

### Features

- 50% space saving when compared to conventional cylinders.
- End caps with 3 air connections and adjustable cushioning.
- Load strength is higher than MCRPLF series (about 4 Multiple).
- Magnetic as standard.

### Specification

Model	MCRPLK			
Acting type	Double acting			
Tube I.D.(mm)	16	25	32	40
Port size	M5	G1/8	G1/4	G1/4
No. of port	3			
Medium	Air			
Operating pressure range	0.1~0.78 MPa			
Ambient temperature	- 10℃ ~ +80℃ (No freezing)			
Lubrication	With or without lubrication			
Cushion	With adjustable cushion at both ends			
Stroke range ※1	φ 16 : 100~3300 mm			
	φ 25~40 : 100~3600 mm			
Sensor switch	RCAL			
Sensor switch Holder	HPL			

※1. Minimum stroke unit 1mm.

※2. The tube isn't airtight, so the cylinder is allowed little leakage. Before the cylinder is sale, it has passed the standard of leakage test.

### Order example

**MCRPLK - D - 25 - 0850 - BVS - 24/2**

Model	Slider	Tube I.D.	Stroke	Absorber	Piston seals	Accessory
MCRPLK 	- Single slider D Dual slider ※ D-type is not suitable for φ 16.	16 25 32 40	100~3600 mm (4 codes)	(※1) - Without absorber L Light M Medium H Powerful	- NBR ( for piston speeds $V \leq 1$ m/s ) V VITON ( for piston speeds $V > 1$ m/s )	※ Please refer to 6-13 page code.
					<b>Grease lubrication</b>	
					- Standard S Slow motion grease	

