

# HD-BGZ

## High-Pressure Diaphragm Gas Meters G4 – G6

### Applications

Media: Natural gas, nitrogen, air, chemical gases\*

Branches: Gas industry

Functions: Measurement of very small gas volumes

### Brief information

**General:** High-pressure diaphragm gas meters (HD-BGZ) G4 – G6 are manufactured for operating pressures up to 25 bar and are suitable for the measurement of natural gas, nitrogen, air, and chemical gases in accordance with the DVGW work sheet G260. The main component of these gas meters is the diaphragm gas meter measuring unit, which is installed in a pressure-resistant housing. The cover of the gas meters includes a temperature and pressure tap each as well as a manometer connection. The index head can be turned by 355° and has a built-in reed switch pulser. All high-pressure diaphragm gas meters are equipped with DIN flanges. The magnetic coupling in the HD-BGZ ensures a transfer between the measuring unit and the totalizer, which is both absolutely gastight and smoothly running. Elster-Instromet's high-pressure diaphragm gas meters meet the 97/23/EC directive on pressure devices as well as the regulation of the 79/196/EEC directive applying to electronic components that are used in explosion protection zones.

**Overview:** The G4 and G6 models are high-pressure diaphragm gas meters designed to meet the highest demands with respect to measuring accuracy and protection. The meters are supplied as two-pipe versions for horizontal installation. The measuring unit of the HD-BGZ operates according to the moving-iron principle. The dimensionally stable synthetic diaphragm has the proven stadium-shaped form. The patented slide control and the use of high-grade materials ensure a high quality standard. The system synchronises the operation of the slides with the current flow through the measuring chamber thus enabling minimum slide cross sections and an extremely high accuracy of measurement. Due to the small slides, HD-BGZ is stable in the  $Q_{\min}$  range and is not susceptible to contamination. The measuring unit is adjusted by a patented needle-and-scale system.

**General working principle:** High-pressure diaphragm meters are displacement meters where the flow channels are designed to guarantee optimum flow conditions and a low-pressure loss.

The flange construction enables an easy installation of the meter in the piping. On account of the measuring principle, HD-BGZ does not require any intake and / or discharge lines. In case of dry gases, specific precautionary measures are not necessary. However, pipes for gases, which carry contaminations or are susceptible to the formation of condensate at the point of measurement should be equipped with a condensate trap and a filter upstream of the point of measurement.

