

# HDZ Series - Parallel gripper

## Operation specification and Ordering expression

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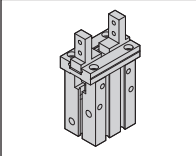
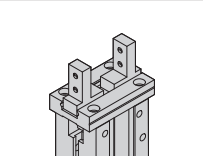
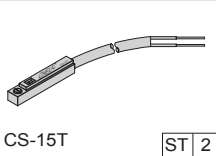
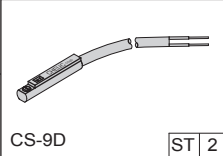
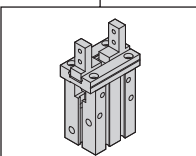
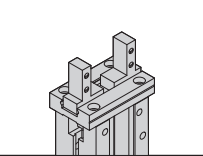
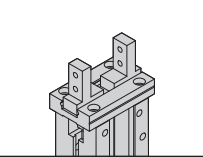
### Internal structure

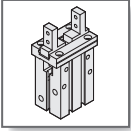


### Specification

Item	Model	HDZ-06	HDZ-10	HDZ-16	HDZ-20	HDZ-25	HDZ-32	HDZ-40
Bore size		Ø6	Ø10	Ø16	Ø20	Ø25	Ø32	Ø40
Fluid		Air						
Type of operation		Double acting type						
Pressure range	kgf/cm <sup>2</sup> (kpa)	2 ~ 7 ( 200 ~ 700 )			1 ~ 7(100 ~ 700 )			
Ambient and fluid temperature	℃	0 ~ 60°						
Max. operating frequency	min	100					60	
Finger open/close accuracy		± 0.01 mm					± 0.02 mm	
Finger open/close stroke		4		6	10	14	22	30
Lubricated		Not required						

### How to order

<b>HDZ</b>	<b>16</b>	-	-	<b>ST</b>	<b>2</b>
Model	Bore size		Type of operation	Sensor switch	
	06 - Ø 6 mm 10 - Ø 10 mm 16 - Ø 16 mm 20 - Ø 20 mm 25 - Ø 25 mm 32 - Ø 32 mm 40 - Ø 40 mm				
<b>HDZ series :</b> Standard double acting Parallel gripper			None : Standard	None : Without sensor switch	None : Without sensor switch
				<b>ST</b> : Sensor switch code(CS-15T)	<b>SD</b> : Sensor switch code(CS-9D)
<b>HRZ series :</b> single acting Parallel gripper			<b>B</b> : Side tapped mounting	<b>SB</b> : Sensor switch code(CS-15B)	<b>SB</b> : Sensor switch code(CS-9B)
				<b>SG</b> : Sensor switch code(CS-5G)	<b>SH</b> : Sensor switch code(CS-9H)
			<b>C</b> : Through-holes in opening / closing direction	<b>SGN</b> : Sensor switch code(CS-5GN)	<b>SDN</b> : Sensor switch code(CS-9DN)
				<b>SGP</b> : Sensor switch code(CS-5GP)	<b>SDP</b> : Sensor switch code(CS-9DP)
				<b>2</b> : Number of sensor switch 1 = 1 PCS 2 = 2 PCS	<b>SG</b> : Sensor switch code(CS-8G)
				HDZ Ø6 works with 8G sensor switch	<b>SGN</b> : Sensor switch code(CS-8GN)
				HDZ Ø10 works with 15T(B) sensor switch	<b>SGP</b> : Sensor switch code(CS-8GP)
					※ CS-9H use for voltage AC / DC 5 ~ 240V
					<b>2</b> : Number of sensor switch 1 = 1 PCS 2 = 2 PCS

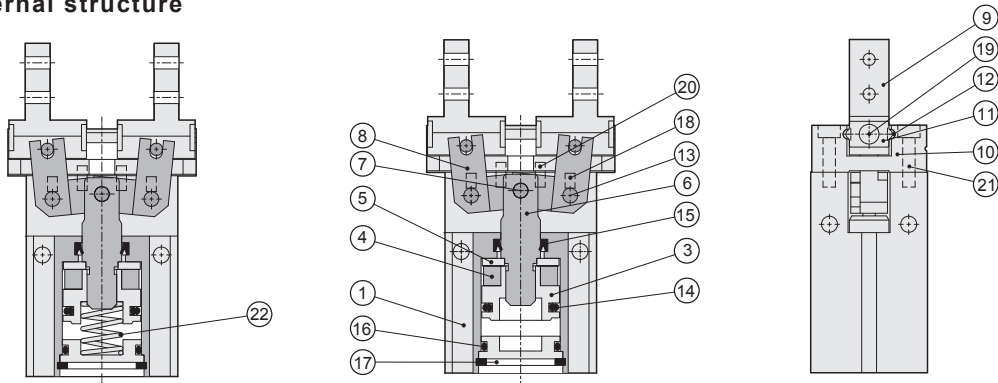


# HDZ Series - Parallel gripper

## Components and Material list

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### Internal structure



● HRZ Single acting normal open

### Components and Material list

No.	Item	Material	No.	Item	Material
01	Body	Aluminum alloy	12	Ball bearing	Bearing steel
02	Rear cover	Aluminum alloy	13	Action lever pin	Bearing steel
03	Piston	Copper Alloy	14	Piston Packing	NBR
04	Magnet	Magnet	15	Shaft packing	NBR
05	Magnet cap	Copper Alloy	16	Rear cover O-ring	NBR
06	Main shaft	Stainless steel	17	Clip	Alloy steel
07	Shaft pin	Bearing steel	18	Plug	Alloy steel
08	Action lever	Stainless steel (SUS440)	19	Counter sunk screw	Alloy steel
09	Gripper fingers	Stainless steel (SUS440)	20	Pin	Bearing steel
10	Finger base	Stainless steel (SUS440)	21	Tension bolt	Alloy steel
11	Roller block	Stainless steel	22	Spring	Stainless steel

