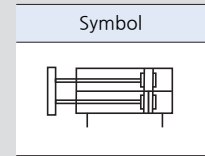
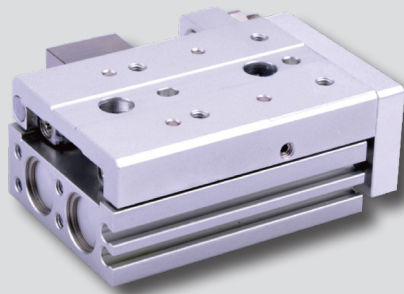


# KTXS series



### Features

- High precision with Cross roller bearing method
- Adjusters(Optional) can be attached on both sides
- Workpieces can be attached in two directions
- Auto switch can be attached to slot
- The output is doubled with the dual load method
- The cylinder can be mounted from three directions

## How to order

KTXS 20 - 30 S AS  

①            ②            ③            ④            ⑤            ⑥

### ① Series

KTXS	Compact table cylinder(Cross roller bearing)
------	--

### ② Bore size

6	6mm	16	16mm
8	8mm	20	20mm
12	12mm	25	25mm

### ③ Stroke

Bore size	Standard stroke	Max. stroke
6	10 20 30 40 50	50
8	10 20 30 40 50 75	75
12	10 20 30 40 50 75 100	100
16	10 20 30 40 50 75 100 125	125
20	10 20 30 40 50 75 100 125 150	150
25	10 20 30 40 50 75 100 125 150	150

### ④ Magnet

S	Built-in magnet
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### ⑥ Thread type

Nil	Rc(PT) (Standard)
G	Built-in magnet
T	NPT

### ⑤ Adjustment unit

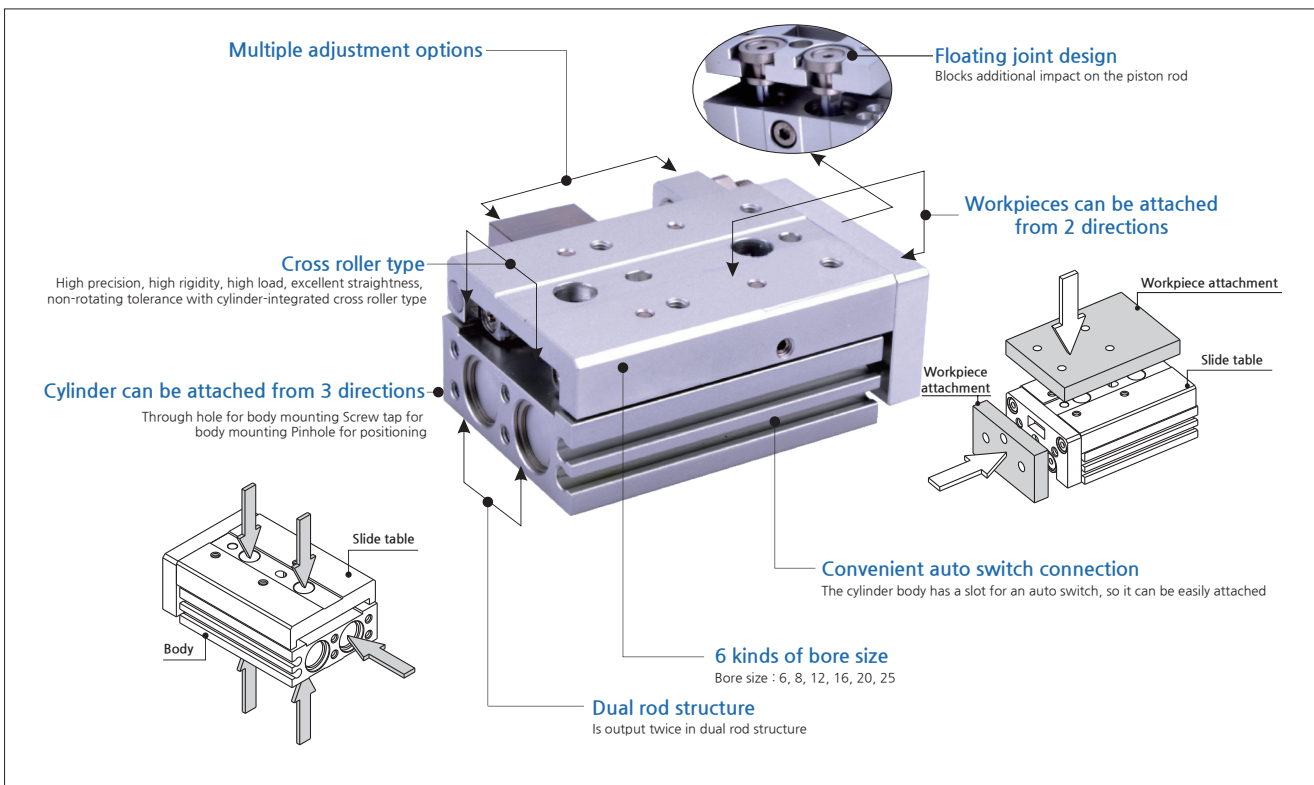
Nil None	
A Adjustable rubber stopper (Both ends)	B Shock absorber (Both ends)
AS Adjustable rubber stopper (Extension)	BS Shock absorber (Extension)
AF Adjustable rubber stopper (Retraction)	BF Shock absorber (Retraction)

※ 6-∅ shock absorbers (B, BS, BF) cannot be applied.

**Specifications**

Bore size(mm)	6	8	12	16	20	25
Acting type	Double acting					
Fluid	Air					
Operating pressure	0.15~0.7MPa					
Proof pressure	1.2MPa					
Ambient & fluid temperature	-20 ~ +70℃					
Operating piston speed	50~500mm/s					
Tolerance of stroke	100 Below $+1.0_0^0$			101 Above $+1.5_0^0$		
Cushion	Bumper (Both sides), Shock absorber					
Auto switch applied model	D-A93K, D-F9NK, D-F9PK, D-F9BK					
Port size	M5x0.8			Rc(PT)1/8		

**Structure**

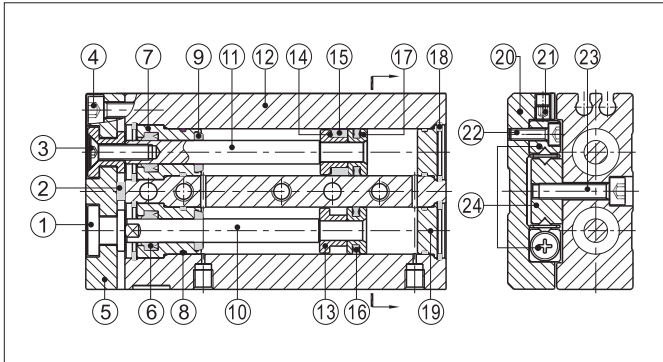


**Theoretical Thrust Table**

Unit:mm

Bore size(mm)	Rod size(mm)	Acting type	Pressure area (mm <sup>2</sup> )	Operating pressure(MPa)					
				0.2	0.3	0.4	0.5	0.6	0.7
6	3	Extension	42	8	13	17	21	25	29
		Retraction	57	11	17	23	29	34	40
8	4	Extension	75	15	23	30	38	45	53
		Retraction	101	20	30	40	51	61	71
12	6	Extension	170	34	51	68	85	102	119
		Retraction	226	45	68	90	113	136	158
16	8	Extension	302	60	91	121	151	181	211
		Retraction	402	80	121	161	201	241	281
20	10	Extension	471	94	141	188	236	283	330
		Retraction	628	126	188	251	314	377	440
25	12	Extension	756	151	227	302	378	454	529
		Retraction	982	186	295	393	491	589	687

Structure

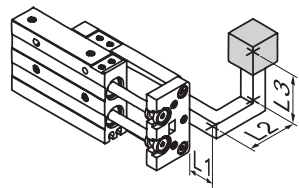


No.	Parts	Material	No.	Parts	Material
1	Floating joint	Carbon steel	13	Magnet holder	Brass
2	Bumper	TPU	14	Magnetic washer	NBR
3	Screw	Carbon steel	15	Magnet	Sintered metal
4	Screw	Carbon steel	16	Piston seal	NBR
5	Fixing plate	Aluminum alloy	17	Piston	Brass
6	Rod seal	NBR	18	C Clip	Spring steel
7	Front cover	Aluminum alloy	19	Back cover	Aluminum alloy
8	O-ring	NBR	20	Slide table	Aluminum alloy
9	Bumper	TPU	21	Nut	Carbon steel
10	Piston rod A	Carbon steel	22	Screw	Carbon steel
11	Piston rod B	Stainless steel	23	Screw	Carbon steel
12	Body	Aluminum alloy	24	Slide guide combination	Combination

