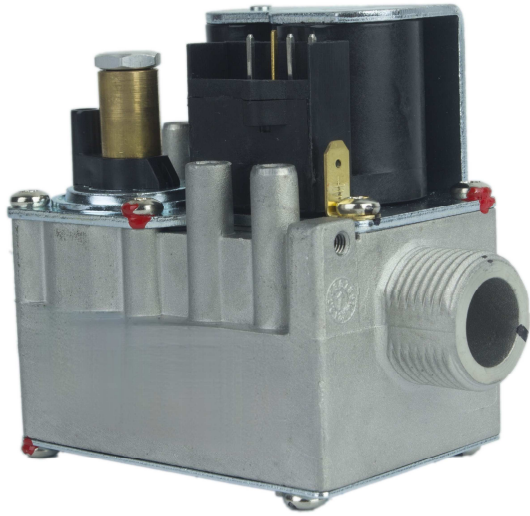


Gas Valves TYPE VPN...

BRAHMA



DESCRIPTION

The combination gas valves type **VPN...** 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. 51DP5186) 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.
- Gas/ Air ratio 1:1.
- 2 shutoff valves.
- Inlet/outlet pressure test points.
- All adjustments are accessible from the top of valve.
- A fine-mesh screen is integrated at the inlet side.
- Setting parallel shift.

TECHNICAL DATA

General unit data:

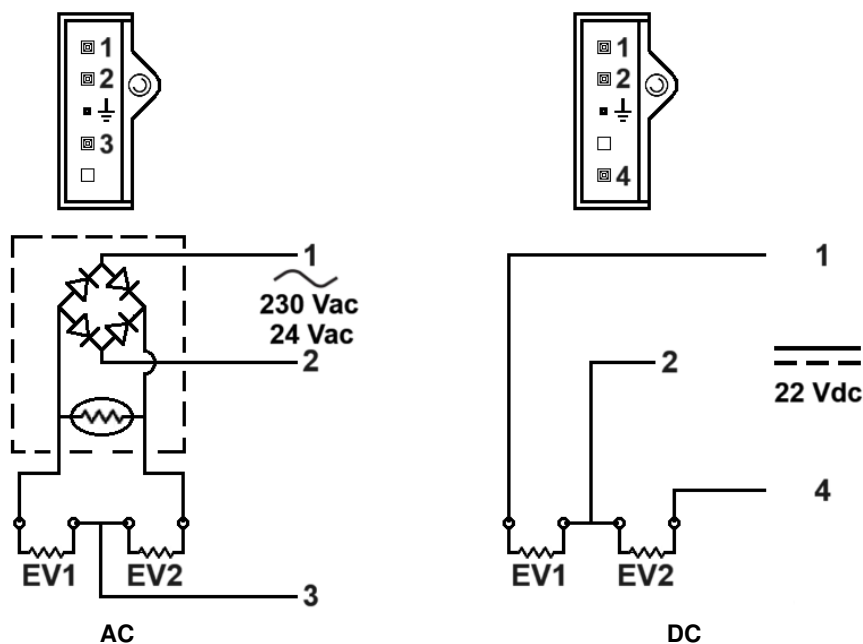
Models	VPN...
Mounting position	vertical or horizontal $\pm 5^\circ$
Type of gas	gas families II and III
Gas inlet pressure	
- VPN version	maximum 60 mbar / 6 kPa
- VPNE version	maximum 57.5 mbar / 5.75 kPa
Operating temperature	- 20 °C ... + 60 °C
Operating voltage tolerance	gas valve operates correctly between 85 % and 110 % of the rated voltage
Degree of protection	IP44 with optional connector
Dimensions	refer to "paragraph Dimensions"
Inlet filter	no. 100 fine mesh
Pipe connection inlet and outlet	refer to "paragraph construction characteristics"
Regulation capacity	minimum 0.31 m³/h air
Outlet pressure range	0.5 ...38 mbar / 0.05 ...3.8 kPa
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
Connection for inlet and outlet pressure	9 mm outside diameter tube
Connection for air pressure supply	6.5 mm outside diameter tube
Air pressure	
- with gas pressure	maximum 15 mbar / 1.5 kPa
- without gas pressure	maximum 8 mbar / 0.8 kPa
Capacity in m³/h air at pressure drop flow rate at pressure drop of 5 mbar / 0.5 kPa	3 m³/h air
The nominal value of the gas / air pressure	ratio is 1:9 ~ 1:30
Zero-position regulatory	range 0 ± 0.3 mbar / 0 ± 0.03 kPa
Weight	approximates 640 g
Design service life	over 10 years (shutdown valve life 500,000 times)

