

Low Profile Air Gripper

Series MHF2



Low profile air gripper with space-saving design

MHZ

MHF

MHL

MHR

MHK

MHS

MHC

MHT

MHY

MHW

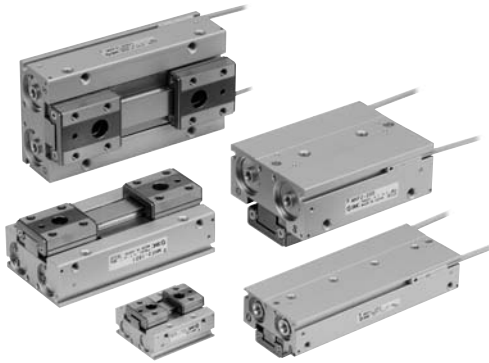
-X□

MRHQ

MA

D-□

Specifications



Fluid		Air
Operating pressure	ø8: 0.15 to 0.7 MPa	
	ø12 to 20: 0.1 to 0.7 MPa	
Ambient and fluid temperature		-10 to 60°C (with no condensation)
Repeatability		±0.05 mm ^{Note 1)}
Maximum operating frequency	Short stroke	120 c.p.m.
	Medium stroke	120 c.p.m.
	Long stroke	60 c.p.m.
Lubrication		Not required
Action		Double acting
Auto switch (Option) ^{Note 2)}		Solid state auto switch (3-wire, 2-wire)

Note 1) This is the value when no offset load is applied to the finger.

When an offset load is applied to the finger, the maximum value is ±0.15 mm due to the influence of backlash of the rack and pinion.

Note 2) Refer to pages 761 to 809 for further information on auto switches.

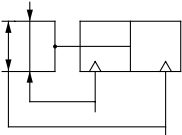
Model

Action	Model	Cylinder bore (mm)	Gripping force ^{Note 1)}		Opening /closing stroke (Both sides) mm	Mass ^{Note 2)} (g)	Unobstructed capacity (cm ³)	
			Effective gripping force per finger N				Finger open side	Finger close side
Double acting	MHF2-8D	8	19		8	65	0.7	0.6
	MHF2-8D1				16	85	1.1	1.0
	MHF2-8D2				32	120	2.0	1.9
	MHF2-12D	12	48		12	155	1.9	1.6
	MHF2-12D1				24	190	3.3	3.0
	MHF2-12D2				48	275	6.1	5.8
	MHF2-16D	16	90		16	350	4.9	4.1
	MHF2-16D1				32	445	8.2	7.4
	MHF2-16D2				64	650	14.9	14.0
	MHF2-20D	20	141		20	645	8.7	7.3
	MHF2-20D1				40	850	15.1	13.7
	MHF2-20D2				80	1,225	28.0	26.6

Note 1) At the pressure of 0.5 MPa, when gripping point L is 20 mm.

Note 2) Excluding the auto switch mass.

JIS Symbol
Double acting



Made to Order

Refer to pages 683 to 713 for details.

Symbol	Specifications/Description
-X4	Heat resistance (100°C)
-X5	Fluororubber seal
-X50	Without magnet
-X53	EPDM seal/Fluorine grease
-X63	Fluorine grease
-X79	Grease for food