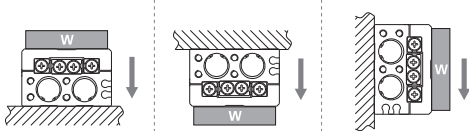
How to select a model

A. Check usage conditions

1. Model used (Inner diameter, Stroke)
2. Cushion type (Bumper, Shock absorber)
3. Workpiece mounting position
4. Attachment posture
5. Average speed  $V_a$  (mm/s)
6. Load mass  $W$  (N) [Pic 1](#)
7. Overhang amount  $L_1, L_2, L_3$  (mm)



[Pic 1](#) Load mass



B. Kinetic energy

1. Calculate the kinetic energy of the load  $E(J)$   

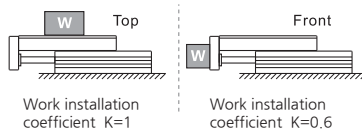
$$E = \frac{1}{2} \times \frac{W}{g} \times \left( \frac{1.4 \times V_a}{1000} \right)^2$$

$$E_a = K \times E_{max}$$
2. Allowable kinetic energy calculation  $E_a(J)$   $K$ : Work installation coefficient [Pic 2](#)  
 $E_{max}$ : Max. allowable kinetic energy [Tab 1](#)
3. Check that the kinetic energy of the load does not exceed the allowable kinetic energy:  $E \leq E_a$

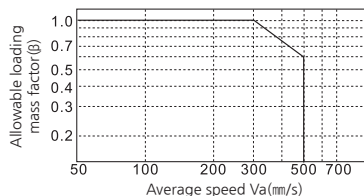
C. Load factor

- $$W_a = K \times \beta \times W_{max}$$
1. Calculation of permissible load mass  $W_a(N)$   
 $K$ : Work installation coefficient [Pic 2](#)  
 $W_{max}$ : Max. permissible load mass [Tab 1](#)  
 $\beta$ : Allowable loading mass factor [Pic 3](#)
  2. Make sure the mass does not exceed the allowable load:  $W \leq W_a$

[Pic 2](#) Work installation coefficient  $K$



[Pic 3](#) Allowable loading mass factor  $\beta$



D. Moment

Horizontal attachment

1. Moment Calculation:  $M_p, M_{po}, M_y, M_{yo}, M_r, M_{ro}$  (Nm)

Dynamic moment:	$M_p = W \times (L_1 + A) / 1000$
Static moment:	$M_{po} = \frac{W \times (L_1 + A)}{1000} + \frac{W \times a \times (L_2 + B)}{1000 \times g}$
Dynamic moment:	$M_r = W \times (C + L_3) / 1000$
Static moment:	$M_{ro} = (W \times a \times (C + L_3)) / 1000g$
Dynamic moment:	$M_y = 0$
Static moment:	$M_{yo} = (W \times a \times (C + L_3)) / 1000g$

2. Check
- |                 |  |
|-----------------|--|
| Dynamic moment: | $\frac{M_p}{M_{p_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_r}{M_{r_{max}}} \leq 1$             |
| Static moment:  | $\frac{M_{po}}{M_{po_{max}}} + \frac{M_{yo}}{M_{yo_{max}}} + \frac{M_{ro}}{M_{ro_{max}}} \leq 1$ |

Vertical attachment

1. Moment Calculation:  $M_p, M_{po}, M_y, M_{yo}$  (Nm)

Dynamic moment:	$M_p = W \times (L_2 + B) / 1000$
Static moment:	$M_{po} = \frac{W \times (L_2 + B)}{1000} + \frac{W \times a \times (L_2 + B)}{1000 \times g}$
Dynamic moment:	$M_y = W \times (C + L_3) / 1000$
Static moment:	$M_{yo} = \frac{W \times a \times (C + L_3)}{1000g} + \frac{W \times (C + L_3)}{1000}$

2. Check
- |                 |  |
|-----------------|--|
| Dynamic moment: | $\frac{M_p}{M_{p_{max}}} + \frac{M_y}{M_{y_{max}}} \leq 1$         |
| Static moment:  | $\frac{M_{po}}{M_{po_{max}}} + \frac{M_{yo}}{M_{yo_{max}}} \leq 1$ |

Compact table cylinder  
(Cross roller bearing)

**Tab 1** Max. allowable kinetic energy (E<sub>max</sub>)

Max. permissible load mass (W<sub>max</sub>)

Model	Max. allowable kinetic energy E <sub>max</sub> (J)			Max. permissible load mass W <sub>max</sub> (N)
	Standard	Rubber stopper	Shock absorber	
KTXS6	0.01	0.01	-	4
KTXS8	0.024	0.024	0.048	8
KTXS12	0.05	0.05	0.1	15
KTXS16	0.1	0.1	0.2	30
KTXS20	0.13	0.13	0.26	40
KTXS25	0.22	0.22	0.44	70

Symbol mark

Symbol	Item	Unit
A, B, C	Moment center position distance correction value	mm
a	Inertial acceleration	-
E	Kinetic energy	J
E <sub>a</sub>	Allowable kinetic energy	J
E <sub>max</sub>	Max. allowable kinetic energy	J
g	Gravitational acceleration g=9.81	m/s <sup>2</sup>
K	Work installation coefficient	-
L1, L2, L3	Overhang amount	mm
M <sub>p</sub> , M <sub>y</sub> , M <sub>r</sub>	Dynamic moment (Pitch,Yaw,Roll)	Nm
M <sub>p<sub>max</sub></sub> , M <sub>y<sub>max</sub></sub> , M <sub>r<sub>max</sub></sub>	Max. permissible dynamic moment (Pitch,Yaw,Roll)	Nm
M <sub>po</sub> , M <sub>yo</sub> , M <sub>ro</sub>	Static moment (Pitch,Yaw,Roll)	Nm
M <sub>po<sub>max</sub></sub> , M <sub>yo<sub>max</sub></sub> , M <sub>ro<sub>max</sub></sub>	Max. permissible static moment (Pitch,Yaw,Roll)	Nm
V <sub>a</sub>	Average speed	mm/s
W	Load mass	N
W <sub>max</sub>	Max. permissible load mass	N
β	Allowable loading mass factor	-

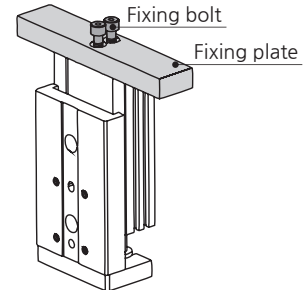
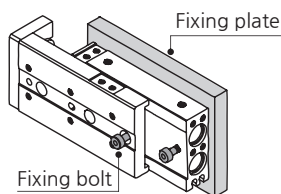
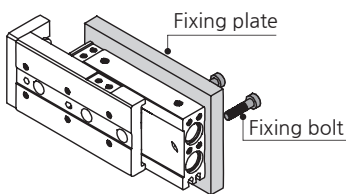
**Tab 2** Max. allowable moment (Nm)

Moment center position distance correction value (mm)