ELECTRICAL CONNECTION

Note

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

Pin connections EV1 and EV2



FLOW RATE DIAGRAM

Capacity in m³/h air at
pressure differential

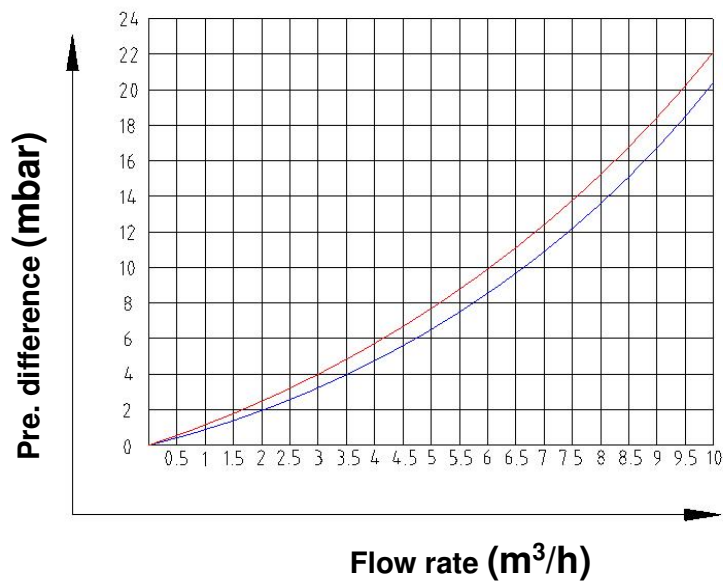
Solenoid valve class

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

B + (J or C)

3 m³/h air

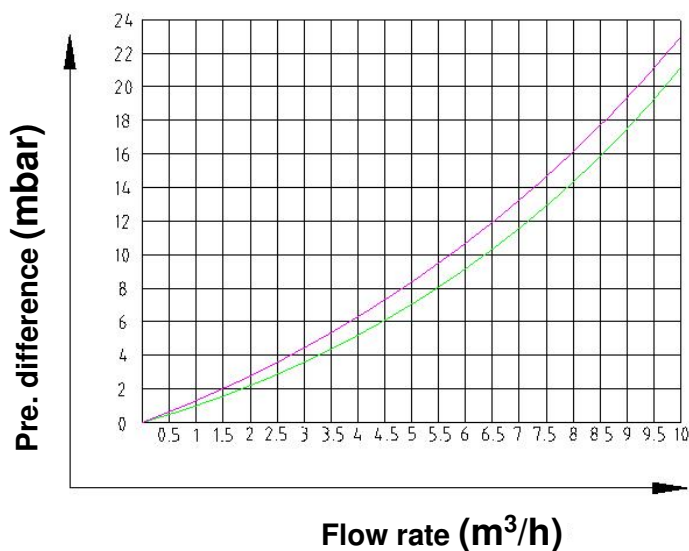
VPN34... classes **B + J** and **B + C**



VPN34 – G3/4 Class **B + J**

VPN34 – G3/4 Class **B + C**

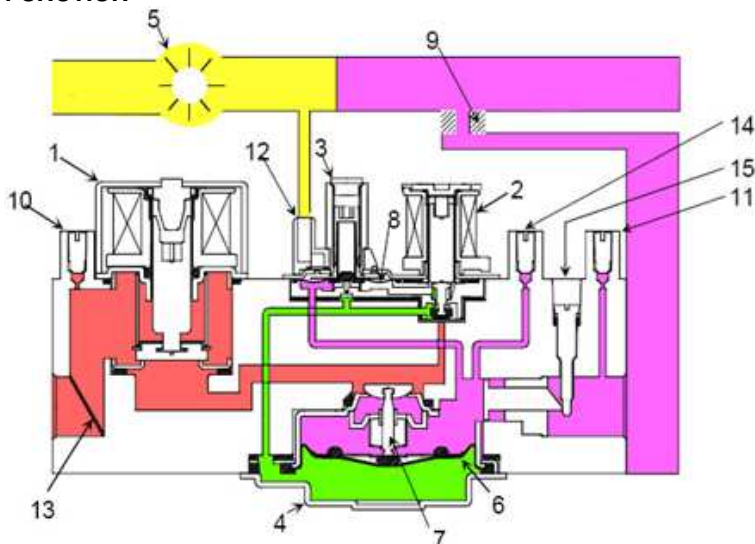
VPN12... classes **B + J** and **B + C**



