



Features

- Compact design to ensure minimum interference while operating; robust T rail design, ensure accurate gripping.
- Can reach maximum torque suitable for long jaws design.
- Oval piston-driven design ensure maximum gripping force.
- Hose-free direct connection: Air supply channel can connect directly without piping or through tread to assure the flexibility of supplying compressed air on any kind of automation system.
- Assembling with a dust-proof module can prevent foreign matters (>0.5mm) entering the gripper.
- Magnetic as standard.

Specification

Model	MCHS							
Acting type	Double acting							
Size	50	66	80	100	125	160	200	300
Stroke per-jaw(mm)	4	6	8	10	12	16	20	30
Effective external gripping force (N) (*1)	69	122	225	315	505	842	1417	3283
Close / Open time(s)	0.02	0.03	0.04	0.07	0.1	0.2	0.35	0.45
Medium	Air							
Operating pressure range	0.3~0.8 MPa							
Compressed air consumption(cm ³)	4.1	10.1	23.6	39.3	85	85	330	1000
Ambient temperature	+5°C~ +80°C							
Lubrication	Not required							
Sensor switch (*2)	2 wire	RDFE(V): Non-contact						
	3 wire	RNFE(V): NPN, RPFE(V): PNP						
Proximity sensor	-	RJY (Please refer to page 5-14)						
Accessories	Mounting block, Accessory kits							
Weight (kg)	0.14	0.27	0.495	0.85	1.6	3.0	5.7	14.2

Order example

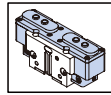
MCHS — 50 — SD

MODEL

SIZE

DUST-PROOF MODULE (*)

50, 66, 80, 100, 125, 160, 200, 300



* When the size 50 is assembled with the dust-proof module, the proximity sensor cannot be used.

Dust-proof Module

SD — MCHS — 50

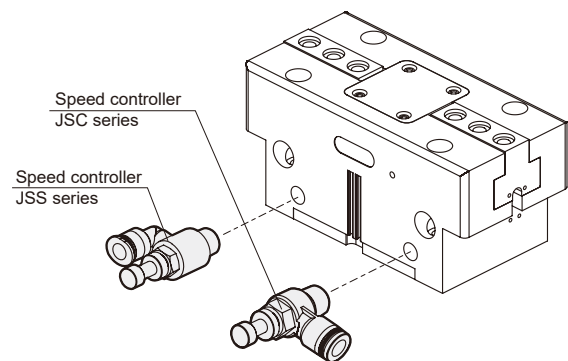
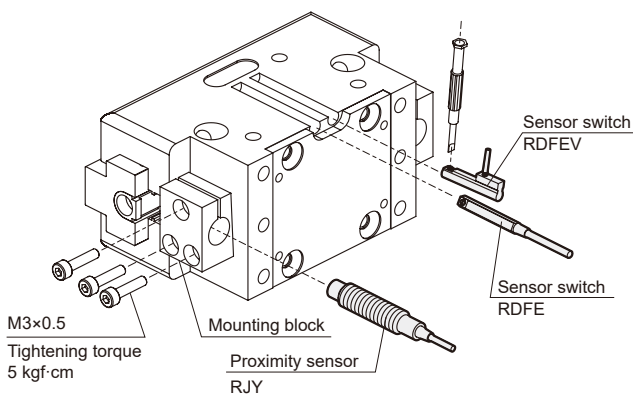
DUST-PROOF MODULE

MODEL

SIZE

50 ~ 300

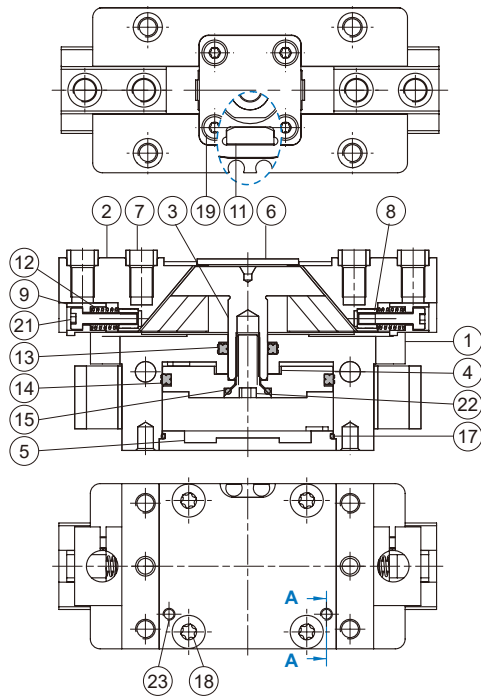
Installation of sensor switch & speed controller



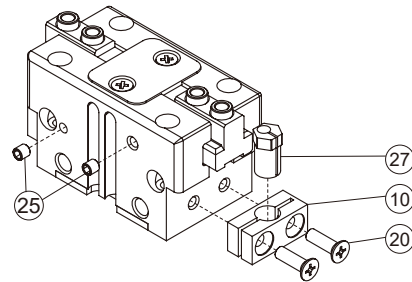
* Each gripper needs at least two speed control valves to control speed.
* Speed controller specification, please refer to page 8-15~17 (Vol.1).

