

MCHG2 series

PARALLEL GRIPPER (3-Finger)



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Features

- Through holes in body enable simple mounting.
- Body manufactured from high tensile, anodised aluminum giving good resistance to corrosion.
- Available with sensors.
- Magnetic as standard.

Order example

MCHG2 – 16 M – □

MODEL

TUBE I.D.
16, 20, 25, 32, 40,
50, 63, 80, 100, 125

M: Magnet
* Magnetic as
standard.

PORT THREAD
Blank: M thread
(only for $\phi 16 \sim \phi 63$)
Blank: Rc thread
G: G thread
NPT: NPT thread
(only for $\phi 80 \sim \phi 125$)

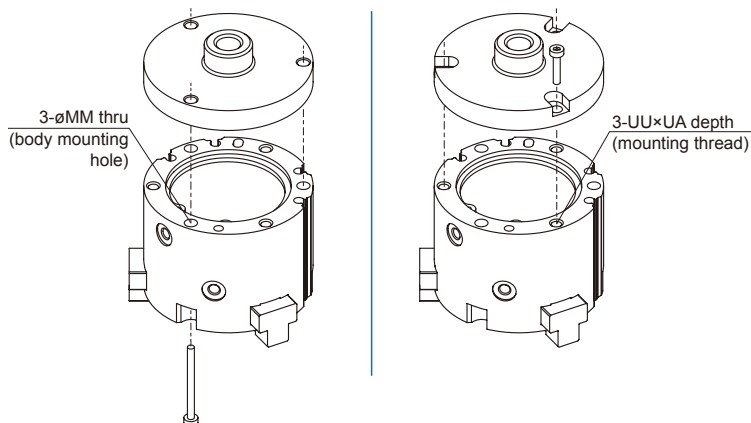


Specification

Model		MCHG2									
Acting type		Double acting									
Tube I.D. (mm)		16	20	25	32	40	50	63	80	100	125
Stroke (mm)		4	4	6	8	8	12	16	20	24	32
Port size		M3×0.5	M5×0.8						Rc1/8	Rc1/4	Rc3/8
Medium		Air									
Operating pressure (MPa)		0.2~0.6			0.1~0.6						
Ambient temperature		-10~+60°C (No freezing)									
Repeatability		±0.01 mm									
Max. operating frequency (c.p.m)		120			60				30		
Lubrication		Not required									
Effective gripping force N (lbf) at (0.5 MPa) (*)	External	14(3.1)	25(5.6)	42(9.4)	74(16.6)	118(26.5)	187(42)	335(75)	500(112)	750(169)	1270(285)
	Internal	16(3.6)	28(6.3)	47(10.6)	82(18.4)	130(29)	204(46)	359(81)	525(118)	780(175)	1320(297)
Sensor switch		RDF (Please refer to page 5-10)									
Weight (g)		80	110	150	240	400	540	1020	1880	3300	6200

* Open and closed diameter values apply for external gripping of work pieces.

Installation



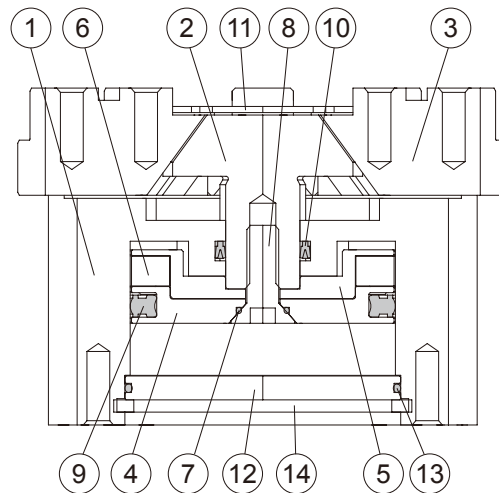
Model	MM	UU×UA	Bolt	Max. tightening torque (N.m)
HCHG2-16	3.4	M3×0.5×4.5	M3×0.5	0.88
HCHG2-20	3.4	M3×0.5×6	M3×0.5	0.88
HCHG2-25	4.5	M4×0.7×6	M4×0.7	2.1
HCHG2-32	4.5	M4×0.7×6	M4×0.7	2.1
HCHG2-40	5.5	M5×0.8×7.5	M5×0.8	4.3
HCHG2-50	5.5	M5×0.8×7.5	M5×0.8	4.3
HCHG2-63	6.6	M6×1.0×10	M6×1.0	7.3
HCHG2-80	6.6	M6×1.0×10	M6×1.0	7.3
HCHG2-100	9	M8×1.25×16	M8×1.25	18
HCHG2-125	11	M10×1.5×20	M10×1.5	36

