

# WMR (G) / NL

## Residential Regulator

### Applications

The WMR regulator is designed for residential applications in low-pressure service lines. It can be mounted directly on the meter inlet pipe. Its compact angle design is ideal for installation in space-saving meter boxes.

### Description

The WMR regulator is a spring-loaded self operated meter regulator optionally including an under-pressure protection which closes in case of low inlet pressure. It reverts automatically to the open position when conditions return to normal. The regulator is fitted with an inlet strainer. It is fully preset from the factory and ready to be fitted on a gas meter. All adjustment screws are sealed and protected against unauthorised use.

### Operating Principle

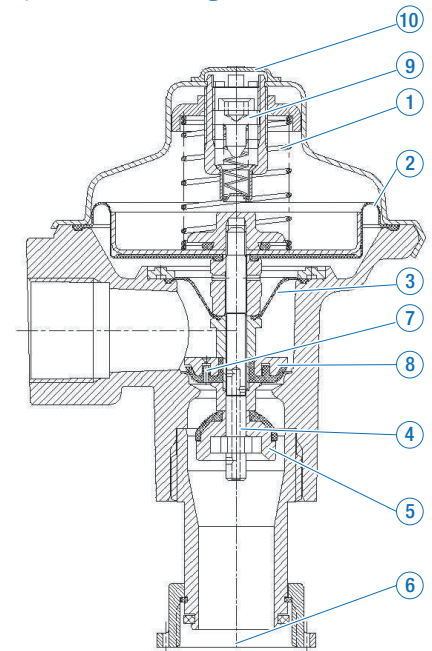
The pressure reduction takes place between the seat and the valve disc (5). The valve disc position is controlled by the diaphragm (2) which senses, through the tube (4), the **outlet pressure** on one side and is loaded by the spring (1) on the other side. Spring load is adjustable by the nut (9). The **seal-cap (10)** prevents unauthorised intervention. The force on the valve disc (5) arising from the pressure differential is **balanced** by equivalent force from the pressure differential on the balancing diaphragm (3).

### Safety

The safety valve (8) closes when the outlet pressure drops below a pre-set value (typically 15 mbar), to provide **gas loss protection**. However the valve plug design allows a limited gas flow to creep to the outlet pipe through the plug hole (7). In case of restored inlet pressure and no gas demand, the outlet pressure builds and re-opens the safety plug **without manual reset**.

A 100 µm **strainer** on the inlet side protects the regulator against dirt.

### Operational Diagram



> WMRG W3/4 Cross-Section



> Pressure Regulator / safety valve WMRG W3/4

- > For residential applications
- > Compact angle design
- > High capacity
- > Ready for connection to gas meter
- > Under-pressure cut-off

### Technical Features

Maximum inlet pressure	400 mbar
Outlet pressure	15 - 35 mbar
Accuracy and lockup pressure	Up to AC 10 / up to SG 20
Operating temperature	- 20°C to + 60°C
Acceptable gases	Natural gas, propane, butane, air, nitrogen
Safety features	Gas loss protection / under-pressure shut-off

### Sizes & Connections

Size	DN 20
Connection	Angle Internal thread ISO 7 - Rp 3/4

**Standard conditions:**

- Absolute pressure of 1.013 bar
- Temperature of 15°C

**Correction factor for non-natural gas applications:**

The flow rates are indicated for a 0.6 specific gravity gas.

To determine the volumetric flow rate for gases other than natural gas, multiply or calculate the values in the capacity tables using the sizing equations with a correction factor.