Bore size	Stroke	Static moment			Dynamic moment			Correction value		
		M <sub>po<sub>max</sub></sub>	M <sub>yo<sub>max</sub></sub>	M <sub>ro<sub>max</sub></sub>	M <sub>p<sub>max</sub></sub>	M <sub>y<sub>max</sub></sub>	M <sub>r<sub>max</sub></sub>	A	B	C
6	10	3.3	3.8	2.6	0.7	0.7	0.6	27	7.3	16
	20	3.3	3.8	2.6	0.7	0.8	0.6	42		
	30	3.3	3.8	2.6	0.7	0.8	0.6	52		
	40	7.2	7.9	3.6	1.3	1.3	0.6	72		
	50	12.4	12.7	4.7	1.8	1.8	0.6	87		
8	10	10.1	9.1	8.8	2.5	2.5	2.0	32	8.5	20
	20	10.1	9.1	8.8	2.6	2.6	2.0	42		
	30	10.1	9.1	8.8	2.8	2.8	2.0	57		
	40	12.4	10.8	10.1	3.4	3.4	2.3	72		
	50	23.6	24.8	13.9	4.4	4.4	2.1	92		
12	10	33.0	34.3	30.9	7.3	7.3	5.8	48	10	25
	20	33.0	34.3	30.9	7.6	7.6	5.8	58		
	30	33.0	34.3	30.9	7.8	7.8	5.8	68		
	40	33.0	34.3	30.9	8.0	8.0	5.8	78		
	50	53.4	49.6	39.7	9.8	9.8	5.8	88		
16	10	33.0	34.3	30.9	8.8	8.8	7.6	43	11	30
	20	33.0	34.3	30.9	9.2	9.2	7.6	53		
	30	33.0	34.3	30.9	9.5	9.5	7.6	63		
	40	33.0	34.3	30.9	10.0	10.0	7.6	78		
	50	53.4	49.6	39.7	12.2	12.2	7.6	93		
20	10	60.1	50.5	72.8	14.5	14.5	15.2	47	16.5	35
	20	60.1	50.5	72.8	15.2	15.2	15.2	57		
	30	60.1	50.5	72.8	15.7	15.7	15.2	67		
	40	60.1	50.5	72.8	16.3	16.3	15.2	82		
	50	60.1	50.5	72.8	16.6	16.6	15.2	92		
25	10	60.1	50.5	72.8	17.6	17.6	8.9	130	20.3	42
	20	60.1	50.5	72.8	17.6	17.6	8.9	165		
	30	60.1	50.5	72.8	17.4	17.4	17.6	72		
	40	60.1	50.5	72.8	17.8	17.8	17.6	82		
	50	60.1	50.5	72.8	18.2	18.2	17.6	96		
25	75	169.3	154.3	114.4	45.2	45.2	25.3	141	20.3	42
	100	169.3	154.3	114.4	46.2	46.2	25.3	165		
	125	169.3	154.3	114.4	48.0	48.0	25.3	210		
	150	267.5	286.6	145.6	65.0	65.0	28.3	254		

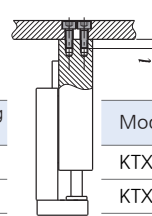
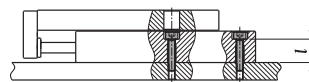
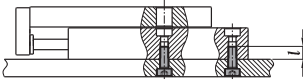
**Installation and precautions**

Vertical installation (Body thread tap)    Vertical installation (Body through hole)    Axial installation (Body thread tap)



When attaching the cylinder, use screws of an appropriate length and tighten with less than the maximum torque.  
If it is not tightened sufficiently, it may fall or be out of position, and if it is tightened excessively, problems such as malfunction may occur.

Vertical installation (Body thread tap)    Vertical installation (Body through hole)    Axial installation (Body thread tap)



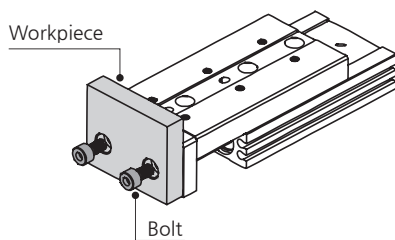
Model	Used bolt	Max. tightening torque (N·m)	Max. threading depth (mm)
KTXS6	M4x0.7	2.1	8
KTXS8	M4x0.7	2.1	8
KTXS12	M5x0.8	4.4	10
KTXS16	M6x1.0	4.4	10
KTXS20	M6x1.0	7.4	12
KTXS25	M8x1.25	18.0	16

Model	Used bolt	Max. tightening torque (N·m)	Max. threading depth (mm)
KTXS6	M3x0.5	1.2	11.0
KTXS8	M3x0.5	1.2	12.5
KTXS12	M4x0.7	2.8	18.5
KTXS16	M5x0.8	5.7	25.0
KTXS20	M5x0.8	5.7	28.0
KTXS25	M6x1.0	10.0	36.2

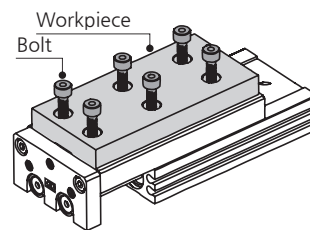
Model	Used bolt	Max. tightening torque (N·m)	Max. threading depth (mm)
KTXS6	M2.5x0.45	0.5	3.5
KTXS8	M3x0.5	0.9	4.0
KTXS12	M4x0.7	2.1	6.0
KTXS16	M5x0.8	4.4	7.0
KTXS20	M5x0.8	4.4	8.0
KTXS25	M6x1.0	7.4	10.0

Workpieces can be installed on both sides of the compact slide.

**Front-mounted**

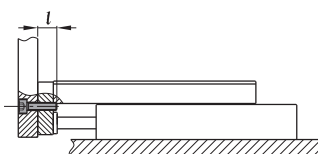


**Top-mounted**



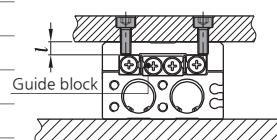
When mounting a workpiece, install bolts appropriately with a tightening torque within the limit range.  
To prevent the bolt from touching the guide block, use a bolt that is at least 0.5 mm shorter than the maximum thread depth.  
If the bolt is too long, it may hit the guide block and cause breakage.

**Front-mounted**



Model	Used bolt	Max. tightening torque (N·m)	Max. threading depth (mm)
KTXS6	M3x0.4	0.9	5
KTXS8	M4x0.7	2.1	6
KTXS12	M5x0.8	4.4	8
KTXS16	M6x1.0	7.4	10
KTXS20	M6x1.0	7.4	13
KTXS25	M8x1.25	18.0	15

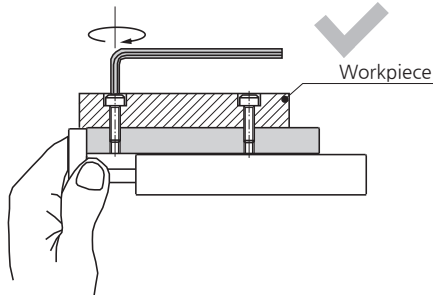
**Top-mounted**



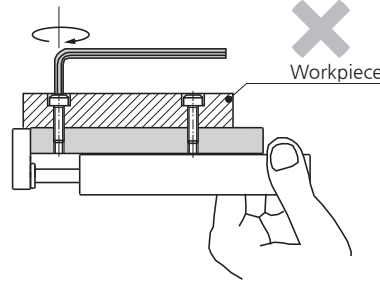
Model	Used bolt	Max. tightening torque (N·m)	Max. threading depth (mm)
KTXS6	M3x0.5	0.9	4.0
KTXS8	M3x0.5	0.9	5.0
KTXS12	M4x0.7	2.1	5.5
KTXS16	M5x0.8	4.4	6.0
KTXS20	M5x0.8	4.4	10.0
KTXS25	M6x1.0	7.4	13.0

Compact table cylinder  
(Cross roller bearing)

The table is supported by the linear guide, so be careful not to apply a strong impact or large force to the guide part.  
Hold the slide when bolting the workpiece. If you hold the body when tightening the bolt, excessive force may damage the guide part.



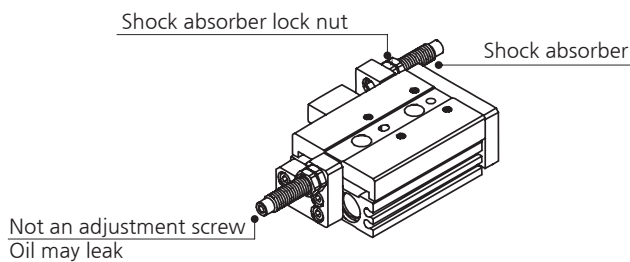
Hold the slide, fixed with bolts.



Do not hold the body and secure it with bolts.

**Shock absorber mounting**

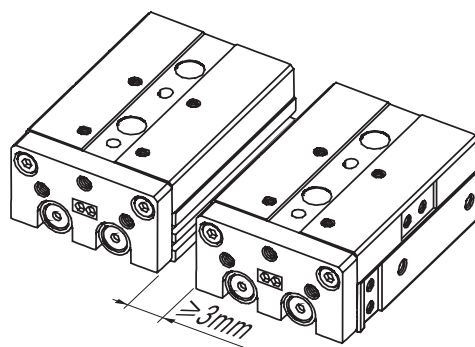
The shock absorber is a consumable item. If the shock absorption capacity decreases, it must be replaced immediately.  
Do not turn or adjust the screws on the bottom of the shock absorber body. The screws are not for adjustment, and loosening the screws may cause oil to leak. Install the shock absorber lock nut tightening torque according to the table below.



