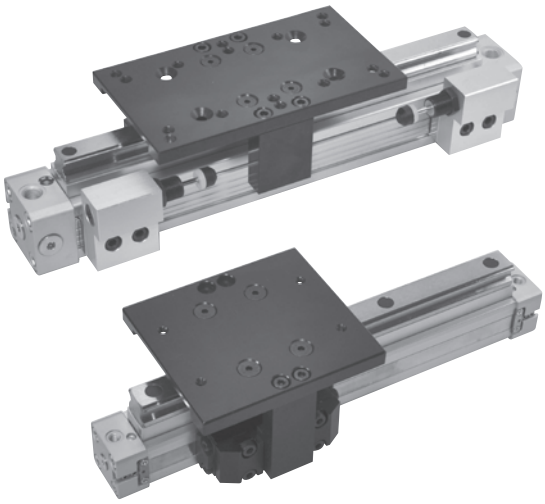
MCRPLK series

RODLESS CYLINDER WITH LINEAR GUIDE



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

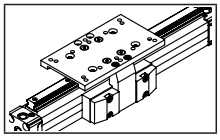
Model	MCRPLK			
Acting type	Double acting			
Tube I.D.(mm)	16	25	32	40
Port size	M5	G1/8	G1/4	G1/4
No. of port	3			
Medium	Air			
Operating pressure range	0.1~0.78 MPa			
Ambient temperature	-10°C ~ +80°C (No freezing)			
Lubrication	With or without lubrication			
Cushion	With adjustable cushion at both ends			
Stroke range (*1)	ø16: 100~3000 mm			
	ø25~40: 100~3600 mm			
Sensor switch	RCAL (Please refer to page 6-9)			
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

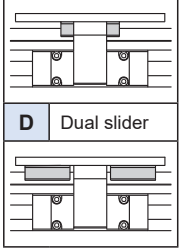
MCRPLK — D — 25 — 0850 — L V S

Model



Slider

—	Single slider
D	Dual slider



Tube I.D.

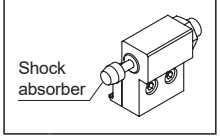
16
25
32
40

Stroke

0100~3600 mm (4 digits)

Shock absorber set (*1)

—	Without absorber set
L	Light
M	Medium
H	Powerful



Piston seals

—	NBR
V	VITON

Grease lubrication

—	Standard
S	Slow motion

* D-type is not suitable for ø16.

* It needs to be assembled by the original factory, and we don't suggest that you assemble by yourself.

*1. Shock absorber

Model	Shock absorber			
	Model	L	M	H
MCRPLK-16	MAC-1005-	1	2	3
MCRPLK-25	MAC-1210-	1	2	3
MCRPLK-32	MAC-1412-	1	2	3
MCRPLK-40	MAC-1412-	1	2	3

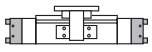
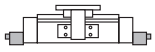
* Please refer to 8-34 page code.

Available speed range

Piston seals	Grease lubrication	Available speed range (mm/s)
NBR	Slow motion	50~100
	Standard	Within 100~1000
VITON	Slow motion	50~200
	Standard	200~1000 above

* The suitable grease type can be selected according to the actual use.

Order example of mounting accessories

Code	LB (Purchase 2 pcs)	LB1 (Purchase 2 pcs)
Mounting / Tube I.D.		
ø16	LB-P1-16	–
ø25	LB-P1-25	–
ø32	LB-P1-32	LB1-P1-32
ø40	LB-P1-40	–

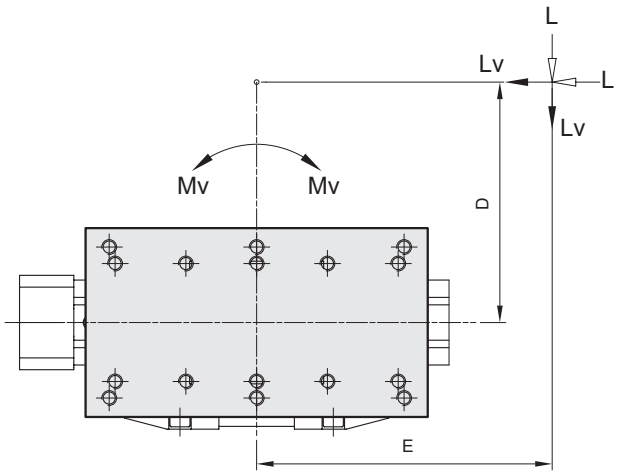
1. The below mentioned moments (Ma max, Mr max, Mv max.) are related to the guide rail center. The load force (L) is the summary of all single forces related to the common center of the mass. The center of the mass can be placed inside or outside the surface area of the carriage.
2. Normally the carriage 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.

