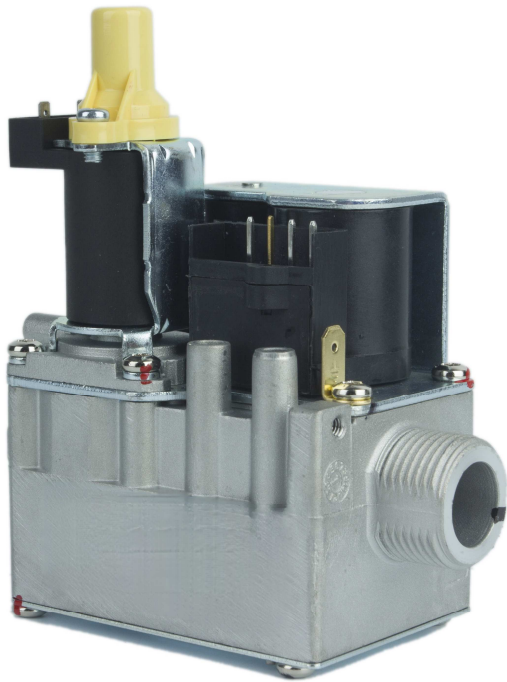


Gas Valves TYPE VMO...



DESCRIPTION

The combination gas valves type **VMO...** have been developed for use in gas-fired domestic central heating boilers and water heating appliances with automatic ignition systems. The controls are also suited for use on a wide variety of gas-fired appliances.

Gas valves of this series, have a CE type Certificate (PIN No. 51DP5185) out according to annex III – **Module B** of the regulation (EU) 2016/426.

This EU type examination certificate is issued by IMQ as notified body for the regulation (EU) 2016/426.

USE

- Compact design suitable for installation in small modern boilers and heaters.
- Specially designed for gas appliance with DBI system to light the main burner.
- Servo pressure regulator ensures stable outlet pressure.
- Pressure feedback ensures constant burner pressure.

Functional options

- Modulating control for more comfort and energy savings

Mechanical options

- 2 shutoff valves.
- Servo pressure regulator.
- Inlet/outlet pressure test points.
- All adjustments are accessible from the top of valve.
- A fine-mesh screen is integrated at the inlet side.

TECHNICAL FEATURES

General unit data:	Models	VMO...
	Mounting position	vertical or horizontal $\pm 5^\circ$
	Type of gas	gas families II and III
	Gas inlet pressure	maximum 57.5 mbar / 5.75 kPa
	Operating temperature	- 20 °C ... + 60 °C
	Operating voltage tolerance	gas valve operates correctly between 85 % and 110 % of the rated voltage
	Degree of protection	IP44 with optional connector
	Dimensions	refer to "paragraph construction characteristics"
	Inlet filter	no. 100 fine mesh
	Pipe connection inlet and outlet	refer to "paragraph Dimensions"
	Pressure feedback connection	6.5 mm outside dia. for tube connection
	Regulation capacity	minimum 0.31 m ³ /h air
	Outlet pressure range for ON/OFF	1...17 mbar / 0.1...1.7 kPa Controller
	Outlet pressure range for modulating	1...17 mbar / 0.1...1.7 kPa Controller
	Valve class	(in accordance with EN126): 1st safety shutoff valve class B 2nd safety shutoff valve class J or class C
	Class of regulator	class B (in accordance with EN126)
	Group	1
	Closing time of safety shutoff valves	≤ 1 second
	Weight	approximates 760 g
	Design service life	over 10 years (shutdown valve life 500,000 times)

