

Metal Seal

Lateral Load Resisting Low Friction Cylinder Series MQM

ø6, ø10, ø16, ø20, ø25

How to Order

MQML B 10 15 D

Lateral load resisting low friction specification

Type

L Lateral load resisting type (Built-in basic bushing)

Mounting

B	Basic type
L	Foot type
F	Front flange type
G	Rear flange type (Except for ø6)
C <small>Note 1)</small>	Single clevis type (Non-integrated type)
D <small>Note 2)</small>	Double clevis type

Note 1) Bore size: 20, 25 mm only
* Mounting brackets are included when shipped, but unassembled. (Except for clevis type.)
Note 2) ø6, ø10, ø16 Integrated type
 ø20, ø25 Non-integrated type

Bore size

6	6 mm
10	10 mm
16	16 mm
20	20 mm
25	25 mm

Action

D Double acting

Cylinder stroke

Bore size (mm)	Standard stroke (mm)
6	15, 30, 45, 60
10	15, 30, 45, 60, 75, 100
16	15, 30, 45, 60, 75, 100
20	15, 30, 45, 60, 75, 100
25	15, 30, 45, 60, 75, 100

* Strokes are available in 1mm increments by installing spacers in standard stroke cylinders.

Function

Nil	Standard type
H <small>Note)</small>	High speed/High frequency type (Without fixed orifice)

Note) Except for 6 mm bore size.

Port thread type

Nil	M thread	ø6 to ø16
	Rc	
TN	NPT	ø20, ø25
TF	G	

* The MQM series is not auto switch capable.

Mounting Bracket/Accessories

Mounting bracket		B: Basic	L: Foot	F: Front flange	G: Rear flange	C: Single clevis	D: Double clevis	Note
Standard	Mounting nut <small>Note 1)</small>	● (1 pc.)	● (2 pcs.)	● (1 pc.)	● (1 pc.)	— <small>Note 1)</small>	— <small>Note 2)</small>	
	Rod end nut	●	●	●	●	●	●	
	Clevis pin	—	—	—	—	—	●	
Option	T-bracket	—	—	—	—	—	●	With pin

Note 1) Mounting nut is not included with the integral clevis, single clevis and double clevis types.

Note 2) Pin and snap ring are packed with the double clevis type.

Mounting Bracket Part No.

Bore size (mm)	Foot <small>Note 1)</small>	Flange	Single clevis	Double clevis (with pin) <small>Note 2)</small>	T-bracket <small>Note 3)</small>
6	CJK-L016B	CJK-F016B	—	—	CJ-T010B
10			—	—	
16	CLJ-L016B	CLJ-F016B	—	—	CJ-T016B
20	CM-L020B	CM-F020B	CM-C020B	CM-D020B	—
25	CM-L032B	CM-F032B	CM-C032B	CM-D032B	—

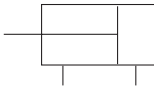
Note 1) Two foot brackets and one mounting nut are included.

Note 2) Clevis pin and snap ring are included in package.

Note 3) T-bracket is applicable to the double clevis type (D).



Symbol
Double acting, Single rod



Specifications

Bore size (mm)		6	10	16	20	25
Seal construction		Metal seal				
Action		Double acting, Single rod				
Fluid		Air				
Proof pressure		1.05 MPa				
Maximum operating pressure		0.7 MPa				
Minimum operating pressure ^{Note 1)}	Standard type	0.02MPa	0.005 MPa			
	H (High speed/High frequency type)	—	0.01 MPa			
Ambient and fluid temperature		-10 to 80C				
Cushion		Rubber bumper (Standard)				
Lubrication ^{Note 2)}		Not required (Non-lube)				
Rod end thread tolerance		JIS class 2				
Stroke length tolerance		+1.0 0				
Piston speed ^{Note 3)}	Standard type	0.5 to 1000 mm/s (Refer to page 20.)				
	H (High speed/High frequency type)	—	5 to 3000 mm/s (Refer to page 20.)			
Total allowable leakage	Supply pressure 0.1 MPa	150 cm ³ /min or less	250 cm ³ /min or less	300 cm ³ /min or less		
	Supply pressure 0.3 MPa	800 cm ³ /min or less	1000 cm ³ /min or less	1200 cm ³ /min or less		
	Supply pressure 0.5 MPa	1500 cm ³ /min or less	2500 cm ³ /min or less	3000 cm ³ /min or less		

