

# MRBT series Magnetically Coupled Rodless Cylinder (Precision linear guide)

## Product feature

**CHELIC**

### Feature

- Stainless steel shaft design, light weight and strong rigidity.
- Magnetically coupled design. The radial magnetic force transmits power to drives the loading by the built-in magnetic ring on the piston and the external magnet inside the body.
- High-precision guide rails reduce the friction resistance of the sliding guide rail to achieve high loading capacity.
- The air inlet can choose a single-sided centralized design for easy piping.



PRE

PRET(P)

PRU(F)2

PRUT2

### Specification

Item	Bore size (mm)	Ø10	Ø15	Ø20	Ø25	Ø32
Action		Double acting				
Fluid		Air				
Pressure range	kgf/cm <sup>2</sup> (kPa)	1.5 ~ 4.5(150~450)	1.5 ~ 6.0 ( 150 ~ 600 )			
Max. operating pressure	kgf/cm <sup>2</sup> (kPa)	5.0 ( 500 )	6.5 ( 650 )			
Ambient and fluid temperature <sup>°</sup> C		0.025	0.03	0.05	0.1	0.2
Piston speed	mm/s	0 ~ 60				
Lubrication		50 ~ 500				
Cushion		Lubrication free				
Port size		M5			PT1/8	
Sensing device		Rubber cushion	Air cushion			

MRD

MRB

MRBT

MRX

MRU

### Standard stroke

Unit: mm

Bore size (mm)	Standard stroke (mm)	Max. stroke
Ø10	50, 100, 150, 200, 250, 300	300
Ø15	50, 100, 150, 200, 250, 300, 350, 400, 450, 500	500
Ø20	50, 100, 150, 200, 250, 300, 350, 400, 450, 500	800
Ø25	50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600	800
Ø32	50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600	800

MRH

MRY

### Theoretical output

Unit: kgf

Bore size (mm)	Operating	Piston area (cm <sup>2</sup> )	Air pressure (kgf / cm <sup>2</sup> )					
			1	2	3	4	5	6
Ø10	Push	1.5	—	1.6	2.4	3.2	4	4.7
Ø15	Push	1.76	—	3	5	7	8	10
Ø20	Push	3.14	—	6	9	12	15	18
Ø25	Push	4.90	—	9	14	19	24	29
Ø32	Push	8.04	—	16	24	32	40	48



Note: All of above are theoretical data. Before actual adoption, the frictional resistance and mechanical efficiency shall be taken into consideration (about 70% ~ 80%)

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Code of order

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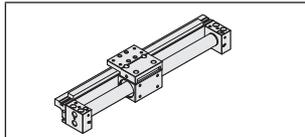
## Code of order **MRBT - R 10 x 100 - AM2 - 8G 2**



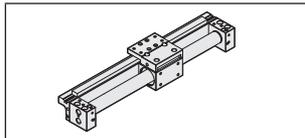
**1**

Mark	Port position
None	Air ports from left/ right side
R	Air port from right side
L	Air port from left side

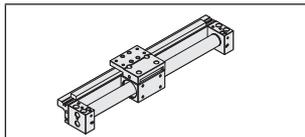
● Image



None: Air ports from left/ right side



R: Air port from right side



L: Air port from left side

**2**

Mark	Bore size (mm)
10	Ø10
15	Ø15
20	Ø20
25	Ø25
32	Ø32

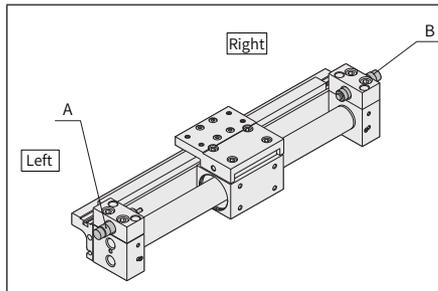
**3**

Bore size (mm)	Stroke (mm)
Ø10	50 ~ 300
Ø15	50 ~ 500
Ø20	
Ø25	
Ø32	50 ~ 600

**4**

Mark	Cushion option	Cushion
None	Without cushion	A: Shock absorber
AM1	Left side with shock absorber	
BM1	Left side with adjusting bolt	B: Adjusting bolt
AM2	Both sides with shock absorber	
BM2	Both sides with adjusting bolt	M: Shock absorber base
AM3	Right side with shock absorber	
BM3	Right side with adjusting bolt	
AM4	Left A*2pc + Right B*2pcs	
BM4	Left B*2pc + Right A*2pcs	

● Assembly example and direction



● How to select Shock absorber

Bore size (mm)	Shock absorber model	Maximum absorption (N · m)
Ø10	SAT-0806	0.2
Ø15	SAT-1007	0.4
Ø20	SAT-1210	0.5
Ø25	SAT-1210	0.5
Ø32	SAT-1412	2.0