ELECTRICAL CONNECTION

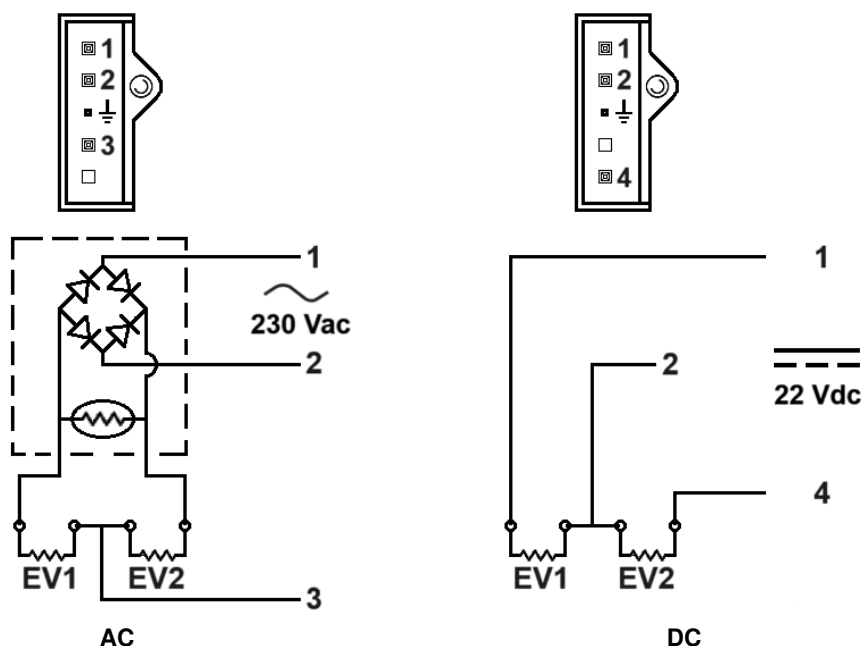
Only **VMO...** Electrical modulating pressure regulator

Operating voltage	Current	Resistance
Max. 17 V	Max. 165 mA	80 Ω

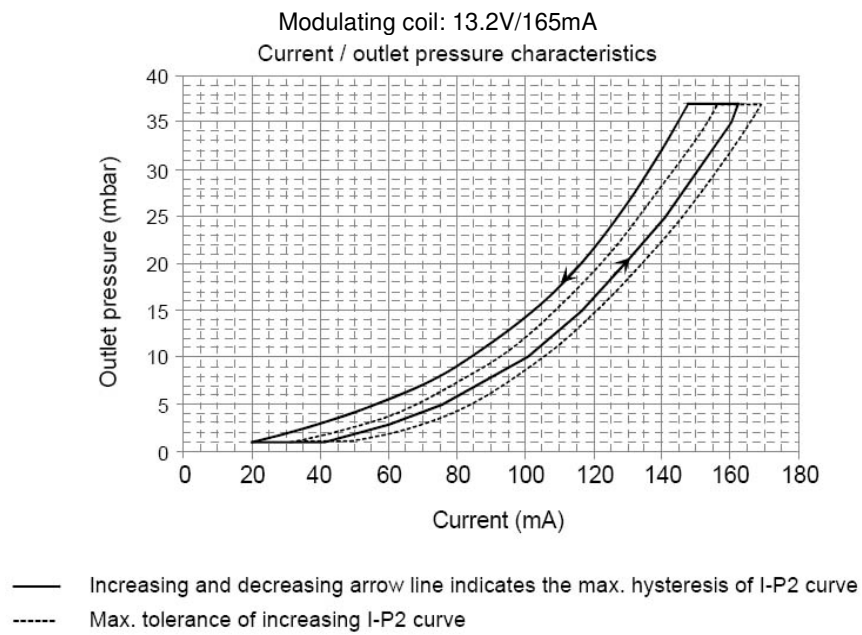
Note

The coils for the safety shutoff function of the **VMO...** gas valve are AC and DC type.