VPN12 – G1/2 Class **B + J**

VPN12 – G1/2 Class **B + C**

FUNCTION



Legend

- 1 Main safety shutoff valve - class **B**
- 2 Operating valve
- 3 Gas / air ratio regulator
- 4 Gas inlet governor
- 5 Fan for combination air
- 6 Main diaphragm
- 7 2nd shutoff valve (regulator plug) - class **J or C**
- 8 Servo diaphragm
- 9 Gas nozzle
- 10 Inlet pressure
- 11 Outlet pressure
- 12 Connection for air pressure supply
- 13 Filter
- 14 Gas pressure at ratio regulator
- 15 Main gas flow throttle

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 **VPN...**, 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

- Ensure that the relevant national safety regulations are complied with.

Adjustment of parallel shift for gas/ air ratio

1. Check the inlet and outlet pressure using the pressure Test points provided.
2. Remove the protective cap.

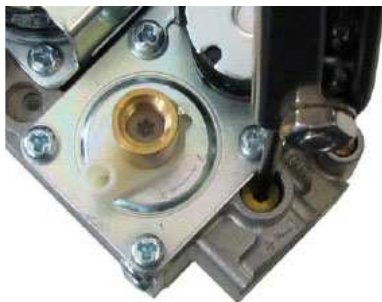


3. Rotate the screw (white colour) clockwise to increase the outlet pressure (10 %).
- Rotate the screw (white colour) counterclockwise to decrease the outlet pressure (10 %);
- Ensure that the outlet pressure is correctly adjusted before replacing the protective cap;



Adjustment of main gas flow throttle

- Rotate the screw (metallic colour) clockwise to increase the gas flow;
- Rotate the screw (metallic colour) counterclockwise to decrease the gas flow;



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.

ACCESSORIES

Ignition Equipment, combined with connecting cable.

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



PEC...

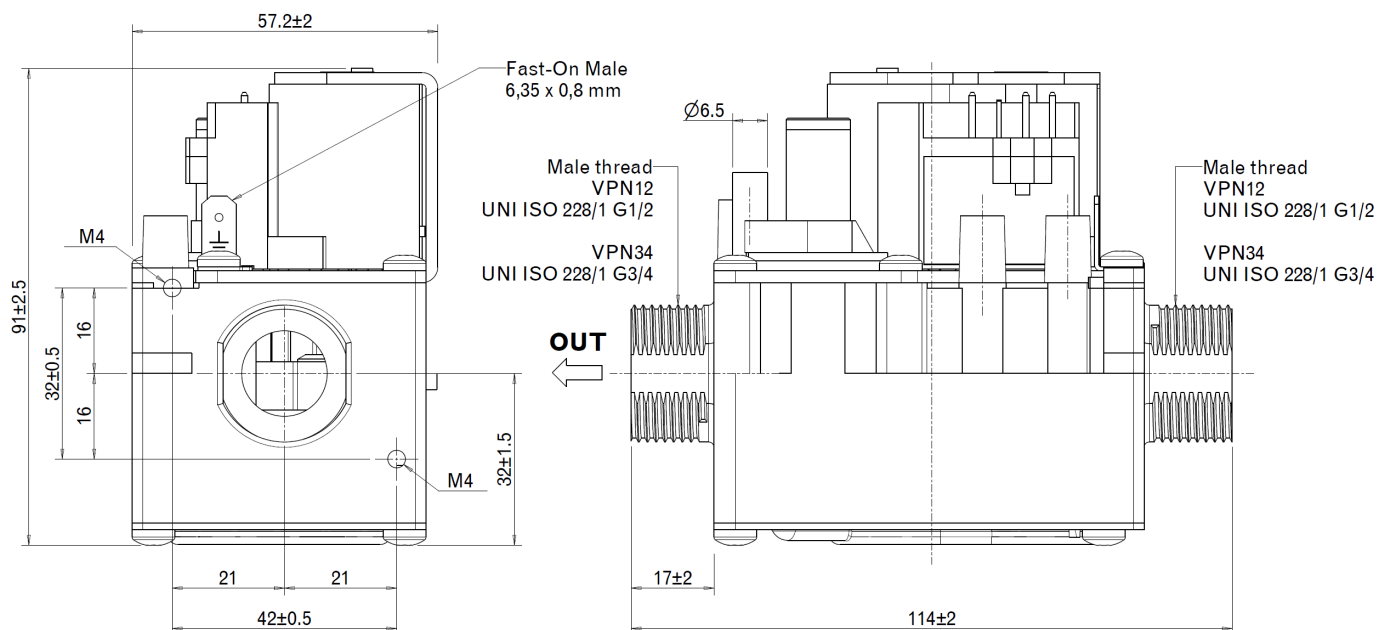
Note Ignition Equipment has two types:

