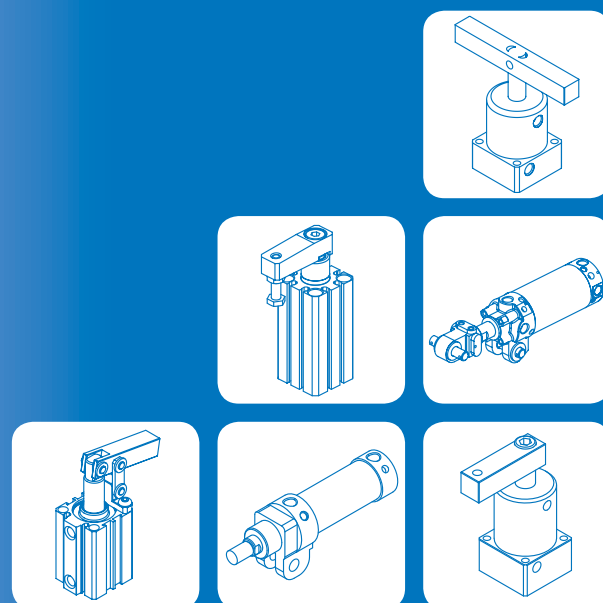
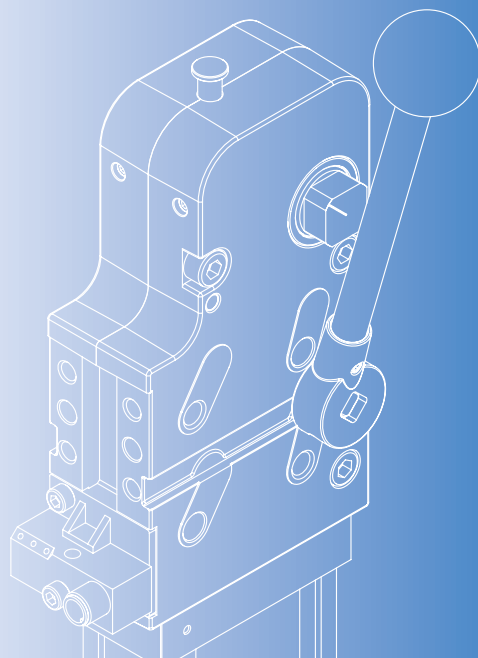
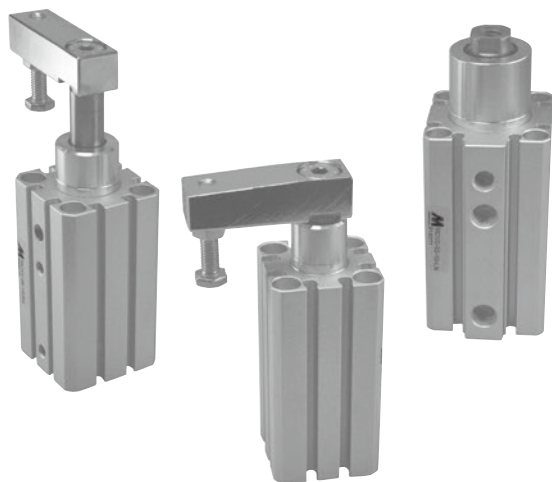


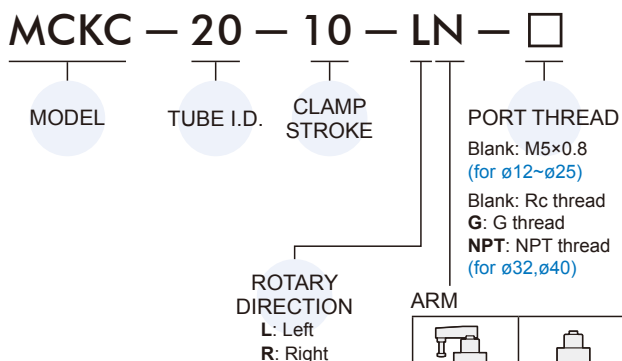
CLAMP CYLINDER



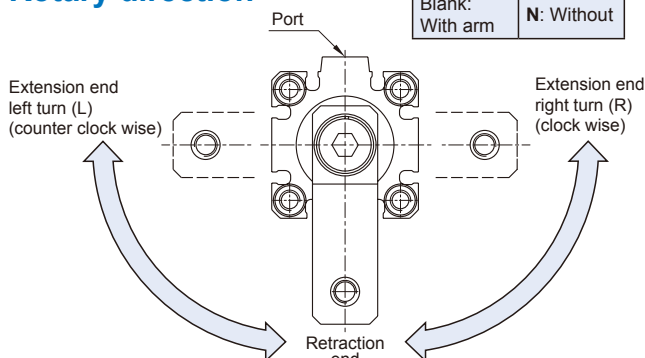
MCKC	ø12~ø40	2-2
MTA*	MTAS / MTAD	2-5
MA*	MAS / MATS	2-13
	MASD / MATSD	2-13
MCKA	ø40	2-15
MCKG*	ø50, ø63	2-18
MCKD	ø50, ø63 New	2-22
MCKB	ø32	2-27



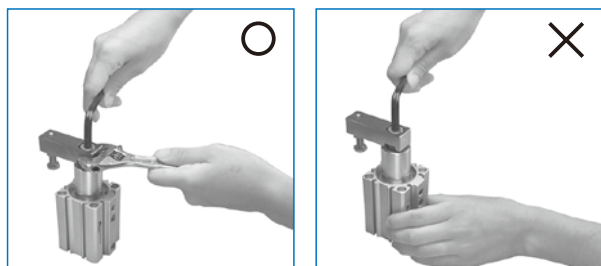
Order example



Rotary direction



Clamping arm mounting methods



Features

- Ultra compact, light weight and space saving cylinder.
- Ideal for use in machinery where space is limited and incorporating sensor groove which enables flush fitting of sensors.
- The sensor can freely mounted the four sides.
- Magnetic as standard.

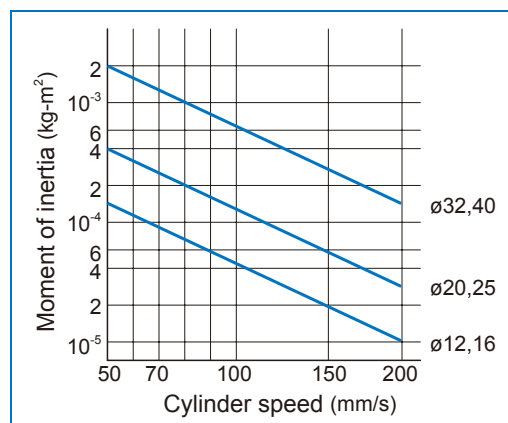
Specification

Model	MCKC					
Acting type	Double acting					
Tube I.D. (mm)	12	16	20	25	32	40
Port size	M5×0.8				Rc1/8	
Rotary angle	90°±10°					
Rotary direction	Left (L), Right (R)					
Rotary stroke (mm)	7.5		9.5		15	
Clamp stroke (mm)	10, 20		10, 20, 30			
Medium	Air					
Operating pressure range	0.1~0.9 MPa					
Ambient temperature	-5°C~+60°C (No freezing)					
Available speed range	50~200 mm/sec					
Non-rotating accuracy (*1)	±2°	±1.3°	±1.2°		±1°	
Lubrication	Not required					
Sensor switch (*2)	RDE		RCE, RCE1, RDEP			

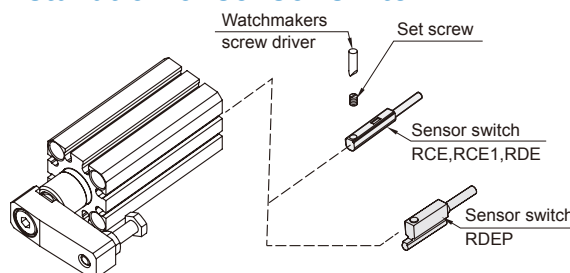
*1. Arm during clamping (Clamp part).

*2. RCE, RCE1, RDE, RDEP specifications please refer to page 5-6, 9.

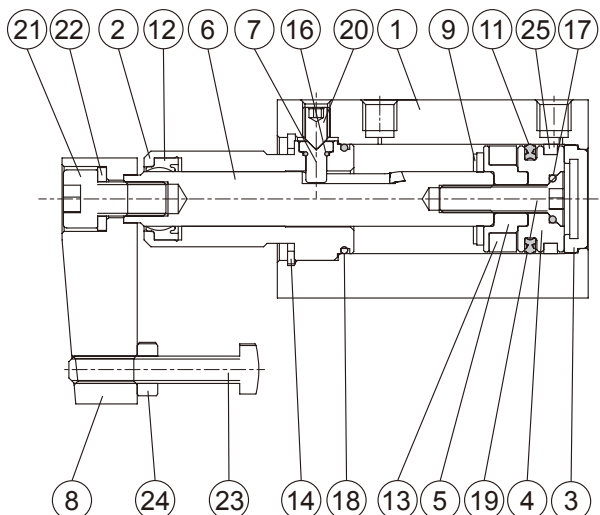
Moment of inertia



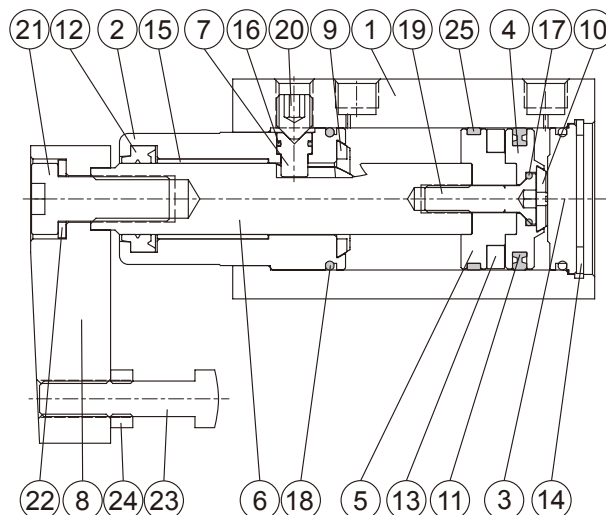
Installation of sensor switch



ø12, ø16, ø40



ø20, ø25, ø32



Material

No.	Part name	Material	Note
1	Body	Aluminum alloy	
2	Rod cover	Aluminum alloy	
3	End cover	Aluminum alloy	
4	Piston	Aluminum alloy	
5	Piston for magnet ring	Aluminum alloy	
6	Piston rod	SCM	
7	Guide pin	SCM	
8	Arm	Carbon steel	
9	Rod cushion	NBR	
10	End cushion	NBR	For ø20~ø40
11	Piston packing	NBR	
12	Rod packing	NBR	
13	Magnet ring	Magnet material	

No.	Part name	Material	Note
14	Snap ring	Stainless steel	*1
15	Bush	Copper	For ø32,ø40
16	O-ring	NBR	
17	O-ring	NBR	
18	O-ring	NBR	
19	Bolt	Stainless steel	
20	Set screw	SCM	
21	Bolt	SCM	
22	Spring washer	Spring steel	
23	Bolt	SCM	
24	Nut	Carbon steel	
25	Wear ring	Teflon	

*1. Carbon steel (for ø12,ø16)

Theoretical force






Unit: N

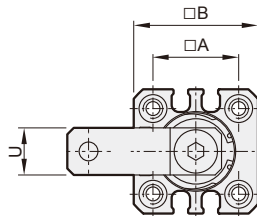
Tube I.D. (mm)	Piston rod (mm)	Operating direction	Piston area (mm ²)	Operating pressure (MPa)								
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
12	6	A	113	11.3	22.6	33.9	45.2	56.5	67.8	79.1	90.4	101.7
		B	85	8.5	17.0	25.5	34.0	42.5	51.0	59.5	68.0	76.5
16	8	A	201	20.1	40.2	60.3	80.4	100.5	120.6	140.7	160.8	181.0
		B	151	15.1	30.2	45.2	60.3	75.4	90.5	105.6	120.6	135.7
20	12	A	314	31.4	62.8	94.2	125.7	157.1	188.5	219.9	251.3	282.7
		B	201	20.1	40.2	60.3	80.4	100.5	120.6	140.7	160.8	181.0
25	12	A	491	49.1	98.2	147.3	196.4	245.4	294.5	343.6	392.7	441.8
		B	378	37.8	75.6	113.3	151.1	188.9	226.7	264.4	302.2	340.0
32	16	A	804	80.4	160.8	241.3	321.7	402.1	482.5	563.0	643.4	723.8
		B	603	60.3	120.6	181.0	241.3	301.6	361.9	422.2	482.5	542.9
40	16	A	1257	125.7	251.4	377.1	502.8	628.5	754.2	879.9	1005.6	1131.3
		B	1056	105.6	211.2	316.8	422.4	528.0	633.6	739.2	844.8	950.4

Cylinder weight

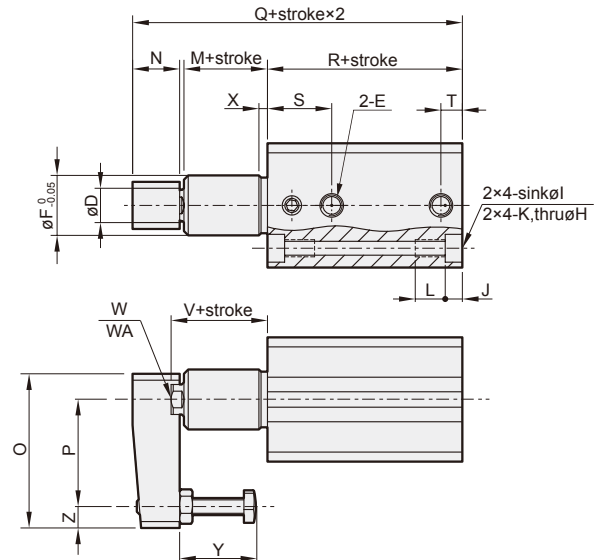
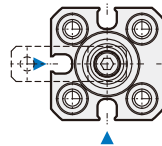
Unit: g

Model	Basic weight MCKC	Basic weight MCKC-N	Stroke 10 mm MCKC
Tube I.D.			
ø12	66	52	16
ø16	100	66	23
ø20	266	176	38
ø25	319	229	46
ø32	573	382	69
ø40	652	461	74

