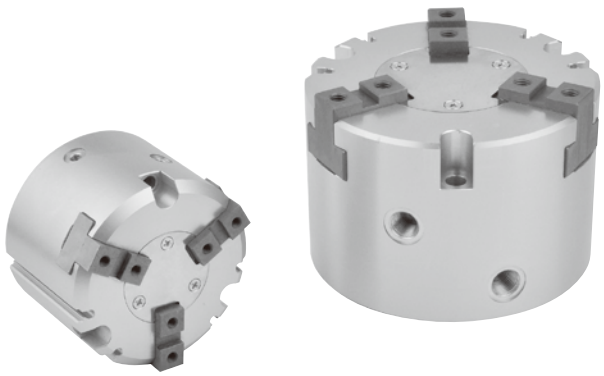
MCHG2 series

PARALLEL GRIPPER (3-Finger)



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 — □

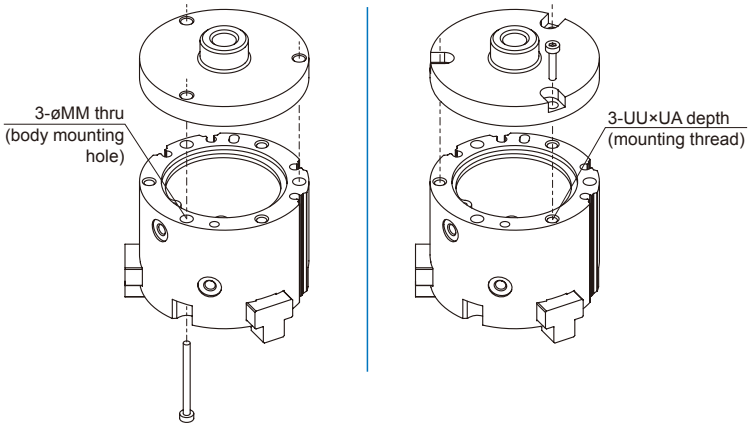
- MODEL
- TUBE I.D. **16, 20, 25, 32, 40, 50, 63, 80, 100, 125**
- **M**: Magnet * Magnetic as standard.
- PORT THREAD
  - Blank: M thread (only for ø16~ø63)
  - Blank: Rc thread
  - **G**: G thread
  - **NPT**: NPT thread (only for ø80~ø125)

Specification

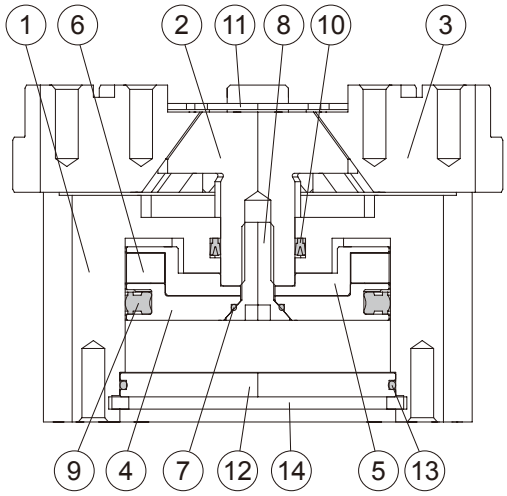
Model		MCHG2									
Acting type		Double acting									
Tube I.D. (mm)		16	20	25	32	40	50	63	80	100	125
Stroke (mm)		4	4	6	8	8	12	16	20	24	32
Port size		M3×0.5	M5×0.8						Rc1/8	Rc1/4	Rc3/8
Medium		Air									
Operating pressure (MPa)		0.2~0.6			0.1~0.6						
Ambient temperature		-10~+60°C (No freezing)									
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	2 wire	**RDFE(V)**: Non-contact (Please refer to page 5-10)									
	3 wire	**RNFE(V)**: NPN, **RPFE(V)**: PNP									
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
HCHG2-16	3.4	M3×0.5×4.5	M3×0.5
HCHG2-20	3.4	M3×0.5×6	M3×0.5
HCHG2-25	4.5	M4×0.7×6	M4×0.7
HCHG2-32	4.5	M4×0.7×6	M4×0.7
HCHG2-40	5.5	M5×0.8×7.5	M5×0.8
HCHG2-50	5.5	M5×0.8×10	M5×0.8
HCHG2-63	6.6	M6×1.0×9	M6×1.0
HCHG2-80	6.6	M6×1.0×12	M6×1.0
HCHG2-100	9	M8×1.25×16	M8×1.25
HCHG2-125	11	M10×1.5×20	M10×1.5