Model	Shock absorber	Max. tightening torque (N·m)
KTXS6	Can't attach	
KTXS8	ACA0806-1N	1.67
KTXS12	ACA0806-1N	1.67
KTXS16	ACA1007-1N	3.14
KTXS20	ACA1210-1N	3.14
KTXS25	ACA1412-1N	10.8

**Auto switch mounting**

All KTXS series have built-in magnets.  
To prevent malfunction, keep a minimum of 3mm gap when using two compact cylinders side by side.



The cylinder must be connected through a meter-out speed controller, and the operating speed of the cylinder must be less than 500mm/s.  
Do not apply a load that exceeds the operating limit. If it is exceeded, it may cause defects due to bending or sagging of the table.

Table displacement amount (Reference value)

Table displacement according to pitching moment load

When a load is applied to the arrow area during full stroke operation of the table cylinder, the table displacement at the arrow area

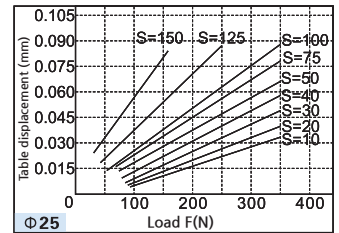
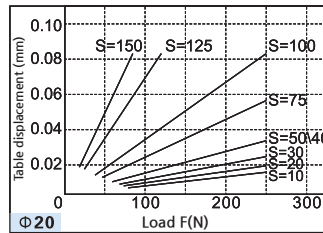
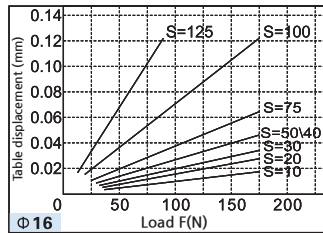
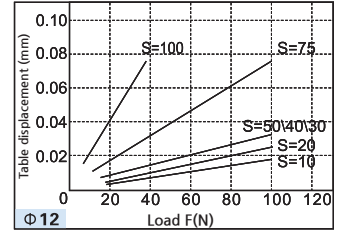
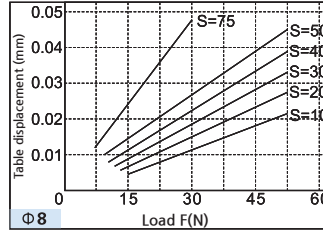
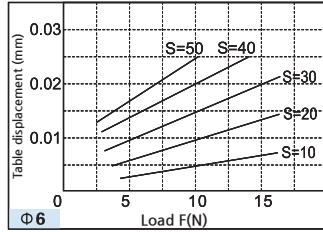


Table displacement according to yawing moment load

When a load is applied to the arrow area during full stroke operation of the table cylinder, the table displacement at the arrow area

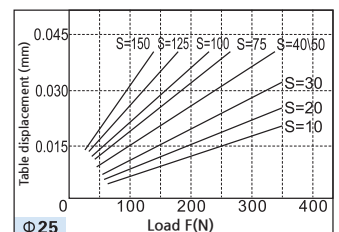
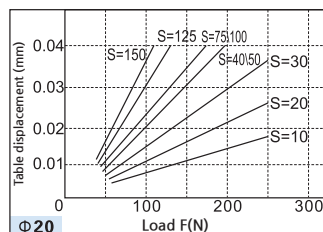
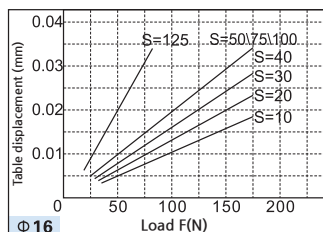
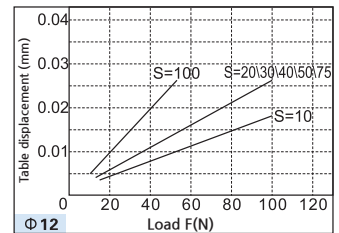
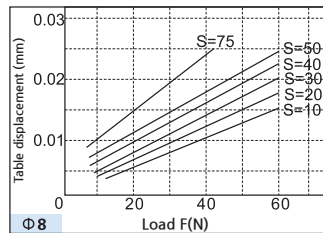
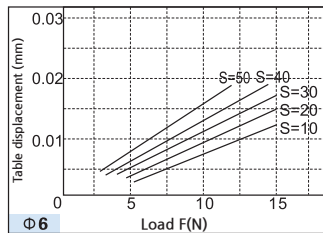
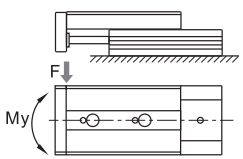
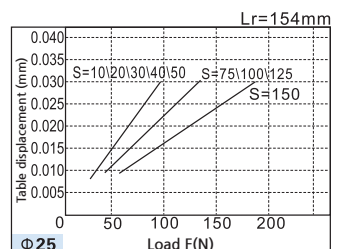
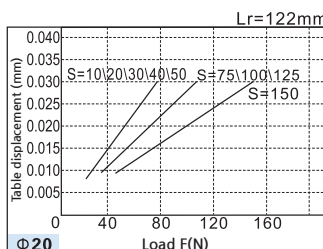
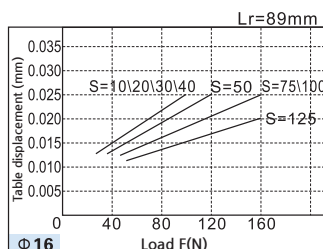
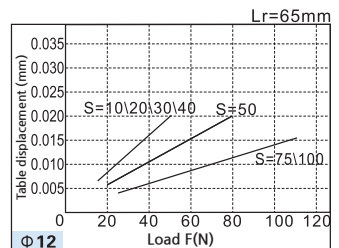
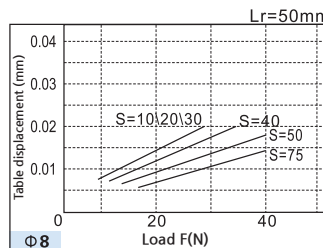
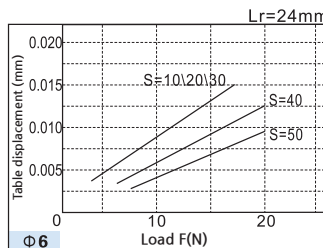
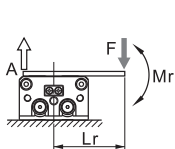


