

Parallel Style Air Gripper: Wide Type

Series MHL2

ø10, ø16, ø20, ø25, ø32, ø40

How to Order

MHL 2-16 D -M9BW

Wide opening

Number of fingers

2	2 fingers
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Bore size

10	10mm
16	16mm
20	20mm
25	25mm
32	32mm
40	40mm

Thread type

Symbol	Type	Cylinder bore
Nil	M thread	ø10 to 25
	Rc	ø32 to ø40
TN	NPT	
TF	G	

Action

D	Double acting
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Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch

Nil	Without auto switch (Built-in magnet)
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* For the applicable auto switch model, refer to the table below.

Opening/Closing stroke (mm)

Symbol	ø10	ø16	ø20	ø25	ø32	ø40
Nil	20	30	40	50	70	100
1	40	60	80	100	120	160
2	60	80	100	120	160	200

Made to Order
Refer to page 475 for details.

Applicable Auto Switch/Refer to pages 761 to 809 for further information on the auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m) *				Pre-wired connector	Applicable load	
							Electrical entry direction		0.5 (Nil)	1 (M)	3 (L)	5 (Z)			
					DC	AC	Perpendicular	In-line							
Solid state switch	—	Grommet	Yes	3-wire (NPN)	5V,12V	—	M9NV	M9N	●	●	●	○	○	IC circuit	Relay, PLC
				3-wire (PNP)			M9PV	M9P	●	●	●	○	○		
	2-wire			12V	M9BV		M9B	●	●	●	○	○	—		
	3-wire (NPN)			5V,12V	M9NWV		M9NW	●	●	●	○	○	IC circuit		
	3-wire (PNP)				M9PWV		M9PW	●	●	●	○	○			
	2-wire			12V	M9BWV		M9BW	●	●	●	○	○	—		
	3-wire (NPN)			5V,12V	M9NAV		M9NA	○	○	●	○	○	IC circuit		
	3-wire (PNP)				M9PAV		M9PA	○	○	●	○	○			
	2-wire			12V	M9BAV		M9BA	○	○	●	○	○	—		

* Lead wire length symbols: 0.5 m Nil (Example) M9NW
 1 m M (Example) M9NWM
 3 m L (Example) M9NWL
 5 m Z (Example) M9NWZ

* Solid state auto switches marked with "○" are produced upon receipt of order.

• Take note of hysteresis with 2-color indication type switches. Refer to "Auto Switch Hysteresis" on page 487.

Parallel Style Air Gripper: Wide Type *Series MHL2*

Long stroke

One unit can handle workpieces with various diameters.

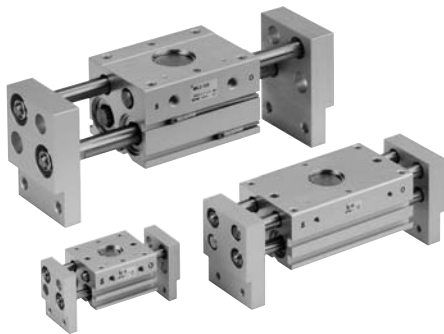
A large amount of gripping force is provided through the use of a double piston mechanism, while maintaining a compact design.

Double-end type oil-impregnated resin bearings with a metal backing are used for all shafts.

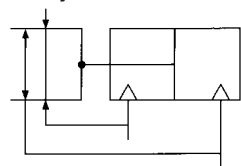
Built-in dust-protection mechanism

A high degree of freedom for mounting

Auto switch mountable



JIS Symbol



Made to Order

(Refer to pages 683 to 713 for details.)

Symbol	Specifications/Description
-X4	Heat resistance (100°C)
-X5	Fluororubber seal
-X28	With adjuster bolts for adjusting closing width
-X50	Without magnet
-X53	EPDM seal/Fluorine grease
-X63	Fluorine grease
-X79	Grease for food

Specifications

Bore size (mm)	10	16	20	25	32	40
Fluid	Air					
Action	Double acting					
Operating pressure (MPa)	0.15 to 0.6	0.1 to 0.6				
Ambient and fluid temperature	-10 to 60°C					
Repeatability	± 0.1					
Lubrication	Not required					
Effective gripping force (N) ^(Note) at 0.5 MPa	14	45	74	131	228	396



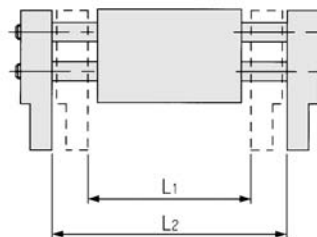
Note) Gripping point = Bore size 10, 16, 20, 25: 40 mm, Bore size 32, 40: 80 mm.

