Quantometer QA / QAe

Flow meters
with mechanical (QA) or
electronic index (QAe)

Applications

Media: Methane, town gas, natural gas, air, inert gases
Branches: Industry, trade, chemicals, food-stuffs, ...*
Functions: Metering, control, regulation, registration ...,**

Brief information

Elster-Instromet quantometers are highly reliable gas meters, which can be used throughout the entire field of flow metering and which fulfil all of the varying requirements of industrial metering. The QA and QAe quantometers work on the principle of the rotating turbine wheel. The rotation of the turbine wheel is proportional to the volume of the flowing gas and this volume (V_b/m^3) is registered by either a mechanical (QA) or an electronic (QAe) totalizer.
Self-lubricating bearings ensure that the quantometers operate completely without any maintenance.
On account of the proven metering principle and the quality of the materials in use, the quantometers meet the highest standards. By using the quantometers in production and heating processes, it is possible to control the flow of gas precisely and therefore optimise the use of energy.
The QA quantometers are fitted with a 7-digit mechanical totalizer which registers the volume V_b in cubic meters (m^3).
The QAe quantometers are equipped with an electronic totalizer. Besides the normal registration of the total volume (V_b, m^3), the QAe can also display the flow rate (Q_b, m^3/h), the volume of a key-day (m^3 / V_b on the key-day) and the date of the key-day. This means that the user can easily calculate the gas consumption for any specific part of the building or for any cost centre at any chosen time.

Installation tips: The Elster-Instromet quantometers can be installed easily in the straight pipeline. The inlet pipe should be 3 x DN, the outlet pipe should be 2 x DN in nominal size of the meter. A filter must be connected in the inlet pipe, provided that the gas flow is not free of foreign bodies and dust. The position of the installation can be selected as required.
The flow direction is clearly marked by an arrow on the meter housing.

Interfaces/Outputs:

- QA: E1 Reed switch
- QA/QAe: E 200 Namur output (in accordance with DIN EN 50227)
- QAe: Optical interface in accordance with EN 1434-3 (ZVEI- compatible)
- QAe: M-BUS interface in accordance with EN 1434-3 (Bus voltage approx. 40 V DC)
- QAe: L-BUS interface (Bus voltage approx. 3.6 V DC, open collector output)

* ... district heating, power plants, petrochemicals, station building
** ... monitoring, evaluation

Main features

- Compact gas meter
- Meter sizes QA/e 10 – QA/e 1000
- Flow ranges 1.6 –1600 m^3/h
- Measuring range up to 1:20, at higher pressures up to 1:50
- Nominal width DN 25 – DN 150
- Aluminium housing
- Temperature ranges
  QA: -10 °C to +60 °C
  QAe: 0 °C to +50 °C
- Maintenance-free
- QA: protection class IP52
  7-digit mechanical index
- QAe: protection class IP44
  7-digit LCD display showing:
  - actual volume (basic state)
  - high-resolution volume (digits after the point)
  - current flow rate
  - key-day values / key-day date
  - back-flow volume
- Metering accuracy in wide ranges independent of physical characteristics of the gas such as density, temperature and pressure
- DVGW approved

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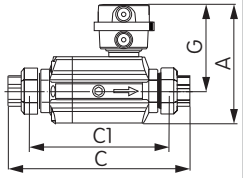
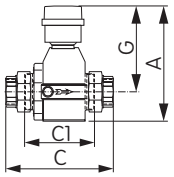
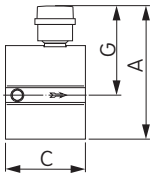
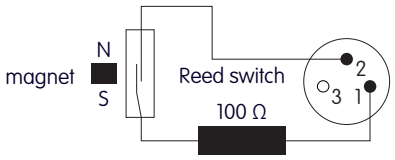
Technical data

		QA/e 10 - QA/e 40 G I	QA/e 40 GF I	QA/e 65 - QA/e 1000 Z I
				
Medium/ maximum pressure	Combustible gases	4 bar	4 bar	16 bar (PN 16), 20 bar (Class 150)
	Air, inert gases	16 bar	16 bar	16 bar (PN 16), 20 bar (Class 150)
Metering technology	Measuring range m³/h	QA/e 10 DN 25: 1.6 – 16 QA/e 16 DN 25: 2 – 25 QA/e 25 DN 25: 2.5 – 40 QA/e 40 DN 25: 3.3 – 65	QA/e 40 DN 40: 5 – 65	QA/e 65 DN 50: 6 – 100 QA/e 100 DN 80: 10 – 160 QA/e 160 DN 80: 13 – 250 QA/e 250 DN 80: 20 – 400 QA/e 250 DN 100: 20 – 400 QA/e 400 DN 100: 32 – 650 QA/e 400 DN 150: 32 – 650 QA/e 650 DN 150: 50 – 1000 QA/e 1000DN 150: 80 – 1600
	Max. error 0.1 Q_{max} – 0.2 Q_{max}	± 3 % (exception: QA/QAe 10 ±6 %)		
	Max. error 0.2 Q_{max} – Q_{max}	± 1.5 %		
Housing	Material	Aluminium		
	Diameter DN mm	25	40	50 / 80 / 100 / 150
	DN "	1"	1½"	2" / 3" / 4" / 6"
	Dimensions A * mm	159	202	202 / 225 / 245 / 300
	C mm	240	190	60 / 120 / 150 / 180
	C1 mm	185	126.5	- / - / - / -
	G * mm	115	150	150 / 150 / 165 / 190
	Weight (net) kg	2.1	2.5	1.6 / 4.5 / 6.5 / 11.2
	Weight (gross)** kg	2.6	3.4	2.7 / 7.5 / 10.0 / 18.0
	Assembly	In pipes with screw connections according to DIN ISO 228 1" internal thread	In pipes with screw connections according to DIN ISO 228 1 ½" internal thread	Installation between flanges PN 10/16 (DIN EN 1092-1) or Class 150
Outputs/ puls values	LF-type E1 Reed switch	10 imp/m³	1 imp/m³	1 imp/m³
	MF type E200 inductive proximity switch	500 imp/m³	250 imp/m³	QA/e 65: 250 imp/m³ QA/e 100 – 1000: 187.5 imp/m³

* QAe +25mm
** incl. bolts, nuts and packaging materials

Pulsers

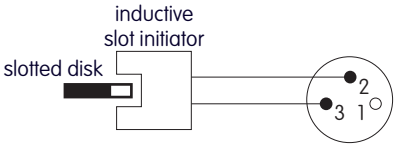
QA
LF pulser E1



E1 pin allotment
3 pin / DIN 41524

Voltage: U_{max} = 24 V
Current: I_{max} = 50 mA
Capacity: P_{max} = 0,25 W
Resistance: R_v = 100 Ω ± 20%

QA/QAe
MF pulser E200



E200 pin allotment
3 pin / DIN 41524

Characteristics of switch version
according to DIN EN 50227 (Namur):

Standard voltage: U_n = 8 V DC
Internal resistance: R_i = 1 k Ω
Current consumption: active area free I ≥ 2,1 mA
active area covered I ≤ 1,2 mA

Your contacts

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