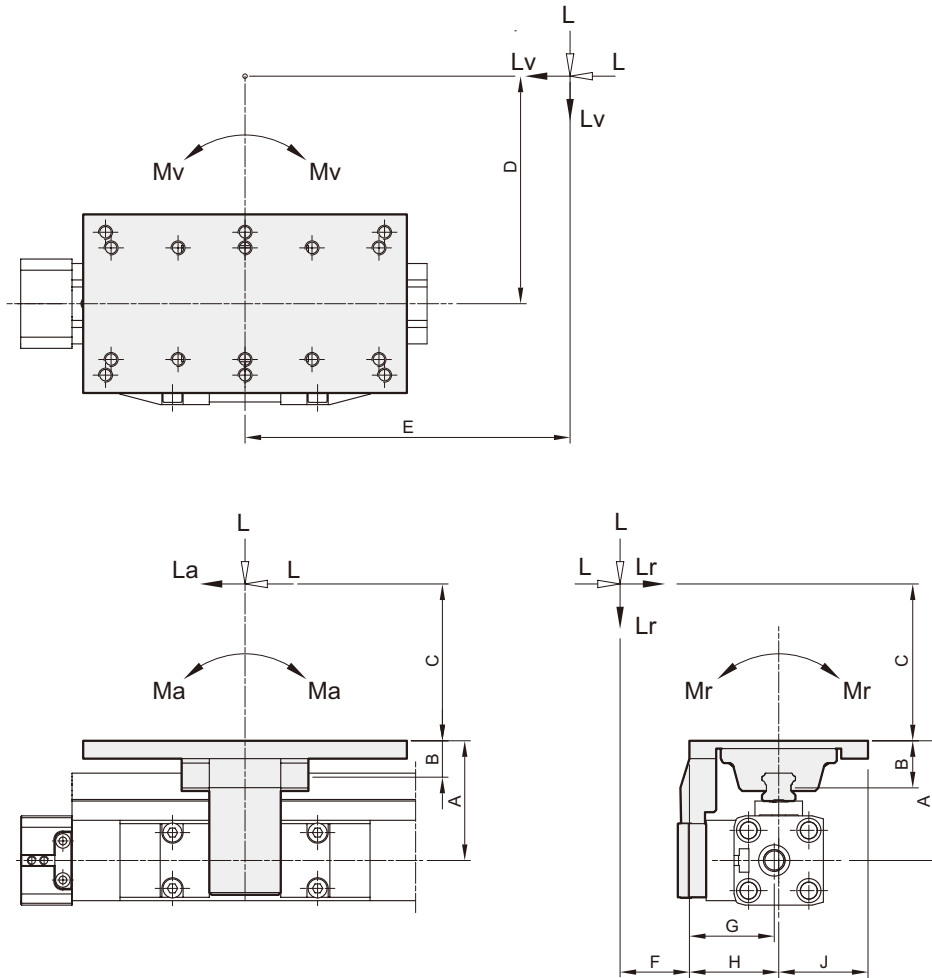
※1. Shock absorber

Model	Shock absorber			
	Model	L	M	H
MCRPLK-16	MAC1005-	1	2	3
MCRPLK-25	MAC1210-	1	2	3
MCRPLK-32	MAC1412-	1	2	3
MCRPLK-40	MAC1412-	1	2	3

※ Speed range for the different greases.

● **Standard grease**  
NBR piston seals:  $0.2 \text{ m/s} \leq V < 1 \text{ m/s}$   
VITON piston seals:  $1 \text{ m/s} \leq V$

● **Slow motion grease**  
NBR piston seals:  $V < 0.2 \text{ m/s}$   
VITON piston seals:  $V < 0.2 \text{ m/s}$



### Forces and moments

Tube I.D. Code		16	25	32	40
Effect forces F	(N)	110	250	420	640
Cushioning	(mm)	15	21	26	32
A	(mm)	48.2	53.2	64	69
B	(mm)	21	21	24.4	24.4
C / D / E / F	(mm)	Dimensions according			
G	(mm)	38	38	55	54.5
H	(mm)	40	40	57.5	57.5
J	(mm)	40	40	57.5	57.5
Single slider	Load forces L(N)	500	1500	2950	3960
	Moment forces La, Lr, Lv (N)	500	1500	2950	3960
	Axial moments Ma (Nm)	4	40	61	115
	Radial moments Mr (Nm)	6	14	30	52
	Torsion moments Mv (Nm)	11	40	62	70
Dual slider	Load forces L (N)	—	1550	3020	4030
	Moment forces La, Lr, Lv (N)	—	1550	3020	4030
	Axial moments Ma (Nm)	—	85	85	130
	Radial moments Mr (Nm)	—	20	45	65
	Torsion moments Mv (Nm)	—	80	90	100

1. The above mentioned moments (Ma max, Mr max, Mv max) are related to the guide rail center. The load force (L) is the summary of all single forces related to the common center of the mass. The center of the mass can be placed inside or outside the surface area of the carriage.
2. Normally the carriage would experience a dynamic load, which has to be considered with the calculation of needed piston force (F) and capacity of the ball guided system.

Use the following calculation formula:

