Quantometer QA / QAe



Turbine Flow Meters for non-fiscal applications with mechanical (QA) or electronic meter index (QAe)

The gas flowing through the meter sets a turbine wheel in motion. The number of revolutions of the wheel is proportional to the volume that has passed through the meter. The volume is registered by either a mechanical (QA) or an electronic (QAe) totalizer in the meter index.
Self-lubricating bearings ensure that the meter operates without the need for any regular maintenance. The metering principle is proven over decades also in fiscal applications. Design, materials and assembly process meet the highest standards.
The measurement principle combined with the high quality of the materials used, ensure the answer to the highest industrial requirements.
In production and heating processes, the quantometers guarantee precise control and optimization of energy. QA quantometers are equipped with a mechanical 7-position numerator that records the amount of Vb gas in m^3. QAe quantometers are equipped with an electronic numerator. In addition to the recording of the total volume (Vb / m^3) the QAe recorded the display of the instantaneous flow rate (Qb / m^3 / h) and of the volume at a set date.
The user can therefore easily calculate the production costs.

- Compact Dimensions
- Meter sizes QA/e 10 – QA/e 1000
- Flow ranges 1.6 –1600 m^3/h
- Measuring range up to 1:20
- Meter size DN 25 to DN 150
- Meter body material: Aluminum
- Temperature range:
  QA: -10°C to +60°C
  QAe: 0°C to +50°C
- Maintenance-free
- Protection class IP52 (QA)
  Protection class IP44 (QAe)
- Index: 7-digits
- QAe LCD display showing:
  - totalized actual volume
  - current flow rate
  - main daily values
  - back-flow volume
- High metering accuracy
- Approvals: DVGW, ATEX, PED
- Instant flow rate
  - High resolution volume (decimals)
  - Measurement ratio up to 1:20
  - Overload up to 160% of the maximum flow rate
  - Within a wide measuring range, precision is independent of the physical characteristics of the gas such as density, pressure and temperature

Applications

Medium: Natural gas, Air, Methane, Nitrogen, other non-corrosive gases

Verticals: Heavy and Light Industry, Petrochemicals, Steel, Power, Minerals, Heating

Function: In-plant Allocation Metering, Volume Input for Controls, Consumption Monitoring for Burners, Boilers, Furnaces etc.

Installation

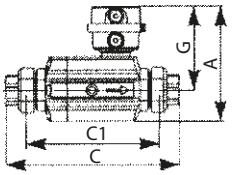
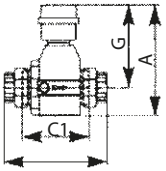
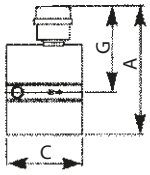
The Elster quantometers install very easily as they can be mounted in any position (horizontal, vertical, etc.)
The flow direction is indicated on the body of the meter with an arrow

Interface / Outputs

QA reed contact E1
QA / QAe Namur E 200 output (according to DIN EN50227)
QAe: optical interface (EN 1434 - ZVEI compatible)
M-Bus interface (EN 14349)

* Non-aggressive gases or inert

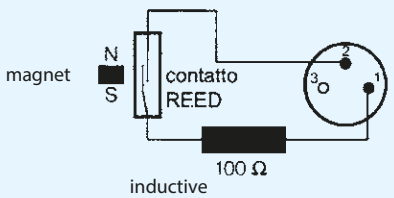
Technical data

			QA/e 10 - QA/e 40 GI	QA/e 40 GF I	QA/e 65 - QA/e 1000 Z I
					
	Combustible gases		4 bar	4 bar	20 bar (QAe 4 bar)
Pressure medium / maximum	Air, inert and non-corrosive gases		16 bar	16 bar	
Measurement technique	flow m^3/h		QA/e 10 DN25: 1.6 - 16 QA/e 16 DN25: 2 - 25 QA/e 25 DN25: 2.5 - 40 QA/e 40 DN25: 3.3 - 65	QA/e 40 DN40: 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 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 1000 DN 150 : 80 -1600
	Precision $0.1\ Q_{min} - 0.2\ Q_{max}$		≤< 1% (3 % v. MW)		
	Precision $0.2\ Q_{max} - Q_{max}$		≤< 1% (1,5 % v. MW)		
	Material		Alluminio		
	Diameter	DN mm	25	40	50 80 100 150
		-	1"	1 1/2"	2" 3" 4" 6"
	Dimensions	A * mm	159	202	202 225 245 300
		C mm	240	190	60 120 150 180
Custody		C1 mm	185	126,5	- - - -
		G * mm	115	150	150 150 165 190
	Weight	Kg	1	2.2	1.4 5.3 6.8 11.4
	Mounting		In pipes with second threaded connections DIN-ISO 228 internal thread 1"	In pipes with second threaded connections DIN-ISO 228 internal thread 1 1/2"	Between two flanges PN 10/16 (DIN EN1092-1 o ANSI 150)
	LF type E1 REED switch		10 imp/m^3	1 imp/m^3	1 imp/m^3
Pulse outputs / values	MF type E200 Inductive prox switch		500 imp/m^3 **	250 imp/m^3	QA 65 : 250 imp/m^3 QA 100 - 650 : 187.5 imp/m^3 QA/e 100 - 1000: 187.5 imp/m^3

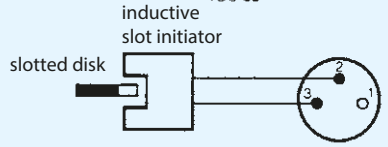
* QAe + 25mm ** Dal 01/01/2002

Pulsers

QA LF pulser E1



QA/QAe
MF pulser E200



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

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

Standard voltage: U_v = 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