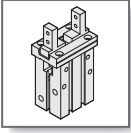
### Packing and O-ring part list

Item		Rear cover O-ring	Piston O-ring	Shaft packing
Bore size mm	Number	1	1	1
HDZ - 06		Ø4 x Ø1 (1PC per front & rear cover)	COP - 6	DYR - 3K
HDZ - 10		Ø10 x Ø1	COP - 10	DYR - 6
HDZ - 16		Ø13.2 x Ø1.5	COP - 16	DYR - 8K
HDZ - 20		Ø17.5 x Ø1.5	COP - 20	DYR - 10
HDZ - 25		Ø22.5 x Ø1.5	COP - 25	DYR - 12
HDZ - 32		Ø28.5 x Ø2	COP - 32	DYR - 16
HDZ - 40		Ø38.5 x Ø2	COP - 40	DYR - 20

### Type

Operating type	Model	Bore size mm	Gripping force N		Close stroke mm	Weight kg
			Outer gripping force	Inner gripping force		
Double acting	HDZ - 06	6	3.3	6.1	4	0.025
	HDZ - 10	10	11	17	4	0.06
	HDZ - 16	16	34	45	6	0.14
	HDZ - 20	20	42	66	10	0.27
	HDZ - 25	25	65	104	14	0.49
	HDZ - 32	32	158	193	22	0.81
	HDZ - 40	40	254	318	30	1.37

Note 1. L: the gripping point length= 20mm, P: Pressure = 5Kgf/cm<sup>2</sup>.

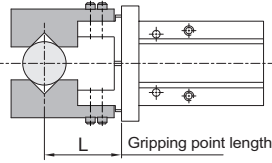


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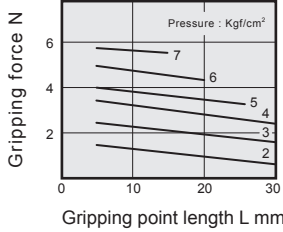
## Gripping force characteristic

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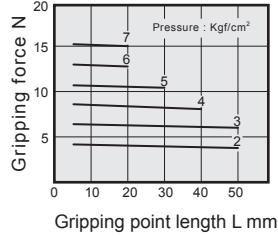
### Outer gripping force characteristic



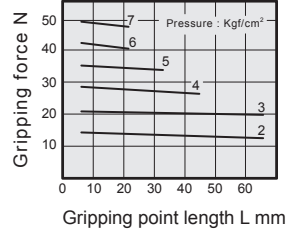
HDZ-06



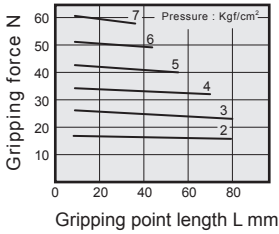
HDZ-10



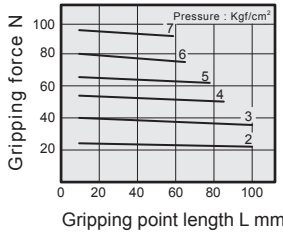
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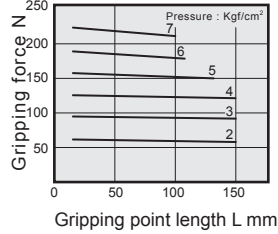
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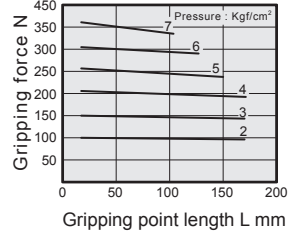
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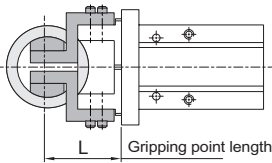
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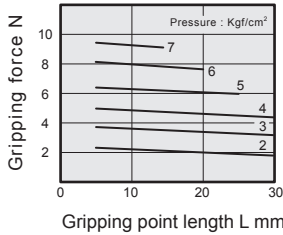
HDZ-40



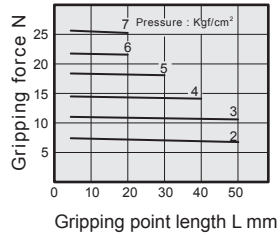
### Inner gripping force characteristic



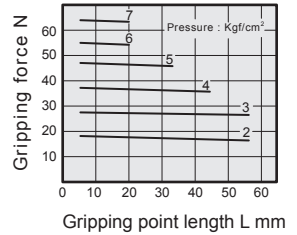
HDZ-06



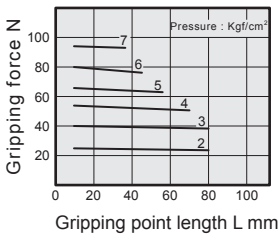
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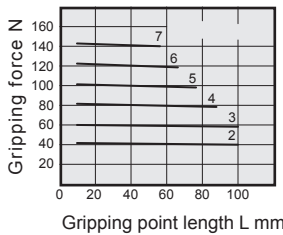
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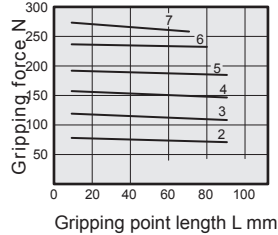
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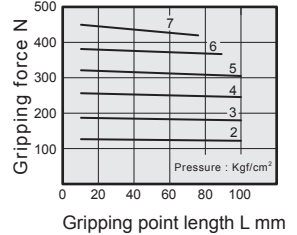
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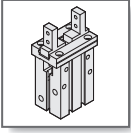