Note1) Value when horizontal. (Use clean, dry, and nonfreezing air) However, as the stroke increases, it will likely be affected by the weight of its moving parts and the pressure will likely increase by approx. 0.003 to 0.005 MPa due to an offset load from the weight of the rod.

Note2) Refer to precautions on page 18 regarding lubrication.

Note3) Control low speed actuation with differential pressure and a speed controller, etc. (Refer to recommended circuit examples for further details.)

Weight: Standard Type, High Speed/High Frequency Type

Unit: g

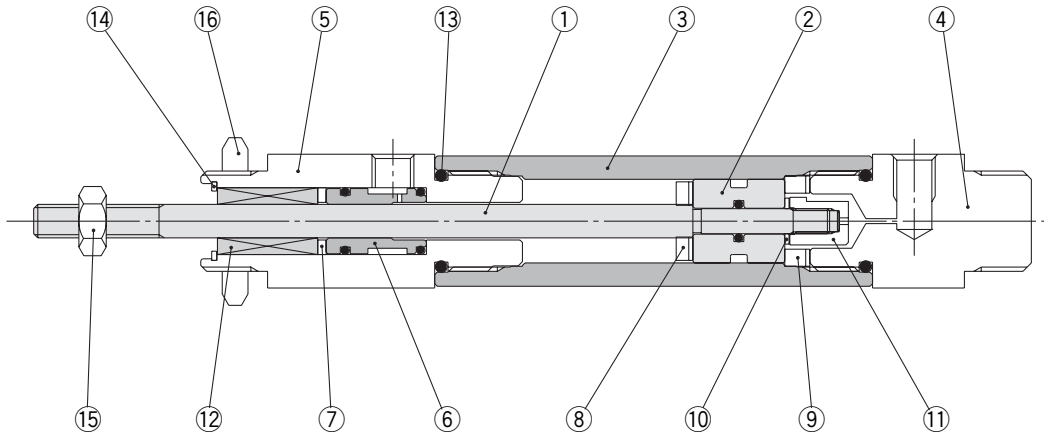
Bore size (mm)	Cylinder stroke (mm)					
	15	30	45	60	75	100
6	52.5	60.7	68.9	77.1	—	—
10	92.4	102.7	113.0	123.3	133.6	143.9
16	152.4	175.2	198.0	220.8	243.6	266.4
20	349.8	392.6	435.4	478.2	521.0	563.8
25	460.8	510.0	559.2	608.4	657.6	706.8

Theoretical Output

Unit: N

Bore size (mm)	Rod size (mm)	Direction	Piston area (mm ²)	Operating pressure (MPa)						
				0.1	0.2	0.3	0.4	0.5	0.6	0.7
6	4	IN	15.7	1.6	3.2	4.7	6.3	7.9	9.4	11.0
		OUT	28.3	2.8	5.7	8.5	11.3	14.2	17.0	19.8
10	4	IN	66.0	6.6	13.2	19.8	26.4	33.0	39.6	46.2
		OUT	78.5	7.9	15.7	23.6	31.4	39.3	47.1	55.0
16	5	IN	181.4	18.1	36.3	54.4	72.6	90.7	108.8	127.0
		OUT	201.1	20.1	40.2	60.3	80.4	100.6	120.7	140.8
20	8	IN	263.9	26.4	52.8	79.2	105.6	132.0	158.3	184.7
		OUT	314.2	31.4	62.8	94.3	125.7	157.1	188.5	219.9
25	10	IN	412.3	41.2	82.5	123.7	164.9	206.2	247.4	288.6
		OUT	490.9	49.1	98.2	147.3	196.4	245.5	294.5	343.6

