



Special spec



Rod end shape



Technical data



Caution for safety
(Read before installing)



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	MCQV		
Tube I.D. (mm)	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	RDC(V), RQC(V)  , RDT, RQT  , RCA 		
Sensor switch holder	R*C(V)	DT7-3	
	R*T	DT-3	
	RCA	HV4	PM16 HA5

Table for standard stroke

Tube I.D.	Stroke (mm)	Max. stroke (mm)	
		Style 11	Style 21/27
ø125	50,75,100,125,150,175,	2000	950
ø160	200,250,300,350,400,	1800	850
ø200	450,500	1500	700

* Intermediate stroke are available, please contact us.

Order example

MCQV — 11 — 125 — 100M — 10 — T

MODEL

1: Single rod
2: Double rod

TUBE I.D.

STROKE

M: Magnet

TYPE

T: Add "T" when both M and TA / TB are selected.

STYLE

Code	Symbol	Description
1 1		Double acting / Male thread
2 1		Double rod / Male thread
2 7		Double rod / Adjustable male thread

ADJUSTABLE
STROKE

* Only for
STYLE 27.

* When both magnet (M) and mounting accessories (TA or TB) are selected, please add the suffix "T" at the end of the model number.

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

Accessories & Connector

Accessories ⚠ Factory-installed (Field assembly is not recommended)						Rod nut
Code	LB (Purchase 2 pcs)	CA	CB	FAC	FBC	NUT
Mounting Tube I.D.						
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		

Accessories ⚠ Factory-installed, not available for separate purchase or field assembly					Connector	
Code	TA	TB	TC	SDS Mid section support (Stroke over 1000mm)	Y	I
Mounting Tube I.D.						
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	Y&I connector	CA&CB accessories
Code	PIN-Y-P (with split pin)	PIN-CB-P (with split pin)
Fig Tube I.D.		
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

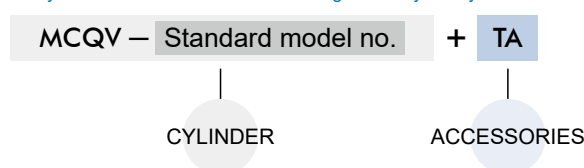
The tube I.D. ø125 of LB accessories, Y connector and pin.

No.	Order number	Qty
1	LB-Q2-125	2
2	Y-Q2-125	1
3	PIN-Q2-125-2-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

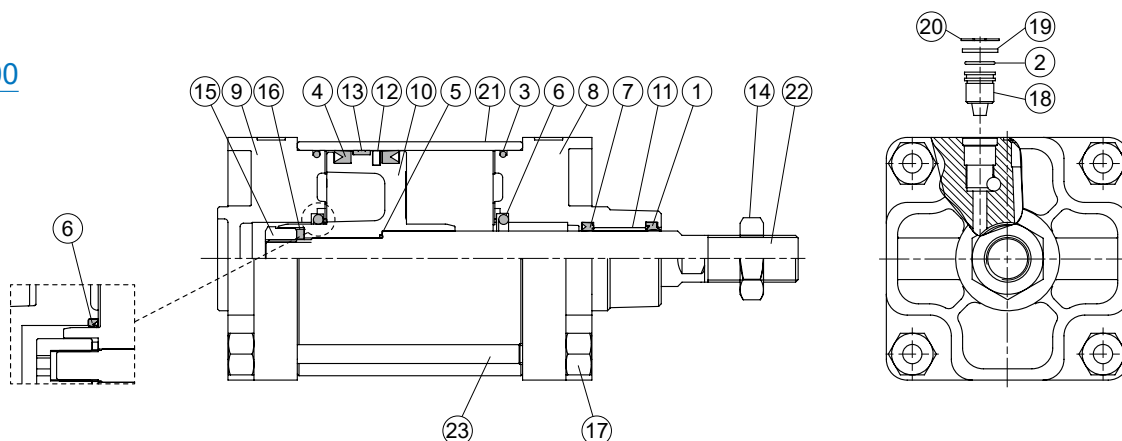
ISO 15552 **STANDARD CYLINDER**



Single rod 11 type

ø125~ø200

ø200



No.	Part name	Material	Q'y	Component parts (inclusion)	Repair kits (inclusion)	Note
1	Rod packing	NBR	1	●	●	
2	O-ring	NBR	2	●	●	
3	O-ring	NBR	2	●	●	
4	Piston packing	NBR	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	Aluminum alloy	1	●		
11	Bush	Bearing alloy	1	●		
12	Magnet ring	Magnet material	1	◎		◎ Option
13	Wear ring	Resin	1	●		
14	Hex nut	Carbon steel	1	●		
15	Piston nut	Carbon steel	1	●		
16	Washer	Carbon steel	1	●		
17	Tie rod nut	Carbon steel	8	●		
18	Needle valve	Copper alloy	2	●		
19	Needle valve washer	Carbon steel	2	●		
20	Snap ring	Carbon steel	2	●		
21	Cylinder tube	Aluminum alloy	1			
22	Piston rod *2	Carbon steel	1			
23	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

