MCRT series

180° ROTATION GRIPPER

mindman

Features
Model selection
Technical data
Caution for safety
(Read before installing)



Features

- Hollow shaft design for easy sensor wiring.
- Various grippers are available for exchange.
- Hose-free direct connection: Air supply tunnel can connect directly without piping to assure the flexible when rotating.
- Modular rotation and gripping system for automation applications.
- Water repellent design for environment with cutter fluid.
- Magnetic as standard. Can be used with embedded sensors.

Order example

MCRT — 20 — J66

- MCRT — MODEL
- 20 — TUBE I.D.
- J66 — GRIPPER MODULE

Code	Model	Size	Tube I.D.	Description
S50	MCHS 	50	20	2 finger
S66		66		
S80		80		
S100		100	25	
S125		125		
J50	MCHJ 	50	20	3 finger
J66		66		
J80		80	25	
J100		100		
G16	MCHG2 (*) 	16	20	
G20		20		
G25		25		
G32		32		
G40		40		
G50		50	25	
G63		63		

* The MCHG2 on MCRT series is modified.
Please contact us if you need to replace it.

Weight

Unit: kg

Rotary actuator + gripper module×2				
Size	MCHS	MCHJ	Size	MCHG2
50	3.5	3.8	16	3.4
66	3.8	4.2	20	3.5
80	4.2	7.0	25	3.6
100	7.1	8.8	32	3.7
125	8.8	–	40	4.1
			50	6.4
			63	7.4

Specification – Rotation gripper

Model		MCRT	
Tube I.D.	(mm)	20	25
Port size		Rotary actuator piping: Rc1/8 Gripper piping: M5×0.8	
Rotary angle		180°	
Medium		Air	
Operating pressure range	(MPa)	0.45~0.7	
Ambient temperature		+5~+60°C (No freezing)	
Lubrication		Not required	
Sensor switch		RDFE(V)	
Cushion		Shock absorber *1	
Max. allowable kinetic energy (J) *2		1.21	1.82
Rotary cylinder torque	(N.m)	3	5.5

*1. The shock absorber is expendable. Replace when damping performance decrease.
*2. Excluding gripper module.

Specification – Gripper

Model		MCHS	MCHJ	MCHG2
Operating pressure range	(MPa)	0.3~0.8	0.2~0.8	0.2~0.6 (0.1~0.6) *
Sensor switch		RDFEV		