Construction



Component Parts

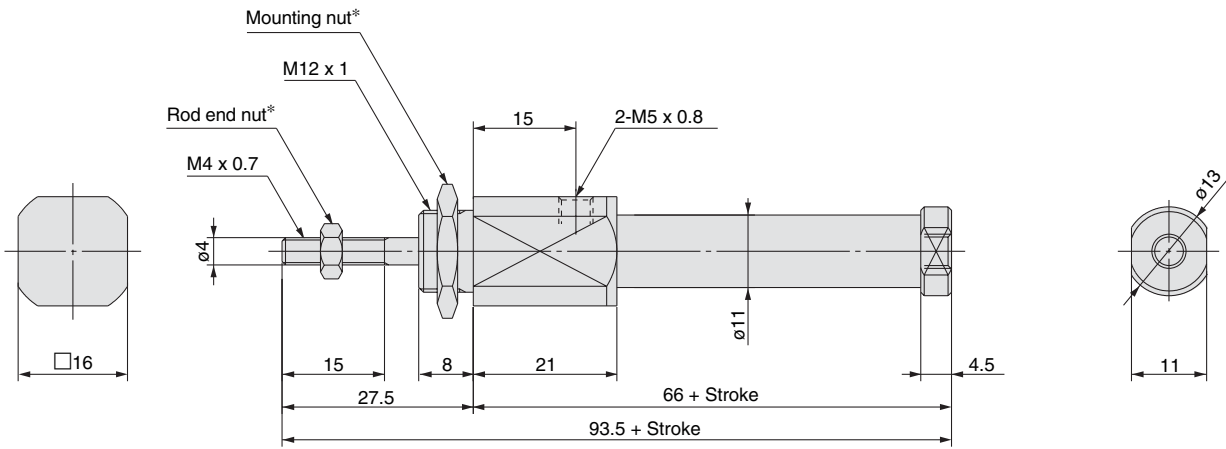
No.	Description	Material	Note
1	Rod	Carbon steel	Hard chrome plated
2	Piston	Special stainless steel	
3	Tube	Special stainless steel	
4	Head cover	Aluminum alloy	Hard anodized
5	Rod cover	Aluminum alloy	Hard anodized
6	Sleeve	Special stainless steel	
7	Seat	NBR	
8	Bumper A	Polyurethane	
9	Bumper B	Polyurethane	
10	Bumper C	Polyurethane	
11	Nut	Aluminum alloy	
12	Ball bushing		
13	O-ring	NBR	
14	Snap ring	Carbon tool steel	Nickel plated
15	Rod end nut	Steel	Nickel plated
16	Mounting nut	Steel	