MCHG2 Inside structure & Parts list / Mounting precautions



PARALLEL GRIPPER (3-Finger)

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Material

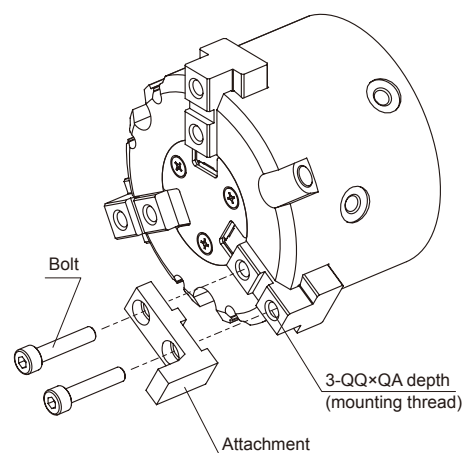
No.	Part name	Material
1	Body	Aluminum alloy
2	Lever	Carbon steel
3	Slider	Carbon steel
4	Piston	Aluminum alloy
5	Piston-R	Aluminum alloy
6	Magnet ring	Magnet material
7	O-ring	NBR

No.	Part name	Material
8	Piston bolt	Carbon steel
9	Piston packing	NBR
10	Rod packing	NBR
11	Table	Stainless steel
12	End plate	Aluminum alloy
13	O-ring	NBR
14	Snap ring	Carbon steel

Mounting precautions

The tightening torque of slider mounting bolt, please refer to the table below.

Model	QQ×QA	Bolt	Max. tightening torque (N.m)
HCHG2-16	M3×0.5×5	M3×0.5	0.59
HCHG2-20	M3×0.5×6	M3×0.5	0.59
HCHG2-25	M3×0.5×6	M3×0.5	0.59
HCHG2-32	M4×0.7×8	M4×0.7	1.4
HCHG2-40	M4×0.7×8	M4×0.7	1.4
HCHG2-50	M5×0.8×8	M5×0.8	2.8
HCHG2-63	M5×0.8×8	M5×0.8	2.8
HCHG2-80	M6×1.0×12	M6×1.0	4.8
HCHG2-100	M8×1.25×16	M8×1.25	12
HCHG2-125	M10×1.5×20	M10×1.5	24



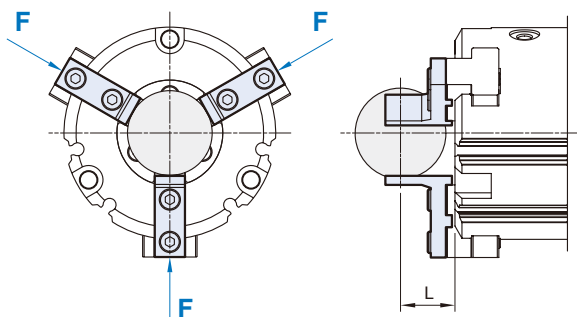
Effective gripping force

* 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 three fingers and attachments are in full contact with the workpiece as shown in the figure below.

