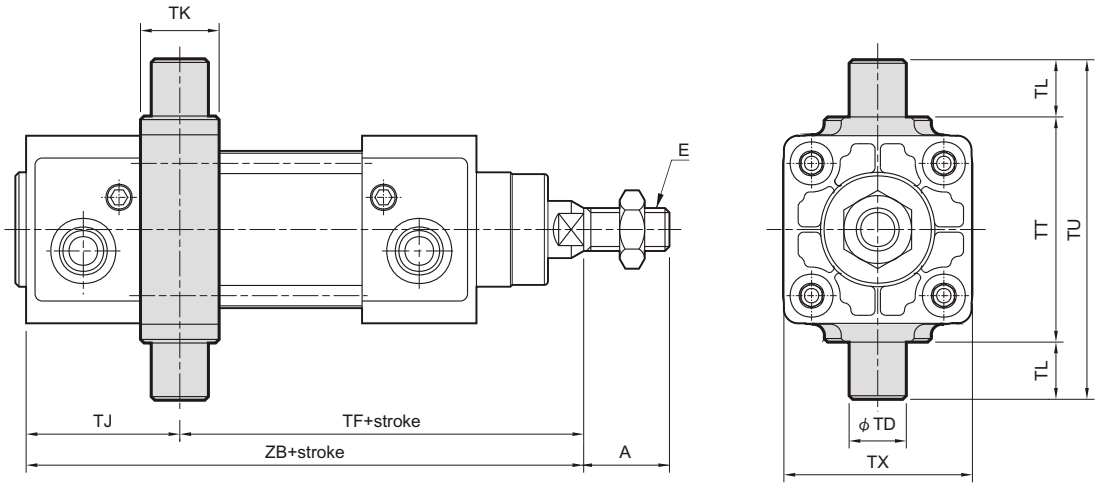
Code / Tube I.D.	A	E	TD	TF	TJ	TK	TL	TT	TU	TX	ZB
32	22	M10×1.25	12^{e8}	73	47	22	12	50	74	47	120
40	24	M12×1.25	16^{e8}	82.5	52.5	22	16	63	95	53	135
50	32	M16×1.5	16^{e8}	90	53	22	16	75	107	66	143
63	32	M16×1.5	20^{e8}	97.5	60.5	28	20	90	130	78	158
80	40	M20×1.5	20^{e8}	110	64	34	20	110	150	95	174
100	40	M20×1.5	25^{e8}	120	69	40	25	132	182	114	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	12^{e8}	64	56	120	86	150	22	12	50	74	47
40	24	M12×1.25	16^{e8}	72	63	135	93	165	22	16	63	95	53
50	32	M16×1.5	16^{e8}	79	64	143	94	173	22	16	75	107	66
63	32	M16×1.5	20^{e8}	84	74	158	104	188	28	20	90	130	78
80	40	M20×1.5	20^{e8}	102	72	174	112	214	34	20	110	150	95
100	40	M20×1.5	25^{e8}	112	77	189	117	229	40	25	132	182	114

