

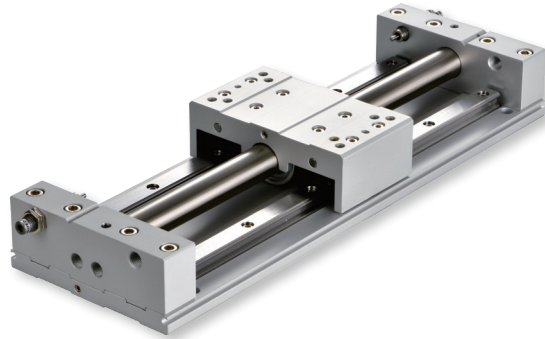
MRY series Magnetically Coupled Rodless Cylinder (Double linear guide)

Product feature

CHELIC

Feature

- Stainless steel cylinder tube design, light weight and strong rigidity.
- Magnetic 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.
- Sensor switch not included



Specification

Item	Bore size (mm)	Ø10	Ø15	Ø20	Ø25
Action		Double acting			
Fluid		Air			
Pressure range	kgf / cm ² (kPa)	1.5 ~ 4.5 (150 ~ 450)	1.5 ~ 6.0 (150 ~ 600)		
Max. operating pressure	kgf / cm ² (kPa)	5 (550)	6.5 (650)		
Ambient and fluid temperature	°C	0 ~ 60			
Piston speed	mm / s	50 ~ 500			
Lubrication		Lubrication free type			
Port size		M5		PT1/8	
Cushion		Rubber cushion	Air cushion		

Standard stroke


Unit: mm

Bore	Standard stroke
Ø10	50, 100, 150, 200, 250, 300
Ø15	50, 100, 150, 200, 250, 300, 350, 400, 450, 500
Ø20	50, 100, 150, 200, 250, 300, 350, 400, 450, 500
Ø25	50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600

Theoretical output

Unit: kgf

Bore size (mm)	Operating	Piston area (cm ²)	Air pressure (kgf / cm ²)					
			1	2	3	4	5	6
Ø10	Push	1.5	—	1.6	2.4	3.2	4	—
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	39

 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 **MRY 10 x 100 - A4 - 9D 2**

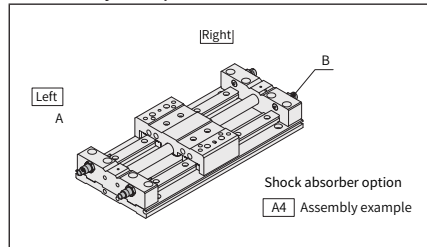
1 2 3 4 5

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

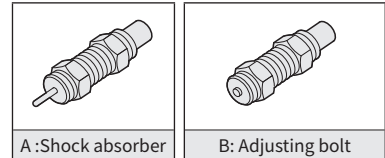
2	Bore size (mm)	Stroke (mm)
	Ø10	50 ~ 300
	Ø15	50 ~ 500
	Ø20	
	Ø25	50 ~ 800

3	Mark	Cushion option	Cushion
	None	Without cushion	A: Shock absorber B: Adjusting bolt
	A1	Left side with shock absorber	
	B1	Left side with adjusting bolt	
	A2	Both sides with shock absorber	
	B2	Both sides with adjusting bolt	
	A3	Right side with shock absorber	
	B3	Right side with adjusting bolt	
	A4	Left A + Right B	
	B4	Left B + Right A	

● Assembly example and direction



● Image



● Shock absorber quantity

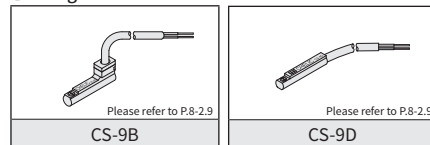
Bore size (mm)	Quantity	Assembly position
Ø10	2	1pc to left and right
Ø15	4	2 pcs to left and right
Ø20	4	2 pcs to left and right
Ø25	4	2 pcs to left and right

● How to select Shock absorber

Bore size (mm)	Shock absorber model	Maximum absorption (kgf · m)
Ø10	SAT-0806N	0.1
Ø15	SAT-0806N	0.1
Ø20	SAT-1007N	0.15
Ø25	SAT-1007N	0.15