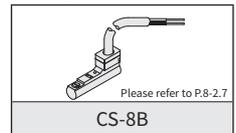
● Adjusting bolt (Option)

Bore size (mm)	Specification	Stroke adjustment (mm)
Ø10	M8x1.0P	0 ~ 15
Ø15	M10x1.0P	0 ~ 20
Ø20	M12x1.0P	0 ~ 20
Ø25	M12x1.0P	0 ~ 20
Ø32	M14x1.5P	0 ~ 30

**5**

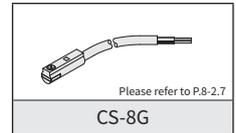
Mark	Sensor switch
None	Without sensor switch
8B	CS-8B
8G	CS-8G

● Image



Please refer to P.8-2.7

CS-8B



Please refer to P.8-2.7

CS-8G

**6**

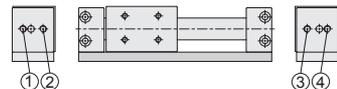
Mark	Sensor quantity
1	1 pc
2	2 pcs

## Port position

None : Standard type, piping port located in left and right refer to picture ②③

[R] : Piping port located in right side, refer to picture ③④

[L] : Piping port located in left side, refer to picture ①②

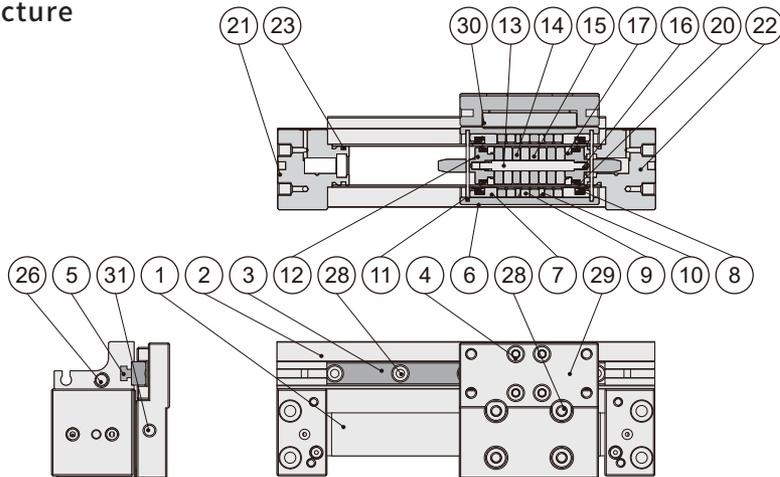


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Product feature

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## Internal structure



## Components and material list

NO.	Item	Material	Quantity	NO.	Item	Material	Quantity
01	Shaft	Stainless steel	1	17	O-ring	NBR	2
02	Air path strip	Aluminum alloy	1	18	Plate	Pig iron	1
03	Rail	Bearing steel	1	19	Wear plate	POM	1
04	Hexagon socket head cap screw	Alloy steel	4	20	Piston packing	NBR	2
05	Nut	Alloy steel	Stroke	21	Left end cap	Aluminum alloy	1
06	Body	Aluminum alloy	1	22	Right end cap	Aluminum alloy	1
07	Shaft packing plate	POM	2	23	O-ring	NBR	2
08	Shaft packing	NBR	2	24	Hexagon socket head cap screw	Alloy steel	2
09	Rare-earth magnet	Rare earth	6	25	Hexagon socket head cap screw	Alloy steel	2
10	Magnet spacer	Pig iron	4	26	Set screw	Alloy steel	2
11	C clip	Alloy steel	2	27	O-ring	NBR	2
12	Piston	Aluminum alloy	2	28	Hexagon socket head cap screw	Alloy steel	Stroke
13	Piston rod joiner	Stainless steel	1	29	Slide base	Aluminum alloy	1
14	Piston magnet spacer	Pig iron	4	30	Metal block	Aluminum alloy	1
15	Rare-earth magnet	Rare earth	6	31	Dowel pin	Alloy steel	2
16	Hexagon socket head cap screw	Alloy steel	2	32			

## Product weight

Unit: kg

Bore size(mm)	Stroke = 0mm	Additional weight
Ø10	0.3	0.2
Ø15	0.32	0.3
Ø20	0.36	0.4
Ø25	0.42	0.5
Ø32	0.63	0.6