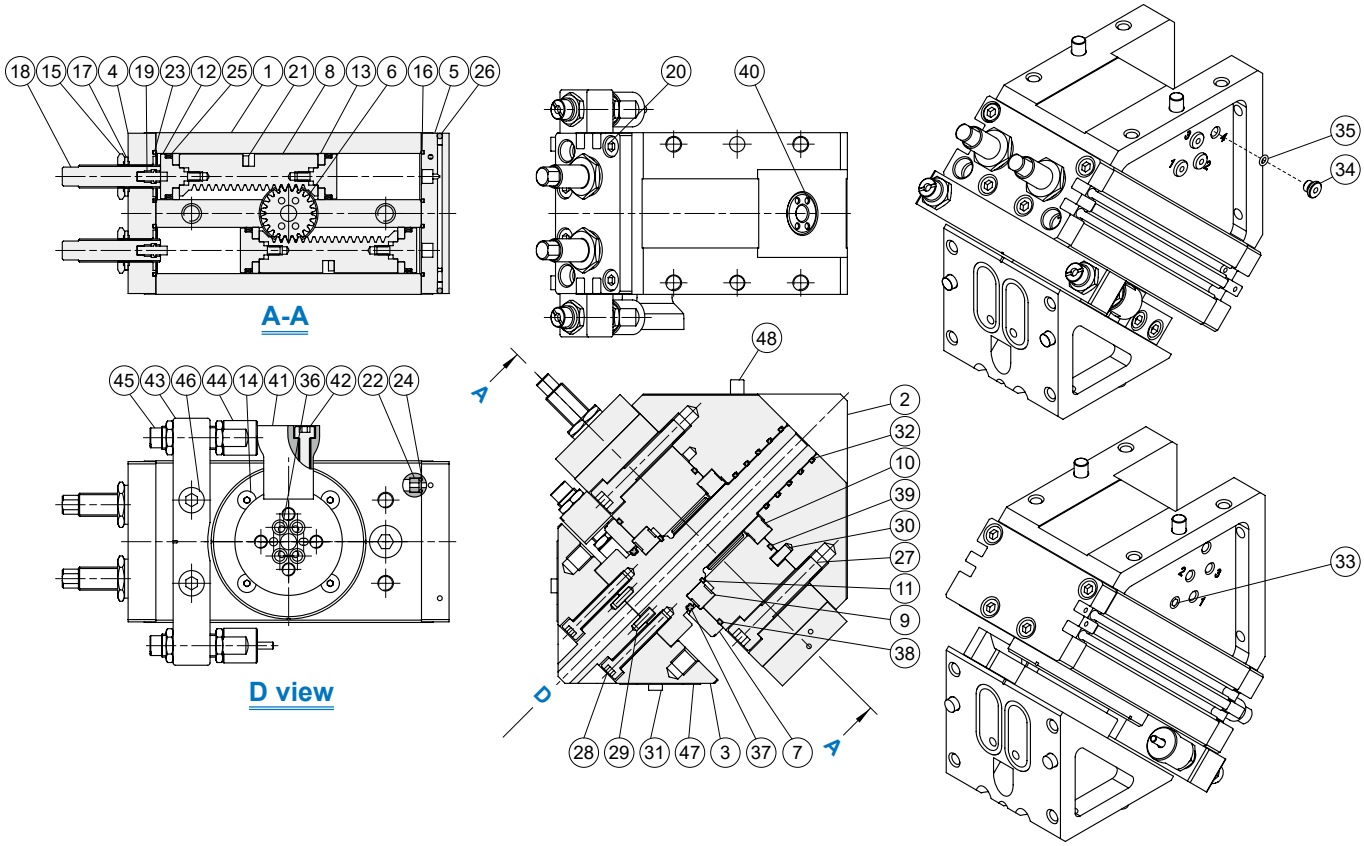
* ( ) for gripper module G32~G63.

MCHS size		**S50**	**S66**	**S80**	**S100**	**S125**
Effective gripping force at 0.6 MPa	(N)	69	122	225	315	505
	(mm)	40 (clamping length)				

MCHJ size		**J50**	**J66**	**J80**	**J100**
Effective gripping force at 0.6 MPa	(N)	95	177	297	527
	(mm)	40 (clamping length)			

MCHG2 size		**G16**	**G20**	**G25**	**G32**	**G40**	**G50**	**G63**
Effective gripping force at 0.5 MPa	(N)	15	26	42	69	110	180	301
	(mm) *1	20			30			