HDZ-32



HDZ-40



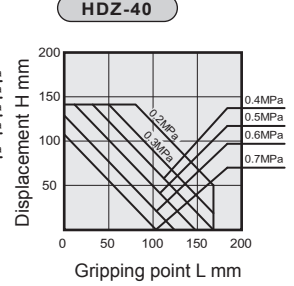
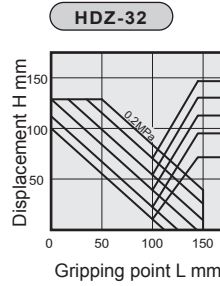
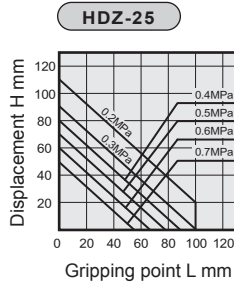
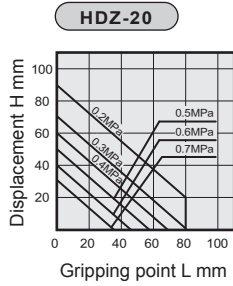
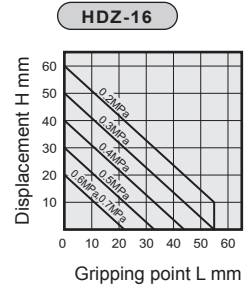
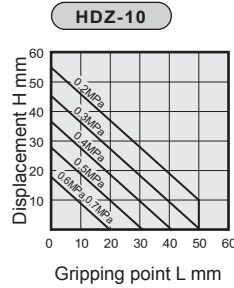
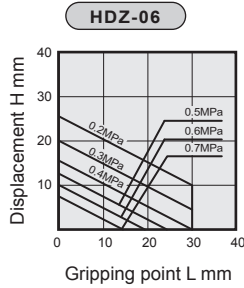
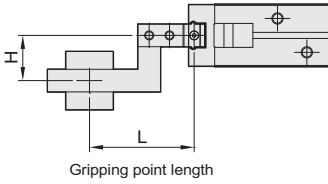


# HDZ Series - Parallel gripper

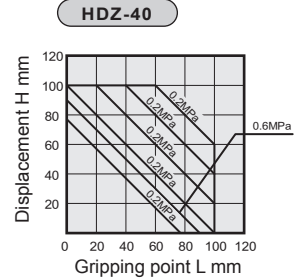
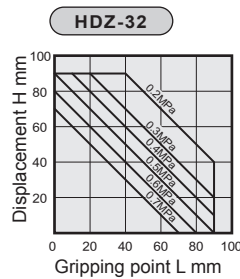
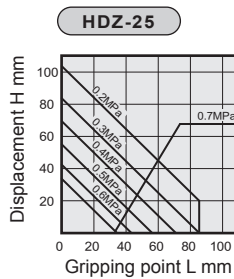
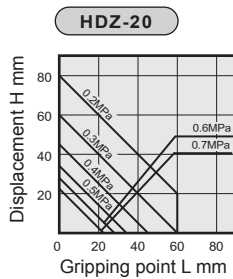
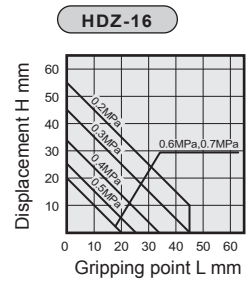
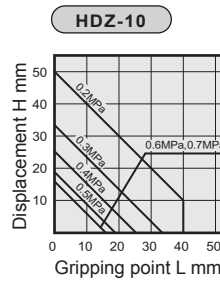
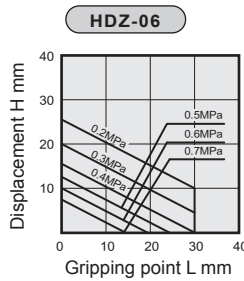
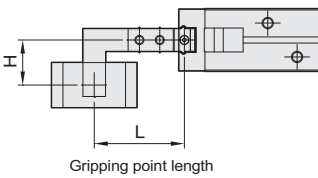
## Gripper maximum allowable displacement

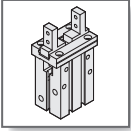
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- Gripper maximum allowable displacement - External gripping force**  
 The workpiece shall be applied within allowance, otherwise will cause gripper performance.