TB



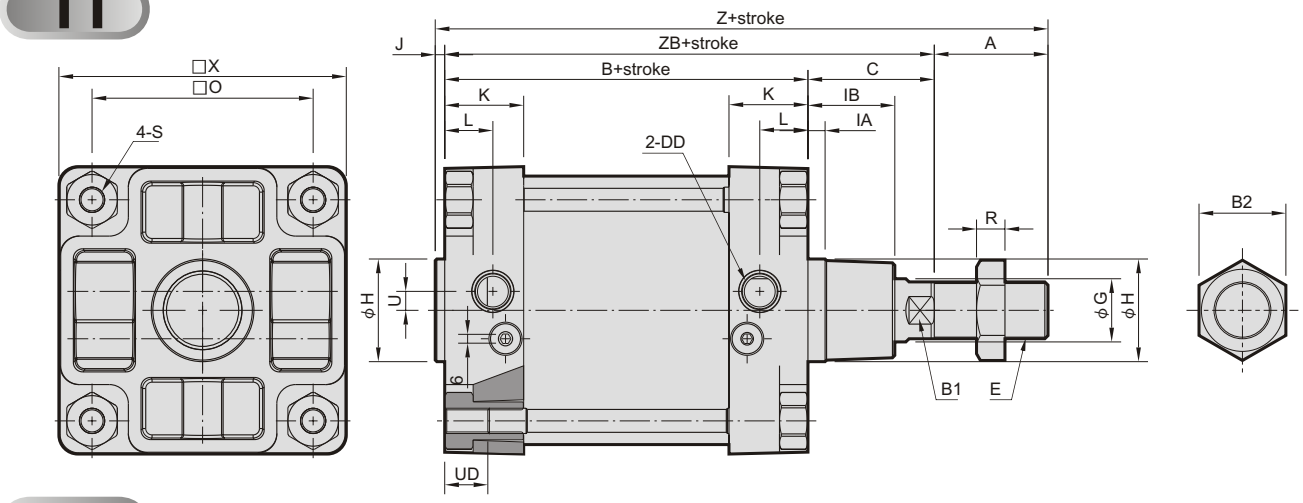
Code / Tube I.D.	A	E	TD	without magnet		magnet		TJ	TK	TL	TT	TU	TX
				TF	ZB	TF	ZB						
32	22	M10×1.25	12^{e8}	82	120	112	150	38	22	12	50	74	47
40	24	M12×1.25	16^{e8}	93	135	123	165	42	22	16	63	95	53
50	32	M16×1.5	16^{e8}	101	143	131	173	42	22	16	75	107	66
63	32	M16×1.5	20^{e8}	111	158	141	188	42	28	20	90	130	78
80	40	M20×1.5	20^{e8}	118	174	158	214	56	34	20	110	150	95
100	40	M20×1.5	25^{e8}	128	189	168	229	61	40	25	132	182	114