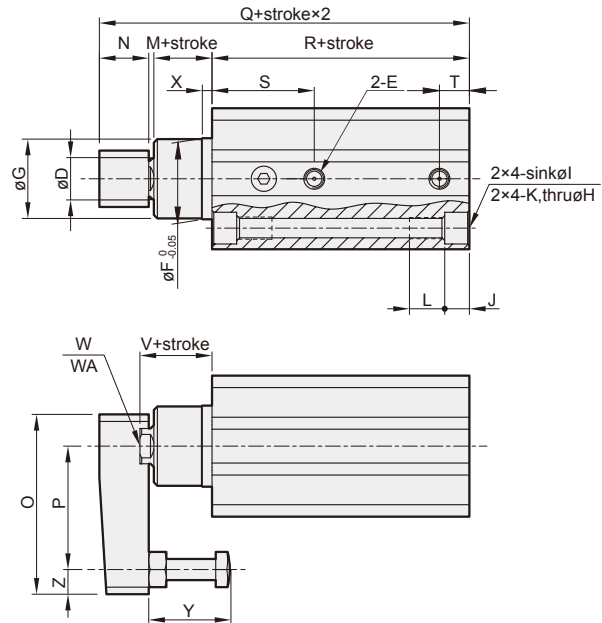
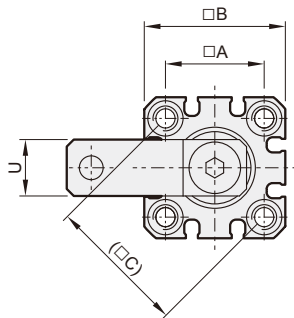
$\phi 12, \phi 16$



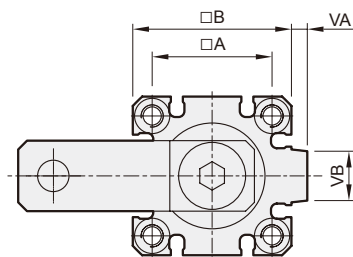
Installation of sensor switch
 $\phi 12$



$\phi 20, \phi 25$



$\phi 32, \phi 40$











Code Tube I.D.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
12	15.5	25	—	6	M5×0.8	11	—	3.5	6.5	4	M4×0.7	7	9.5	8	29	20	54	35.5	15	5	8
16	20	29	—	8	M5×0.8	14	—	3.5	6.5	4	M4×0.7	7	9.5	11	36	25	57	35.5	15	5	11
20	25.5	36	36	12	M5×0.8	18	17.9	5.4	9	7	M6×1.0	10	6.5	14	51	35	84	62	28	8.7	16
25	28	40	39.6	12	M5×0.8	23	22.5	5.4	9	7	M6×1.0	10	6.5	14	51	35	85	63	29	8.5	16
32	34	45	—	16	Rc1/8	30	29.5	5.5	9	7	M6×1.0	10	15.5	18	67	45	107	71.5	28	11	20
40	40	52	—	16	Rc1/8	30	29.5	5.5	9	7	M6×1.0	10	23	18	67	45	108	65	27	8	20

Code Tube I.D.	V	VA	VB	W (ROD thread)	WA	X	Y	Z
12	12.5	—	—	M3×0.5×5.5L	Across flats 5×2.5L	2	7~18	4
16	12.5	—	—	M5×0.8×6.5L	Across flats 7×2.5L	2	7~20	5
20	10.5	—	—	M8×1.25×14L	Across flats 10×3L	3	12~25	7
25	10.5	—	—	M8×1.25×14L	Across flats 10×3L	3	12~25	7
32	22	4.5	14	M10×1.5×19L	Across flats 14×5.5L	3	12~25	10
40	29.5	5	14	M10×1.5×19L	Across flats 14×5.5L	3	12~25	10



Double acting

MTAS	Single side clamping arm	
MTAD	Double sides clamping arm	
MTAS..M	Single side clamping arm (Piston with magnet)	
MTAD..M	Double sides clamping arm (Piston with magnet)	
MTAS..FC	Single side clamping arm (Manifold With flow control)	
MTAD..FC	Double sides clamping arm (Manifold With flow control)	
MTAS..FA	Single side clamping arm (Flange type)	
MTAD..FA	Double sides clamping arm (Flange type)	

Features

- These swing clamps are used when it is required to keep the fixture workpiece area free of straps and clamping components for unrestricted workpiece loading and un-loading.
- This pneumatic clamping element is a pull type cylinder, There are five standard sizes, and for each size two versions of standard clamping arms, mounting of these clamping arms at any angle within 360.

Note

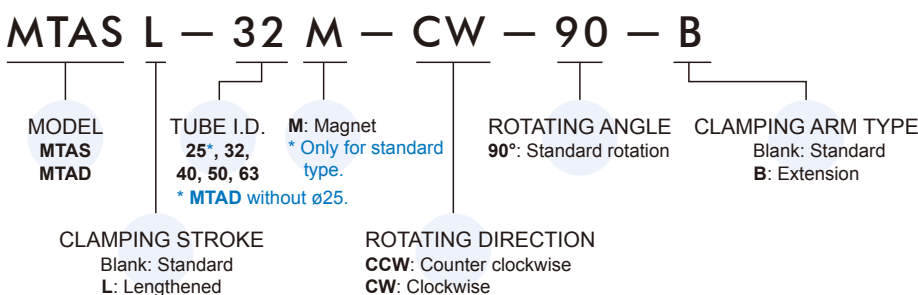
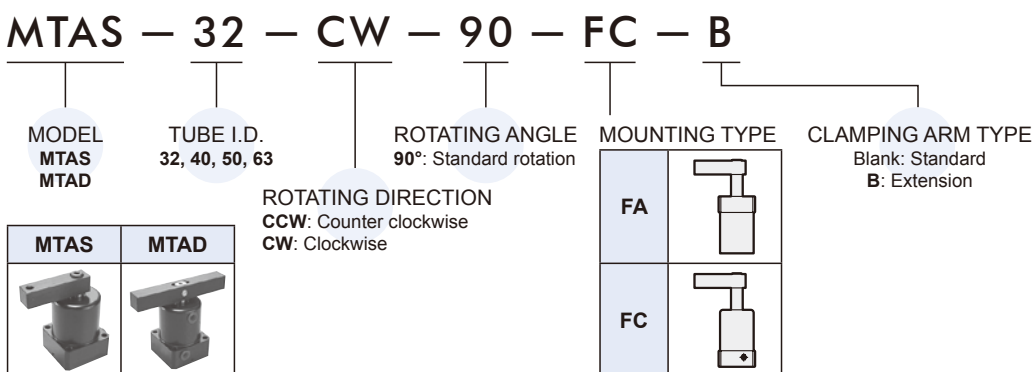
- Please don't exceed 1.5 times of the original length, if it is necessary to increase the length of the clamping arm.
- Suggested to install a flow control valve protect cylinder barrel and internal components against fretting wear.

Specification

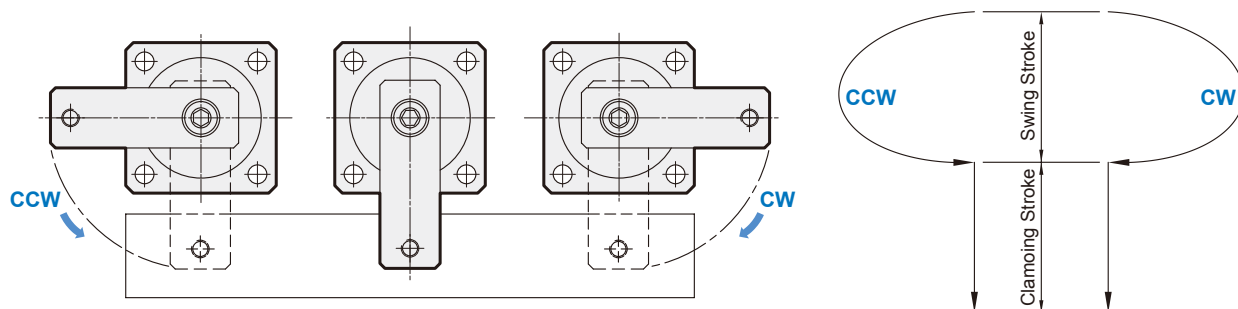
Model	MTAS	MTAD
Acting type	Double acting	
Tube I.D. (mm)	25, 32, 40, 50, 63	32, 40, 50, 63
Power fluid	Filtered air with or without lubrication	
The range of pressure	0.1~1 MPa	
Max. pressure	1.47 MPa	
Material of cylinder barrel	Anodised aluminum alloy	
Standard angle of rotation	90°±2° (Angle of 0°, 45° and 60° are optional)	
Rotating direction	Clockwise or counter clockwise	
Sensor switch (*)	LN40R	

* LN40R specification, please refer to page 5-19.

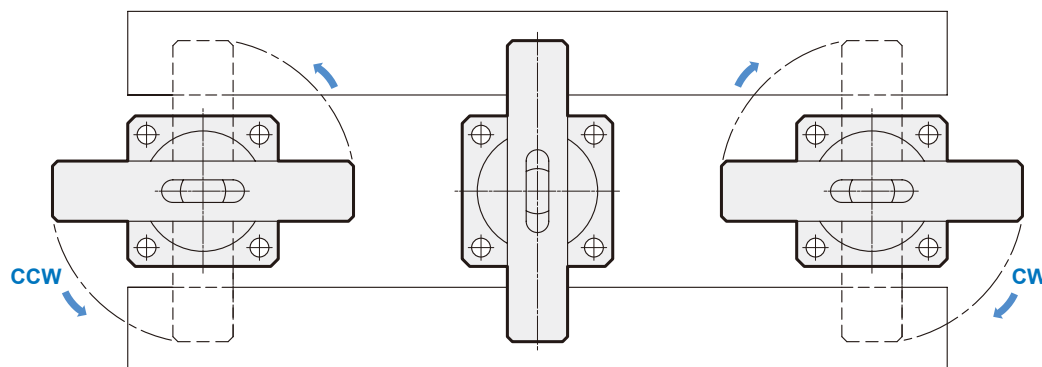
Order example



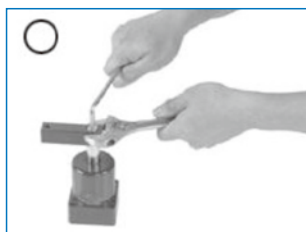
Single side swing clamp



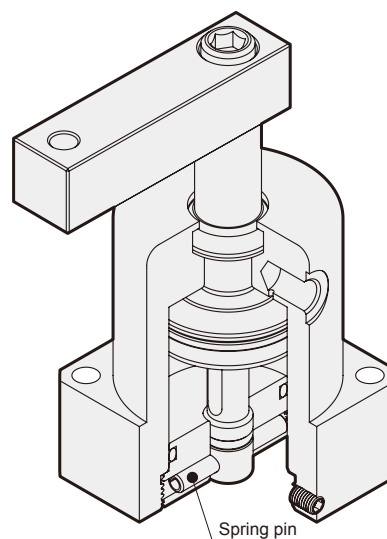
Double side swing clamp



Clamping arm mounting methods

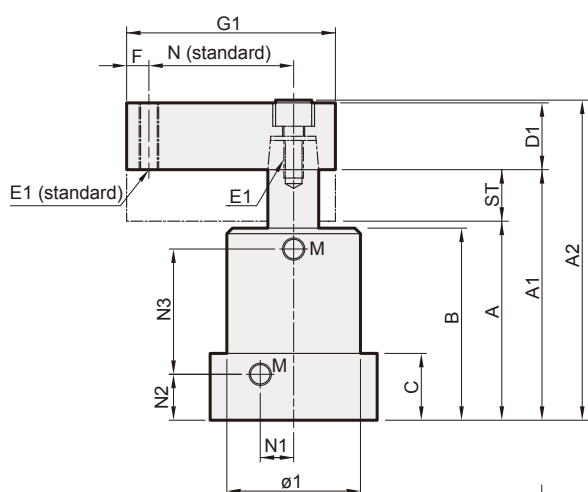
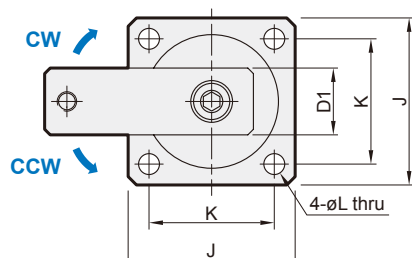


Clamping arm removing methods

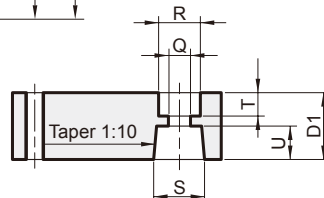
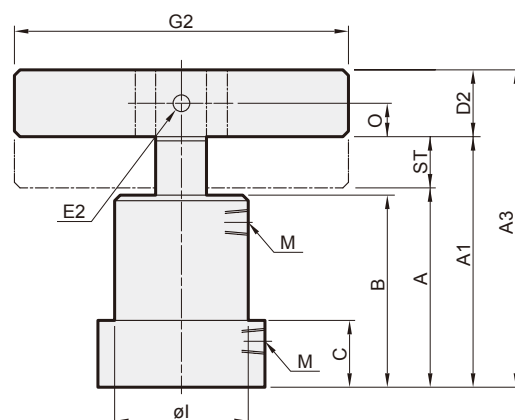
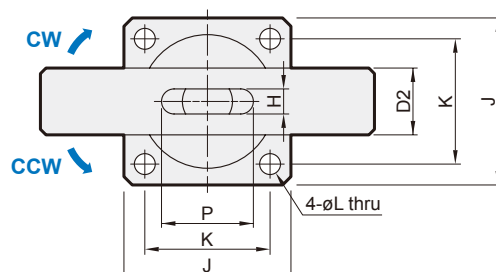


Note. If the clamping arm is wrong mounting and removing, the spring pin is broken easily. Then the rotation angle is deviation or the action is not smooth when the cylinder works.

MTAS / MTASL



MTAD / MTADL



Single side clamping arm

* Clamping stroke lengthened type.

