

HDM series 180° Angular Type Air Gripper

Product features/ Code of order

CHELIC

Feature

- Light weight, compact body, small port size
- 180° opening gripping angle
- Various installation directions



Specification

Item	Bore size (mm)	Ø12	Ø16	Ø20	Ø25	Ø32
Action		Double acting				
Fluid		Air				
Pressure range	kgf / cm ² (kPa)	1.5 ~ 7 (150 ~ 700)				
Ambient and fluid temperature	° C	0 ~ 60				
Max. operation frequency	time/min	60				
Lubrication	Cylinder	Lubrication free type				
	Lever section	Lubrication required				
Theoretical gripping force(M) kgf-cm	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)	kgf	F = M / L X 0.9				
Lever open/close angles	°	- 1 ~ + 180				
Port size		M5 X 0.8P				
Sensing device		With magnet				

Note 1: F: Effective gripping force, M: theoretical gripping torque, P: operating pressure 5kgf/cm², L: the gripping point length is 30mm

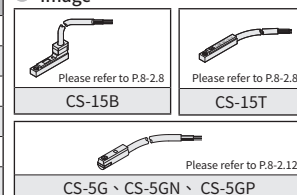
Code of order HDM 20 - HM - 15T 2

1 2 3 4

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

Mark	Sensor switch
None	Without sensor switch
5G	CS-5G
5GN	CS-5GN
5GP	CS-5GP
15T	CS-15T
15B	CS-15B

Image



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

● HM: Internal mounting HB: External mounting

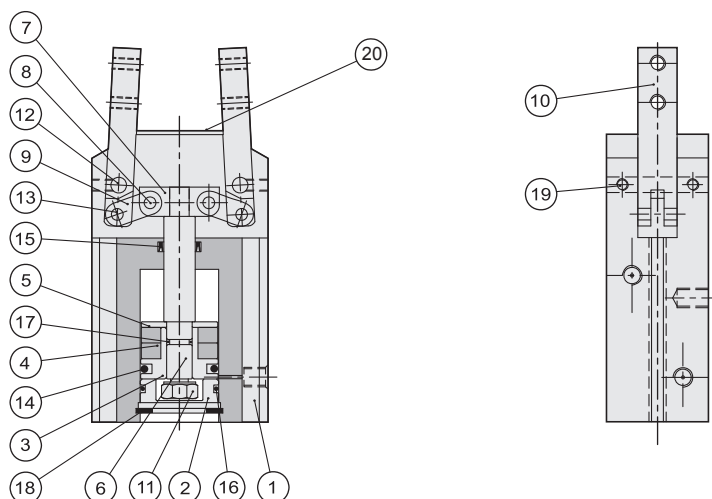
Mark	Sensor quantity
1	With 1 sensor switche
2	With 2 sensor switches

HDM series 180° Angular Type Air Gripper

Product features

CHELIC

Internal structure



Components and material list

No.	Item	Material	No.	Item	Material
01	Body	Aluminum alloy	11	Nut	Alloy steel
02	Rear cover	Aluminum alloy	12	Finger pin	Bearing steel
03	Piston	Copper alloy	13	Action lever pin	Bearing steel
04	Magnet	Magnet	14	Piston packing	NBR
05	Magnet cap	Copper alloy	15	Shaft packing	NBR
06	Shaft	Stainless steel	16	Rear cover O-ring	NBR
07	Shaft connector	Alloy steel	17	Shaft O-ring	NBR
08	Shaft pin	Bearing steel	18	Clip	Spring steel
09	Action lever	Alloy steel	19	Hexagon socket screw	Alloy steel
10	Finger	Alloy steel	20	Dust cover	Stainless steel

Packing and O-ring material list

Unit: mm

Item	Piston packing	Shaft packing	Rear cover O-ring
Model \ Quantity	1	1	1
HDM Ø12	COP-12	MYA-5	Ø10 x Ø1.0
HDM Ø16	COP-16	DYR-8K	Ø13.2 x Ø1.5
HDM Ø20	COP-20	DYR-10SK	Ø17.5 x Ø1.5
HDM Ø25	COP-25	DYR-12	Ø22 x Ø1.5
HDM 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)
HDM Ø12	0.1
HDM Ø16	0.16
HDM Ø20	0.55
HDM Ø25	0.75
HDM Ø32	1.23

