

red-y industrial series product information

Thermal Mass Flow Meters and Controllers for Gases with IP67 & Ex Protection

High accuracy for heavy duties: Mass Flow Meters & Controllers with IP67 & Ex Protection

**Reliable technology and standardized interfaces for rough environments:
Our tried and tested thermal mass flow meters and controllers for gases now available as IP67/NEMA 6 version.**

Accurate measurement

The devices offer high accuracy and a wide dynamic range.

2 instrument versions:

«Standard» and «Hi-Performance»

Accuracy up to $\pm 0.3\%$ of full scale + $\pm 0.5\%$ of reading

Turndown ratio 1 : 100

Extended turndown ratio on request

Analog & digital: 2 in 1



The flow meters & controllers make use of the latest CMOS technology and have a digital (Modbus RTU) and analog interface as standard

IP67/NEMA 6 protection



The instruments offer IP67 / NEMA 6 protection against solid particles and water

ATEX certification



red-y industrial devices come along with ATEX certification (Category 3/Zone 2)

Multiple connections



The industrial series are available with different connection types: Cable gland with compression fitting or optional M12 plug on top

Options



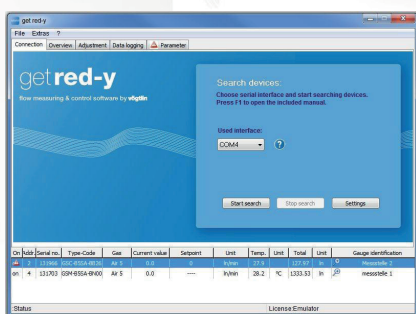
Multigas device

A device can be used for up to 10 different gases or gas mixtures



Profibus

The instruments are available with Profibus interface: DP-V0 & DP-V1 protocols



Setup tool «get red-y»

Efficient device setup with the free «get red-y» software:

- » **Service tool for remote maintenance**
- » **Switch gas type**
- » **Switch measurement units**
- » **Adjust control parameters**

3-year warranty*



High-quality components ensure long and trouble-free operation
*does not apply to calibration, options and accessories

Technical Data «red-y industrial series»

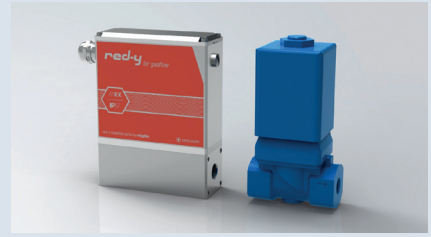
Instrument types



industrial meter GIM
Thermal mass flow meter



industrial controller GIC
Thermal mass flow controller



industrial controller GIE
Thermal mass flow controller with external valve

Instrument versions

«Standard»

The economic solution

Accuracy: $\pm 1.0\%$ of full scale*
Turndown ratio: 1 : 50

«Hi-Performance»

With highest accuracy and turndown ratio
(available for GIM < 200 l/min /
GIC < 150 l/min (air))

Accuracy: $\pm 0.3\%$ of full scale + $\pm 0.5\%$ of reading*
Turndown ratio: 1 : 100

*An additional error of $\pm 0.25\%$ may apply for analogue signals

Measuring ranges

(Air/Full scale freely selectable)	Type	Measuring range (air)		Connection
red-y industrial meter GIM Meter	GIM-A	from 0 ... 25 ml/min	to 0 ... 600 ml/min	G $\frac{1}{4}$ "
	GIM-B	from 0 ... 600 ml/min	to 0 ... 6000 ml/min	G $\frac{1}{4}$ "
	GIM-C	from 0 ... 6 l/min	to 0 ... 60 l/min	G $\frac{1}{4}$ "
	GIM-D	from 0 ... 60 l/min	to 0 ... 450 l/min	G $\frac{1}{2}$ "
red-y industrial controller GSC controller	GIC-A	from 0 ... 25 ml/min	to 0 ... 600 ml/min	G $\frac{1}{4}$ »
	GIC-B	from 0 ... 600 ml/min	to 0 ... 6000 ml/min	G $\frac{1}{4}$ »
	GIC-C	from 0 ... 6 l/min	to 0 ... 60 l/min	G $\frac{1}{4}$ »
	GIC-D	from 0 ... 60 l/min	to 0 ... 450 l/min	G $\frac{1}{2}$ »