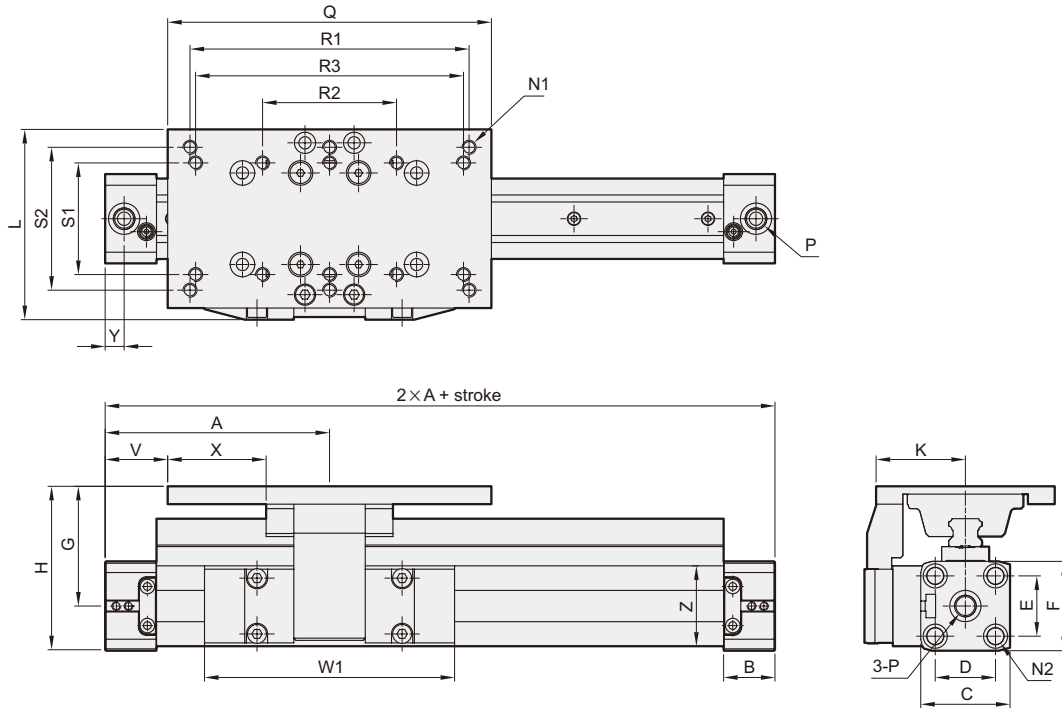
$$\frac{Ma}{Ma \text{ max.}} + \frac{Mr}{Mr \text{ max.}} + \frac{Mv}{Mv \text{ max.}} + \frac{L}{L \text{ max.}} \leq 1$$

# MCRPLK Dimensions $\phi 16 \sim \phi 40$

## RODLESS CYLINDER WITH LINEAR GUIDE

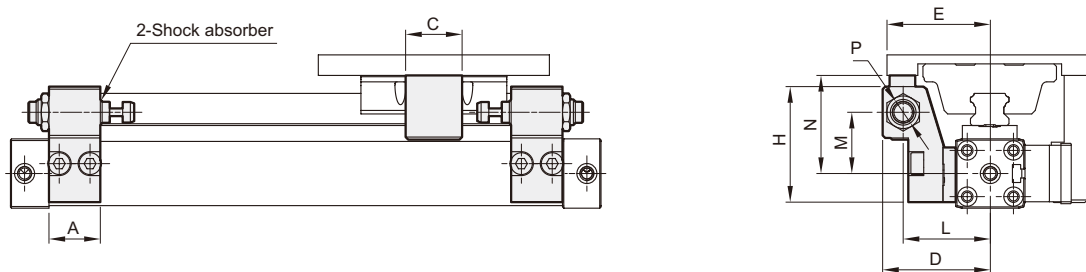


Mindman



Code Tube I.D.	A	B	C	D	E	F	G	H	K	L	N1	N2	P	Q	R1	R2
16	65	15	27	18	18	27	48.2	61.7	40	80	M4×0.7 thru	M3×0.5×7 dp	M5	90	—	—
25	100	23	40	27	27	40	53.2	73.2	40	85	M6×1.0 thru	M5×0.8×12 dp	G1/8	145	125	60
32	125	27	56	40	36	52	64	90.0	57.5	115	M8×1.25×12.5 dp	M6×1.0×15 dp	G1/4	190	164	—
40	150	30	69	54	54	72	69	105.0	57.5	115	M8×1.25×12.5 dp	M6×1.0×15 dp	G1/4	190	164	—

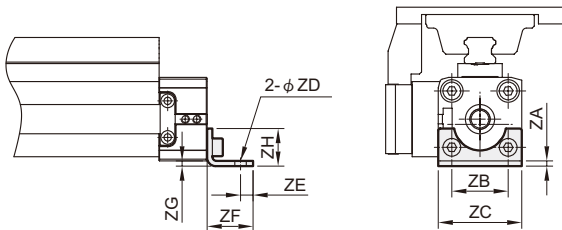
Code Tube I.D.	R3	S1	S2	V	W1	X	Y	Z
16	70	36	—	20	69	16.5	5.5	25×24.5
25	120	50	64	28	112	44.0	8.5	36×36
32	—	—	96	30	152	64.3	10.5	48×52
40	—	—	96	55	152	64.3	16.0	58×58



