

# MCHG2 series

## PARALLEL GRIPPER (3-Finger)



mindman



Model selection



Technical data



Caution for safety  
(Read before installing)



### 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)

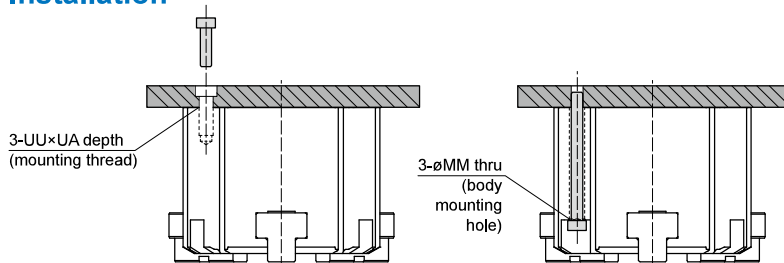
### Specification

Model	MCHG2										
Acting type	Double acting										
Tube I.D. (mm)	16 (*2)	20	25	32	40	50	63 (*2)	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)										
Max. operating frequency (c.p.m)	120				60				30		
Lubrication	Not required										
Effective gripping force N at (0.5 MPa) (*1)	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	RDC(V), RQC(V) , RDFE(V)										
Weight (g)	80	110	150	240	400	540	1020	1880	3300	6200	

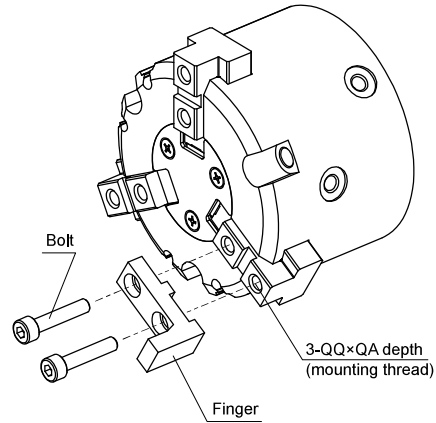
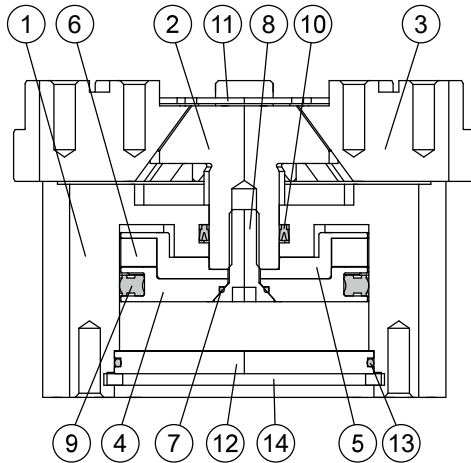
\*1. Values for ø16~ø25 are with gripping length(L) = 20 mm, for ø32~ø63 with gripping length(L) = 30 mm, and for ø80~ø125 with gripping length(L) = 50 mm.

\*2. ø16, ø63 are available with 2-finger type (Made to order). Please contact us if other size is needed.

### Installation



Model	MM	UU×UA	Bolt
MCHG2-16	3.4	M3×0.5×4.5	M3×0.5
MCHG2-20	3.4	M3×0.5×6	M3×0.5
MCHG2-25	4.5	M4×0.7×6	M4×0.7
MCHG2-32	4.5	M4×0.7×6	M4×0.7
MCHG2-40	5.5	M5×0.8×7.5	M5×0.8
MCHG2-50	5.5	M5×0.8×10	M5×0.8
MCHG2-63	6.6	M6×1.0×9	M6×1.0
MCHG2-80	6.6	M6×1.0×12	M6×1.0
MCHG2-100	9	M8×1.25×16	M8×1.25
MCHG2-125	11	M10×1.5×20	M10×1.5



\* The bolts and fingers are prepared by the customers.

