

HDS/ HRS series Angular Type Air Gripper

Product features/ Code of order

CHELIC

Feature

- Light weight, compact body, small port size
- Y type clamping
- Mounting brackets in option



Specification

Item	Bore size (mm)	Ø10	Ø16	Ø20	Ø25	Ø32
Action		HDS: Double acting; HRS: Single acting normally open				
Fluid		Air				
Pressure range	kgf /cm² (kPa)	1.5 ~ 7(150 ~ 700)				
Ambient and fluid temperature	°C	0 ~ 60				
Max. operation frequency	time/min	80				
Lubrication	Cylinder	Lubrication free type				
	Lever section	Lubrication required				
Theoretical gripping force(M) Note 1 kgf-cm	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) Note 1 kgf		F = M/ L x 0.85				
Lever open/close angles	°	-10 ~ +30				
Port size		M3 x 0.5P	M5 x 0.8P			
Sensing device		With magnet				

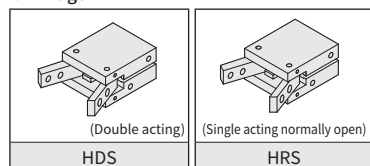
Note 1: F: Effective gripping force, L: the gripping point length, M: theoretical gripping torque, P: operating pressure kgf/cm²

Code of order **HDS 20 - HM - 15T 2**

1 — 2 — 3 — 4 — 5

1	Mark	Model
	HDS	Double acting
	HRS	Single acting normally open

● Image



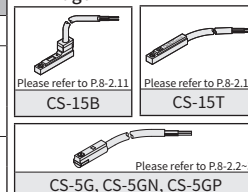
2	Mark	Bore size (mm)
	10	Ø10
	16	Ø16
	20	Ø20
	25	Ø25
	32	Ø32

3	Mark	Mouting bracket	Mark	Mouting bracket	Mark	Mouting bracket
	None	Without Mouting bracket	HM		HB	

● HM: Internal mounting HB: External mounting

4	Mark	Sensor switch	Applicable Type
	None	Without sensor switch	—
	5G	CS-5G	10, 16, 20 25, 32
	5GN	CS-5GN	
	5GP	CS-5GP	
	15T	CS-15T	16, 20 25, 32
	15B	CS-15B	

● Image



5	Mark	Sensor quantity
	1	With 1 sensor switche
	2	With 2 sensor switches

HDD

HDS

HDM

HDP

HDPM

HDZ

HDZL

HDZM

HDW

HDWM

HMW

HMG

HMY

HDE

HDU

HDS/ HRS series Angular Type Air Gripper

Product features

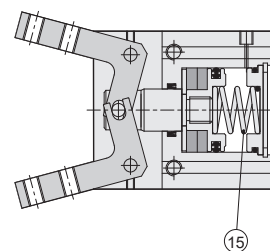
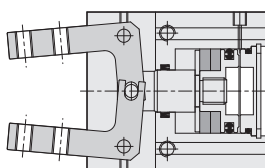
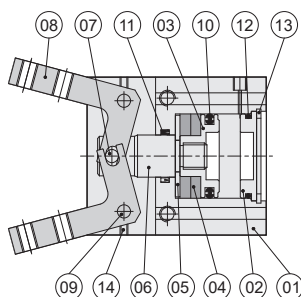
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Internal structure

● 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	Finger pin	Bearing steel
02	Rear cover	Copper alloy	10	Piston packing	NBR
03	Piston	Copper alloy	11	Shaft packing	NBR
04	Magnet	Magnet	12	Rear cover O-ring	NBR
05	Magnet cap	Copper alloy	13	Clip	Spring steel
06	Shaft	Stainless steel	14	Hexagon socket screw	Alloy steel
07	Shaft pin	Bearing steel	15	Spring	Stainless steel
08	Y type finger	Alloy steel			