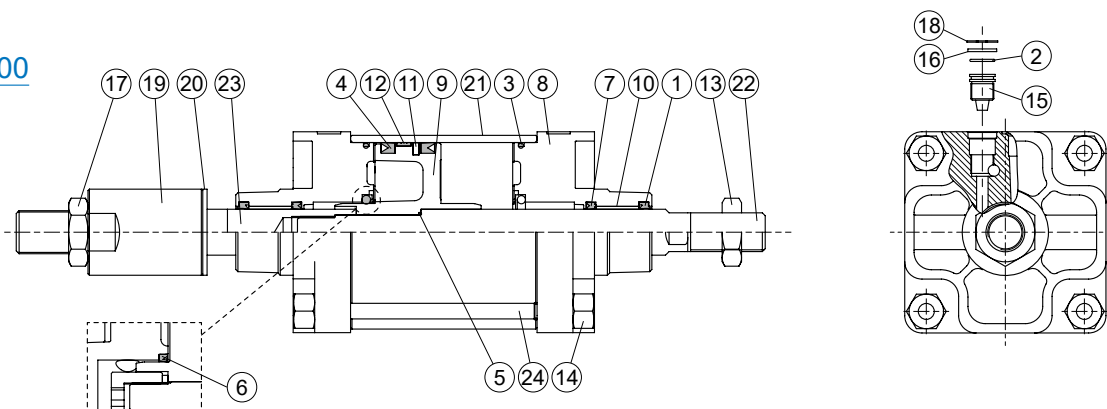
ISO 15552 **STANDARD CYLINDER**



Double rod 21 / 27 type

ø125~ø200

ø200



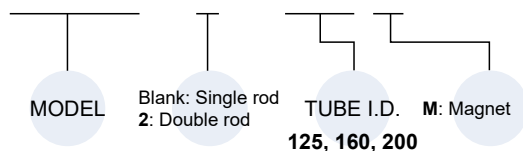
No.	21 type	27 type	Part name	Material	Q'y	Component parts (inclusion)	Repair kits (inclusion)	Note
1	●	●	Rod packing	NBR	2	●	●	
2	●	●	O-ring	NBR	2	●	●	
3	●	●	O-ring	NBR	2	●	●	
4	●	●	Piston packing	NBR	2	●	●	
5	●	●	O-ring	NBR	1	●	●	
6	●	●	Cushion packing	NBR	2	●	●*1	
7	●	●	Rod packing	NBR	2	●	●	
8	●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

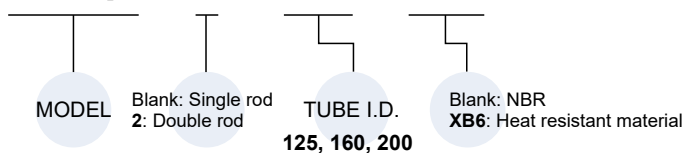
CP — MCQV — 2 — 125 M



* Order example for Rc or NPT thread please contact us.

