

Features

- High resistance to wear.
- Ability to take high loads & moments in all directions.
- Low weight.
- Ability to take shock loadings and vibrations against blows and vibrations.

Specification

Model	MCRPLS			
Acting type	Double acting			
Tube I.D. (mm)	32	40	50	63
Port size	G1/4			G3/8
No. of port	3			
Medium	Air			
Operating pressure range	0.05~0.8 MPa			
Stroke range	100~2000 mm (*1)			
Ambient temperature	-10~+80°C (No freezing)			
Lubrication	With or without lubrication			
Cushion	With adjustable cushion at both ends			
Sensor switch (*2)	RNI / RPI	RCAL (Please refer to page 6-9)		
Sensor switch holder	-	HPL		

*1. In increments of 1mm, long strokes on request.

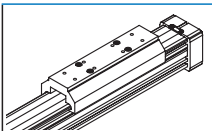
*2. RNI / RPI specification, please refer to page 8-13.

*3. The tube isn't airtight, so the certain leakage is allowed.

Before delivery, all products has passed the standard of leakage test.

Order example

MCRPLS — 90 V — 32 — 0850 — S

Model	Type	Piston seals	Tube I.D.	Stroke	Grease lubrication
	90 Standard type	- NBR	32	0100~2000 mm (4 digits)	- Standard
		V VITON	40		
			50		
			63		
				S	Slow motion



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.

Cylinder weight

Unit: g

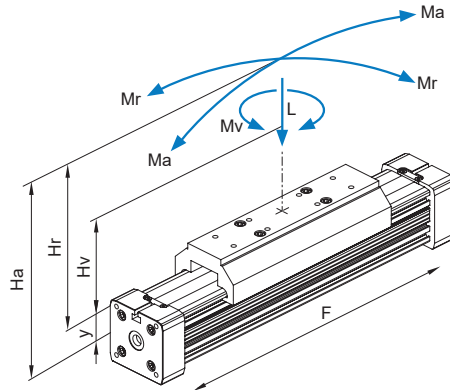
Model	Basic weight MCRPLS	Stroke 100 mm MCRPLS
Tube I.D.		
ø32	2,160	379
ø40	3,880	594
ø50	5,400	648
ø63	10,840	1,182

Order example of mounting accessories

Code	LB (Purchase 2 pcs)	LB1 (Purchase 2 pcs)	MS (Mid section support)
Mounting Tube I.D.			
ø32	LB-P1-32	LB1-P1-32	MS-P3-32
ø40	LB-P1-40	-	MS-P3-40
ø50	LB-P1-50	-	MS-P1-50
ø63	LB-P1-63	-	MS-P1-63

* The dimensions of LB and LB1 mounting accessories, please refer to page 6-7.

Forces and moments



Formulas

$$Ma = F \times Ha$$

$$Mr = F \times Hr$$

$$Mv = F \times Hv$$

Cylinder \varnothing	Effect force (N) 0.6 MPa	La, Lr, Lv max (N)	Ma max. (Nm)	Mr max. (Nm)	Mv max. (Nm)
32	420	495	35	10	35
40	640	825	75	20	75
50	1000	1320	170	58	170
63	1550	1815	305	95	305

- 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.
- 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 guided system. Use the following calculation formular.

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

Deflection diagram

- Max. distance (SL) in m – for $\varnothing 32 \sim 63$ mm

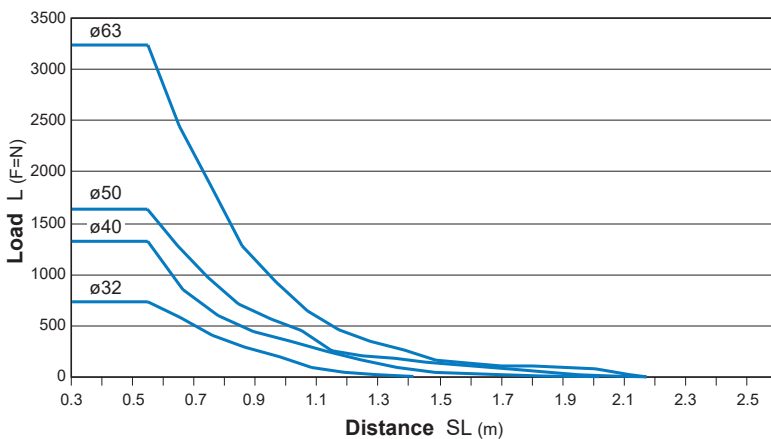
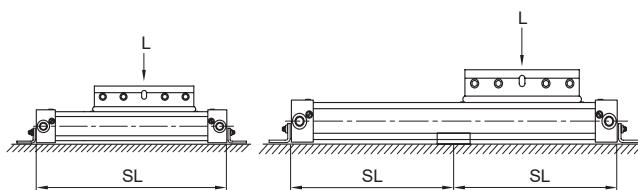