Series MQM

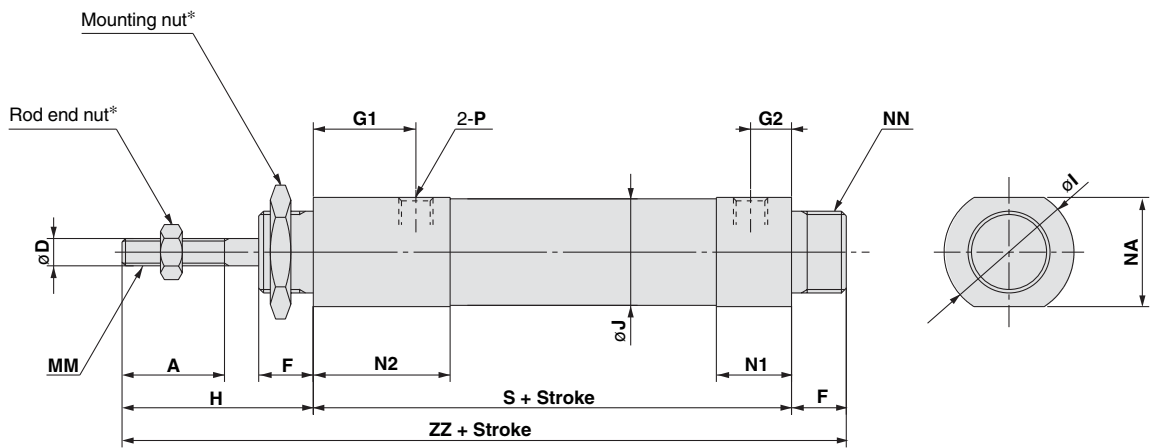
Dimensions

Basic type: MQMLB

ø6



ø10, ø16, ø20, ø25



Bore size (mm)	A	D	F	G1	G2	H	I	J	MM	N1	N2	NA	NN	P			S	ZZ
														—	TN	TF		
10	15	4	8	15	6	28	18.5	16	M4 x 0.7	11	20	16	M12 x 1	M5 x 0.8	—	—	65	101
16	15	5	10	15	6	30	22	22	M5 x 0.8	12	21	19.5	M14 x 1	M5 x 0.8	—	—	74	114
20	18	8	13	25	8.5	40.5	31.5	28.5	M8 x 1.25	20.5	33	29	M20 x 1.5	Rc1/8	NPT1/8	G1/8	97.5	151
25	18	10	13	30	8.5	44.5	34.5	32	M10 x 1.25	20.5	38	32	M26 x 1.5	Rc1/8	NPT1/8	G1/8	102.5	160

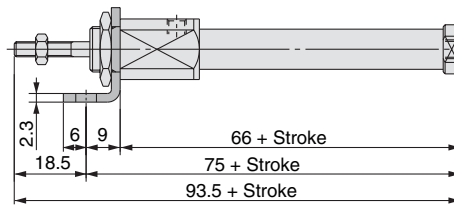
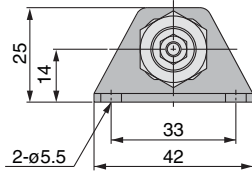
* Refer to page 17 for details regarding the rod end nut and the mounting nut.

Refer to the basic type on page 13 for other dimensions.

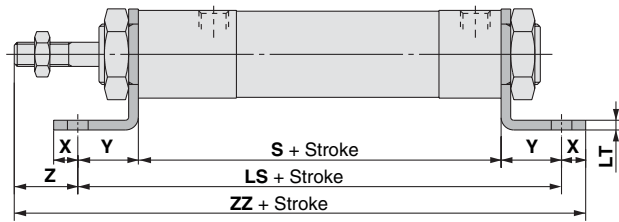
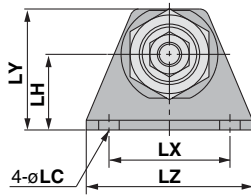
Dimensions

Foot type: MQMLL

ø6



ø10, ø16, ø20, ø25

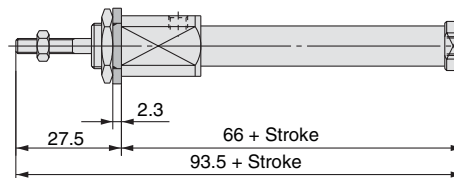
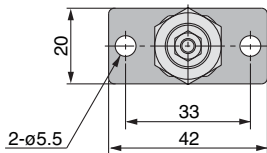


(mm)

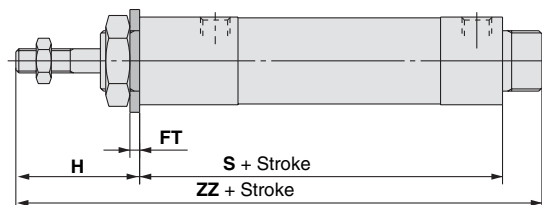
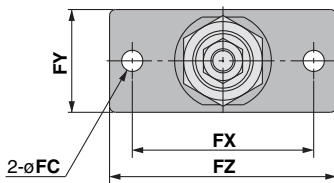
Bore size (mm)	LC	LH	LS	LT	LX	LY	LZ	S	X	Y	Z	ZZ
10	5.5	14	83	2.3	33	25	42	65	6	9	19	108
16	5.5	18	92	2.3	42	30	54	74	6	9	21	119
20	6.8	25	137.5	3.2	40	40	55	97.5	8	20	20.5	166
25	6.8	28	142.5	3.2	40	47	55	102.5	8	20	24.5	175