Material

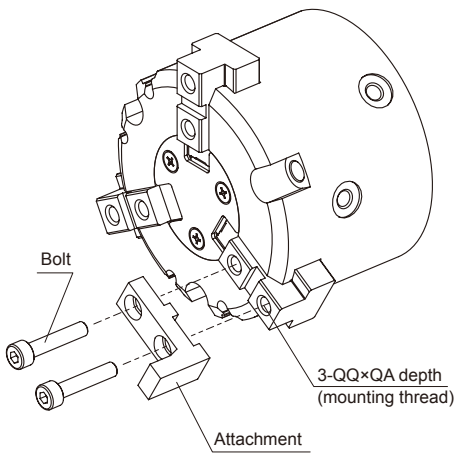
No.	Part name	Material
1	Body	Aluminum alloy
2	Lever	Carbon steel
3	Slider	Carbon steel
4	Piston	Aluminum alloy
5	Piston-R	Aluminum alloy
6	Magnet ring	Magnet material
7	O-ring	NBR

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

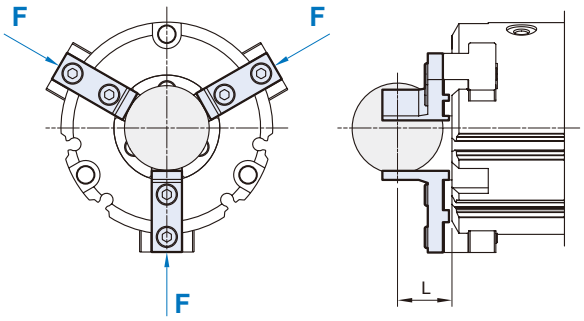


Effective gripping force

* 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.