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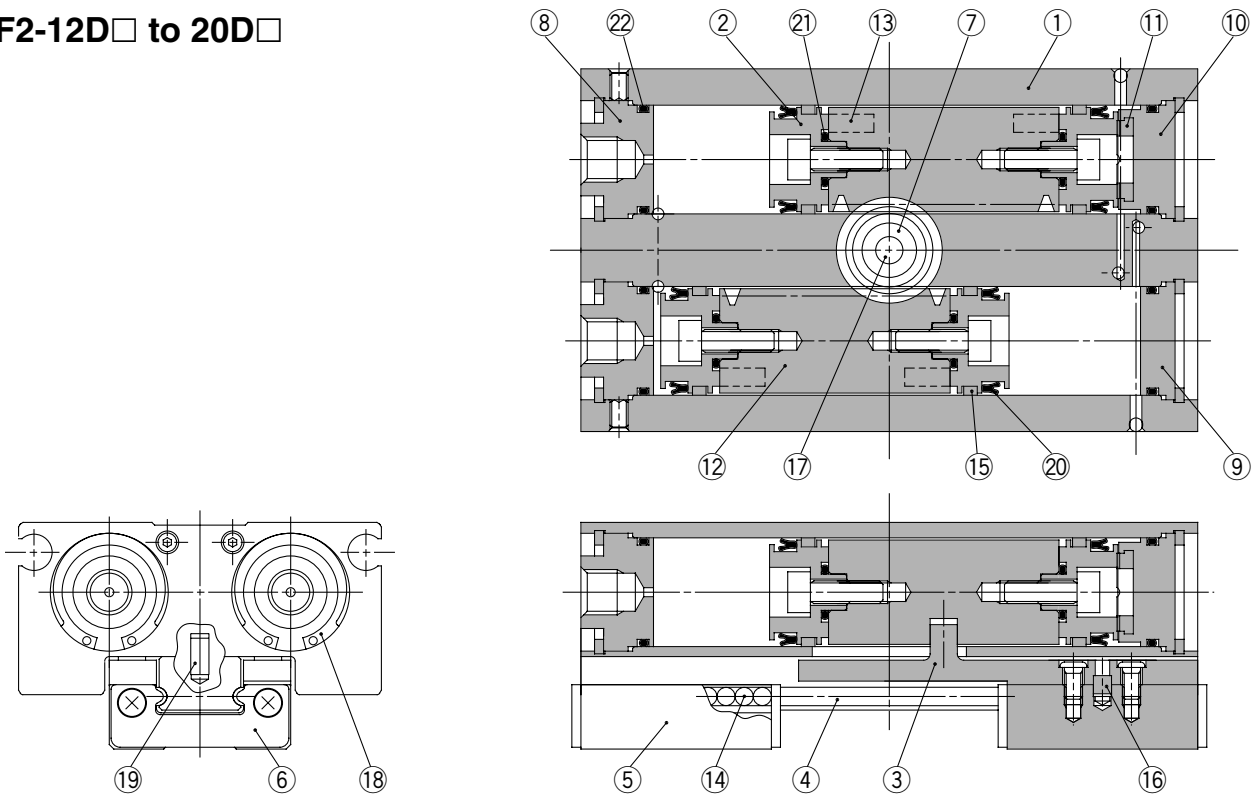
MRHQ

MA

D-□

Construction

MHF2-12D□ to 20D□



Component Parts

No.	Description	Material	Note
1	Body	Aluminium alloy	Hard anodized
2	Piston	Aluminium alloy	Clear anodized
3	Joint	Stainless steel	Heat treatment
4	Guide rail	Stainless steel	Heat treatment
5	Finger	Stainless steel	Heat treatment
6	Roller stopper	Stainless steel	
7	Pinion	Carbon steel	Nitriding
8	Cap A	Aluminium alloy	Clear anodized
9	Cap B	Aluminium alloy	Clear anodized
10	Cap C	Aluminium alloy	Clear anodized
11	Head damper	Urethane rubber	
12	Rack	Stainless steel	Nitriding

No.	Description	Material	Note
13	Magnet	—	Nickel plated
14	Steel balls	High carbon chromium bearing steel	
15	Wear ring	Synthetic resin	
16	ø12: Roller ø16 to 20: Parallel pin	High carbon chromium bearing steel Stainless steel	
17	Needle roller	High carbon chromium bearing steel	
18	ø12: R shape retaining ring ø16 to 20: Type C retaining ring	Carbon steel	Nickel plated
19	Parallel pin	Stainless steel	
20	Piston seal	NBR	
21	Gasket	NBR	
22	Gasket	NBR	

Replacement Parts

Description	Kit no.			Contents
	MHF2-12D	MHF2-12D1	MHF2-12D2	
Seal kit	MHF12-PS	MHF12-PS	MHF12-PS	20, 21, 22
Finger assembly	MHF-A1202	MHF-A1202-1	MHF-A1202-2	3, 4, 5, 6, 14, 16, 19 Mounting screw

Description	Kit no.			Contents
	MHF2-16D	MHF2-16D1	MHF2-16D2	
Seal kit	MHF16-PS	MHF16-PS	MHF16-PS	20, 21, 22
Finger assembly	MHF-A1602	MHF-A1602-1	MHF-A1602-2	3, 4, 5, 6, 14, 16, 19 Mounting screw

Description	Kit no.			Contents
	MHF2-20D	MHF2-20D1	MHF2-20D2	
Seal kit	MHF20-PS	MHF20-PS	MHF20-PS	20, 21, 22
Finger assembly	MHF-A2002	MHF-A2002-1	MHF-A2002-2	3, 4, 5, 6, 14, 16, 19 Mounting screw

Replacement part/Grease pack part no.:

MHF2-□□D, D1 (ø12, 16, 20)	GR-S-005 (5 g) (Guide unit)
MHF2-□□D2 (ø12)	GR-L-005 (5 g) (Cylinder unit)
MHF2-□□D2 (ø16, 20)	GR-S-005 (5 g) (Guide unit)
	GR-L-010 (10 g) (Cylinder unit)