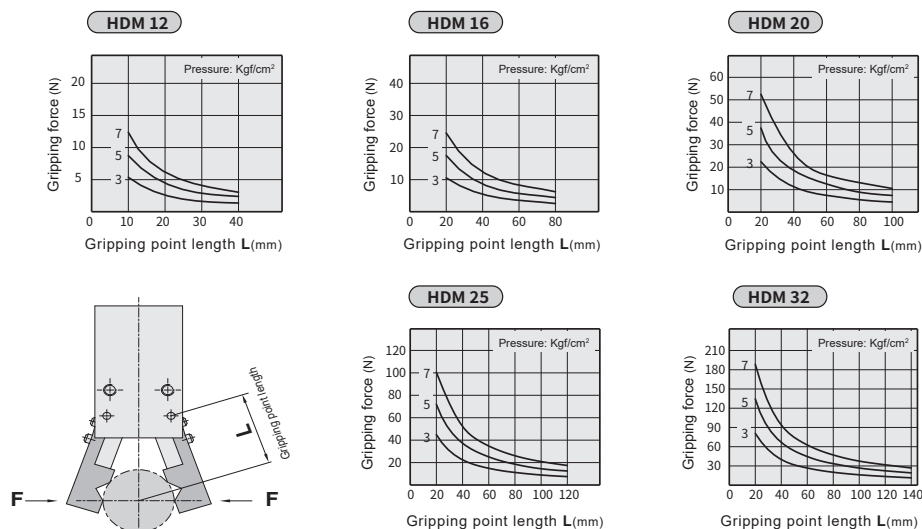
Note: All of above are theoretical data. Weight tolerance about ±5%

HDM series 180° Angular Type Air Gripper

Characteristics graph, Operating type and data, Mounting type

CHELIC

Gripping force characteristic



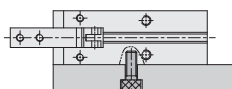
Operating type and data

Action	Model	Bore size (mm)	The smallest operating pressure (kgf/cm ²)	Thread port (mm)	Effective gripping force (N)	
Double acting	HDM 12	12	2.2	4-M3x0.5P	Open	7.3
					Close	2.9
	HDM 16	16	1	4-M3x0.5P	Open	16.1
					Close	11.7
	HDM 20	20	1	4-M4x0.7P	Open	33.8
					Close	24.9
	HDM 25	25	1	4-M5x0.8P	Open	63.2
					Close	49.9
	HDM 32	32	1	4-M6x1.0P	Open	119
					Close	89.6

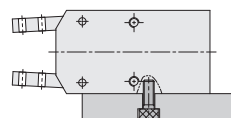
Note: The gripping force is the force of open and close gripper which in the length of gripping point is 30mm and acting pressure is 5 kgf/cm².

Mounting type

1. Apply the screw from bottom.



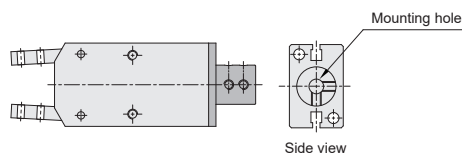
2. Apply the screw from side.