Order example of repair kits

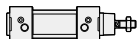
PS — MCQV — 2 — 125 — XB6



Cylinder & accessories weight

Cylinder weight

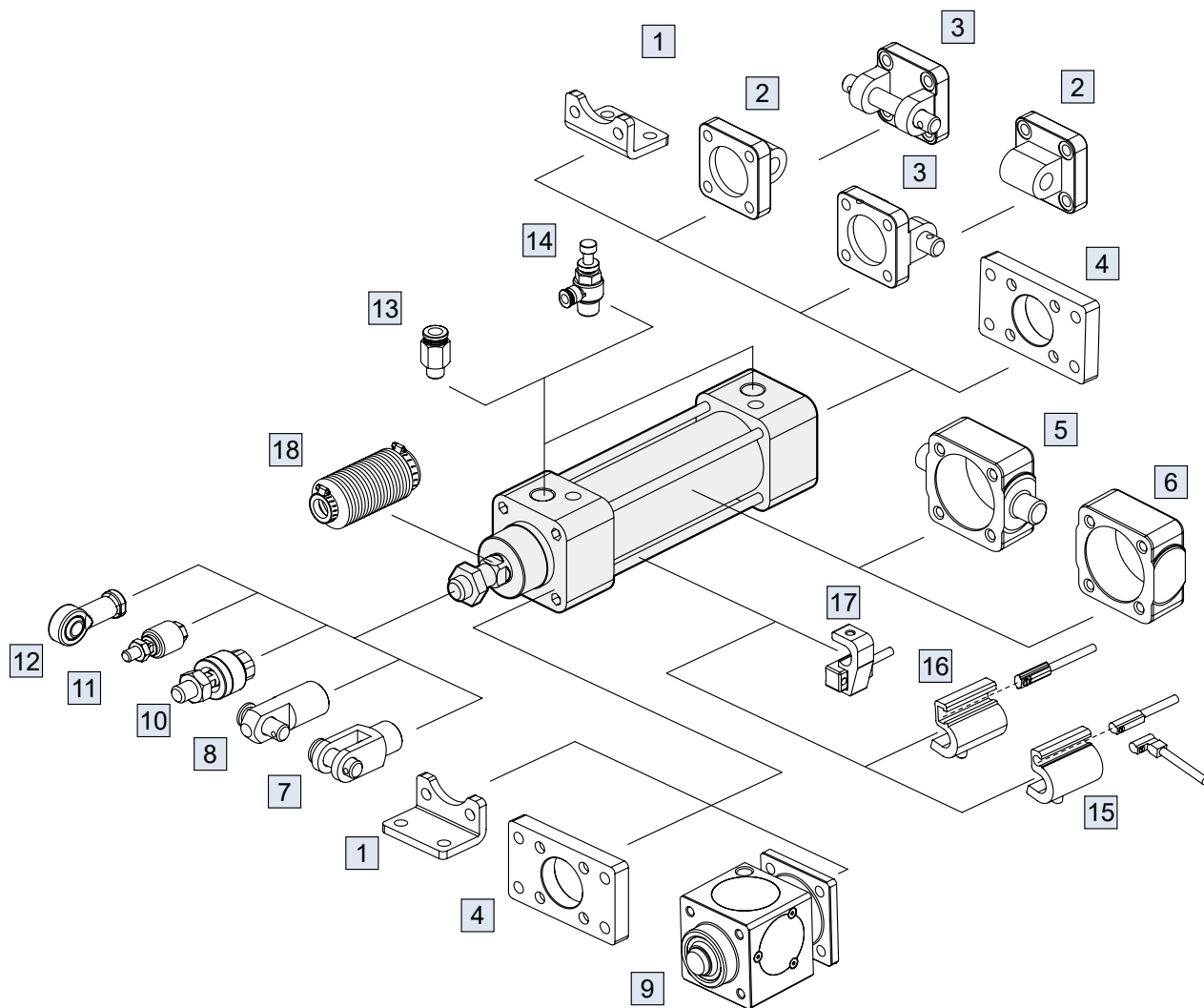
Unit: kg

Model	Basic weight MCQV-11	Basic weight (magnet) MCQV-11	Stroke 25 mm MCQV-11
Tube I.D.			
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	FAC/FBC	TA/TB/TC	SDS	Y	I	Pin	
									Y / I	CA / CB
Tube I.D.										
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



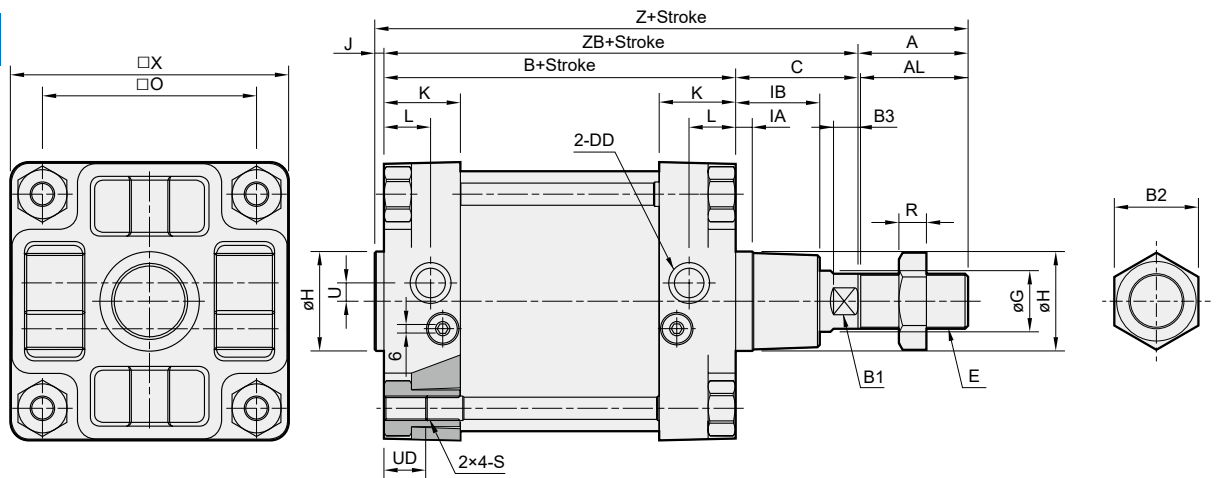
No.	Accessories	Material	Page link
1	Mounting accessories LB	Carbon steel	Link
2	Mounting accessories CA	Cast iron	Link
3	Mounting accessories CB+PIN	Cast iron / *1	Link , Link
4	Mounting accessories FAC/FBC	Carbon steel	Link
5	Mounting accessories TA/TB/TC	Cast iron	Link , Link
6	Mounting accessories SDS	Cast iron	Link
7	Accessories Y+PIN	Cast iron / *1	Link
8	Accessories I+PIN	Carbon steel	Link

