

MDF 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. All the Solenoid Valves listed in this datasheet can be installed in system using flammable refrigerants HFO (categories A2* and A2L*), and Hydrocarbons HC (category A3*).



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 SPECIFICATIONS

- 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: 4,5 MPa (45 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
- Declaration according to LVD and PED

Note: *according ANSI-ASHRAE 34-2016 and EN-378-1 ANNE EN 378-1:2016 Annex E

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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-A03-2H	NC ¹⁾	Direct	0,16	4,5	3,1 ³⁾	0,00
MDF-A03-3H			0,23			
MDF-A03-6H			0,8			
MDF-A03-10H		Pilot ²⁾	1,9			0,005
MDF-A03-15H			2,3			
MDF-A03-20H			5,0			
MDF-A03-22H			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 45 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-A03-2H 001	10125011202	1/4	0,16	4.3	102	30	53	82
MDF-A03-3H 001	10125011302	1/4	0,23	4.3	102	30	53	82
MDF-A03-3H 003	10125003602	3/8	0,23	4.3	102	30	53	82
MDF-A03-6H 001	10125011402	3/8	0,8	4.3	111	36	53	88
MDF-A03-6H 003	10125004202	1/2	0,8	4.3	127	36	53	88
MDF-A03-10H 001	10125011502	1/2	1,9	4.3	127	42	53	95
MDF-A03-10H 003	10125006302	5/8	1,9	4.3	160	42	53	95
MDF-A03-15H 005	10125003702	5/8	2,3	4.3	176	52	53	100
MDF-A03-15H 003	10125005002	7/8	2,3	4.3	176	52	53	100
MDF-A03-20H 001	10125011702	7/8	5	4.3	191	52	53	117
MDF-A03-22H 001	10125011802	7/8	5,9	4.3	281	60	53	117
MDF-A03-20H 003	10125005602	1-1/8	5	4.3	214	52	53	117
MDF-A03-22H 009	10125006202	1-1/8	5,9	4.3	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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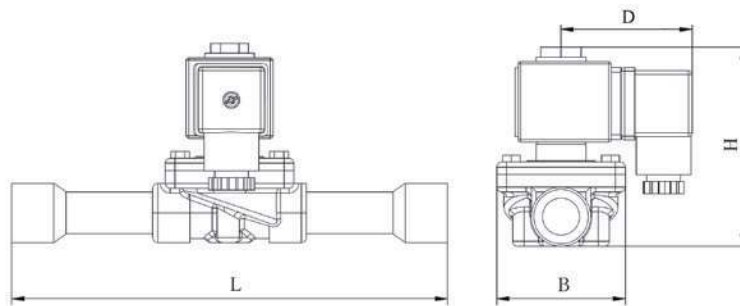


DIMENSIONS

Valve Body – Metrical Solder Connection, Models with MOP 45 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-A03-2H 003	10125006502	6	0,16	4.3	102	30	53	82
MDF-A03-3H 005	10125003802	6	0,23	4.3	102	30	53	82
MDF-A03-3H 007	10125003402	10	0,23	4.3	117	30	53	82
MDF-A03-6H 005	10125004102	10	0,8	4.3	111	36	53	88
MDF-A03-6H 007	10125006702	12	0,8	4.3	127	36	53	88
MDF-A03-10H 005	10125003502	12	1,9	4.3	127	42	53	95
MDF-A03-10H 003	10125006302	16	1,9	4.3	160	42	53	95
MDF-A03-15H 005	10125003702	16	2,3	4.3	176	52	53	100
MDF-A03-15H 003	10125005002	22	2,3	4.3	176	52	53	100
MDF-A03-20H 001	10125011702	22	5	4.3	191	52	53	117
MDF-A03-22H 001	10125011802	22	5,9	4.3	281	60	53	117
MDF-A03-20H 007	10125005702	28	5	4.3	214	52	53	117
MDF-A03-22H 011	10125000302	28	5,9	4.3	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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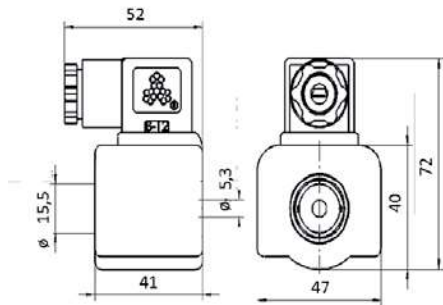
TECHNICAL PARAMETERS OF COIL

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) Coil MQ-A0322G-000001 is third party certified for usage with flammable refrigerants (A2L, A3), Usage of the other coils with flammable refrigerants – please contact Sanhua.

DIMENSIONS - COILS

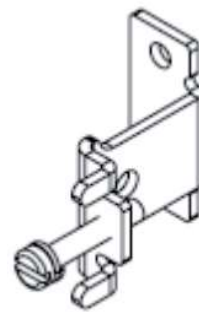
MQ-A03 (Coil with DIN Plug):



ACCESSORIES

Bracket

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



- Note:** 1) Extent of delivery: bracket and screw