

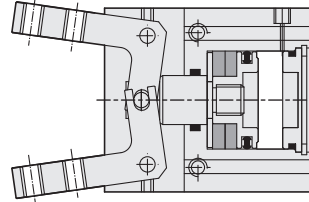
HDS / HRS Series - Angular gripper

Operation specification and Ordering expression

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Internal structure



Specification

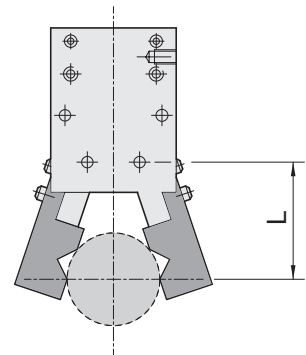
Item	Model	HDS-10	HDS-16	HDS-20	HDS-25	HDS-32
Bore size		10	16	20	25	32
Operation	HDS: Double acting type; HRS: Single acting normal open					
Fluid	Air					
Pressure range	kgf/cm ² (kPa)	1.5 ~ 7(150 ~ 700)				
Ambient and fluid temperature	°C	0 ~ 60				
Max. operation frequency	min	80				
Lubricated	Cylinder	Lubrication free				
	Lever section	Lubrication required				
Theoretical gripping force(M) <small>Note 1 Kgf-cm</small>	Closed side	0.16XP	0.8XP	1.7XP	3.4XP	6.1XP
	Opened side	0.26XP	1.1XP	2.3XP	4.3XP	8.1XP
Max. gripper point length (L)	mm	30	40	60	70	85
Effective gripping force(F) <small>Note 1 kgf</small>		F=M/LX0.85				
Lever open/close angles	°C	-10° ~ +30°				
Port size		M3x0.5P		M5X0.8		
Sensing device		With magnet				

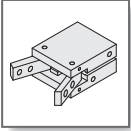
🔍 Note 1. F : Effective gripping force, L : Gripping point length, M: Theoretical holding force, P: Pressure Kgf/cm².

How to order

The gripping point length

HDS	20	ST 2	HM
Model	Bore size	Sensor switch	mounting bracket
	10 - 10 mm 16 - 16 mm 20 - 20 mm 25 - 25 mm 32 - 32 mm	 CS-15T ST 2	 HM
HDS : Y Angular gripper (Double acting type)		None: Without sensor switch ST : Sensor switch code (CS-15T) SB : Sensor switch code (CS-15B) SG : Sensor switch code (CS-5G) SGN : Sensor switch code (CS-5GN) SGP : Sensor switch code (CS-5GP) 2 : Sensor quantity 1=1 sensor switch 2=2 sensor switch	None: Without mounting bracket HM : HM type mounting bracket (Please refer to P.6-12.16)
		None: Without mounting bracket HB : HB type mounting bracket (Please refer to P.6-12.16) ※ Note: Ø10 ~ Ø32	 HB
HRS : Y Angular gripper (Single acting normal open)		※ HDS 10 must apply CS 5G sensor	



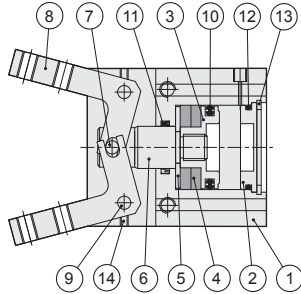


HDS / HRS Series - Angular gripper

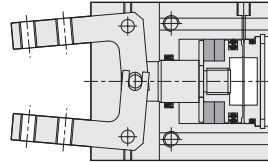
Components and Material list

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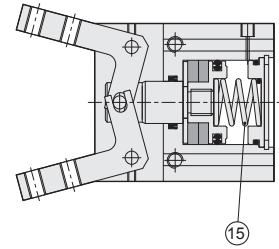
▶ Double acting type (fingers opened)



▶ Double acting type (fingers closed)



▶ Single acting



▶ Components and Material list

No.	Item	Material	No.	Item	Material
01	Body	Aluminum alloy	09	Slide pin	Bearing steel
02	Rear cover	Copper Alloy	10	Piston packing	NBR
03	Piston	Copper Alloy	11	Shaft packing	NBR
04	Magnetic	Magnet	12	Rear cover O-ring	NBR
05	Magnetic cap	Copper Alloy	13	Clip	Steel spring
06	Shaft	Stainless steel	14	Hexagon screw	Alloy steel
07	Shaft pin	Bearing steel	15	Spring	Stainless steel
08	Y type finger	Alloy steel			