The table below lists correction factors for some common gases:

Gas type	Specific gravity	Correction factor
Air	1.00	0.77
Butane	2.01	0.55
Carbon dioxide (dry)	1.52	0.63
Carbon monoxide (dry)	0.97	0.79
Natural gas	0.60	1.00
Nitrogen	0.97	0.79
Propane	1.53	0.63
Propane-Air mix	1.20	0.71

*Specific gravity or relative density (air = 1, non-dimensional value)*

Use the following formula to calculate the correction factor for gases not listed above. In the formula, d is the specific gravity of the gas.

$$\text{Correction factor} = \sqrt{\frac{0.6}{d}}$$

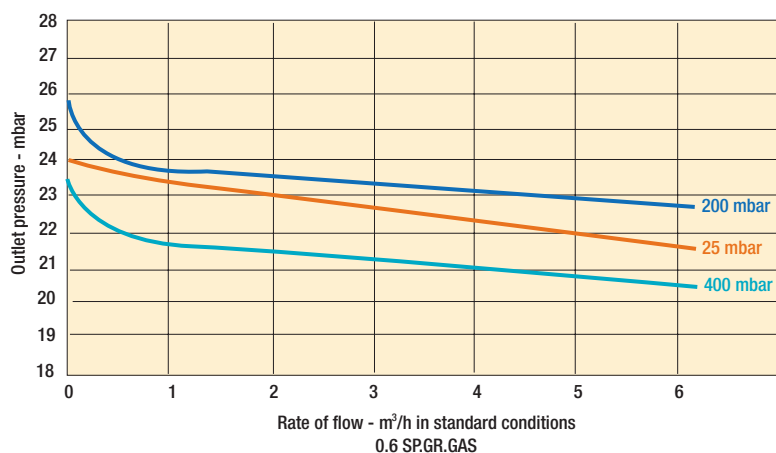
**Materials**

Body	Die cast aluminium with epoxy coating
Actuator	Steel with epoxy coating
Seals	Nitrile
Diaphragms	Nitrile

**Option Designations**

Indoor installation	WMR standard regulator WMRG regulator with gas loss protection WMG gas loss protection valve
Outdoor installation	NL 25 regulator with gas loss protection NL 35 gas loss protection valve

**Typical Performance Curve (24 mbar Set Point)**



**Gas Loss Protection**

Switches standard at 15mbar ± 2.5

**Flow Capacity**

Inlet Pressure	Capacities (m³/h) at Standard Conditions
35 mbar	12.5
200 mbar	12.5
400 mbar	7.5

## Overall Dimensions & Fittings

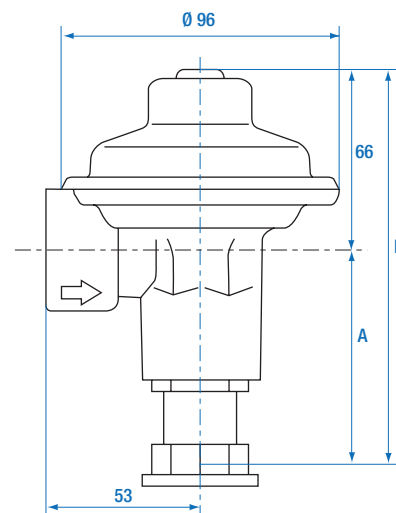
Various options are available for the outlet connection as shown in the table below. Other possibilities can be provided on request.

Type	Inlet Connection	Outlet Connection	A (mm)	B (mm)
W-3/4	Rp 3/4	Gas meter union G 7/8	70	136
W-1	Rp 3/4	Gas meter union G 1	70	136
K-3/4	Rp 3/4	External thread R 3/4	75	141
B-3/4	Rp 3/4	Internal Rp 3/4	53	119

Other inlet connections are possible on request.

## Installation

Gas must flow through the valve body in the same direction as the arrow cast on the body. The WMR regulator is usually installed directly on the inlet hub of a gas meter.



> WMR/NL Pressure Regulator



> WMR/NL Pressure Regulator with seal-cap for outdoor installation



> WMR Pressure Regulator with seal-cap for indoor installation



> WMRG Pressure Regulator

### Information to be specified when ordering:

- Regulator type code
- Minimum and maximum inlet pressures
- Outlet pressure range
- Outlet pressure setting
- Connection type

Technical Data Sheet for ordering available on request

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