3. Apply HM mounting bracket in the bottom.



4. Apply HB mounting bracket in the bottom.

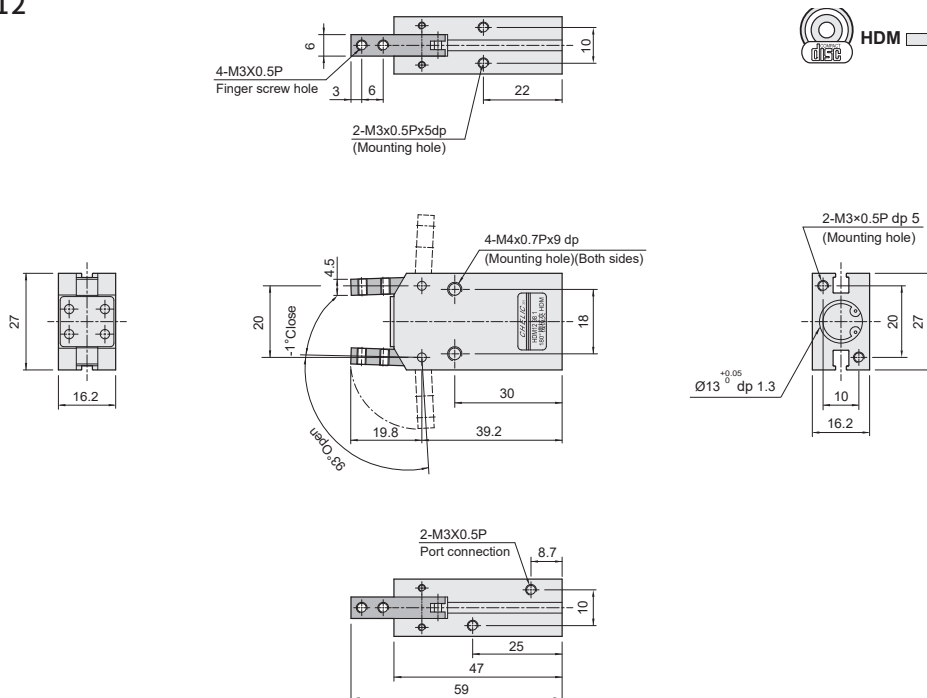


HDM series 180° Angular Type Air Gripper

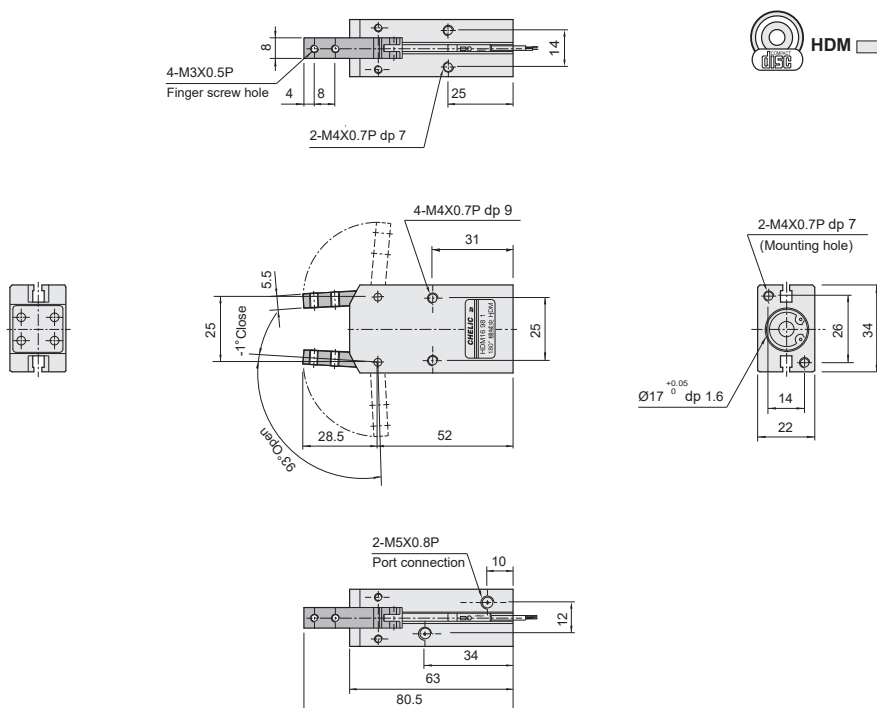
Dimensions - Ø12, Ø16

CHELIC

HDM 12



HDM 16

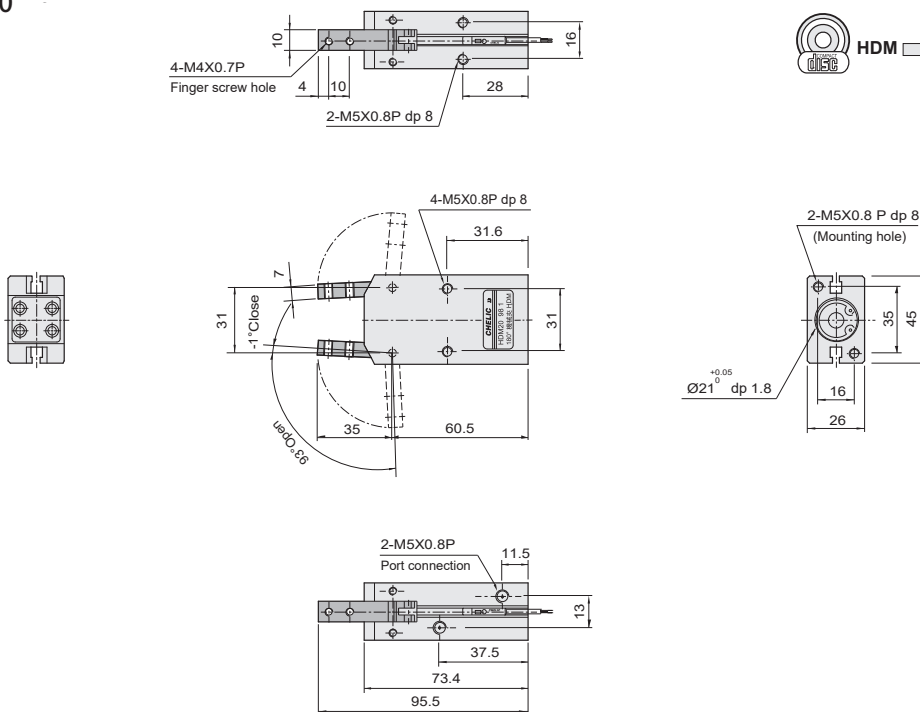


HDM series 180° Angular Type Air Gripper

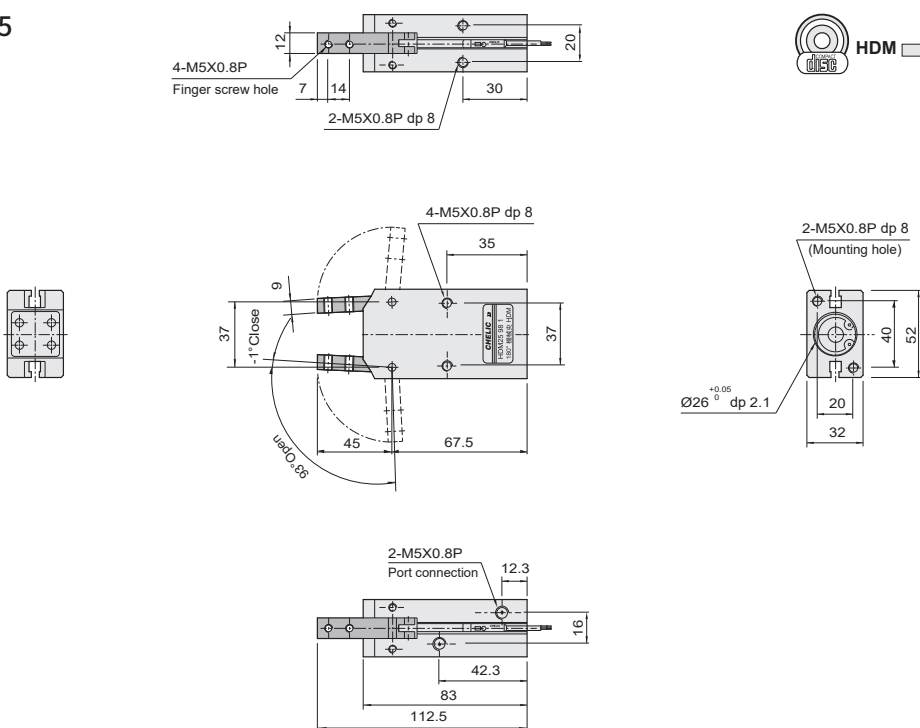
Dimensions - Ø20, 25

CHELIC

HDM 20



HDM 25



HDD

HDS

HDM

HDP

HDPM

HDZ

HDZL

HDZM

HDW

HDWM

HMW

HMG

HMY

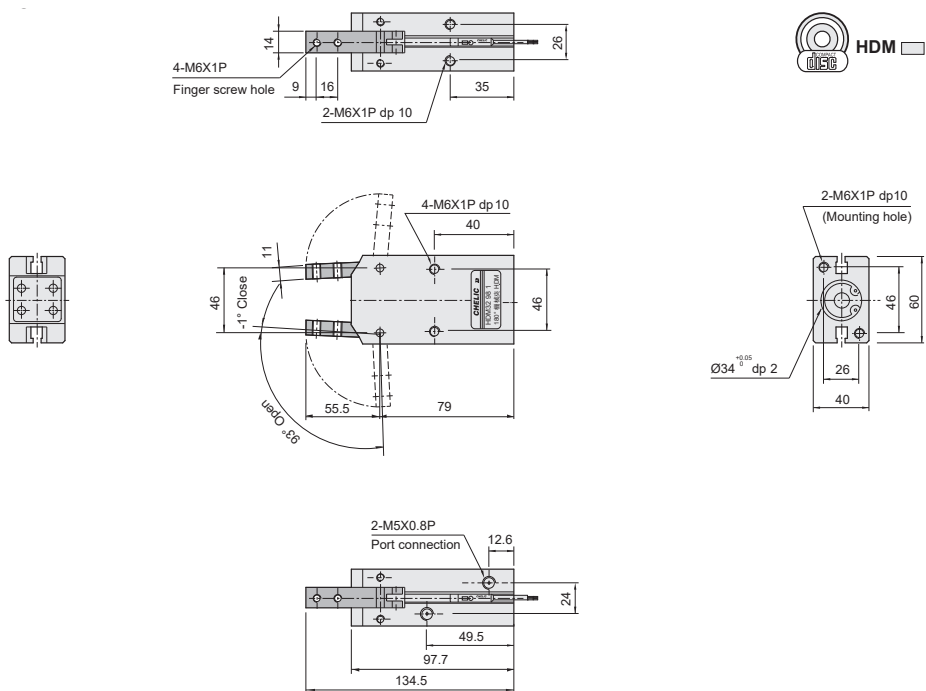
HDU

HDM series 180° Angular Type Air Gripper