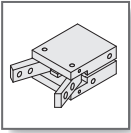
▶ Packing and O-ring part list

Item	Piston packing	Shaft packing	Rear cover O-ring
Number	1	1	1
Bore size mm			
Ø10	COP-10	DYR-6	Ø8 X Ø1.5
Ø16	COP-16	DYR-8K	Ø13.2 X Ø1.5
Ø20	COP-20	DYR-10SK	Ø17.5 X Ø1.5
Ø25	COP-25	DYR-12	Ø22 X Ø1.5
Ø32	COP-32	DYR-16	Ø28.5 X Ø2.0

▶ Weight

Item	Weight
HDS - 10S	0.10 kg
HDS - 16S	0.12
HDS - 20S	0.20
HDS - 25S	0.33
HDS - 32S	0.56

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



HDS / HRS Series - Angular gripper

Gripping force characteristic

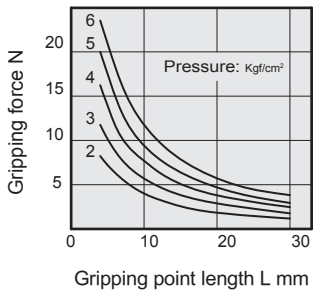
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Gripping force characteristic

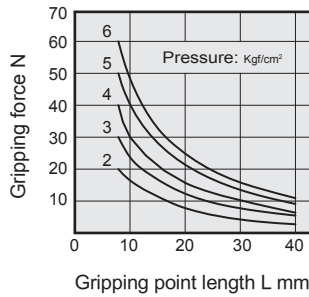


HDS / HRS Closed gripping force

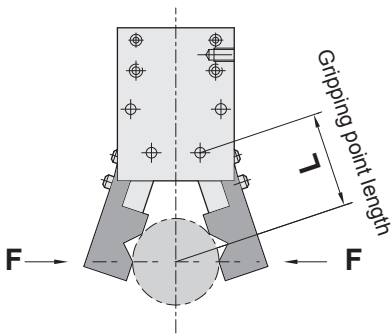
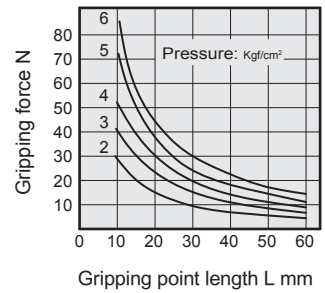
HDS-10



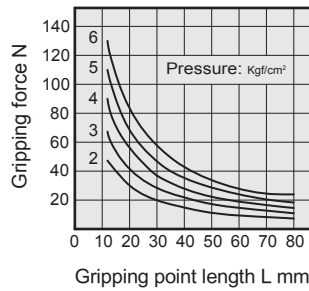
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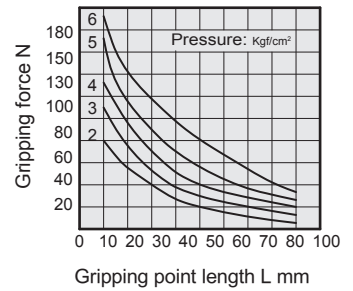
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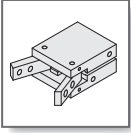


HDS-25



HDS-32






HDS / HRS Series - Angular gripper

Operating type, Data, and Mounting type

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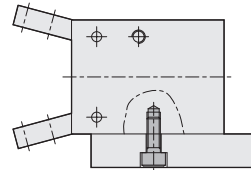
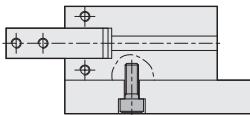
Operating type and data

Operating type	Model	Bore size (mm)	The smallest operating pressure (Mpa)	Thread port (mm)	Effective gripping force Kgf(N)	
					Open	Close
Double acting	HDS - 10	10	0.22	4 - M3x0.5P	Open	0.3 (3.6)
					Close	0.2 (2.2)
	HDS - 16	16	0.1	4 - M3x0.5P	Open	1.5 (15.2)
					Close	1.1 (11.1)
	HDS - 20	20	0.1	4 - M4x0.7P	Open	3.2 (31.9)
					Close	2.4 (23.6)
	HDS - 25	25	0.1	4 - M5x0.8P	Open	6.0 (59.6)
					Close	4.8 (47.2)
	HDS - 32	32	0.1	4 - M6x1.0P	Open	11.4 (112.4)
					Close	8.6 (84.6)
Single acting	HRS - 10	10	0.36	4 - M3x0.5P	Close	0.2 (2.2)
	HRS - 16	16	0.3	4 - M3x0.5P	Close	1.1 (11.1)
	HRS - 20	20	0.2	4 - M4x0.7P	Close	2.4 (23.6)
	HRS - 25	25	0.2	4 - M5x0.8P	Close	4.8 (47.2)
	HRS - 32	32	0.2	4 - M6x1.0P	Close	8.6 (84.6)

