

RF1 G4

Residential Diaphragm Gas Meter

Basic Features

- ▶ Compact size
- ▶ 2 dm³ cyclic volume
- ▶ Range G1.6, G2.5 & G4
- ▶ EN1359 & O.I.M.L compliance

Design

- ▶ Robust construction
- ▶ Environment-friendly
- ▶ Long-term accuracy & safety
- ▶ Ready for remote reading & data management

Quality

- ▶ World-class, ISO9001 certified, European Engineering and Manufacturing



▶ RF1 G4 Single Pipe

The RF1 G4 is a compact residential gas meter designed to measure accurately volumes of natural gas, LPG and all non-corrosive gases.

Application

The RF1 G4 long-term metrology stability makes it the obvious choice for demanding, high consumption residential gas markets.

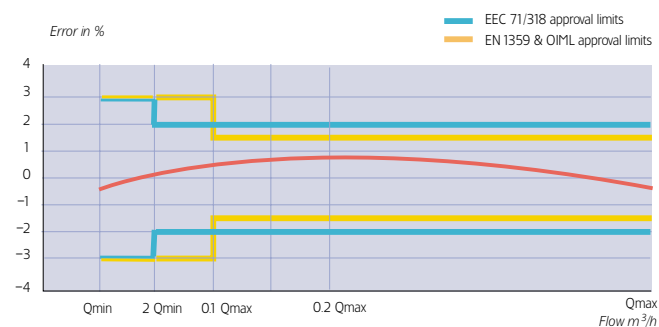
Metrology

The RF1 G4 gas meter meets strict metrological requirements such as O.I.M.L and EN 1359 as well as DIN, PTB, DVGW and KVGW.

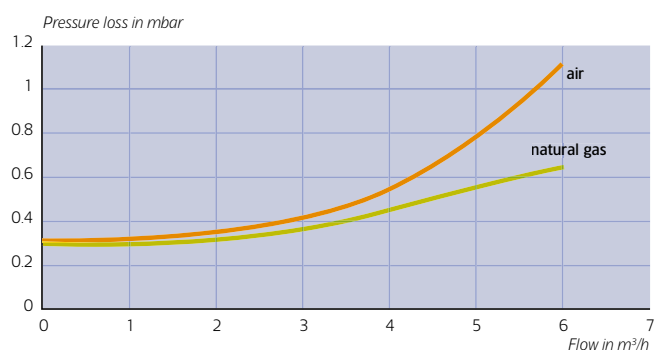
The RF1 G4 is a combination of proven gas meter concepts:

- Reciprocating plastic diaphragm
- Crank-controlled and oscillating slides
- Robust and tight connections between components
- Use of precise, light-weight and noise-free plastic parts

During the preliminary test controls on the sonic nozzle test benches, all meters are tested at Qmin, 0.2 Qmax and Qmax.



Accuracy Curve



Pressure Loss

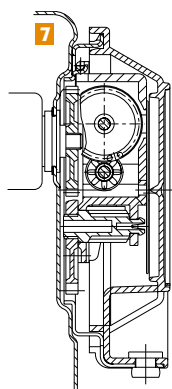
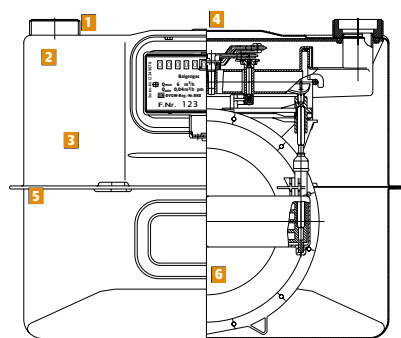
Operating Principle

The RF1 G4 is a positive displacement diaphragm gas meter with a stand-alone twin chamber measuring unit.

The twin chambers are each fitted with a flexible and gas-tight diaphragm which is moved by the differential between the inlet and outlet pressure. The gas enters one side of the diaphragm pan while on the other side it comes out through a

separate port on the valve. When one side is full, the sliding valve moves on to the next position, allowing the gas to fill the empty side. A transmission gear and a magnetic coupling or stuffing box transfer the reciprocating motion to the mechanical retrofittable index.

The measuring unit is housed in a robust gas-tight casing.



► Measuring unit

Construction

► 1 - Connections

- Moulded connections ensure optimum resistance to corrosion
- Material protected against corrosion (500h salt spray test)
- Available in different versions (DIN 3376).

► 2 - Backflow Flap (Option and two-nozzle only)

- Available with and without backflow flap
- Protects against the backflow of gas.

► 3 - Body

- Made from aluminium-coated sheet steel, i.e. protected against corrosion
- Additional coating with solvent-free paint
- Integrated crimp
- Alternatively in sturdy aluminium casing for High Pressure application.

► 4 - Backrun Stop

Prevents the meter from running backwards.

► 5 - Crimped Body

- Crimped version for PN 0.1 – PN 0.2 – PN 0.5.
- No water residues due to integrated crimp
- Safe, DVGW-approved sealing material.



► 6 - Plastic Measuring Unit

- Two-litre measuring unit
- Good recyclability due to the use of the same classes of plastic (where possible)
- Resistance to chemicals and gas
- High gliding properties to protect against the wear of moving parts
- Optimum long-term functioning.

