

180° Angular Type Air Gripper

CHELIC

HDM2 Series

Bore size: Ø12, Ø16, Ø20, Ø25, Ø32



Industries served



AUTOMATION INDUSTRY



PLASTIC INJECTION



MACHINE TOOLING



AUTOMOTIVE

✓ Various sizes

Ø12 ~ Ø32

✓ Higher corrosion resistance

Stainless steel gripper finger

✓ Lighter in weight

0.1 ~ 1.18 kg



Stainless steel gripper finger

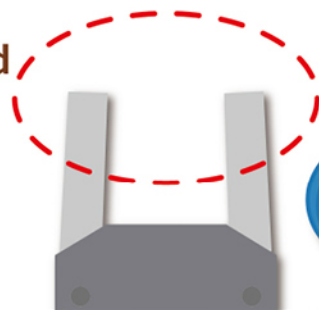
The gripper is made of SUS 630 materia with excellent corrosion resistance.



Improved gripping accuracy!

The cam structure design enhances the synchronicity of gripper closure.

Closed



Upgraded dust-resistant performance.

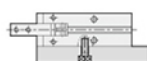
Dust-resistant design to keep foreign matter out.



Multi-direction securing

01

Bottom side



02

Lateral side



03

HM-type fixture



04

HB-type fixture



(Side View)

HDM2 series – 180° Angular gripper

Product features, Code of order

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Feature

- Finger guided by the end of gripper to ensure precise opening angular
- Dust-proof plate prevent debris from entering the body of gripper
- 180° holding
- Multiple ways to install



Specification

Item	Bore size (mm)	Ø12	Ø16	Ø20	Ø25	Ø32
Type of operation		Double acting				
Fluid		air				
Pressure range	kgf / cm ² (kPa)	1.5 ~ 7 (150 ~ 700)				
Ambient and fluid temperature	°C	0 ~ 60				
Max. operating frequency		60				
Lubrication	Cylinder times/min	Lubrication free				
	Lever section	Lubrication required				
Theoretical gripping force(M) <small>Note1: kgf-cm</small>	Closed side	0.2 X P	0.8 X P	1.7 X P	3.4 X P	6.1 X P
	Opened side	0.5 X P	1.1 X P	2.3 X P	4.3 X P	8.1 X P
Max. gripper point length (L)	mm	40	80	100	120	140
Effective gripping force(F) <small>Note1</small>	kgf	F = M / L X 0.9				
Lever open/close angles	°	- 1 ~ + 180				
Port size		M5 X 0.8P				
Sensing device		With magnet				

Note1. F : Effective gripping force · M : theoretical gripping torque · P : Pressure = 5 kgf/cm² · L : the gripping point length = 30mm

Code of Order HDM2 20 - HM - 8G 2

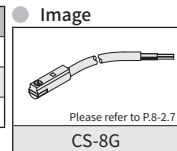


1	Mark	Bore size(mm)
	10	Ø12
	16	Ø16
	20	Ø20
	25	Ø25
	32	Ø32

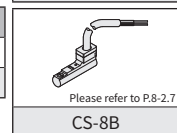
2	Mark	Mouting bracket	Mark	Mouting bracket	Mark	Mouting bracket
	No mark	No mouting bracket	HM		HB	

- HM type mounting bracket (Available to internal mounting)
- HB type mounting bracket (Available to external mounting)

3	Mark	Sensor switch
	No mark	No sensor switch
	8G	CS-8G
	8B	CS-8B



4	Mark	Sensor quantity
	1	1 pc
	2	2 pcs



HDD

HDS

HDM2

HDM

HDP

HDPM

HDZ

HDZL

HDZM

HMY

HDW

HDWM

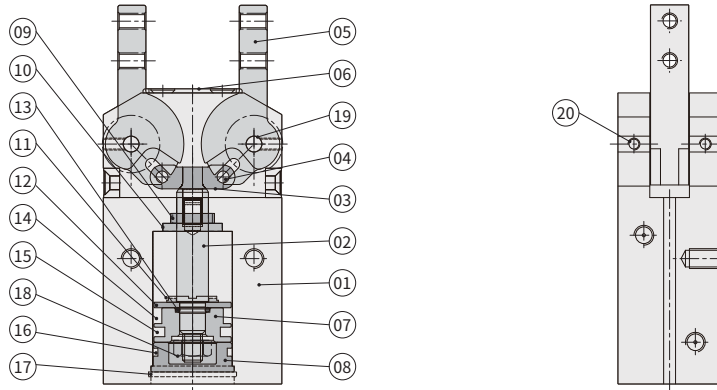
HMW

HDM2 series – 180° Angular gripper

Internal structure, Components and material list,
Product weight, Packing and O-ring part list

