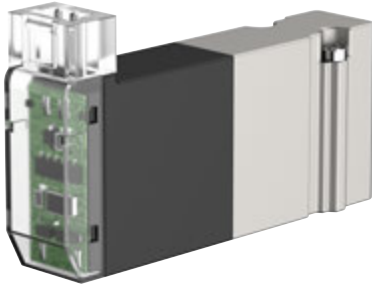


High-Frequency Solenoid Valve

MHV SERIES



[Note] The model shown in the diagram is MHV12-00-L2-D.

General Specifications

Item	Content
Valve type and operation mode	Direct-acting globe valve
Operating Fluid	Compressed air, vacuum ^[Note 1]
Maximum operating pressure	0.7Mpa
Minimum operating pressure	Low vacuum : -0.1Mpa
Pressure resistance	1.05Mpa (Low vacuum : -0.1Mpa)
Maximum working pressure difference	0.7Mpa
Ambient temperature	5~60°C (no freezing)
Fluid temperature	5~60°C
Lubrication	Not allowed ^[Note 2]
Protection class	Dustproof
Vibration resistance	Below 50 m/s ²
Shock resistance	Below 300 m/s ²
Environment	Cannot be used in corrosive gas environments

[Note 1] This product is designed to work with the VZFC series vacuum filter. For selection support, please contact us

[Note 2] Performance degrades after lubrication.

General Structure

General Structure	
-------------------	--

Electrical Specifications

Item	Rated Voltage	Continuous Power-on Rate	Voltage Fluctuation Range	Insulation Class
Standard Specifications	DC24V	Continuous	±10%	B

Technical Parameters

Power (at DC24V)		Response Time (at 0.5MPa Air Pressure)		Flow Rate	Maximum Frequency (Hz)
Startup Power	Holding Power	NO	NC		
17W	1.5W	2.2ms	2.2ms	120/160/190L	250
5.2W	1.2W	4.2ms	2.5ms	160L	100
5.2W	1.2W	3.5ms	2.5ms	120L	120

[Note] The frequency may fluctuate due to the influence of working conditions such as environment, temperature, and service life.

Model Designation Method MHV Monolithic Valve



① Type	② Flow rate	③ Power	④ Interface Specifications	⑤ Wiring Specifications	⑥ Wiring Outlet Direction
MHV	1:120L	1:5.2W	M5: Interface specification M5*0.8 M5D4: Equipped with M5 connector (for Ø4 pipe) 00: Three ports facing one side, bottom connection type	L2: DC24V, wire length 300mm L3: DC24V, wire length 1000mm	C: Horizontal wiring outlet D: Vertical wiring outlet
	2:160L		M7: Interface specification M7*1 M7D6: Equipped with M7 connector (for Ø6 pipe) 00: Three ports facing one side, bottom connection type		
	3:190L	2:17W			