► 7 - DIN 3374 Counter

Protected against fraud:

- by a stable, sheet metal, retention plate
- by its labyrinth shape
- tampering is indicated by markings on the type plate.

- Dirt Resistant

Resistant to fine dust IP 54.

- Legible Counter

- Broad reading angles
- Customer-specific, type plates available, e.g. bar code.

- Pulse Generator (Option)

- Available with a permanent magnet in counter roller
- Can be refitted with a pulse transmitter (read switch).

Quality Assurance

The gas meter – produced in accordance with DIN EN ISO 9001/BS 5750 requirements – guarantees quality, accuracy and long-term stability.

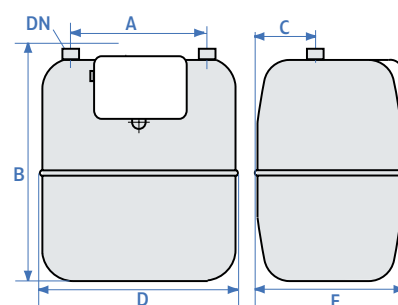
Technical Characteristics

Gas Type	Natural Gas, air, propane, butane, nitrogen and all non-corrosive gases
Cyclic Volume	2 dm ³
Operating Temperature	- 10°C to + 50°C (Option - 20°C to + 50°C)
Storage Temperature	- 40°C to + 70°C
Maximum Operating Pressure	0.5 bar for steel model 1.5 bar for aluminium version (HP)
Measuring Range	Qmin 0.04 m ³ /h Qmax 6 m ³ /h
G1.6	Qmin 0.016 m ³ /h Qmax 2.5 m ³ /h
G2.5	Qmin 0.025 m ³ /h Qmax 4 m ³ /h
G6	Qmin 0.06m ³ /h Qmax 10 m ³ /h
Pulse Generator	Standard 0.1 m ³ / pulse Optional 0.01 m ³ / pulse
Pulse Transmitter	Retrofittable LF-system, 12 Vdc max – 10 mA max. standard 0.1 m ³ /pulse, Different versions: with 1m cable, binder plug or connecting block
Casing Material	Steel or aluminium
Connections Threads	ISO 228-1 standards: G 1" 1/4 A; G 1" 1/2 A; G 1" 3/4" A; GM1"; GM 3/4"; Others on request
Colour	RAL 7035 for steel RAL 9010 for aluminium

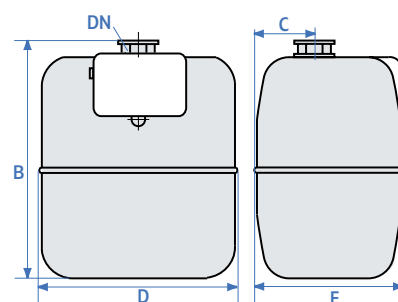
Dimensions

Connection	DN	20	25	25*	25*	25
A (Spacing)	mm	220	250	210	250	152 single-pipe
B	mm	269	263	276	320	274
C	mm	71	71	77	80	71
D	mm	325	325	316	297	233
E	mm	177	177	211	198	177
Weight	kg	2.7	2.7	4.2	4	2.5

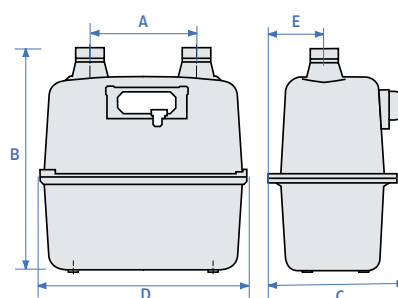
* Version HP (aluminium)



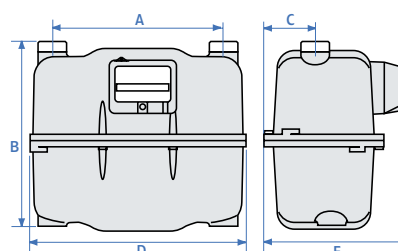
► Two-pipe steel version



► Single-pipe steel version



► Two-pipe 6" HP aluminium version



► Two-pipe 250 HP aluminium version



► RF1 G4 Double-pipe 250 steel version



► RF1 G4 Double-pipe 250 aluminium version

Versions and Options

- ▶ Aluminium HP version
- ▶ Retrofittable pulse transmitter
- ▶ Mechanical temperature corrector (-5°C +35°C standard, other temperatures on request)*.
- ▶ Electronical temperature corrector (-10°C + 40°C)*

* The compensated volume on the indicator refers to a base temperature of 15°C

Environmental Aspects

Actaris is increasingly concerned with environmental issues. In the development of the RF1 G4, environmental aspects have been taken into account:

- use of an environment-friendly coating process (water-based paint)
- lead-free sheet metal
- weight reduction
- low-noise
- plastic parts of the same class as far as possible (recyclable, all plastic parts are marked accordingly)

Ordering Information

- Measuring Range (G1.6, G2.5, G4)
- Maximum working pressure (0.5-1.5bar)
- Meter interaxis and connection type
- Specific marking (serial number, logo, bar code)
- Versions and Options

Actaris Gaszählerbau GmbH

Hardeckstrasse 2

D-76185 Karlsruhe - Germany

For more information, www.actaris.com

tel + 49-721 5981 0

fax + 49-721 5981 189