No.	Accessories	Material	Page link
9	Locking unit MCBQV	Aluminum alloy+*2	Link
10	Floating joint MFC	Carbon steel	Link
11	Floating joint MFCS	Carbon steel	Link
12	Female rod ends PHS	Carbon steel	Link
13	Fitting PC (PISCO)	—	Link
14	Speed controller JSC (PISCO)	—	Link
15	Sensor switch R*C(V)+DT7-3	—	Link
16	Sensor switch R*T+DT-3	—	Link
17	Sensor switch RCA+HV*	—	Link
18	Protective bellows kit	NBR	—

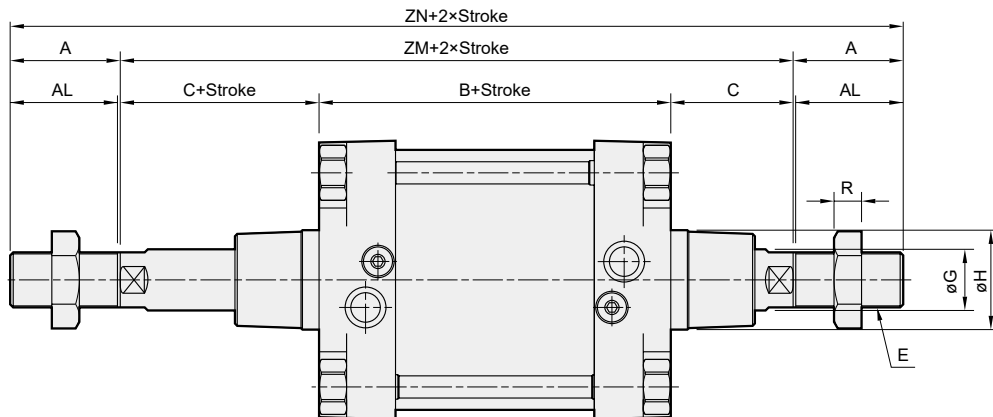
*1. PIN material is carbon steel.

*2. Bronze alloy.

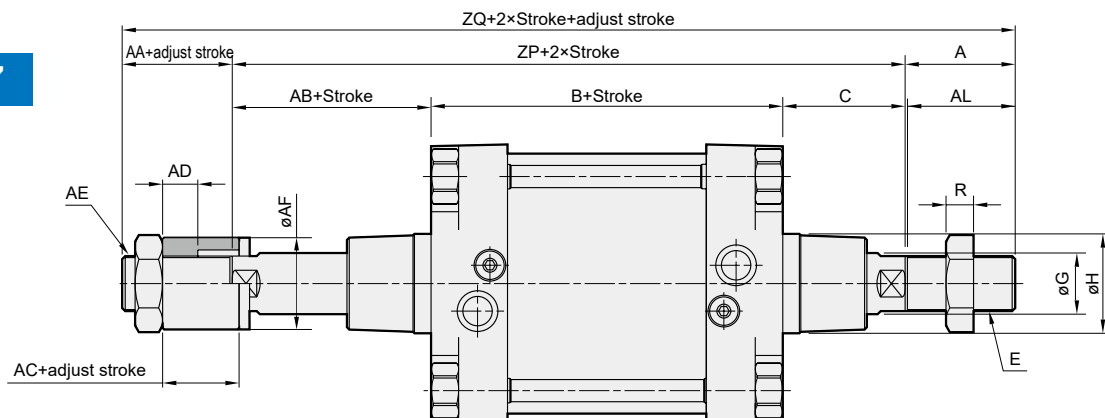
11



21



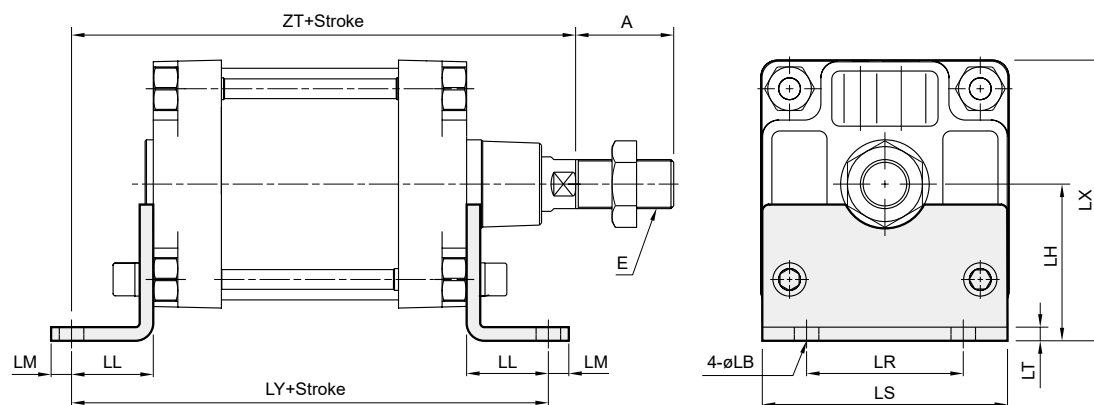
27



Code Tube I.D.	A	AA	AB	AC	AD	AE	AF	AL	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