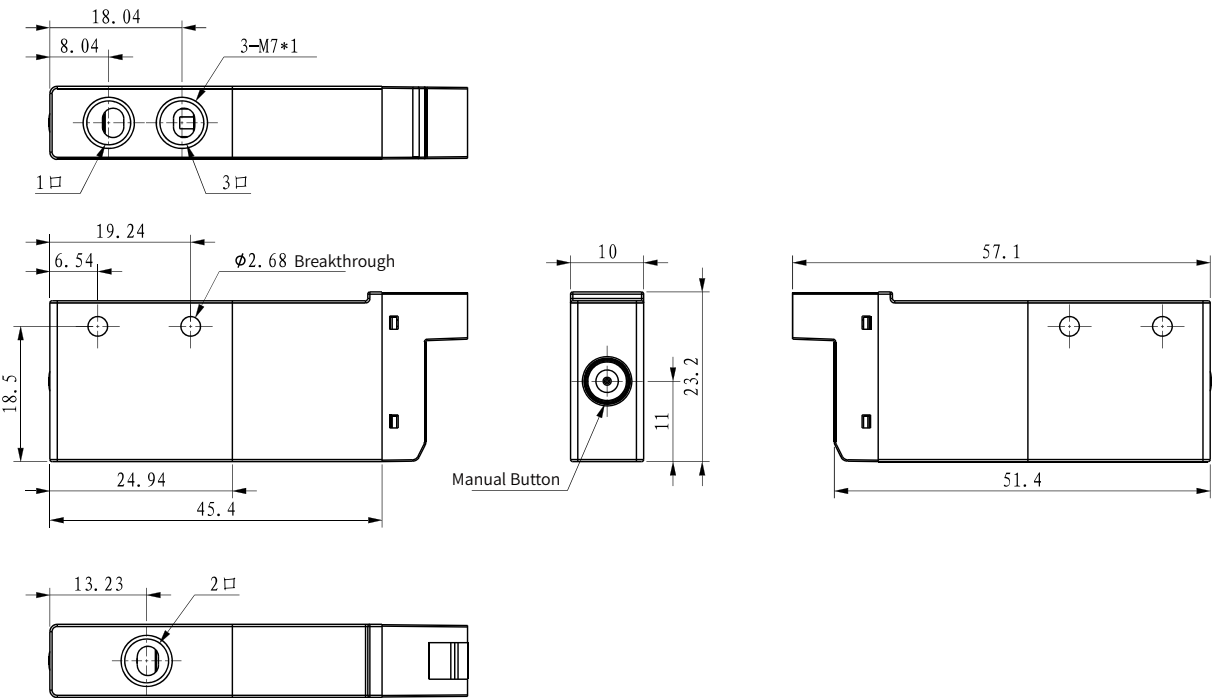
Examples: MHV12-M5D4-L2-C
MHV21-M7-L2-D

High-Frequency Solenoid Valve

MHV SERIES

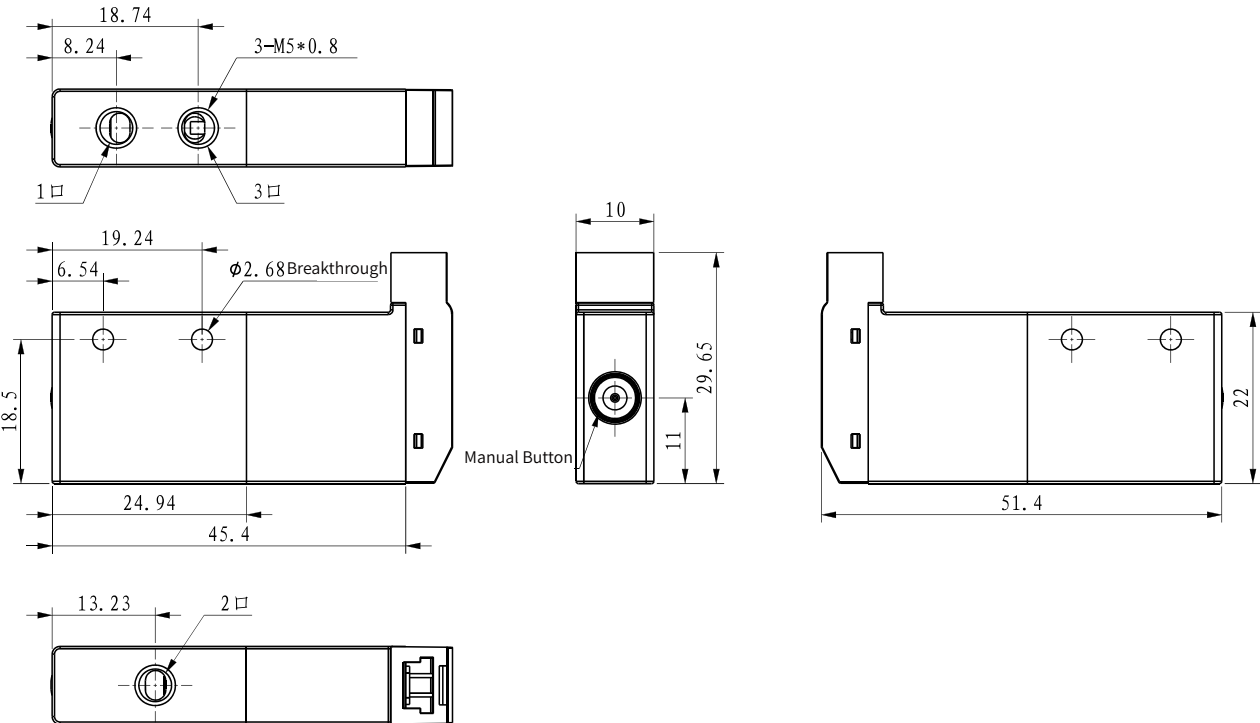
Overall Dimensions

►MHV21-M7-L2-C



Overall Dimensions

►MHV12-M5-L2-D

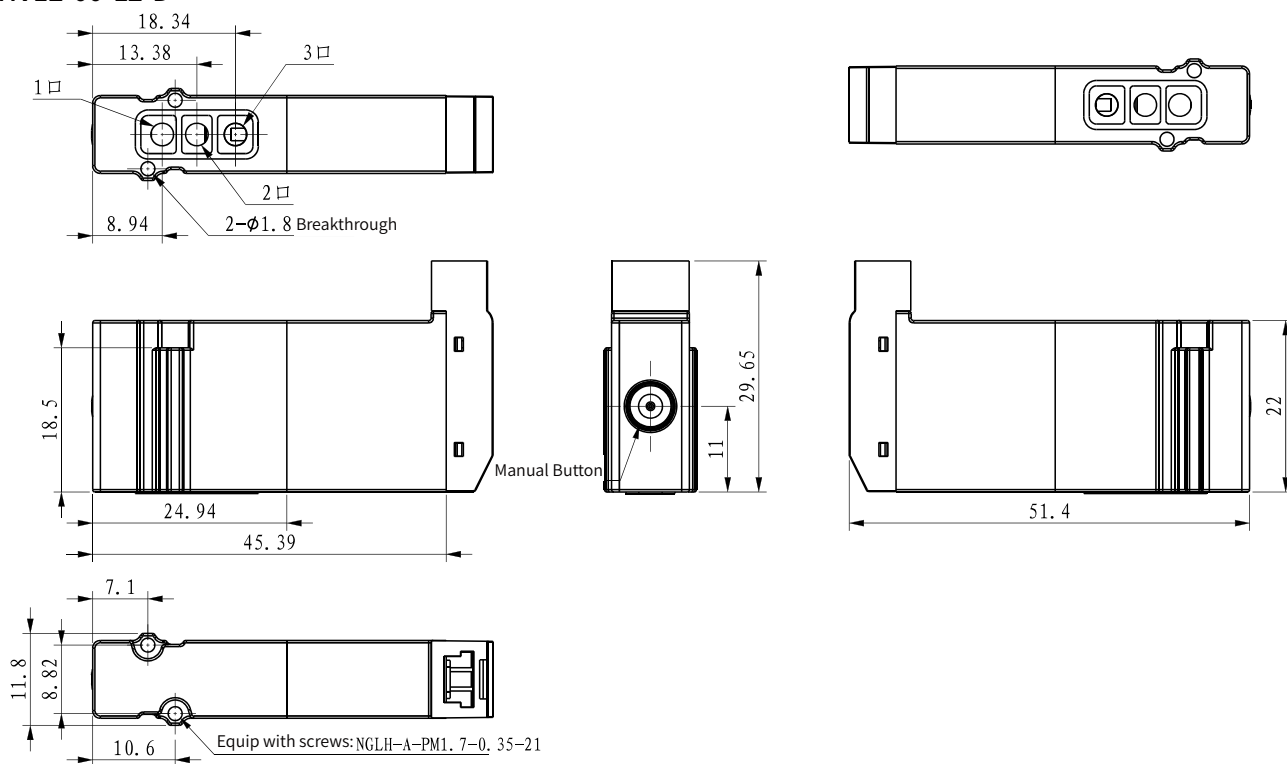


High-Frequency Solenoid Valve

MHV SERIES

Overall Dimensions

► MHV12-00-L2-D



High-Frequency Solenoid Valve

MHV SERIES

Model Designation Method MHV Manifold Type

1	2	3	4	5	6	7	8
MMHV	1	1	M5	1	L2	3	C
1 type	2 flow rate	3 power	4 Interface Specifications	5 Air Supply Mode	6 Wiring Specifications	7 Number of Connections	8 Wiring Outlet Direction
MMHV Manifold Type	1:120L 2:160L 3:190L	1:5.2W 2:17W	M5: Manifold interface specification M5*0.8 M5D4: Equipped with M5 connector (for Ø4 pipe) M7: Manifold interface specification M7*1 M7D6: Equipped with M7 connector (for Ø6 pipe)	1: Centralized air supply + independent operation + centralized exhaust 2: Centralized air supply + independent operation + independent exhaust 3: Independent air supply + independent operation + independent exhaust	L2: DC24V, wire length 300mm L3: DC24V, wire length 1000mm	2 to 20 connections 1 connection: blank	C: Horizontal wire outlet D: Vertical wire outlet