Pin connections EV1 and EV2



MODULATION FUNCTION
Modulator control characteristics



FLOW RATE DIAGRAM

Capacity in m³/h air at
pressure differential

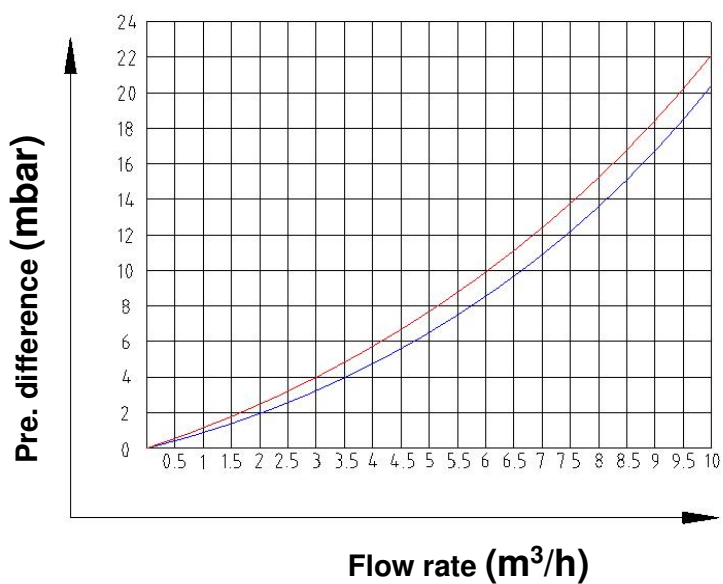
Solenoid valve class

Flow rate at a pressure drop of 5 mbar / 0.5 kPa

B + (J or C)

3 m³/h air

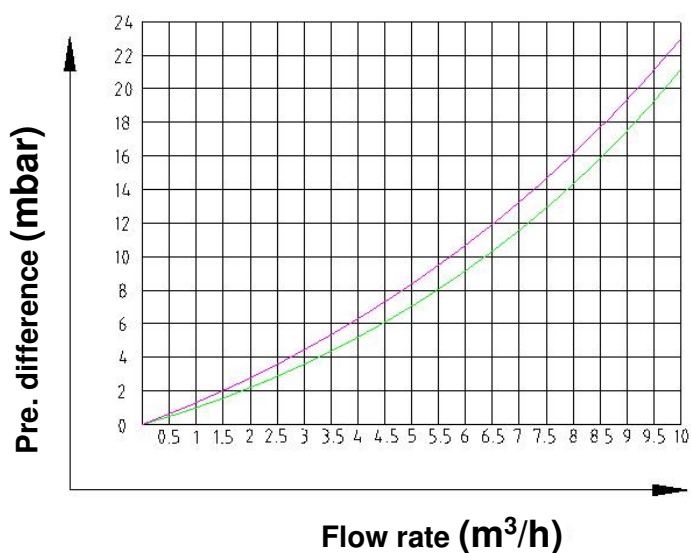
VMO34... classes B + J and B + C



VMO34 – G3/4 Class B + J

VMO34 – G3/4 Class B + C

VMO12... classes B + J and B + C

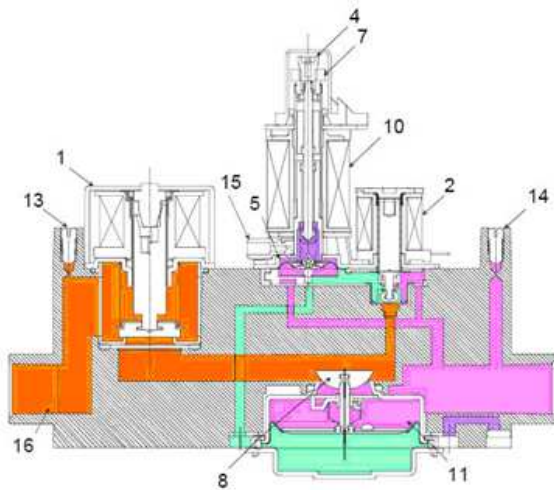


VMO12 – G1/2 Class B + J

VMO12 – G1/2 Class B + C

FUNCTION

Sectional view of VMO...



Legend

1	1st shutoff valve (class B)
2	2nd shutoff valve
3	not available
4	Setting screw minimum outlet pressure
5	Servo membrane
6	not available
7	Setting screw maximum outlet pressure
8	Servo valve
9	not available
10	Modulating coil
11	Main diaphragm
12	not available
13	Inlet pressure
14	Outlet pressure
15	Combustion chamber feedback pressure
16	Filter

WARNING NOTES



To avoid injury to persons, damage to property or the environment, following warning notes must be observed !

Do not open, interfere with or modify the valve!