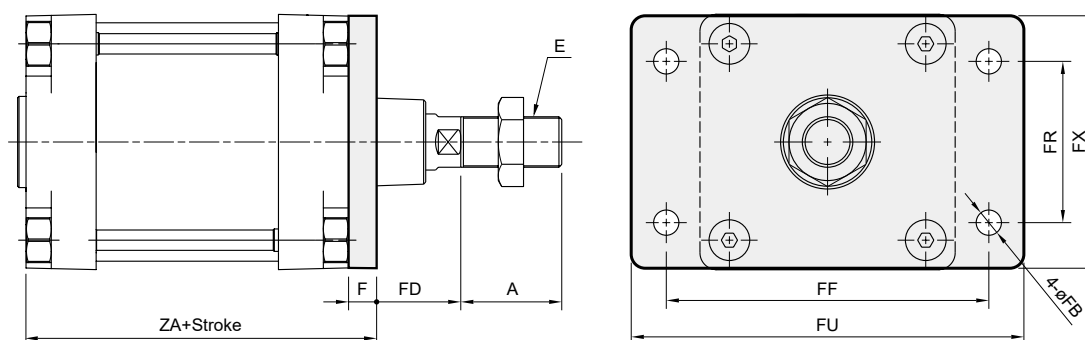
Code Tube I.D.	S	U	UD	X	Z	ZB	ZM	ZN	ZP	ZQ
125	M12×1.75	11	22	140	285	225	290	398	280	372
160	M16×2.0	12	27	182	338	260	340	484	331	441
200	M16×2.0	12	27	220	353	275	370	514	369.5	457

LB

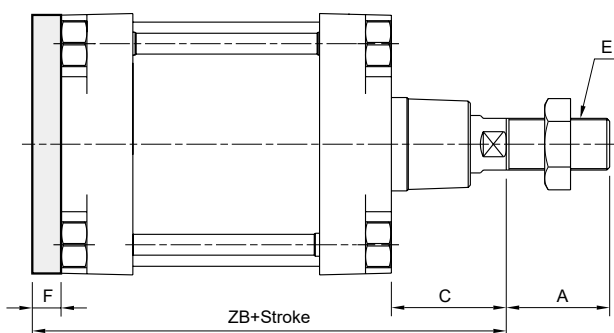


Code Tube I.D.	A	E	LB	LH	LL	LM	LR	LS	LT	LX	LY	ZT
125	54	M27×2.0	16	90	45	25	90	140	9	160	250	270
160	72	M36×2.0	18	115	60	15	115	180	10	206	300	320
200	72	M36×2.0	24	135	70	35	135	220	12	245	320	345