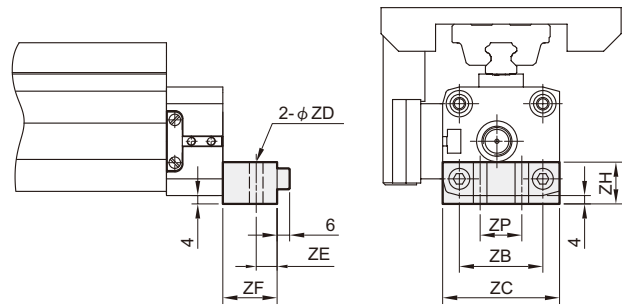
Code Tube I.D.	A	C	D	E	H	L	M	N	P
16	20	22	42	40	45	34	23.8	38.2	M10×1.0
25	35	32	44.7	40	45	33.7	24.35	43.7	M12×1.0
32,40	40	60	54.7	57.5	45	43.7	26.35	41.11	M14×1.5

### End cover bracket (foot)

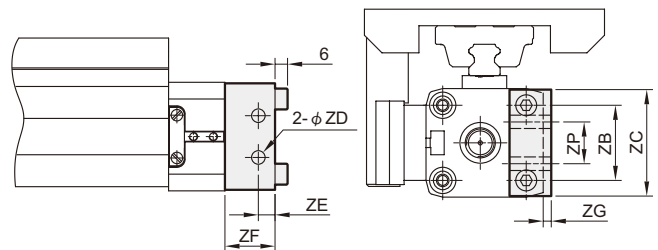
$\phi 16 \phi 25$



$\phi 32$ \*



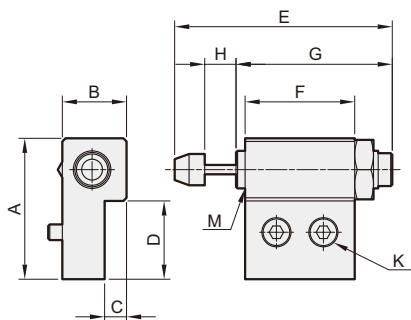
$\phi 32 \phi 40$



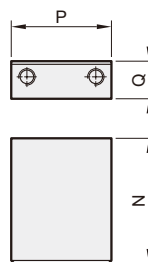
Code Tube I.D.	ZA	ZB	ZC	ZD	ZE	ZF	ZG	ZH	ZP	Order number
16	1.6	18	26	3.6	4	14	1.5	12.5	--	PL 24/1
25	2.5	27	40	5.5	6	22	2	18	--	PL 24/2
32	--	36	51	6.5	8	24	4	20	20	PL 24/3
32*	--	40	56	6.5	8	26	4	20	20	PL 24/3.1
40	--	54	71	9	11.5	24	2	20	30	PL 24/4

### Absorber group

Body fixed group

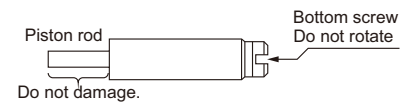


Stop block



### With shock absorber

- Do not rotate the screw set on bottom of shock absorber.**  
This is not the screw for adjusting. If this screw is rotated, it may cause oil leakage.
- Do not scratch the exposed portion of the piston rod.**  
Decrease in life or malfunction may result.
- Shock absorber is considered a consumable component. When energy absorption is decreased, replace it.**



Code Tube I.D.	Body fixed group									Stop block			
	A	B	C	D	E	F	G	H	K	M	N	P	Q
16	45	23.5	10	25	41.2	20	31.7	5	M5×12L	M10×1.0	25	22	10
25	45	20.5	7	25	69.5	35	49.9	10	M5×12L	M12×1.0	40	32	12
32, 40	45	20.5	7	25	98.7	40	76	12	M5×12L	M14×1.5	40	60	20

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	Model	L	M	H
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MCRPLK-25	MAC1210-	1	2	3
MCRPLK-32	MAC1412-	1	2	3
MCRPLK-40	MAC1412-	1	2	3