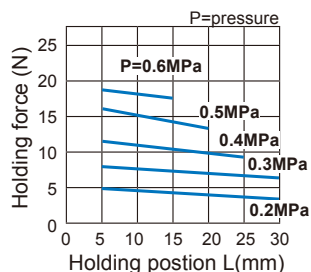
1N=0.102 kgf
1MPa=10.2 kgf/cm²



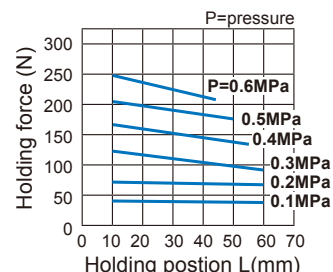
External grip

External gripping force

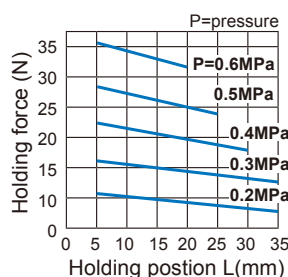
MCHG2-16



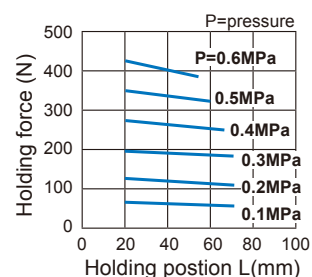
MCHG2-50



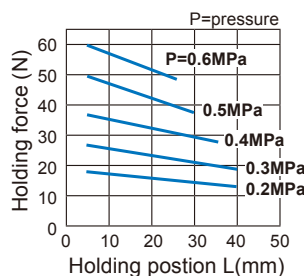
MCHG2-20



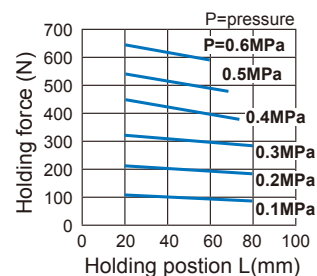
MCHG2-63



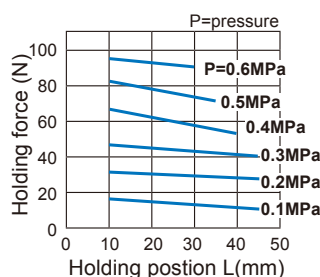
MCHG2-25



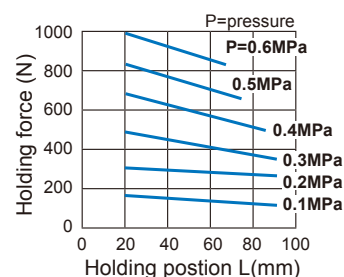
MCHG2-80



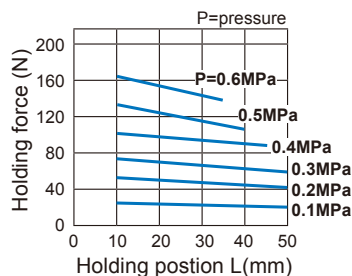
MCHG2-32



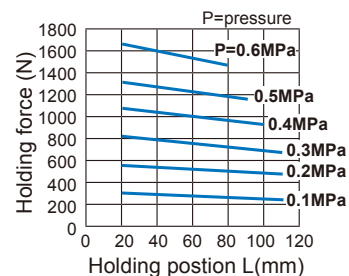
MCHG2-100



MCHG2-40



MCHG2-125



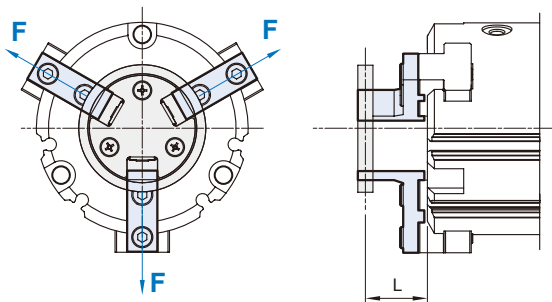
Effective gripping force

* 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 three fingers and attachments are in full contact with the workpiece as shown in the figure below.