Model		Tube I.D. (mm)	Piston rod (mm)	Swing stroke (mm)	Clamping stroke (mm)		Pressure area push/ pull (mm ²)	Clamping force N (0.6 MPa)	Clamping arm type			
					Standard	L type*			G1		G2	
									Standard	Extension	Standard	Extension
MTAS-25	—	ø25	ø14	9	13	—	491 / 337	200	50	70	—	—
MTAS-32	MTAD-32	ø32	ø16	11	15	30	804 / 603	360	70	100	140	200
MTAS-40	MTAD-40	ø40	ø16	11	15	30	1257 / 1056	630	75	100	140	200
MTAS-50	MTAD-50	ø50	ø20	13	17	34	1963 / 1649	980	85	130	160	230
MTAS-63	MTAD-63	ø63	ø20	13	17	34	3117 / 2803	1680	95	130	160	230

Code Model	Standard type							Clamping stroke lengthened type							C	D1	D2	E1	E2	F
	A	A1	A2	A3	B	ST		A	A1	A2	A3	B	ST							
MTAS-25	—	67	89	(105.9)	—	65	22	—	—	—	—	—	—	—	23	□15.9	—	M6×1.0	—	6
MTAS-32	MTAD-32	82	108	(128)	127	78	26	97	138	(158)	157	93	41	28	28	□19	□19	M8×1.25	ø8	8
MTAS-40	MTAD-40	82	108	(128)	127	78	26	97	138	(158)	157	93	41	28	28	□19	□19	M8×1.25	ø8	8
MTAS-50	MTAD-50	94	124	(150.4)	146.2	90	30	111	158	(184.4)	180.2	107	47	31	31	□25.4	□22.2	M10×1.5	ø8	10
MTAS-63	MTAD-63	94	124	(150.4)	146.2	90	30	111	158	(184.4)	180.2	107	47	31	31	□25.4	□22.2	M10×1.5	ø8	10

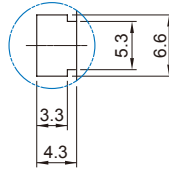
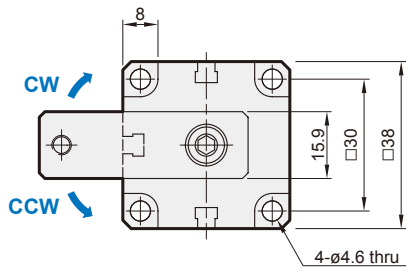
Code Model		H	I	J	K	L	M	N	N1	N2	N3		O	P	Q	R	S	T	U
											Standard	L type*							
MTAS-25	—	—	ø35	38	30	ø4.6	M5×0.8	35	8	16.5	39.5	—	—	—	ø6.8	ø11	ø14	5	8.5
MTAS-32	MTAD-32	9	ø46	50	40	ø5.6	Rc1/8	50	11.5	19	45	60	9.5	25	ø9	ø14	ø16	7	9.5
MTAS-40	MTAD-40	9	ø55	60	48	ø6.8	Rc1/8	55	14	19	45	60	9.5	25	ø9	ø14	ø16	7	9.5
MTAS-50	MTAD-50	10	ø65	70	57	ø6.8	Rc1/8	60	17	21	54	71	11.1	29	ø11	ø17	ø20	9	12.5
MTAS-63	MTAD-63	10	ø78	83	67	ø9	Rc1/8	70	20	21	54	71	11.1	29	ø11	ø17	ø20	9	12.5

MTAS-25M With magnet type ø25

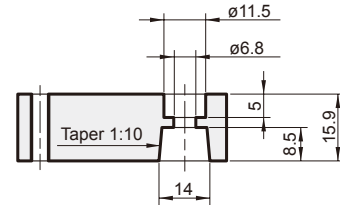
PNEUMATIC - SWING CLAMP CYLINDER



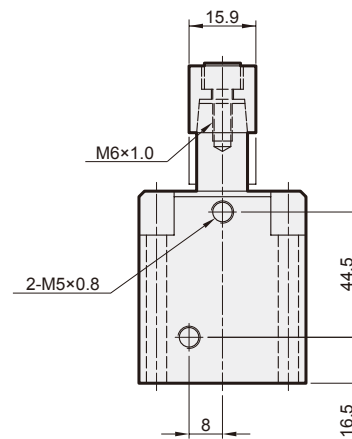
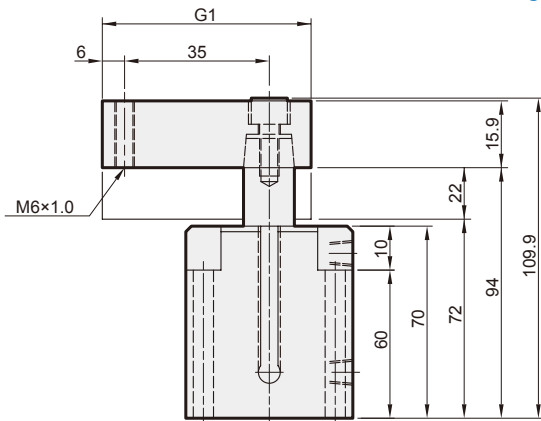
MTAS



Auto switch mounting groove position



Single side clamping arm



Model	Tube I.D. (mm)	Piston rod (mm)	Swing stroke (mm)	Clamping stroke (mm)	Pressure area push/ pull (mm ²)	Clamping force N (0.6MPa)	Clamping arm type G1	
							Standard	Extension
MTAS-25M	ø25	ø14	9	13	491 / 337	200	50	70

Cylinder weight

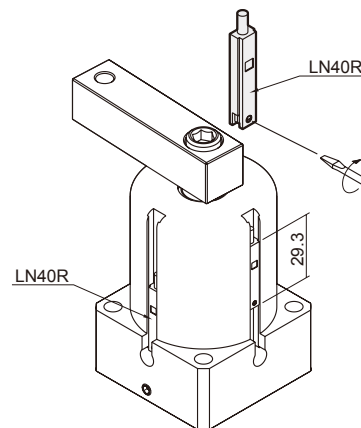
Standard type

Model	Weight (kg)
MTAS-25	0.3
MTAS-32	0.7
MTAD-32	0.9
MTAS-40	0.9
MTAD-40	1.1
MTAS-50	1.6
MTAD-50	1.8
MTAS-63	2.1
MTAD-63	2.3

With magnet type

Model	Weight (kg)
MTAS-25M	0.4
MTAS-32M	0.73
MTAD-32M	0.93
MTAS-40M	0.95
MTAD-40M	1.15
MTAS-50M	1.65
MTAD-50M	1.85
MTAS-63M	2.22
MTAD-63M	2.42

Installation of sensor switch

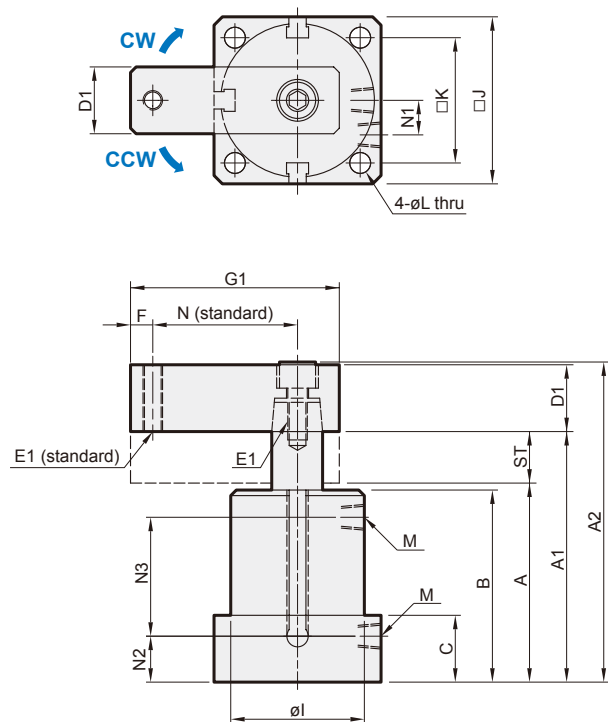


MTA*~**M With magnet type ø32~ø63

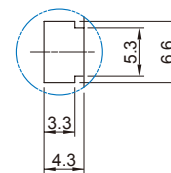
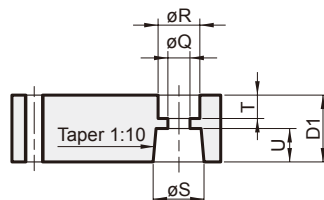
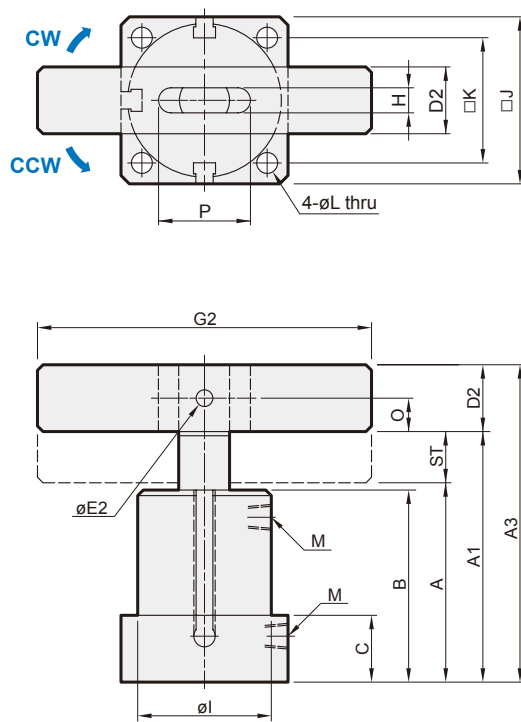
PNEUMATIC - SWING CLAMP CYLINDER



MTAS



MTAD



Single side clamping arm Auto switch mounting groove position

Model	Tube I.D. (mm)	Piston rod (mm)	Swing stroke (mm)	Clamping stroke (mm)	Pressure area push/pull (mm ²)	Clamping force N (0.6 MPa)	Clamping arm type			
							G1		G2	
MTAS-32M	ø32	ø16	11	15	804 / 603	360	Standard	Extension	Standard	Extension
MTAS-40M	ø40	ø16	11	15	1257 / 1056	630	70	100	140	200
MTAS-50M	ø50	ø20	13	17	1963 / 1649	980	75	100	140	200
MTAS-63M	ø63	ø20	13	17	3117 / 2803	1680	85	130	160	230
MTAS-32M	ø32	ø16	11	15	804 / 603	360	95	130	160	230

Code Model	A	A1	A2	A3	B	C	D1	D2	E1	E2	F	H	I	J	K
MTAS-32M	87	113	(133)	132	83	28	□19	□19	M8×1.25	ø8	8	9	ø46	50	40
MTAS-40M	87	113	(133)	132	83	28	□19	□19	M8×1.25	ø8	8	9	ø55	60	48
MTAS-50M	99	129	(155.4)	151.2	95	31	□25.4	□22.2	M10×1.5	ø8	10	10	ø65	70	57
MTAS-63M	99	129	(155.4)	151.2	95	31	□25.4	□22.2	M10×1.5	ø8	10	10	ø78	83	67

Code Model	L	M	N	N1	N2	N3	O	P	Q	R	S	ST	T	U
MTAS-32M	ø5.6	Rc1/8	50	11.5	19	50	9.5	25	ø9	ø14	ø16	26	7	9.5
MTAS-40M	ø6.8	Rc1/8	55	14	19	50	9.5	25	ø9	ø14	ø16	26	7	9.5
MTAS-50M	ø6.8	Rc1/8	60	17	21	59	11.1	29	ø11	ø17	ø20	30	9	12.5
MTAS-63M	ø9	Rc1/8	70	20	21	59	11.1	29	ø11	ø17	ø20	30	9	12.5

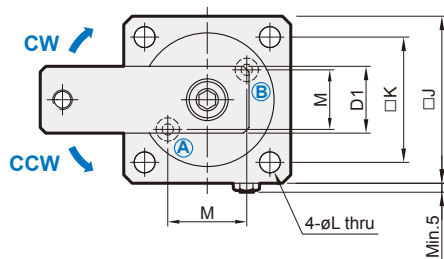
MTA*-FC Manifold with flow control ø32~ø63

PNEUMATIC - SWING CLAMP CYLINDER

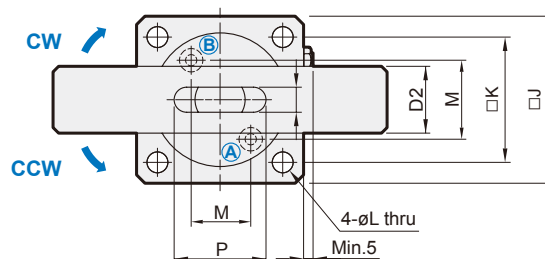


FC

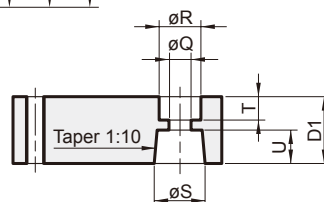
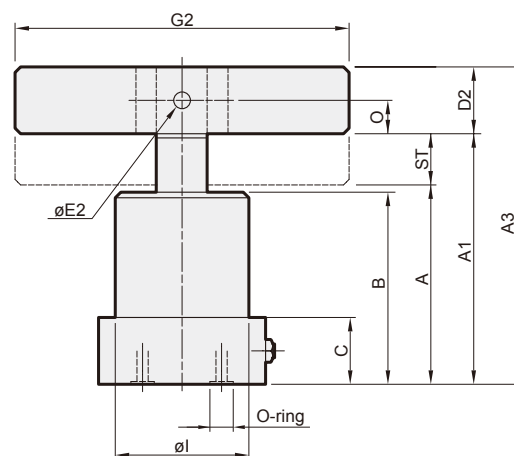
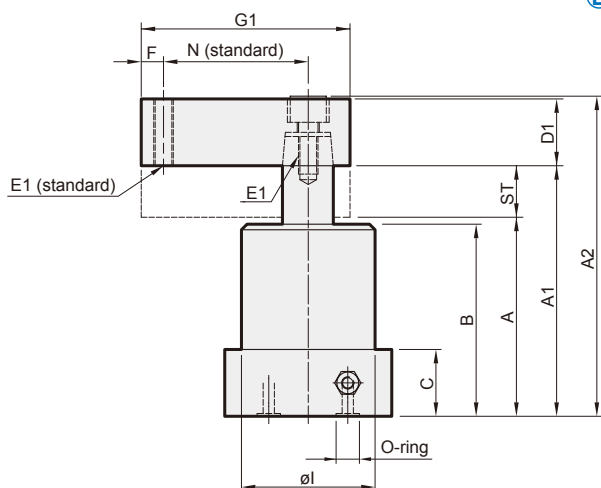
MTAS



MTAD



Ⓐ Clamp port
Ⓑ Release port



Single side clamping arm

Model		Tube I.D. (mm)	Piston rod (mm)	Swing stroke (mm)	Clamping stroke (mm)	Pressure area push/ pull (mm ²)	Clamping force N (0.6 MPa)	Clamping arm type			
								G1		G2	
								Standard	Extension	Standard	Extension
MTAS-32 FC	MTAD-32 FC	ø32	ø16	11	15	804 / 603	360	70	100	140	200
MTAS-40 FC	MTAD-40 FC	ø40	ø16	11	15	1257 / 1056	630	75	100	140	200
MTAS-50 FC	MTAD-50 FC	ø50	ø20	13	17	1963 / 1649	980	85	130	160	230
MTAS-63 FC	MTAD-63 FC	ø63	ø20	13	17	3117 / 2803	1680	95	130	160	230