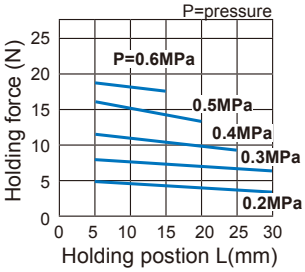
1N=0.102 kgf
1MPa=10.2 kgf/cm^2



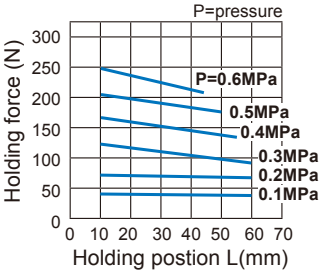
External grip

External gripping force

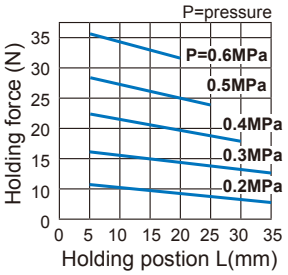
MCHG2-16



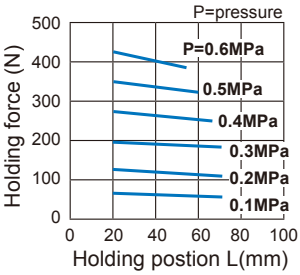
MCHG2-50



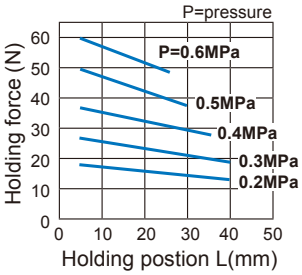
MCHG2-20



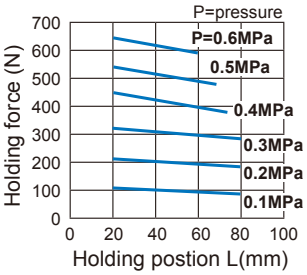
MCHG2-63



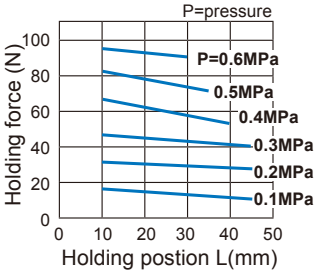
MCHG2-25



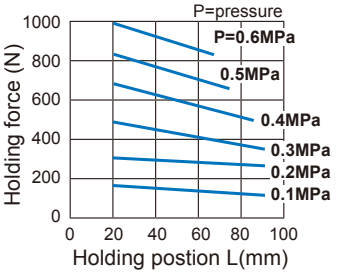
MCHG2-80



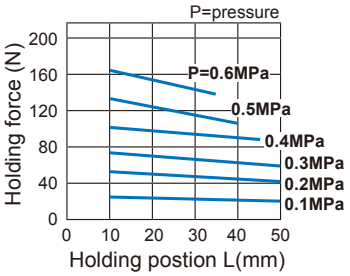
MCHG2-32



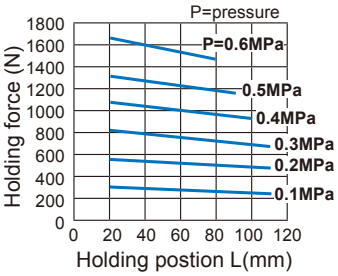
MCHG2-100



MCHG2-40



MCHG2-125



Effective gripping force

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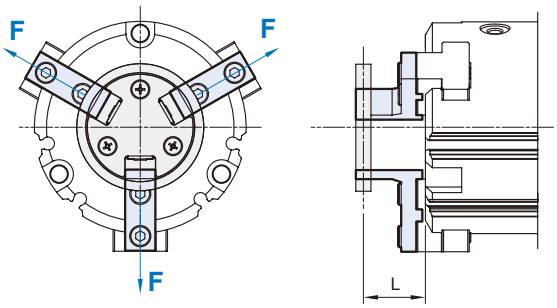
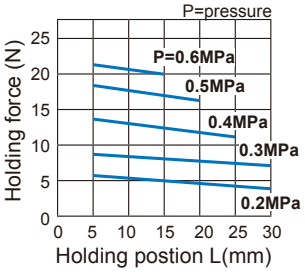


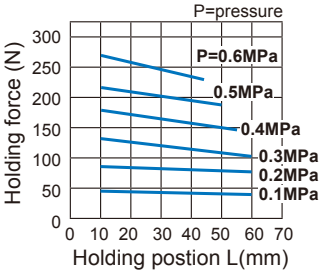
Internal grip

Internal gripping force

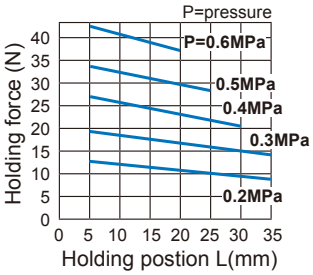
MCHG2-16



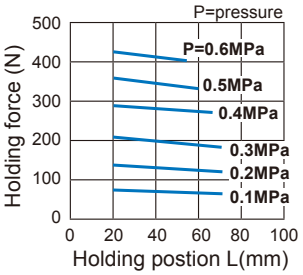
MCHG2-50



MCHG2-20



MCHG2-63



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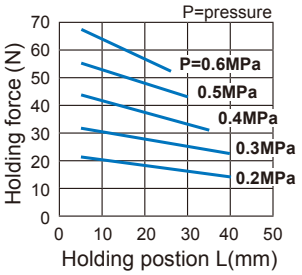
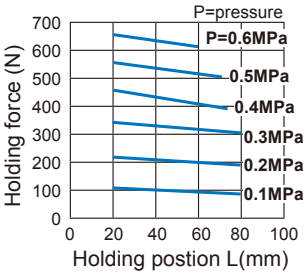
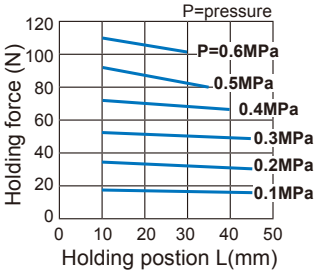


