

QUANTOMETER QA/QAe

*Flow meters with mechanical (QA)
or electronic totalizers (QAe)*



Applications

- **Media:**
Methane, city gas, natural gas, non-aggressive gases, inert gases, oxygen
- **Branches:**
Industry, trade, chemicals, food-stuffs, district heating, power plants, petrochemicals, station building
- **Functions:**
Metering, control, regulation, registration, monitoring, evaluation

Brief information:

Elster Quantometers are highly reliable gas meters which can be used throughout the entire field of flow metering and which fulfill 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 optimize 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 center at any chosen time.

Installation tips

The Elster quantometers can be installed easily in the pipeline. The position of the installation can be selected as required. The flow direction is clearly marked by an arrow on the meter housing.

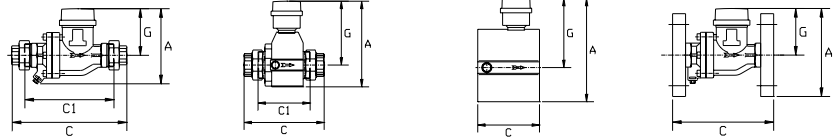
Interfaces/Outputs

- **QA: E1 Reed switch**
- **QA/QAe: E 200 Namur output (in accordance with DIN EN 50227)**
- **QAe: optical interface (in accordance with EN 1434 - ZVEI compatible)**
- **M-BUS interface (in accordance with EN 1434)**

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**
- **Safe load up to 160% of maximum flow rate**
- **Nominal width DN 25 - DN 150**
- **Aluminium housing**
- **Gas temperature -10°C up to +60°C**
- **Ambient temperature -20°C up to +70°C**
- **Maintenance-free**
- **QA: protection class IP52 7-digit mechanical totalizer**
- **QAe: protection class IP44 6-digit LCD display showing:**
 - actual volume (basic state)
 - key-day values
 - key-day date
 - current flow rate
 - high-resolution volume (digits after the point)
- **Metering accuracy in wide ranges independent of physical characteristics of the gas such as density, temperature and pressure**
- **Quantometer QA DN 25: special version with stainless steel housing possible**
- **DVGW - approved**

QUANTOMETER QA/QAe Flow meters



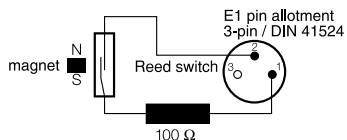
Product group Model		QA/e 10 - QA/e 40 G I	QA/e 40 GF I	QA/e 65 - QA/e 1000 Z I				QA/e 10 - QA/e 40 G II / F II	
Medium/ maximum pressure	Combustible gases	4 bar	4 bar	20 bar (QAe 4 bar)				G II: 4 bar F II: 40 bar/ANSI 300	
	Air, non-aggressive, inert gases	16 bar	16 bar	20 bar				G II: 16 bar F II: 40 bar/ANSI 300	
	Oxygen	-	-	from DN 80: 10 bar				G II: 16 bar F II: 40 bar/ANSI 300	
Metering technology	Measuring range m ³ /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 100: 20 - 400 QA/e 400 DN 100: 32 - 650 QA/e 650 DN 150: 50 - 1000 QA/e 1000 DN 150: 80 - 1600				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	
	Max. error of Q _{min} - 0.2 Q _{max}	< 3% of reading (< 1% of rating)							
	Max. error of 0.2 Q _{max} - Q _{max}	< 1.5% of reading (< 1% of rating)							
Housing	Material	Aluminium						Stainless steel	
	Diameter DN	mm	25	40	50	80	100	150	25
		inch	1"	1 1/2"	2"	3"	4"	6"	1"
	Dimensions	A* mm	132	202	202	225	245	300	155
			C mm	240	190	60	120	150	180
		C1 mm	185	126,5	-	-	-	-	-
		G* mm	90	150	150	150	165	190	90
	Weight	kg	1	2,2	1,4	5,3	6,8	11,4	5,2
Assembly		In a pipe with screw connections according to DIN ISO 228 1" internal thread	In a pipe with screw connections according to DIN ISO 228 1 1/2" internal thread	Installation between flanges PN 10/16 (DIN 2633) or ANSI 150			Flange connection PN 40 (DIN 2635) or in a pipe with screw connections according to DIN ISO 228 1" internal thread		
Outputs/ pulse values	LF-type E1 Reed switch	10 imp/m ³	1 imp/m ³	1 imp/m ³			10 imp/m ³		
	MF-type E200 inductive proximity 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				500 imp/m ³ **	

* QAe +30mm

** from 01/01/2002 on

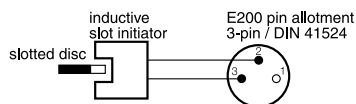
Pulsers

QA LF pulser E1



Voltage: $U_{max} = 24 \text{ V}$
 Current: $I_{max} = 50 \text{ mA}$
 Capacity: $P_{max} = 0.25 \text{ W}$
 Resistance: $R_v = 100 \Omega \pm 20\%$

QA/QAe MF pulser E200



Characteristics of switch version according to DIN EN 50227 (Namur)
 Standard voltage: $U_n = 8 \text{ V DC}$
 Internal resistance: $R_i = 1 \text{ k}\Omega$
 Current consumption:
 Active surface open $I \geq 2.1 \text{ mA}$
 Active surface closed $I \leq 1.2 \text{ mA}$