[Note]: The air supply mode for 1 connection can only be independent air supply + independent operation + independent exhaust.

[Note]: The selected interface specifications are all for independent air supply interfaces, and the central air supply port interfaces are all RC1/8.

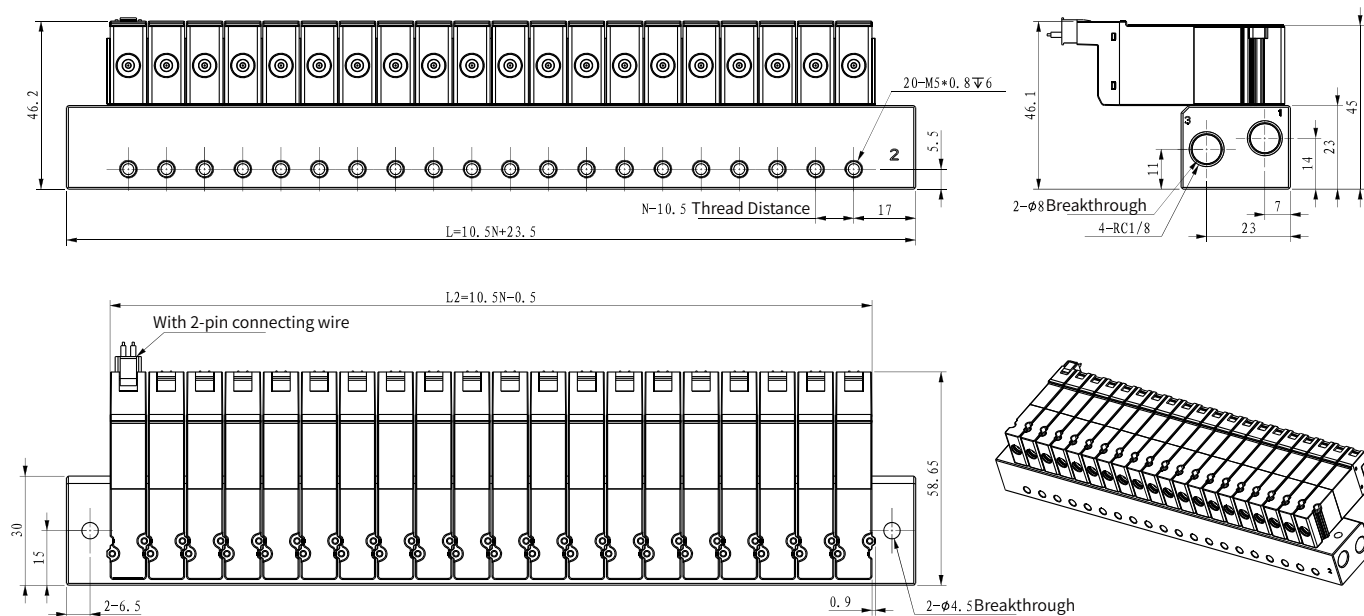
Example: MMHV12-M5-1-L23-C
MMHV21-M7-2-L220-D
MMHV21-M7-3-L2-Cttt

Overall Dimensions

► MMHV12-M5-1-L220-C

Part Number	MMHV12-M5 -1-L22-C	MMHV12-M5 -1-L23-C	MMHV12-M5 -1-L24-C	MMHV12-M5 -1-L25-C	MMHV12-M5 -1-L26-C	MMHV12-M5 -1-L27-C	MMHV12-M5 -1-L28-C	MMHV12-M5 -1-L29-C	MMHV12-M5 -1-L210-C	MMHV12-M5 -1-L211-C	MMHV12-M5 -1-L212-C
NNumber of Connection	2	3	4	5	6	7	8	9	10	11	12
L	44.5	55	65.5	76	86.5	97	107.5	118	128.5	139	149.5
L2	20.5	31	41.5	52	62.5	73	83.5	94	104.5	115	125.5

Part Number	MMHV12-M5 -1-L213-C	MMHV12-M5 -1-L214-C	MMHV12-M5 -1-L215-C	MMHV12-M5 -1-L216-C	MMHV12-M5 -1-L217-C	MMHV12-M5 -1-L218-C	MMHV12-M5 -1-L219-C	MMHV12-M5 -1-L220-C
NNumber of Connection	13	14	15	16	17	18	19	20
L	160	170.5	181	191.5	202	212.5	223	233.5
L2	136	146.5	157	167.5	178	188.5	199	209.5