Dimensions - Ø32, Mounting bracket

CHELIC

HDM 32

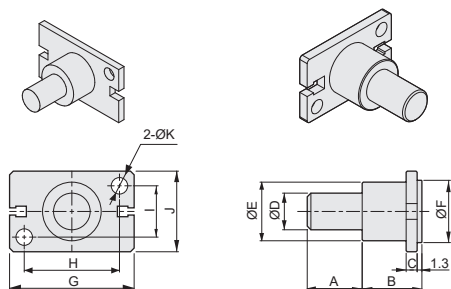


Mounting bracket (Applicable to HDS, HRS, HDP, HDM series)

HM type mounting bracket (Available to internal mounting)

Unit: mm

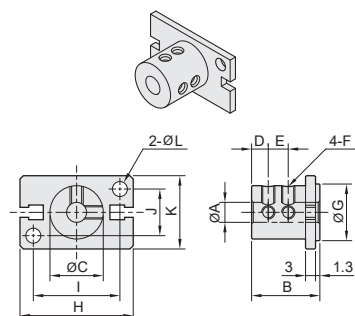
Mark Model	A	B	C	D	E	F	G	H	I	J	K
HM 12	10	10	2	8	12	11	23	20	10	16	3.5
HM 16	15	15	3	10	16	17	34	26	14	22	4.5
HM 20	15	15	3	10	18	21	45	35	16	26	5.5
HM 25	25	17	5	14	26	26	52	40	20	32	6.6
HM 32	25	20	6	16	30	34	60	46	26	40	6.6



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

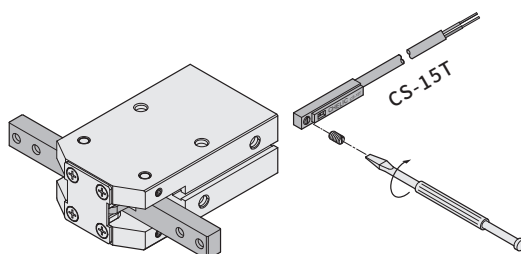