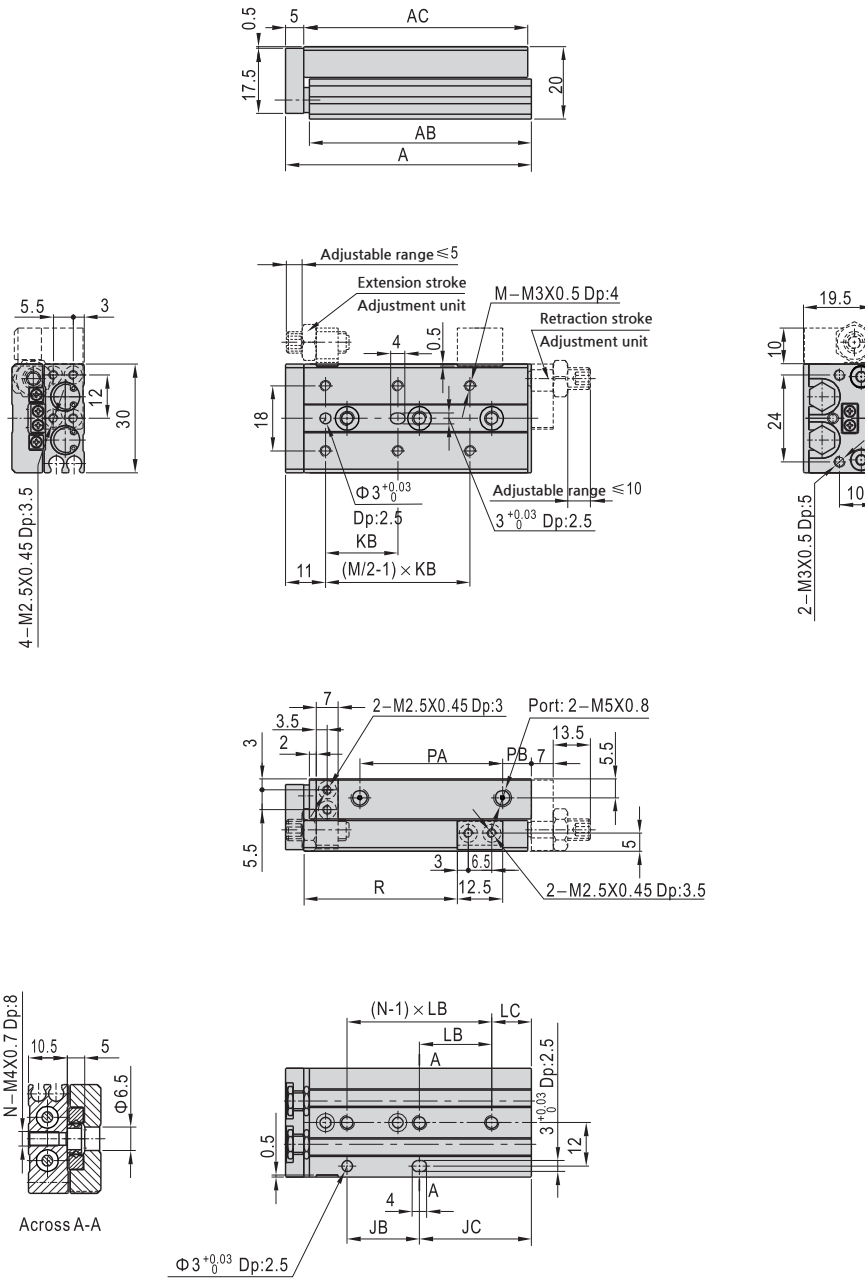
Table displacement according to rolling moment load

When a load is applied to the arrow area during full stroke operation of the table cylinder, the table displacement at the arrow area



Dimensions

KTXS6



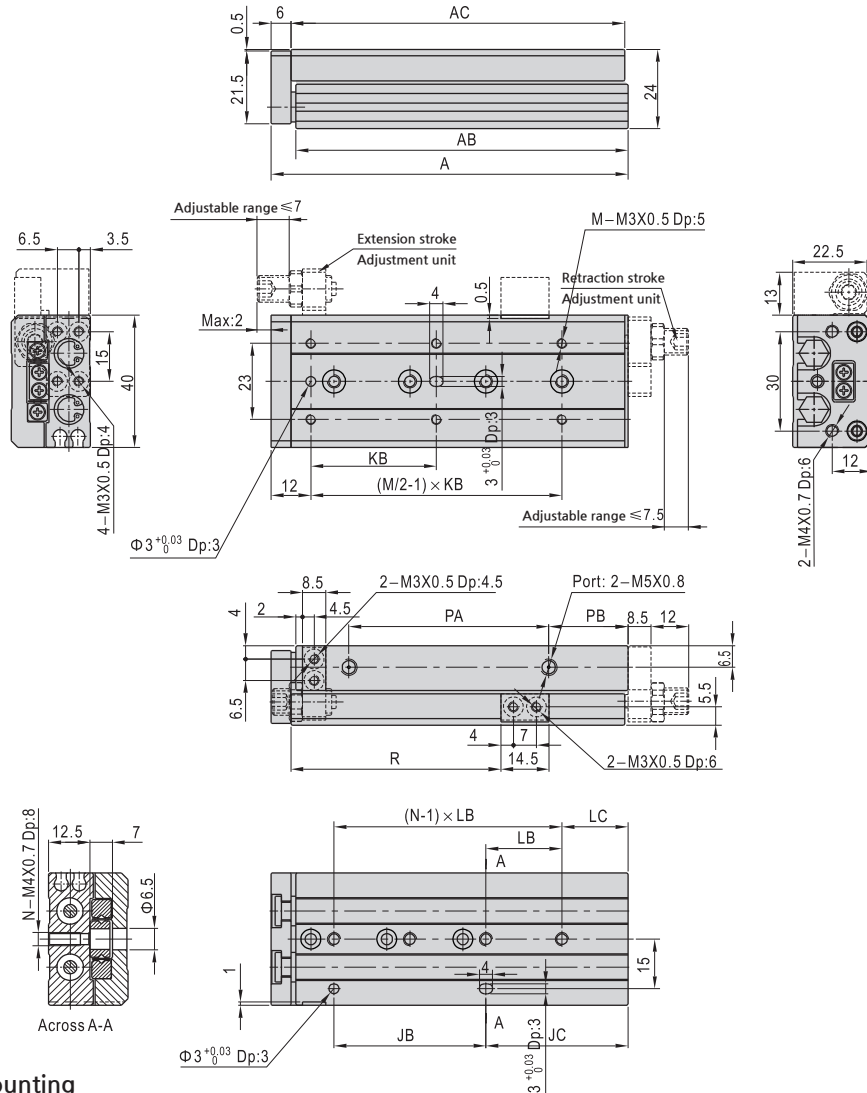
Unit:mm

Stroke	A	AB	AC	JB	JC	KB	LB	LC	M	N	PA	PB	R
10	48	41.5	42	20	11	20	25	6	4	2	19	8	21.5
20	58	51.5	52	20	21	30	35	6	4	2	28	9	31.5
30	68	61.5	62	20	31	20	20	11	6	3	39	8	41.5
40	90	83.5	84	30	43	28	30	13	6	3	51	18	51.5
50	106	99.5	100	48	41	38	24	17	6	4	61	24	61.5