Packing and O-ring material list

Unit: mm

Item	Piston packing	Shaft packing	Rear cover O-ring
Model \ Quantity	1	1	1
HDS/HRS Ø10	COP-10	DYR-6	Ø8 X Ø1.5
HDS/HRS Ø16	COP-16	DYR-8K	Ø13.2 X Ø1.5
HDS/HRS Ø20	COP-20	DYR-10SK	Ø17.5 X Ø1.5
HDS/HRS Ø25	COP-25	DYR-12	Ø22 X Ø1.5
HDS/HRS Ø32	COP-32	DYR-16	Ø28.5 X Ø2.0

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

Product weight

Model	Weight (kg)
HDS/HRS Ø10	0.10
HDS/HRS Ø16	0.12
HDS/HRS Ø20	0.20
HDS/HRS Ø25	0.33
HDS/HRS Ø30	0.56

Note: All of above are theoretical data.
Weight tolerance about $\pm 5\%$

HDS/ HRS series Angular Type Air Gripper

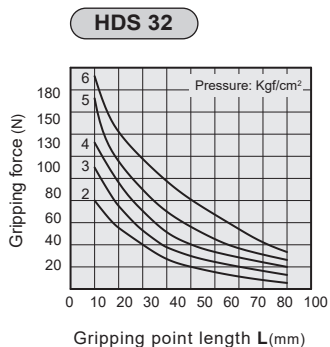
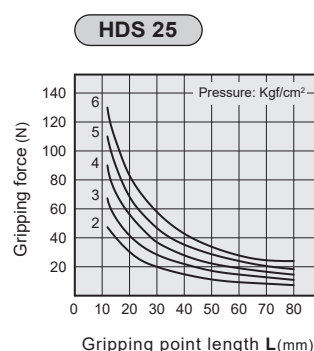
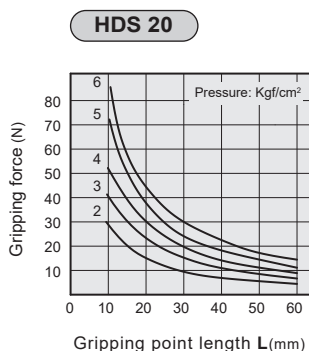
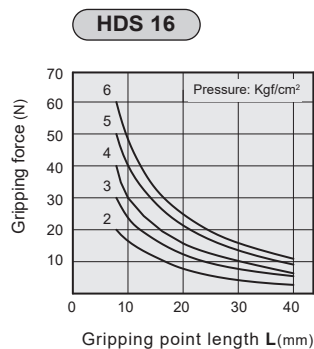
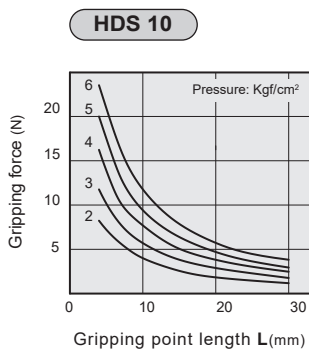
Characteristics graph

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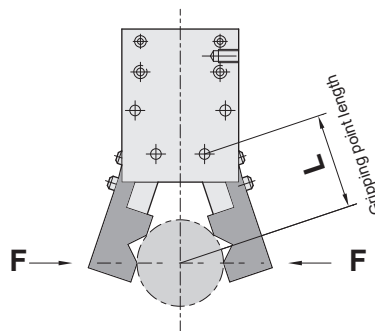
Gripping force characteristic



● HDS/ HRS Closed gripping force



● Gripping point length



HDD

HDS

HDM

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HDS/ HRS series Angular Type Air Gripper

Operating type and data, Mounting type

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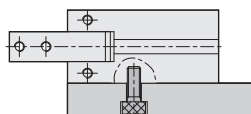
Operating type and data