4	Mark	Sensor switch
	None	Without sensor switch
	9B	CS-9B
	9D	CS-9D

● Image



● Adjusting bolt (Option)

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

5	Mark	Sensor quantity
	1	1 pc
	2	2 pcs

PRE

PRET(P)

PRU(F)2

PRUT2

MRD

MRB

MRBT

MRX

MRU

MRH

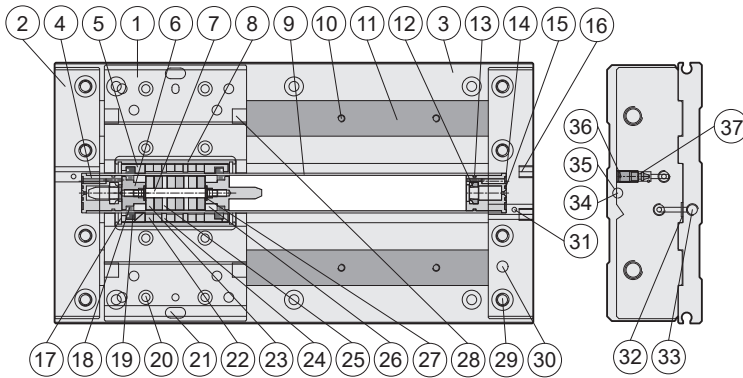
MRY

MRY series Magnetically Coupled Rodless Cylinder (Double linear guide)

Product feature

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Internal structure



Product weight

Unit: kg

Bore size (mm)	Stroke = 0mm	Additional weight
Ø15	1.7	0.28
Ø20	2.2	0.32
Ø25	2.85	0.38
Ø32	3.1	0.45

Note: Additional weight per each 100 mm in $\pm 5\%$ difference

Components and material list

NO.	Item	Material	NO.	Item	Material
01	Slider	Aluminum alloy	20	Slider set screw	Carbon steel
02	End cap	Aluminum alloy	21	Sensing magnet	Rare earth
03	Base	Aluminum alloy	22	Cylinder body magnet	Rare earth
04	Air cushion plate	Aluminum alloy	23	Piston magnet	Rare earth
05	Shaft packing plate	POM	24	Magnect spacer	Pig iron
06	Piston	Aluminum alloy	25	Piston magnet spacer	Pig iron
07	Piston rod joiner	Stainless steel	26	Wear ring	POM
08	Magnet bush	Stainless steel	27	Piston O-ring	NBR
09	Shaft	Stainless steel	28	Stopper	Bearing steel
10	Rail screw	Carbon steel	29	End cap screw	Carbon steel
11	Rail set	Alloy steel	30	End cap pin	Bearing steel
12	Air cushion packing	NBR	31	Stainless ball	Stainless steel
13	Air cushion O-ring-1	NBR	32	Vent O-ring-1	NBR
14	Air cushion O-ring-2	NBR	33	Vent O-ring-2	NBR
15	Air cushion O-ring-3	NBR	34	Air cushion O-ring O-ring	NBR
16	Absorbing rubber	NBR	35	Set screw	Carbon steel
17	C clip	Spring steel	36	Absorbing pin	Stainless steel
18	Piston packing	NBR	37	O-ring	NBR
19	Shaft packing	NBR			

Packing and O-ring material list

Unit: mm

Item	Piston packing	Shaft packing	Cushion O-ring
Bore size \ Quantity	2	2	2
Ø10	DYP - 10	PDU - 11 × 16.7	Ø2.8 × Ø1.9
Ø15	DYP - 15	PDU - 17 × 22.4	—
Ø20	PPY - 20	PDU - 21 × 28.3	—
Ø25	PPY - 25	PDU - 26 × 34.4	—