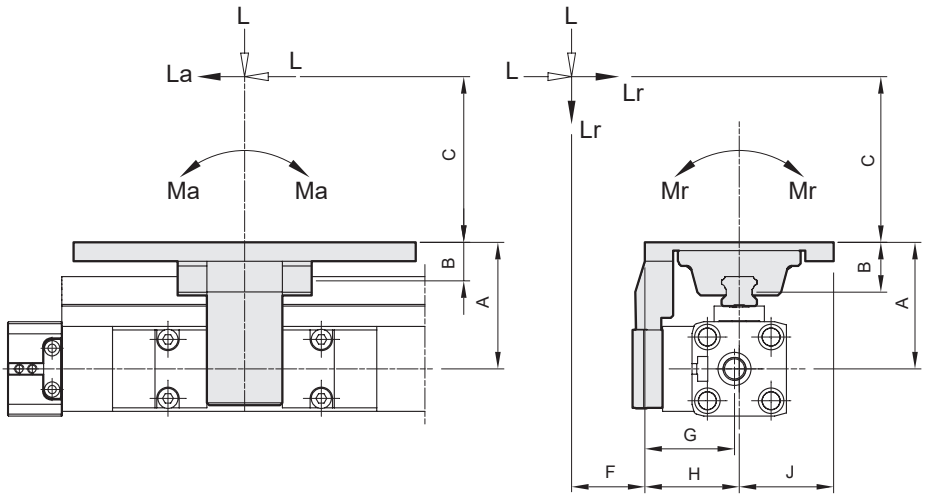
Use the following calculation formula:

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

Forces and moments

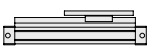
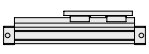
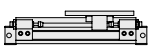
Tube I.D. / Code			16	25	32	40
Effect forces F		(N)	110	250	420	640
Cushioning		(mm)	15	21	26	32
A		(mm)	48.2	53.2	64	69
B		(mm)	21	21	24.4	24.4
C / D / E / F		(mm)	Dimensions according			
G		(mm)	38	38	55	54.5
H		(mm)	40	40	57.5	57.5
J		(mm)	40	40	57.5	57.5
Single slider	Load forces	L(N)	500	1500	2950	3960
	Moment forces	La, Lr, Lv (N)	500	1500	2950	3960
	Axial moments	Ma (Nm)	4	40	61	115
	Radial mom ents	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