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# HDZ Series - Parallel gripper

## Operating type, Data, and Mounting type

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### Operating type and data

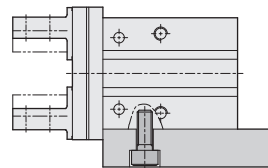
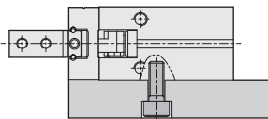
Operating type	Model	Bore size (mm)	The smallest operating pressure (Mpa)	Thread port (mm)	Effective gripping force Kgf(N)	
Double acting	HDZ - 06	6	0.2	4-M2x0.4P	Open	0.62 (6.1)
					Close	0.34 (3.3)
	HDZ - 10	10	0.22	4-M2.5x0.45P	Open	1.7 (17)
					Close	1.1 (11)
	HDZ - 16	16	0.1	4-M3x0.5P	Open	4.5 (45)
					Close	3.4 (34)
	HDZ - 20	20	0.1	4-M4x0.7P	Open	6.7 (66)
					Close	4.2 (42)
	HDZ - 25	25	0.1	4-M5x0.8P	Open	10.6(104)
					Close	6.6 (65)
	HDZ - 32	32	0.1	4-M6x1.0P	Open	19.6 (193)
					Close	16.1 (158)
	HDZ - 40	40	0.1	4-M8x1.25	Open	32.4 (318)
					Close	25.9 (254)
Normal open	HRZ - 06	6	0.35	4-M2x0.4P	Close	0.2 (1.9)
	HRZ - 10	10	0.36	4-M2.5x0.45P	Close	0.7 (7.1)
	HRZ - 16	16	0.3	4-M3x0.5P	Close	2.7 (27)
	HRZ - 20	20	0.2	4-M4x0.7P	Close	3.3 (33)
	HRZ - 25	25	0.2	4-M5x0.8P	Close	4.5 (45)
	HRZ - 32	32	0.2	4-M6x1.0P	Close	13.3 (131)
	HRZ - 40	40	0.1	4-M8x1.25P	Close	22.1(217)

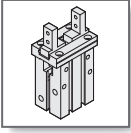
 Note: The gripping force is the force of open and close gripper which in the length of gripping point is 20mm and acting pressure is 0.5Mpa.