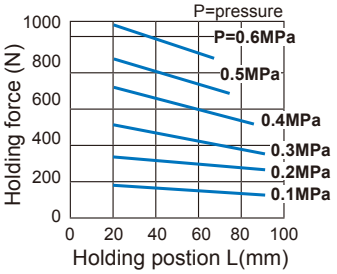
MCHG2-80



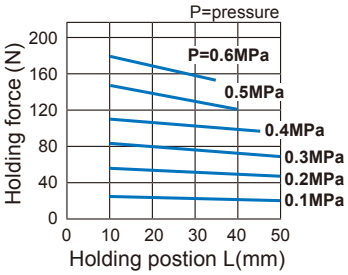
MCHG2-32



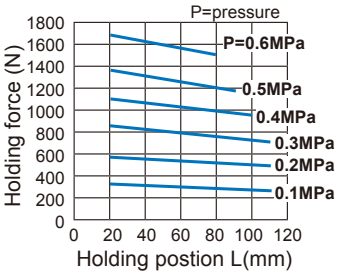
MCHG2-100



MCHG2-40

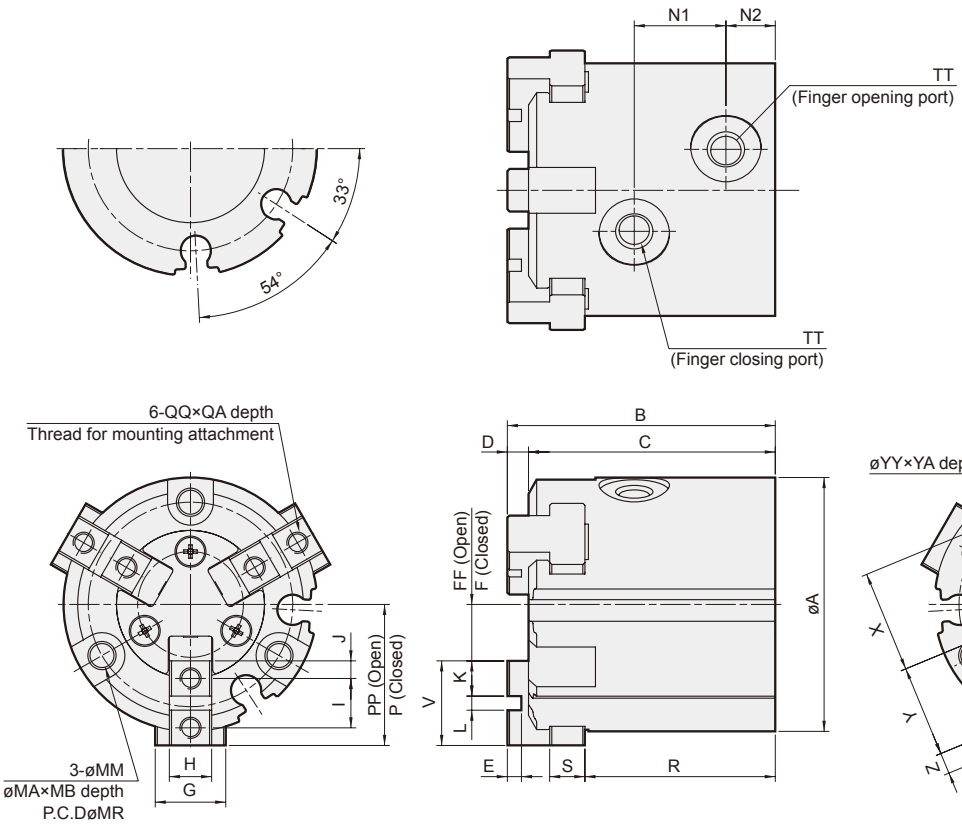


MCHG2-125



MCHG2 Dimensions ø16~ø25

PARALLEL GRIPPER (3-Finger)