High-Frequency Solenoid Valve

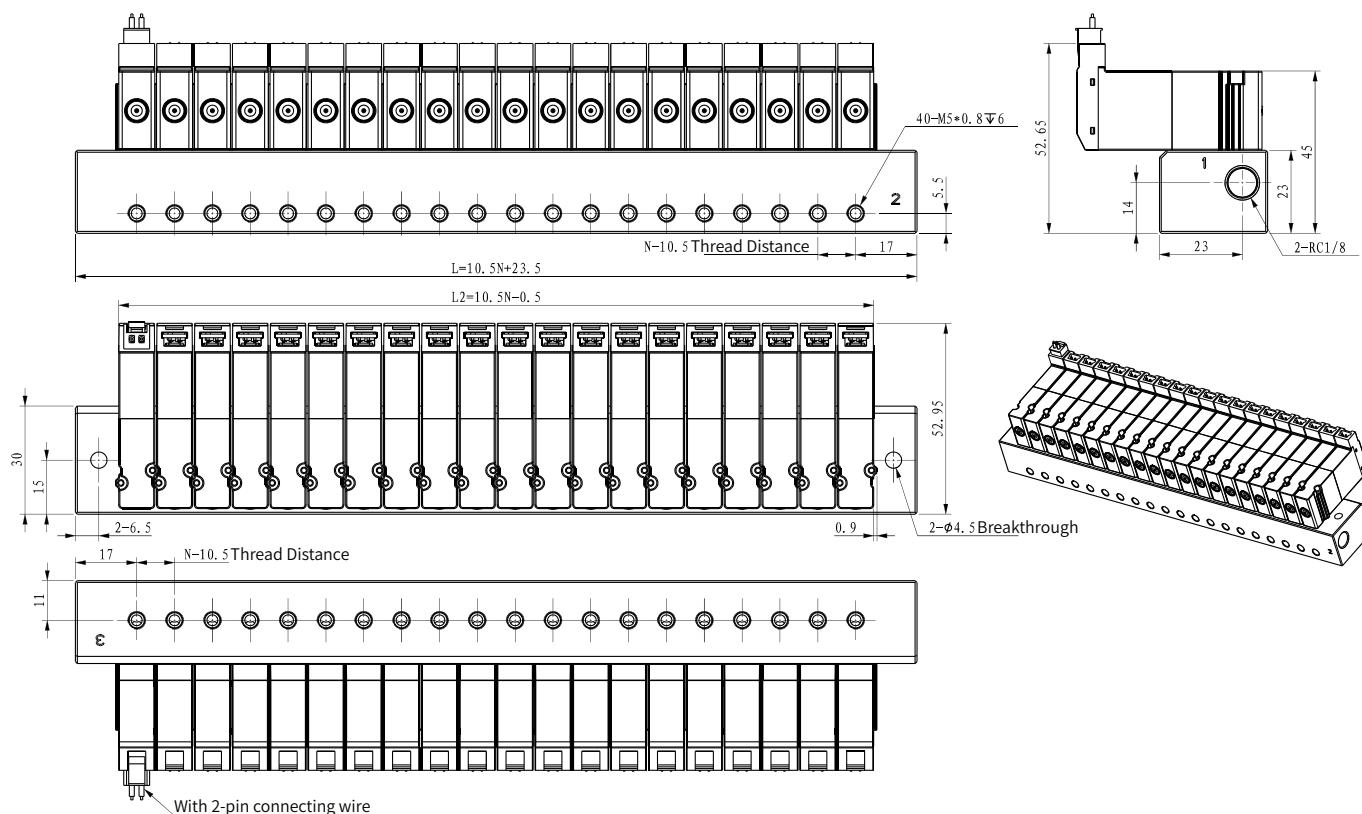
MHV SERIES

Overall Dimensions

► MMHV12-M5-2-L220-D

Part Number	MMHV12-M5-2-L22-D	MMHV12-M5-2-L23-D	MMHV12-M5-2-L24-D	MMHV12-M5-2-L25-D	MMHV12-M5-2-L26-D	MMHV12-M5-2-L27-D	MMHV12-M5-2-L28-D	MMHV12-M5-2-L29-D	MMHV12-M5-2-L210-D	MMHV12-M5-2-L211-D	MMHV12-M5-2-L212-D
NNumber of Connection	2	3	4	5	6	7	8	9	10	11	12
L	44.5	55	65.5	76	86.5	97	107.5	118	128.5	139	149.5
L2	20.5	31	41.5	52	62.5	73	83.5	94	104.5	115	125.5

Part Number	MMHV12-M5-2-L213-D	MMHV12-M5-2-L214-D	MMHV12-M5-2-L215-D	MMHV12-M5-2-L216-D	MMHV12-M5-2-L217-D	MMHV12-M5-2-L218-D	MMHV12-M5-2-L219-D	MMHV12-M5-2-L220-D
NNumber of Connection	13	14	15	16	17	18	19	20
L	160	170.5	181	191.5	202	212.5	223	233.5
L2	136	146.5	157	167.5	178	188.5	199	209.5