### Material

No.	Part name	Material	Repair kits (inclusion)
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	●
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)
MCHG2-16	M3×0.5×5	M3×0.5	0.59
MCHG2-20	M3×0.5×6	M3×0.5	0.59
MCHG2-25	M3×0.5×6	M3×0.5	0.59
MCHG2-32	M4×0.7×8	M4×0.7	1.4
MCHG2-40	M4×0.7×8	M4×0.7	1.4
MCHG2-50	M5×0.8×8	M5×0.8	2.8
MCHG2-63	M5×0.8×8	M5×0.8	2.8
MCHG2-80	M6×1.0×12	M6×1.0	4.8
MCHG2-100	M8×1.25×16	M8×1.25	12
MCHG2-125	M10×1.5×20	M10×1.5	24

### Order example of repair kits

Tube I.D.	Repair kits	Tube I.D.	Repair kits
ø16	PS-MCHG2-16	ø63	PS-MCHG2-63
ø20	PS-MCHG2-20	ø80	PS-MCHG2-80
ø25	PS-MCHG2-25	ø100	PS-MCHG2-100
ø32	PS-MCHG2-32	ø125	PS-MCHG2-125
ø40	PS-MCHG2-40		
ø50	PS-MCHG2-50		

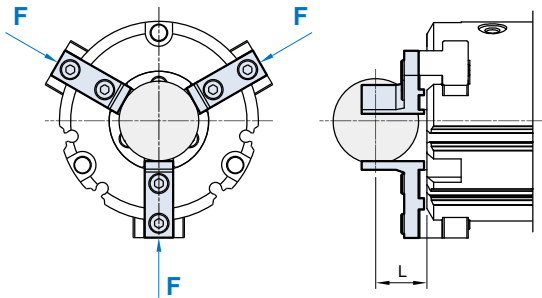
### Effective gripping force

\* Model selection

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.

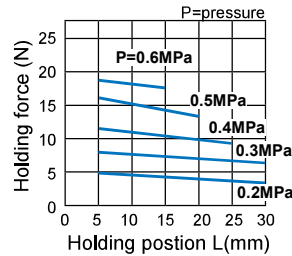
1N=0.102 kgf  
1MPa=10.2 kgf/cm<sup>2</sup>