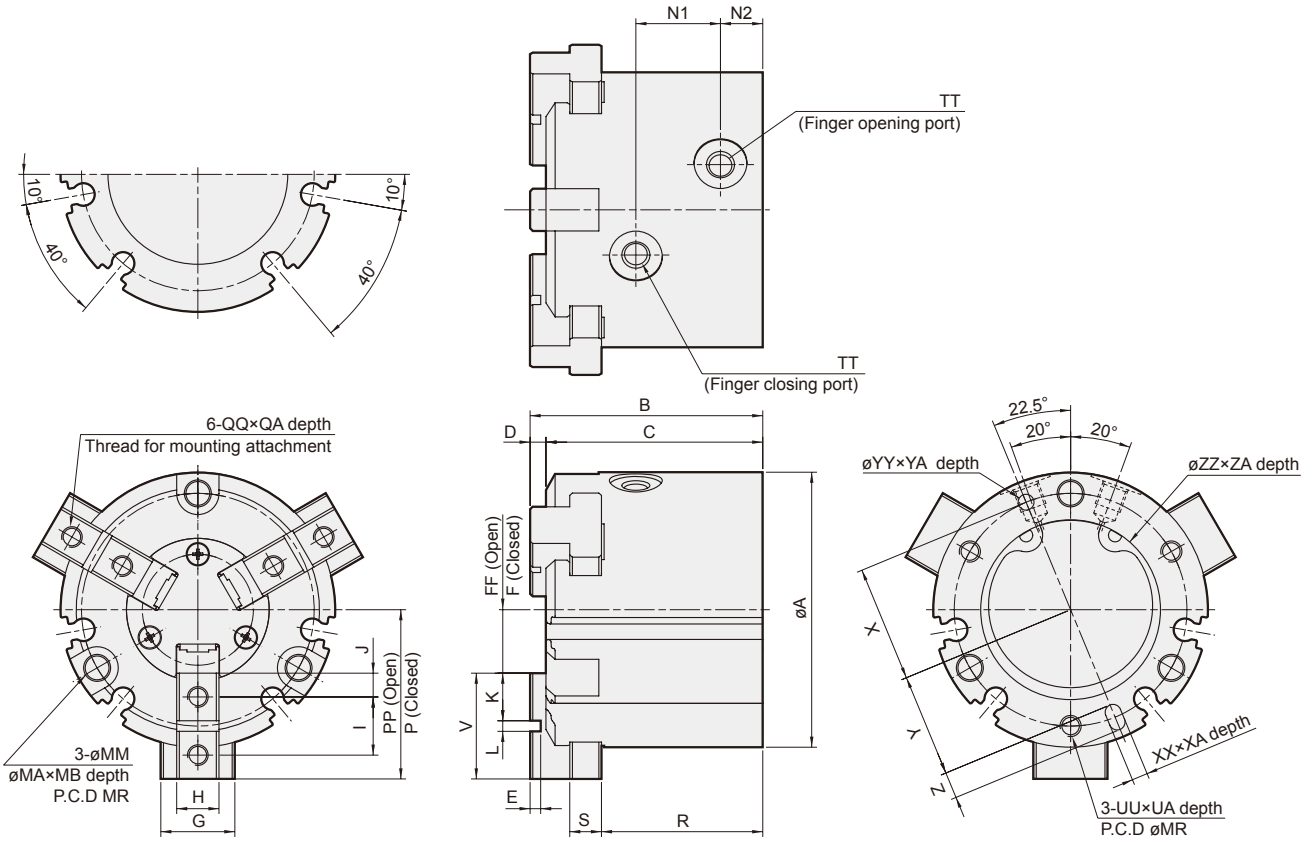


Code / Tube I.D.	A	B	C	D	E	F	FF	G	H	I	J	K	L	MA	MB	MM	MR	N1	N2	P	PP	QA	QQ	R	S	TT
16	30	35	32	3	2	5	7	8	5h9 $^{+0}_{-0.030}$	6	2	4	2H9 $^{+0.025}_{-0}$	6.5	8	3.4	25	11	7	15	17	5	M3×0.5	25	4	M3×0.5
20	36	38	35	3	2	6	8	10	6h9 $^{+0}_{-0.030}$	7	2.5	5	2H9 $^{+0.025}_{-0}$	6.5	9.5	3.4	29	13	7	18	20	6	M3×0.5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