Front flange type: MQMLF

ø6



ø10, ø16, ø20, ø25



(mm)

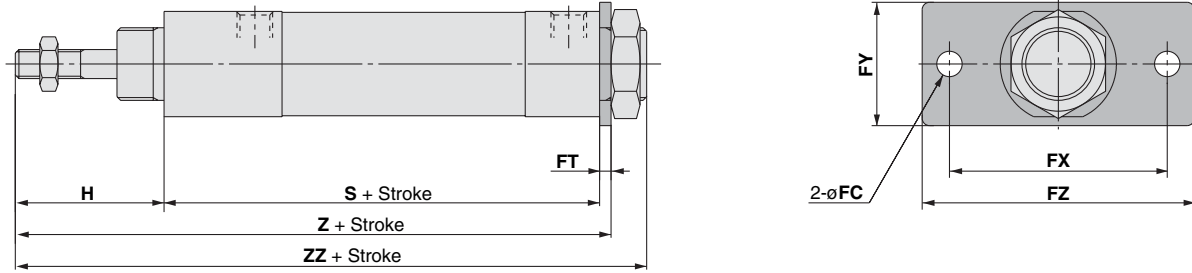
Bore size (mm)	FC	FT	FX	FY	FZ	H	S	ZZ
10	5.5	2.3	33	20	42	28	65	101
16	5.5	2.3	42	24	54	30	74	114
20	7	4	60	34	75	40.5	97.5	151
25	7	4	60	40	75	44.5	102.5	160

Series MQM

Refer to the basic type on page 13 for other dimensions.

Dimensions

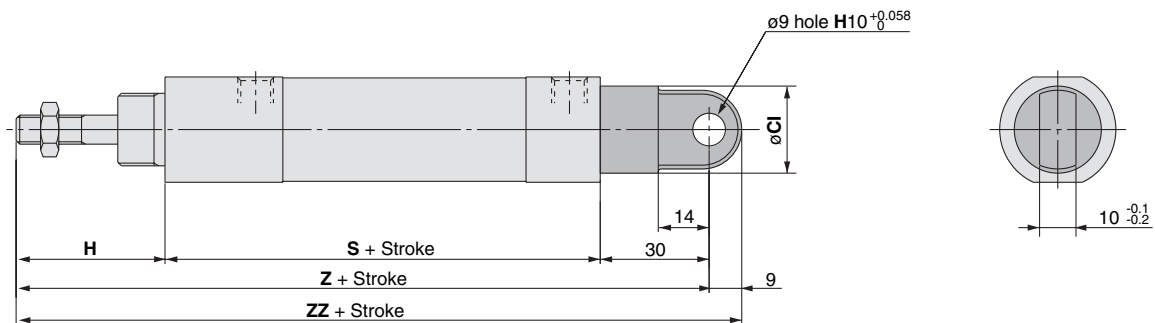
Rear flange type: MQMLG (Except for $\phi 6$)
 $\phi 10$, $\phi 16$, $\phi 20$, $\phi 25$



(mm)

Bore size (mm)	FC	FT	FX	FY	FZ	H	S	Z	ZZ
10	5.5	2.3	33	20	42	28	65	95.3	101
16	5.5	2.3	42	24	54	30	74	106.3	114
20	7	4	60	34	75	40.5	97.5	142	151
25	7	4	60	40	75	44.5	102.5	151	160

Single clevis type: MQMLC ($\phi 20$ and $\phi 25$ only)
 $\phi 20$, $\phi 25$ (Non-integrated type)