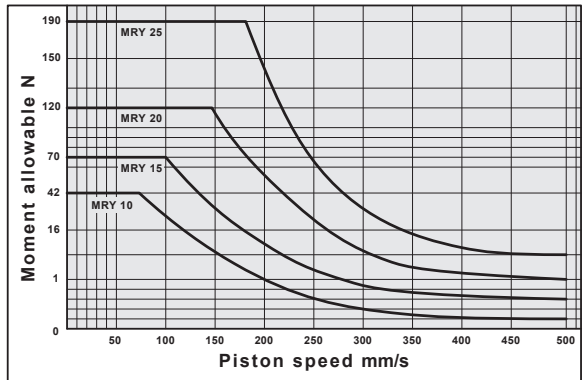
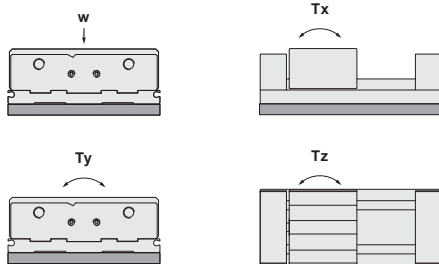
Note: The piston packing and shaft packing are from MITSUBISHI, SAKAGAMI or the same good level of quality material.

MRY series Magnetically Coupled Rodless Cylinder (Double linear guide)

Installation

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Load and moment allowable



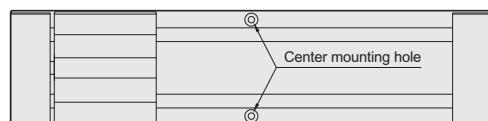
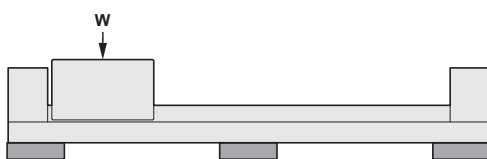
Bore size(mm)	Moment allowable		Max. Moment allowable (N · m)	
	W	Tx	Ty	Tz
Ø10	42	16	34	16
Ø15	70	26	70	26
Ø20	120	70	100	70
Ø25	190	150	230	150

Load and moment allowable

Select the moment from the range of operating limits shown in above graphs. The maximum allowable load value may sometimes be exceeded even within the operating limits. Therefore, please do check the allowable load and moment at the same time.

Assembly cautions

1. Long stroke operation causes deflection of the path table or cylinder tube. In such as case, provide and intermediate support.
2. As the figure, when the load (W) exceed 1/2, please do use mounting hole on slider and assemble the subject to provide center supporting
3. If the counter surface is not horizontal, it may cause piston flow not smoothly. Be cautious while position the cylinder.
4. If the cylinder in high impact or high vibration working environment, a support object should be mounted on center slider to strengthen cylinder.



PRE

PRET(P)

PRU(F)2

PRUT2

MRD

MRB

MRBT

MRX

MRU

MRH

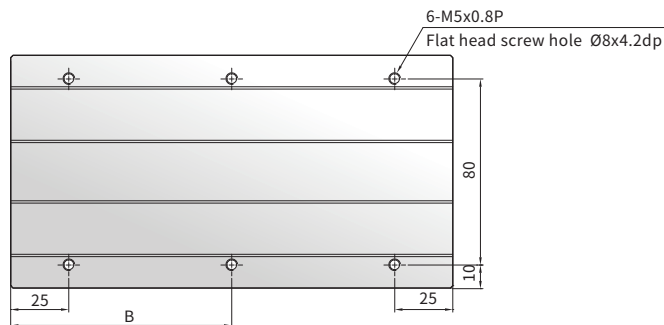
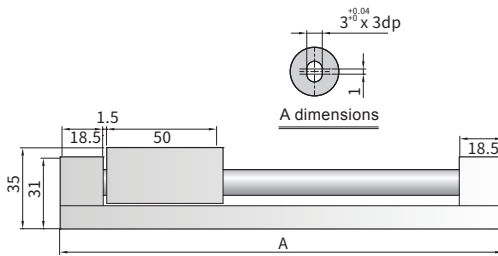
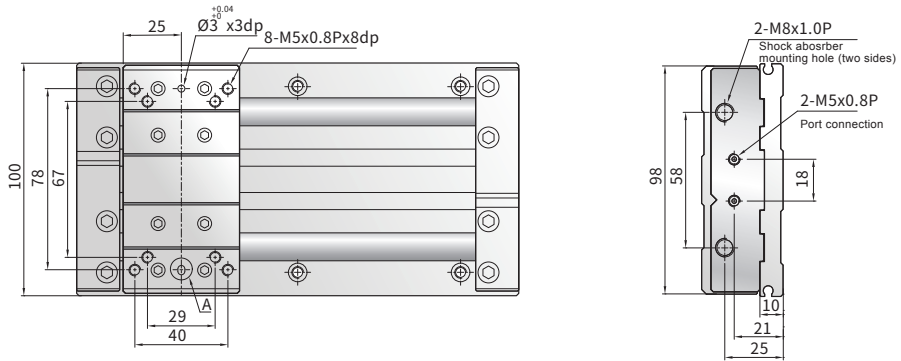
MRV