Code Model	A	A1	A2	A3	B	C	D1	D2	E1	E2	F	H	I	J	K
MTAS-32 FC MTAD-32 FC	82	108	(129.5)	127	78	22	□19	□19	M8×1.25	ø8	8	9	ø46	50	40
MTAS-40 FC MTAD-40 FC	82	108	(129.5)	127	78	22	□19	□19	M8×1.25	ø8	8	9	ø55	60	48
MTAS-50 FC MTAD-50 FC	94	124	(152.4)	146.2	90	25	□25.4	□22.2	M10×1.5	ø8	10	10	ø65	70	57
MTAS-63 FC MTAD-63 FC	94	124	(152.4)	146.2	90	25	□25.4	□22.2	M10×1.5	ø8	10	10	ø78	83	67

Code Model	L	M	N	O	P	Q	R	S	ST	T	U	O-ring
MTAS-32 FC MTAD-32 FC	ø5.6	19	50	9.5	25	ø9	ø14	ø16	26	7	9.5	P7
MTAS-40 FC MTAD-40 FC	ø6.8	23	55	9.5	25	ø9	ø14	ø16	26	7	9.5	P7
MTAS-50 FC MTAD-50 FC	ø6.8	28	60	11.1	29	ø11	ø17	ø20	30	9	12.5	P9
MTAS-63 FC MTAD-63 FC	ø9	32	70	11.1	29	ø11	ø17	ø20	30	9	12.5	P9

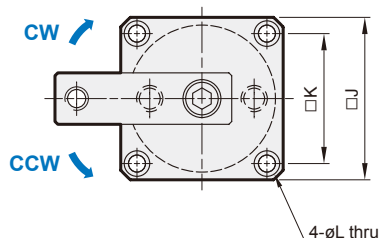
MTA*-FA Flange type ø32~ø63

PNEUMATIC - SWING CLAMP CYLINDER

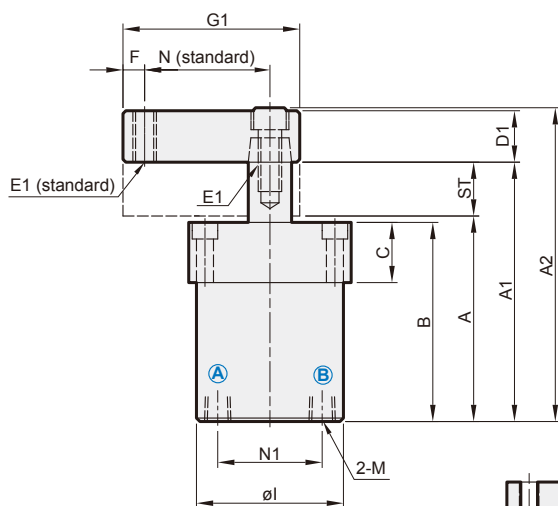
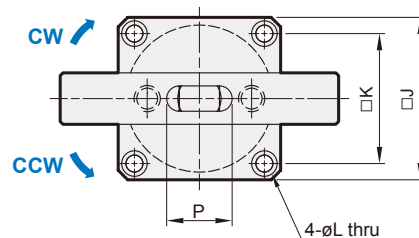


FA

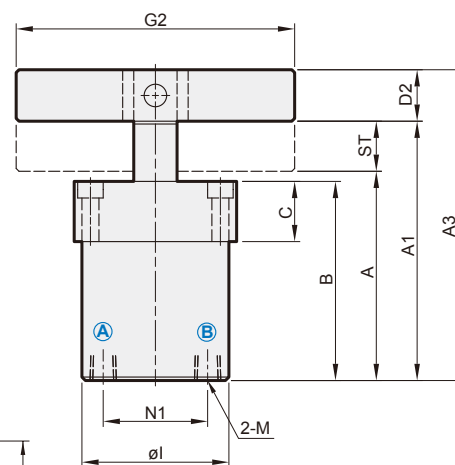
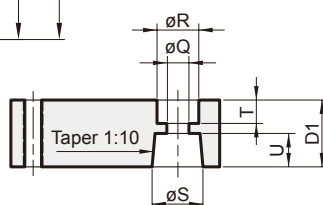
MTAS



MTAD



Ⓐ Clamp port
Ⓑ Release port



Single side clamping arm

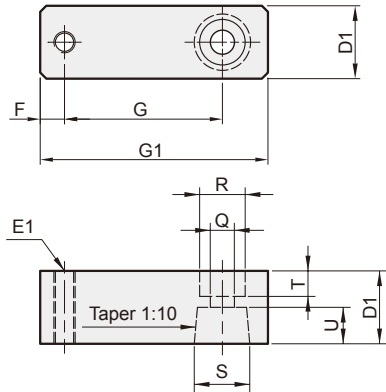
Model	Tube I.D. (mm)	Piston rod (mm)	Swing stroke (mm)	Clamping stroke (mm)	Pressure area push/ pull (mm ²)	Clamping force N (0.6 MPa)	Clamping arm type			
							G1		G2	
MTAS-32 FA	ø32	ø16	11	15	804 / 603	360	Standard	Extension	Standard	Extension
MTAS-40 FA	ø40	ø16	11	15	1257 / 1056	630	70	100	140	200
MTAS-50 FA	ø50	ø20	13	17	1963 / 1649	980	75	100	140	200
MTAS-63 FA	ø63	ø20	13	17	3117 / 2803	1680	85	130	160	230

Code Model	A	A1	A2	A3	B	C	D1	D2	E1	E2	F	H	I	J	K
MTAS-32 FA	82	108	(129.5)	127	78	22	□19	□19	M8×1.25	ø8	8	9	ø46	50	40
MTAS-40 FA	82	108	(129.5)	127	78	22	□19	□19	M8×1.25	ø8	8	9	ø55	60	48
MTAS-50 FA	94	124	(152.4)	146.2	90	25	□25.4	□22.2	M10×1.5	ø8	10	10	ø65	70	57
MTAS-63 FA	94	124	(152.4)	146.2	90	25	□25.4	□22.2	M10×1.5	ø8	10	10	ø78	83	67

Code Model	L	M	N	N1	O	P	Q	R	S	ST	T	U
MTAS-32 FA	ø5.6, ø9×5.5dp	Rc1/8	50	32	9.5	25	ø9	ø14	ø16	26	7	9.5
MTAS-40 FA	ø6.8, ø10.5×6.5dp	Rc1/8	55	40	9.5	25	ø9	ø14	ø16	26	7	9.5
MTAS-50 FA	ø6.8, ø10.5×6.5dp	Rc1/8	60	50	11.1	29	ø11	ø17	ø20	30	9	12.5
MTAS-63 FA	ø9, ø14×9dp	Rc1/8	70	63	11.1	29	ø11	ø17	ø20	30	9	12.5

Single side clamping arm

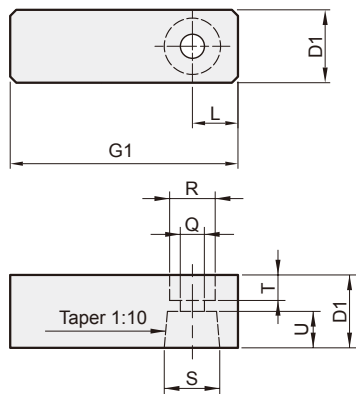
(Standard type with thread)



Code Model	D1	F	G	G1	E1	Q	R	S	T	U
MTAS-25	□15.9	6	35	50	M6×1.0	ø6.8	ø11	ø14	5	8.5
MTAS-32	□19	8	50	70	M8×1.25	ø9	ø14	ø16	7	9.5
MTAS-40	□19	8	55	75	M8×1.25	ø9	ø14	ø16	7	9.5
MTAS-50	□25.4	10	60	85	M10×1.5	ø11	ø17	ø20	9	12.5
MTAS-63	□25.4	10	70	95	M10×1.5	ø11	ø17	ø20	9	12.5

Single side clamping arm B type

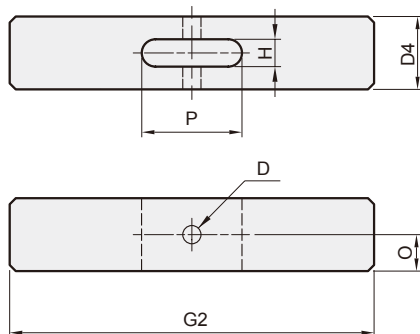
(Extension type without thread)



Code Model	D1	F	G1	L	Q	R	S	T	U
MTAS-25 B	□15.9	6	70	15	ø6.8	ø11	ø14	5	8.5
MTAS-32 B	□19	8	100	20	ø9	ø14	ø16	7	9.5
MTAS-40 B	□19	8	100	20	ø9	ø14	ø16	7	9.5
MTAS-50 B	□25.4	10	130	25	ø11	ø17	ø20	9	12.5
MTAS-63 B	□25.4	10	130	25	ø11	ø17	ø20	9	12.5

Double side clamping arm

(Standard & Extension type)



Double side clamping arm (Standard type)

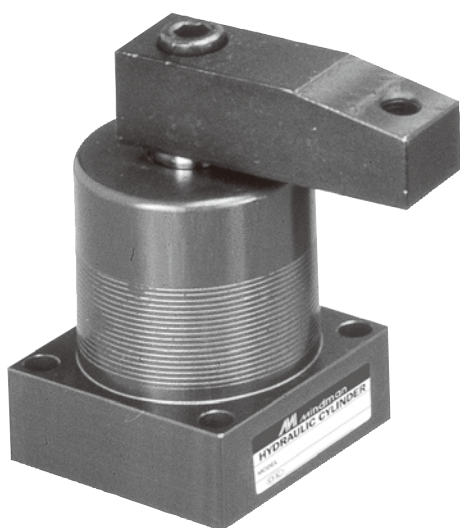
Code Model	Tube I.D.	D	D4	G2	H	O	P
MTAD-32	ø32	ø8	□19	140	9	9.5	25
MTAD-40	ø40	ø8	□19	140	9	9.5	25
MTAD-50	ø50	ø8	□22.2	160	10	11.1	29
MTAD-63	ø63	ø8	□22.2	160	10	11.1	29

Double side clamping arm B type (Extension type)

Code Model	Tube I.D.	D	D4	G2	H	O	P
MTAD-32 B	ø32	ø8	□19	200	9	9.5	25
MTAD-40 B	ø40	ø8	□19	200	9	9.5	25
MTAD-50 B	ø50	ø8	□22.2	230	10	11.1	29
MTAD-63 B	ø63	ø8	□22.2	230	10	11.1	29

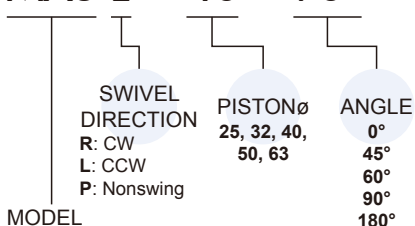
MAS* / MATS* series

PNEUMATIC - SWING CLAMP CYLINDER



Order example

MAS L — 40 × 90°



MODEL

MAS	MASD
MATS	MATSD

* MATS and MATSD produced by order.

Note

It is necessary to use a device having F.R.L.* function for these pneumatic swing cylinders in order to effectively remove moisture, lubricate and extend the use life of the cylinder.

*F: Filters R: Regulators L: Lubricators

Application

When machining a workpiece by means of a machine tool, a pneumatic swing clamping cylinder will be your best choice if the placing and taking of the workpiece are not allowed to be interfered by the clamber.

Function

This cylinder belongs to a pull cylinder of which the total stroke is equal to the sum of a swing stroke and a clamping stroke, and is usually used within the clamping stroke.

Type

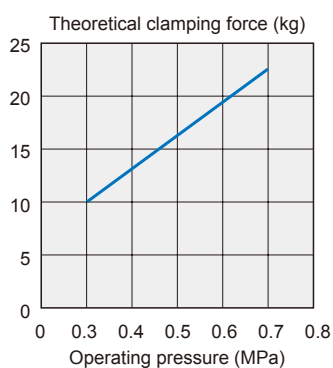
This swing cylinder belongs to a double-acting type which is operated mainly in a downward pressing manner, including clockwise swing and counterclockwise swing; standard angle is 90°, and optional angles include 0°, 45°, 60°; clamping means includes single arm or double arms; the mounting manner includes square base type, threaded type and flange type for manifold mounting with o-ring seal.

Material

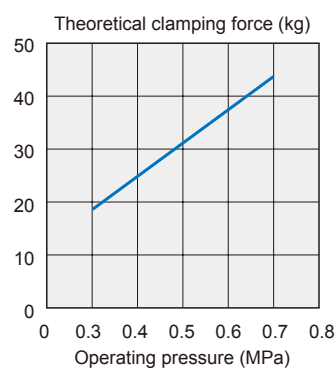
This material of the main body is aluminum alloy.

Schematic view showing a theoretical clamping force under different pneumatic pressure.