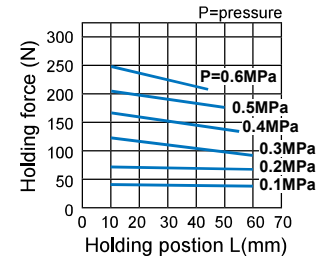
External grip

### External gripping force

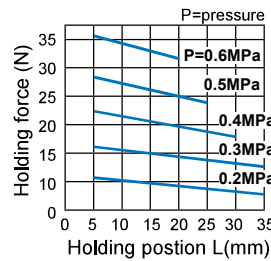
MCHG2-16



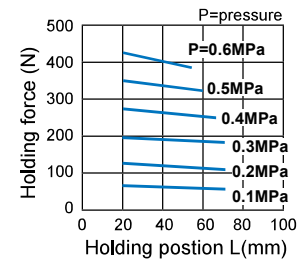
MCHG2-50



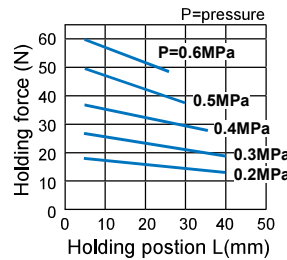
MCHG2-20



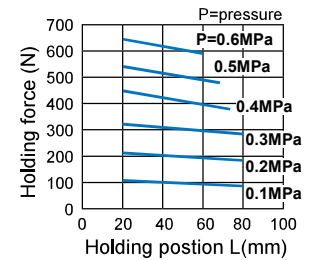
MCHG2-63



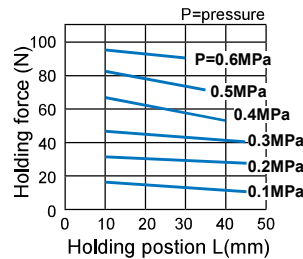
MCHG2-25



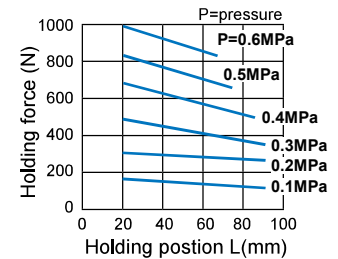
MCHG2-80



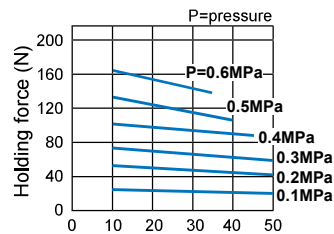
MCHG2-32



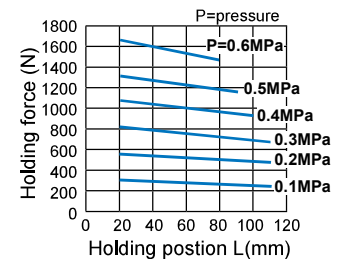
MCHG2-100



MCHG2-40



MCHG2-125



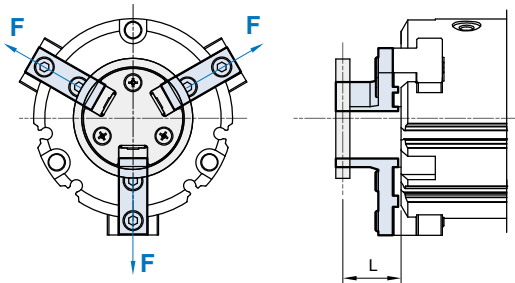
### Effective gripping force

\* Model selection

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.

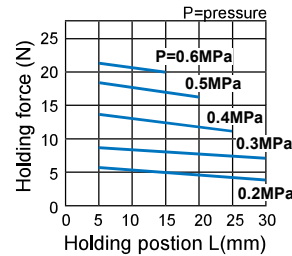
1N=0.102 kgf  
1MPa=10.2 kgf/cm<sup>2</sup>