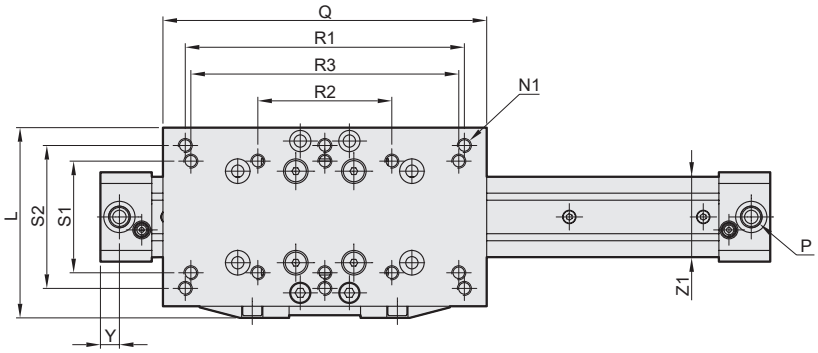




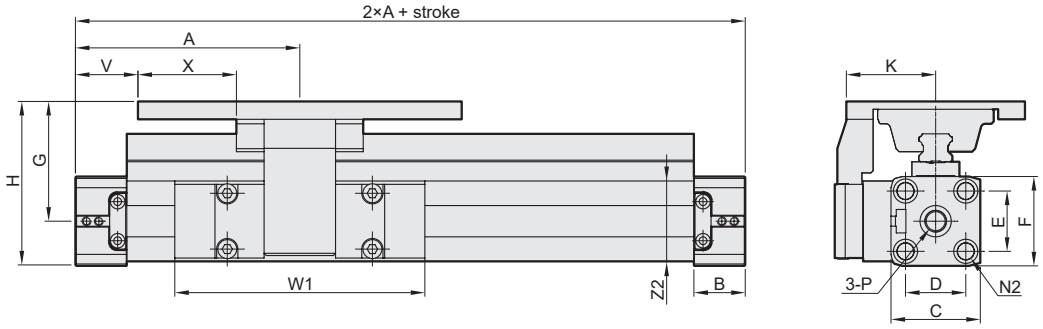
Weight

Unit: g

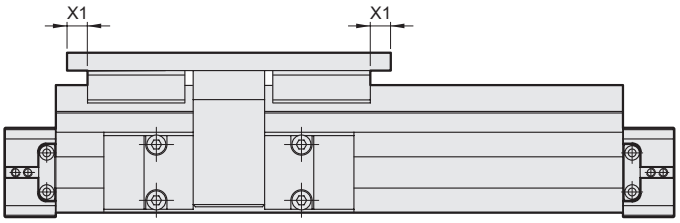
Tube I.D.	Without absorber		With absorber		Stroke 100 mm
	Single slider basic weight	Dual slider basic weight	Single slider basic weight	Dual slider basic weight	
					
16	932	–	1082	–	255
25	1698	1908	2032	2242	457
32	4082	4278	4635	4831	569
40	5709	5905	6260	6456	787



Single slider



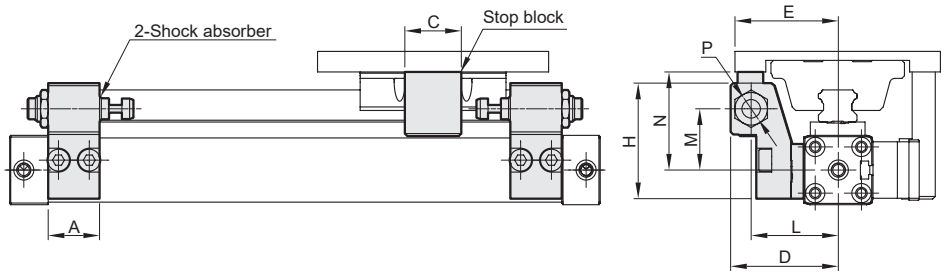
Dual slider



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	X1	Y	Z1×Z2
16	70	36	–	20	69	16.5	–	5.5	25×24.5
25	120	50	64	28	112	44.0	13.5	8.5	36×36
32	–	–	96	30	152	64.3	16.8	10.5	48×52
40	–	–	96	55	152	64.3	16.8	16.0	58×58

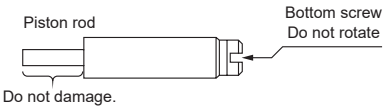
Shock absorber set



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

With shock absorber

1. 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.
2. Do not scratch the exposed portion of the piston rod.
   Decrease in life or malfunction may result.



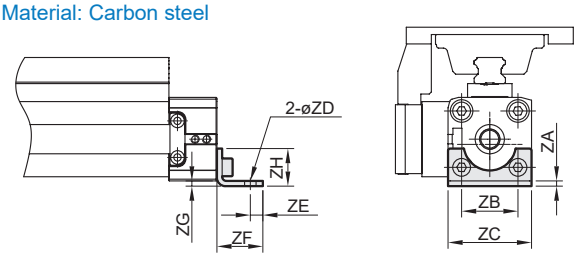
3. Shock absorber is considered a consumable component. When energy absorption is decreased, replace it.

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

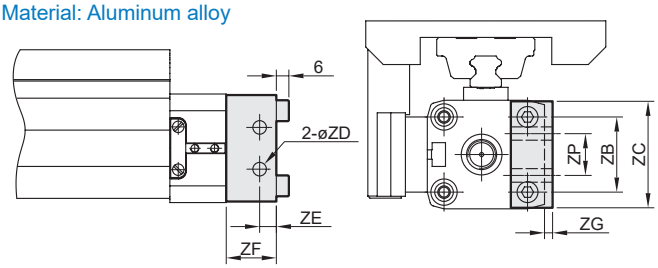
Mounting accessories

LB End cover bracket (foot)

ø16, ø25
Material: Carbon steel

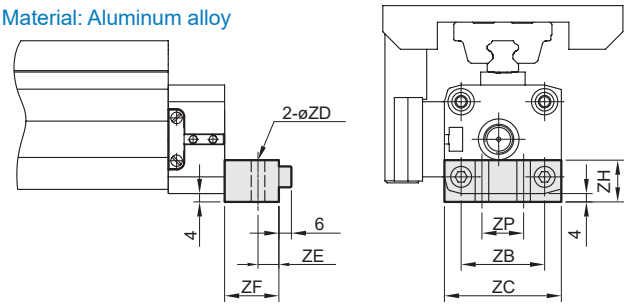


ø32, ø40
Material: Aluminum alloy



LB1 End cover bracket (foot)

ø32*
Material: Aluminum alloy



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