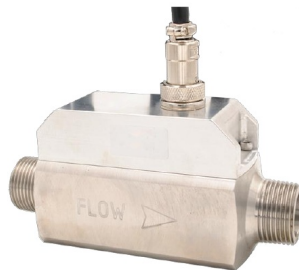


GAS MASS FLOWMETER R3/4



- THERMAL MEMS · 0 ... 1000 SLPM · R3/4
- STAINLESS STEEL · 0.8 MPa · 0 ... 100 % RH
- 1 ... 5 V · 4 ... 20 mA · RS485 · I²C · IP40

KEY DATA

Property	Value	Property	Value
Flow range	0 ... 1000 slpm, by version	Process connection	R3/4
Accuracy	± 1.5 % F.S.	Response time	20 ms
Working pressure	0.8 MPa maximum	Protection grade	IP40
Output	1 ... 5 V · 4 ... 20 mA · RS485 · I ² C	Supply voltage	8 ... 24 Vdc · 50 mA
Medium temperature	-10 ... +65 °C	Ambient temperature	-25 ... +85 °C

A thermal MEMS meter: the chip heats the gas a little and measures how much heat the stream carries away, which gives the mass flow directly — no temperature or pressure compensation is needed, and the meter is calibrated for one gas.



MEASUREMENT

Measuring principle	Thermal MEMS chip · solid-state sensing element, no thin membrane · resists clogging and pressure shock
Compensation	None needed — the principle measures mass, not volume
Full scale	300 · 500 · 600 · 800 · 1000 slpm
Velocity range	0 ... 60 m/s
Accuracy	± 1.5 % F.S.
Response time	20 ms
Calibration	Air at 0 °C and 101.325 kPa
Linear output	Flow = $(V_{out} - 1 V) / 4 V \times \text{full scale}$ · 2.5 V on a 1000 slpm device is 375 slpm

MATERIALS AND PROCESS

Media	Clean, relatively dry gas · air, nitrogen, carbon dioxide, oxygen, helium, hydrogen or argon — one of them, chosen in the order code
Humidity	0 ... 100 % RH · the sensor withstands condensation
Body	Stainless steel · aluminium alloy customizable
Process connection	R3/4
Working pressure	0.8 MPa maximum
Medium temperature	-10 ... +65 °C
Ambient temperature	-25 ... +85 °C · storage -40 ... +90 °C
Shock	100 g
Protection grade	IP40

ELECTRICAL PROPERTIES

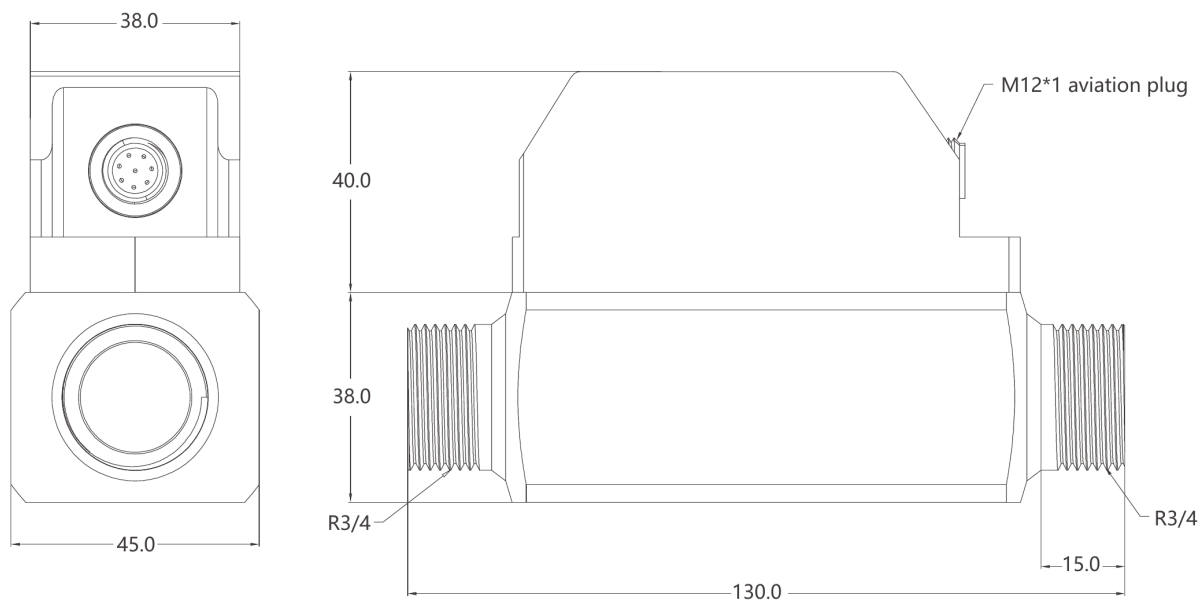
Supply voltage	8 ... 24 Vdc · 50 mA
Analogue output	1 ... 5 Vdc, or 4 ... 20 mA in a three-wire circuit
Digital output	RS485 with Modbus, or I ² C
Wiring	M12 × 1 connector

DISPLAY

Display	OLED — only with the output codes V15L and AL
Without display	Codes RA, RB, 2C, V15 and A carry no display



DIMENSIONS (mm)



Left the view onto the connector, right the side view with the two R3/4 threads and the M12x1 plug.

PARAMETER TABLE

Property	Value	Remark
Flow range	0 ... 300 / 500 / 600 / 800 / 1000 slpm	customized
Supply	8 ... 24 Vdc · 50 mA	optional
Accuracy	± 1.5 %	of full scale
Response time	20 ms	optional
Maximum pressure	0.8 MPa	customized
Communication	I ² C · RS485 (Modbus)	—
Output	Analogue 1 ... 5 Vdc	—
Temperature	Medium -10 ... +65 °C · ambient -25 ... +85 °C	—
Process connection	R3/4	customized
Protection grade	IP40	—
Calibration	Air at 0 °C and 101.325 kPa	—
Material	Stainless steel	aluminium alloy customizable



DIMENSION TABLE

The length is measured over the two threads, the width over the body, and the two heights are given from the pipe axis: 38.0 mm to the top of the body and a further 40.0 mm to the top of the head with the connector.

OVERALL DIMENSIONS (mm)

Length	Width	Height over body	Height over head	Thread length	Process connection	Electrical
130.0	45.0	38.0	40.0	15.0	R3/4 both ends	M12 × 1 connector



COMPLIANCE AND CERTIFICATION

Protection grade	IP40
Measuring principle	Thermal MEMS
Accuracy	± 1.5 % of full scale
Wetted materials	Stainless steel, or aluminium alloy customizable
Pressure rating	0.8 MPa maximum

Example: QGKH-600-RA-0. The five codes RA, RB, 2C, V15 and A come without a display; only V15L and AL carry one. The gas field is not an accessory — the meter is calibrated for the gas chosen there.

ORDER CODE

Field	Code	Meaning
1 Series	QGKH	QGKH MEMS gas mass flowmeter
2 Full scale	300 ... 1000	L/min — 600 means 600 L/min · customizable
3 Output	RA	RS485 · factory calibration protocol, single-device protocol
	RB	RS485 · Modbus, multi-device protocol — the factory default
	2C	I ² C
	V15	Analogue 1 ... 5 V
	A	4 ... 20 mA, three-wire
	V15L	Analogue 1 ... 5 V + RS485 + OLED display
	AL	4 ... 20 mA, three-wire + RS485 + OLED display
4 Gas	0 · 1 · 2 · 3	Air · nitrogen · carbon dioxide · oxygen
	4 · 5 · 6	Helium · hydrogen · argon