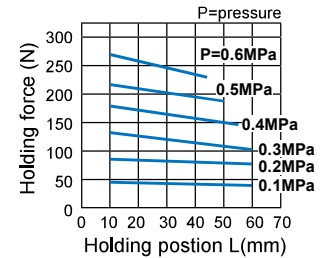
### Internal grip

### Internal gripping force

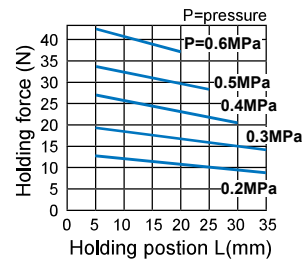
MCHG2-16



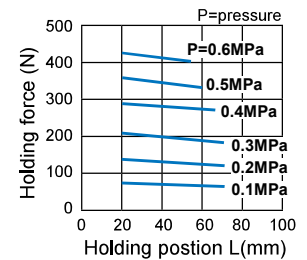
MCHG2-50



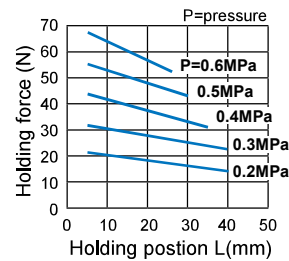
MCHG2-20



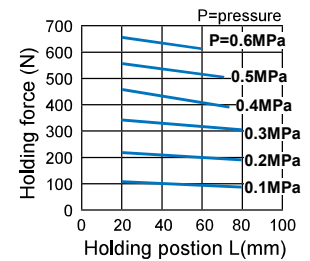
MCHG2-63



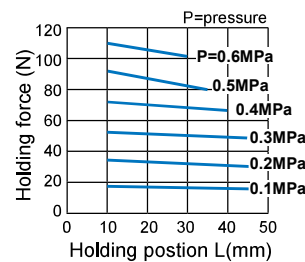
MCHG2-25



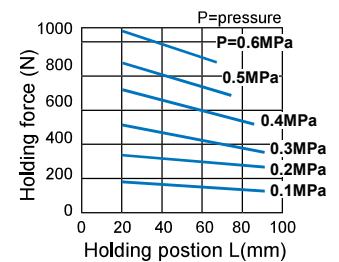
MCHG2-80



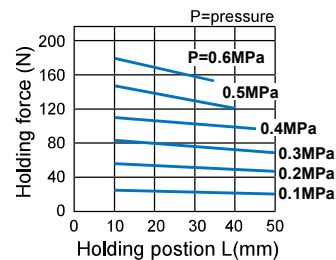
MCHG2-32



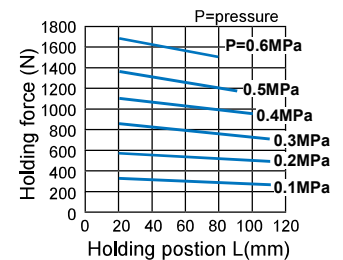
MCHG2-100

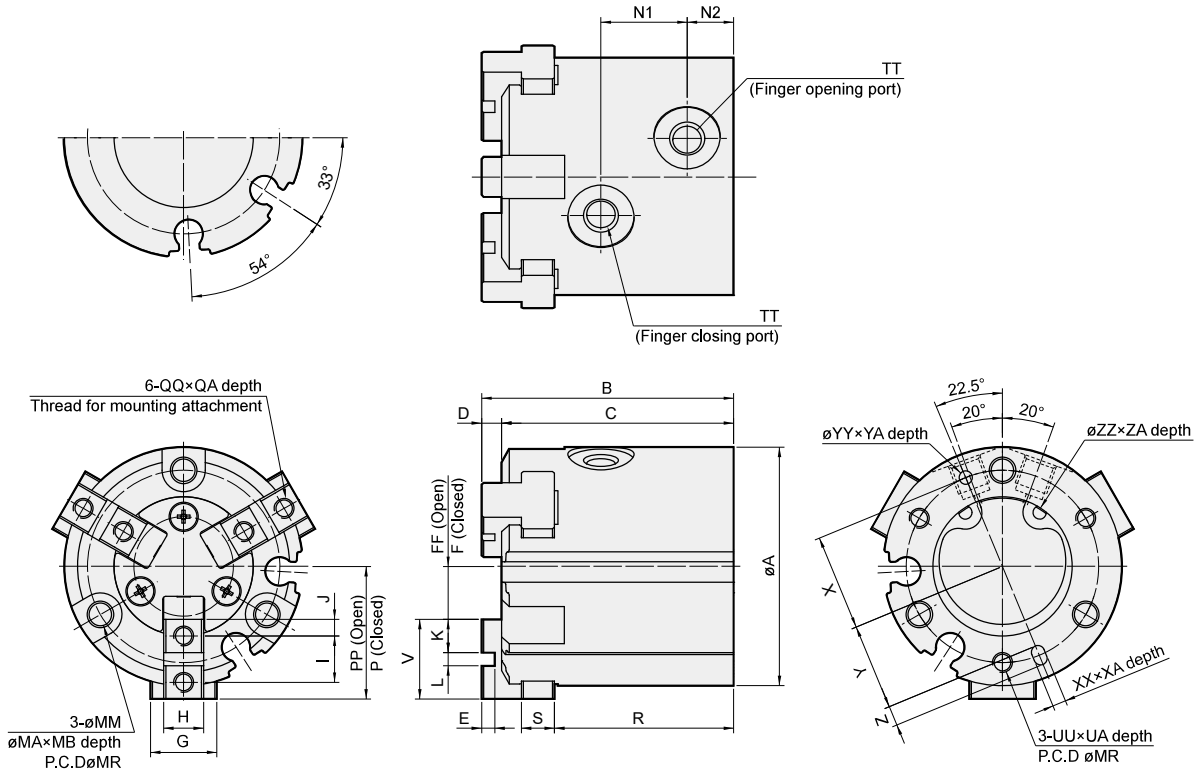


MCHG2-40



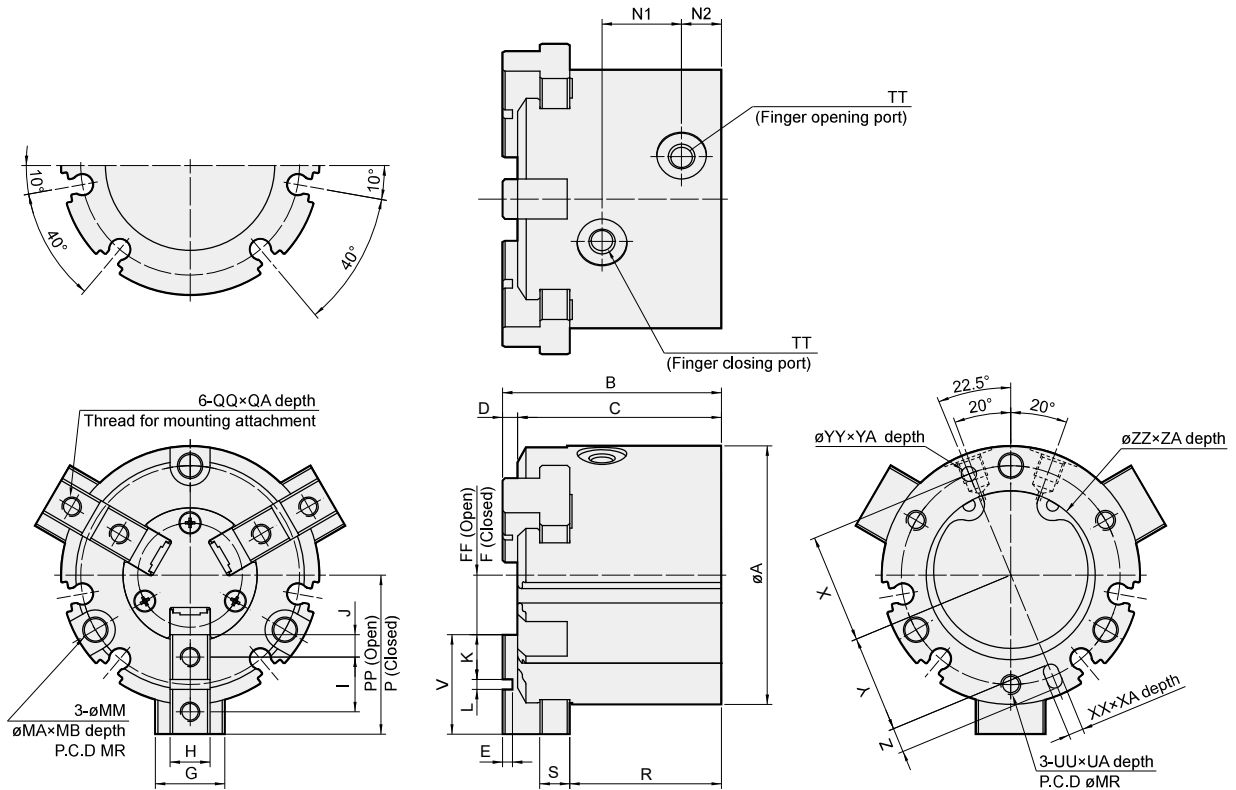
MCHG2-125





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 <sup>+0</sup> <sub>-0.030</sub>	6	2	4	2H9 <sup>+0.025</sup> <sub>-0</sub>	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 <sup>+0</sup> <sub>-0.030</sub>	7	2.5	5	2H9 <sup>+0.025</sup> <sub>-0</sub>	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 <sup>+0</sup> <sub>-0.030</sub>	8	3	6	2H9 <sup>+0.025</sup> <sub>-0</sub>	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 <sup>+0.025</sup> <sub>-0</sub>	11	2	2H9 <sup>+0.025</sup> <sub>-0</sub>	3	1.5	17H9 <sup>+0.043</sup> <sub>-0</sub>
20	6	M3×0.5	12	14.5	2	2H9 <sup>+0.025</sup> <sub>-0</sub>	13	2	2H9 <sup>+0.025</sup> <sub>-0</sub>	3	1.5	21H9 <sup>+0.052</sup> <sub>-0</sub>
25	6	M4×0.7	14	17	3	3H9 <sup>+0.025</sup> <sub>-0</sub>	14.5	3	3H9 <sup>+0.025</sup> <sub>-0</sub>	5	1.5	26H9 <sup>+0.052</sup> <sub>-0</sub>