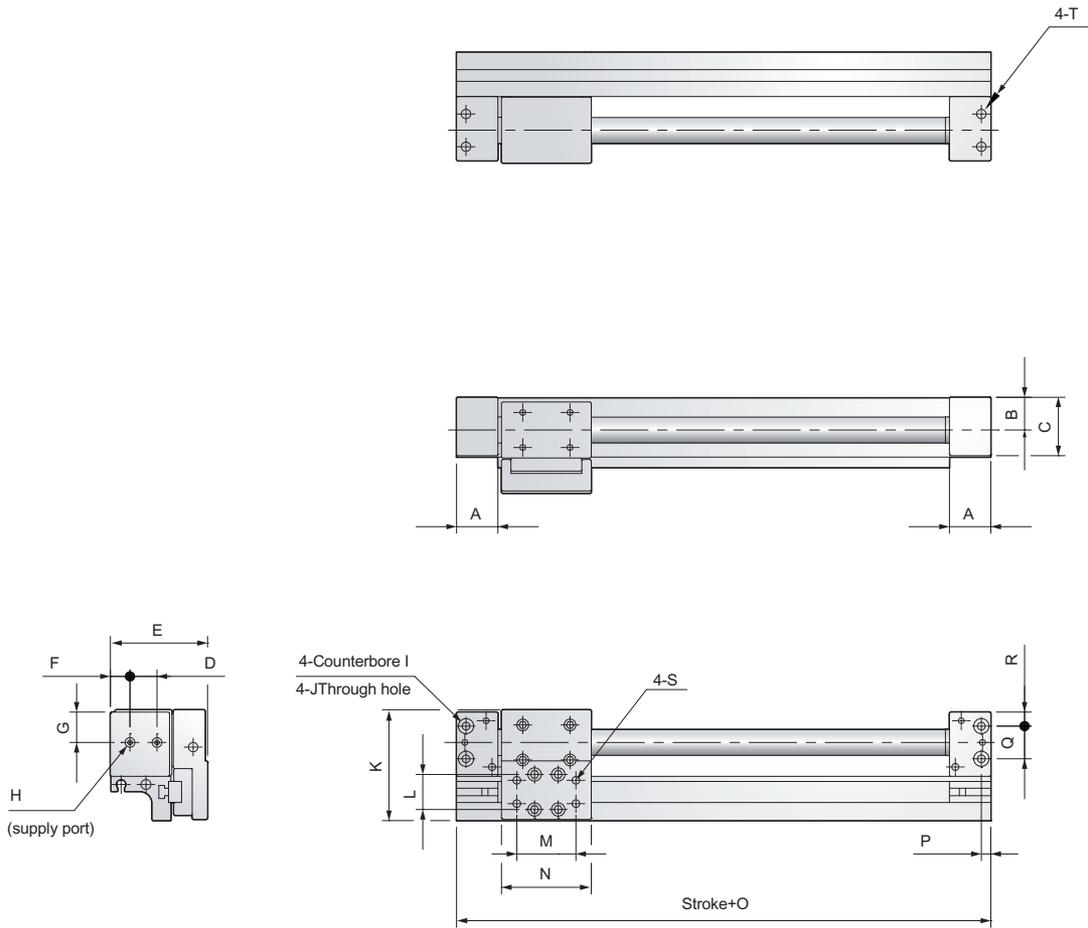
Note: Additional weight per each 100 mm in ± 5% difference

# MRBT series Magnetically Coupled Rodless Cylinder (Precision linear guide)

## Dimensions

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### MRBT Ø10 ~ Ø32



Unit: mm

Model	Mark	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
MRBT 10		17.5	14	25	-	41.1	14	13	M5x0.8	Ø6.5x3.5dp	Ø3.3	47.5	10	25	38	76	4	14	6	M4x0.7P	M4x0.7Px7dp
MRBT 15		19	17	31	15	45.1	8	16	M5x0.8	Ø8x4.5dp	Ø4.2	52.75	15	44	53	94	5	18	7	M4x0.7P	M5x0.8Px10dp
MRBT20		20.5	21	38	17.5	55.6	11	19	PT1/8	Ø9.5x5.5dp	Ø5.2	64.75	16	48	62	107	6	17	10.5	M4x0.7P	M6x1.0Px10dp
MRBT25		21.5	23.5	43	23	62.6	12	21.5	PT1/8	Ø9.5x5.5dp	Ø5.2	71	18	54	70	117	6	20	11.5	M5x0.8P	M6x1.0Px10dp
MRBT 32		24	29	54	25	75.1	15	27	PT1/8	Ø11x6.5dp	Ø6.8	85.85	20	60	76	130	7	26	14	M6x1.0P	M8x1.25Px11dp

