

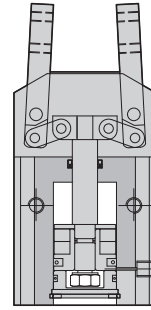
HDM series - 180° Angular gripper

Operation specification and Ordering expression

CHELIC PNEUMATIC



Internal structure



HDS
Angular
Gripper

HDM
180° Angular
Gripper

HDP
Parallel
Gripper

HDF
Parallel
Gripper

HDZ
Parallel
Gripper

HDZL
Parallel
Gripper

HDW
Parallel
Gripper

HDL
Gripper

HDT
Gripper

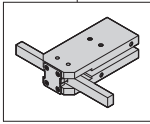
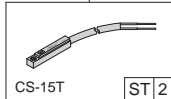
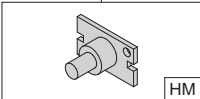
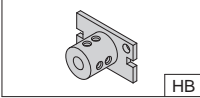
HDR
Gripper

Specification

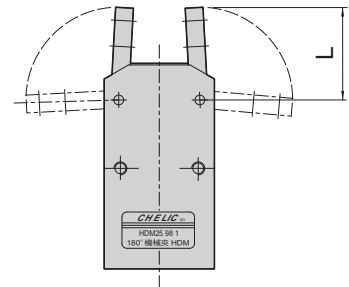
Item	Model	HDM - 12	HDM - 16	HDM - 20	HDM - 25	HDM - 32
Bore size		12	16	20	25	32
Type of operation		Double acting				
Fluid		Air				
Pressure range	kgf/cm ²	1.5 ~ 7 (150 ~ 700)				
Range of service temperature	°C	0 ~ 60				
Max. operation frequency	min	60				
Lubrication	Cylinder	Lubrication free				
	Lever section	Required (Lubricator)				
Theoretical holding force(M)	Closed side	0.2XP	0.8XP	1.7XP	3.4XP	6.1XP
	Opened side	0.5XP	1.1XP	2.3XP	4.3XP	8.1XP
Length of maximum gripping point (L)	mm	40	80	100	120	140
Effective gripping force (F) (Note 1)	Kgf	F = M / L X 0.9				
Lever open/ close angles	°C	-1° ~ +180°				
Port size		M5 x 0.8				
Magnet device		With magnet				

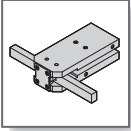
Note 1 : F : Effective gripping force, L : Gripping point length = 30mm , M : Theoretical holding force, P : Pressure = 5 Kgf/cm²

How to order

HDM	20	ST 2	HM
Model	Bore size	Sensor switch	Mounting bracket
	12 - Ø12 mm 16 - Ø16 mm 20 - Ø20 mm 25 - Ø25 mm 32 - Ø32 mm	 CS-15T ST 2	 HM
HDM : 180° Angular gripper		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 : Number of sensor switch 1 = 1 PCS 2 = 2 PCS	None : Without Mounting bracket HM : HM type Mounting bracket (please refer P.3-12.15)  HB None : Without Mounting bracket HB : HB type Mounting bracket (please refer to P.3-12.15) ※ Note : Ø12 ~ Ø32 use