Action	Model	Bore size (mm)	The smallest operating pressure (kgf/cm ²)	Thread port (mm)	Effective gripping force (N)	
Double acting	HDS 10	10	2.2	4 - M3x0.5P	Open	3.6
					Close	2.2
	HDS 16	16	1	4 - M3x0.5P	Open	15.2
					Close	11.1
	HDS 20	20	1	4 - M4x0.7P	Open	31.9
					Close	23.6
	HDS 25	25	1	4 - M5x0.8P	Open	59.6
					Close	47.2
	HDS 32	32	1	4 - M6x1.0P	Open	112.4
					Close	84.6
Single acting	HRS 10	10	3.6	4 - M3x0.5P	Close	2.2
	HRS 16	16	3	4 - M3x0.5P	Close	11.1
	HRS 20	20	2	4 - M4x0.7P	Close	23.6
	HRS 25	25	2	4 - M5x0.8P	Close	47.2
	HRS 32	32	2	4 - M6x1.0P	Close	84.6

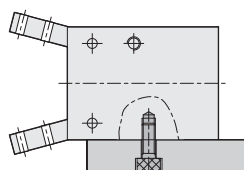
Note: The gripping force is the force of open and close gripper which in the length of gripping point is 30mm and acting pressure is 5kgf/cm².

Mounting type

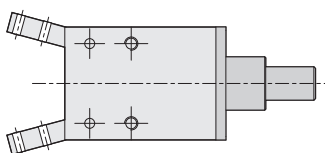
1. Apply the screw from bottom.



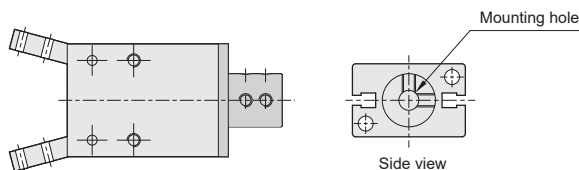
2. Apply the screw from side.



3. Apply HM mounting bracket in the bottom.



4. Apply HB mounting bracket in the bottom.

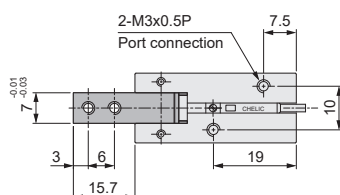
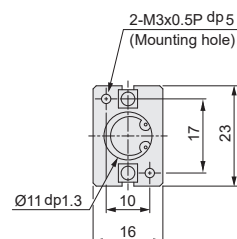
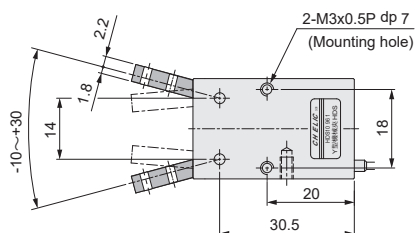
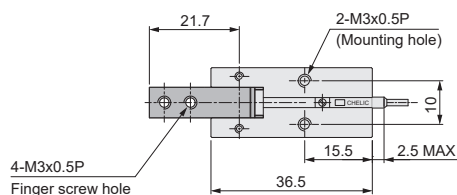


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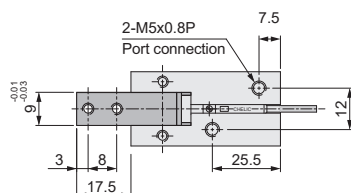
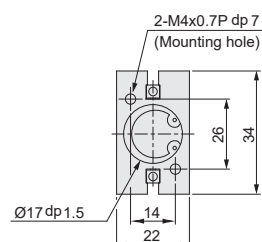
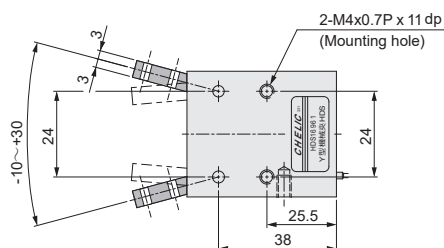
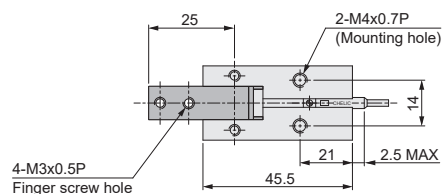
Dimensions