PARALLEL GRIPPER (2-Finger)

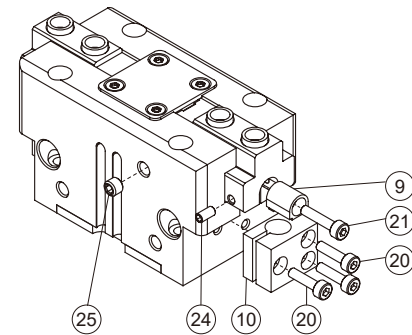
mindman



50



66~300



A-A

Material

No.	Part name	Material	Size & Q'y							Repair kits (inclusion)
			50	66	80	100	125	160	200	
1	Body	Aluminum alloy	1							
2	Finger	Carbon steel	2							
3	Rod	Carbon steel	1							
4	Piston	Aluminum alloy	1							
5	End cover	Aluminum alloy	1							
6	Plate cover	Stainless steel	1							
7	Centering sleeve	Stainless steel	*1							
8	Thread insert	Brass	-		2					
9	Sensor adj block	Aluminum alloy	-	2						
10	Sensor holder	Resin	2							
11	Magnet	Magnet material	1							
12	Spring	SWP	-		2					
13	Rod packing	NBR	1							●
14	Piston packing	NBR	1							●
15	O-ring	NBR	1							●
16	O-ring	NBR	3	4	2					●
17	O-ring	NBR	1							●
18 *2	Screw	Alloy steel	4							
19 *3	Screw	Alloy steel	2	4						
20	Bolt	Stainless steel	4	6						
21	Hex bolt	Stainless steel	-							2
22 *4	Hex bolt	Stainless steel	1							
23	Hex screw	Stainless steel	2							
24	Hex screw	Alloy steel	4							
25	Hex screw	Stainless steel	2							
26	Hex screw	Stainless steel	2							
27	Adjust socket	Stainless steel	2	-						

Order example of repair kits

Model	Repair kits
MCHS-50	PS-MCHS-50
MCHS-66	PS-MCHS-66
MCHS-80	PS-MCHS-80
MCHS-100	PS-MCHS-100
MCHS-125	PS-MCHS-125
MCHS-160	PS-MCHS-160
MCHS-200	PS-MCHS-200
MCHS-300	PS-MCHS-300

Order example of accessory kits

Model	Accessory kits
MCHS-50	AK-MCHS-50
MCHS-66	AK-MCHS-66
MCHS-80	AK-MCHS-80
MCHS-100	AK-MCHS-100
MCHS-125	AK-MCHS-125
MCHS-160	AK-MCHS-160
MCHS-200	AK-MCHS-200
MCHS-300	AK-MCHS-300

O-ring (×2) Material: NBR	Iron plug (×2) Stainless steel + NBR
PIN (×2)* Bearing steel	Centering sleeve (×4) Stainless steel

*1. Included in accessory kits. *2. Cylinder size 80~300 is hexagonal socket bolt.

*3. Cylinder size 50 is cross flat head screw. *4. Cylinder size 80/100/160/200/300 is alloy steel.

* Size 200 Q'y: 4 pcs

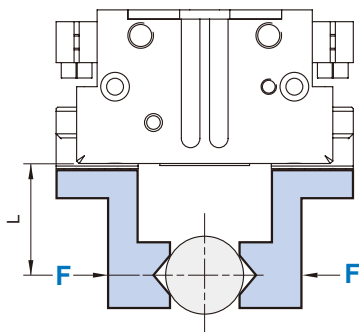
Effective gripping force

* Finger selection please refer to page 3-2.

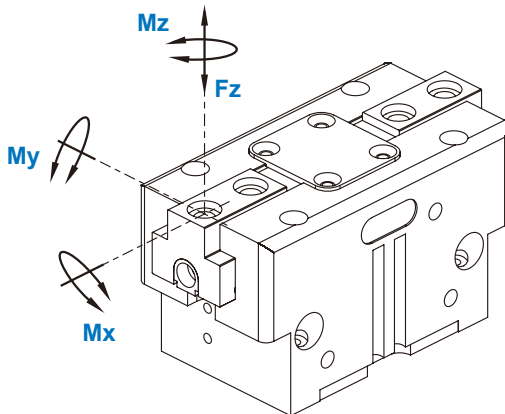
Indication of effective gripping force.

The effective gripping force shown in the graphs to the right is expressed as F, which is the thrust of one finger, when two fingers and attachments are in full contact with the workpiece as shown in the figure below.