High-Frequency Solenoid Valve

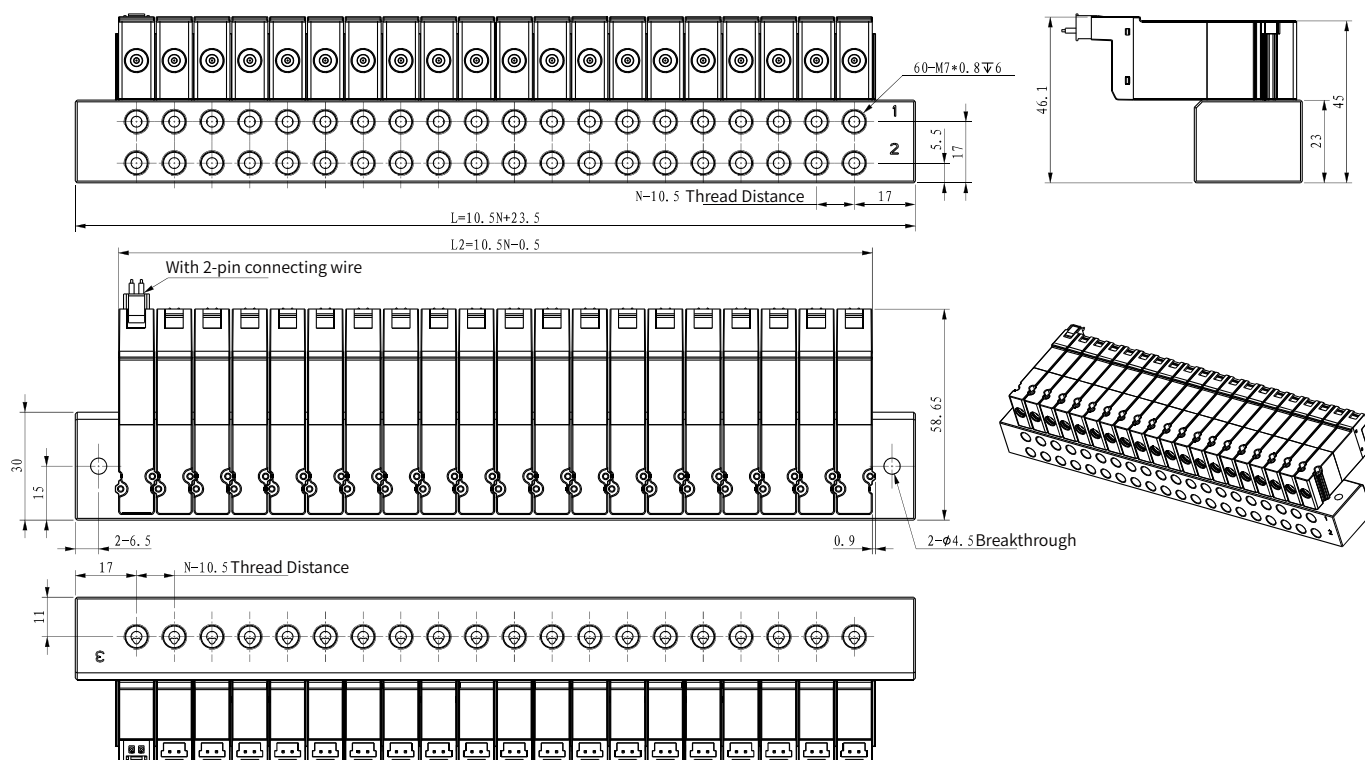
MHV SERIES

Overall Dimensions

▶MMHV21-M7-3-L220-C

Part number	MMHV21-M7 -3-L22-C	MMHV21-M7 -3-L23-C	MMHV21-M7 -3-L24-C	MMHV21-M7 -3-L25-C	MMHV21-M7 -3-L26-C	MMHV21-M7 -3-L27-C	MMHV21-M7 -3-L28-C	MMHV21-M7 -3-L29-C	MMHV21-M7 -3-L210-C	MMHV21-M7 -3-L211-C	MMHV21-M7 -3-L212-C
Number of Connection	2	3	4	5	6	7	8	9	10	11	12
L	44.5	55	65.5	76	86.5	97	107.5	118	128.5	139	149.5
L2	20.5	31	41.5	52	62.5	73	83.5	94	104.5	115	125.5

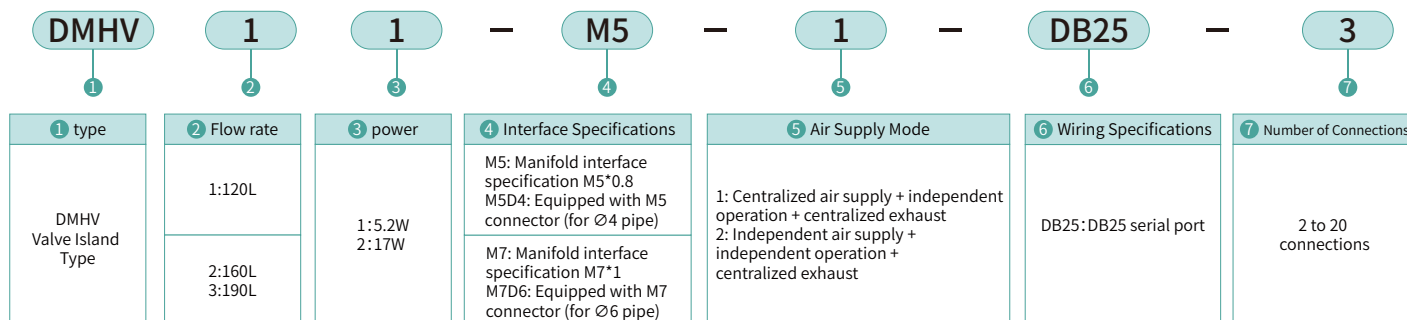
Part number	MMHV21-M7 -3-L213-C	MMHV21-M7 -3-L214-C	MMHV21-M7 -3-L215-C	MMHV21-M7 -3-L216-C	MMHV21-M7 -3-L217-C	MMHV21-M7 -3-L218-C	MMHV21-M7 -3-L219-C	MMHV21-M7 -3-L220-C
Number of Connection	13	14	15	16	17	18	19	20
L	160	170.5	181	191.5	202	212.5	223	233.5
L2	136	146.5	157	167.5	178	188.5	199	209.5



High-Frequency Solenoid Valve

MHV SERIES

Model Designation Method DMHV Valve Island Type



[Note]: The selected interface specifications are all for independent air supply interfaces, and the central air supply port interfaces are all RC1/8.