Length of gripping point

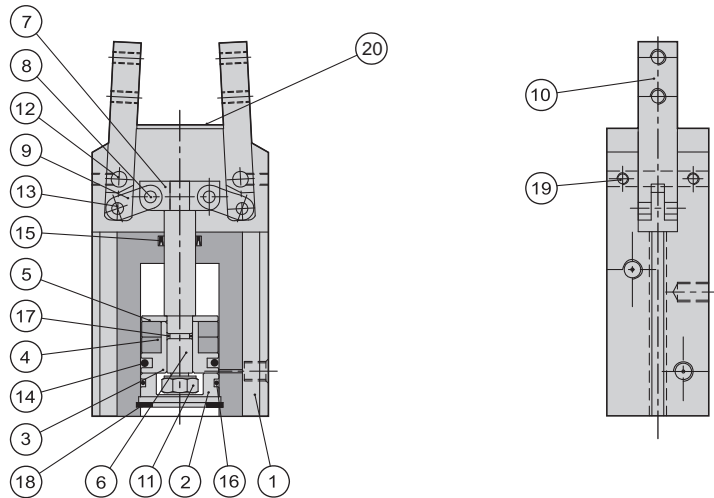




HDM series - 180° Angular gripper

Components and Material list

CHELIC PNEUMATIC



Components and Material list

No.	Item	Material	No.	Item	Material
01	Body	Aluminum alloy	11	Non-slide nut	Alloy steel
02	End cover	Aluminum alloy	12	Finger pin	Bearing steel
03	Piston	Copper	13	Action lever pin	Bearing steel
04	Magnet	Rubber	14	Piston packing	NBR
05	Magnet cover	Copper	15	Rod packing	NBR
06	Piston rod	Stainless steel	16	End cover o-ring	NBR
07	End rod joiner	Alloy steel	17	Rod o-ring	NBR
08	Rod pin	Bearing steel	18	Snap ring	Spring steel
09	Action lever	Alloy steel	19	Hexagon screw	Alloy steel
10	Finger	Alloy steel	20	End plate	Stainless steel

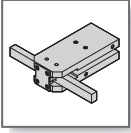
Packing and O-Ring

Item	Piston packing	Rod packing	End cover o-ring
Bore size mm	Number	1	1
Ø12	COP-12	MYA-5	Ø10XØ1.0
Ø16	COP-16	DYR-8K	Ø13.2XØ1.5
Ø20	COP-20	DYR-10SK	Ø17.5XØ1.5
Ø25	COP-25	DYR-12	Ø22XØ1.5
Ø32	COP-32	DYR-16	Ø28.5XØ2.0

Weight

Model	Weight _{kg}
HDM - 12S	0.1
HDM - 16S	0.16
HDM - 20S	0.55
HDM - 25S	0.75
HDM - 32S	1.23

Note : Piston and rod packing adapt in Osaka and Mitsubishi imports.



HDM series - 180° Angular gripper

Gripping force characteristic

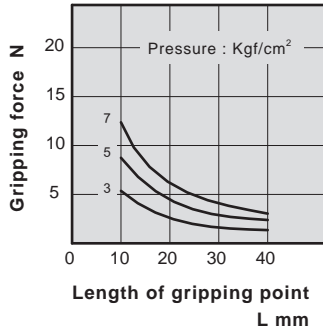
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► Gripping force characteristic

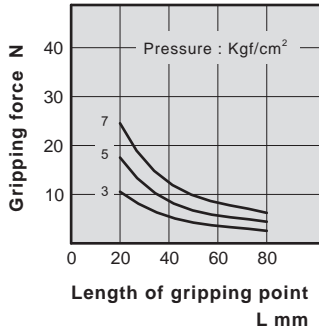


● HDM External gripping force

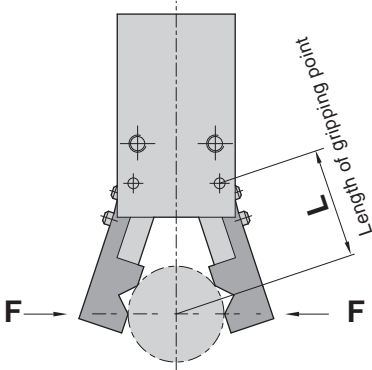
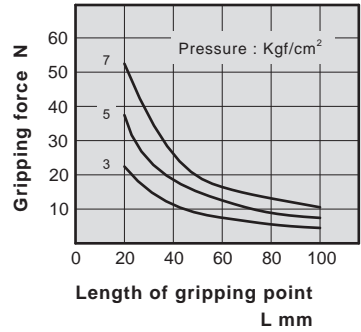
HDM-12