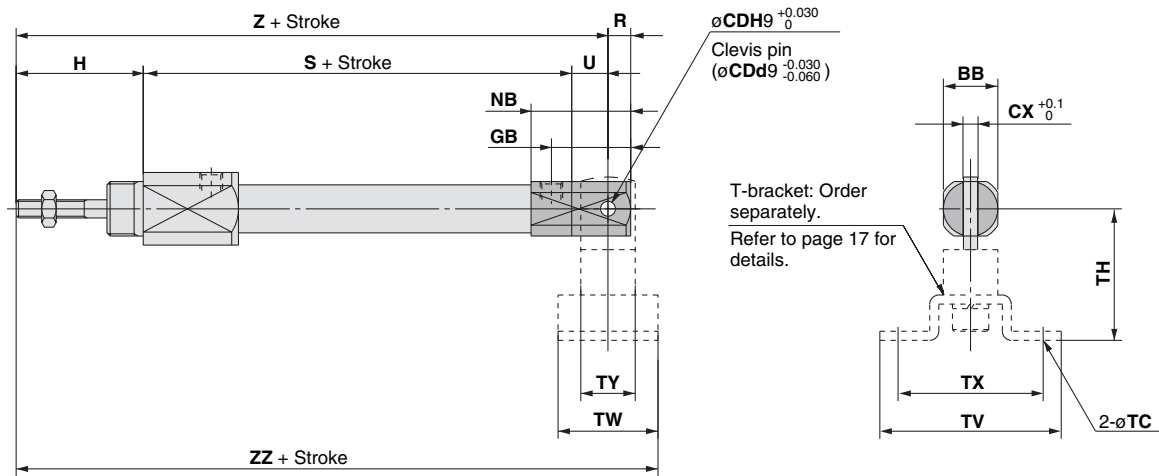
(mm)

Bore size (mm)	CI	H	S	Z	ZZ
20	24	40.5	97.5	168	177
25	30	44.5	102.5	177	186

Refer to the basic type on page 13 for other dimensions.

Dimensions

Double clevis type: MQMLD ø6, ø10, ø16 (Integrated type)



(mm)

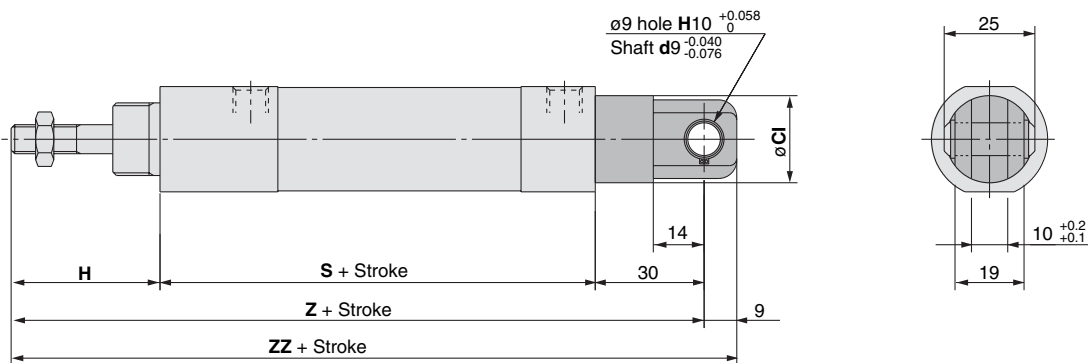
Bore size (mm)	BB	CD	CX	GB	H	NB	R	S	U	Z	ZZ
6	12	3.3	3.3	17.5	27.5	22	5	70.5	8	106	117
10	12	3.3	3.3	19	28	24	5	65	8	101	112
16	18	5	6.6	24	30	30	8	74	10	114	128

T-bracket Related Dimensions (Note)

Part no.	Applicable bore size (mm)	TC	TH	TV	TW	TX	TY
CJ-T010B	6, 10	4.5	29	40	22	32	12
CJ-T016B	16	5.5	35	48	28	38	16

Note) Refer to page 17 for details.