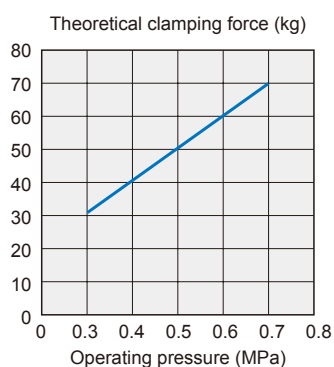
MAS-25



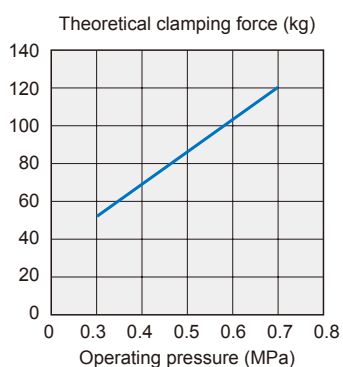
MAS-32



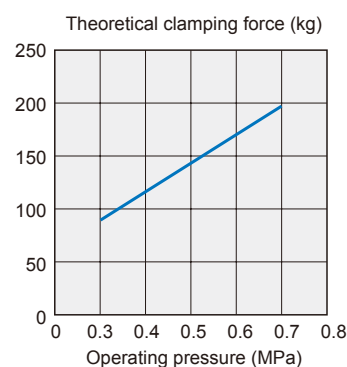
MAS-40



MAS-50

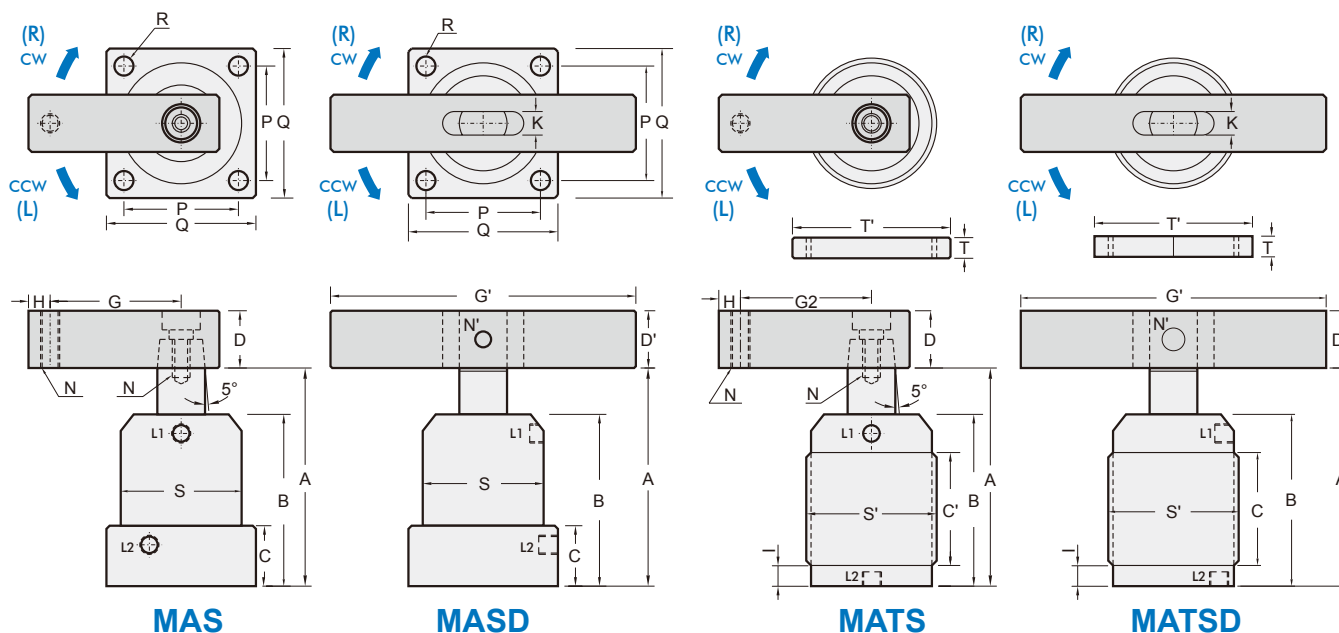


MAS-63



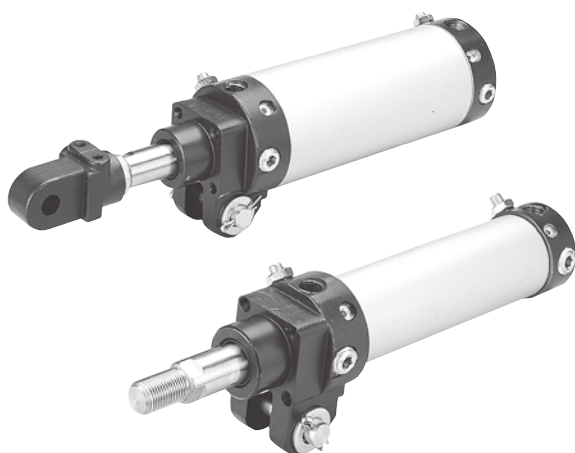
MAS* / MATS* Dimensions $\varnothing 25 \sim \varnothing 63$

PNEUMATIC - SWING CLAMP CYLINDER



Flange type	MAS-25	MAS-32 MASD-32	MAS-40 MASD-40	MAS-50 MASD-50	MAS-63 MASD-63
Threaded type (produced by order)	MATS-25	MATS-32 MATSD-32	MATS-40 MATSD-40	MATS-50 MATSD-50	MATS-63 MATSD-63
Max. operating pressure	0.7 MPa				
Normal operating pressure	0.4~0.6 MPa				
Cylinder operating	Double acting				
Swivel angle	$90^\circ (0^\circ 45^\circ 60^\circ 180^\circ) \pm 2^\circ$				
Swivel stroke (mm)	12/*21	12/*21	12/*21	14/*21	14/*21
Clamping stroke (mm)	14/*5	14/*5	15/*6	15/*8	15/*8
Piston- \varnothing (mm)	25	32	40	50	63
Piston rod- \varnothing (mm)	14	16	16	20	20
Theoretical force (0.5 MPa)	16kg	30kg	50kg	85kg	140kg
A (unclamp) (mm)	95.5	102.5	106	113	119
B (mm)	66.5	71	75	80	86
C (mm)	23	23	26	26	30
C' (mm)	35	40	45	50	56
D (mm)	$\square 16$	$\square 19$	$\square 19$	$\square 25.4$	$\square 25.4$
D' (mm)		$\square 19$	$\square 19$	$\square 22$	$\square 22$
G (mm)	30	50	50	70	70
G' (mm)		100	100	120	120
G2 (mm)	50	60	70	80	90
H (mm)	8	9	9	10	10
I (mm)	10	13	13	13	13
K (mm)		9	9	10	10
L1 (clamp) L2 (unclamp)	M5 \times 0.8	Rc1/8	Rc1/8	Rc1/8	Rc1/8
N (mm)	M6 \times 1	M8 \times 1.25	M8 \times 1.25	M10 \times 1.5	M10 \times 1.5
N' (mm)		$\varnothing 8$	$\varnothing 8$	$\varnothing 8$	$\varnothing 8$
P (mm)	30	44	48	55	64
Q (mm)	40	54	58	68	80
R (mm)	$\varnothing 4.5$	$\varnothing 6.5$	$\varnothing 6.5$	$\varnothing 8.5$	$\varnothing 8.5$
S (mm)	$\varnothing 35$	$\varnothing 50$	$\varnothing 55$	$\varnothing 65$	$\varnothing 75$
S' (mm)	M40 \times 1.5	M50 \times 1.5	M55 \times 1.5	M65 \times 1.5	M80 \times 1.5
T ($\times 2$ pcs) (mm)	9	11	11	12	15
T' (mm)	$\varnothing 58$	$\varnothing 70$	$\varnothing 75$	$\varnothing 85$	$\varnothing 105$

Note. Dimension for 180° .



Features

- Aluminium alloy tube provides both smooth lines and high corrosion resistance.
- Self lubricated nose bush gives long life.
- Versatile porting position available.
- End cushioning at both ends reduces impact loads.

Specification

Model	MCKA
Acting type	Double acting
Tube I.D. (mm)	40
Medium	Air
Operating pressure range	0.05~1 MPa
Proof pressure	1.5 MPa
Temperature range	-5~+60°C (No freezing)
Lubrication	Not required
Available speed range	50~500 mm/sec
Cushion	With adjustable cushion at both ends
Sensor switch (*)	RCA
Sensor switch band	PN-A40

* RCA specification, please refer to page 5-2.

Order example

MCKA — 40 — 100 M — A

MODEL

TUBE I.D.

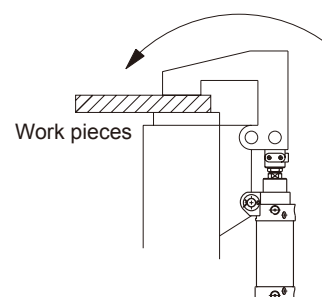
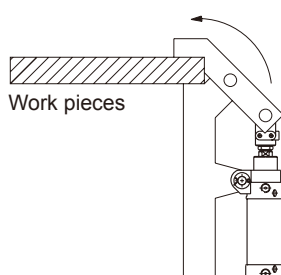
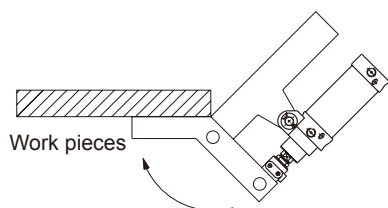
STROKE

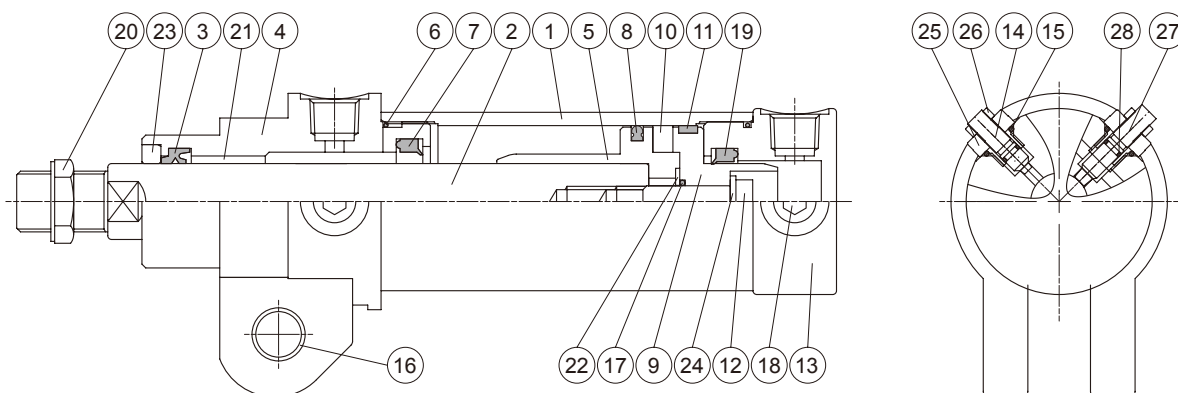
50
75
100
125
150

M: Magnet

Blank: With adjustable cushion
A: With flow adjustable

Application examples



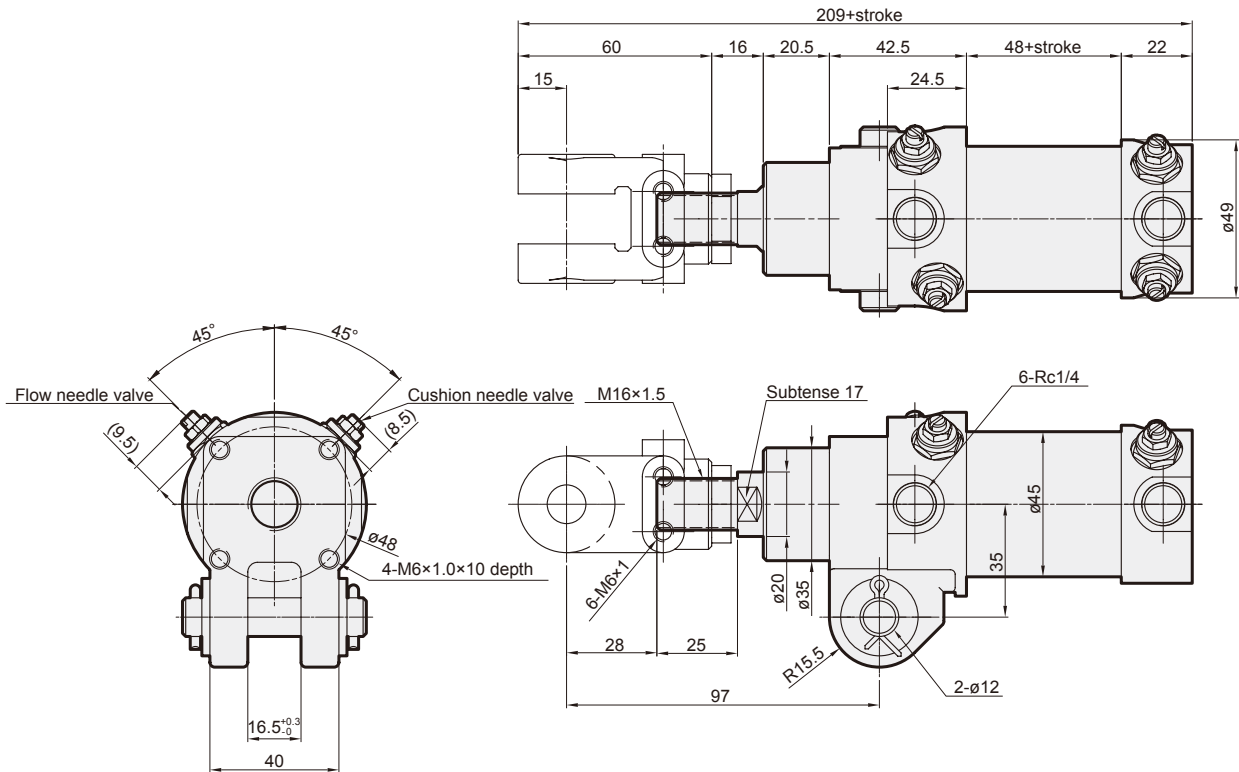


Material

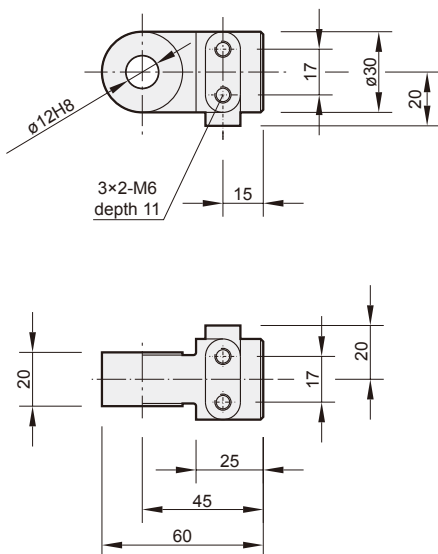
No.	Part name	Material	Q'y	Component parts (inclusion)	Repair kits (inclusion)
1	Tube	Aluminum alloy	1		
2	Piston rod	Carbon steel	1		
3	Rod packing	NBR	1	●	●
4	Rod cover	Carbon steel	1	●	
5	Piston-R	Aluminum alloy	1	●	
6	Cover ring	NBR	2	●	●
7	Cushion packing-R	NBR	1	●	●
8	Piston packing	NBR	1	●	●
9	Piston-H	Aluminum alloy	1	●	
10	Magnet ring	Magnet material	1	●	
11	Wear ring	Teflon	1	●	
12	Piston bolt	SCM	1	●	
13	Head cover	Aluminum alloy	1	●	
14	Cushion needle valve	Copper	2	●	
15	Need valve packing	NBR	4	●	●
16	Bush	Copper	2	●	
17	Piston gasket	NBR	1	●	●
18	Seal screw	Carbon steel	4	●	
19	Cushion packing-H	NBR	1	●	●
20	Rod front nut	Carbon steel	1	●	
21	Rod bush	Copper	1	●	
22	Washer	Carbon steel	1	●	
23	Scraper	Copper	1	●	
24	Washer	Carbon steel	1	●	
25	Lock nut for need valve	Copper	4	●	
26	Adj. nut for need valve	Copper	4	●	
27	Flow needle valve	Copper	2	●	
28	Need valve packing	NBR	4	●	●

