

TEST REPORT

In accordance with EN 161

Automatic Valve VMR, HF version

Report number: 120341/9

Job number: P000021941



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	connection size	max inlet pressure
VMR01OTN	1/4" threaded	200 mbar
VMR0-2	3/8" threaded	200 mbar
VMR02OTN	3/8" threaded	200 mbar
VMR0-3	3/8" threaded	360 mbar
VMR0-5	3/8" threaded	500 mbar
VMR0-60	3/8" threaded	6 bar
VMR1-2	1/2" threaded	200 mbar
VMR12OTN	1/2" threaded	200 mbar
VMR1-3	1/2" threaded	360 mbar
VMR1-5	1/2" threaded	500 mbar
VMR1-60	1/2" threaded	6 bar
VMR2-2	3/4" threaded	200 mbar
VMR2-3	3/4" threaded	360 mbar
VMR2-5	3/4" threaded	500 mbar
VMR2-60	3/4" threaded	6 bar
VMR3-2	1" threaded	200 mbar
VMR3-3	1" threaded	360 mbar
VMR3-5	1" threaded	500 mbar
VMR3-60	1" threaded	6 bar
VMR35-2	1 1/4" threaded	200 mbar
VMR35-3	1 1/4" threaded	360 mbar
VMR35-5	1 1/4" threaded	500 mbar
VMR35-60	1 1/4" threaded	6 bar
VMR35-2F	1 1/4" flanged	200 mbar
VMR35-3F	1 1/4" flanged	360 mbar
VMR35-5F	1 1/4" flanged	500 mbar
VMR35-60F	1 1/4" flanged	6 bar
VMR4-2	1 1/2" threaded	200 mbar
VMR4-3	1 1/2" threaded	360 mbar
VMR4-5	1 1/2" threaded	500 mbar
VMR4-60	1 1/2" threaded	6 bar
VMR4-2F	1 1/2" flanged	200 mbar
VMR4-3F	1 1/2" flanged	360 mbar
VMR4-5F	1 1/2" flanged	500 mbar
VMR4-60F	1 1/2" flanged	6 bar
VMR6-2	2" threaded	200 mbar
VMR6-3	2" threaded	360 mbar
VMR6-5	2" threaded	500 mbar
VMR6-60	2" threaded	6 bar
VMR6-2F	2" flanged	200 mbar
VMR6-3F	2" flanged	360 mbar
VMR6-5F	2" flanged	500 mbar
VMR6-60F	2" flanged	6 bar
VMR7-2T	2 1/2" threaded	200 mbar
VMR7-3T	2 1/2" threaded	360 mbar
VMR7-60T	2 1/2" threaded	6 bar
VMR7-2	2 1/2" flanged	200 mbar
VMR7-3	2 1/2" flanged	360 mbar
VMR7-60	2 1/2" flanged	6 bar
VMR8-2	3" flanged	200 mbar
VMR8-3	3" flanged	360 mbar
VMR8-60	3" flanged	6 bar
VMR9-2	4" flanged	200 mbar
VMR9-3	4" flanged	360 mbar
VMR9-60	4" flanged	6 bar
VMR93-2	5" flanged	200 mbar
VMR93-3	5" flanged	360 mbar
VMR95-2	6" flanged	200 mbar
VMR95-3	6" flanged	360 mbar

VML0-2	3/8" threaded	200 mbar
VML0-3	3/8" threaded	360 mbar
VML0-5	3/8" threaded	500 mbar
VML0-60	3/8" threaded	6 bar
VML1-2	1/2" threaded	200 mbar
VML1-3	1/2" threaded	360 mbar
VML1-5	1/2" threaded	500 mbar
VML1-60	1/2" threaded	6 bar
VML2-2	3/4" threaded	200 mbar
VML2-3	3/4" threaded	360 mbar
VML2-5	3/4" threaded	500 mbar
VML2-60	3/4" threaded	6 bar
VML3-2	1" threaded	200 mbar
VML3-3	1" threaded	360 mbar
VML3-5	1" threaded	500 mbar
VML3-60	1" threaded	6 bar