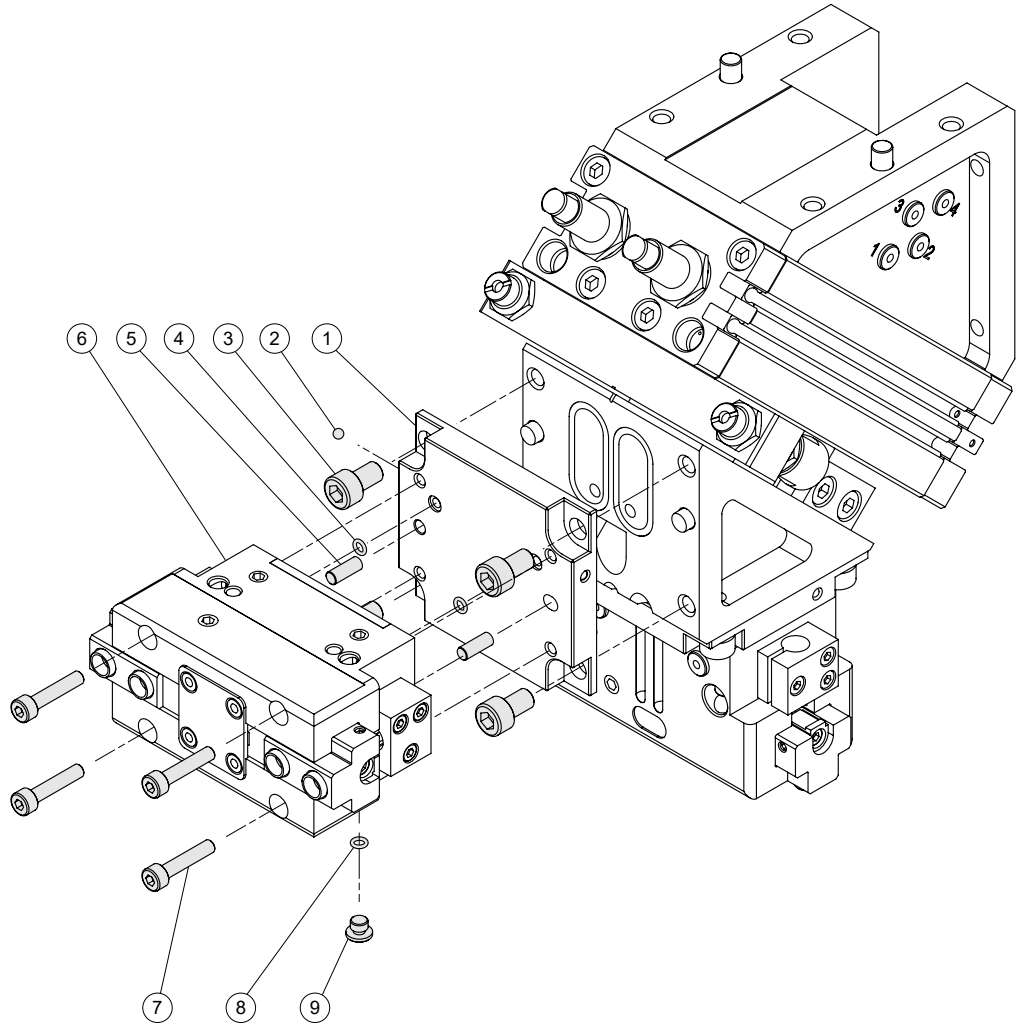
*1. Clamping length



Material

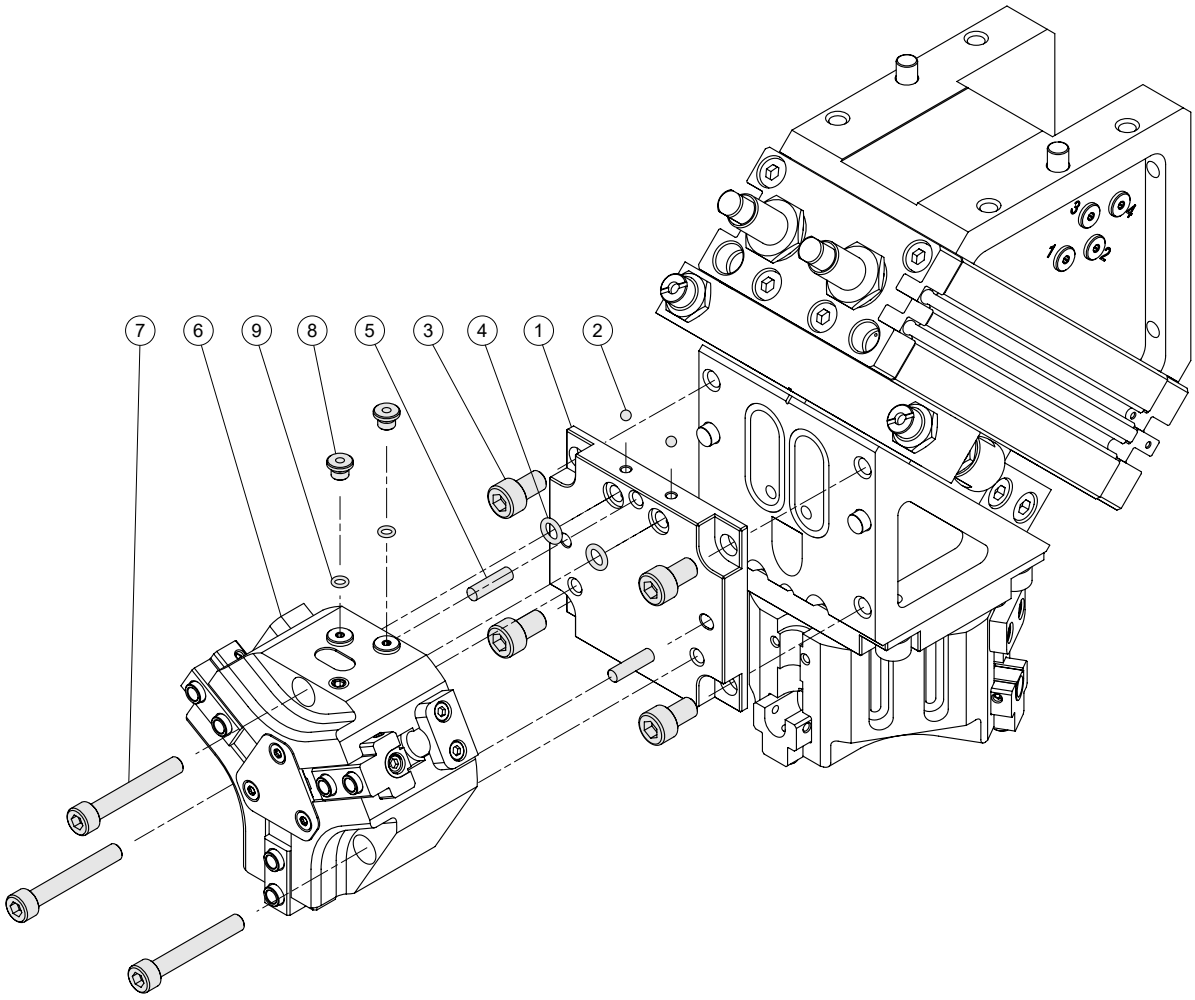
No.	Part name	Material	Q'y
1	Body	Aluminum alloy	1
2	Base	Aluminum alloy	1
3	Gripper fixed seat	Aluminum alloy	1
4	Cover	Aluminum alloy	1
5	End cover	Aluminum alloy	1
6	Pinion	Alloy steel	1
7	Bearing retainer	Aluminum alloy	1
8	Piston	Stainless steel	2
9	Ball bearing	Bearing steel	1
10	Ball bearing	Bearing steel	1
11	Snap ring	Spring steel	1
12	Piston	Aluminum alloy	4
13	Wear ring	Resin	4
14	Bolt	Carbon steel	4
15	Nut	Stainless steel	2
16	O-ring	NBR	2
17	Seal washer	NBR+Carbon steel	2
18	Adjust screw	Stainless steel	2
19	Cushion pad	NBR	2
20	Bolt	Stainless steel	8
21	Magnet	Magnet material	2
22	Fixed	Copper	2
23	Piston packing	NBR	2
24	O-ring	NBR	2

No.	Part name	Material	Q'y
25	Piston Seal	NBR	4
26	Ball	Stainless steel	6
27	Bolt	Stainless steel	2
28	Bolt	Stainless steel	4
29	Pin	Steel	2
30	Pin	Steel	1
31	Pin	Steel	4
32	Piston Seal	NBR	5
33	Screw	Stainless steel	1
34	Plug	Copper	4
35	O-ring	NBR	4
36	O-ring	NBR	4
37	Piston Seal	NBR	1
38	O-ring	NBR	1
39	O-ring	NBR	1
40	Ball	Stainless steel	4
41	Fixing plate	Carbon steel	1
42	Bolt	Stainless steel	2
43	Cushion mount	Aluminum alloy	1
44	Fixing nut	Stainless steel	2
45	Shock absorber	–	2
46	Bolt	Stainless steel	2
47	O-ring	NBR	4
48	Pin	Steel	2