ø20, ø25 (Non-integrated type)



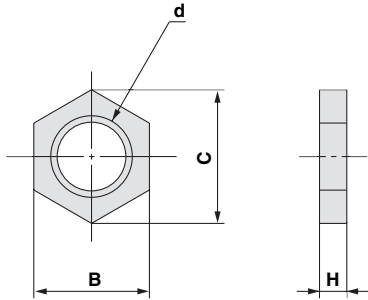
(mm)

Bore size (mm)	CI	H	S	Z	ZZ
20	24	40.5	97.5	168	177
25	30	44.5	102.5	177	186

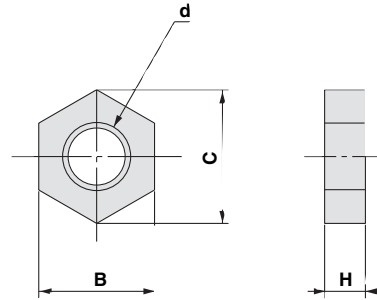
Series MQM

Accessory Dimensions

Mounting nut



Rod end nut



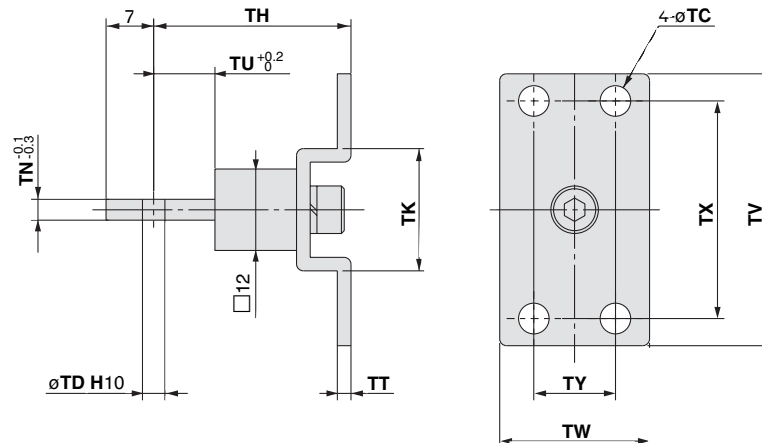
Material: Carbon steel

Part no.	Applicable bore size (mm)	B	C	d	H
SNKJ-016B	6, 10	17	19.6	M12 x 1	4
SNLJ-016B	16	19	21.9	M14 x 1	5
SN-020B	20	26	30	M20 x 1.5	8
SN-032B	25	32	37	M26 x 1.5	8

Material: Carbon steel

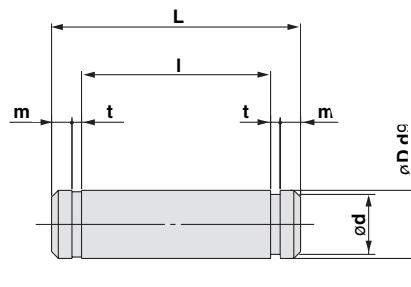
Part no.	Applicable bore size (mm)	B	C	D	H
NTJ-010A	6, 10	7	8.1	M4 x 0.7	3.2
NTJ-015A	16	8	9.2	M5 x 0.8	4
NT-02	20	13	15	M8 x 1.25	5
NT-03	25	17	19.6	M10 x 1.25	6

T-bracket



Part no.	Applicable bore size (mm)	TC	TD	TH	TK	TN	TT	TU	TV	TW	TX	TY
CJ-T010B	6, 10	4.5	3.3	29	18	3.1	2	9	40	22	32	12
CJ-T016B	16	5.5	5	35	20	6.4	2.3	14	48	28	38	16

Clevis pin



Material: Stainless steel

Part no.	Applicable bore size (mm)	d	D	l	L	m	t
CD-J010	6, 10	3	3.3	12.2	15.2	1.2	0.3
CD-Z015	16	4.8	5	18.3	22.7	1.5	0.7
CDP-1	20,25	8.6	9	19.2	25	1.75	1.15