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Internal structure



Components and Material list

No.	Item	Material	No.	Item	Material
01	Body	Aluminum alloy	11	Cushion gasket	NBR
02	Shaft	Stainless steel	12	Magnet cap	Copper alloy
03	Finger connector	Alloy steel	13	Shaft O-ring	NBR
04	Needle roller	Bearing steel	14	Rare earth magnet	Rare earth metal
05	Finger	Alloy steel	15	Piston packing	NBR
06	Dust cover	Stainless steel	16	Rear cover O-ring	NBR
07	Piston	Copper alloy	17	C clip	Spring steel
08	Rear cover	Aluminum alloy	18	Locknut	Alloy steel
09	Shaft packing	NBR	19	Pin	Bearing steel
10	Packing plate	Copper alloy	20	Plug	Alloy steel

Packing and O-ring part list

Item	Piston packing	Shaft packing	Rear cover O-ring
Model \ Quantity	1	1	1
HDM2 Ø12	APA-12	MYA-5	Ø10 X Ø1.0
HDM2 Ø16	APA-16	MYA-6	Ø13.2 X Ø1.5
HDM2 Ø20	APA-20	MYA-8	Ø17.5 X Ø1.5
HDM2 Ø25	APA-25	MYA-10	Ø22 X Ø1.5
HDM2 Ø32	APA-32	MYA-12	Ø28.5 X Ø2.0

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

Product weight

Model	Weight(kg)
HDM2 Ø12	0.1
HDM2 Ø16	0.16
HDM2 Ø20	0.52
HDM2 Ø25	0.72
HDM2 Ø32	1.18

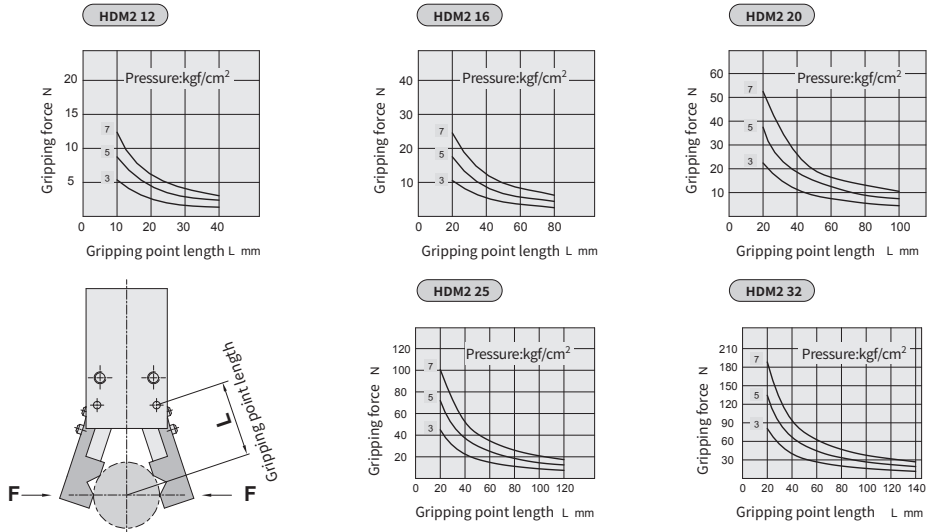
Note: All the above are theoretical data; weight deviation is approximately ±5%.

HDM2 series – 180° Angular gripper

Gripping force characteristic, Operating, Data and mounting type

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Gripping force characteristic



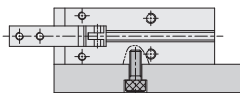
Operating type and data

Operation	Model	Bore size (mm)	The smallest operating pressure (kgf/cm ²)	Thread port(mm)	Effective gripping force (N)	
					Open	Close
Double acting	HDM2 12	12	2.2	4-M3x0.5P	Open	8.3
					Close	6.8
	HDM2 16	16	1	4-M3x0.5P	Open	19.7
					Close	16.9
	HDM2 20	20	1	4-M4x0.7P	Open	40
					Close	33.6
	HDM2 25	25	1	4-M5x0.8P	Open	72.1
					Close	60.6
	HDM2 32	32	1	4-M6x1.0P	Open	151
					Close	130

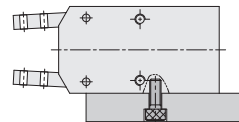
Note : Gripping force is the force generated when opening or closing the jaws, with a jaw arm contact length of 30mm and an operating pressure of 5 kgf/cm².