Model/Stroke

Model	Bore size (mm)	Max. operating frequency c.p.m	Opening/Closing stroke (mm) (L2-L1)	Width at closing (mm) (L1)	Width at opening (mm) (L2)	Mass (g)
MHL2-10D	10	60	20	56	76	280
MHL2-10D1		40	40	78	118	345
MHL2-10D2			60	96	156	425
MHL2-16D	16	60	30	68	98	585
MHL2-16D1		40	60	110	170	795
MHL2-16D2			80	130	210	935
MHL2-20D		20	60	40	82	122
MHL2-20D1	40		80	142	222	1495
MHL2-20D2			100	162	262	1690
MHL2-25D	25	60	50	100	150	1690
MHL2-25D1		40	100	182	282	2560
MHL2-25D2			120	200	320	2775
MHL2-32D	32	30	70	150	220	2905
MHL2-32D1		20	120	198	318	3820
MHL2-32D2			160	242	402	4655
MHL2-40D	40	30	100	188	288	5270
MHL2-40D1		20	160	246	406	6830
MHL2-40D2			200	286	486	7905



Note) The open and close time spans represent the value when the exterior of the workpiece is being held.



⚠ Precautions

- Be sure to read before handling.
- Refer to front matters 38 and 39 for Safety Instructions and pages 358 to 365 for Air Gripper and Auto Switch Precautions.

⚠ Warning

If a workpiece is hooked onto the attachment, make sure that excessive impact will not be created at the start and the end of the movement. Failure to observe this precaution may result in shifting or dropping the workpiece, which could be dangerous.

MHZ

MHF

MHL

MHR

MHK

MHS

MHC

MHT

MHY

MHW

-X□

MRHQ

MA

D-□



Series MHL Specific Product Precautions

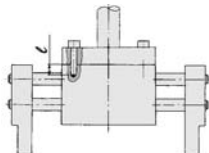
Be sure to read before handling.

Mounting Air Grippers/Series MHL2

Possible to mount from 2 directions.

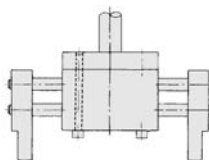
Axial Mounting

- Body tapped



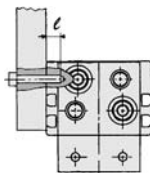
Model	Applicable bolts	Max. tightening torque (N·m)	Max. screw-in depth (mm)
MHL2-10D□	M4 x 0.7	2.1	8
MHL2-16D□	M5 x 0.8	4.3	10
MHL2-20D□	M6 x 1	7.3	12
MHL2-25D□	M8 x 1.25	17.7	16
MHL2-32D□	M8 x 1.25	18	16
MHL2-40D□	M10 x 1.5	36	20

- Body ø10 to ø25



Model	Applicable bolts	Max. tightening torque (N·m)
MHL2-10D□	M4 x 0.7	2.1
MHL2-16D□	M5 x 0.8	4.3
MHL2-20D□	M6 x 1	7.3
MHL2-25D□	M8 x 1.25	17.7

Lateral mounting



Model	Applicable bolts	Max. tightening torque (N·m)	Max. screw-in depth (mm)
MHL2-10D□	M4 x 0.7	1.4	5
MHL2-16D□	M5 x 0.8	2.8	7
MHL2-20D□	M6 x 1	4.8	7
MHL2-25D□	M8 x 1.25	12.0	7
MHL2-32D□	M8 x 1.25	12.0	11
MHL2-40D□	M10 x 1.5	24.0	12

How to Mount the Attachment to the Finger

- (1) Make sure that the piston rod is retracted so as not to apply undue strain on the piston rod while an attachment is being mounted to the finger.
- (2) Do not scratch or dent the sliding portion of the piston rod. Damage to the bearings or seals may cause air leaks or faulty operation.
- (3) Refer to the table below for the proper tightening torque on the bolt used for securing the attachment to the finger.

Model	Applicable bolts	Max. tightening torque (N·m)
MHL2-10D□	M4 x 0.7	1.4
MHL2-16D□	M5 x 0.8	2.8
MHL2-20D□	M6 x 1	4.8
MHL2-25D□	M8 x 1.25	12.0
MHL2-32D□	M10 x 1.5	24.0
MHL2-40D□	M12 x 1.75	42.2