MCQV Dimensions ϕ125, ϕ160

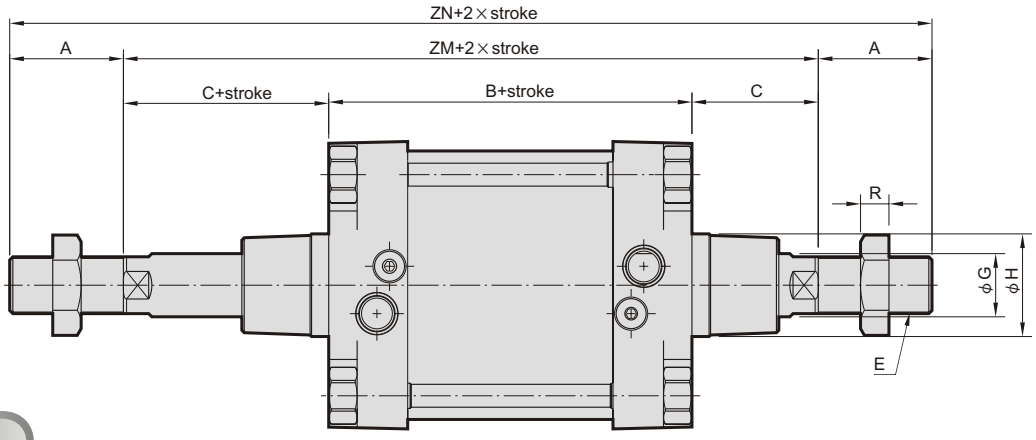
ISO-VDMA **STANDARD CYLINDERS**

mindman

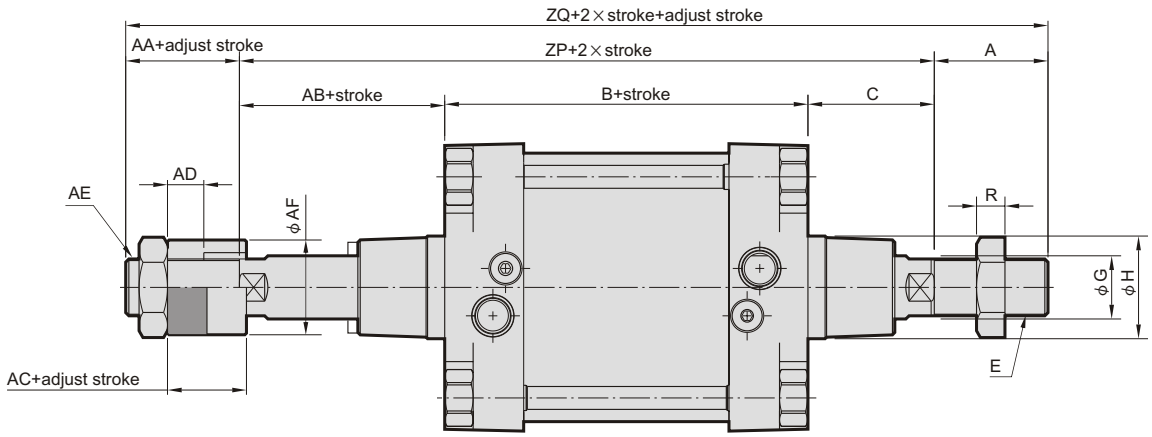
11



21



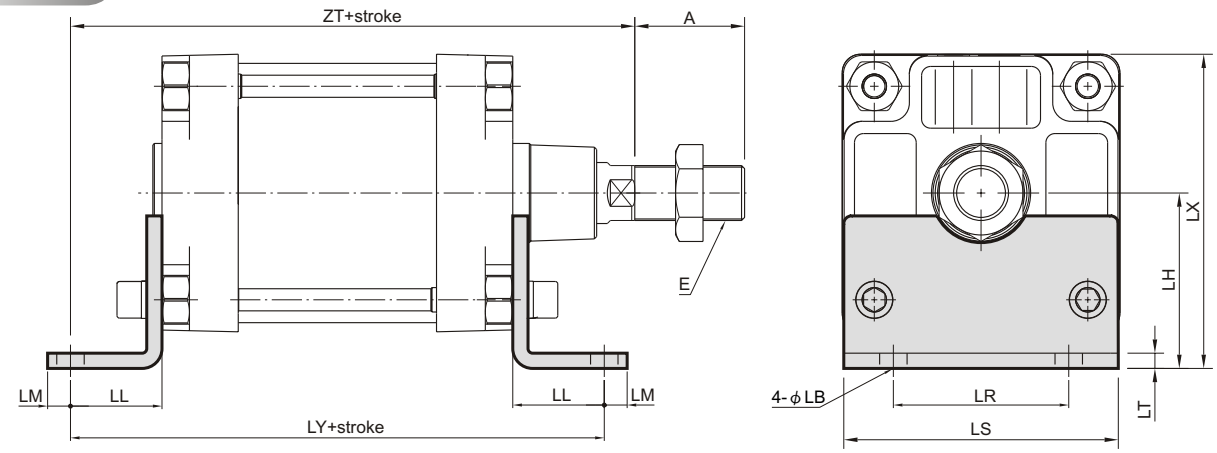
27



Code / Tube I.D.	A	AA	AB	AE	AC	AD	AF	B	B1	B2	C	DD	E	G	H	IA	IB	J	K	L	O	R	S
125	54	38	55	M30×1.5	30	18	60	160	27	41	65	G 1/2	M27×P2.0	32	60^{e11}	10	40	6	40	25	110	13.5	M12×1.75
160	72	38	71	M30×1.5	30	18	60	180	36	55	80	G 3/4	M36×P2.0	40	65^{e11}	10	55	6	50	30.5	140	18	M16×2.0

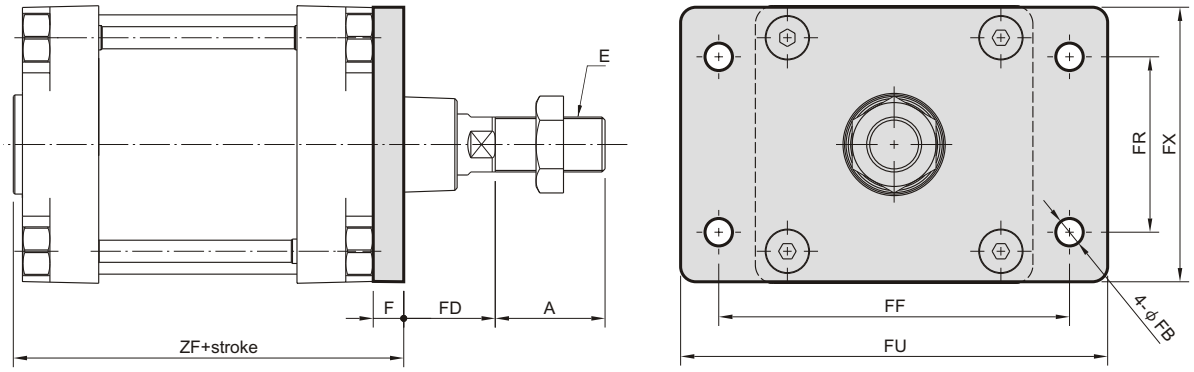
Code / Tube I.D.	U	UD	X	Z	ZB	ZM	ZN	ZQ	ZP
125	11	22	140	285	225	290	398	372	280
160	12	27	182	338	260	340	484	441	331