Mounting type

1. Apply the screw from bottom



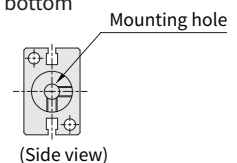
2. Apply the screw from side



3. Apply HM mounting bracket in the bottom



4. Apply HB mounting bracket in the bottom



HDD

HDS

HDM2

HDM

HDP

HDPM

HDZ

HDZL

HDZM

HMY

HDW

HDWM

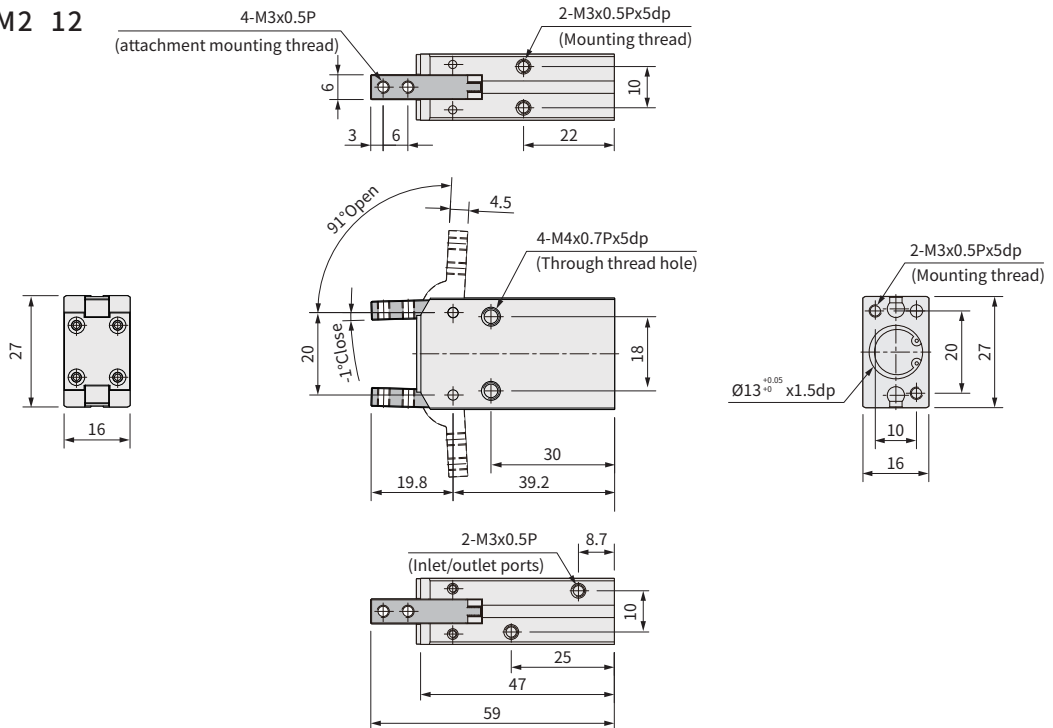
HMW

HDM2 series – 180° Angular gripper

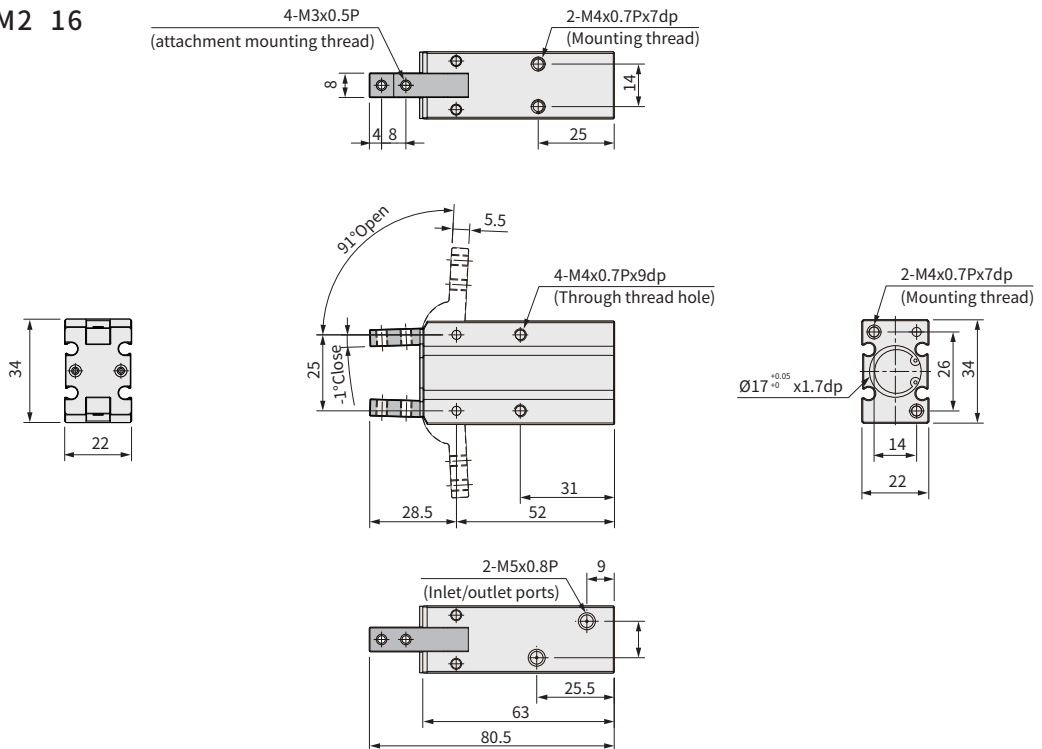
External dimensions - Ø12, Ø16

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HDM2 12



HDM2 16

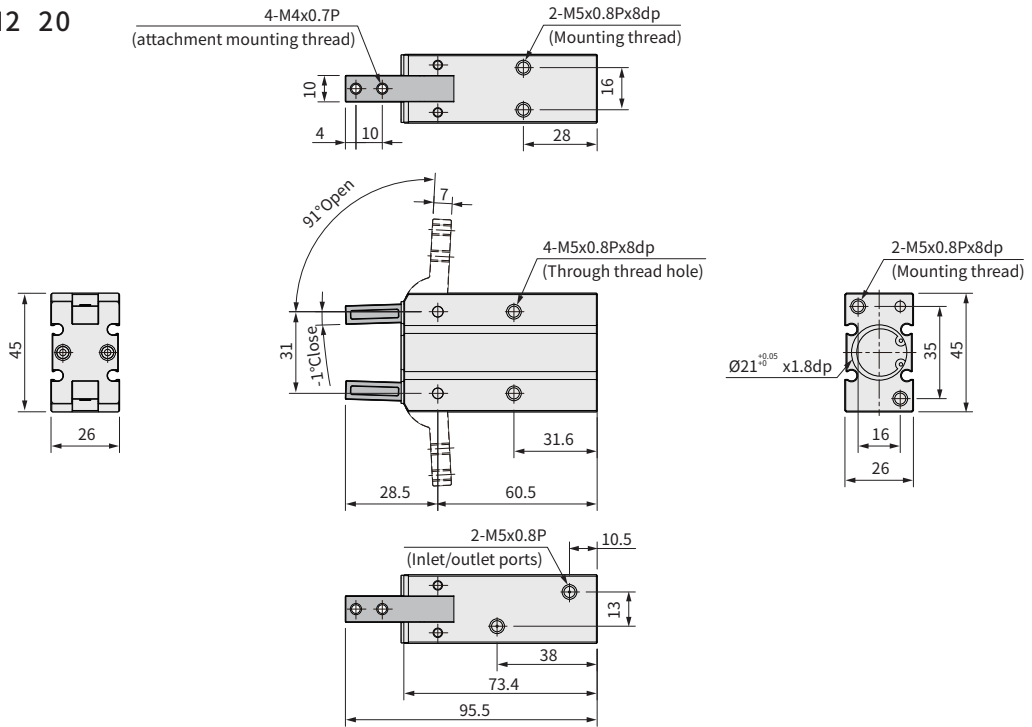


HDM2 series – 180° Angular gripper

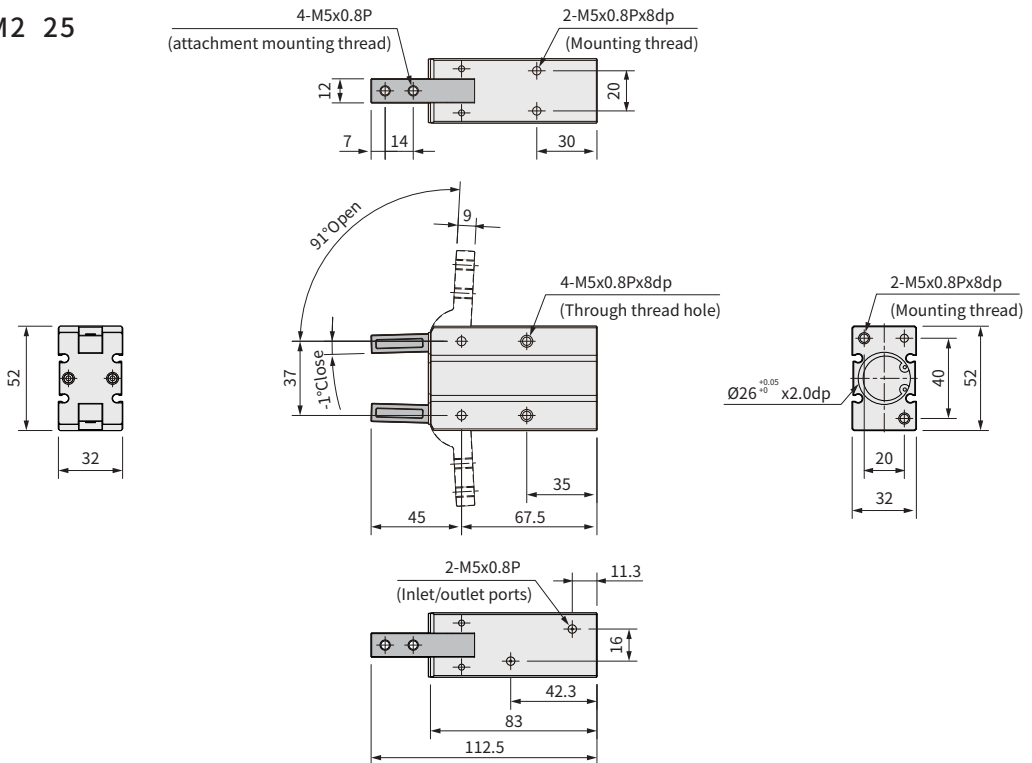
External dimensions - Ø20, 25

