Honeywell | Connected Industrial

Elster® Quantometer QA / QAe

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

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.

Brief information

Honeywell Elster Quantometers are highly reliable turbine gas meters, which are used in many industrial applications to determine the actual flow rate as well as consumption over a period of time fulfilling requirements of industrial, non-fiscal metering. For fiscal applications Honeywell offers fiscally approved meters e.g. TRZ2 turbine meter and the RABO rotary gas meter.

Operating principle

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 need for metering

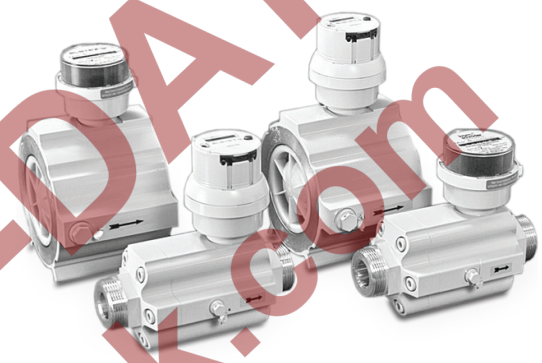
Energy efficiency is a key metric in almost every company today. Quantometers are used to meter the consumption of boilers, heaters, furnaces and other major consumers in any industrial or commercial plant. By knowing the exact consumption data production and heating processes can be controlled more precisely and overall energy efficiency can be improved significantly. Data from quantometers is also used for internal cost allocation between cost centers.

Installation requirements

Honeywell recommends 3DN of straight upstream piping for accurate metering as well as 2DN outlet in the same nominal size as the meter.
A filter must be installed upstream of the meter if particles e.g. rust are expected in the gas flow to ensure long lifetime of the instrument.
The meters can be installed in horizontal or vertical position. The exact flow direction is defined during the ordering process.

Interfaces/Outputs:

QA:	QAe:
Reed Switch (E1)	Namur (E200) acc. DIN EN 50227
Namur (E200) acc. DIN EN 50227	Optical Interface (ZVEI- compatible) acc. EN 1434-3
	M-BUS interface (40V DC) acc. EN 1434-3
	L-BUS interface (3.6V DC, open collector)



FEATURES & BENEFITS

- 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 DN25 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), 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

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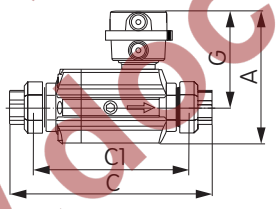
Elster Quantometer QA / QAe Technical Specifications

Technical data

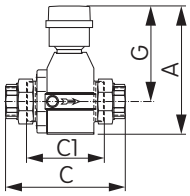
			Max. working pressure		Accuracy		Pulse values [imp/m³]	
Nominal Size	Type	Measuring range [m³/h]	Air, inert gases	Flammable gases e.g. natural gas	20% to 100% Qmax	10% to 20% of Qmax	LF output (E1)	MF output (E200)
DN 25 / 1"	10	1.6 - 16	16 bar	4 bar	+/-1.5%	+/-6%	10	500
DN 25 / 1"	16	2 - 25				+/-3%		
DN 25 / 1"	25	2.5 - 40						
DN 25 / 1"	40	3.3 - 65						
DN 40 / 1.5"	40	5 - 65						250
DN 50 / 2"	65	6 - 100	16 bar (PN16) 20 bar (ANSI 150)				1	187.5
DN 80 / 3"	100	10 - 160						
DN 80 / 3"	160	13 - 250						
DN 80 / 3"	250	20 - 400						
DN 100 / 4"	250	20 - 400						
DN 100 / 4"	400	32 - 650						
DN 150 / 6"	400	32 - 650						
DN 150 / 6"	650	50 - 1000						
DN 150 / 6"	1000	80 - 1600						

Weights and Dimensions

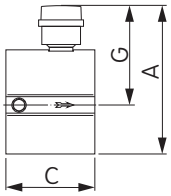
Nominal Size	Dimensions in [mm]				Weight in [kg]	
	A	C	C1	G	net	incl. Bolts, nuts, packing
DN 25 / 1"	159	240	185	115	2.1	2.6
DN 40 / 1.5"	202	190	126.5	150	2.5	3.4
DN 50 / 2"	202	60	-	150	1.6	2.7
DN 80 / 3"	225	120	-	150	4.5	7.5
DN 100 / 4"	245	150	-	165	6.5	10.0
DN 150 / 6"	300	180	-	190	11.2	18.0



DN 25



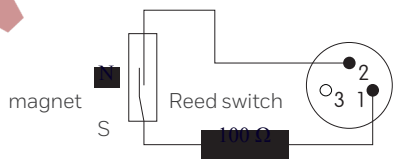
DN 40



DN 50 - 150

Pulsers

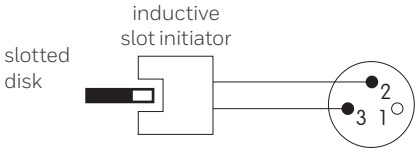
QA LF pulser E1



E1 pin allotment 3 pin / DIN 41524

Voltage: Umax = 24 V
Current: Imax = 50 mA
Capacity: Pmax = 0,25 W
Resistance: Rv = 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: Un = 8 V DC

Internal resistance: Ri = 1 kΩ

Current consumption:
active area free I ≥ 2,1 mA
active area covered I ≤ 1,2 mA

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BR-16-08-US | 11/16

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