LB



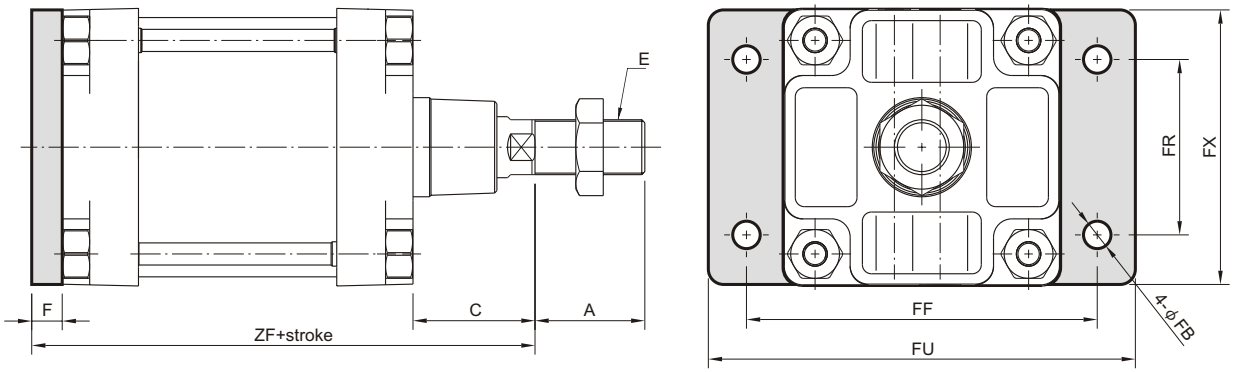
Code / Tube I.D.	A	E	LB	LH	LL	LM	LR	LS	LT	LX	LY	ZT
125	54	M27×2.0	16	90	45	25	90	140	9	160	250	270
160	72	M36×2.0	18	115	60	15	115	180	10	206	300	320

FAC



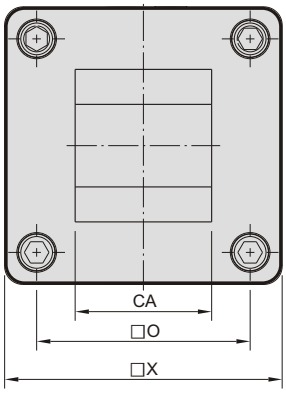
Code / Tube I.D.	A	E	F	FB	FD	FF	FR	FU	FX	ZF
125	54	M27×2.0	20	16	45	180	90	210	140	186
160	72	M36×2.0	20	18	60	230	115	280	180	206

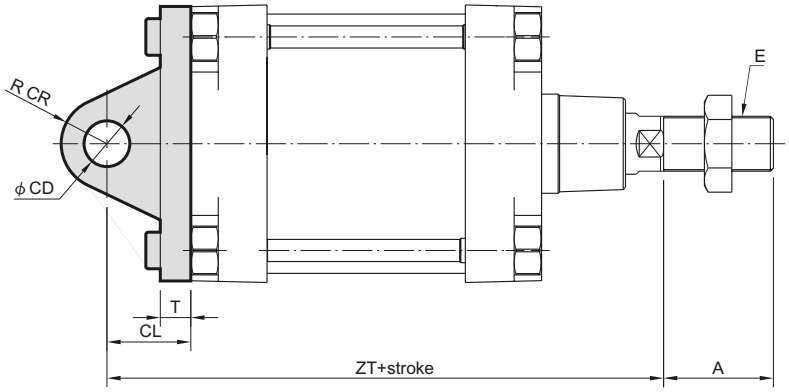
FBC



Code / Tube I.D.	A	C	E	F	FB	FF	FR	FU	FX	ZF
125	54	65	M27×2.0	20	16	180	90	210	140	245
160	72	80	M36×2.0	20	18	230	115	280	180	280