Order example of component parts / repair kits

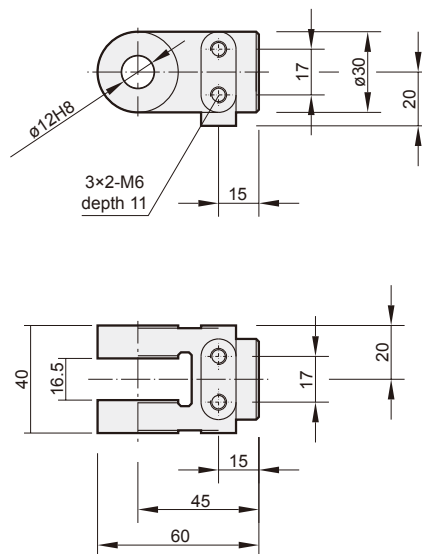
Tube I.D.	Component parts	Repair kits
ø40	CP-MCKA-40	PS-MCKA-40



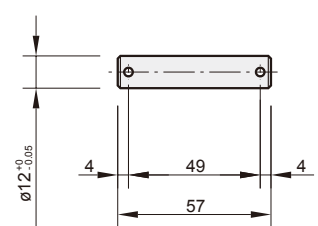
I connector



Y connector



Pin



Split pin: $\phi 1/8" \times 3/4" L$

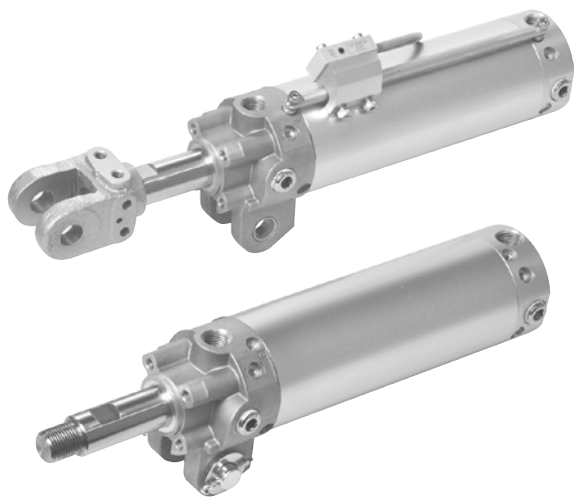


Table for standard stroke

Tube I.D.	Stroke (mm)
ø50, 63	50, 75, 100, 125, 150

Features

- Aluminium alloy tube provides both smooth lines and high corrosion resistance.
- Self lubricated nose bush gives long life.
- Versatile porting position available.
- End cushioning at both ends reduces impact loads.
- Available with magnetic piston and sensors.

Specification

Model	MCKGA / B	
Acting type	Double acting	
Tube I.D. (mm)	50	63
Medium	Air	
Operating pressure range	0.05~1 MPa	
Proof pressure	1.5 MPa	
Ambient temperature	-5~+60°C (No freezing)	
Lubrication	Not required	
Available speed range	50~500 mm/sec	
Sensor switch (*)	RCA, RDKP	
Sensor switch accessories	RCA	BGA50 BGA63
	RDKP	PMB-040

* RCA, RDKP specification, please refer to page 5-2, 11.

Order example

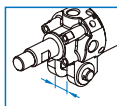
MCKGA — 50 — 100 M A — G — I — RDKP2

MODEL

TUBE I.D.

50
63

CLEVIS WIDTH
A: 16.5 mm
B: 19.5 mm



STROKE
50,75,100
125,150

M: Magnet

PORT THREAD

Blank: Rc thread
G: G thread
NPT: NPT thread

ACCESSORIES

Blank: Without
I: I connector with pin
Y: Y connector with pin

SENSOR NUMBER

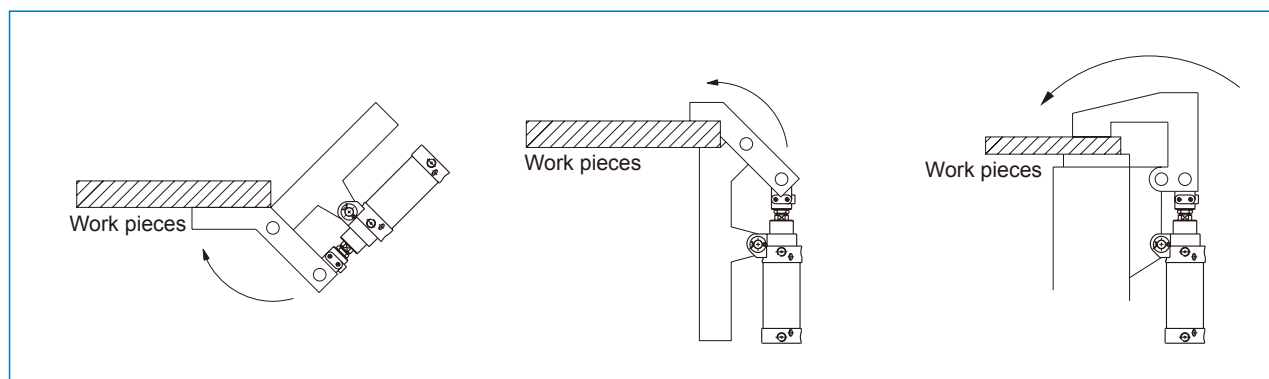
1, 2, N...

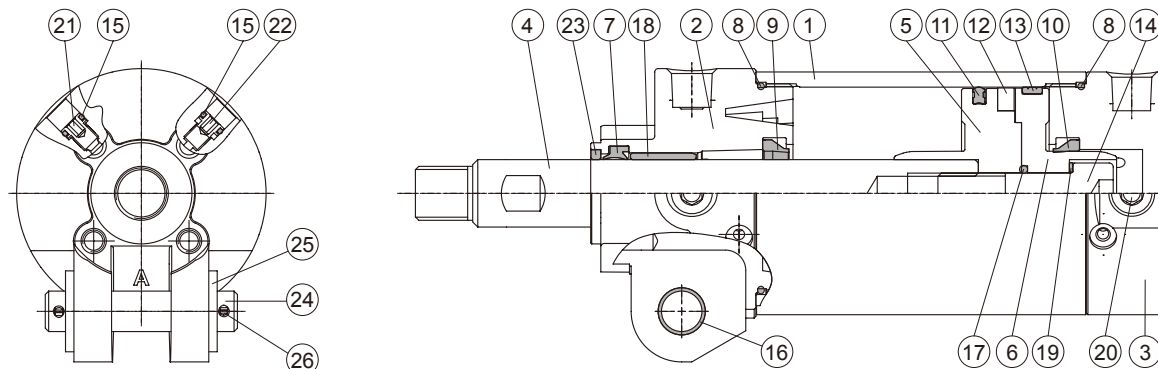
Adjustable type	Flow adjustable		Adjustable cushion	
	Rod cover	Head cover	Rod cover	Head cover
Blank: Standard	O	O	×	O
A: A type	O	O	O	O

SENSOR SWITCH

Blank: Without
RDKP: Sensor with installation set
RCA: Sensor with BGA**

Application examples





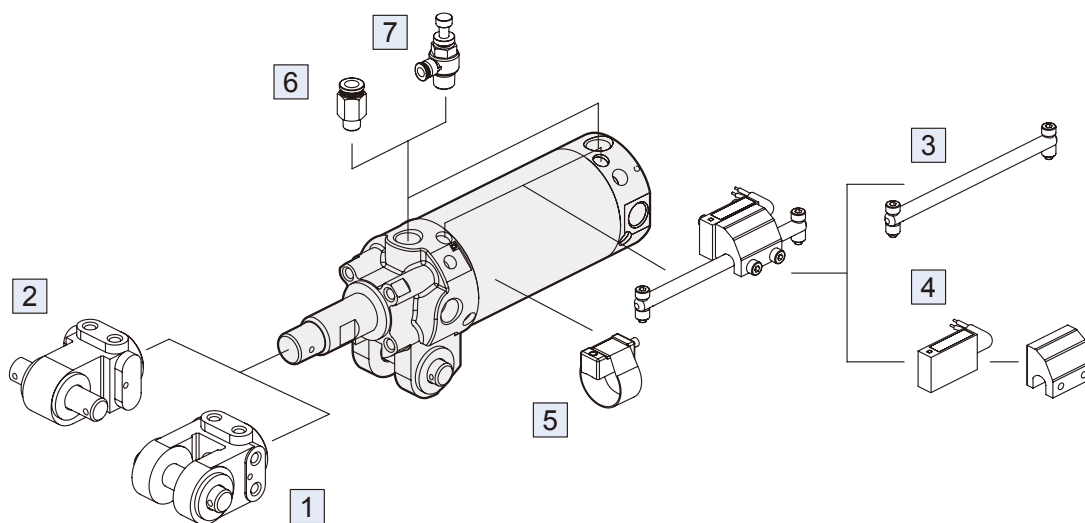
Material

No.	Part name	Material	Q'ty	Component parts(inclusion)	Repair kits (inclusion)
1	Tube	Aluminum alloy	1		
2	Rod cover	Aluminum alloy	1	●	
3	Head cover	Aluminum alloy	1	●	
4	Piston rod	Medium carbon steel	1		
5	Piston-R	Aluminum alloy	1	●	
6	Piston-H	Aluminum alloy	1	●	
7	Rod packing	NBR	1	●	●
8	Cover ring	NBR	2	●	●
9	Cushion packing-R (*)	NBR	1	●	●
10	Cushion packing-H	NBR	1	●	●
11	Piston packing	NBR	1	●	●
12	Magnet ring	Magnet material	1	●	
13	Wear ring	Teflon	1	●	
14	Piston bolt	SCM	1	●	
15	Need valve packing	NBR	4	●	●
16	Bush	Copper	2	●	
17	Piston gasket	NBR	1	●	●
18	Rod bush	Copper	1	●	
19	Washer	Carbon steel	1	●	
20	Seal screw	Carbon steel	4	●	
21	Flow needle valve	Copper	2	●	
22	Cushion needle valve	Copper	2	●	
23	Scraper	Copper	1	●	
24	Pin	Carbon steel	1	●	
25	Washer	Carbon steel	2	●	
26	Split pin	Carbon steel	2	●	

* Flow adjustable type without cushion packing-R.

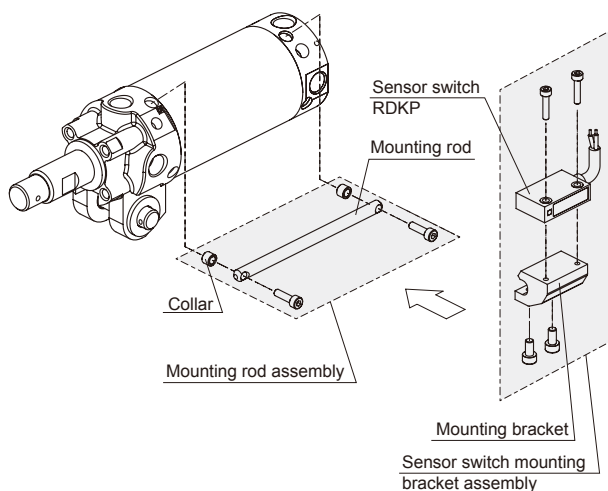
Order example of repair kits

Tube I.D.	Repair kits
ø50	PS-MCKG-50
	PS-MCKG-50-A
ø63	PS-MCKG-63
	PS-MCKG-63-A



No.	Accessories	Page
1	Accessories Y+PIN	2-21
2	Accessories I+PIN	2-21
3	Mounting rod assembly	2-20
4	Sensor switch RDKP+PMB-040	5-11
5	Sensor switch RCA+BGA**	5-2
6	Fitting PC (PISCO)	8-5 (Vol.1)
7	Speed controller JSC (PISCO)	8-18 (Vol.1)

Installation of sensor switch

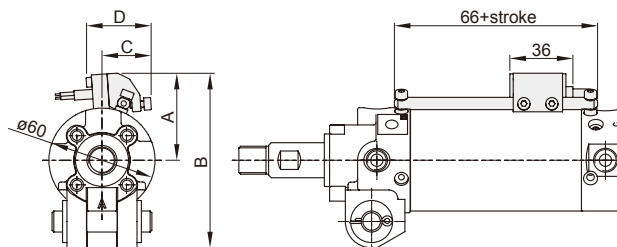


Order example of mounting rod assembly

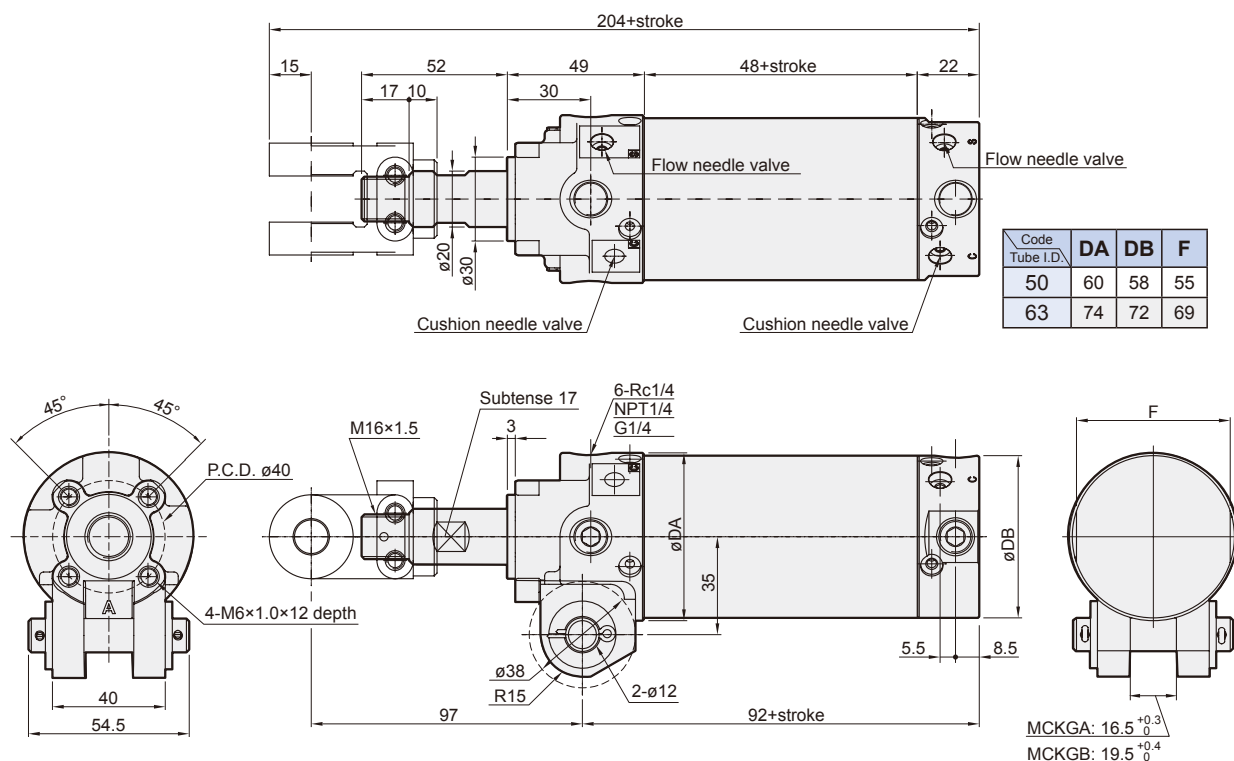
RZ — MCKG — 50

MODEL

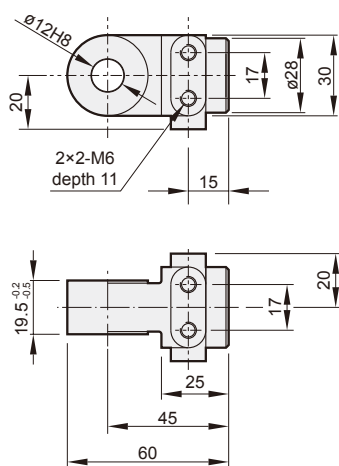
STROKE
(mm)