1N=0.102 kgf
1MPa=10.2 kgf/cm²



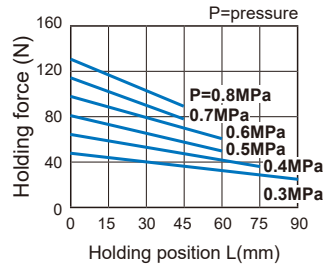
External grip



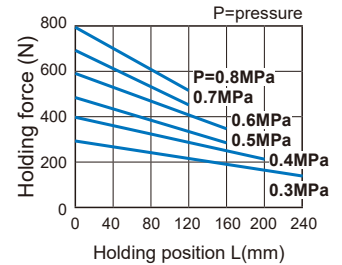
Code Model	Mx max. (Nm)	My max. (Nm)	Mz max. (Nm)	Fz max. (N)
MCHS-50	15	15	8	700
MCHS-66	50	45	35	1200
MCHS-80	80	60	50	1800
MCHS-100	100	90	75	2500
MCHS-125	120	120	100	3200
MCHS-160	160	180	140	5000
MCHS-200	180	220	170	7000
MCHS-300	275	300	200	9000

External gripping force

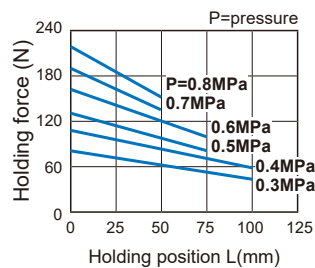
MCHS-50



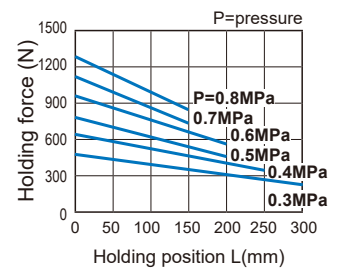
MCHS-125



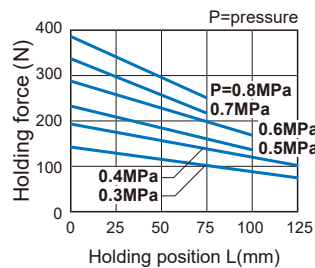
MCHS-66



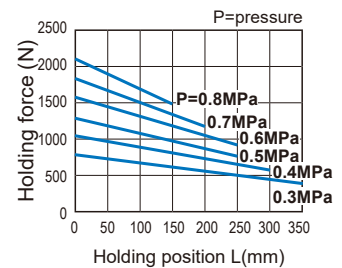
MCHS-160



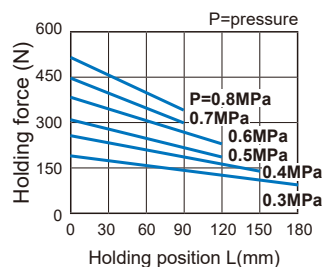
MCHS-80



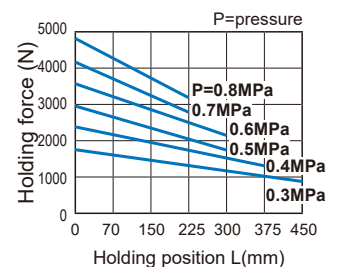
MCHS-200



MCHS-100



MCHS-300



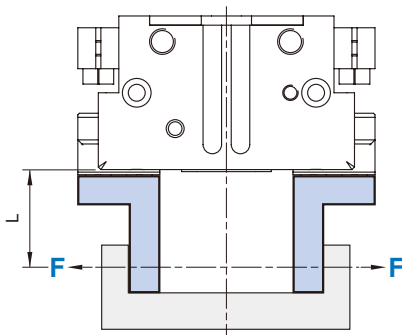
Effective gripping force

* Finger selection please refer to page 3-2.

Indication of effective gripping force.

The effective gripping force shown in the graphs to the right is expressed as F, which is the thrust of one finger, when two fingers and attachments are in full contact with the workpiece as shown in the figure below.