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■ HDS 10
■ HRS 10



■ HDS 16
■ HRS 16



HDD

HDS

HDM

HDP

HDPM

HDZ

HDZL

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HDE

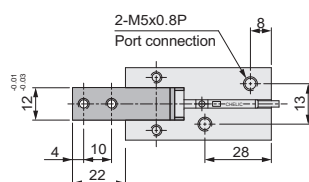
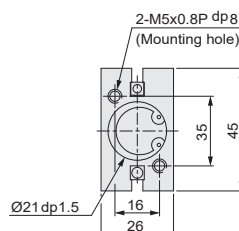
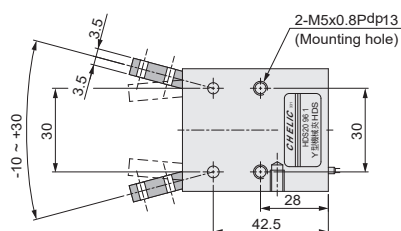
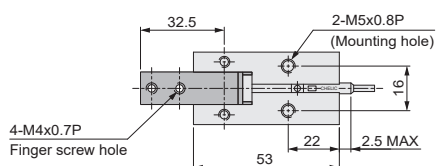
HDU

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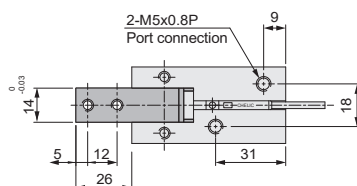
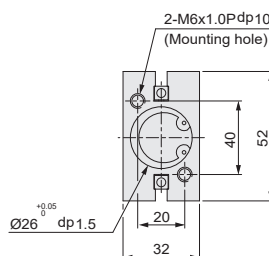
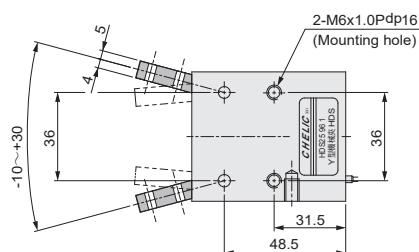
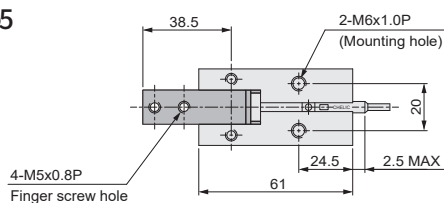
Dimensions

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■ HDS 20
■ HRS 20



■ HDS 25
■ HRS 25

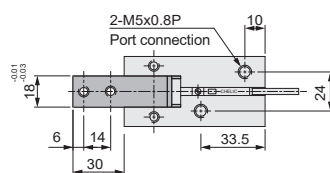
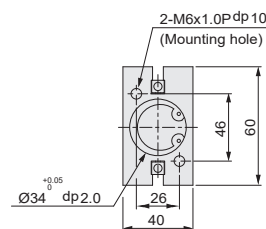
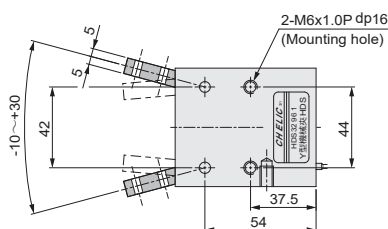
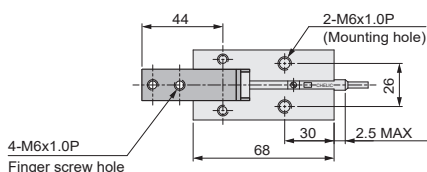


HDS/ HRS series Angular Type Air Gripper

Dimensions, Mounting bracket

CHELIC

■ HDS 32
■ HRS 32

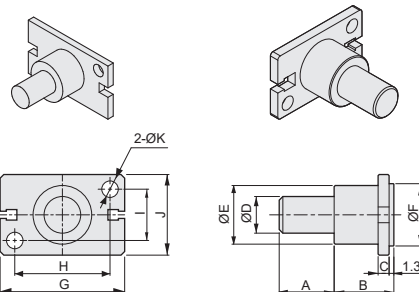


■ Mounting bracket (Applicable to HDS, HRS, HDP series)