### Mounting type

1. Apply the screw from bottom thread hole.

2. Use the through-holes in the side of body.



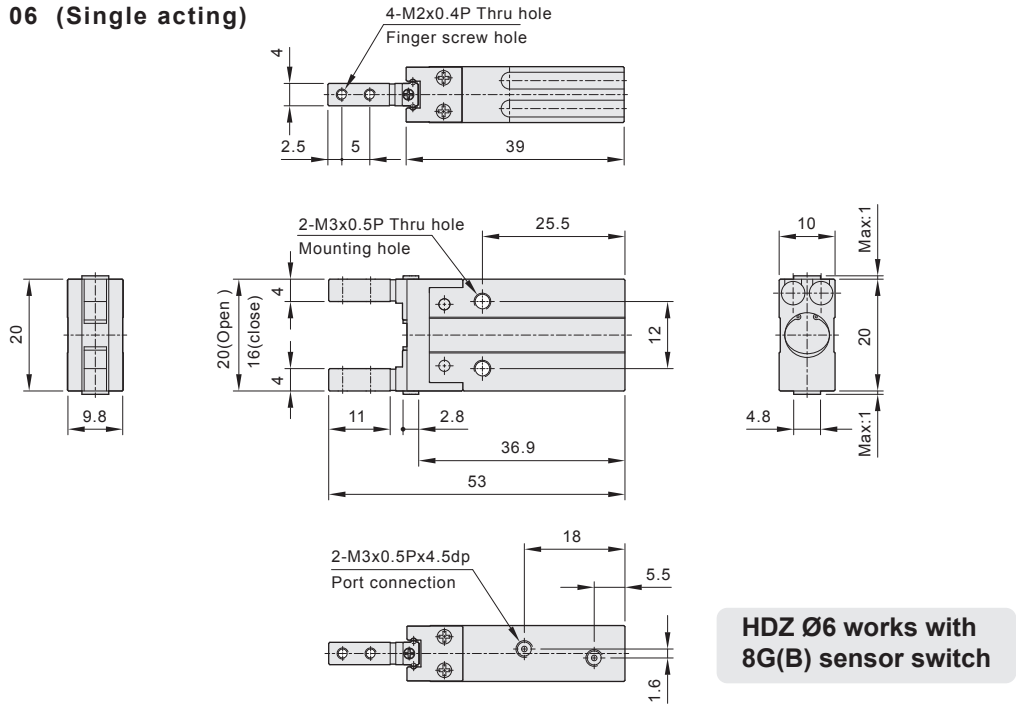


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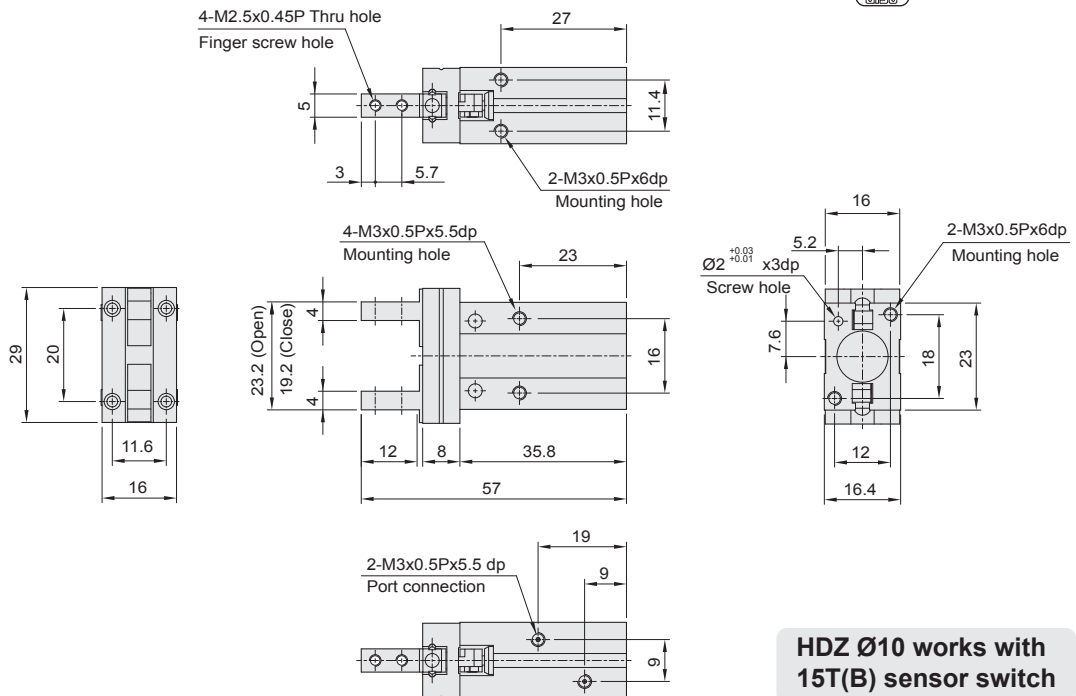
## External dimensions

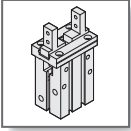
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- HDZ - 06 (Double acting)
- HRZ - 06 (Single acting)



- HDZ - 10 (Double acting)
- HRZ - 10 (Single acting)





# HDZ Series - Parallel gripper

## External dimensions

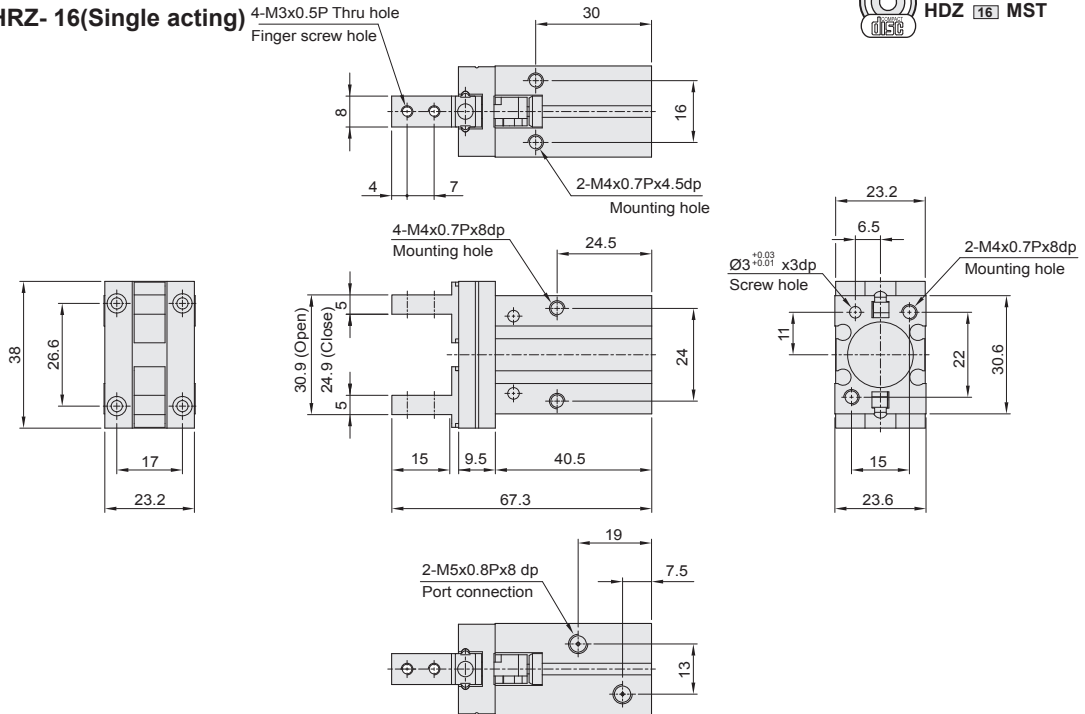
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### HDZ- 16(Double acting)