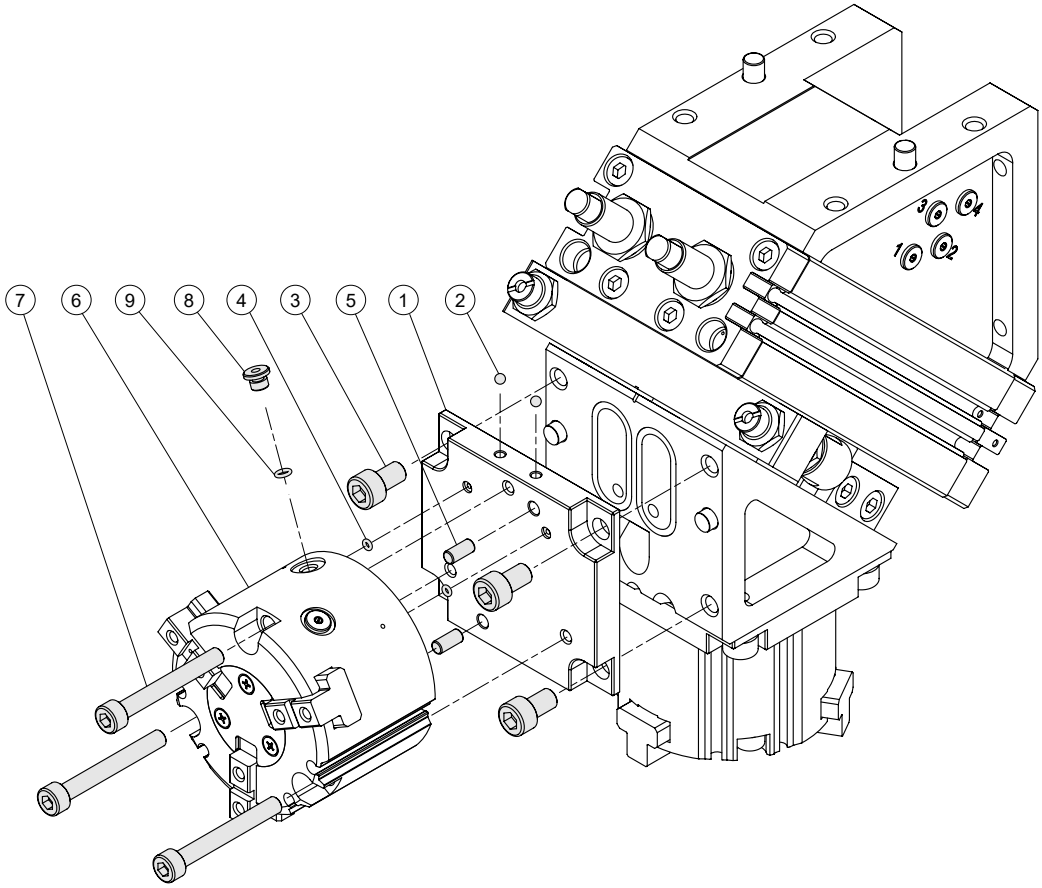
Material

with gripper **MCHS** series			Q'y	
No.	Part name	Material	MCRT-20	MCRT-25
			S50~S80	S100, S125
1	Connecting board	Aluminum alloy	2	2
2	Ball	Stainless steel	4	4
3	Bolt	Carbon steel	8	8
4	O-ring	NBR	4	4
5	Pin	Steel	4	4
6	MCHS Gripper	–	2	2
7	Bolt	Carbon steel	8	8
8	Plug	Copper	4	4
9	O-ring	NBR	4	4



Material

with gripper **MCHJ** series			Q'y			
No.	Part name	Material	MCRT-20		MCRT-25	
			J50	J66	J80	J100
1	Connecting board	Aluminum alloy	2	2	2	2
2	Ball	Stainless steel	–	4	–	4
3	Bolt	Carbon steel	8	8	8	8
4	O-ring	NBR	4	4	4	4
5	Pin	Steel	4	4	4	4
6	MCHJ Gripper	–	2	2	2	2
7	Bolt	Carbon steel	6	6	6	6
8	Plug	Copper	4	4	4	4
9	O-ring	NBR	4	4	4	4