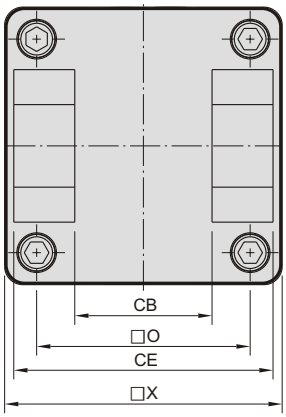
CA

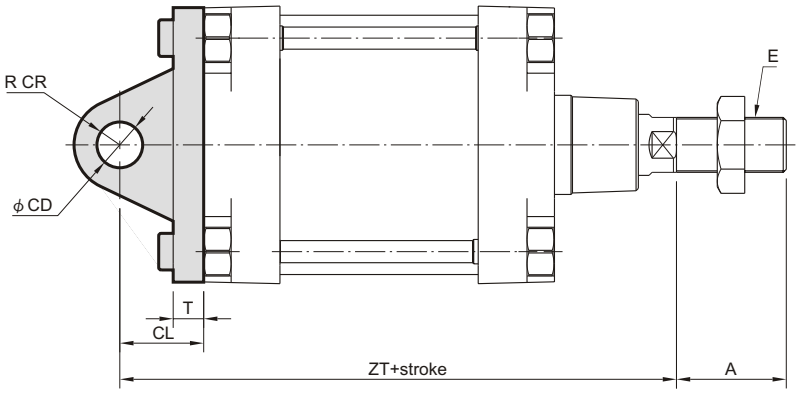




Code / Tube I.D.	A	CA	CD	CL	CR	E	O	T	X	ZT
125	54	$70^{-0.1}_{-0.3}$	25^{H9}	50	25	M27×2.0	110	20	140	275
160	72	$90^{-0.5}_{-1.2}$	30^{H9}	55	30	M36×2.0	140	20	180	315