#### HRZ- 16(Single acting)



HDZ 16 MST

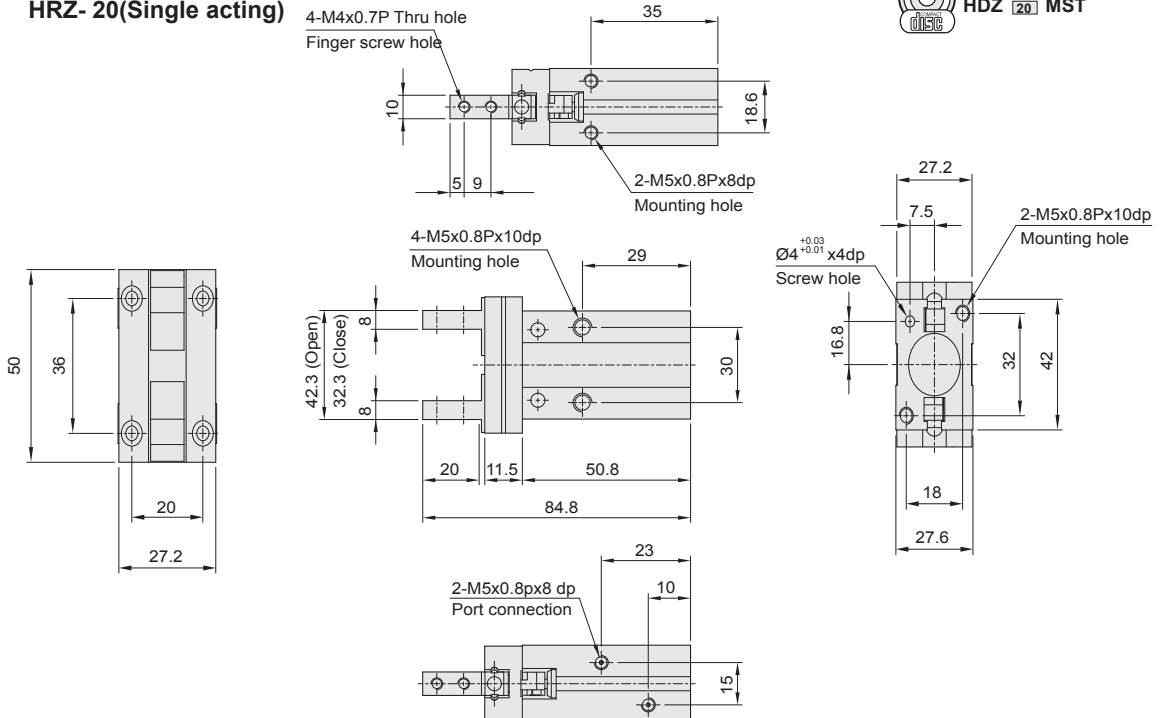


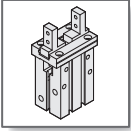
### HDZ- 20(Double acting)

#### HRZ- 20(Single acting)



HDZ 20 MST





# HDZ Series - Parallel gripper

## External dimensions

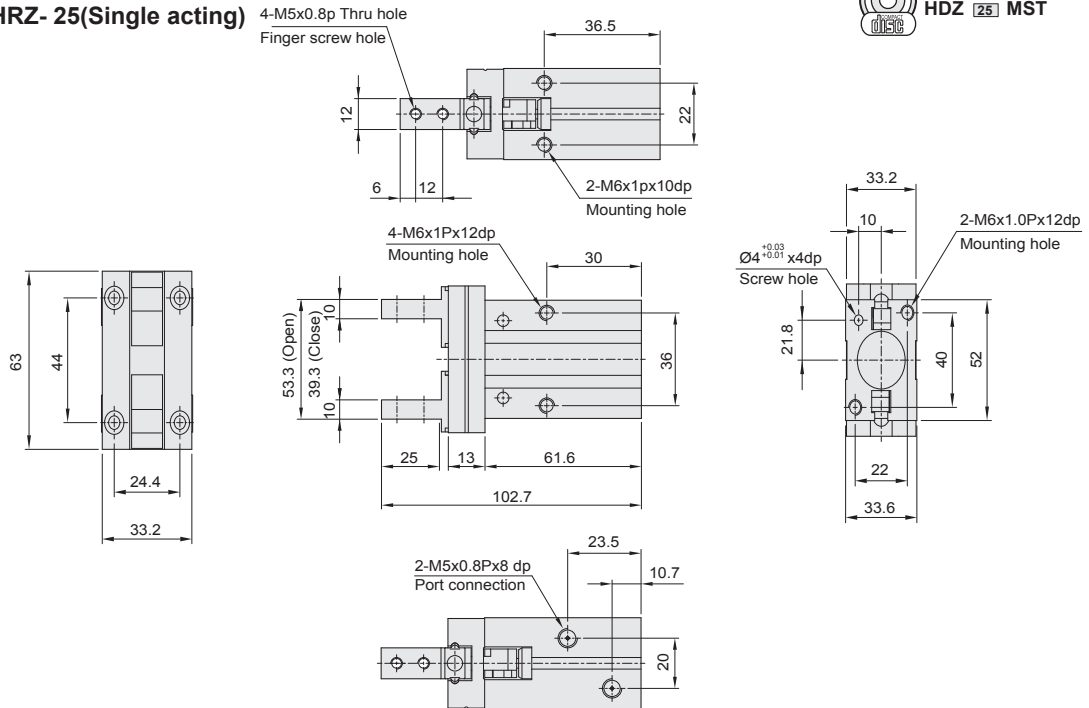
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### HDZ- 25(Double acting)