MRY series Magnetically Coupled Rodless Cylinder (Double linear guide)

Dimensions

CHELIC

MRY Ø10 x



Dimension

Unit: mm

Stroke	50	100	150	200	250	300
A	140	190	240	290	340	390
B	—	95	120	145	170	195

MRY series Magnetically Coupled Rodless Cylinder (Double linear guide)

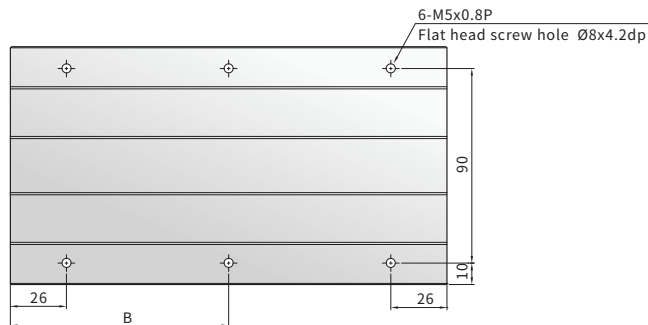
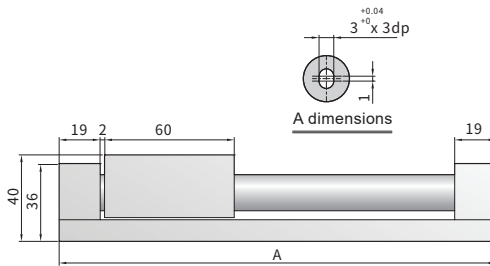
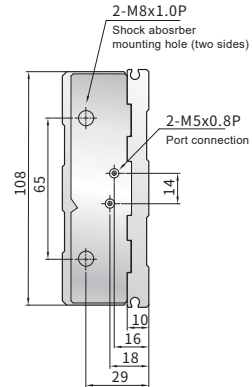
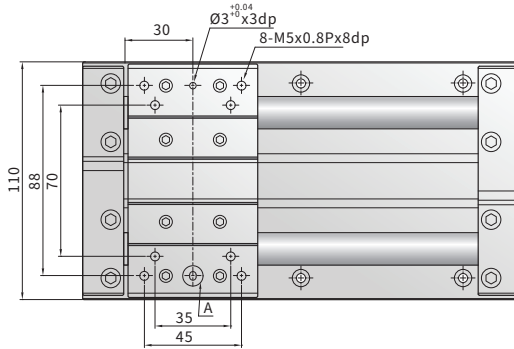
Dimensions

CHELIC

MRY Ø15 x



MRY x ST



Dimension

Unit: mm

Stroke	50	100	150	200	250	300	350	400	450	500
Mark	50	100	150	200	250	300	350	400	450	500
A	152	202	252	302	352	402	452	502	552	602
B	—	101	126	151	176	201	226	251	276	301

PRE

PRET(P)