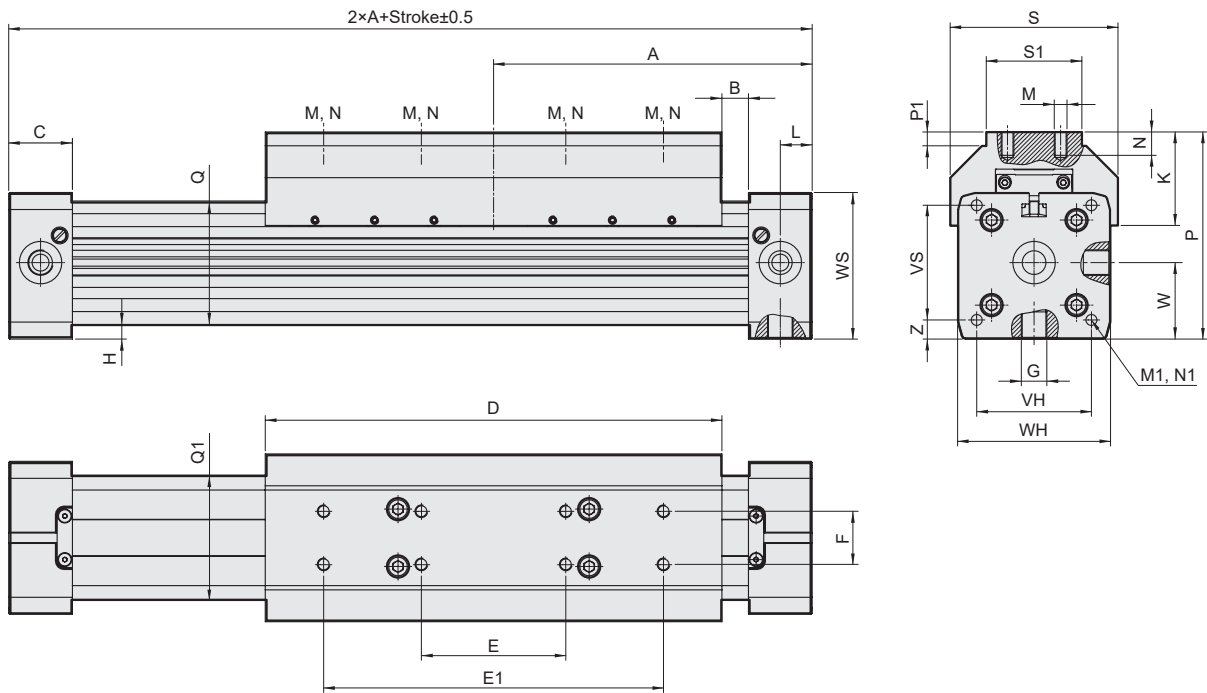
Diagram information

- Calculated deflections without support of 0.5~1 mm allow exceeding of supporting distance.
- Calculated deflections without support of 1 mm ~ max. 1.5 mm require reduction of the supporting distance.