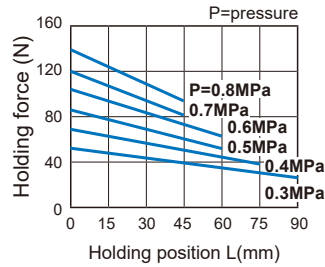
1N=0.102 kgf
1MPa=10.2 kgf/cm²



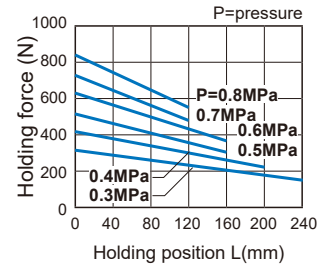
Internal grip

Internal gripping force

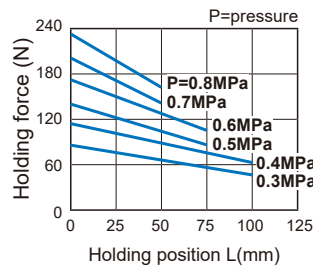
MCCHS-50



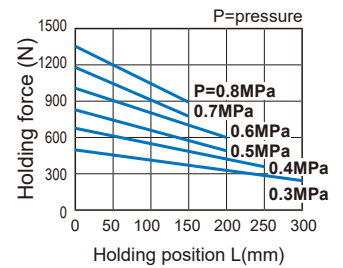
MCCHS-125



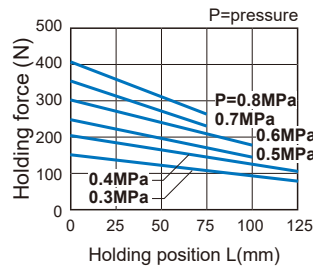
MCCHS-66



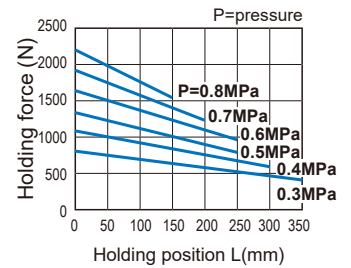
MCCHS-160



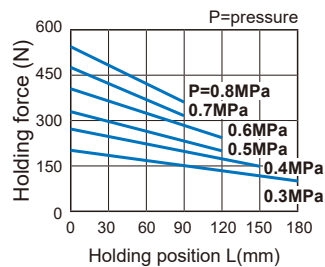
MCCHS-80



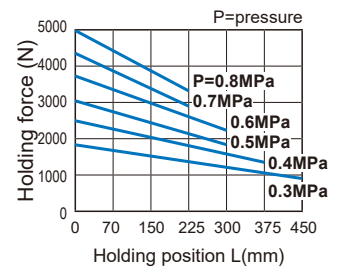
MCCHS-200



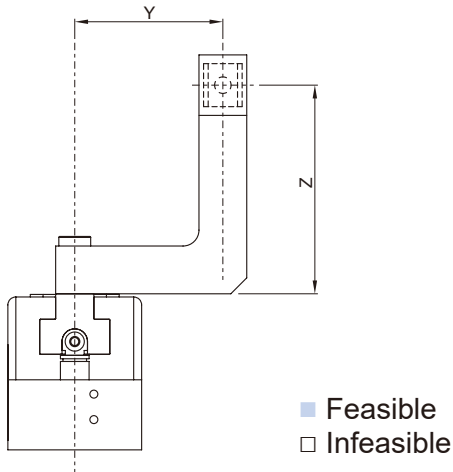
MCCHS-100



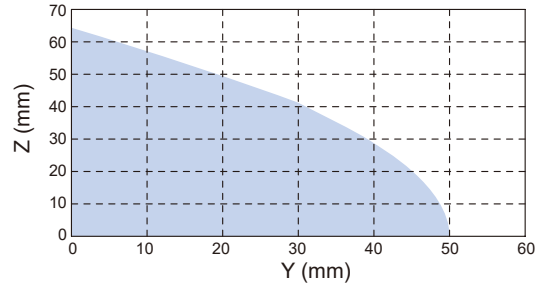
MCCHS-300



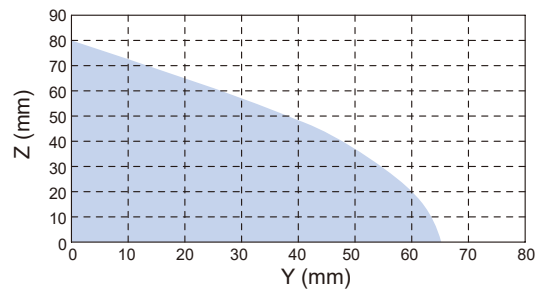
Max. feasible centrifugal degree



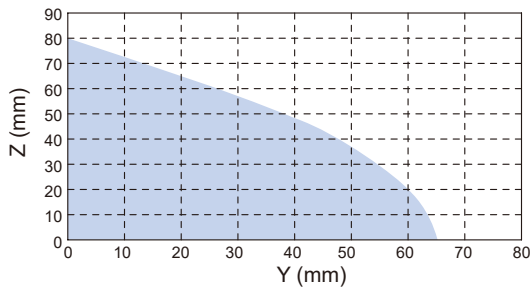
MCHS-50



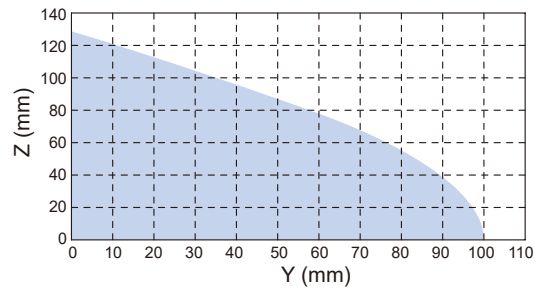
MCHS-66



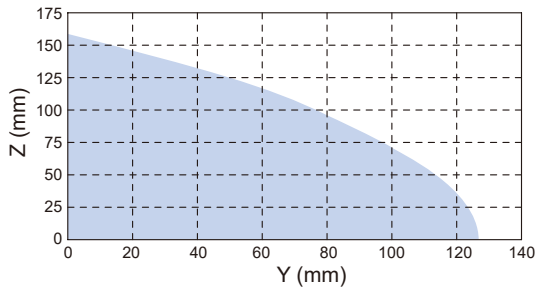
MCHS-80



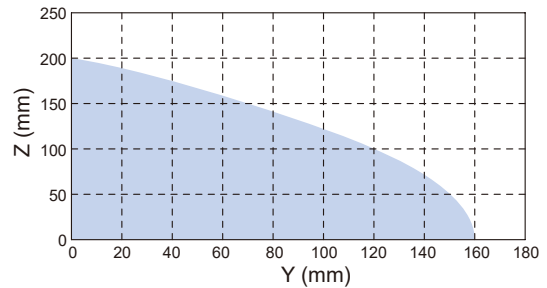
MCHS-100



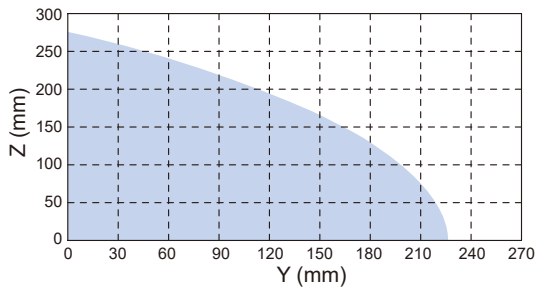
MCHS-125



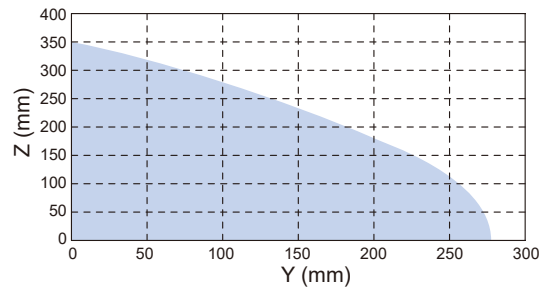
MCHS-160



MCHS-200



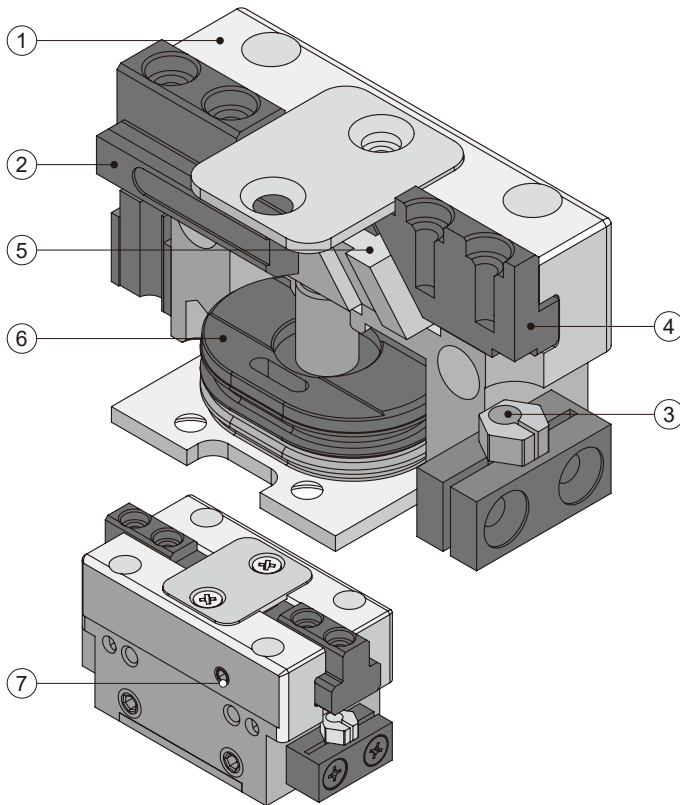
MCHS-300



PARALLEL GRIPPER (2-Finger)