PEC1 is used for gas valve with AC type.

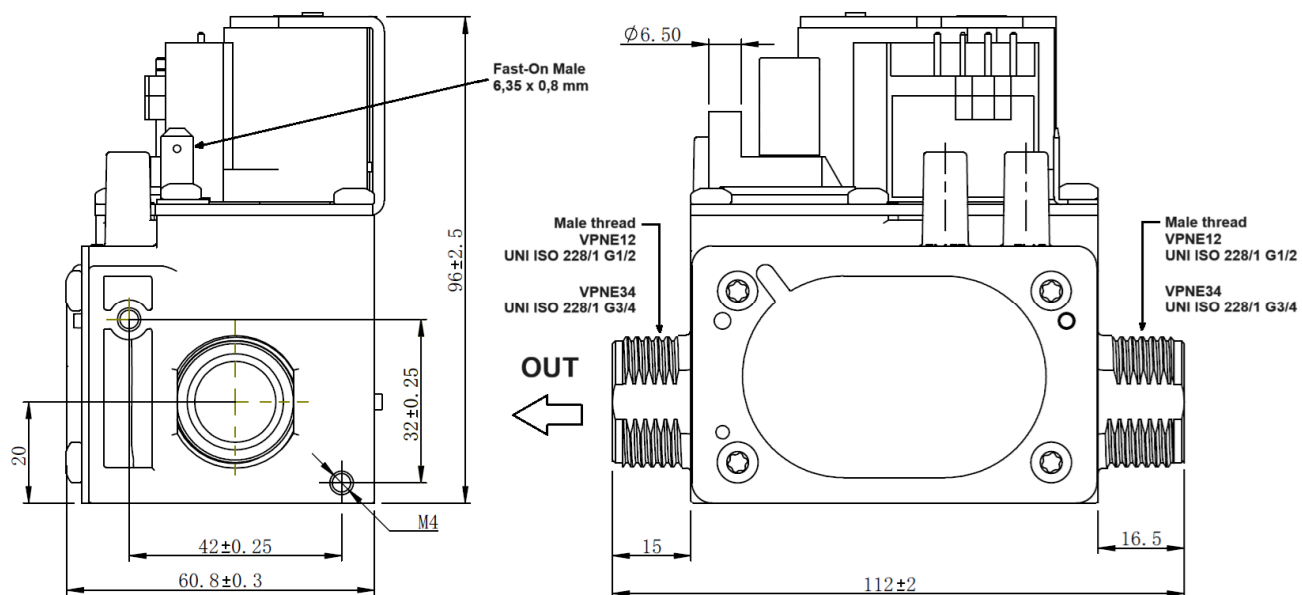
PEC2 is used for gas valve with DC type.

DIMENSIONS

Standard body size



Smaller body size



Dimensions in mm.

CONSTRUCTION CHARACTERISTICS

Valve type:	VPN Condensing Gas Valves
Body size:	Without letter Standard body size E Smaller body size
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 (VPN version only) 24 Vac 50 Hz (VPNE version only)

Example:

VPN34BC	230 Vac 50 Hz
VPN	Condensing Gas Valves (Standard body size)
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 50Hz	Supply voltage
VPNE12BC	24 Vac 50 Hz
VPNE	Condensing Gas Valves (Smaller body size)
12	Male thread UNI ISO 228/1 G1/2
B	Class B 1st safety shutoff valve
C	Class C 2nd safety shutoff valve
24 Vac 50Hz	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.
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