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HDM2 20



HDM2 25



HDD

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HDM

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HDZM

HMY

HDW

HDWM

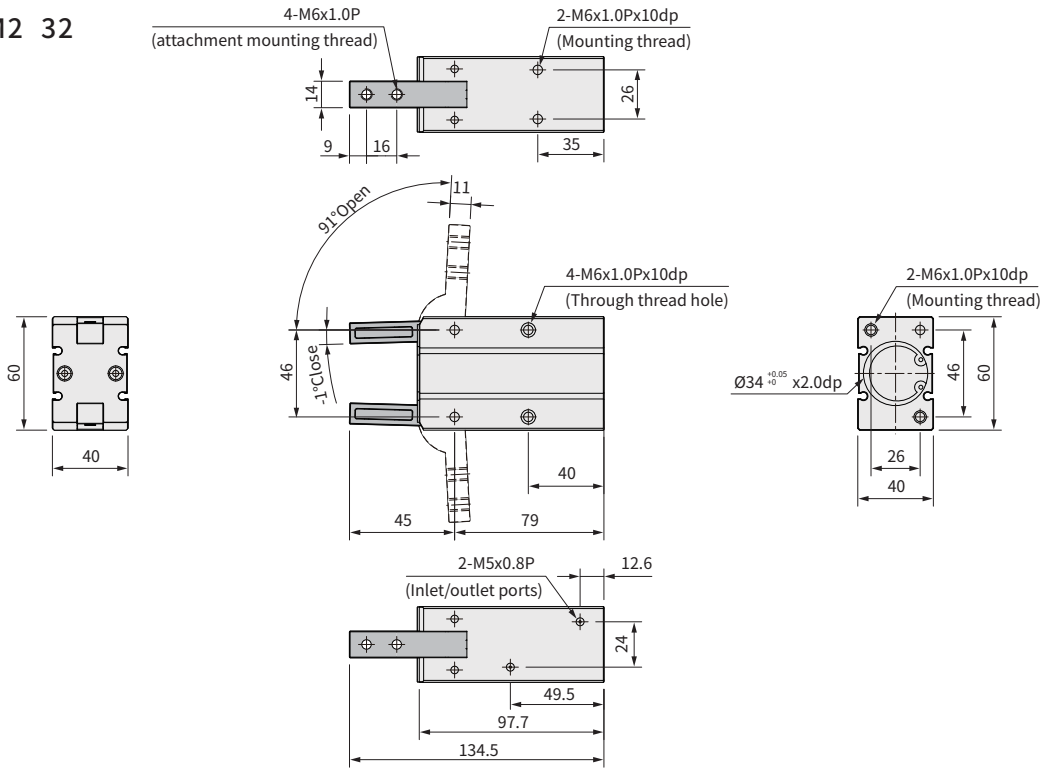
HMW

HDM2 series – 180° Angular gripper

External dimensions - Ø32, mouting bracket

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HDM2 32

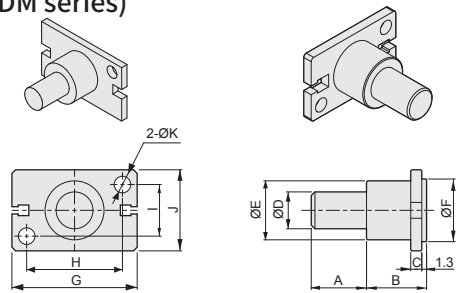


Mounting bracket (Applicable to HDS, HRS, HDP, HDM series)

HM type mounting bracket (Available to internal mounting)

Unit : mm

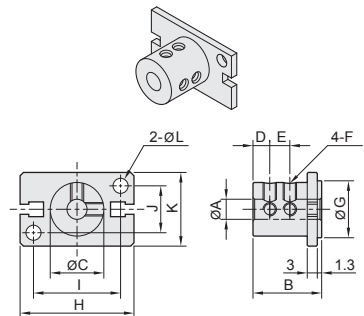
Mark Model	A	B	C	D	E	F	G	H	I	J	K
HM 12	10	10	2	8	12	11	23	20	10	16	3.5