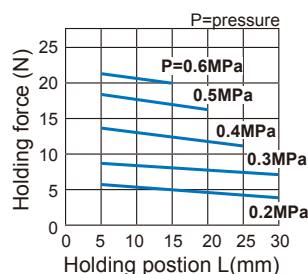
1N=0.102 kgf
1MPa=10.2 kgf/cm²



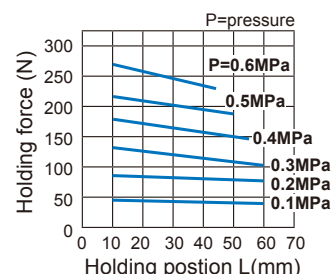
Internal grip

Internal gripping force

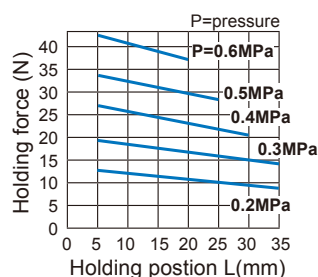
MCHG2-16



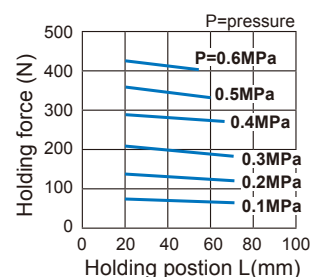
MCHG2-50



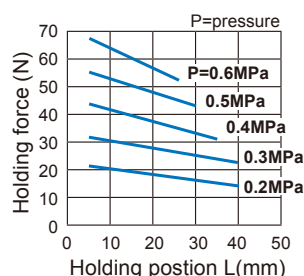
MCHG2-20



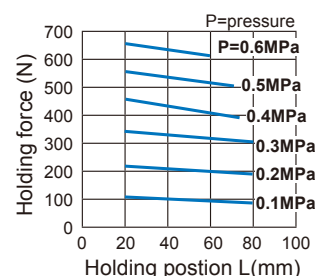
MCHG2-63



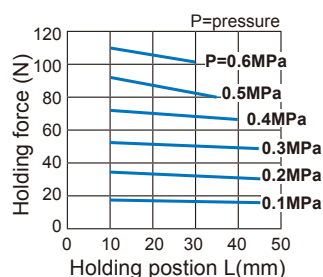
MCHG2-25



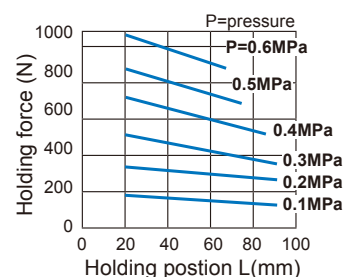
MCHG2-80



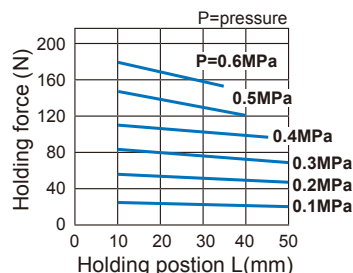
MCHG2-32



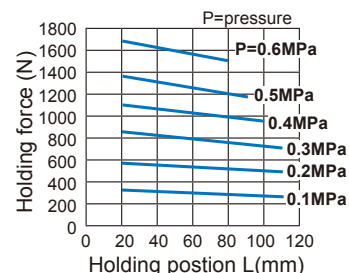
MCHG2-100



MCHG2-40

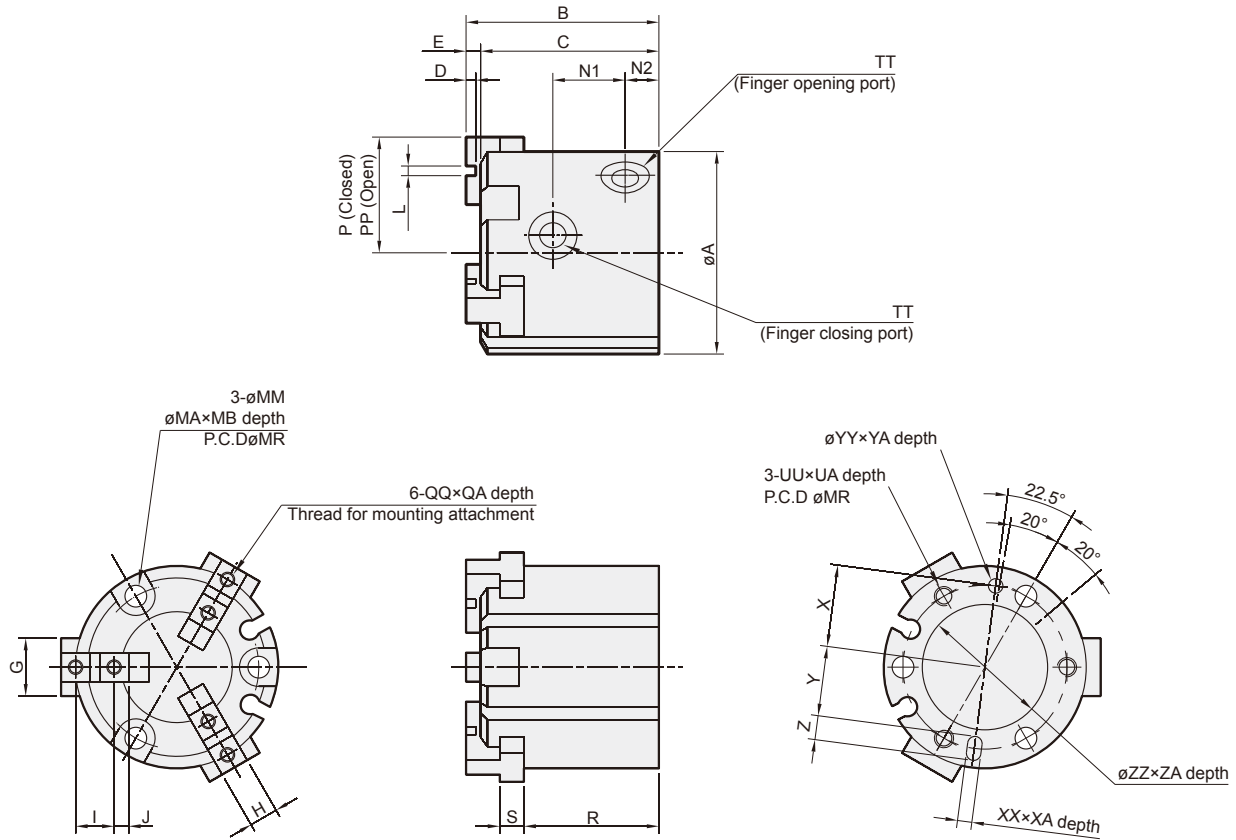


MCHG2-125



MCHG2 Dimensions $\phi 16 \sim \phi 25$

PARALLEL GRIPPER (3-Finger)