Internal structure & Movement description

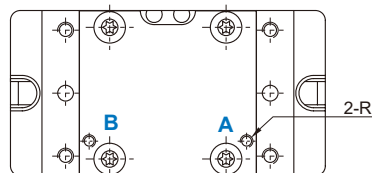
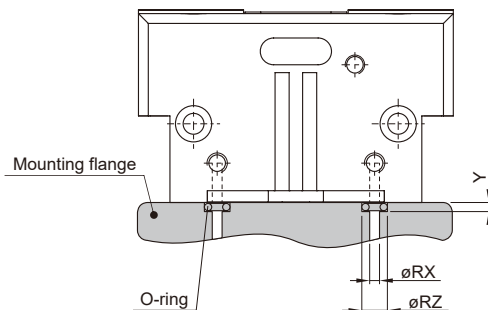
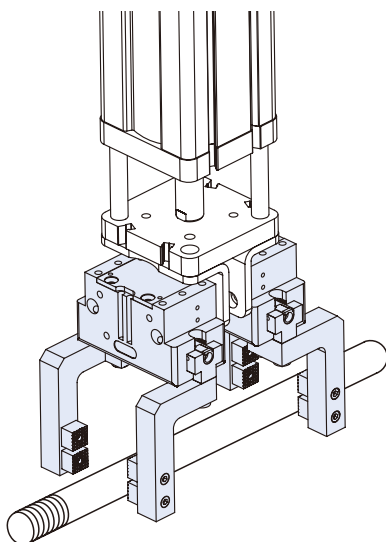
Compressed air will push or press the oval piston.
By tilting the working surface, the wedge hook will transfer the movement to side movement, and initiate the action of the two base jaws simultaneously.



- ① **Material**
Anodized high rigid aluminum alloy to reduce weight.
- ② **Rail**
Bearing rails load the base jaw, which ensure the minimal vibration of long jaw.
- ③ **Sensor system**
Sensor switch or proximity sensor are available.
- ④ **Base jaw**
Jaws connected to work piece.
- ⑤ **Wedge hook**
High power transmission center jaws.
- ⑥ **Large circular piston**
Generate larger structural strength.
- ⑦ **Air purge connection (External vents)**
The air purge is used in order to make it more difficult for dirt and dust to penetrate into the product and the guiding areas.
* The air purge is effective only when the gripper is opened.
* Install a valve to control the air purge.