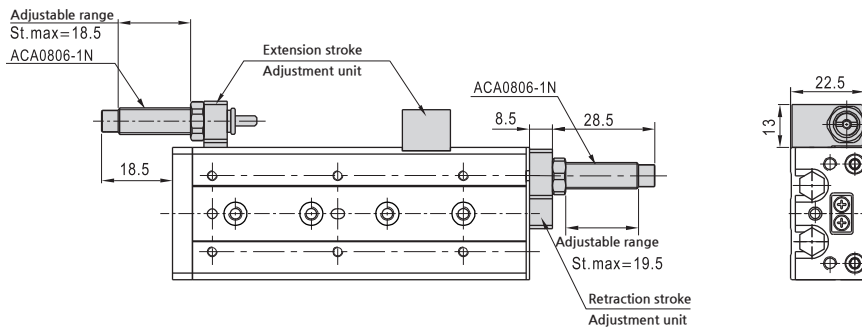


Dimensions

KTXS8



Shock absorber mounting

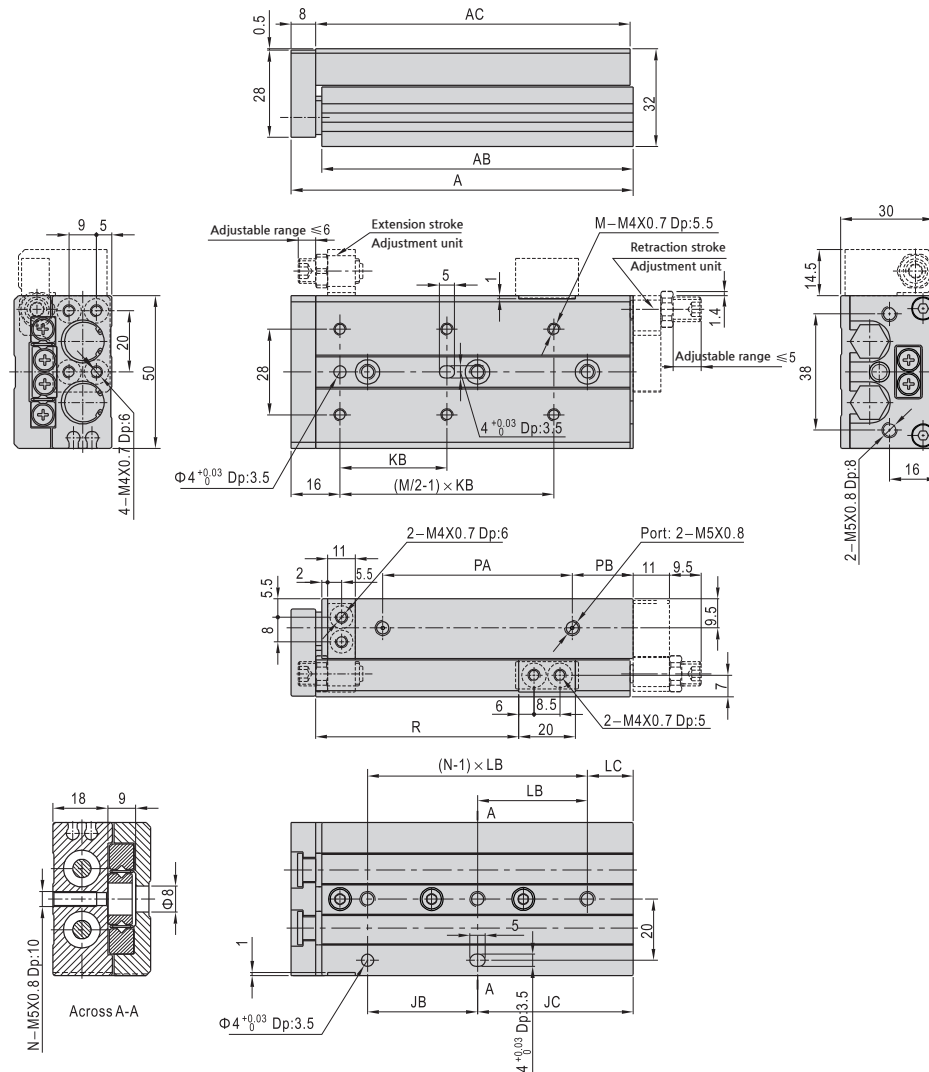


Unit:mm

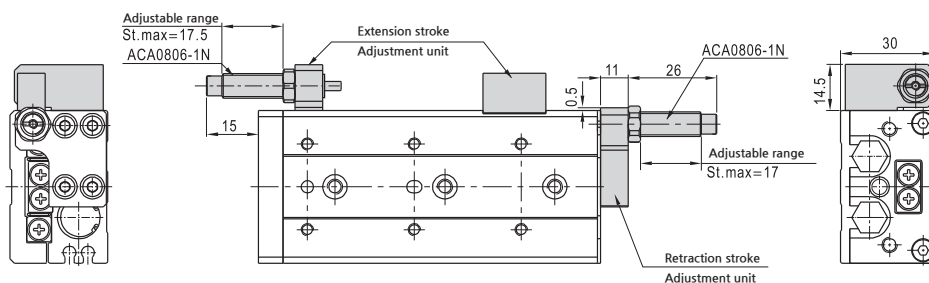
Stroke	A	AB	AC	JB	JC	KB	LB	LC	M	N	PA	PB	R
10	56	48.5	49	20	17	25	28	9	4	2	19.5	12.5	23.5
20	61	53.5	54	30	12	25	30	12	4	2	30	7	33.5
30	72	64.5	65	20	33	40	20	13	4	3	41	7	43.5
40	90	82.5	83	28	43	50	28	15	4	3	56	10	53.5
50	108	100.5	101	46	43	38	23	20	6	4	68	16	63.5
75	158	150.5	151	56	83	50	28	27	6	5	94	40	88.5

Dimensions

KTXS12



Shock absorber mounting

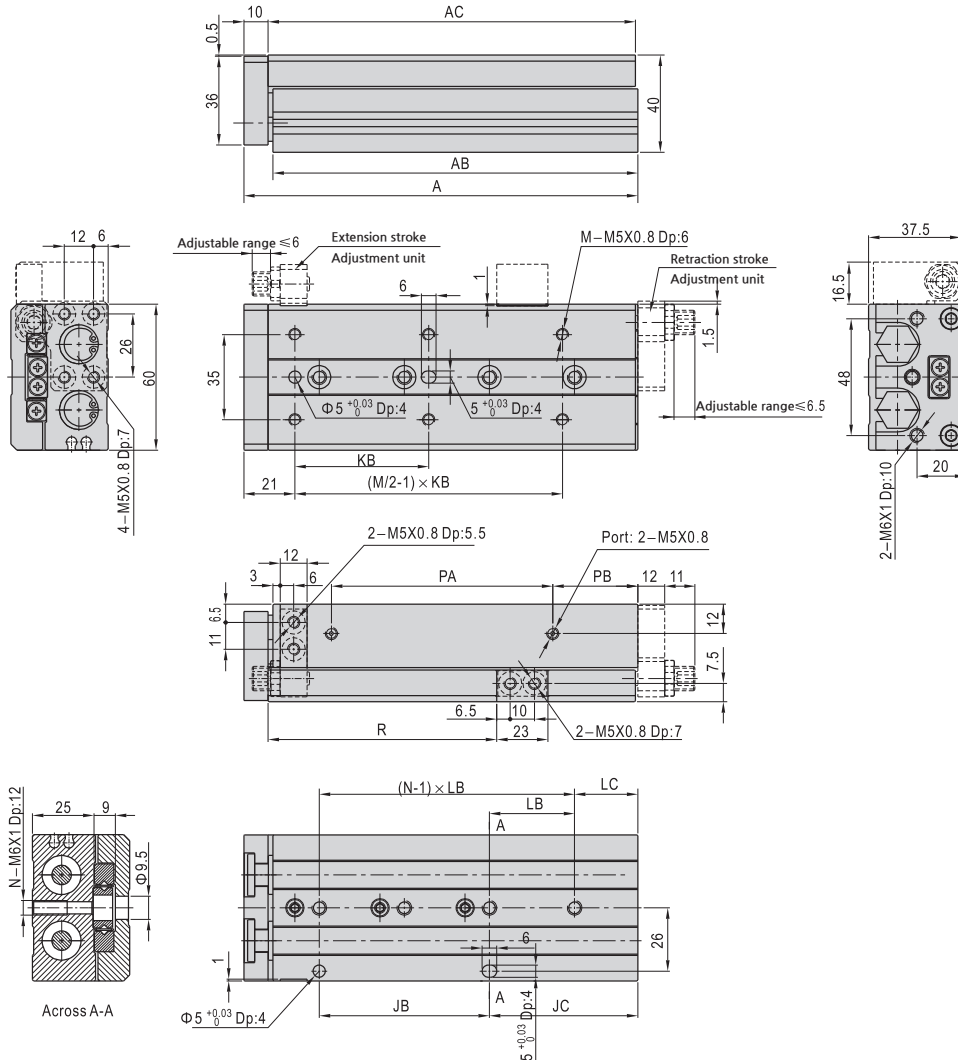


Unit:mm

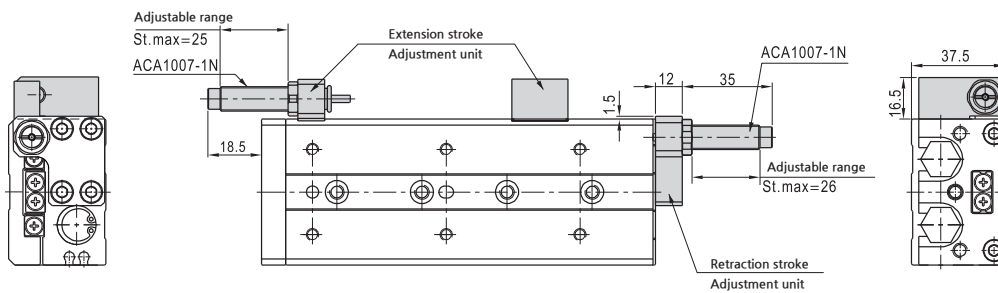
Stroke	A	AB	AC	JB	JC	KB	LB	LC	M	N	PA	PB	R
10	80	70	71	40	15	35	40	15	4	2	39.5	10	25
20	80	70	71	40	15	35	40	15	4	2	39.5	10	35
30	80	70	71	40	15	35	40	15	4	2	39.5	10	45
40	92	82	83	25	42	50	25	17	4	3	51.5	10	55
50	112	102	103	36	51	35	36	15	6	3	61.5	20	65
75	158	148	149	72	61	55	36	25	6	4	87.5	40	90
100	212	202	203	76	111	65	38	35	6	5	131.5	50	115