VML35-2	1 1/4" threaded	200 mbar
VML35-3	1 1/4" threaded	360 mbar
VML35-5	1 1/4" threaded	500 mbar
VML35-60	1 1/4" threaded	6 bar
VML35-2F	1 1/4" flanged	200 mbar
VML35-3F	1 1/4" flanged	360 mbar
VML35-5F	1 1/4" flanged	500 mbar
VML35-60F	1 1/4" flanged	6 bar
VML4-2	1 1/2" threaded	200 mbar
VML4-3	1 1/2" threaded	360 mbar
VML4-5	1 1/2" threaded	500 mbar
VML4-60	1 1/2" threaded	6 bar
VML4-2F	1 1/2" flanged	200 mbar
VML4-3F	1 1/2" flanged	360 mbar
VML4-5F	1 1/2" flanged	500 mbar
VML4-60F	1 1/2" flanged	6 bar
VML6-2	2" threaded	200 mbar
VML6-3	2" threaded	360 mbar
VML6-5	2" threaded	500 mbar
VML6-60	2" threaded	6 bar
VML6-2F	2" flanged	200 mbar
VML6-3F	2" flanged	360 mbar
VML6-5F	2" flanged	500 mbar
VML6-60F	2" flanged	6 bar
VML7-2T	2 1/2" threaded	200 mbar
VML7-3T	2 1/2" threaded	360 mbar
VML7-60T	2 1/2" threaded	6 bar
VML7-2	2 1/2" flanged	200 mbar
VML7-3	2 1/2" flanged	360 mbar
VML7-60	2 1/2" flanged	6 bar
VML8-2	3" flanged	200 mbar
VML8-3	3" flanged	360 mbar
VML8-60	3" flanged	6 bar

VMM

Multiple Shut-off valves approved on EN 161, which consists of:
Two shut-off valves with or without by-pass valve.

2x Class A

Mechanical strength group: 2

Ambient temperature: -15°C to +60°C

Supply voltage: 230 VAC, 120VAC, 110 VAC, 12V, 24 V

Degree of protection: IP55, IP 65

rapid opening and closing type.

opening time: < 1 sec.

closing time: < 1 sec.

slow opening and rapid closing type.

opening time: 4 to 25 sec.

closing time: < 1 sec.

Closed position indicator switch (PCS..)

Type survey

VMM.	: Multiple shut-off valve
. . . 20.	: connection 3/4" threaded
. . . 25.	: connection 1" threaded
. . . 32.	: connection 1 1/4" threaded
. . . 40.	: connection 1 1/2" threaded
. . . 50.	: connection 2" threaded
. . . 65.	: connection 2 1/2" flanged
. . . 80.	: connection 3" flanged
. . . . -2	: max working pressure 200mbar
. . . . -3	: max working pressure 360mbar
. . . . -5	: max working pressure 500mbar
. A	: supply voltage 230 VAC
. B	: supply voltage 110 VAC
. C	: supply voltage 24 V
. D	: supply voltage 12 V
. N	: supply voltage 120 VAC and NPT threads or ANSI flanges (as alternative Y)
. F	: second valve fast opened
. S	: second valve slow opened
. 0	: none by-pass right side
. 1	: by-pass right side 1/2" fast
. 2	: by-pass right side 1/2" slow
. 3	: by-pass right side 1" fast
. 4	: by-pass right side 1" slow
. 0	: none by-pass left side
. 1	: by-pass left side 1/2" fast
. 2	: by-pass left side 1/2" slow
. 3	: by-pass left side 1" fast
. 4	: by-pass left side 1" slow

Special conditions

Version for chemically aggressive gases (e.g. biogas)
Identified with J at the end of the name

TEST PLAN

Motivation test plan

Based on the product(s) information the test plan is not subject to any special interpretations or modifications.

The VMR valve, HF version is tested with 100% Hydrogen (H₂) conform the standard EN 161.

The following tests are performed conform EN 161, with 100% Hydrogen (H₂) instead of air:

- Leakage before and after endurance test
- Endurance test at high, low and ambient temperature

A declaration is made where is mentioned the VMR valve, HF version is tested with 100% Hydrogen (H₂).