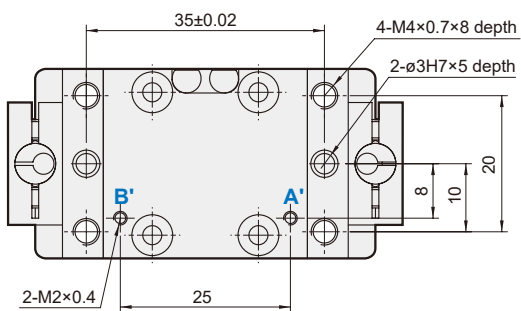
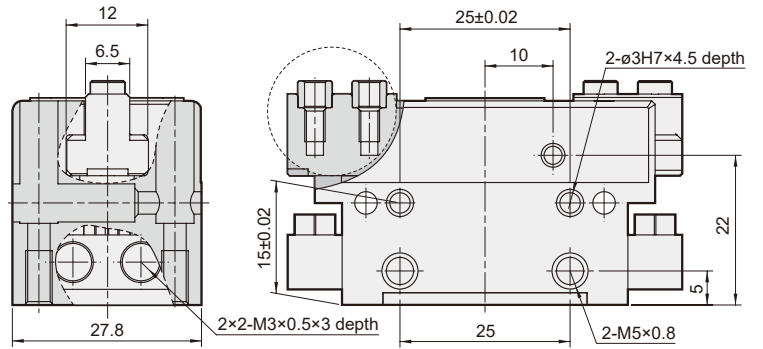
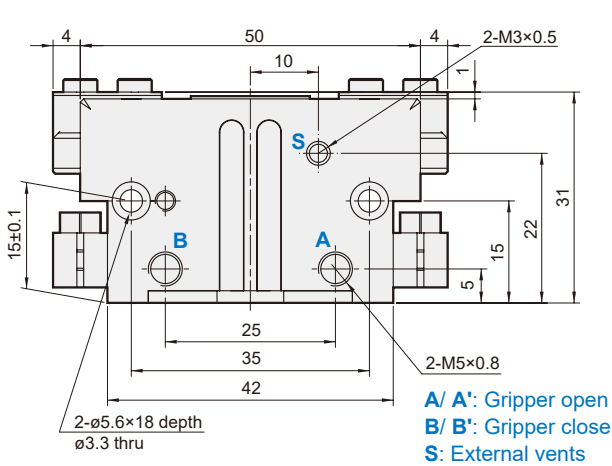
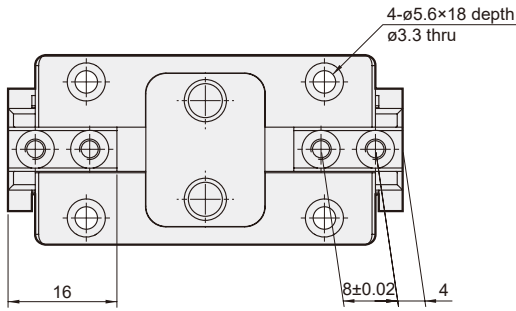
Application examples

Hose-free direct connection

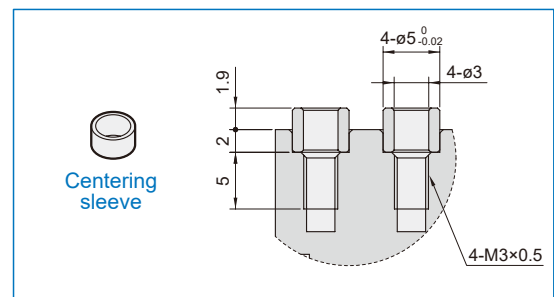


Code Model	R	RX	RZ	Y
MCHS-50	M2	2	4	0.7
MCHS-66	M3	3	5	0.7
MCHS-80	M3	3	5	0.7
MCHS-100	M5	5	8	1.1
MCHS-125	M5	5	8	1.1
MCHS-160	M5	5	8	1.1
MCHS-200	M5	5	8	1.1
MCHS-300	M5	5	8	1.1