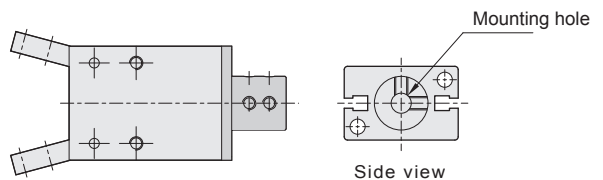
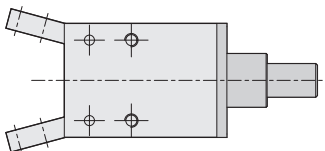
 Note :The gripping force is the force of open and close gripper which in the length of gripping point is 30mm and acting pressure is 0.5Mpa.

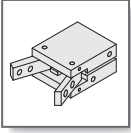
Mounting type

1. Apply the screw from bottom thread hole.
2. Apply the screw from side thread hole.



3. Apply HM mounting bracket in the bottom.
4. Apply HB mounting bracket in the bottom.



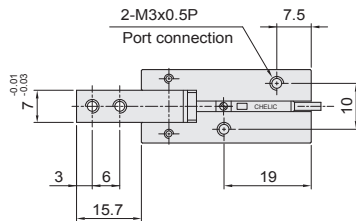
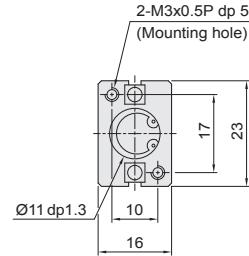
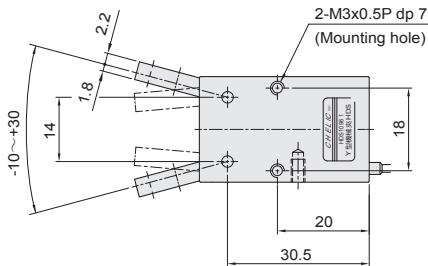
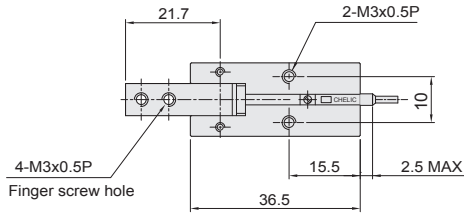


HDS / HRS Series - Angular gripper

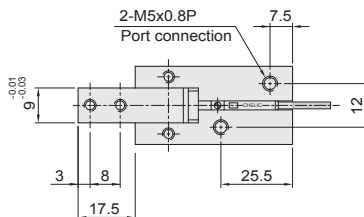
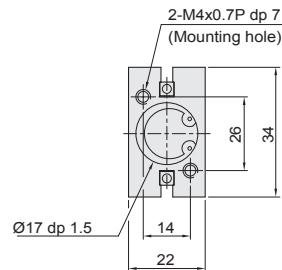
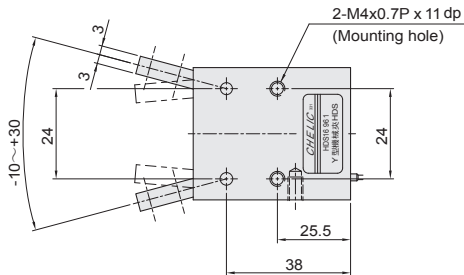
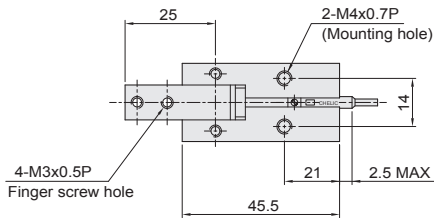
External dimensions - Ø10、Ø16

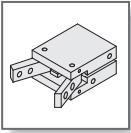
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● HDS - 10
HRS - 10