Dimensions

KTXS16



Shock absorber mounting

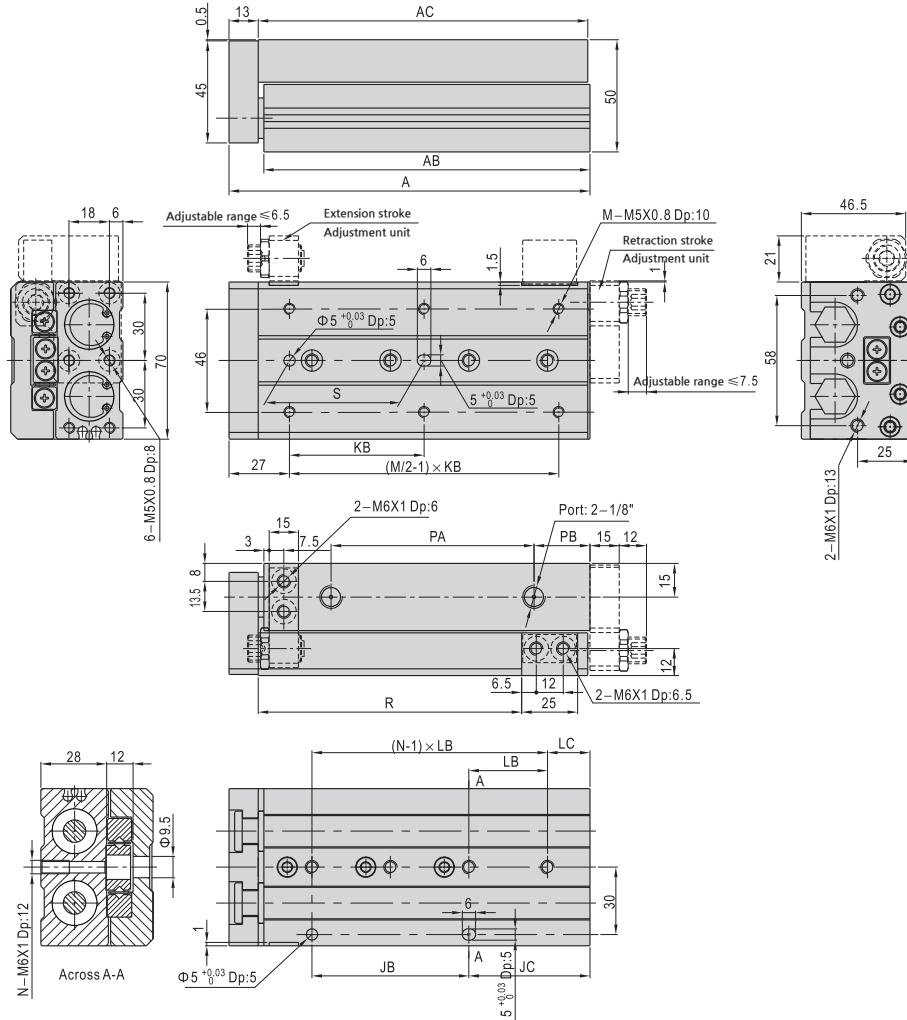


Unit:mm

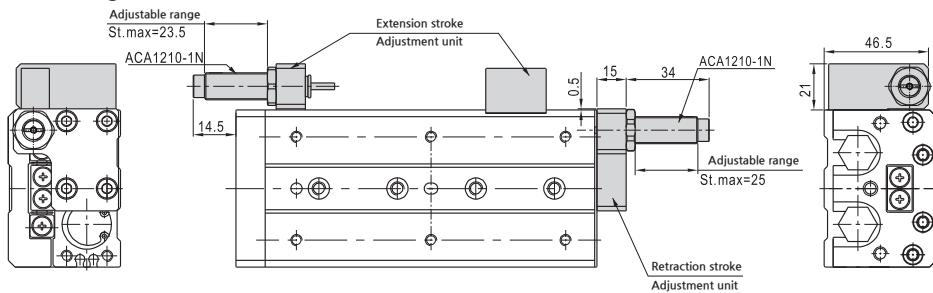
Stroke	A	AB	AC	JB	JC	KB	LB	LC	M	N	PA	PB	R
10	87	75	76	40	16	35	40	16	4	2	42.5	8	28.5
20	87	75	76	40	16	35	40	16	4	2	42.5	8	38.5
30	87	75	76	40	16	35	40	16	4	2	42.5	8	48.5
40	97	85	86	50	16	40	50	16	4	2	52.5	8	58.5
50	112	100	101	30	51	30	30	21	6	3	63.5	12	68.5
75	162	150	151	70	61	55	35	26	6	4	90.5	35	93.5
100	210	198	199	70	109	65	35	39	6	5	118.5	55	118.8
125	260	248	249	70	159	70	35	19	8	7	153.5	70	143.5

Dimensions

KTXS20



Shock absorber mounting

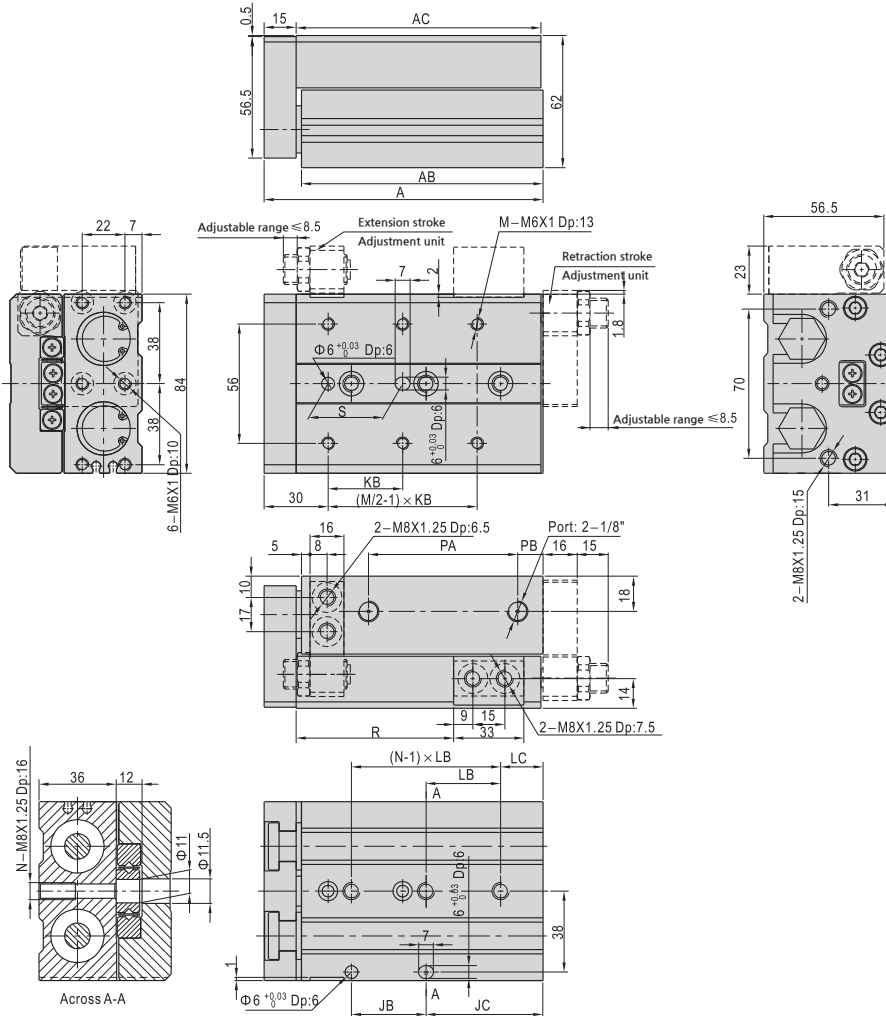


Unit:mm

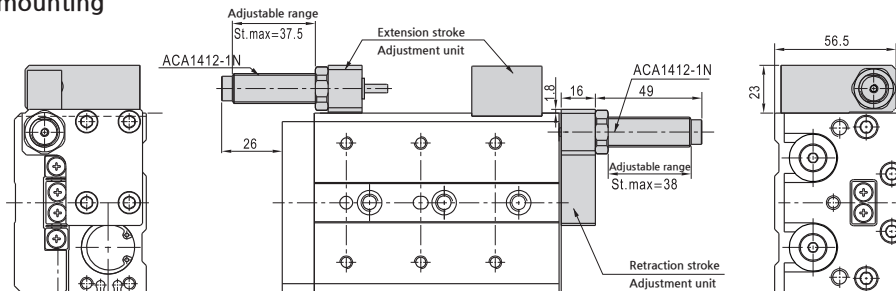
Stroke	A	AB	AC	JB	JC	KB	LB	LC	M	N	S	PA	PB	R
10	97	81.5	83	35	25	50	45	15	4	2	40	43.5	10	32.5
20	97	81.5	83	35	25	50	45	15	4	2	40	43.5	10	42.5
30	97	81.5	83	35	25	50	45	15	4	2	40	43.5	10	52.5
40	107	91.5	93	35	35	60	55	15	4	2	50	53.5	10	62.5
50	122	106.5	108	35	50	35	35	15	6	3	35	68.5	10	72.5
75	161	145.5	147	70	54	60	35	19	6	4	60	107.5	10	97.5
100	214	198.5	200	70	107	70	35	37	6	5	70	115.5	55	122.5
125	268	252.5	254	76	155	70	38	41	8	6	70	154.5	70	147.5
150	320	304.5	306	88	195	80	44	19	8	7	80	186.5	90	172.5