PRU(F)2

PRUT2

MRD

MRB

MRBT

MRX

MRU

MRH

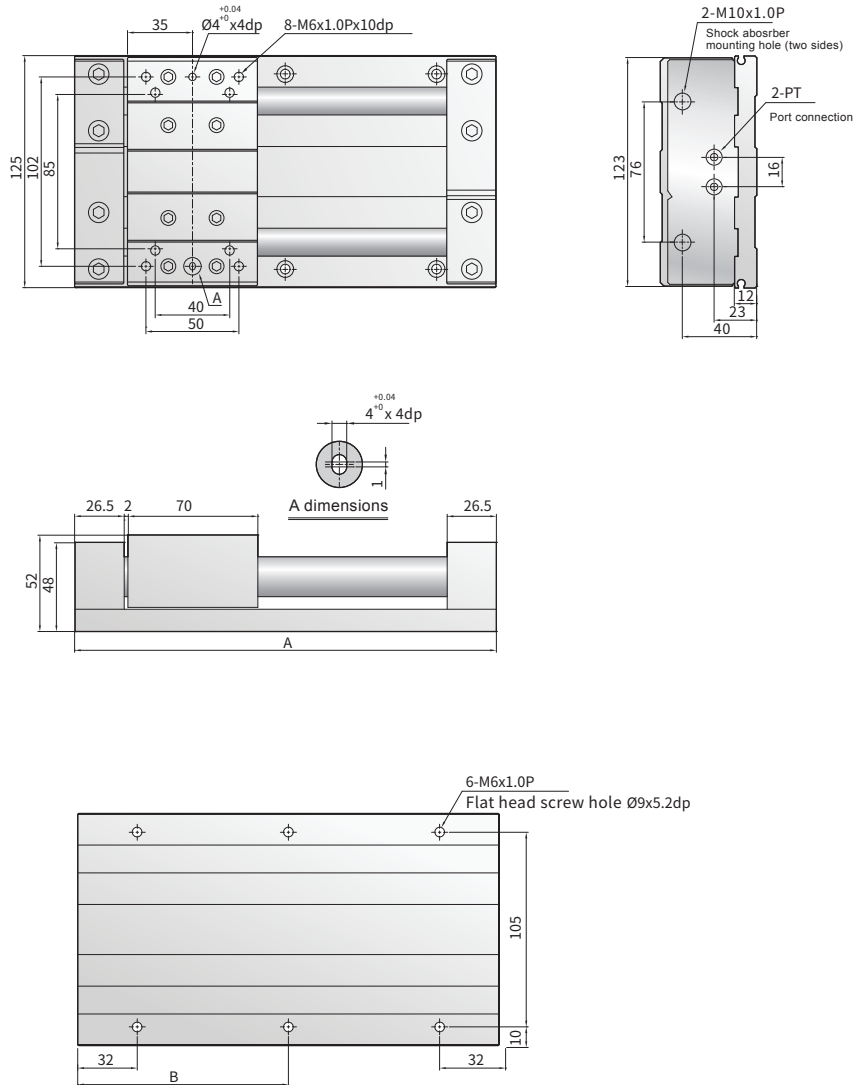
MRY

MRY series Magnetically Coupled Rodless Cylinder (Double linear guide)

Dimensions

CHELIC

MRY Ø20 x



Dimension

Unit: mm

Stroke	50	100	150	200	250	300	350	400	450	500
A	177	227	277	327	377	427	477	527	577	627
B	—	113.5	138.5	163.5	188.5	213.5	238.5	263.5	288.5	313.5

MRY series Magnetically Coupled Rodless Cylinder (Double linear guide)