Code Tube I.D.	A	B	C	D
50	49.7	99.7	28.2	37.3
63	56.3	106.3	30.6	36.6

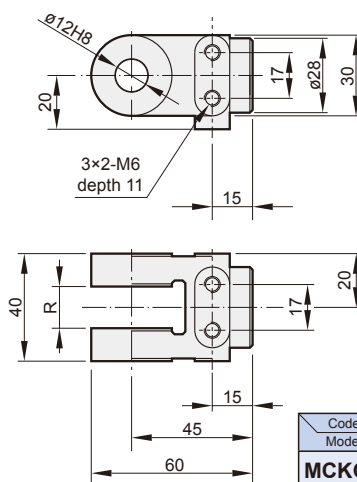


I connector



Order example
I — MCKG

Y connector

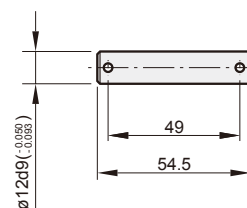


Order example
Y — MCKGA

CLEVIS
WIDTH
A, B

Code Model	R
MCKGA	16.5 ^{+0.3} ₀
MCKGB	19.5 ^{+0.4} ₀

Pin



Split pin: ø1/8"×3/4"L
(1set: 2pcs)

Order example
PIN — MCKG



Order example of cylinder

MCKD — 50 — 120 □ — □

MODEL

TUBE I.D.

50
63

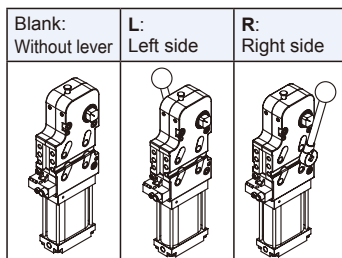
PORT THREAD

Blank: Rc thread
G: G thread
NPT: NPT thread

Available release
angle range (*)

15: 15°
30: 30°
45: 45°
60: 60°
75: 75°
90: 90°
105: 105°
120: 120°
135: 135°

LEVER TYPE



* The available clamping angle will differ from using a lever or not.

* The available clamping angle will differ from the types of clamping arm installation.

* Please check the latter pages for the details.

Order example of arm

AM — MCKD — 50 — 15 R S

MODEL

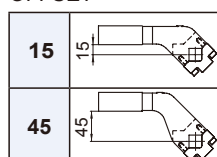
TUBE I.D.

50
63

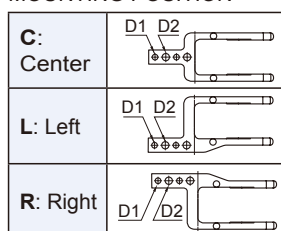
PORT SIZE

S: D1: ø6, D2: ø9
B: D1: ø8, D2: ø10.2

OFFSET



MOUNTING POSITION



Features

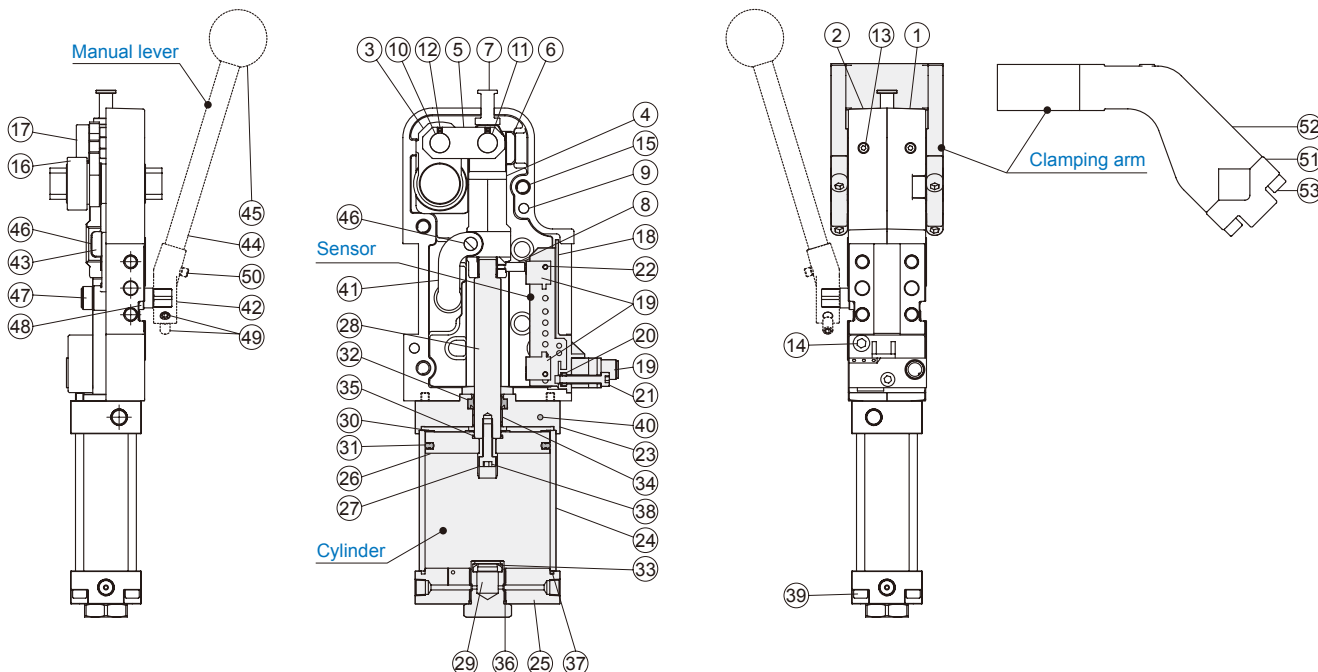
- Oval piston design for space saving.
- Clamping arm angle is adjustable via adjusting bolt.
- 12 types of clamping arm for various usage.
- 15° minimum release angle for lowering clamping time.
- Welding slag and magnetic field proof sensor available.
- Cylinder remains clamping position with self-locking mechanism even if there is no air input.

Specification

Model	MCKD	
Acting type	Double acting	
Tube I.D. (mm)	50	63
Port size	Rc1/8	Rc1/4
Release angle range	15°, 30°, 45°, 60°, 75°, 90°, 105°, 120°, 135°	
Medium	Filter air	
Operating pressure range	0.3~0.8 MPa	
Proof pressure	1.2 MPa	
Ambient temperature	-10~+60°C (No freezing)	
Cushion	Clamping side: Cushion pad Unclamping side: Air cushion	
Min. operating time	1.0 second to clamp 1.0 second to unclamp	

Sensor switch

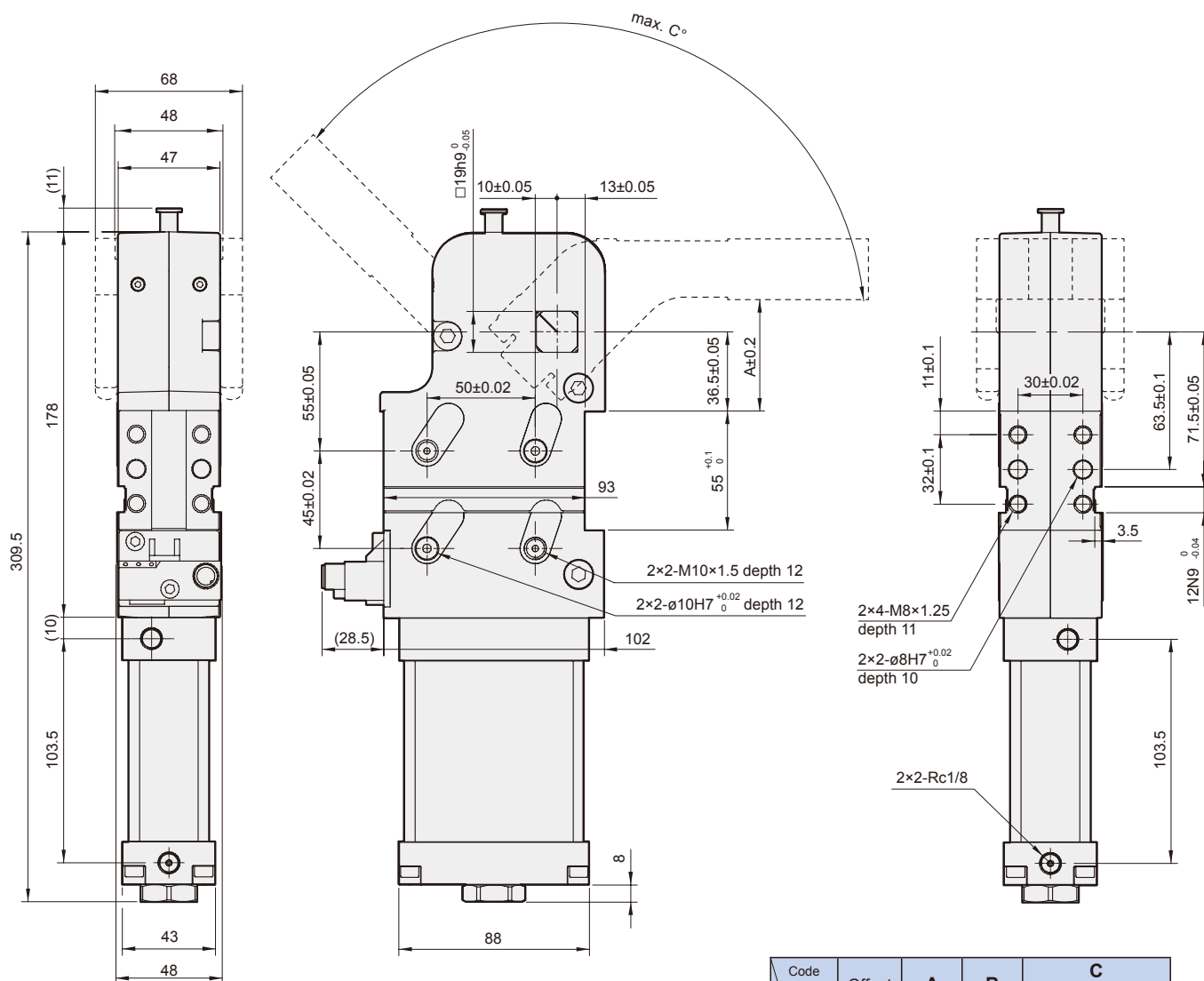
Sensor switch	Inductive proximity sensor
Brand	SODRON
Sensing distance	2mm ± 10%
Operating voltage	DC 10~30 V
Output state	N.O., PNP
Load current	150 mA
Frequency	1000 Hz
Housing material	PA66 + 20% GF
Output indicator	Clamping side: Red LED Unclamping side: Yellow LED
Power indicator	Green LED



Material

No.	Part name	Material	Q'y
1	Right side cover	Aluminum alloy	1
2	Left side cover	Aluminum alloy	1
3	Drive shaft	Carbon steel	1
4	Y connector	Carbon steel	1
5	Connecting bar	Carbon steel	1
6	Stopper	Carbon steel	2
7	Bump pin	Carbon steel	1
8	Sensing stick	Carbon steel	1
9	Pin	Bearing steel	2
10	Pin	Bearing steel	1
11	Pin	Bearing steel	1
12	Bolt	Carbon steel	2
13	Bolt	Carbon steel	2
14	Bolt	Carbon steel	1
15	Bolt	Carbon steel	3
16	Needle bearing	—	2
17	Needle bearing	—	2
18	Sensor holder	Plastic	1
19	Proximity sensor	—	1
20	Square nut	Carbon steel	1
21	Bolt	Carbon steel	1
22	Bolt	Carbon steel	2
23	Rod cover	Aluminum alloy	1
24	Cylinder	Aluminum alloy	1
25	End cover	Aluminum alloy	1
26	Piston	Aluminum alloy	1

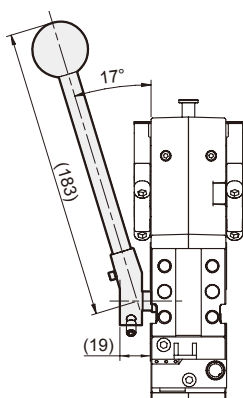
No.	Part name	Material	Q'y
27	Cushion shaft	Aluminum alloy	1
28	Piston rod	Stainless steel	1
29	Adj. bolt	Iron	1
30	Cushion pad	TPU	1
31	Piston ring	HNBR	1
32	Rod packing	NBR	1
33	Cushion ring	NBR	1
34	Bush	Bearing alloy	1
35	O-ring	NBR	1
36	O-ring	NBR	1
37	O-ring	NBR	1
38	Bolt	Carbon steel	1
39	Bolt	Carbon steel	4
40	Ball	Stainless steel	1
41	Manual shaft	Carbon steel	1
42	Lever holder	Carbon steel	1
43	Wheel	Carbon steel	2
44	Rod	Stainless steel	1
45	Ball	Bakelite	1
46	Needle	Bearing steel	1
47	Bush	Bearing alloy	1
48	Bush	Bearing alloy	1
49	Screw	Carbon steel	2
50	Screw	Carbon steel	1
51	Arm holder	Carbon steel	2
52	Clamping arm	Carbon steel	1
53	Bolt	Carbon steel	4