Code / Tube I.D.	UA	UU	V	X	XA	XX	Y	YA	YY	Z	ZA	ZZ
16	4.5	M3×0.5	10	12.5	2	2H9 $^{+0.025}_{-0}$	11	2	2H9 $^{+0.025}_{-0}$	3	1.5	17H9 $^{+0.043}_{-0}$
20	6	M3×0.5	12	14.5	2	2H9 $^{+0.025}_{-0}$	13	2	2H9 $^{+0.025}_{-0}$	3	1.5	21H9 $^{+0.052}_{-0}$
25	6	M4×0.7	14	17	3	3H9 $^{+0.025}_{-0}$	14.5	3	3H9 $^{+0.025}_{-0}$	5	1.5	26H9 $^{+0.052}_{-0}$

MCHG2 Dimensions ø32~ø125

PARALLEL GRIPPER (3-Finger)



Code / Tube I.D.	A	B	C	D	E	F	FF	G	H	I	J	K	L	MA	MB	MM	MR	N1	N2	P	PP	QA	QQ
32	52	44	41	3	2	8	12	14	8h9 $^{+0}_{-0.036}$	11	4.5	9	2H9 $^{+0.025}_{-0}$	8	9	4.5	44	16	8	28	32	8	M4×0.7
40	62	47	44	3	2	10	14	16	8h9 $^{+0}_{-0.036}$	12	4.5	9	3H9 $^{+0.025}_{-0}$	9.5	9	5.5	53	17	9	31	35	8	M4×0.7
50	70	55	52	3	2	11	17	18	10h9 $^{+0}_{-0.036}$	14	5	10	4H9 $^{+0.030}_{-0}$	9.5	12	5.5	62	20	9	35	41	10	M5×0.8
63	86	66	62	4	3	15	23	24	12h9 $^{+0}_{-0.043}$	17	5.5	11	6H9 $^{+0.030}_{-0}$	11	14	6.6	76	22	12	43	51	10	M5×0.8
80	106	82	77	5	4	21.5	31.5	28	14h9 $^{+0}_{-0.043}$	20	6	12	8H9 $^{+0.036}_{-0}$	11	19	6.6	95	27	13.5	53.5	63.5	12	M6×1.0
100	134	96	90	6	4	28	40	34	18h9 $^{+0}_{-0.043}$	23	7.5	15	8H9 $^{+0.036}_{-0}$	14	21	9	118	30.6	18	66	78	16	M8×1.25
125	166	122	114	8	6	30	46	40	22h9 $^{+0}_{-0.052}$	31	10.5	21	10H9 $^{+0.036}_{-0}$	17.5	34	11	148	38	23.5	82	98	20	M10×1.5

Code / Tube I.D.	R	S	TT	UU	UA	V	X	XA	XX	Y	YY	YA	Z	ZA	ZZ
32	30.5	6	M5×0.8	M4×0.7	6	20	22	3	3H9 $^{+0.025}_{-0}$	19.5	3H9 $^{+0.025}_{-0}$	3	5	2	34H9 $^{+0.062}_{-0}$
40	32	7	M5×0.8	M5×0.8	7.5	21	26.5	4	4H9 $^{+0.030}_{-0}$	23.5	4H9 $^{+0.030}_{-0}$	4	6	2	42H9 $^{+0.062}_{-0}$
50	37.5	9	M5×0.8	M5×0.8	10	24	31	4	4H9 $^{+0.030}_{-0}$	28	4H9 $^{+0.030}_{-0}$	4	6	2	52H9 $^{+0.074}_{-0}$
63	44	11	M5×0.8	M6×1.0	9	28	38	5	5H9 $^{+0.030}_{-0}$	34.5	5H9 $^{+0.030}_{-0}$	5	7	2.5	65H9 $^{+0.074}_{-0}$
80	56	12	Rc1/8	M6×1.0	12	32	47.5	6	6H9 $^{+0.030}_{-0}$	43.5	6H9 $^{+0.030}_{-0}$	6	8	3	82H9 $^{+0.087}_{-0}$
100	63	15	Rc1/4	M8×1.25	16	38	59	6	8H9 $^{+0.036}_{-0}$	54	8H9 $^{+0.036}_{-0}$	6	10	4	102H9 $^{+0.087}_{-0}$
125	84	18	Rc3/8	M10×1.5	20	52	74	8	10H9 $^{+0.036}_{-0}$	68	10H9 $^{+0.036}_{-0}$	8	12	6	130H9 $^{+0.100}_{-0}$