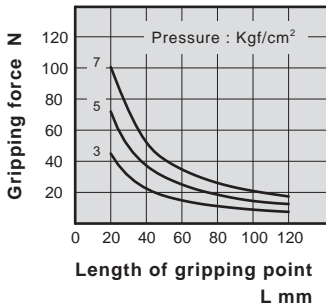
HDM-16



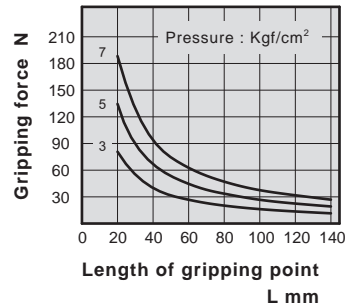
HDM-20



HDM-25



HDM-32



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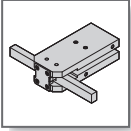
HDZL
Parallel
Gripper

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HDL
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HDR
Gripper



HDM series - 180° Angular gripper

Operating type, Data, and Mounting type

CHELIC PNEUMATIC

Operating type and Data table

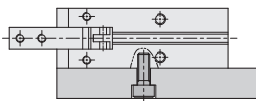
Operating type	Model	Bore size (mm)	The smallest operating pressure (Mpa)	Thread port (mm)	Effective gripping force	
						Kgf(N)
Double acting	HDM - 12	12	0.22	4-M3x0.5	Open	0.75 (7.3)
					Close	0.3 (2.9)
	HDM - 16	16	0.1	4-M3x0.5	Open	1.6 (16.1)
					Close	1.2 (11.7)
	HDM - 20	20	0.1	4-M4x0.7	Open	3.4 (33.8)
					Close	2.5 (24.9)
	HDM - 25	25	0.1	4-M5x0.8	Open	6.4 (63.2)
					Close	5.1 (49.9)
	HDM - 32	32	0.1	4-M6x1.0	Open	12.1 (119)
					Close	9.1 (89.6)



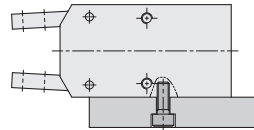
Note : The gripping force is the force of open and close gripper which is in the length of gripping point is 30mm and acting pressure is 0.5Mpa.