Code Tube I.D.	A	B	C	D	E	G	H	I	J	L	MA	MB	MM	MR	N1	N2	P	PP	QA	QQ	R	S	TT	UA
16	30	35	32	2	3	8	5h9 ⁺⁰ _{-0.030}	6	2	2H9 ^{+0.025} ₋₀	6	8	3.4	25	11	7	15	17	5	M3×0.5	25	4	M3×0.5	4.5
20	36	38	35	2	3	10	6h9 ⁺⁰ _{-0.030}	7	2.5	2H9 ^{+0.025} ₋₀	6.5	9.5	3.4	29	13	7	18	20	6	M3×0.5	27	5	M5×0.8	6
25	42	40	37	2	3	12	6h9 ⁺⁰ _{-0.030}	8	3	2H9 ^{+0.025} ₋₀	8	10	4.5	34	15	7	21	24	6	M3×0.5	28	5	M5×0.8	6

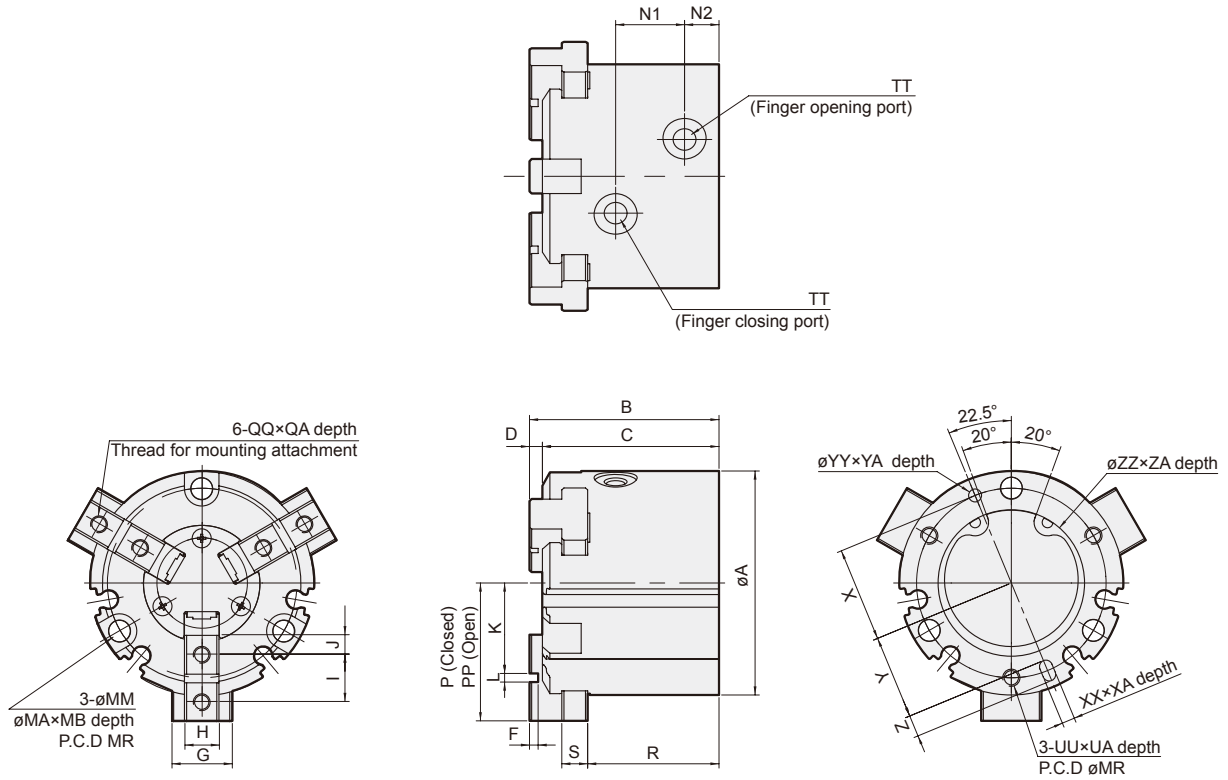
Code Tube I.D.	UU	X	XA	XX	Y	YA	YY	Z	ZA	ZZ
16	M3×0.5	12.5	2	2H9 ^{+0.025} ₋₀	11	2	2H9 ^{+0.025} ₋₀	3	1.5	17H9 ^{+0.043} ₋₀
20	M3×0.5	14.5	2	2H9 ^{+0.025} ₋₀	13	2	2H9 ^{+0.025} ₋₀	3	1.5	21H9 ^{+0.050} ₋₀
25	M4×0.7	17	3	2H9 ^{+0.025} ₋₀	14.5	3	3H9 ^{+0.025} ₋₀	5	1.5	26H9 ^{+0.052} ₋₀