FAC

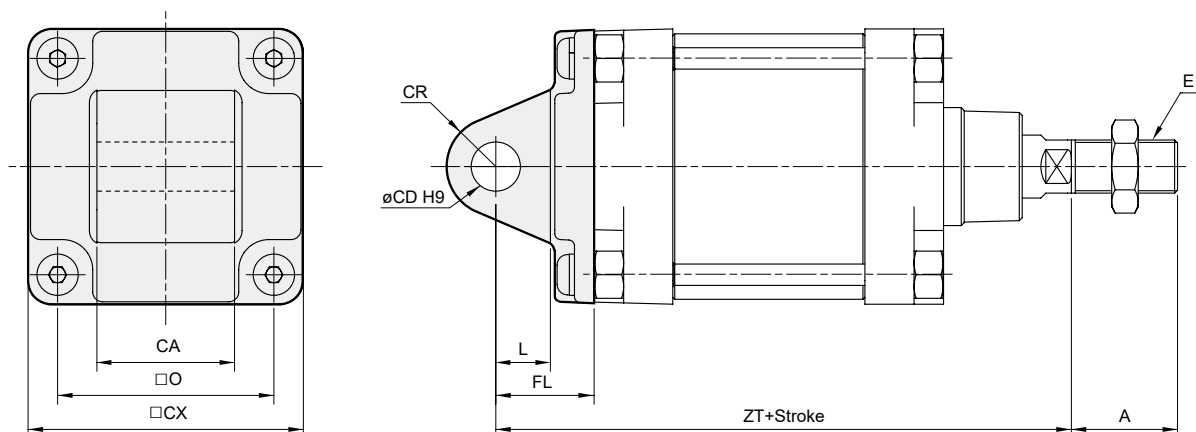


FBC



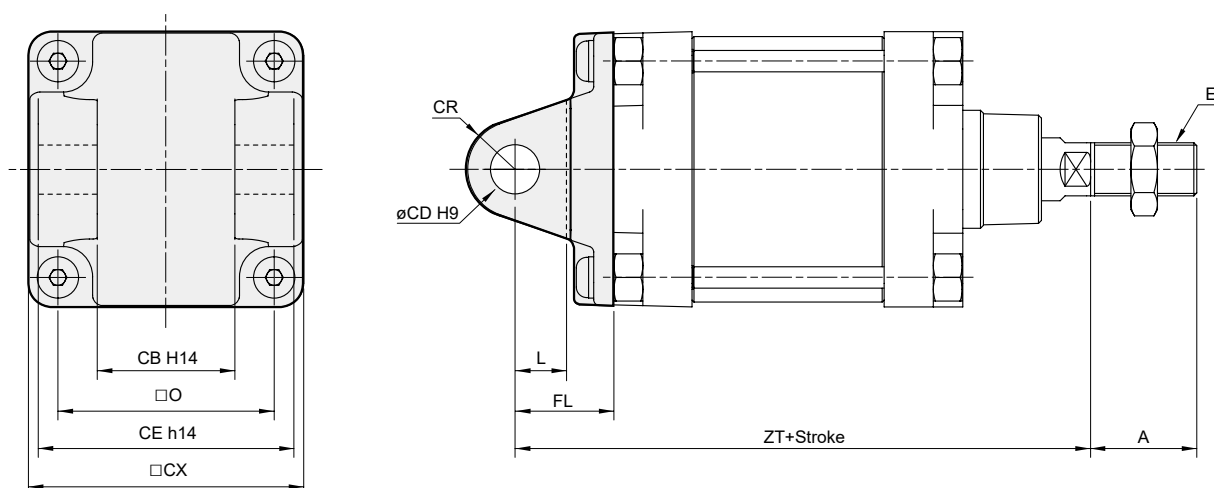
Code Tube I.D.	A	E	F	FB	FD	FF	FR	FU	FX	ZA	ZB
125	54	M27×2.0	20	16	45	180	90	210	140	180	245
160	72	M36×2.0	20	18	60	230	115	280	180	200	280
200	72	M36×2.0	25	22	70	270	135	320	220	205	300

CA



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

CB

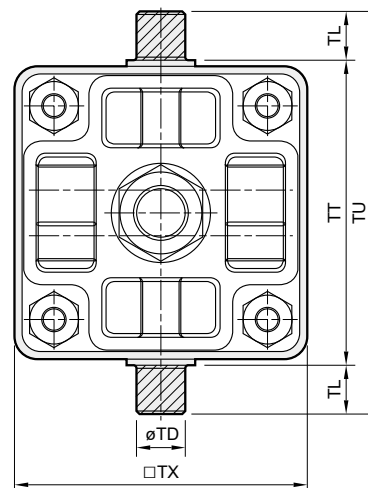
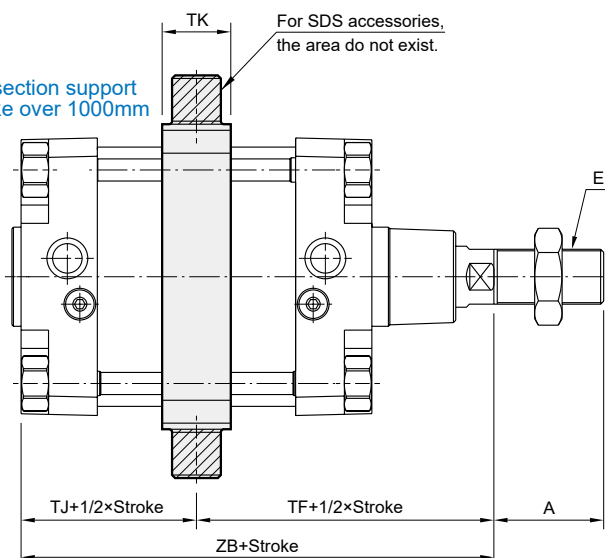


Code Tube I.D.	A	CB	CD	CE	CR	CX	E	FL	L	O	ZT
125	54	70	25	130	R25	139	M27×2.0	50	30	110	275
160	72	90	30	170	R30	178	M36×2.0	55	35	140	315
200	72	90	30	170	R30	218	M36×2.0	60	35	175	335