Mounting type

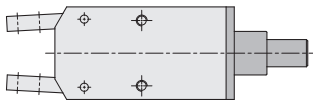
1. Use the thread in the bottom



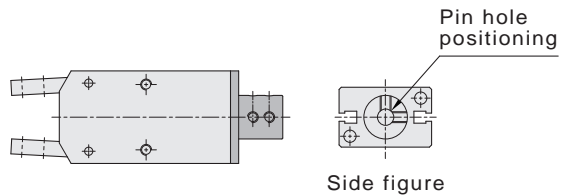
2. Use the thread in the side of body

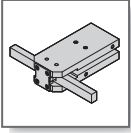


3. Use HM type Mounting bracket in the bottom



4. Use HB type Mounting bracket in the bottom



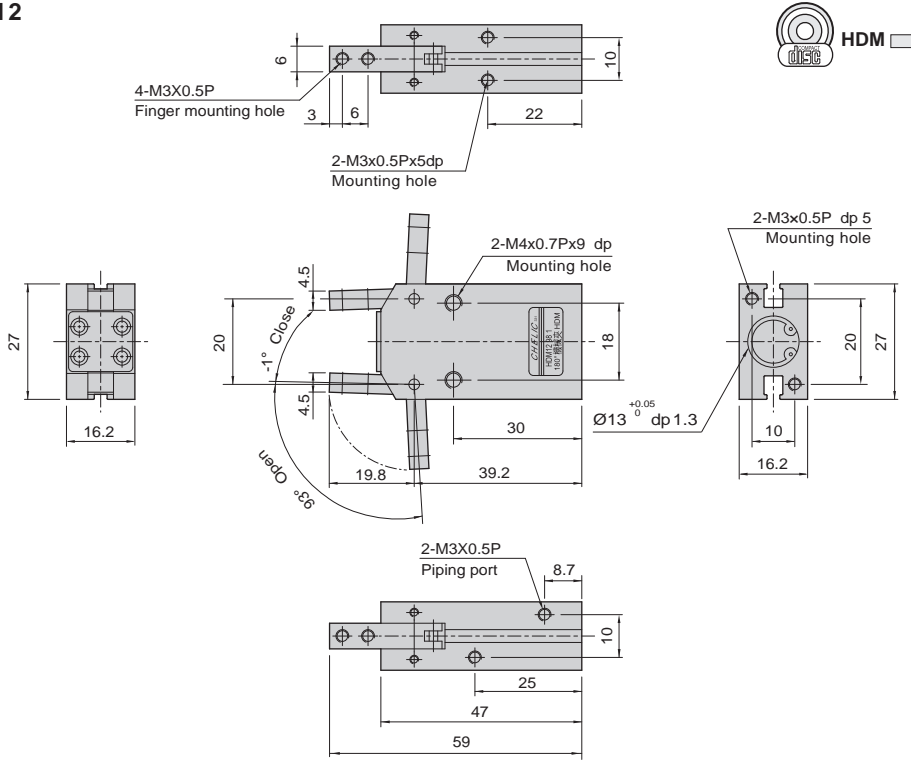


HDM series - 180° Angular gripper

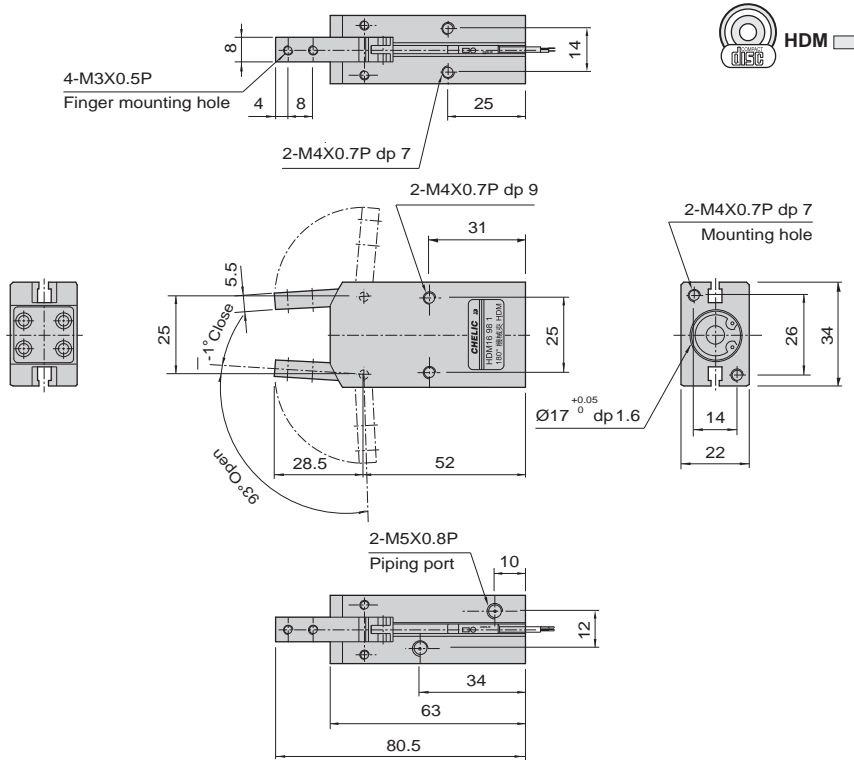
