

Rotary Gas Meter

Applications

RABO is suitable for measuring of natural gas and various filtered, non-corrosive gases.

Brief information

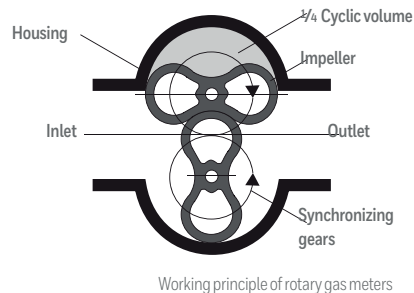
General

Honeywell Elster rotary gas meters are characterized by high measuring ranges and compact dimensions. They ensure high accuracy, even if the gas flow is low or irregular. RABO combines tried-and-tested product features of previous rotary gas meters from Elster-Instromet and is a convincing product because it offers a large range of future-oriented features.

Operating Principle

Rotary gas meters are volume-measuring devices for gaseous media which operate according to the positive displacement principle. Due to their volumetric measuring principle, their functioning is not influenced by the installation and they are therefore ideal for

compact measuring systems without an inlet section. They record the gas volume under operating conditions and are approved for custody transfer applications. Electronic volume conversion devices can be used in order to convert the volume.



Measurement Procedure

Two rotating impellers which look like a figure of eight (8) when viewed in cross-section are mounted in a single housing with one inlet and one outlet. The two impellers are coupled together using synchronizing gears. When gas flows, the impellers rotate without touching one another and propel a gas volume to the outlet which is defined by the cyclic volume. One rotation of the system thus corresponds to a defined gas volume. The revolutions of the impellers are transferred to the mechanical index via a reducing gear and a magnetic coupler. The rotary gas meter is adjusted using a pair of gears in the index.



FEATURES & BENEFITS

- Meter sizes G16 to G400
- Flow rates from 0.6 to 650 m³/h
- Nominal sizes DN 32 to DN 150
- Pressure ratings PN 10/16 and Class 150 in accordance with ASME B 16.5
- Temperature range -25°C to +70°C
- Measuring ranges up to 1:160
- Aluminium or spheroidal cast iron housing
- Compact dimensions
- 5-year maintenance interval
- Index can be rotated for horizontal and vertical installation
- Optional index solutions (e.g. Absolute ENCODER S1D)
- Approvals pursuant to MID/PED/ATEX Directives

Technical Specifications

Technical Data	
Gas Temperature	-25°C to +70°C
Ambient Temperature	-25°C to +70°C
Storage Temperature	-40°C to +70°C
Operating Pressure	Max. 20 bar
Protection Class	IP 67 (suitable for outdoor installation)
Housing	Aluminium or spheroidal cast iron
Mid Approval	DE-12-MI002-PTB001 (PTB)
Ped Approval	CE-0085CNO022 (DVGW Cert GmbH)
Atex Approval	Ex-zone 1
Medium	Natural gas and various filtered, non-corrosive gases
Metrological Accuracy Class	AC 1,0
Reproducibility	< 0.1%
Indexes	S1V (standard), S1 45° readout (optional, no extra cost), Optional at extra cost: Absolute ENCODER S1D, double index S1D, double index MI-2D
Pulse Outputs	<ul style="list-style-type: none"> LF pulser IN-Sx (reed contact, standard) in accordance with EC type-examination certificate TÜV Q3 ATEX 2123 LF pulser IN-W11 (Wiegand sensor, optional) in accordance with EC type-examination certificate TÜV 01 ATEX 1776 HF pulser A1K (Namur sensor, optional) in accordance with EC type-examination certificate PTB 99 ATEX 2219X

Performance Data (Measuring Ranges, Pressure Loss, Pulse Value)																	
DN (mm)	Type	Q _{max} (m ³ /h)	Q _{min}								V (dm ³)	NF (Imp/m ³)	HF (Imp/m ³)	HF (hz) at Q _{max}	Δp (air)* (mbar) at Q _{max}	Δp (natural gas)* (mbar) at Q _{max}	
			1:160	1:130	1:100	1:80	1:65	1:50	1:30	1:20							
32	G16	25	-	-	-	-	-	-	0.8	1.3	0.87	10	11460	80	0.9	0.6	
32	G25	40	-	-	-	-	0.6	0.8	1.3	2	0.87	10	11460	127	2.3	1.5	
32	G40	65	-	-	0.6	0.8	1	1.3	2	3	0.87	10	11460	207	5.9	3.8	
32	G65	100	0.6	0.8	1	1.3	1.6	2	3	5	0.87	10	11460	318	14.1	9.1	
40	G16	25	-	-	-	-	-	-	0.8	1.3	0.87	10	11460	80	0.3	0.2	
40	G25	40	-	-	-	-	0.6	0.8	1.3	2	0.87	10	11460	127	0.9	0.6	
40	G40	65	-	-	0.6	0.8	1	1.3	2	3	0.87	10	11460	207	2.3	1.5	
40	G65	100	0.6	0.8	1	1.3	1.6	2	3	5	0.87	10	11460	318	5.4	3.5	
50	G16	25	-	-	-	-	-	-	0.8	1.3	0.87	10	11460	80	0.2	0.1	
50	G25	40	-	-	-	-	0.6	0.8	1.3	2	0.87	10	11460	127	0.4	0.3	
50	G40	65	-	-	0.6	0.8	1	1.3	2	3	0.87	10	11460	207	1.0	0.6	
50	G65	100	0.6	0.8	1	1.3	1.6	2	3	5	0.87	10	11460	318	2.3	1.5	
50	G100	160	1	1.3	1.6	2	2.5	3	5	8	1.61	1	6210	276	4.4	2.8	
80	G100	160	1	1.3	1.6	2	2.5	3	5	8	1.61	1	6210	276	2.4	1.5	
80	G160	250	1.6	2	2.5	3	4	5	8	13	2.99	1	3276	228	2.0	1.3	
80	G250	400	2.5	3	4	5	6	8	13	20	3.7	1	2653	295	3.8	2.4	
100	G160	250	1.6	2	2.5	3	4	5	8	13	2.99	1	3276	228	1.8	1.2	
100	G250	400	2.5	3	4	5	6	8	13	20	3.7	1	2653	295	4.3	2.8	
100	G400	650	4	5	6.5	8	10	13	22	32	4.5	1	2195	396	11.7	7.7	
150	G400	650	4	5	6.5	8	10	13	22	32	4.5	1	2195	396	9.6	6.3	

*Typical values, depending on test rig conditions

Error Limits
Maximum permissible error limits in accordance with EN 12480
±1.0% for Q _t * to Q _{max}
±2.0% for Q _{min} to Q _t

*Q_t dependent on measuring range (example: 0.05 Q_{max} at >1:50)