Code Tube I.D.	Offset	A	B	C	
				Standard	Lever
50	15	51.5	30	135	120
	45	81.5	60	135	120

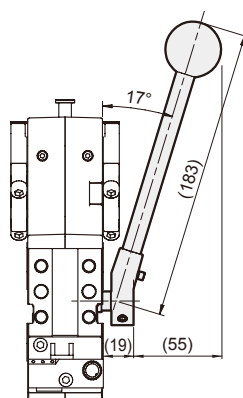
MCKD-50-*L

Left side lever type

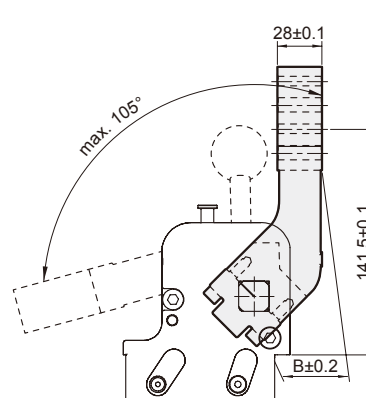


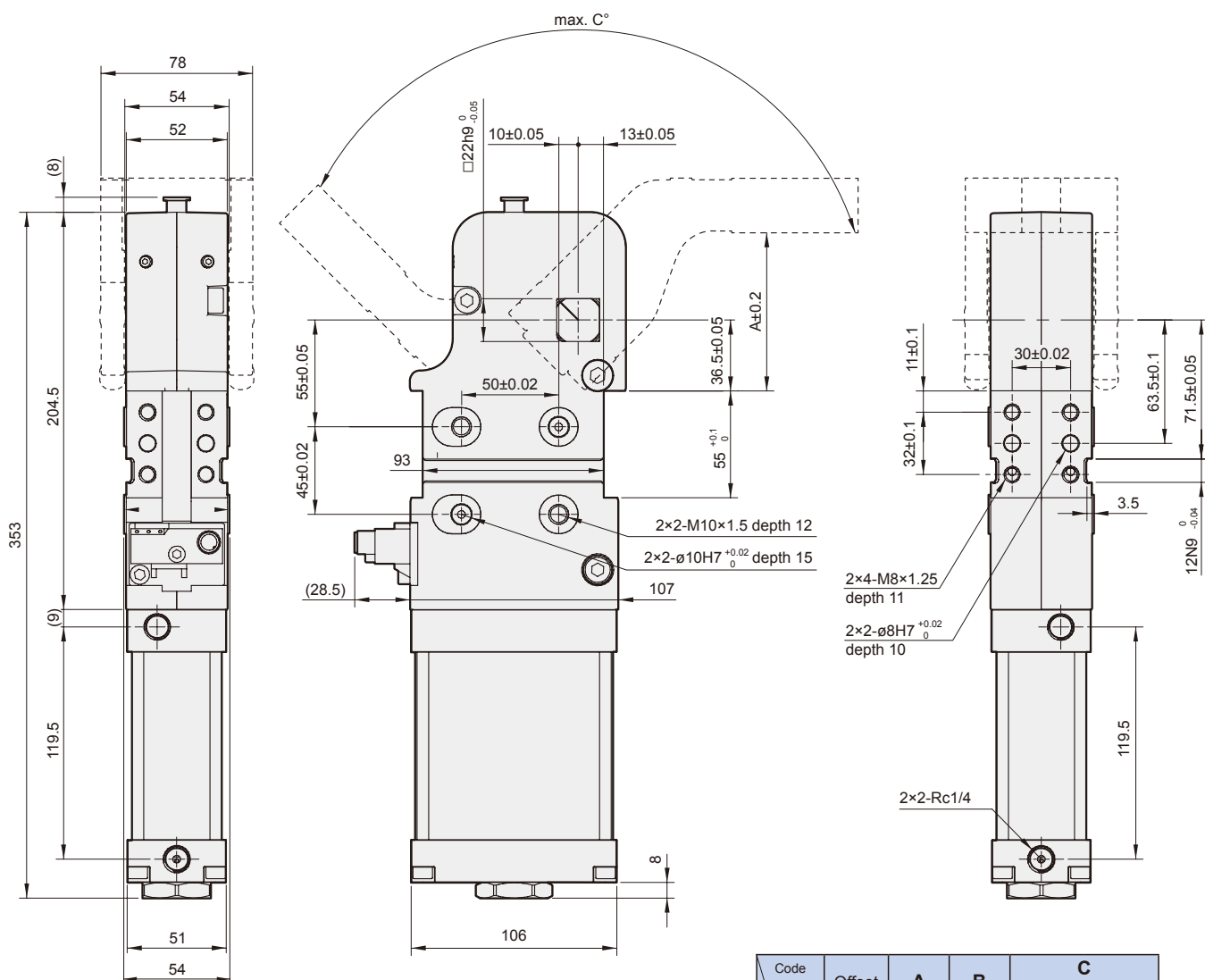
MCKD-50-*R

Right side lever type



Reverse mounting

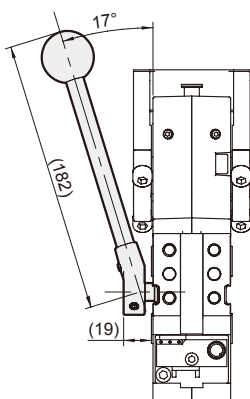




Code Tube I.D.	Offset	A	B	C	
				Standard	Lever
63	15	51.5	30	135	120
	45	81.5	60	135	120

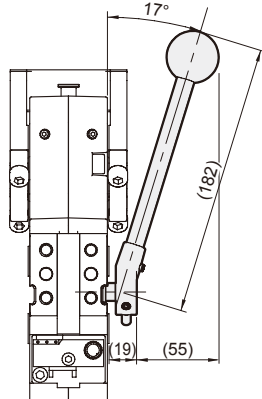
MCKD-63-*L

Left side lever type

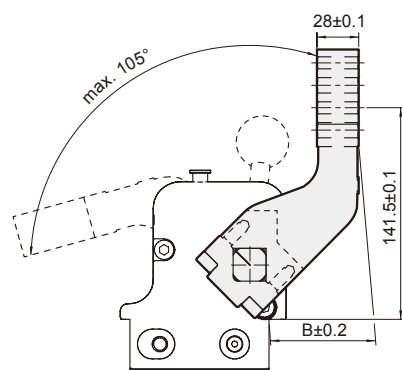


MCKD-63-*R

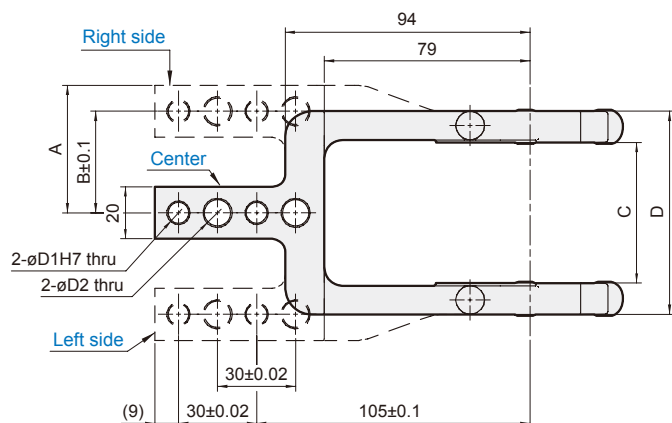
Right side lever type



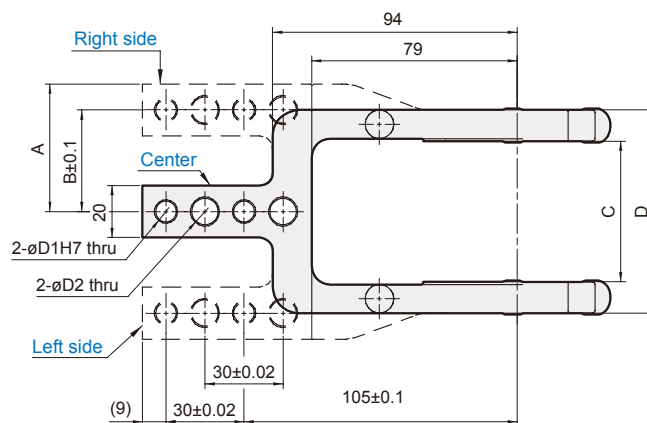
Reverse mounting



15 type

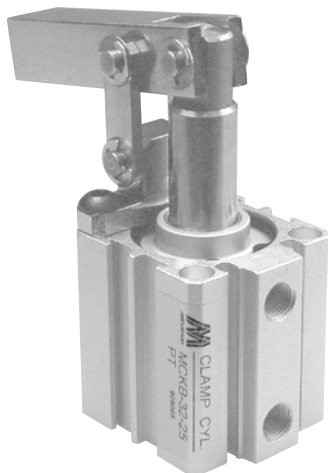


45 type



Code Tube I.D.	A	B	C	D	D1		D2		E
					S*	B*	S*	B*	
50	44	34	48	68	6	8	9	10.2	19
63	47	37	54	78					22

* S, B was the port size code of clamping arm.



Order example

MCKB — 32 M — □

MODEL TUBE I.D. M: Magnet PORT THREAD

Blank: Rc thread
G: G thread
NPT: NPT thread

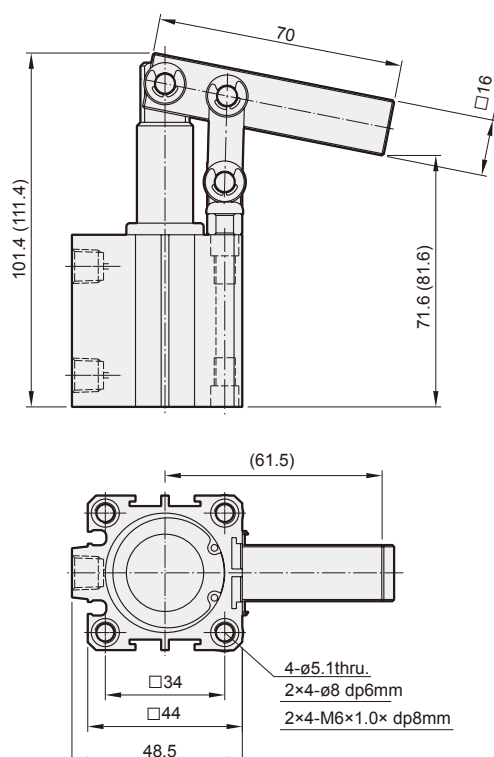
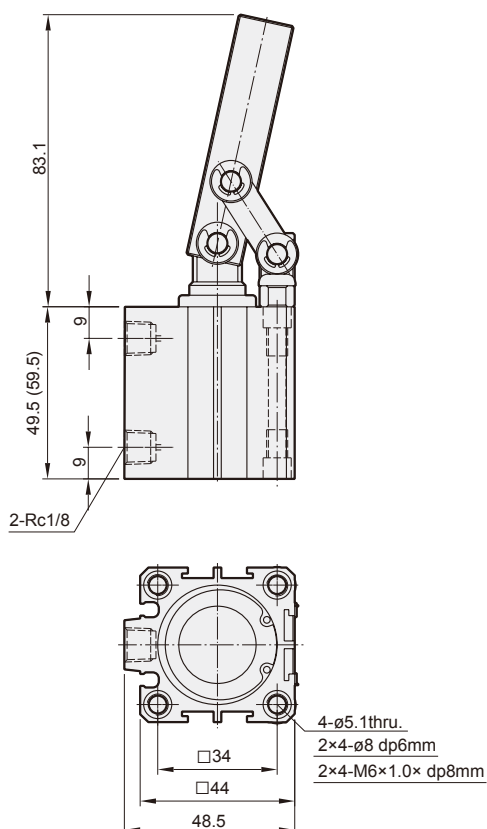
Features

- Lever type clamp cylinder gives high clamping force.
- Simple mounting of sensors on all four sides of body.
- Hard anodised body gives smooth lines and high corrosion resistance.

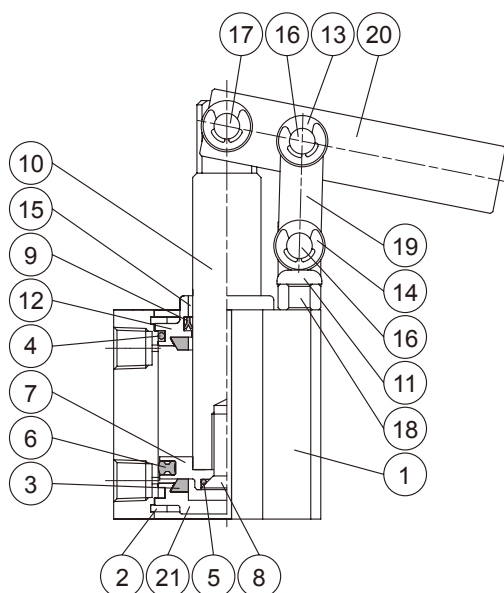
Specification

Model	MCKB
Acting type	Double acting
Tube I.D. (mm)	32
Port size	Rc1/8
Operating fluid	Air
Operating pressure range	0.1~1 MPa
Proof pressure	1.5 MPa
Ambient temperature	-5~+60°C (No freezing)
Lubrication	Cylinder: Not required Lever: Grease
Available speed range	50~500 mm/sec
Sensor switch (*)	RCB, RCE, RCE1, RDEP

* RCB, RCE, RCE1, RDEP specification, please refer to page 5-4, 6, 9.



*(): Dimension for with magnet.



Order example of repair kits

Tube I.D.	Repair kits
ø32	PS-MCKB-32

Material

No.	Part name	Material	Q'y	Repair kits (inclusion)
1	Body	Aluminum alloy	1	
2	Snap ring	Spring steel	2	
3	Cushion	NBR	2	●
4	Cover gasket	NBR	2	●
5	Piston gasket	NBR	1	●
6	Piston packing	NBR	1	●
7	Piston	Aluminum alloy	1	
8	Piston bolt	SCM	1	
9	Rod packing	NBR	1	●
10	Piston rod	Carbon steel	1	
11	Screw	SCM	2	
12	Rod cover	Aluminum alloy	1	
13	Washer	Carbon steel	6	
14	Snap ring	Spring steel	6	
15	Rod bush	Bearing alloy	1	
16	Connecting pin	Stainless steel	2	
17	Lever pin	Stainless steel	1	
18	Holder	Carbon steel	1	
19	Connecting plate	Carbon steel	2	
20	Lever	Carbon steel	1	
21	Head cover	Aluminum alloy	1	

Installation of sensor switch