- All activities (mounting, installation, service work, etc.) must be performed by qualified staff.
- Before performing any wiring changes in the connection area of the **VMO...**, completely isolate the unit from the main supply (all-polar disconnection).
- Ensure protection against electric shock hazard by providing adequate protection for the connection terminals.
- Check to ensure that wiring is in an orderly state.
- Fall or shock can adversely affect the safety functions. Such valves must not be put into operation even if the unit does not exhibit any damage.

MOUNTING NOTES

Outlet pressure of servo pressure regulator – modulating control.



- Check the inlet and outlet pressure using the pressure test points provided.
- Remove the protective cap (yellow)
If the inlet pressure is the normal pressure, then add the maximum Current to the modulating coil.

To set the maximum outlet pressure:

- turn the screw (brass) clockwise to increase the output pressure.
- turn the screw (brass) counterclockwise to decrease the output pressure.
- Ensure that the maximum outlet pressure is correctly adjusted with change of current to the modulating coil.

To set the minimum outlet pressure:

- If the inlet pressure is the normal pressure, disconnect the terminals of the modulating coil (modulating current= 0 mA)
- turn the red screw clockwise to increase the outlet pressure.
 - turn the red screw counterclockwise to decrease the outlet pressure.
 - Ensure that the outlet pressure is correctly adjusted, check minimum and maximum setting several times, then tighten the protective cap for protection.

INSTALLATION NOTES

Main gas connection

- To prevent distortion and/or damage of the external thread, take care not to tighten the pipe fitting too far.
- Ensure that the gasket is properly placed in the right position.
- Ensure that the gas flow is in the same direction as the arrow on the valve body.

Pressure test points

- The valve is provided with an inlet and outlet pressure test point.
- When checking the pressure, undo the screw one half turn and slip the tube over the nipple.

Note: Make sure the screw is retightened after making the test.

Electrical connections

Warning: Switch off power supply before making the electrical connections. Wiring must be in accordance with local regulations. Follow the instructions supplied by the manufacture.

- Install power in accordance with the required pin connection (refer to Function).
- When making connections to the terminals of the valve, use wires and connectors which are suited for temperature up to 105°C.

Checkout and

Installation

- After each adjustment, put the control into operation, run it through several complete cycles and check to ensure that all burner components function correctly.

COMMISSIONING NOTES

- Prior to commissioning the plant, check to ensure wiring is in an orderly state.

SERVICE NOTES

- Each time a unit had been replaced, check to ensure that wiring is in an orderly state.
- Check wiring and all safety functions each time a unit has been replaced.

Important

Follow the appliance manufacturer's service and maintenance instructions.

Gas leakage test

The gas valves are factory-tested for gas leakage. Only the main burner connection needs to be checked for gas leakage.

ACCESSORIES

Ignition Equipment, combined with connecting cable.

The **PEC...** consists of a cable for connection to the safety shutoff valves of the **VMO...** gas valves and electronic **PEC...** ignition equipment for use on gas boilers with signal- or double-pole ignition.

Note Ignition Equipment has two types:

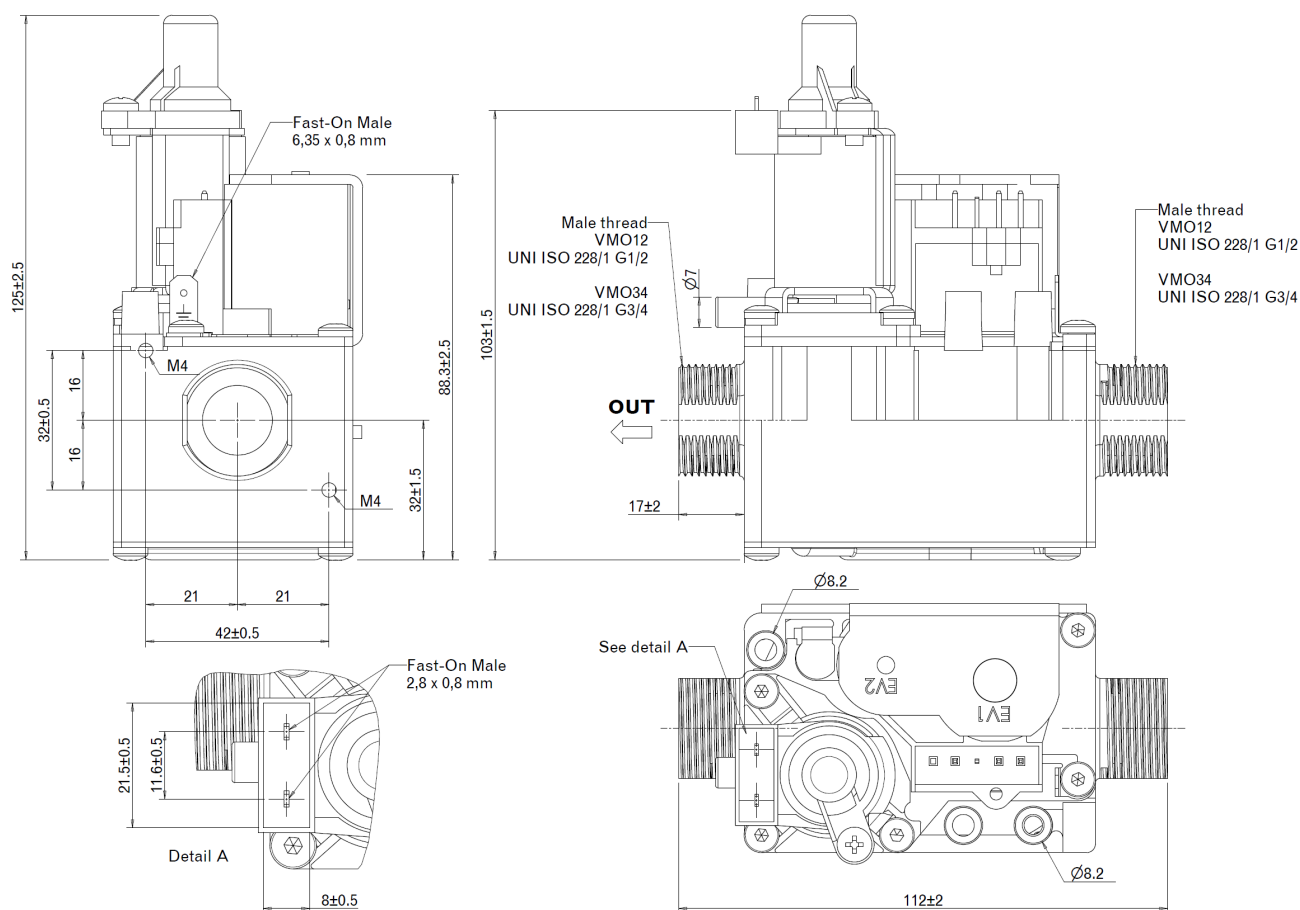
PEC1 is used for gas valve with AC type.

PEC2 is used for gas valve with DC type.



PEC...

DIMENSIONS VMO...



Dimensions in mm

CONSTRUCTION CHARACTERISTICS

Valve type:	VMO With modulating control
Connection:	12 Male thread UNI ISO 228/1 G1/2 34 Male thread UNI ISO 228/1 G3/4
Valve class 1st	B Class safety shutoff B
Valve class 2nd	J Class safety shutoff J C Class safety shutoff C
Supply voltage:	230 Vac 50 Hz 22 Vdc

Example:	VMO34BC	230 Vac 50 Hz
	VMO	Valve with modulating control
	34	Male thread UNI ISO 228/1 G3/4
	B	Class B 1st safety shutoff valve
	C	Class C 2nd safety shutoff valve
	230 Vac 50 Hz	Supply voltage



NOTES FOR PRODUCT DISPOSAL

The device contains electronic components and cannot therefore be disposed of as normal household waste.
For the disposal procedure, please refer to the local rules in force for special waste.

ATTENTION → Company Brahma S.p.A. takes no responsibility for any damage resulting from Customer tampering with the device.

BRAHMA S.p.A.
Via del Pontiere, 31
37045 Legnago (VR) - ITALY
Tel. +39 0442 635211 - Telefax +39 0442 25683
<http://www.brahma.it>

15/01/2025 Subject to amendments without notice