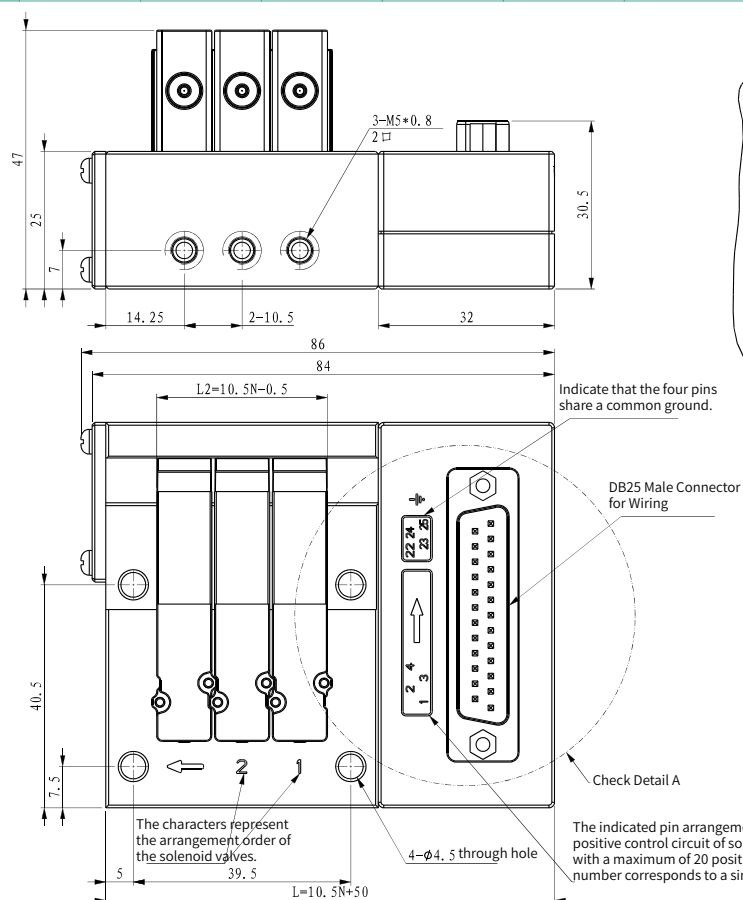
Example: DMHV12-M5-1-DB25-3

Overall Dimensions

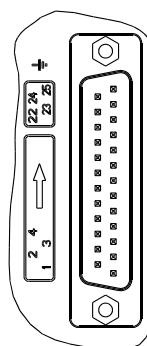
► DMHV12-M5-1-DB25-3

Part number	DMHV12-M5 -1-DB25-2	DMHV12-M5 -1-DB25-3	DMHV12-M5 -1-DB25-4	DMHV12-M5 -1-DB25-5	DMHV12-M5 -1-DB25-6	DMHV12-M5 -1-DB25-7	DMHV12-M5 -1-DB25-8	DMHV12-M5 -1-DB25-9	DMHV12-M5 -1-DB25-10	DMHV12-M5 -1-DB25-11	DMHV12-M5 -1-DB25-12
Number of Connection	2	3	4	5	6	7	8	9	10	11	12
L	71	81.5	92	102.5	113.5	123.5	134	144.5	155	165.5	176
L2	20.5	31	41.5	52	62.5	73	83.5	94	104.5	115	125.5

Part number	DMHV12-M5 -1-DB25-13	DMHV12-M5 -1-DB25-14	DMHV12-M5 -1-DB25-15	DMHV12-M5 -1-DB25-16	DMHV12-M5 -1-DB25-17	DMHV12-M5 -1-DB25-18	DMHV12-M5 -1-DB25-19	DMHV12-M5 -1-DB25-20
Number of Connection	13	14	15	16	17	18	19	20
L	186.5	197	207.5	218	228.5	239	249.5	260
L2	136	146.5	157	167.5	178	188.5	199	209.5



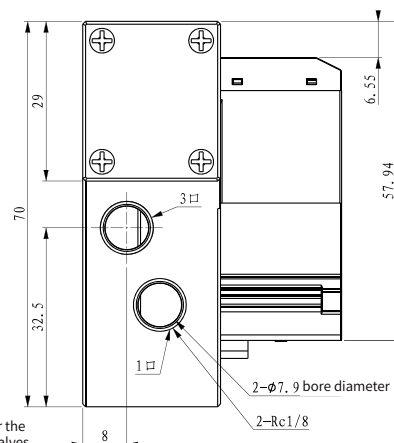
1. Attached cable: DB25 female connector - crimp terminal, cable length 1m
2. Schematic Diagram of Cable Connection Corresponding to DB25 Male Connector



The corresponding cable colors for the male terminal are as follows:

- | | |
|-------------------|---------------------|
| 1 Black and white | 2 Pink and black |
| 3 Light green | 4 Gray and black |
| 5 pink | 6 Green and black |
| 7 white | 8 yellow and black |
| 9 grey | 10 Orange and black |
| 11 purple | 12 Orange and black |
| 13 blue | 14 Purple and white |
| 15 green | 16 Blue and white |
| 17 yellow | 18 green and white |
| 19 orange | 20 orange and white |
| 21 red | 22 red and white |
| 23 brown | 24 Brown and white |
| 25 Black | |

Note: Pay attention to the wiring polarity. For this product, terminals 1-20 are connected to the positive pole (corresponding to solenoid valves respectively), and terminals 22-25 share a common polarity and are connected to the negative pole.



High-Frequency Solenoid Valve

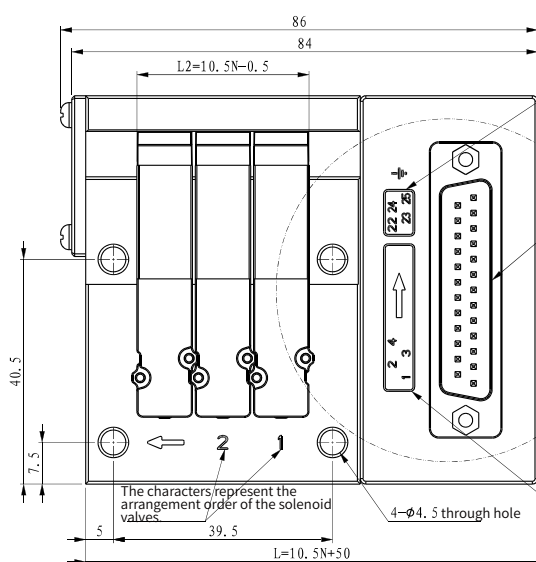
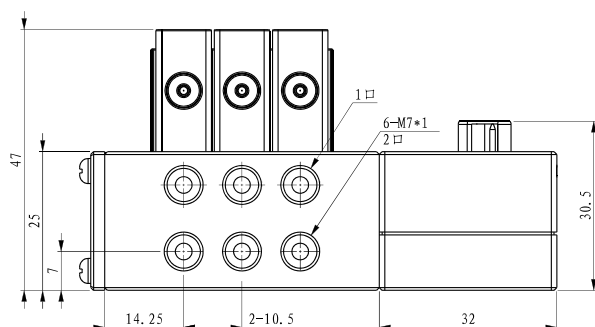
MHV SERIES