Performance data

Media (real gas calibration)	Air, O ₂ , N ₂ , He, Ar, CO ₂ , H ₂ , CH ₄ , C ₃ H ₈ (other gases and gas mixtures on request)
Response time	Meter: 50 ms; Controller: 150ms
Repeatability	$\pm 0.2\%$ of full scale
Longterm stability	< 1% of measured value / year
Power supply	24 Vdc (18 – 30 Vdc), 15 Vdc on request
Current consumption	Meter: max. 100mA; Controller: max. 250mA (except GIE)
Operation pressure	0.2 – 11 bara
Temperature (environment/gas)	0 – 50°C
Pressure sensitivity	Less than 0.2% RD per bar (typical N ₂)
Temperature sensitivity	Less than 0.025% FS per °C (typical N ₂)
Warm-up time	< 1 sec. for full accuracy



Materials

Body	Stainless steel 316L (see operating instructions for wetted parts)
Electronic Housing	Aluminium
Seals	EPDM (FDA), optional FKM

Integration

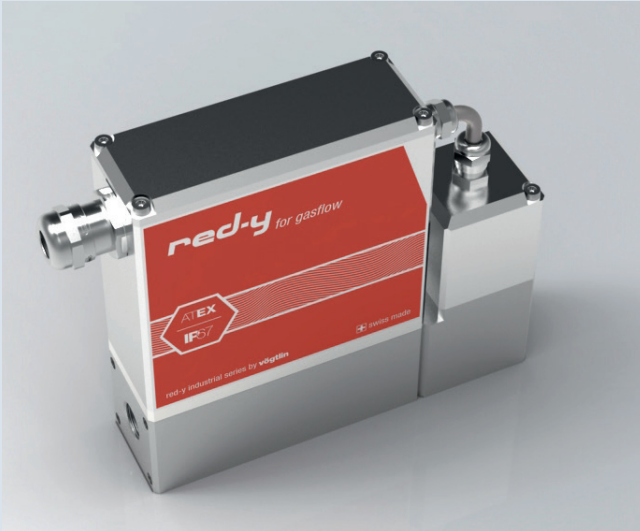
In- / Output signals analog	0..20 mA, 4..20 mA, 0..5 V, 1..5 V, 0..10 V, 2..10 V
In- / Output signals digital	RS-485; Modbus RTU 2 wire (Slave); Lab View-VIs available / Option: Profibus DP-V0, DP-V1
Process connection	G $\frac{1}{4}$ " (BSP* female) up to 60 l/min, G $\frac{1}{2}$ " (BSP* female) up to 450 l/min *British Standard Pipe/other connectors on request
Inlet section	None required
Electrical connection	Cable gland with compression fitting / Option: M12 plug (DIN-standard) (both connection IP67 protected)
Mounting orientation	All orientations are possible. We recommend horizontal mounting. Please contact the manufacturer for further information.

Safety

Test pressure	16 bara
Leak rate	< 1 x 10 ⁻⁶ mbar l/s He
Environmental protection	IP67/NEMA 6
EMC	 EN 61326-1
ATEX Certification	 II 3G nA IIC T4 Gc (Category 3/Zone 2)

Available connections «red-y industrial series»

Cable gland (standard)



