

MDF-RH SERIES

SOLENOID VALVE

MDF series solenoid valves are direct operated or pilot operated solenoid valves, mainly used in refrigerant control of various devices such as refrigerating and freezing systems, air conditioners and heat pumps. The Design Pressure (PS) of the versions MDF-RH has been increased to 49 bars allowing the usage in R32 systems.



FEATURES

- COILS: LOW ENERGY CONSUMPTION, RELIABLE
- GREAT VALVE OPENING PERFORMANCE, HIGH MOPD
- COILS ARE DOUBLE SEALED, WATERTIGHT AND SAFE
- CERTIFIED ACCORDING PED CAT.II BY TUV RHEINLAND

GENERAL SPECIFICATION

- Applicable for all common HCFC, HFC and HFO refrigerants such as: R22, R134a, R404A, R407A/C/F, R410A, R507A, R448A, R449A, R450A, R452A, R513A, R32, R1234yf, R1234ze, R454A/B/C, R455A, R290, R1270, R600a
- Maximum Operating Pressure: 4,9 MPa (49 bar)
- Medium temperature TS min./max.: -30°C/105°C
- Ambient temperature min./max.: -30°C / +55°C
- Relative humidity: 0 to 95% RH
- Installation position:
 - Liquid, suction and discharge line
 - Preferably coil upwards and flow direction corresponds to the arrow
- PED Declaration of Conformity

Note: third party certification according ignition risk evaluation is ongoing

MDF-RH SERIES SOLENOID VALVE



TECHNICAL PARAMETERS OF VALVE BODY

| Valve Body | Normal position | Actuation | Kv [m ³ /h] | MOP [Mpa] | Max. OPD [MPa] | Min. OPD ⁴⁾ [Mpa] |
|--------------|------------------|---------------------|---------------------------|--------------|-------------------|---------------------------------|
| Solder | | | | | | |
| MDF-A03-2RH | NC ¹⁾ | Direct | 0,16 | 4,5 | 3,1 ³⁾ | 0,00 |
| MDF-A03-3RH | | | 0,23 | | | |
| MDF-A03-6RH | | | 0,8 | | | |
| MDF-A03-10RH | | Pilot ²⁾ | 1,9 | | | 0,005 |
| MDF-A03-15RH | | | 2,3 | | | |
| MDF-A03-20RH | | | 5,0 | | | |
| MDF-A03-22RH | | | 5,9 | | | |

- Note:**
- 1) NC means: Normally closed valve
 - 2) Membrane operated
 - 3) Max. OPD at 85% Ue. Other coils on request
 - 4) Min. OPD: values referred to 60% of nominal flow

DIMENSIONS

Valve Body - Inch Solder Connection, Models with MOP 49 bar

| Model Valve Body | Part Number ¹⁾²⁾ | Solder Connection ODF | Kv | PED Category Fluid Group I | Dimensions [mm] | | | |
|---------------------|--------------------------------|-----------------------------|---------------------|-------------------------------------|-----------------|----|----|-----|
| | | [inch] | [m ³ /h] | | L | B | D | H |
| MDF-A03-2RH01 | 10125023002 | 1/4 | 0,16 | 4.3 | 102 | 30 | 53 | 82 |
| MDF-A03-3RH01 | 10125023202 | 1/4 | 0,23 | 4.3 | 102 | 30 | 53 | 82 |
| MDF-A03-3RH03 | 10125023302 | 3/8 | 0,23 | 4.3 | 117 | 30 | 53 | 82 |
| MDF-A03-6RH01 | 10125021402 | 3/8 | 0,8 | 4.3 | 111 | 36 | 53 | 88 |
| MDF-A03-6RH03 | 10125021502 | 1/2 | 0,8 | 4.3 | 127 | 36 | 53 | 88 |
| MDF-A03-10RH01 | 10125021802 | 1/2 | 1,9 | 4.3 | 127 | 42 | 53 | 95 |
| MDF-A03-10RH03 | 10125021902 | 5/8 | 1,9 | 4.3 | 160 | 42 | 53 | 95 |
| MDF-A03-15RH05 | 10125022202 | 5/8 | 2,3 | 4.3 | 176 | 52 | 53 | 100 |
| MDF-A03-15RH03 | 10125022102 | 7/8 | 2,3 | 4.3 | 176 | 52 | 53 | 100 |
| MDF-A03-20RH01 | 10125022302 | 7/8 | 5 | 4.3 | 191 | 60 | 53 | 117 |
| MDF-A03-22RH01 | 10125022602 | 7/8 | 5,9 | 4.3 | 281 | 60 | 53 | 117 |
| MDF-A03-20RH03 | 10125022402 | 1-1/8 | 5 | 4.3 | 214 | 60 | 53 | 117 |
| MDF-A03-22RH09 | 10125022802 | 1-1/8 | 5,9 | 4.3 | 281 | 60 | 53 | 117 |
| MDF-A03-22RH03 | 10125022702 | 1-3/8 | 5,9 | Cat. II | 281 | 60 | 53 | 117 |

- Note:**
- 1) Extent of delivery: valve body without coil
 - 2) Available also as industrial package. Contact Sanhua for more details.