Overall Dimensions

►DMHV21-M7-2-DB25-3

Part number	DMHV21-M7 -2-DB25-2	DMHV21-M7 -2-DB25-3	DMHV21-M7 -2-DB25-4	DMHV21-M7 -2-DB25-5	DMHV21-M7 -2-DB25-6	DMHV21-M7 -2-DB25-7	DMHV21-M7 -2-DB25-8	DMHV21-M7 -2-DB25-9	DMHV21-M7 -2-DB25-10	DMHV21-M7 -2-DB25-11	DMHV21-M7 -2-DB25-12
Number of Connection	2	3	4	5	6	7	8	9	10	11	12
L	71	81.5	92	102.5	113.5	123.5	134	144.5	155	165.5	176
L2	20.5	31	41.5	52	62.5	73	83.5	94	104.5	115	125.5

Part number	DMHV21-M7 -2-DB25-13	DMHV21-M7 -2-DB25-14	DMHV21-M7 -2-DB25-15	DMHV21-M7 -2-DB25-16	DMHV21-M7 -2-DB25-17	DMHV21-M7 -2-DB25-18	DMHV21-M7 -2-DB25-19	DMHV21-M7 -2-DB25-20
Number of Connection	13	14	15	16	17	18	19	20
L	186.5	197	207.5	218	228.5	239	249.5	260
L2	136	146.5	157	167.5	178	188.5	199	209.5



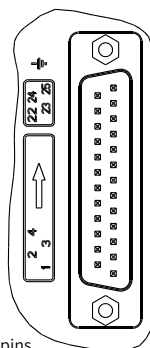
Indicate that the four pins share a common ground.

DB25 Male Connector for Wiring

Check Detail A

The indicated pin arrangement is for the positive control circuit of solenoid valves, with a maximum of 20 positions. (Each serial number corresponds to a single solenoid valve respectively.)

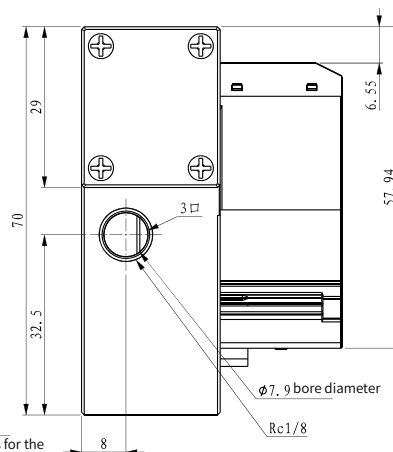
1. Attached cable: DB25 female connector - crimp terminal, cable length 1m
2. Schematic Diagram of Cable Connection Corresponding to DB25 Male Connector



The corresponding cable colors for the male terminal are as follows:

- The corresponding cable colors for the male
- | | |
|-------------------|---------------------|
| 1 Black and white | 2 Pink and black |
| 3 Light green | 4 Gray and black |
| 5 pink | 6 Green and black |
| 7 white | 8 yellow and black |
| 9 grey | 10 Orange and black |
| 11 purple | 12 Orange and black |
| 13 blue | 14 Purple and white |
| 15 green | 16 Blue and white |
| 17 yellow | 18 green and white |
| 19 orange | 20 orange and white |
| 21 red | 22 red and white |
| 23 brown | 24 Brown and white |
| 25 Black | |

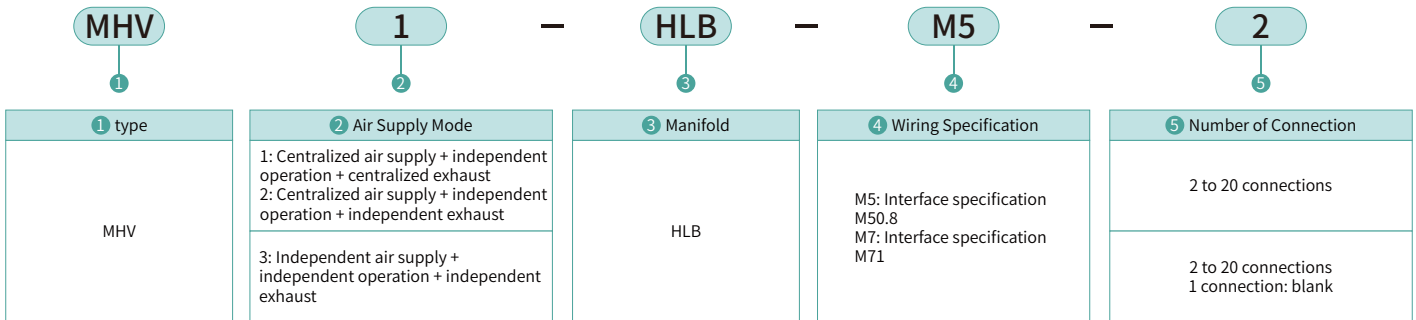
Note: Pay attention to the wiring polarity. For this product, terminals 1-20 are connected to the positive pole (corresponding to solenoid valves respectively), and terminals 22-25 share a common polarity and are connected to the negative pole.