A : Gripper open
B : Gripper close

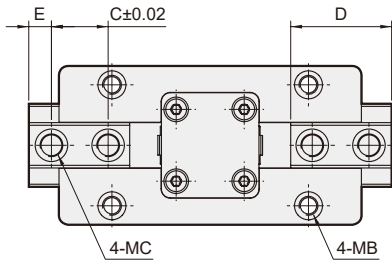


Centering sleeve

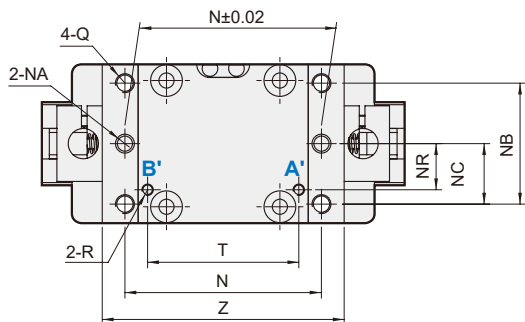
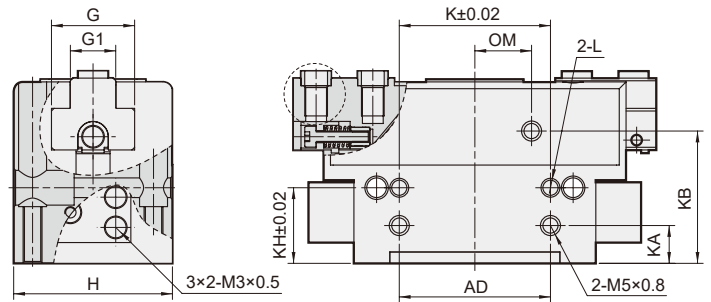
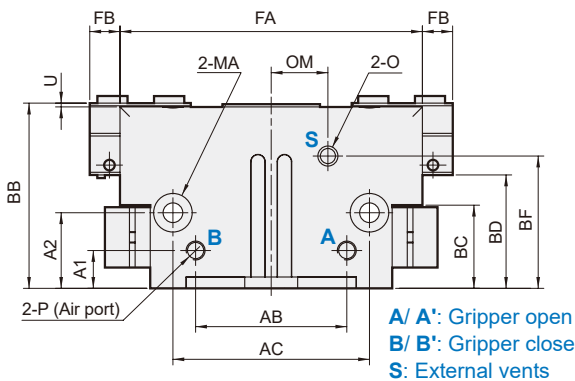
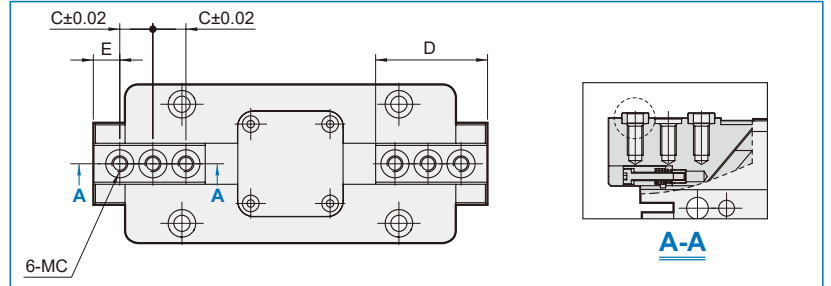


PARALLEL GRIPPER (2-Finger)