MCHG2 Dimensions $\phi 32 \sim \phi 63$

PARALLEL GRIPPER (3-Finger)



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Code Tube I.D.	A	B	C	D	F	G	H	I	J	K	L	MA	MB	MM	MR	N1	N2	P	PP	QA	QQ	R	S	TT
32	52	44	41	3	2	14	8h9 ^{+0.025} _{-0.036}	11	4.5	17	2H9 ^{+0.025} ₋₀	8	9	4.5	44	16	8	28	32	8	M4×0.7	30.5	6	M5×0.8
40	62	47	44	3	2	16	8h9 ^{+0.025} _{-0.036}	12	4.5	19	3H9 ^{+0.025} ₋₀	9.5	9	5.5	53	17	9	31	35	8	M4×0.7	32	7	M5×0.8
50	70	55	52	3	2	18	10h9 ^{+0.030} _{-0.036}	14	5	21	4H9 ^{+0.030} ₋₀	9.5	12	5.5	62	20	9	35	41	10	M5×0.8	37.5	9	M5×0.8
63	86	66	62	4	3	24	12h9 ^{+0.030} _{-0.043}	17	5.5	26	6H9 ^{+0.030} ₋₀	11	14	6.6	76	22	12	43	51	10	M5×0.8	44	11	M5×0.8