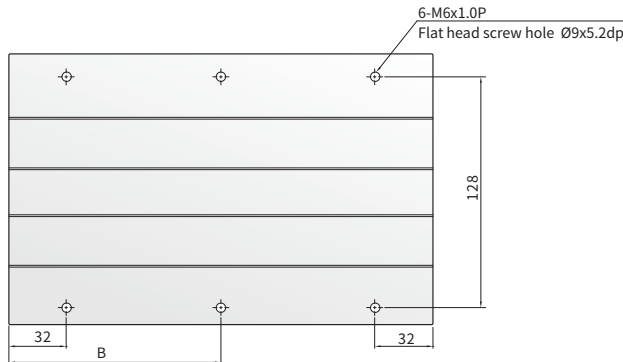
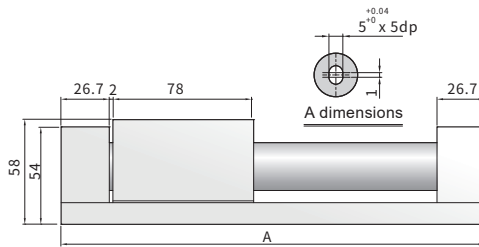
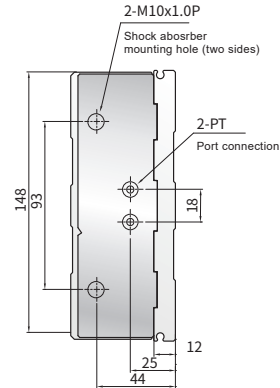
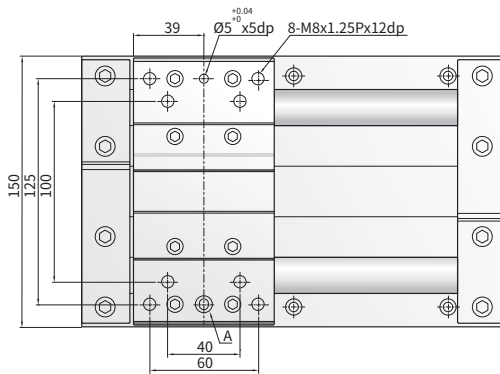
Dimensions

CHELIC

MRY Ø25 x



MRY x ST



PRE

PRET(P)

PRU(F)2

PRUT2

MRD

MRB

MRBT

MRX

MRU

MRH

MRY

Dimension

Unit: mm

Stroke Mark	50	100	150	200	250	300	350	400	450	500	550	600
A	185	235	285	335	385	435	485	535	585	635	685	735
B	—	117.5	142.5	167.5	192.5	217.5	242.5	267.5	292.5	317.5	342.5	367.5

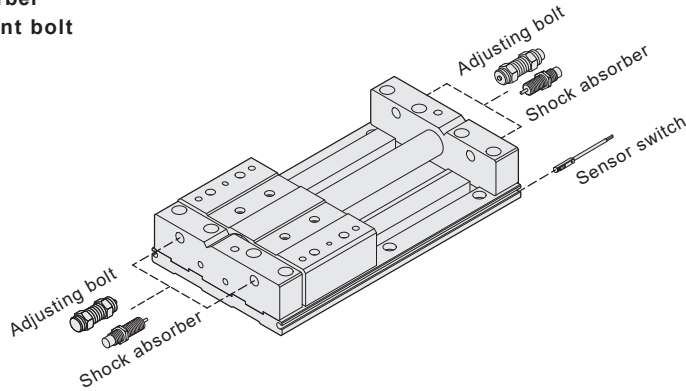
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Mounting type and operation of sensor switch

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■ Sensor switch mounting type

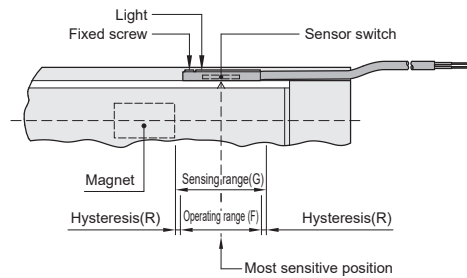
- **A** With shock absorber
- **B** Stroke adjustment bolt



■ Setting 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.

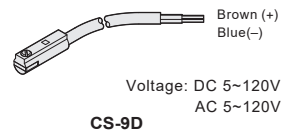
■ Sensor switch setting and operating range



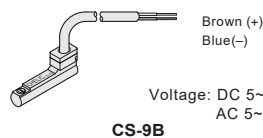
■ Operating range

When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch. (Please refer to the below table)

■ Sensor switch introduction



Voltage: DC 5~120V
AC 5~120V



Voltage: DC 5~120V
AC 5~120V

Unit: mm

Model	CS-9D(B)	
Bore size	Operating range (F)	Hysteresis(R)
Ø10	8	1
Ø15	8	1
Ø20	8	1.2
Ø25	11	1.2