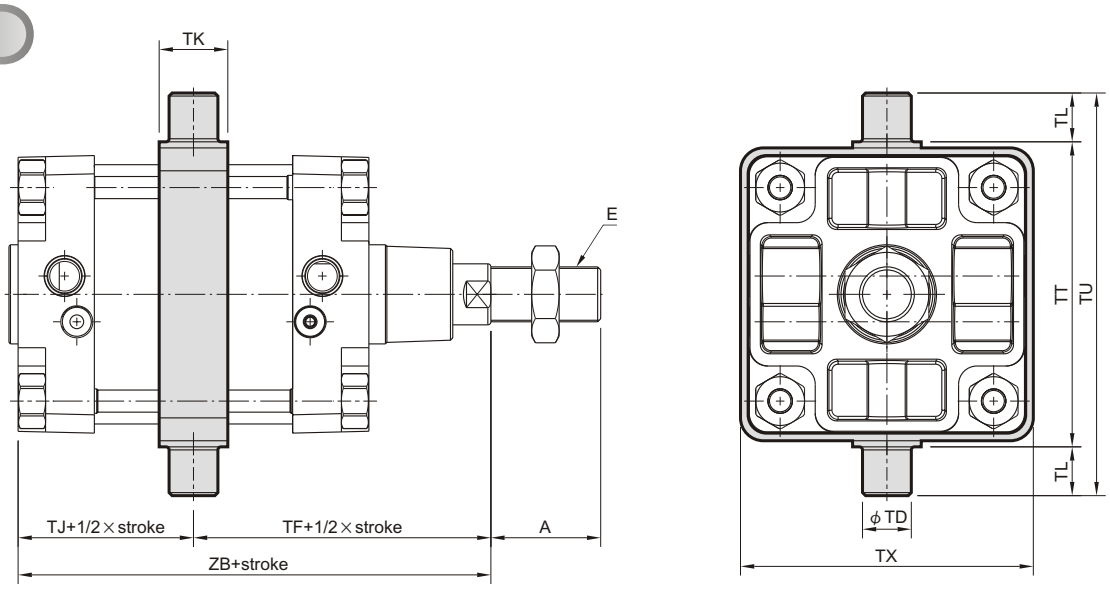
CB





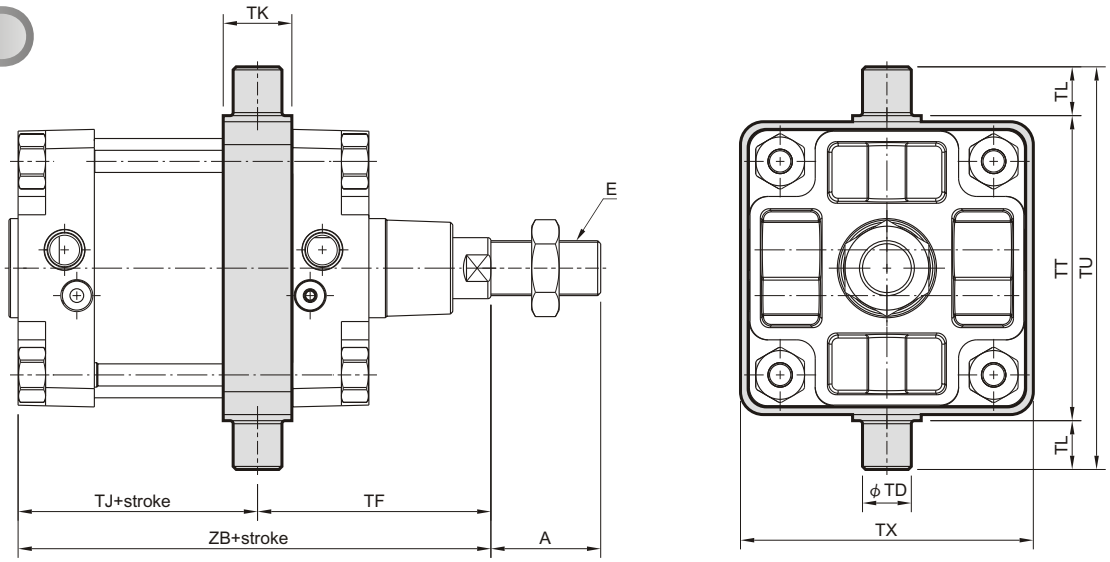
Code / Tube I.D.	A	CB	CD	CE	CL	CR	E	O	T	X	ZT
125	54	70^{H14}	25^{H9}	$130^{+0}_{-1.0}$	50	25	M27×2.0	110	20	140	275
160	72	90^{H14}	30^{H9}	$170^{+0}_{-0.7}$	55	30	M36×2.0	140	20	180	315

TC



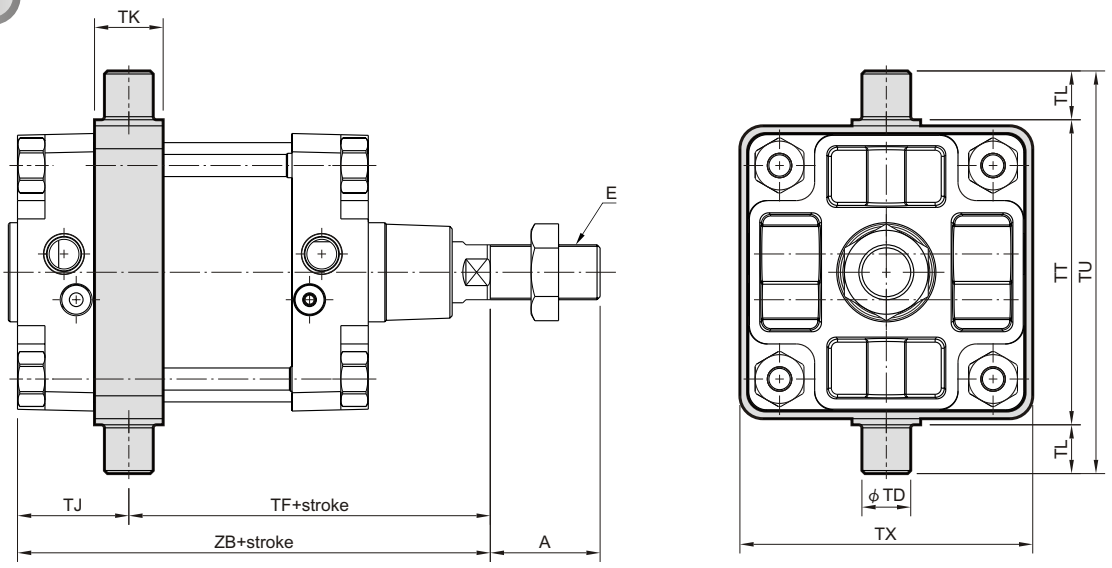
Code / Tube I.D.	A	E	TD	TF	TJ	TK	TL	TT	TU	TX	ZB
125	54	M27×2.0	25^{e9}	145	80	40	25	160	210	155	225
160	72	M36×2.0	32^{e9}	170	90	45	32	200	264	192	260