External dimension

CHELIC PNEUMATIC

HDM - 12



HDM - 16



HDS
Angular
Gripper

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180° Angular
Gripper

HDP
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HDZ
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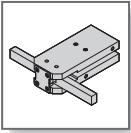
HDZL
Parallel
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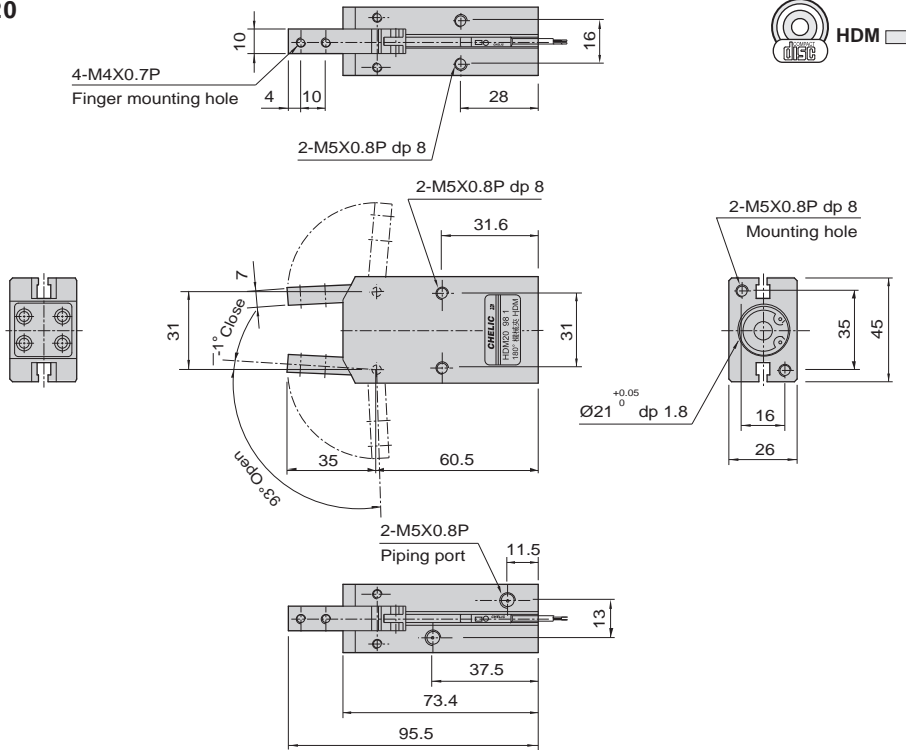