Cable gland with optional Profibus



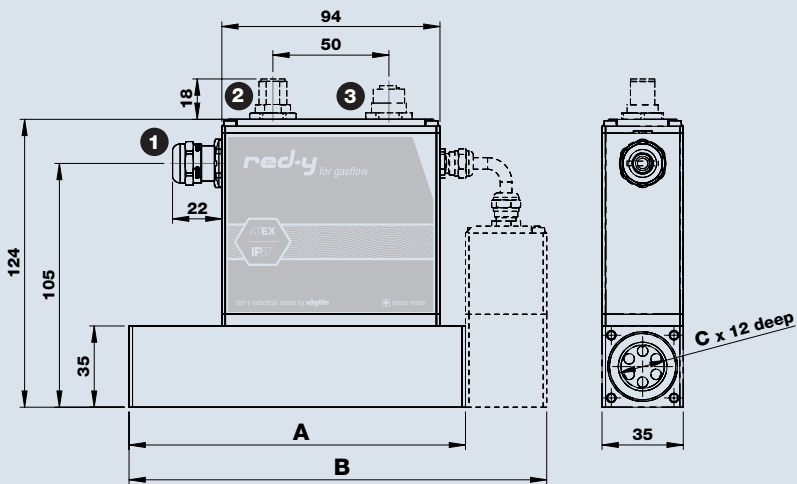
M12 plug (option)



M12 plug with optional Profibus



Dimensions «red-y industrial series»



Type	Length (mm)		Process Connection
	A	B	C
GIM-A GIM-B GIM-C	94	–	G1/4"
GIM-D	145	–	G1/2"
GIC-A GIC-B GIC-C	–	134	G1/4"
GIC-D	–	180	G1/2"
GIC-D (double valve)	–	198	G1/2"

Electrical Connection

- 1 Cable gland / cable diameter 4-8mm
- 2 M12 connector A-Coding 8pol male
- 3 M12 connector B-Coding 5pol female

Type code «red-y industrial series»

Instrument type	red-y industrial series (Gas)	G	I						
Function	Meter								M
	Controller								C
	Controller with external valve								E
Full scale of measuring range (air)	25 mln/min (G¼", 25 x 25mm)								A 1
	50 mln/min								A 2
	100 mln/min								A 3
	200 mln/min								A 4
	600 mln/min								A 5
	Customer-specific (Divider A, up to 600mln/min)								A 9
	600 mln/min (G¼", 25 x 25mm)								B 2
	1'000 mln/min								B 3
	2'000 mln/min								B 4
	6'000 mln/min								B 5
	Customer-specific (Divider B, up to 6'000mln/min)								B 9
	6 ln/min (G¼", 25 x 25mm)								C 2
	10 ln/min								C 3
	20 ln/min								C 4
	60 ln/min								C 5
	Customer-specific (Divider C, up to 60 ln/min)								C 9
	60 ln/min (G½", 35 x 35mm)								D 2
	100 ln/min								D 3
	200 ln/min								D 4
	450 ln/min								D 5
Customer-specific (Divider D, up to 450ln/min)								D 9	
Instruments version	Standard (±1.0% full scale, 1 : 50)								S
	Hi-Performance (±0.3% full scale, ±0.5% reading, 1 : 100)								T
	Customer-specific / OEM								K
Connection/Materials (body, seals)	Cable gland/Stainless steel/EPDM (FDA)**								S
	M12 plug/Stainless steel/EPDM (FDA)								T
	Cable gland/Stainless steel/FKM								U
	M12 plug/Stainless steel/FKM								V
	Customer-specific / OEM								K
Analog signals (output)	Current 4..20 mA**								B
	Current 0..20 mA								C
	Voltage 0..5 V								D
	Voltage 1..5 V								E
	Voltage 0..10 V								F
	Voltage 2..10 V								G
	Customer-specific / OEM								K
Analog signals (input)	Current 4..20 mA**								B
	Current 0..20 mA								C
	Voltage 0..5 V								D
	Voltage 1..5 V								E
	Voltage 0..10 V								F
	Voltage 2..10 V								G
	Not defined								N
	Customer-specific / OEM								K
Control valve (integrated) defined by manufacturer	Type 0.1								2 1
	Type 0.2								2 2
	Type 0.5								2 3
	Type 1.2								2 6
	Type 4.5								1 2
	Type 8.0								1 3
	Valve mounted								9 5
	Customer-specific / OEM								9 9
	No valve								0 0
	Type code		G	I	-				

**standard

Do you have any questions about our products?

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