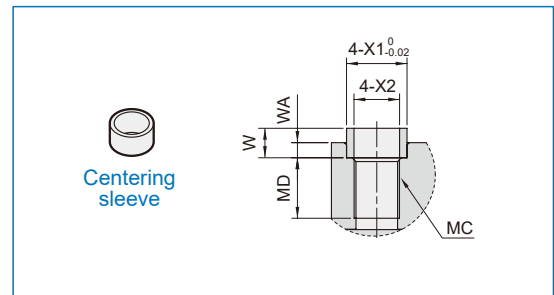
66~100



125~300



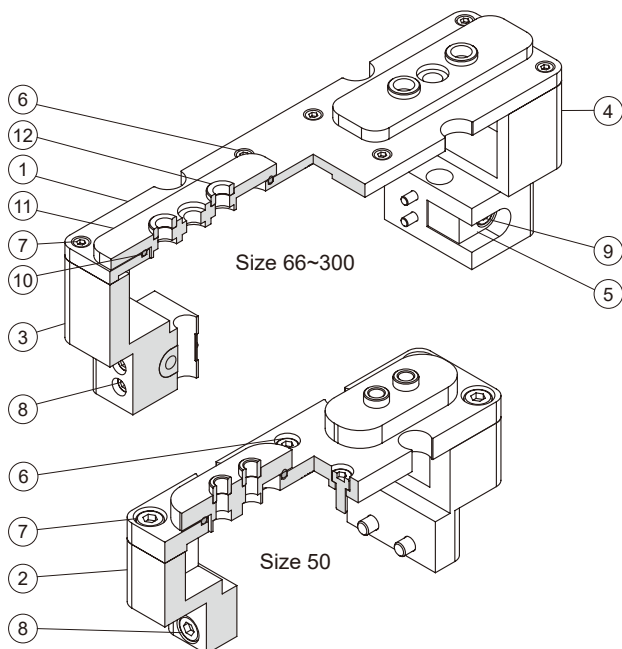
Centering sleeve



Code Size	A1	A2	AB	AC	AD	BB	BC	BD	BF	C	D	E	FA	FB	G	G1	H	K	KA	KB	KH	L	MA
66	5	18	28	42	28	39	18.5	23	27.5	12	22	5	64	6	17	10	36	20	5	27.5	18	ø4H7×4dp	ø7.4×13dp, ø4.2 thru
80	10	20	40	52	40	49	22	30	35	15	26.7	6	80	8	22	12	42	40	10	35	20	ø4H7×6dp	ø9.2×16dp, ø5.2 thru
100	12	25	48	66	54	55	28	33	38	18	34.2	10	100	10	26	14	50	50	12	38	25	ø5H7×7dp	ø10.4×28dp, ø6.2 thru
125	13	30	62	82	65	64	32	38.5	45	12.5	42.3	10	125	12	31	15.5	60	60	13	45	30	ø6H7×8dp	ø13.5×34dp, ø8.4 thru
160	15.5	28	78	100	82	78	39	46	53	18	54.8	10	160	16	39	20	72	76	15.5	53	28	ø6H7×10dp	ø13.5×47dp, ø8.4 thru
200	19	44	102	128	108	97	48	58	69	22	67.5	12	200	20	42	22	95	100	19	69	44	ø8H7×8dp	ø18.5×55dp, ø12.2 thru
300	19	66	150	180	152	130	67	78	92	30	91	15	260	30	66	32	139	140	19	92	66	ø10H7×12dp	ø18.5×100dp, ø12.5 thru

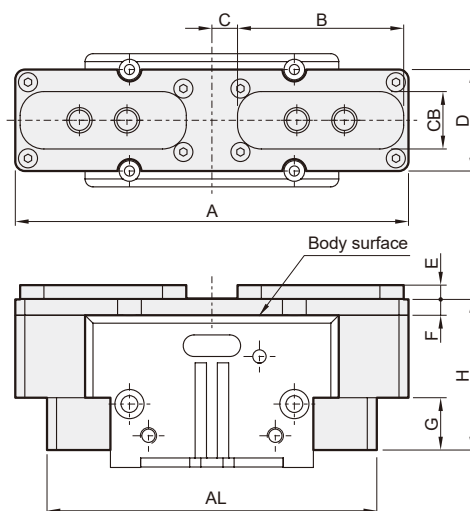
Code Size	MB	MC	MD	N	NA	NB	NC	NR	O	OM	P	Q	R	T	U	W	WA	X1	X2	Z
66	ø7.4×24dp, ø4.3 thru	M4×0.7	6	42	ø4H7×6dp	27	13.5	11	M5×0.8	12	M5×0.8	M5×0.8×10dp	M3×0.5	28	1	3.9	2	ø6	ø4	52
80	ø7.4×33dp, ø4.3 thru	M6×1.0	8	52	ø4H7×6dp	32	16	12.2	M5×0.8	15	M5×0.8	M5×0.8×10dp	M3×0.5	40	1	3.9	2	ø8	ø6	64
100	ø9×21.5dp, ø5.1 thru	M6×1.0	10	66	ø5H7×8dp	38	19	16	M5×0.8	16	G1/8	M6×1.0×10dp	M5×0.8	48	1	3.9	2	ø10	ø6	80
125	ø10.4×40dp, ø6.8 thru	M6×1.0	12	82	ø6H7×8dp	45	22.5	18	M5×0.8	20	G1/8	M8×1.25×10dp	M5×0.8	60	1	3.9	2	ø10	ø6	100
160	ø10.4×37dp, ø6.8 thru	M8×1.25	12	100	ø6H7×8dp	56	28	22	M5×0.8	27	G1/8	M8×1.25×10dp	M5×0.8	76	1	3.9	2	ø12	ø8	125
200	ø16.5×61dp, ø10.3 thru	M10×1.5	17.5	128	ø10H7×12dp	68	34	24	M5×0.8	34.5	G1/4	M12×1.75×16dp	M5×0.8	100	1	4.9	2.5	ø14	ø10	160
300	ø16.5×72dp, ø10.3 thru	M12×1.5	18	180	ø10H7×12dp	100	50	24	M5×0.8	43	G1/4	M12×1.75×16dp	M5×0.8	150	2	4.9	2.5	ø18	ø12	220

Inside structure & Parts list



Dimensions

- When installing soft-jaws, the length of jaws are measured from the the body surface.



Material

No.	Part name	Material	Q'y	
			50	66~300
1	Dust cover	Aluminum alloy	1	1
2	Mounting block	Aluminum alloy	2	0
3	Mounting block L	Aluminum alloy	0	1
4	Mounting block R	Aluminum alloy	0	1
5	Sensor mounting block	Aluminum alloy	0	2
6	Bolt	Alloy steel	2	4
7	Bolt	Alloy steel	4	4
8	Bolt	Alloy steel	4	4
9	Hexagon bolt	Alloy steel	0	2
10	O-ring	NBR	2	2
11	Slider	Carbon steel	2	2
12	Centering sleeve	Stainless steel	4	4

Code Size	A	AL	B	C	CB	D	E	F	G	H	Weight (g)
50	81.2	58.6	30	6	13	24	4.5	5	12	32	85
66	104	92	41	6.5	16.2	30	4.5	5	16.5	41	169
80	124	104	52.4	8.3	18.1	32	4.5	5	16.5	47.5	220
100	144	124	61	10.5	22	38	4.5	5	16.5	49	296
125	177	157	72	16	22	45	4.5	5	23	59	441
160	231	182	93	21.5	25	56	4.5	6	18	62	688
200	292	247	118	27	30	68	6.3	6	18	72	1279
300	394	318	162	34	38	100	8.3	6	20	87	2900