\* according to G260; further gases on request

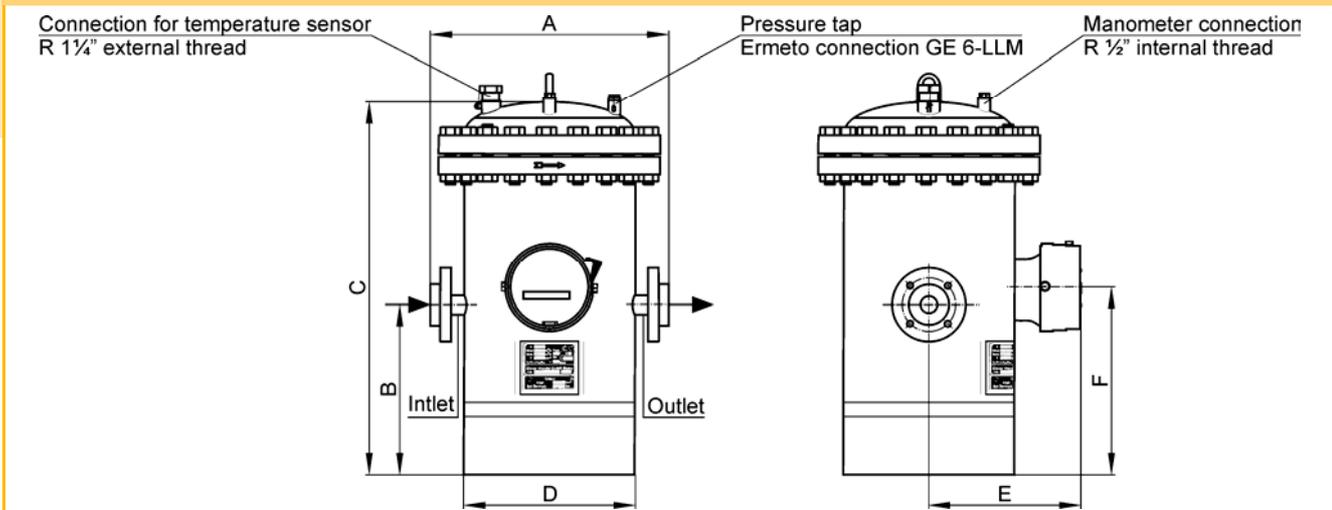


### Main features

- Corrosion-protected design
- Measuring range: 1:160
- Flow rates:  
0.04 – 10 m<sup>3</sup>/h
- Nominal widths:  
DN 20 and DN 25
- Operating pressures:  
PN 16 and PN 25;  
other pressure ratings  
on request
- Low pressure loss
- Reed switch pulser:  
1 m<sup>3</sup> ≈ 100 pulses
- Protection class: IP65
- Maintenance-free  
measurement without  
any wear and tear
- Synthetic diaphragm
- Long service life

# HD-BGZ: High-Pressure Diaphragm Gas Meters G4 – G6

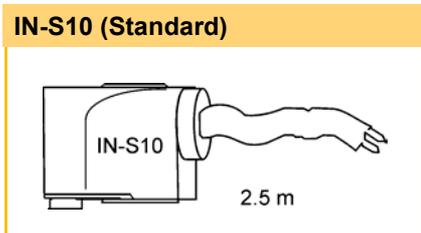
## Technical data



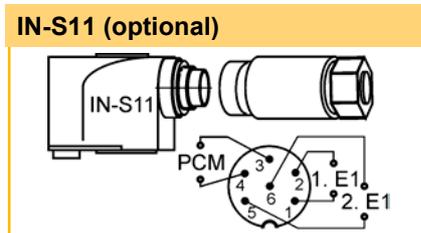
	Measuring range [m <sup>3</sup> /h]	Volume chamber	1 tr. = m <sup>3</sup> *	Connection DN	Operating pressure PN	DIN	Dimensions [mm]					
							A	B	C	D	E	F
HD-BGZ G4	0.04 - 6	2 l	0.01	20	16	2656	340	290	540	245	237	320
			0.01	20	25	2656	340	290	540	245	237	320
HD-BGZ G6	0.06 - 10	3.5 l	0.01	25	16	2656	400	413	611	300	272	350
			0.01	25	25	2656	400	413	630	300	272	350
Range of application	Medium	Natural gas, nitrogen, air and chemical gases to G260										
	Gas temperature	-20 to +50 °C										
	Ambient temperature	-20 to +60 °C										
	Accuracy $Q_{min} - 0.2 Q_{max}$	±3 % of measured value										
Output	Pulse output	100 pulses per m <sup>3</sup>										
Protection class	IP 65											
Weight	kg	G4 PN 16 = 38 kg	G4 PN 25 = 42 kg	G 6 PN 16 = 55 kg	G 6 PN 25 = 60 kg							

\* Specific ranges of measurement on request

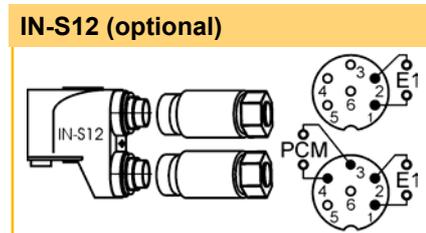
## LF-Pulser E1



IN-S10: wiring colours  
 1. E1: white-brown  
 2. E1: green-yellow  
 PCM: grey-pink  
 PCM monitoring against manipulation



View on soldering side of plug socket including 1 each 6-pin female plug socket PG 9 DIN 45322



View on soldering side of plug socket including 2 each 6-pin female plug sockets PG 9 DIN 45322

LF-pulser: voltage:  $U_{max} = 24 V$ ; current:  $I_{max} = 50 mA$ ; switching capacity:  $P_{max} = 0.25 W$  resistor:  $R_i = 100 \Omega \pm 20\%$

## Your contacts

Elster-Instromet GmbH  
 Steinern Str. 19 - 21  
 55252 Mainz-Kastel, Germany  
 Tel. +49 6134 605 0  
 Fax +49 6134 605 223  
 www.elster-instromet.com  
 info@elster-instromet.com

Elster-Instromet N.V.  
 Rijkmakerlaan 9  
 2910 Essen, Belgium  
 Tel. +32 3 670 0700  
 Fax +32 3 667 6940

American Meter Company  
 132 Welsh Road, Suite 140  
 Horsham, PA 19044, USA  
 Tel. +12 15 830 1800  
 Fax +12 15 830 1890  
 www.americanmeter.com

For your local contact refer to  
 www.elster-instromet.com