TA



Code / Tube I.D.	A	E	TD	TF	TJ	TK	TL	TT	TX	TU	ZB
125	54	M27×2.0	25^{e9}	125	100	40	25	160	155	210	225
160	72	M36×2.0	32^{e9}	153	107	45	32	200	192	264	260

TB

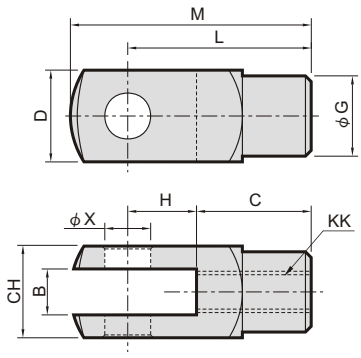


Code / Tube I.D	A	E	TD	TF	TJ	TK	TL	TT	TU	TX	ZB
125	54	M27×2.0	25^{e9}	165	60	40	25	160	210	155	225
160	72	M36×2.0	32^{e9}	187	73	45	32	200	264	192	260

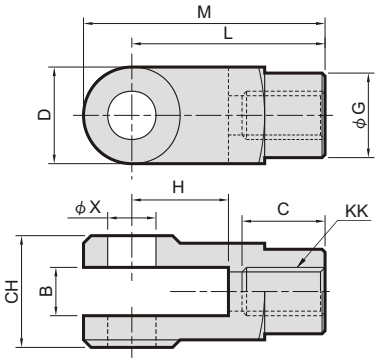
Y connector

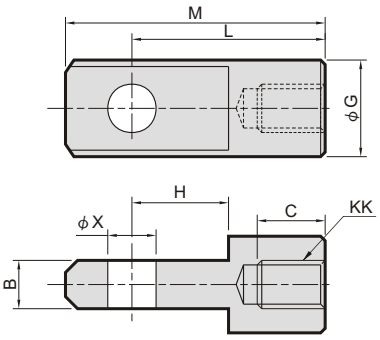
I connector

ϕ32, ϕ40



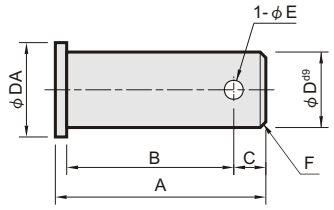
ϕ50~ϕ100





Code / Tube I.D.	B		C		CH		D		G		H		L		KK		M		X ^{H9}
	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	
32	$10^{+0.5}_{+0.15}$	$10^{-0.1}_{-0.2}$	20	17	19		19		ϕ18	ϕ20	20	15	40	40	M10×1.25		52	52	$\phi10^{+0.04}_{0}$
40	$12^{+0.5}_{+0.15}$	$12^{-0.1}_{-0.2}$	24	21	24		24		ϕ20	ϕ24	24	18	48	48	M12×1.25		62	62	$\phi12^{+0.04}_{0}$
50	$16^{+0.3}_{+0.1}$	$16^{-0.1}_{-0.3}$	28	23	32		32		ϕ28	ϕ32	32	32	64	64	M16×1.5		89	86	$\phi16^{+0.04}_{0}$
63	$16^{+0.3}_{+0.1}$	$16^{-0.1}_{-0.3}$	28	23	32		32		ϕ28	ϕ32	32	32	64	64	M16×1.5		89	86	$\phi16^{+0.04}_{0}$
80	$20^{+0.3}_{+0.1}$	$20^{-0.1}_{-0.3}$	33	30	45		40		ϕ36	ϕ36	40	40	80	80	M20×1.5		100	108	$\phi20^{+0.05}_{0}$
100	$20^{+0.3}_{+0.1}$	$20^{-0.1}_{-0.3}$	33	30	45		40		ϕ36	ϕ36	40	40	80	80	M20×1.5		100	108	$\phi20^{+0.05}_{0}$