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 <sup>+0</sup> <sub>-0.036</sub>	11	4.5	9	2H9 <sup>+0.025</sup> <sub>-0</sub>	8	9	4.5	44	16	8	28	32	8	M4×0.7
40	62	47	44	3	2	10	14	16	8h9 <sup>+0</sup> <sub>-0.036</sub>	12	4.5	9	3H9 <sup>+0.025</sup> <sub>-0</sub>	9.5	9	5.5	53	17	9	31	35	8	M4×0.7
50	70	55	52	3	2	11	17	18	10h9 <sup>+0</sup> <sub>-0.036</sub>	14	5	10	4H9 <sup>+0.030</sup> <sub>-0</sub>	9.5	12	5.5	62	20	9	35	41	10	M5×0.8
63	86	66	62	4	3	15	23	24	12h9 <sup>+0</sup> <sub>-0.043</sub>	17	5.5	11	6H9 <sup>+0.030</sup> <sub>-0</sub>	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 <sup>+0</sup> <sub>-0.043</sub>	20	6	12	8H9 <sup>+0.036</sup> <sub>-0</sub>	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 <sup>+0</sup> <sub>-0.043</sub>	23	7.5	15	8H9 <sup>+0.036</sup> <sub>-0</sub>	14	21	9	118	30.6	18	66	78	16	M8×1.25
125	166	122	114	8	6	30	46	40	22h9 <sup>+0</sup> <sub>-0.052</sub>	31	10.5	21	10H9 <sup>+0.036</sup> <sub>-0</sub>	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 <sup>+0.025</sup> <sub>-0</sub>	19.5	3H9 <sup>+0.025</sup> <sub>-0</sub>	3	5	2	34H9 <sup>+0.062</sup> <sub>-0</sub>
40	32	7	M5×0.8	M5×0.8	7.5	21	26.5	4	4H9 <sup>+0.030</sup> <sub>-0</sub>	23.5	4H9 <sup>+0.030</sup> <sub>-0</sub>	4	6	2	42H9 <sup>+0.062</sup> <sub>-0</sub>
50	37.5	9	M5×0.8	M5×0.8	10	24	31	4	4H9 <sup>+0.030</sup> <sub>-0</sub>	28	4H9 <sup>+0.030</sup> <sub>-0</sub>	4	6	2	52H9 <sup>+0.074</sup> <sub>-0</sub>
63	44	11	M5×0.8	M6×1.0	9	28	38	5	5H9 <sup>+0.030</sup> <sub>-0</sub>	34.5	5H9 <sup>+0.030</sup> <sub>-0</sub>	5	7	2.5	65H9 <sup>+0.074</sup> <sub>-0</sub>
80	56	12	Rc1/8	M6×1.0	12	32	47.5	6	6H9 <sup>+0.030</sup> <sub>-0</sub>	43.5	6H9 <sup>+0.030</sup> <sub>-0</sub>	6	8	3	82H9 <sup>+0.087</sup> <sub>-0</sub>
100	63	15	Rc1/4	M8×1.25	16	38	59	6	8H9 <sup>+0.036</sup> <sub>-0</sub>	54	8H9 <sup>+0.036</sup> <sub>-0</sub>	6	10	4	102H9 <sup>+0.087</sup> <sub>-0</sub>
125	84	18	Rc3/8	M10×1.5	20	52	74	8	10H9 <sup>+0.036</sup> <sub>-0</sub>	68	10H9 <sup>+0.036</sup> <sub>-0</sub>	8	12	6	130H9 <sup>+0.100</sup> <sub>-0</sub>