TC

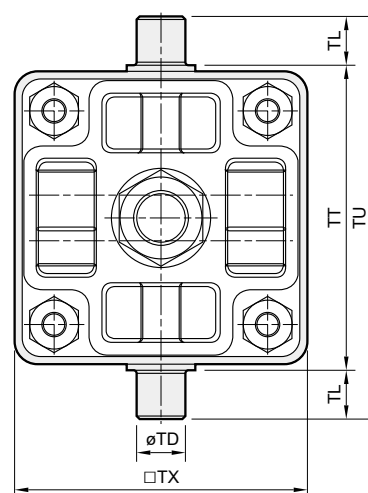
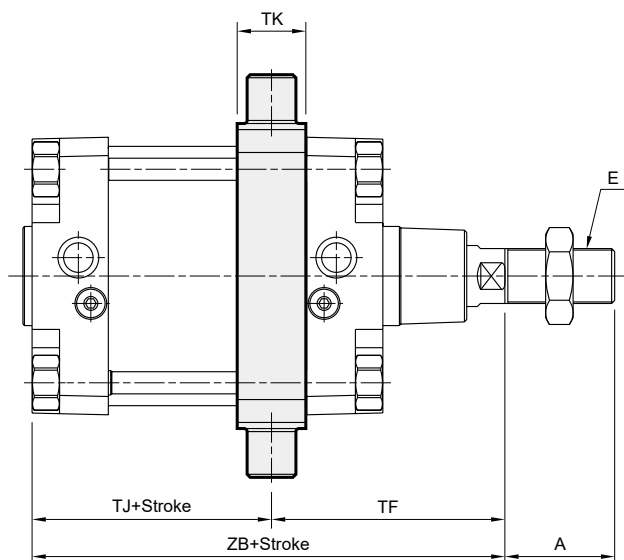
SDS

Mid section support
Stroke over 1000mm



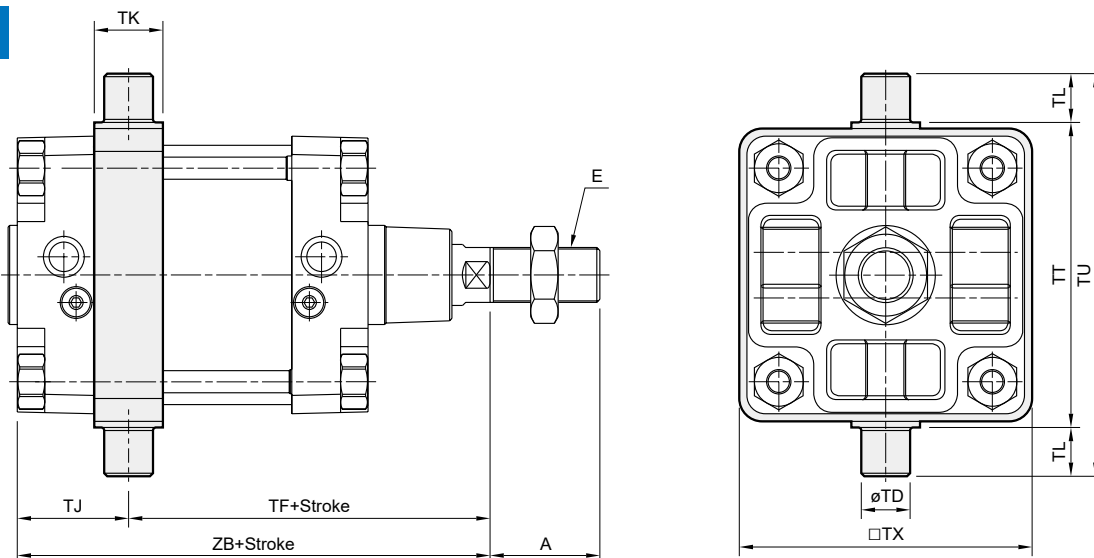
Code Tube I.D.	A	E	TD	TF	TJ	TK	TL	TT		TU	TX	ZB
								TC	SDS			
125	54	M27×2.0	25e9	145	80	40	25	160	158	210	155	225
160	72	M36×2.0	32e9	170	90	45	32	200	198	264	192	260
200	72	M36×2.0	32e9	185	90	45	32	250	250	314	240	275