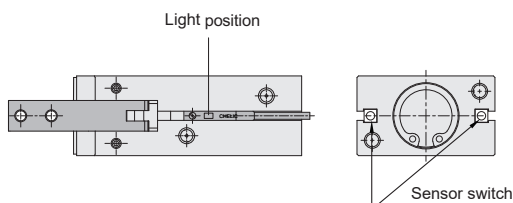


HDM series 180° Angular Type Air Gripper

Mounting type and operation of sensor switch

CHELIC

Sensor switch installation



HDD

HDS

HDM

HDP

HDPM

HDZ

HDZL

HDZM

HDW

HDWM

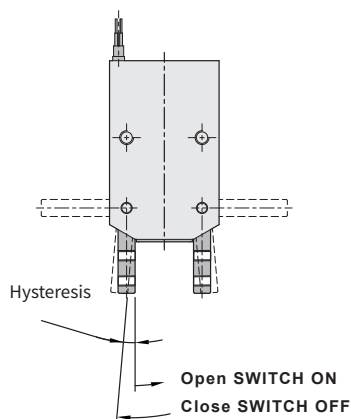
HMW

HMG

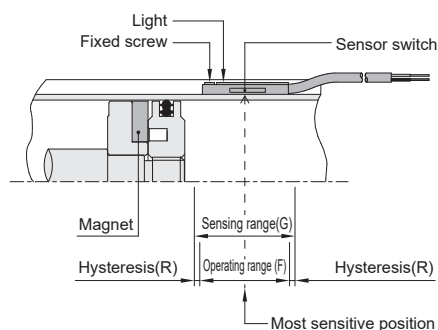
HMY

HDU

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)

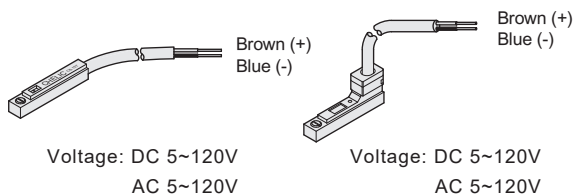
Unit: mm

Model	CS-15T(B)	
Bore size	Operating range (F)	Hysteresis(R)
12	5	1
16	5	1
20	8.5	1
25	10	1.8
32	10	2

Sensor switch introduction

CS-15T

CS-15B



CS-5G