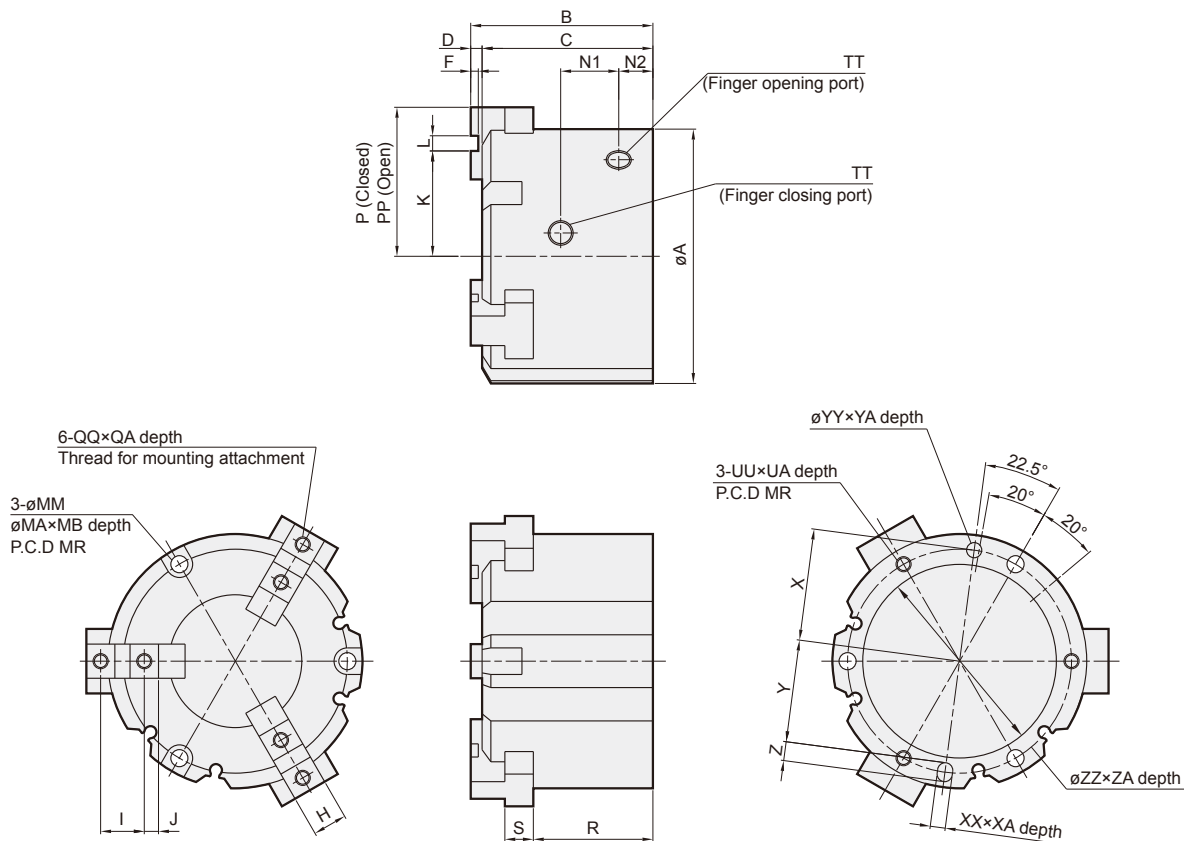
Code Tube I.D.	UA	UU	X	XA	XX	Y	YY	YA	Z	ZA	ZZ
32	6	M4×0.7	22	3	3H9 ^{+0.025} ₋₀	19.5	3H9 ^{+0.025} ₋₀	3	5	2	34H9 ^{+0.062} ₋₀
40	7.5	M5×0.8	26.5	4	4H9 ^{+0.030} ₋₀	23.5	4H9 ^{+0.030} ₋₀	4	6	2	42H9 ^{+0.062} ₋₀
50	9	M5×0.8	31	4	4H9 ^{+0.030} ₋₀	28	4H9 ^{+0.030} ₋₀	4	6	2	52H9 ^{+0.074} ₋₀
63	10	M6×1	38	5	5H9 ^{+0.030} ₋₀	34.5	5H9 ^{+0.030} ₋₀	5	7	2.5	65H9 ^{+0.074} ₋₀

MCHG2 Dimensions $\phi 80 \sim \phi 125$

PARALLEL GRIPPER (3-Finger)



Mindman



Code Tube I.D.	A	B	C	D	F	G	H	I	J	K	L	MA	MB	MM	MR	N1	N2	P	PP	QA	QQ	R	S
80	106	82	77	5	4	28	14h9 ^{+0.030} _{-0.043}	20	6	33.5	8H9 ^{+0.036} ₋₀	11	19	6.6	95	27	13.5	53.5	63.5	12	M6×1	56	12
100	134	96	90	6	4	34	18h9 ^{+0.030} _{-0.043}	23	7.5	43	8H9 ^{+0.036} ₋₀	14	21	9	118	30.6	18	66	78	16	M8×1.25	63	15
125	166	122	114	8	6	40	22h9 ^{+0.030} _{-0.052}	31	10.5	50	10H9 ^{+0.036} ₋₀	17.5	34	11	148	38	23.5	82	98	20	M10×1.5	84	18

Code Tube I.D.	TT	UA	UU	X	XA	XX	Y	YA	YY	Z	ZA	ZZ
80	Rc1/8	12	M6×1	47.5	6	6H9 ^{+0.030} ₋₀	43.5	6	6H9 ^{+0.030} ₋₀	8	3	82H9 ^{+0.087} ₋₀
100	Rc1/4	16	M8×1.25	59	6	8H9 ^{+0.036} ₋₀	54	6	8H9 ^{+0.036} ₋₀	10	4	102H9 ^{+0.087} ₋₀
125	Rc3/8	20	M10×1.5	74	8	10H9 ^{+0.036} ₋₀	68	8	10H9 ^{+0.036} ₋₀	12	6	130H9 ^{+0.100} ₋₀