● HDS - 16
HRS - 16



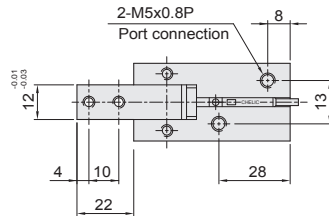
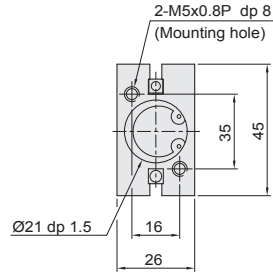
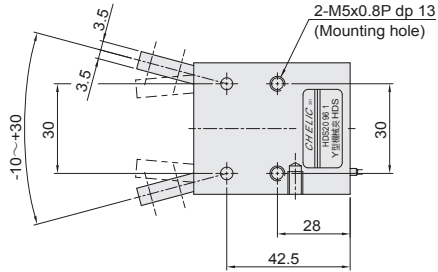
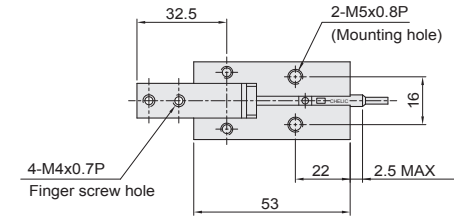


HDS / HRS Series - Angular gripper

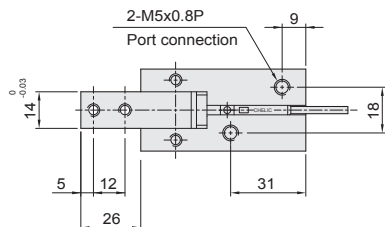
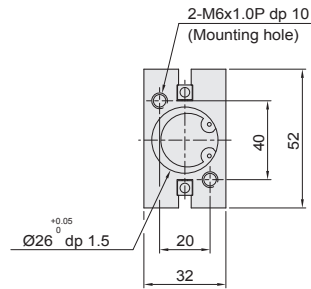
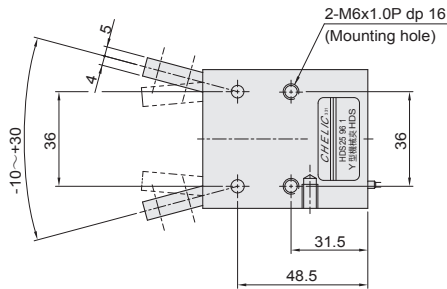
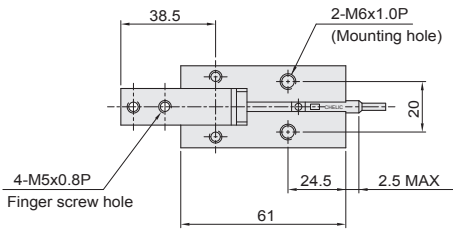
External dimensions - Ø20、25

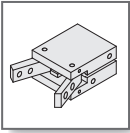
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● HDS - 20
HRS - 20



● HDS - 25
HRS - 25



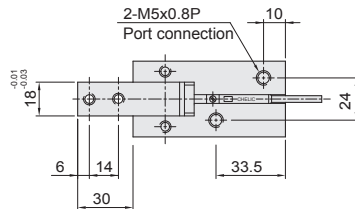
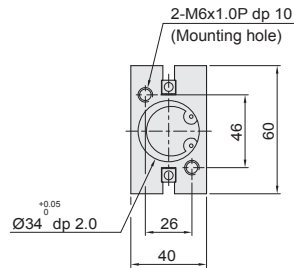
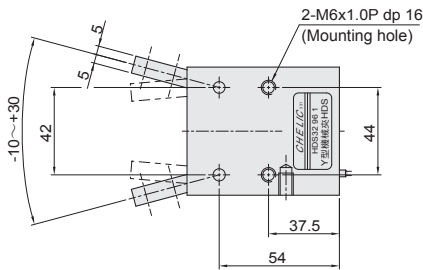
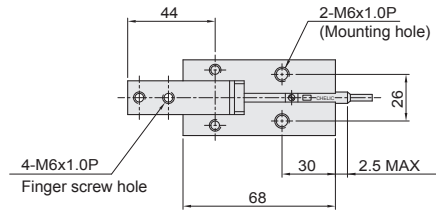


HDS / HRS Series - Angular gripper

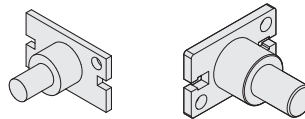
External dimensions - Ø32, mounting bracket