● HM type mounting bracket (Available to internal mounting)

Unit: mm

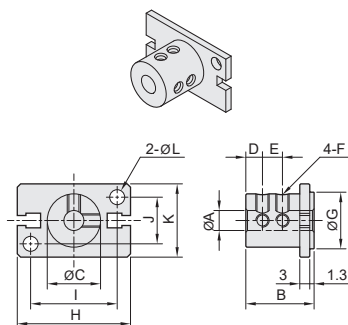
Mark Model	A	B	C	D	E	F	G	H	I	J	K
HM 10	10	10	2	8	12	11	23	17	10	16	3.5
HM 16	15	15	3	10	16	17	34	26	14	22	4.5
HM 20	15	15	3	10	18	21	45	35	16	26	5.5
HM 25	25	17	5	14	26	26	52	40	20	32	6.6
HM 32	25	20	6	16	30	34	60	46	26	40	6.6



● 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 10	4	15	10	5	-	M3 x 0.5p	11	23	17	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

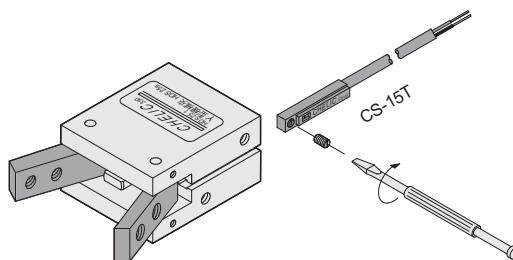
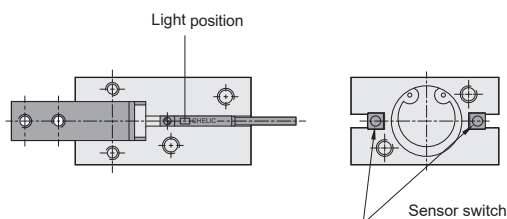


HDS/ HRS series Angular Type Air Gripper

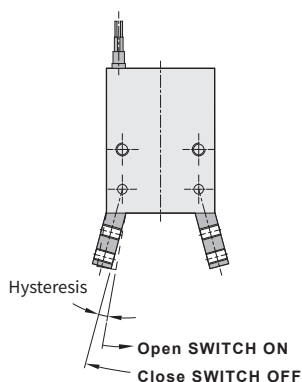
Mounting type and operation of sensor switch

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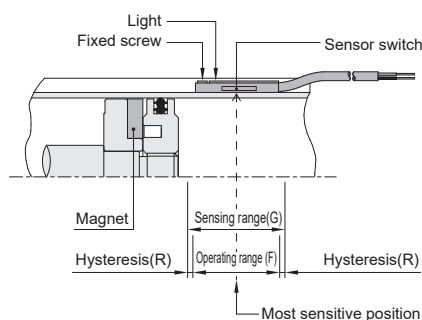
Sensor switch mounting type



Hysteresis and position adjustment



Sensor switch setting and operating range



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.

Operating range

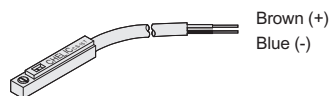
When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch. (Please refer to the below table)

Unit: mm

Model	CS-15T(B)	
Bore size	Operating range (F)	Hysteresis(R)
10	3	1
16	5	1
20	8.5	1
25	10	1.8
32	10	2

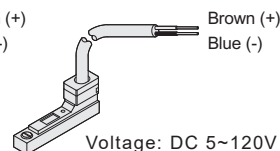
Sensor switch introduction

CS-15T



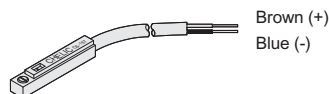
Voltage: DC 5~120V
AC 5~120V

CS-15B



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

CS-5G



Voltage: DC 5~30V