### HRZ- 25(Single acting)



HDZ 25 MST

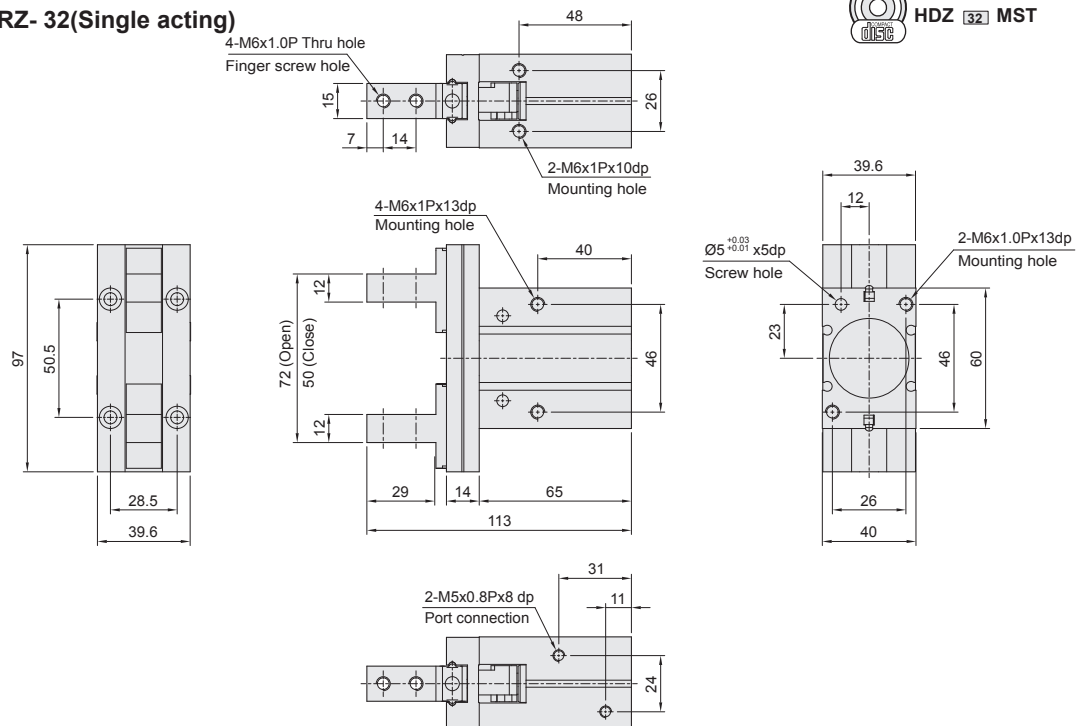


### HDZ- 32(Double acting)

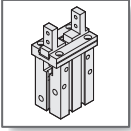
### HRZ- 32(Single acting)



HDZ 32 MST





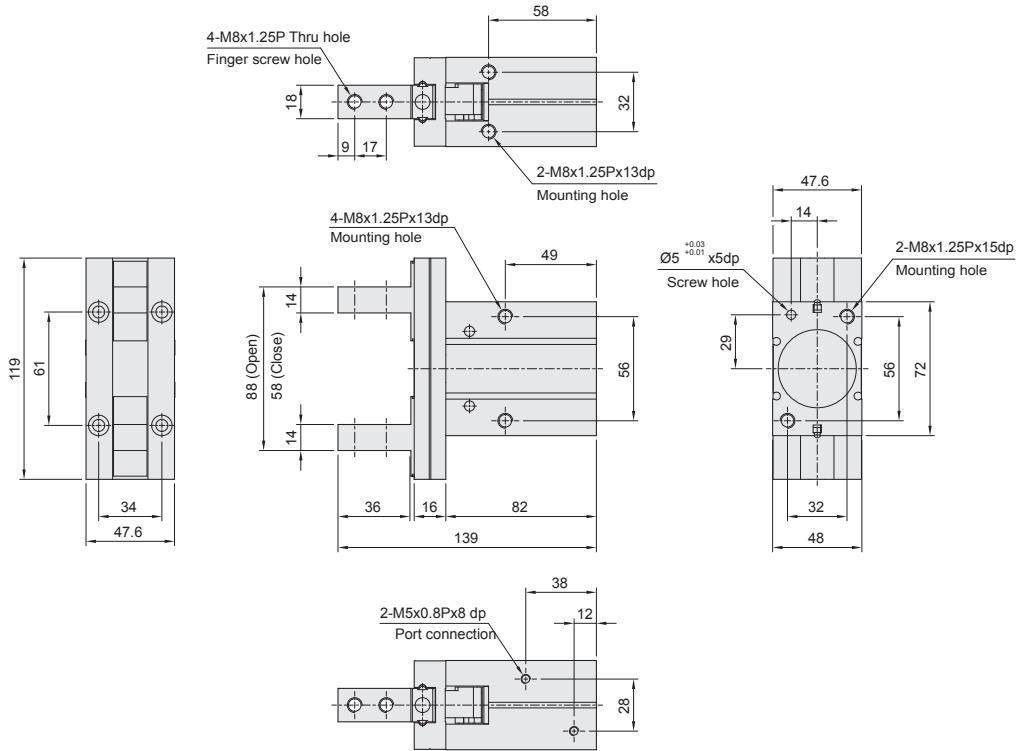


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## External dimensions

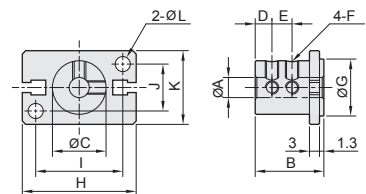
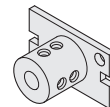
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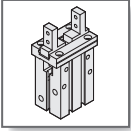
- HDZ - 40 (Double acting)
- HRZ - 40 (Single acting)