TA



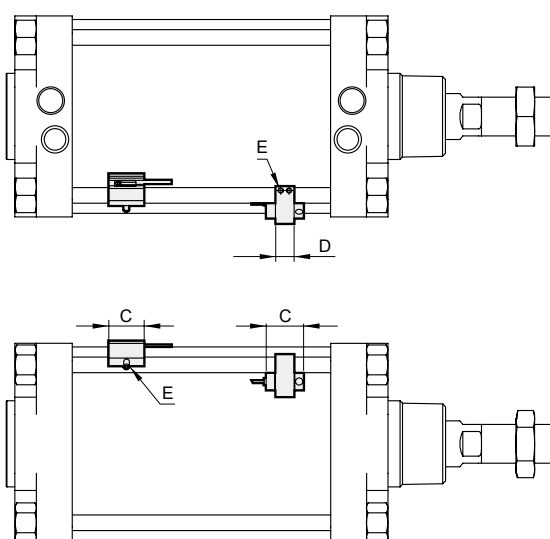
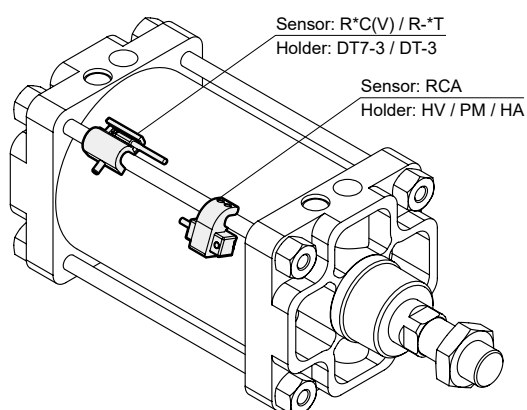
Code Tube I.D.	A	E	TD	TF	Without magnet		Magnet		TK	TL	TT	TX	TU
					TJ	ZB	TJ	ZB					
125	54	M27×2.0	25e9	125	100	225	146	271	40	25	160	155	210
160	72	M36×2.0	32e9	152.5	107.5	260	157.5	310	45	32	200	192	264
200	72	M36×2.0	32e9	173.5	101.5	275	145.5	319	45	32	250	240	275

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

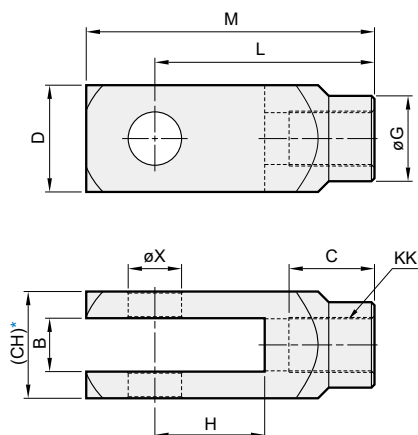
Installation of sensor switch



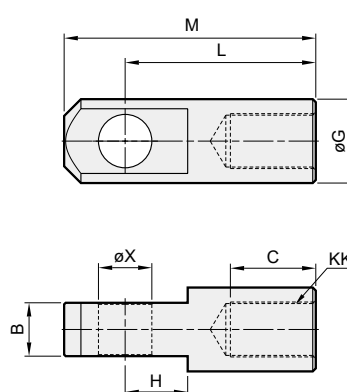
Code Tube I.D.	Sensor switch	Holder	C	D	E
125	RCA	HV4	26	13	M4×10L
160	RCA	PM16	26	12	M4×10L
200	RCA	HA5	26	15	M4×16L

Code Tube I.D.	Sensor switch	Holder	C	E
125	R*C(V) / R*T	DT7-3 / DT-3	25	M4×12L
160	R*C(V) / R*T	DT7-3 / DT-3	25	M4×12L
200	R*C(V) / R*T	DT7-3 / DT-3	25	M4×12L

Y connector



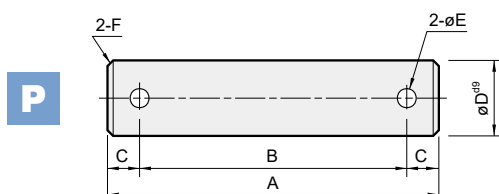
I connector



* 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.

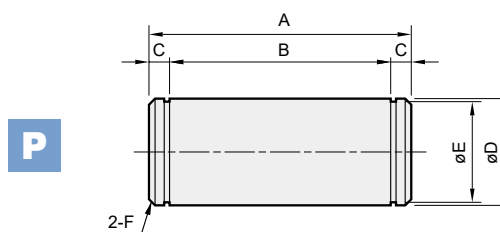
Code	B		C		CH		D		G		H		KK		L		M		X ^{F7}	
Tube I.D.	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I
125	30 ^{+0.52} ₀	30 ^{-0.2} _{-0.3}	56	51	55	—	55	—	48	55	54	40	M27×2.0	110	110	148	145	30 ^{+0.04} _{+0.02}	30 ^{+0.04} _{+0.02}	
160	35 ^{+0.62} ₀	35 ^{-0.2} _{-0.3}	56	56	70	—	70	—	56	55	72	41	M36×2.0	144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



for $\varnothing 125$

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



for $\varnothing 160, \varnothing 200$

Code	A	B	C	D	E	F	Snap ring
Type							
CB	186	172	7	30 ^{e8} ^{-0.05} _{-0.09}	28.6 ⁰ _{-0.21}	2	STW-30
Y	86	72	7	35 ^{h7} ⁻⁰ _{-0.03}	33 ⁰ _{-0.25}	2	STW-35