HM 16	15	15	3	10	16	17	34	26	14	22	4.5
HM 20	15	15	3	10	18	21	45	35	16	26	5.5
HM 25	25	17	5	14	26	26	52	40	20	32	6.6
HM 32	25	20	6	16	30	34	60	46	26	40	6.6



HB type mounting bracket (Available to external mounting)

Unit : mm

Mark Model	A	B	C	D	E	F	G	H	I	J	K	L
HB 12	4	15	12	5	-	M3 x 0.5p	13	27	20	10	16	3.5
HB 16	6	20.5	16	5	6	M4 x 0.7p	17	34	26	14	22	4.5
HB 20	8	20.5	20	7	7	M4 x 0.7p	21	45	35	16	26	5.5
HB 25	10	30.5	25	8	10	M4 x 0.7p	26	52	40	20	32	6.5
HB 32	12	40.5	32	10	15	M4 x 0.7p	34	60	46	26	40	6.5

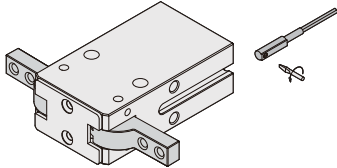


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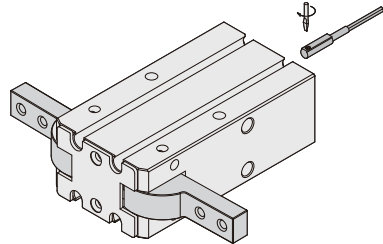
Mounting type of sensor switch

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HDM2 sensor switch installation



● HDM2 12 Sensor switch mounting



● HDM2 16~32 Sensor switch mounting

Detecting 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.

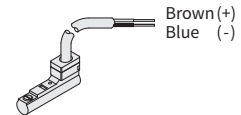
Operating range

When piston 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 or right table)

▶ Sensor switch code

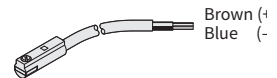
CS-8B

Voltage : DC 5 ~ 30V



CS-8G

Voltage : DC 5 ~ 30V



Model	CS-8B(G)	
Bore size	Operating range (F)	Reponse differential (R)
12	5	1
16	5	1
20	8.5	1
25	10	1.8
32	10	2.0

HDD

HDS

HDM2

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HMW