RODLESS CYLINDER

mindman



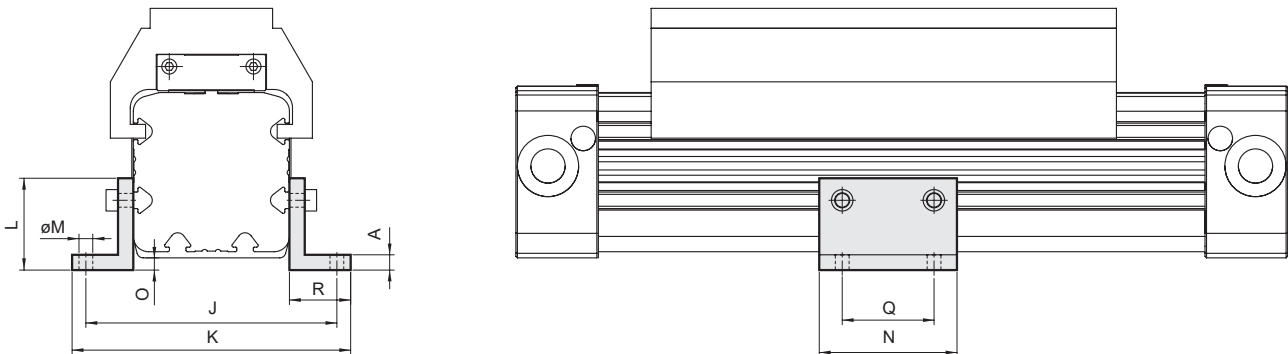
Code Tube I.D.	A	B	C	D	E	E1	F	G	H	K	L	M	N	M1	N1
32	125	22.0	27	152	60	120	25	1/4	2.0	42.5	10.5	M5	10	M6	14
40	150	12.5	30	215	68	160	25	1/4	7.0	44.0	15.0	M8	10	M6	17
50	175	17.5	33	250	84	190	25	1/4	0.5	48.5	11.7	M8	10	M6	18
63	215	5.0	50	320	120	240	25	3/8	1.5	56.0	25.0	M8	14	M8	18

Code Tube I.D.	P	P1	Q×Q1	S	S1	VH	VS	W	WH	WS	Z
32	81.5	6.5	52×51	66	40	36	40	30.0	52	56	8.0
40	97.5	6.5	58.5×59	79	45	54	54	36.0	72	69	9.0
50	110.0	6.5	77×78	92	50	70	70	43.5	80	80	4.0
63	137.0	5.0	102×102	116	50	78	78	62.5	106	106	14.5

MS Mid section support (2 pcs)

$\varnothing 32, \varnothing 40$

Material: Aluminum alloy



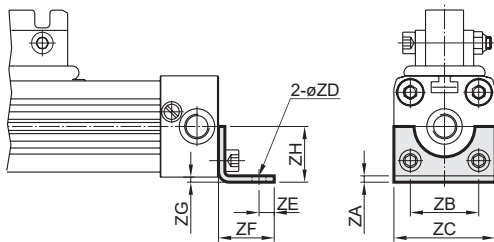
Code Tube I.D.	A	J	K	L	M	N	O	Q	R	Weight (g)
32	5	82	91	30	$\varnothing 4.5$	45	6	30	20	53
40	5	90	99	25	$\varnothing 4.5$	45	8.5	30	20	47

RODLESS CYLINDER

LB End cover bracket (foot)

$\varnothing 16, \varnothing 25$

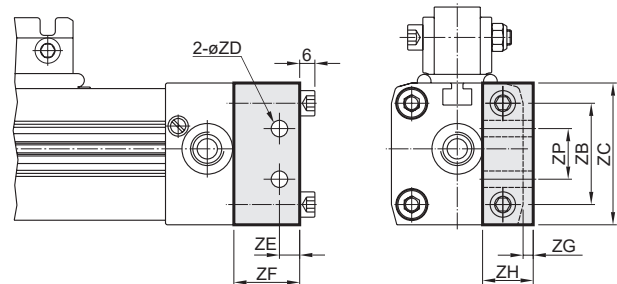
Material: Carbon steel



LB1 End cover bracket (foot)

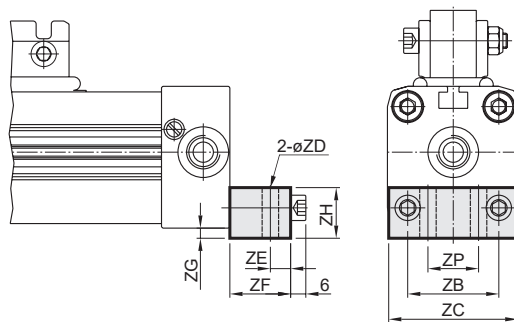
$\varnothing 32^*$

Material: Aluminum alloy



$\varnothing 32, \varnothing 40$

Material: Aluminum alloy



Code Tube I.D.	ZA	ZB	ZC	ZD	ZE	ZF	ZG	ZH	ZP	Weight (g)
16	1.6	18	26	3.6	4	14	1.5	12.5	—	16
25	2.5	27	40	5.5	6	22	2.5	18	—	61
32	—	36	51	6.5	8	24	4	20	20	165
32*	—	40	56	6.5	8	26	4	20	20	189
40	—	54	71	9	11.5	24	2	20	30	210
50	—	70	80	9	12.5	25	2	25	45	293
63	—	78	106	11	15	30	2	40	48	730

$\varnothing 50, \varnothing 63$

Material: Aluminum alloy