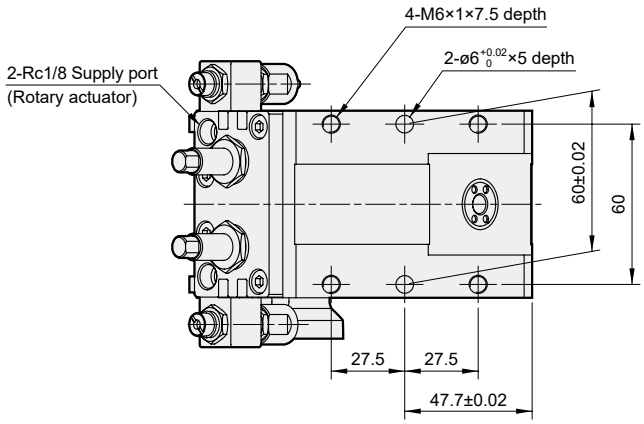


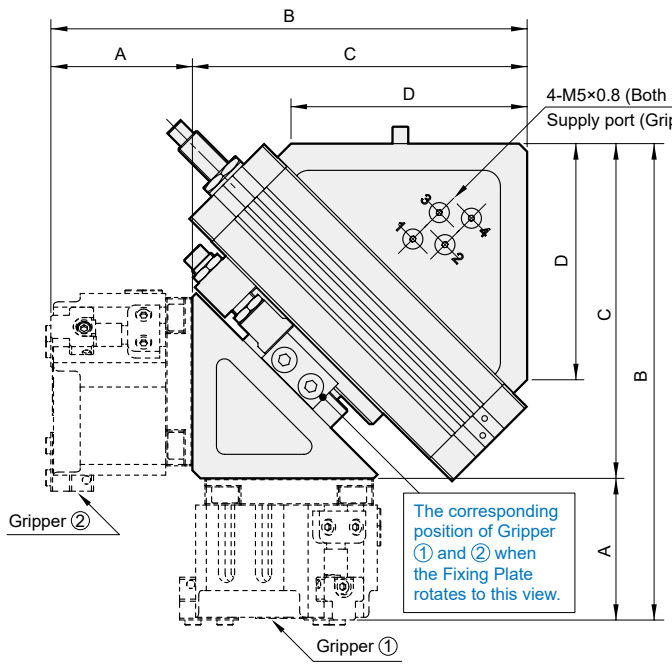
Material

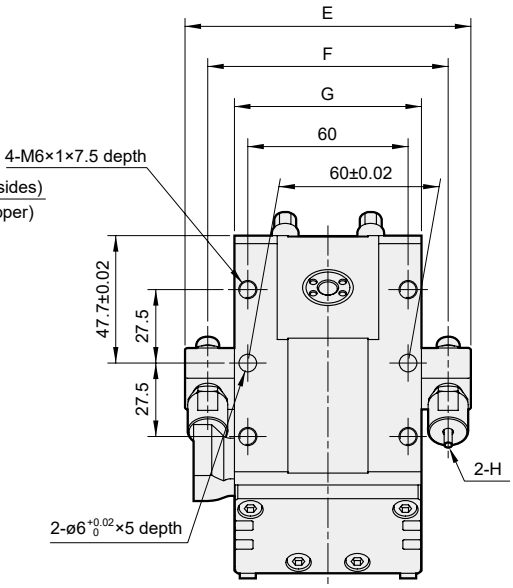
with gripper **MCHG2** series			Q'y			
No.	Part name	Material	MCRT-20		MCRT-25	
			G16	G20~G40	G50	G63
1	Connecting board	Aluminum alloy	2	2	2	2
2	Ball	Stainless steel	4	4	–	4
3	Bolt	Carbon steel	8	8	8	8
4	O-ring	NBR	4	4	4	4
5	Pin	Steel	4	4	4	4
6	MCHG2 Gripper	–	2	2	2	2
7	Bolt	Carbon steel	6	6	6	6
8	Screw	Stainless steel	4	–	–	–
	Plug	Copper	–	4	4	4
9	O-ring	NBR	–	4	4	4

MCRT Dimensions

180° ROTATION GRIPPER







Gripper								
MCHS			MCHJ			MCHG2		
Code / Tube I.D. / Size	A	B	Code / Tube I.D. / Size	A	B	Code / Tube I.D. / Size	A	B
20 S50	41	166.3	20 J50	45	170.3	20 G16	45	170.3
20 S66	49	174.3	20 J66	53	178.3	20 G20	48	173.3
20 S80	59	184.3	25 J80	60	211	20 G25	50	175.3
25 S100	65	216	25 J100	70	221	20 G32	54	179.3
25 S125	74	225				20 G40	57	182.3
						25 G50	65	216
						25 G63	76	227

Supply port (Gripper)

Gripper	Gripper open	Gripper close
①	2	1
②	4	3

Code / Tube I.D.	C	D	E	F	G	H
20	125.3	88.4	107	90	70	MDSC-1008-3-N
25	151	94	135	110	80	MDSC-1412-3-N