Bolts for Body Through-hole Mounting

Part no.	Number of pieces	
	MHF2-12D	MHF2-12D2
MHF-B12	MHF2-12D	2 pieces/unit
	MHF2-12D1	2 pieces/unit
	MHF2-12D2	4 pieces/unit

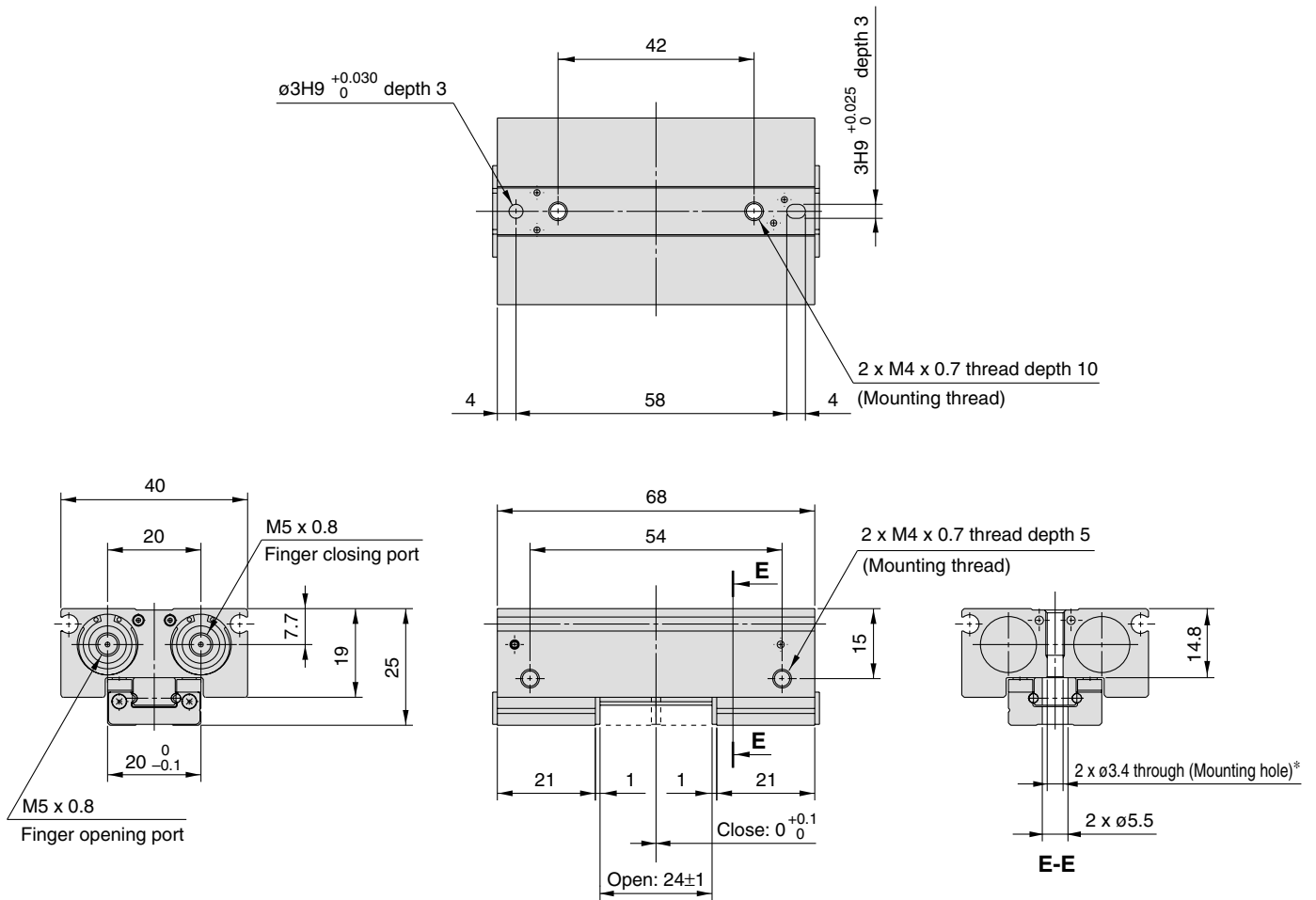
* The bolts for body through-hole mounting are attached to the product. They are also provided at an order of 1 piece or more with the above part numbers.

* When mounting MHF2-16D□ or MHF2-20D□ with the body through-holes, use hexagon socket head screws available on the market.

Series MHF2

Dimensions

MHF2-12D1



* Use the attached hexagon socket head screws for mounting holes.