HDM series - 180° Angular gripper

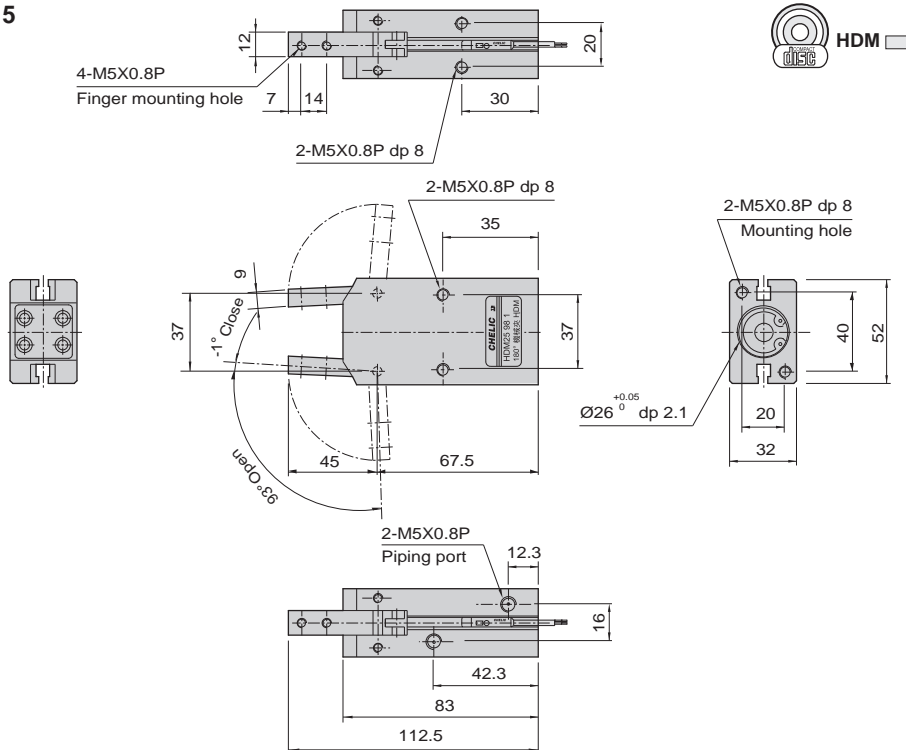
External dimension

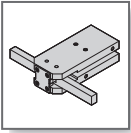
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HDM - 20



HDM - 25





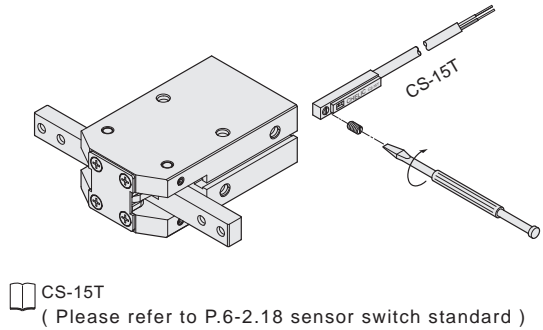
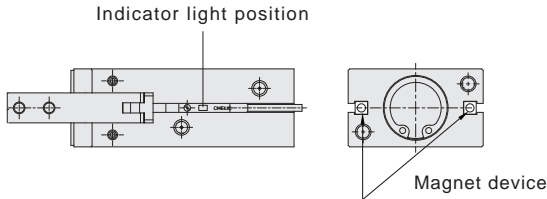
HDM series - 180° Angular gripper

How to use and Sensor switch installation

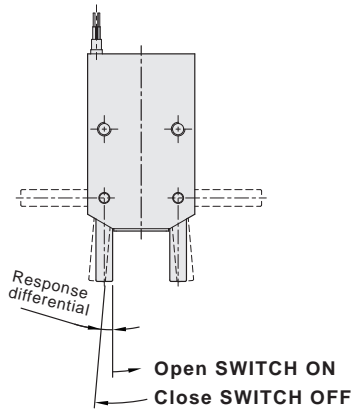
CHELIC PNEUMATIC

▶ HDM sensor switch installation example

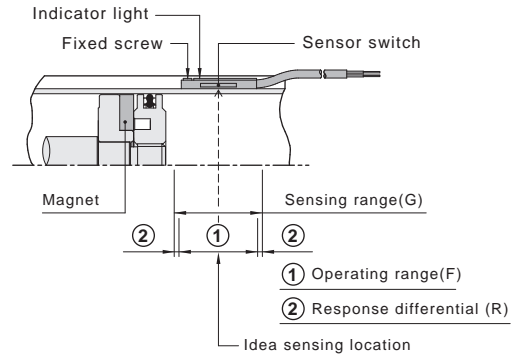
- Sensor switch installation and Position



- Response differential and Position adjustable



- Response differential and Position adjustable



▶ 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

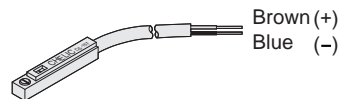
When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch. (Please refer to the below table)

Unit : mm

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

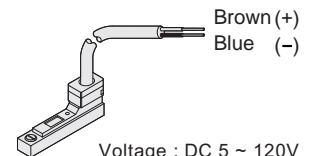
▶ Connection type

CS-15T



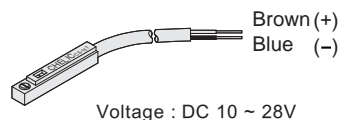
Voltage : DC 5 ~ 120V
AC 5 ~ 120V

CS-15B



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

CS-5G



Voltage : DC 10 ~ 28V