Dimensions

KTXS25



Shock absorber mounting



Unit:mm

Stroke	A	AB	AC	JB	JC	KB	LB	LC	M	N	S	PA	PB	R
10	108	90.5	92	45	22	50	45	22	4	2	40	47	12	35
20	108	90.5	92	45	22	50	45	22	4	2	40	47	12	45
30	108	90.5	92	45	22	50	45	22	4	2	40	47	12	55
40	118	100.5	102	55	22	60	55	22	4	2	50	57	12	65
50	131	113.5	115	35	55	35	35	20	6	3	35	70	12	75
75	172	154.5	156	70	61	60	35	26	6	4	60	90	33	100
100	213	195.5	197	70	102	70	35	32	6	5	70	119	45	125
125	271	253.5	255	76	154	75	38	40	8	6	75	155	67	150
150	311	293.5	295	80	190	80	40	30	8	7	80	180	82	175

Accessory

F - KTXS 10 A

①                      ②                      ③                      ④

① Accessory

F	Accessory
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② Cylinder model

KTXS	Compact table cylinder(Cross roller bearing)
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③ Bore size

6	6mm	16	16mm
8	8mm	20	20mm
12	12mm	25	25mm

④ Adjustment unit

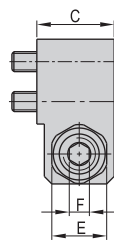
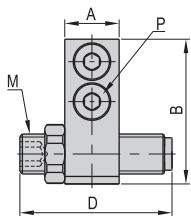
A	Adjustable rubber stopper(Both ends)
AF	Adjustable rubber stoppe(Retraction)
B	Shock absorber(Both ends)
BF	Shock absorber(Retraction)

Accessories / Bore size		6	8	12	16	20	25
Both ends	A (Adjustable rubber stopper)	F-KTXQ6A	F-KTXS8A	F-KTXS12A	F-KTXS16A	F-KTXS20A	F-KTXS25A
	B (Shock absorber)	-	F-KTXS8B	F-KTXS12B	F-KTXS16B	F-KTXS20B	F-KTXS25B
Extension	AS (Adjustable rubber stopper)	F-KTXQ6AS	F-KTXQ8AS	F-KTXQ12AS	F-KTXQ16AS	F-KTXQ20AS	F-KTXQ25AS
	BS (Shock absorber)	-	F-KTXQ8BS	F-KTXQ12BS	F-KTXQ16BS	F-KTXQ20BS	F-KTXQ25BS
Retraction	AF (Adjustable rubber stopper)	F-KTXQ6AF	F-KTXS8AF	F-KTXS12AF	F-KTXS16AF	F-KTXS20AF	F-KTXS25AF
	BF (Shock absorber)	-	F-KTXS8BF	F-KTXS12BF	F-KTXS16BF	F-KTXS20BF	F-KTXS25BF

Dimensions - Accessories

Extension adjustable rubber stopper (AS)

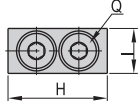
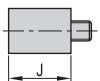
Body attachment



Unit:mm

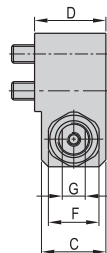
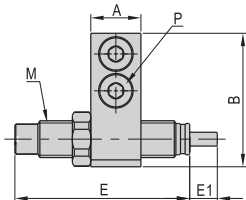
Bore size	Stroke adjustment range	A	B	C	D	E	F	M	P	H	I	J	Q
6	5	7	19	10.5	16.5	8	3	M6x1.0	M2.5 Length:10	12.5	6.5	10.5	M2.5 Length:10
8	5	8.5	21.5	14	21.5	11	4	M8x1.0	M3 Length:14	14.5	8	12	M3 Length:14
12	5	11	29	15.5	31.5	11	4	M8x1.0	M4 Length:16	20	9	13.5	M4 Length:16
16	5	12	36	17.5	24	14	5	M10x1.0	M5 Length:16	23	10.5	17	M5 Length:16
20	5	15	44.5	22	28	17	6	M12x1.0	M6 Length:20	25	12.5	21	M6 Length:20
25	5	16	53.5	24	32	19	6	M14x1.5	M8 Length:20	33	16.5	23	M8 Length:20

Table attachment



Extension shock absorber (BS)

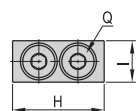
Body attachment



Unit:mm

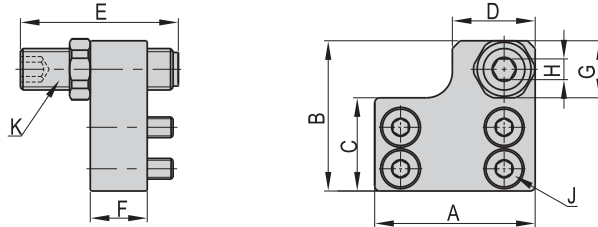
Bore size	A	B	C	D	E	E1	F	G	M	P	H	I	J	Q
8	8.5	21.5	12.5	14	40	6	11	7	M8x1.0	M3 Length:14	14.5	8	12	M3 Length:14
12	11	29	14	15.5	40	6	11	7	M8x1.0	M4 Length:16	20	9	13.5	M4 Length:16
16	12	36	16	17.5	49	7	14	9	M10x1.0	M5 Length:16	23	10.5	17	M5 Length:16
20	15	44.5	20	22	53.5	10	17	11	M12x1.0	M6 Length:20	25	12.5	21	M6 Length:20
25	16	53.5	22	24	68.5	12	19	12	M14x1.5	M8 Length:20	33	16.5	23	M8 Length:20

Table attachment



**Dimensions - Accessories**

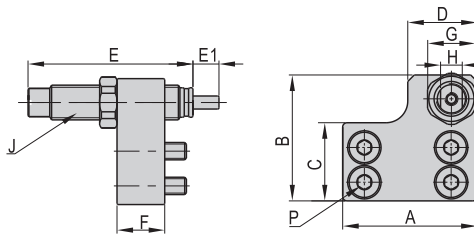
**Retraction adjustable rubber stopper (AF)**



Unit:mm

Bore size	Stroke adjustment range	A	B	C	D	E	F	G	H	J	K
6	5	18	19	11	8	21.5	7	8	3	M2.5 Length:6	M6x1.0
8	5	24	22.5	13	14	21.5	8.5	11	4	M3 Length:8	M8x1.0
12	5	31	29	18	16	21.5	8.5	11	4	M4 Length:12	M8x1.0
16	5	37	37.5	23	18	24	12	14	5	M5 Length:12	M10x1.0
20	5	45.5	47	28.5	23	28	15	17	6	M5 Length:16	M12x1.0
25	5	54	56	34	28	32	16	19	6	M6 Length:18	M14x1.5

**Retraction shock absorber (BF)**



Unit:mm

Bore size	A	B	C	D	E	E1	F	G	H	J	P
8	24	22.5	13	14	40	6	8.5	11	7	M8x1.0	M3 Length:8
12	31	29	18	16	40	6	11	11	7	M8x1.0	M4 Length:12
16	37	37.5	23	18	49	7	12	14	9	M10x1.0	M5 Length:12
20	45.5	47	28.5	23	53.5	10	15	17	11	M12x1.0	M5 Length:16
25	54	56	34	28	68.5	12	16	19	12	M14x1.5	M6 Length:18