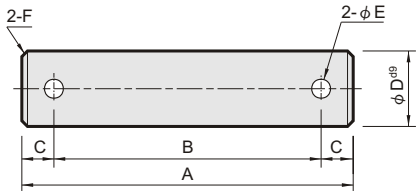
Pin for Y.I connector



for Y.I connector

Code / Tube I.D.	A	B	C	D ^{d9}	DA	E	F	Split pin
32	30	25	3.5	$\phi10^{-0.06}_{-0.09}$	14	3.2	1	3.2×20L
40	37	30	5	$\phi12^{-0.06}_{-0.09}$	16	3.2	1	3.2×20L
50 ~ 63	47	37	7	$\phi16^{-0.05}_{-0.09}$	22	4	1	4×25L
80 ~ 100	62	50	8	$\phi20^{-0.06}_{-0.11}$	30	5	1.5	5×35L

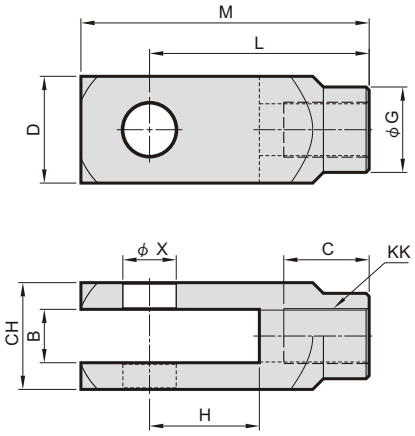
Pin for CA.CB



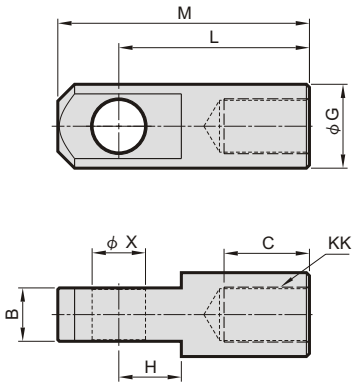
for CA.CB

Code / Tube I.D.	A	B	C	D ^{d9}	E	F	Split pin
32	69	55	7	$\phi10^{-0.05}_{-0.09}$	4	1.0	4×20L
40	76	62	7	$\phi12^{-0.05}_{-0.09}$	4	1.0	4×20L
50	84	70	7	$\phi12^{-0.05}_{-0.09}$	4	1.0	4×20L
63	94	80	7	$\phi16^{-0.05}_{-0.09}$	4	1.0	4×30L
80	117	100	8.5	$\phi16^{-0.05}_{-0.09}$	5	1.5	5×30L
100	137	120	8.5	$\phi20^{-0.05}_{-0.09}$	5	1.5	5×35L

Y connector

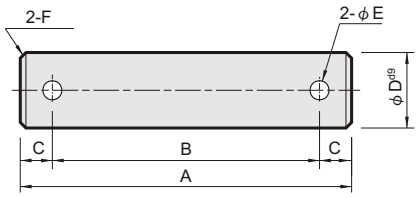


I connector



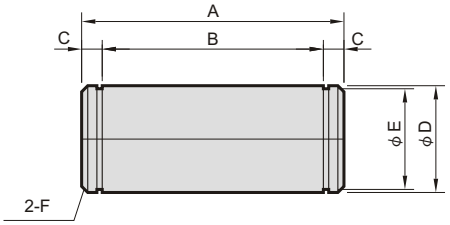
Code / Tube I.D.	B		C		CH		D		G		H		KK		L		M		X F7	
	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I
125	$30^{+0.52}_{0}$	$30^{-0.2}_{-0.3}$	56	51	55		55		48	55	54	40	M27×2.0		110	110	148	145	$30^{+0.52}_{+0}$	$30^{+0.04}_{+0.02}$
160	$35^{+0.62}_{0}$	$35^{-0.2}_{-0.3}$	56	56	70		70		56	55	72	41	M36×2.0		144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

Pin ϕ125



Code / Tube I.D.	A	B	C	D d9	E	F	Split pin
CB	157	140	8.5	$\phi 25^{-0.07}_{-0.12}$	5	1.5	5×36L
Y	81	64	8.5	$\phi 30^{-0.07}_{-0.12}$	6.3	1.5	6.3×40L

Pin ϕ160



Code / Tube I.D.	A	B	C	D	E	F	Snap ring
CB	186	172	7	$30^{e8}_{-0.09}$	$28.6^{0}_{-0.21}$	2	STW—30
Y	86	72	7	$35^{h7}_{-0.03}$	$33^{0}_{-0.25}$	2	STW—35