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● HDS - 32
HRS - 32

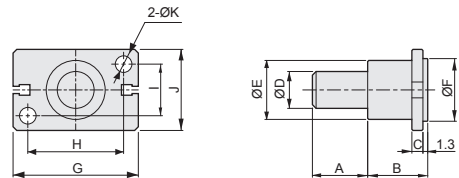


● Mounting bracket (Applicable to HDS, HRS, HDP series)



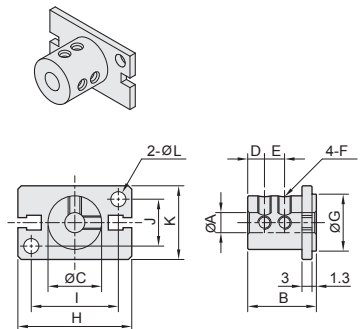
● HM type mounting bracket (Available to internal mounting)

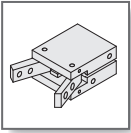
Mark Type	A	B	C	D	E	F	G	H	I	J	K
HM10	10	10	2	8	12	11	23	17	10	16	3.5
HM16	15	15	3	10	16	17	34	26	14	22	4.5
HM20	15	15	3	10	18	21	45	35	16	26	5.5
HM25	25	17	5	14	26	26	52	40	20	32	6.6
HM32	25	20	6	16	30	34	60	46	26	40	6.6



● HM type mounting bracket (Available to external mounting)

Mark Type	A	B	C	D	E	F	G	H	I	J	K	L
HB10	4	15	10	5	-	M3 x 0.5p	11	23	17	10	16	3.5
HB16	6	20.5	16	5	6	M4 x 0.7p	17	34	26	14	22	4.5
HB20	8	20.5	20	7	7	M4 x 0.7p	21	45	35	16	26	5.5
HB25	10	30.5	25	8	10	M4 x 0.7p	26	52	40	20	32	6.5
HB32	12	40.5	32	10	15	M4 x 0.7p	34	60	46	26	40	6.5





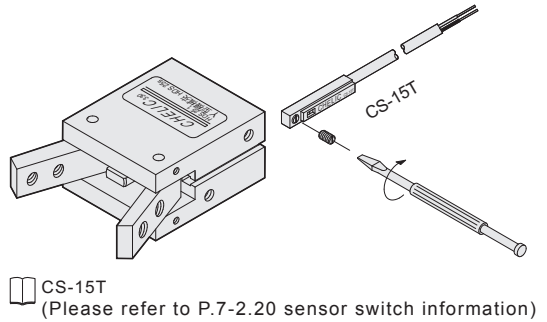
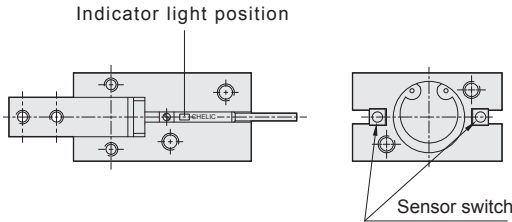
HDS / HRS Series - Angular gripper

How to use and Sensor switch installation

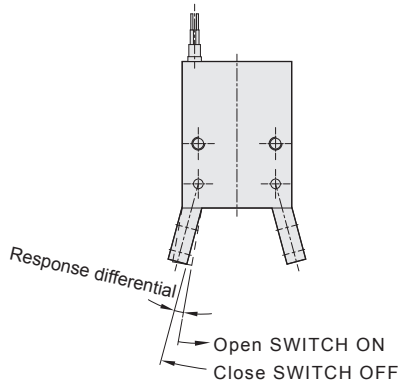
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▶ HDS / HRS sensor switch installation

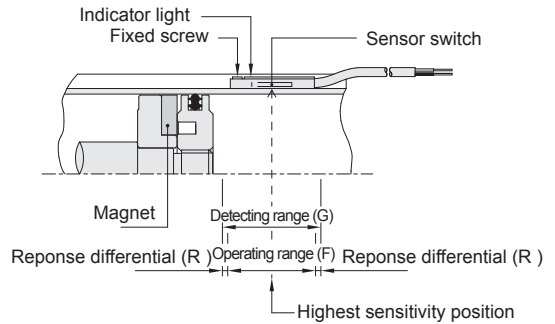
● Sensor switch installation and position



● Response differential and position adjustment



● Response differential and position adjustment



▶ 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-15T(B)	
Bore size	Operating range (F)	Reponse differentia (R)
10	3	1
16	5	1
20	8.5	1
25	10	1.8
32	10	2

▶ Sensor switch introduction