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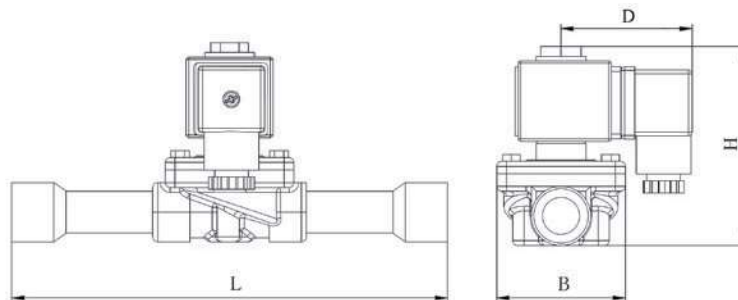


DIMENSIONS

Valve Body – Metrical Solder Connection, Models with MOP 49 bar

| Model Valve Body | Part Number ¹⁾²⁾ | Solder Connection ODF | Kv | PED Category Fluid Group I | Dimensions [mm] | | | |
|------------------|-----------------------------|-----------------------|---------------------|----------------------------|-----------------|----|----|-----|
| | | [mm] | [m ³ /h] | | L | B | D | H |
| MDF-A03-2RH03 | 10125023102 | 6 | 0,16 | 4.3 | 102 | 30 | 53 | 82 |
| MDF-A03-3RH05 | 10125021202 | 6 | 0,23 | 4.3 | 102 | 30 | 53 | 82 |
| MDF-A03-3RH07 | 10125021302 | 10 | 0,23 | 4.3 | 117 | 30 | 53 | 82 |
| MDF-A03-6RH05 | 10125021602 | 10 | 0,8 | 4.3 | 111 | 36 | 53 | 88 |
| MDF-A03-6RH07 | 10125021702 | 12 | 0,8 | 4.3 | 127 | 36 | 53 | 88 |
| MDF-A03-10RH05 | 10125022002 | 12 | 1,9 | 4.3 | 127 | 42 | 53 | 95 |
| MDF-A03-10RH03 | 10125021902 | 16 | 1,9 | 4.3 | 160 | 42 | 53 | 95 |
| MDF-A03-15RH05 | 10125022202 | 16 | 2,3 | 4.3 | 176 | 52 | 53 | 100 |
| MDF-A03-15RH03 | 10125022102 | 22 | 2,3 | 4.3 | 176 | 52 | 53 | 100 |
| MDF-A03-20RH01 | 10125022302 | 22 | 5 | 4.3 | 191 | 60 | 53 | 117 |
| MDF-A03-22RH01 | 10125022602 | 22 | 5,9 | 4.3 | 281 | 60 | 53 | 117 |
| MDF-A03-20RH07 | 10125022502 | 28 | 5 | 4.3 | 214 | 60 | 53 | 117 |
| MDF-A03-22RH11 | 10125022902 | 28 | 5,9 | 4.3 | 281 | 60 | 53 | 117 |
| MDF-A03-22RH03 | 10125022702 | 35 | 5,9 | Cat. II | 281 | 60 | 53 | 117 |

Note: 1) Extent of delivery: valve body without coil
2) Available also as industrial package. Contact Sanhua for more details.



MDF-RH SERIES SOLENOID VALVE



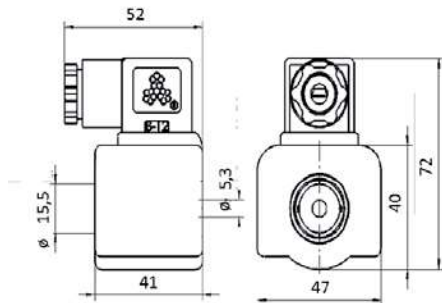
TECHNICAL PARAMETERS OF COIL

| Model Coil | Part Number ¹⁾ | Plug type | Supply | Rated Voltage [V] | Power [W] | Voltage Tolerance | Insulation Class | Protection Class (w/plug) | UL Approval |
|--------------------------------|---------------------------|-----------|--------|-------------------|------------------------|-------------------|------------------|---------------------------|-------------|
| MQ-A0322G-000001 ²⁾ | 10820010002 | DIN | AC | 220 to 240 | 12 (50Hz) 10 (60Hz) | -15% +10% | F | IP67 | NO |

Note: 1) Extent of delivery: coil body, fastening screw for the coil body, plug for electrical connection incl. Gaskets and fastening screws
2) Usage of the other coils – please contact Sanhua.

DIMENSIONS - COILS

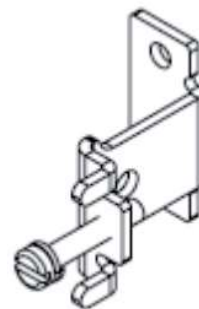
MQ-A03 (Coil with DIN Plug):



ACCESSORIES

Bracket

| Model ¹⁾ | Part Number | Applicable Valve Models |
|---------------------|-------------|-------------------------|
| | | Solder |
| MDF-A03-033001 | 20125000902 | MDF-A03-2RH |
| | | MDF-A03-3RH |
| | | MDF-A03-6RH |
| | | MDF-A03-10RH |
| | | MDF-A03-15RH |



Note: 1) Extent of delivery: bracket and screw