High-Frequency Solenoid Valve

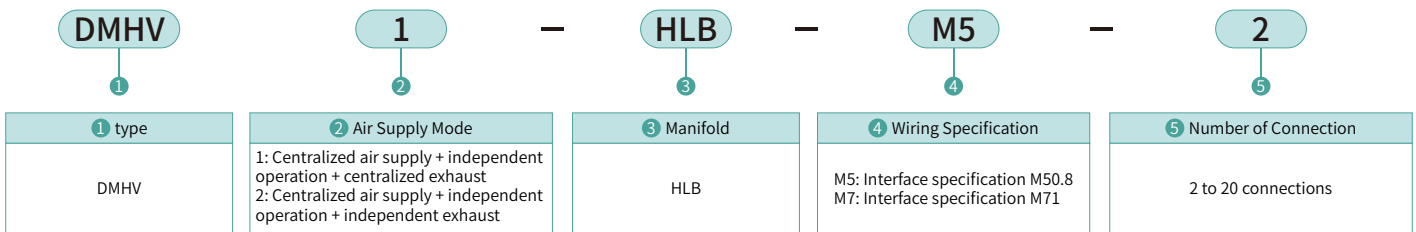
MHV SERIES

Model Designation Method - MHV Modular Manifold Block



Example: MHV1-HLB-M7-3
MHV3-HLB-M5-10
MHV3-HLB-M5

Model Designation Method - DMHV Valve Island Type



Example: DMHV1-HLB-M7-3
DMHV2-HLB-M5-2

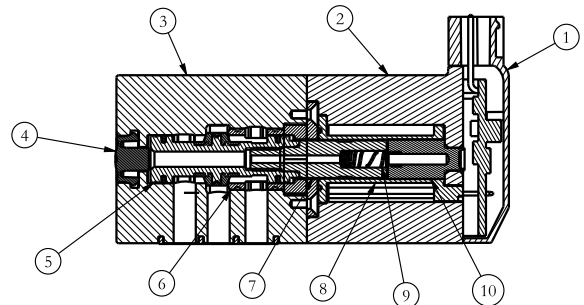
Model Designation Method for MHV Shield Plate Assembly

► Including sealing ring - mounting screws



Internal Structure and Component List

Serial Number	Component Name	Material
1	Dust Cover	Resin
2	Coil Shell	Stainless Steel
3	Valve Body	Aluminum Alloy
4	Manual Button	Silicone
5	Shaft Core	Aluminum Alloy
6	Ferrule	Stainless Steel
7	Moving Core	Stainless Steel
8	Skeleton	Resin
9	Spring	Stainless Steel
10	Static Iron Core	Stainless Steel



High-Frequency Solenoid Valve

MHV SERIES

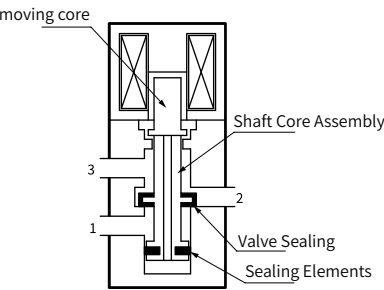
Working Principle

►2-Position Single Solenoid with Spring Return

The MHV series features a pressure-balanced poppet valve design that ensures consistent performance unaffected by operating pressure, enabling low power consumption and high flow capacity. The ports (1, 2, 3) allow pressurization from any piping connection. The valve stem assembly maintains equal sealing diameters between the seat and seal ring, utilizing through-holes to eliminate pressure differentials across all ports while maintaining pressure balance in both ON and OFF states.

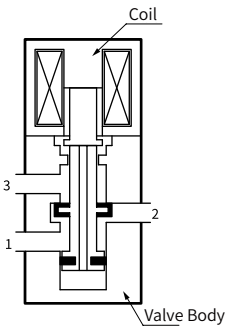
►In de-energized state

The valve stem assembly, actuated by the moving core, is pressed against port 1 via the moving core spring. The valve seat and seal of the stem assembly close port 1, while ports 2 and 3 remain open.



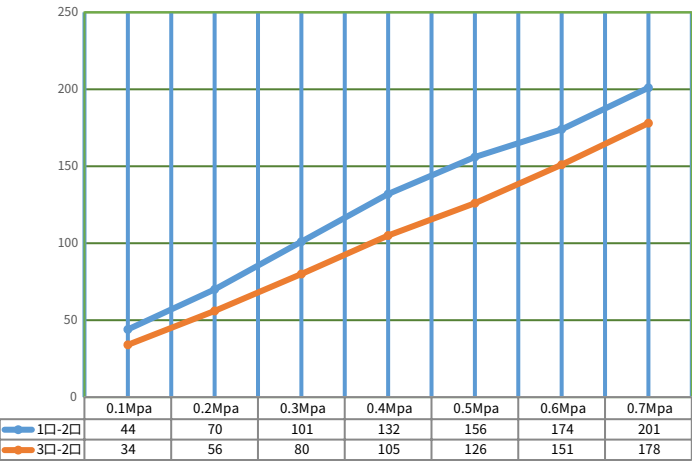
►Energized State

When energized, the moving core is attracted to the coil side. The valve stem assembly actuates via the stem spring, opening ports 1 & 2 while closing port 3.

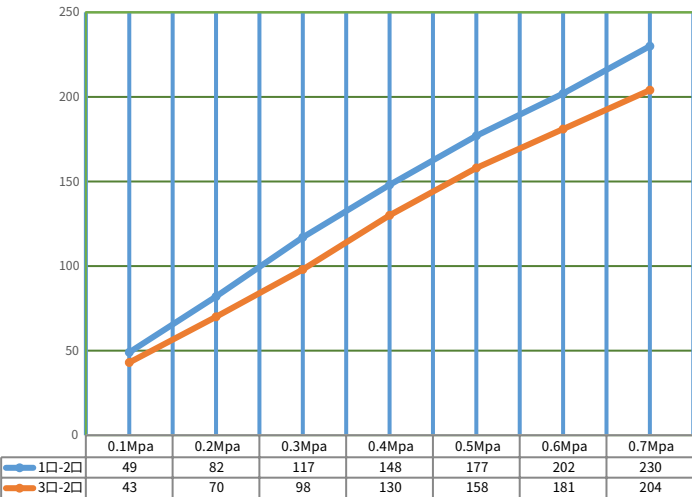


Flow Characteristic Curve

►MHV12-M5-L2-C



►MHV21-M7-L2-C



►MHV31-M7-L2-C