## HB type mounting bracket (Available to external mounting)

Mark Type	A	B	C	D	E	F	G	H	I	J	K	L
HB10Z	4	15	10	5	-	M3 x 0.5p	11	23	18	10	16	3.5





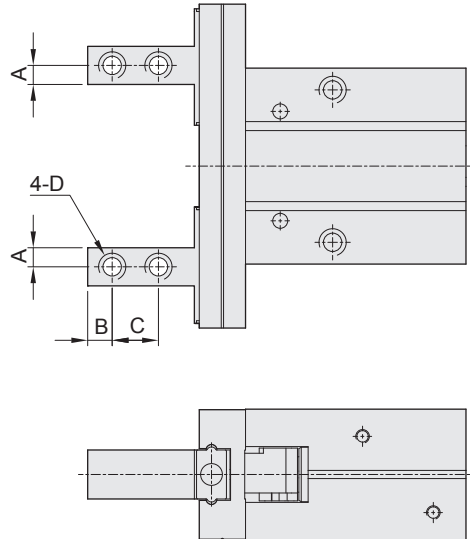
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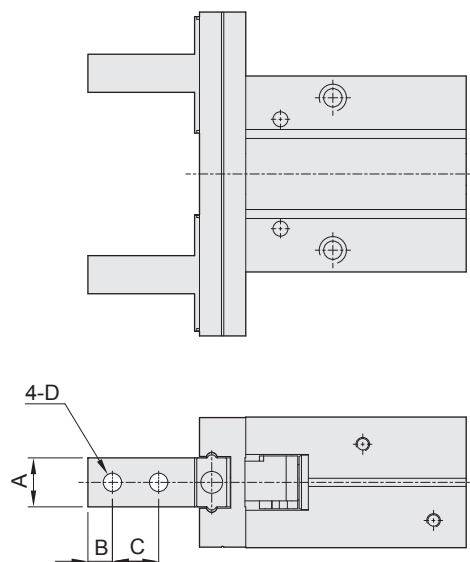
### HDZ 06 ~ 40 Side tapped mounting

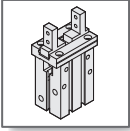
Mark Type	A	B	C	D
HDZ 06	2	2.5	5	M2x0.4P
HDZ 10	2	3	5.7	M2.5x0.45P
HDZ 16	2.5	4	7	M3x0.5P
HDZ 20	4	5	9	M4x0.7P
HDZ 25	5	6	12	M5x0.8P
HDZ 32	6	7	14	M6x1.0P
HDZ 40	7	9	17	M8x1.25P



### HDZ 06 ~ 40 Through-hole in opening/closing direction

Mark Type	A	B	C	D
HDZ 06	4	2.5	5	Ø2.4
HDZ 10	5	3	5.7	Ø3
HDZ 16	8	4	7	Ø3.5
HDZ 20	10	5	9	Ø4.5
HDZ 25	12	6	12	Ø5.5
HDZ 32	15	7	14	Ø6.5
HDZ 40	18	9	17	Ø8.5



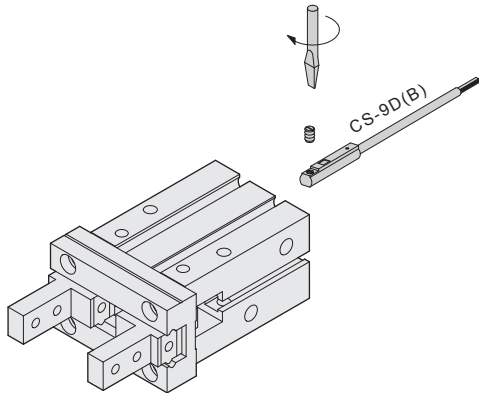


# HDZ Series - Parallel gripper

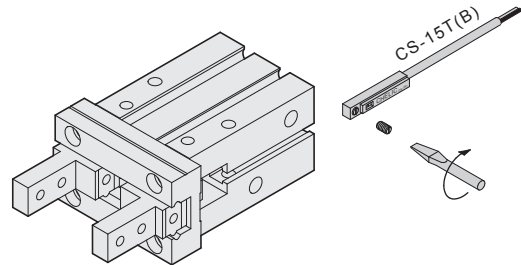
## Sensing setting and Installation

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### ◉ Sensing setting and Installation



- CS-9D(B)  
( Please refer to P.7-2.15 Sensor switch standard )
- CS-15T(B)  
( Please refer to P.7-2.20 Sensor switch standard )



### ◉ 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)

Unit: mm

Item	CS-9D(B)	
	Operating range (F)	Reponse differentia (R)
Bore size		
06	—	—
10	—	—
16	5	1
20	8	1
25	8	1
32	10	1
40	13	1.2

※ CS 9D (B) shall be inserted on the front slot (the wide side of gripper)

Unit: mm

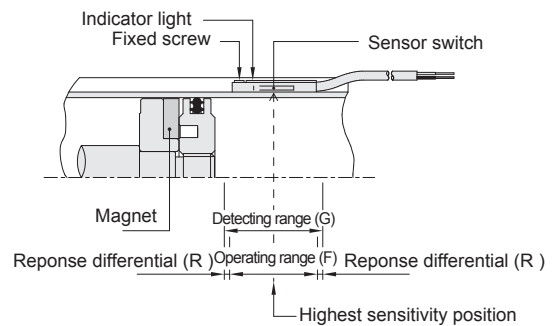
Item	CS-15T(B)	
	Operating range (F)	Reponse differentia (R)
Bore size		
06	—	—
10	5	1
16	11.5	1
20	10	1
25	12	1
32	10	1.2
40	12	1.2

※ CS 15T (B) shall be inserted on the side slot (the short side of gripper)

Unit: mm

Item	CS-8G(B)	
	Operating range (F)	Reponse differentia (R)
Bore size		
06	3.5	0.5

### ◉ Response differential and position adjustment



### ◉ Sensor switch introduction