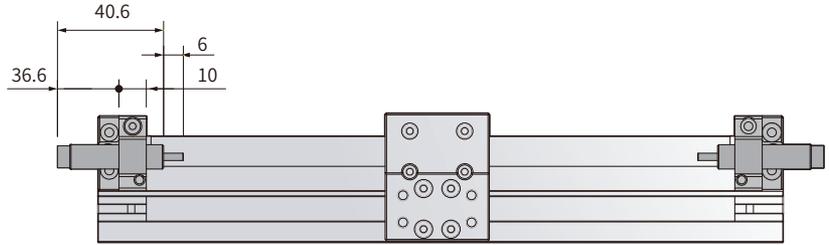
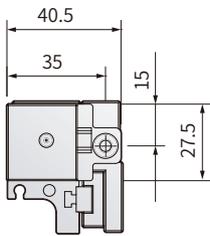
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## Dimensions

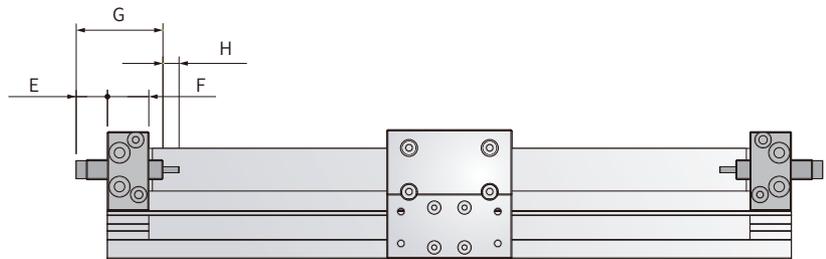
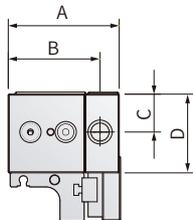
**CHELIC**

### Cushion

#### ● MRBT 10



#### ● MRBT 15~32



PRE

PRET(P)

PRU(F)2

PRUT2

MRD

MRB

MRBT

MRX

MRU

MRH

MRY

Unit: mm

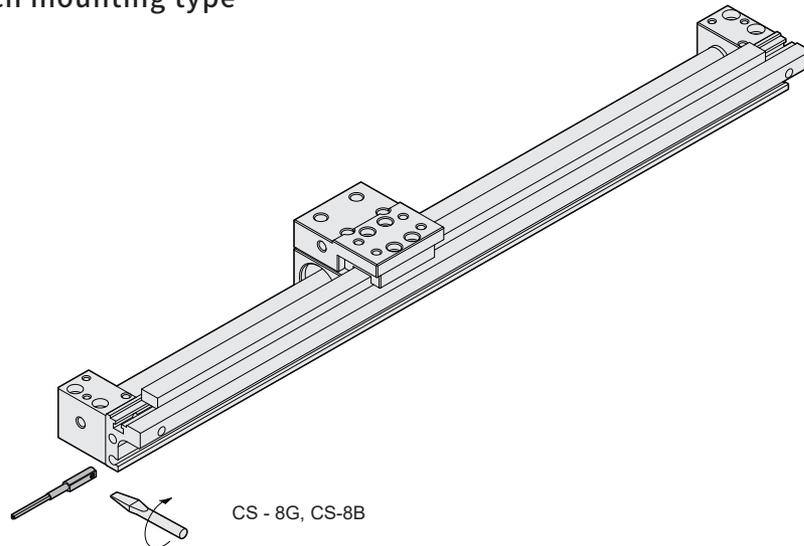
Model	Mark	A	B	C	D	E	F	G	H
MRBT 15		44	37.3	16	33.5	35	19	54	7
MRBT 20		55	45.5	19	39.5	42	20.5	62.5	10
MRBT 25		62	51.5	21.5	44.5	41	21.5	62.5	10
MRBT 32		75	64	27	55.5	55	24	79	12

# MRBT series Magnetically Coupled Rodless Cylinder (Precision linear guide)

## Mounting type and operation of sensor switch

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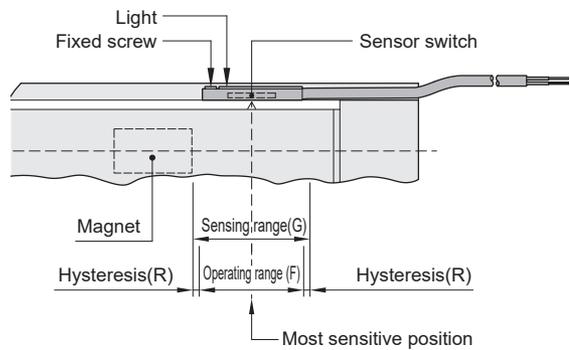
### ■ Sensor switch mounting type



### ■ Sensing range

Sensor switch is fixed on the cylinder body. The magnetic piston head will activate the Sensor switch when it enters the operating range. It has 0.5mm differential.

### ■ Sensor switch setting and Operating range



### ■ Sensor switch introduction

