

red-y compact series product information

# Battery Powered Digital Mass Flow Meters for Gases





# Independent digital convenience:

# Thermal Mass Flow Meters for Gases

The red-y compact series mass flow meters are characterized by powerful technology, intelligent functions and innovative design.

The 2015 generation instrument offers a new level of ease of use: compact design with battery power and backlit touch display for great flexibility.

# **Touch Technology**



The touch display offers intuitive navigation.
The many variables that make the unit flexible are easily accessible

# **Independent Operation**



The flow meters are powered with a standard AA battery.
Optional 24 Vdc and Micro-USB power supply available

#### **USB Enabled**



The instruments can be powered with any common Micro-USB power supply (DIN62684). Device updates can be performed using the USB interface

# **High Accuracy & Dynamics**



The devices offer high accuracy & a wide dynamic range:

Accuracy up to ±1% of full scale

Turndown ratio up to 1 : 100

(depending on application/measuring range)



## **Totalizer**



In addition to the actual flow, the total consumption is displayed. Ideal for gas consumption measurements

# 1 Device - Multiple Gases



One measuring device can be used for up to 3 different gases or gas mixtures

## **Password Protection**



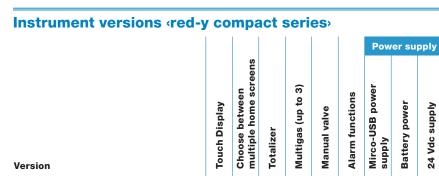
To avoid unauthorised change of settings, the menu of the new red-y compact can be locked with a password

#### 3-Year Warrantv\*



High-quality components ensure long and trouble-free operation

\*does not apply to calibration, battery, options and accessories



Available Q2/2015									
compact meter GCM	•	•	•	0			•	•	0
compact regulator GCR	•	•	•	0	•		•	•	0
Available end of 2015									
compact switch GCS	•	•	•	0		•	•		•
compact all-in GCA	•	•	•	0	•	•	•		•

Standard Option





## The new red-y compact 2015 release - Even more stunning features:

#### » Wide Choice of Flow Units:

Choose between a large number of **standardized** and **normalized flow units** of the **Imperial, US customary** and **SI** measuring systems (with user adjustable reference conditions).

The units are selectable from the integrated menu both for the actual flow and the totalized flow

#### » Extended Alarm Functions\*:

The new red-v compact provides 3 configurable alarms. The following triggers are available:

Min. alarm, max. alarm, windows alarm, overflow alarm and totalizer alarm

The alarms can be configured with different parameters:

Normally open, normally closed, hysteresis and auto/manual reset

#### » Device Information & Notifications

Display of complete device information including all configuration settings. Alerts and notifications show up on the home screen

#### » Upgrade Device Features

New device features will be available and can be updated through the built-in USB interface. Stay informed on latest releases at twitter.com/vogtlinmassflow or www.voegtlin.com

\*available end of 2015





#### **VA-Meters vs. Massflow Meters**

Many applications require a higher accuracy together with pressure and temperature compensation which cannot be realized with conventional variable area flow meters.

VA-meters are extremely sensitive to pressure and temperature changes. 1 bar change in pressure can generate an error of 50% in your measurement. Our mass flow meters generate repeatability!

#### Autonomy, precision and comfort for your application

Through the application of **high-precision MEMS technology** (CMOS sensors), the thermal flow meters and controllers from Vögtlin Instruments AG set new standards in terms of response characteristics and measuring accuracy, and are characterized by maximum convenience:

- » The devices are very compact, can be installed in any position, and are immediately ready for operation
- » The built-in touch display with an intuitive navigation offers various settings
- » The devices measure real mass flow, independent of changes in pressure and temperature.
  This provides high accuracy and repeatability to the measuring results
- » In addition to the actual value, the total consumption is displayed.
  This creates transparency in supply systems
- » The autonomous operation with a standard AA battery makes the compact a high-precision alternative to variable area flow meters
- » High quality: All flow meters are produced and calibrated at our headquarters in Aesch, Switzerland

# Technical data (red-y compact series)



#### **Instrument types**







compact meter GCM Mass Flow Meter compact switch GCS compact regulator GCR
Mass Flow Meter with manual Valve
compact all-in GCA
Mass Flow Meter with Alarm Functions & Valve

compact G½" versions
The valve is flange mounted

Mass Flow Meter with Alarm Functions

#### Measuring ranges

Measuring ranges									
(full scale freely selectable)	Туре	Measuring range (air)		Process connection					
	GC <b>X</b> -A GC <b>X</b> -B GC <b>X</b> -C GC <b>X</b> -D	from 0 50 mln/min from 0 600 mln/min from 0 6 ln/min from 0 60 ln/min	to 0 600 mln/min to 0 6000 mln/min to 0 60 ln/min to 0 450 ln/min	G1/4" G1/4" G1/4" G1/2"					
Performance data									
Media (real gas calibration)		2*, He, Ar, CO2, H2, CH4, C calibrated with air	3H8 (other gases and gas i	mixtures on request)					
Accuracy (air & equivalents)		Eco: $\pm$ 2.0% of full scale; ranges > 200 ln/min $\pm$ 3.0% of full scale Special: $\pm$ 1.0% of full scale up to 50 ln/min							
Turndown ratio	Eco:	1:50 Special:	1:100						
Response time	Max. 300 r	msec (depending on filter se	ettings)						
Flow update by sensor	40 msec (k	40 msec (battery mode 500 msec)							
Display update	240 msec	(battery mode 500 msec)							
Repeatability	± 0.5% of 1	± 0.5% of full scale							
Longterm stability	< 1% of me	< 1% of measured value / year							
Power supply Meter & Regulator	Micro-USE	Standard AA battery (lifetime in months depending on operation) or Micro-USB power supply (DIN 62684) Option: External power +1230 Vdc (power consumption max. 100mA)							
Power supply Switch & All-in		External power +1230 Vdc (power consumption max. 200mA) or Micro-USB power supply (DIN 62684)							
Operation pressure	0.2 – 11 ba	0.2 – 11 bar a							
Temperature (environment/gas)	0 – 50°C								
Materials	Anodized a	aluminium, optional stainless	s steel electropolished						
Seals	FKM, optic	onal EPDM (FDA)							
Pressure sensitivity	< 0.2% / b	< 0.2% / bar of reading (typical N2)							
Temperature sensitivity	< 0.025% l	< 0.025% FS measuring range type / °C							
Warm-up time	< 1 sec. fo	< 1 sec. for full accuracy							
Integration									
Display		Touch display 128x64 px Backlighted only with external power supply (Micro-USB or 24 Vdc)							
Process connection	,	G1/4" (BSPP* female) up to 60 ln/min, $G1/2$ " (BSPP* female) up to 450 ln/min *British Standard Pipe Parallel							
Inlet section	None requ	None required							
Mounting orientation	Any position	Any position (consult manufacturer above 5 bar or vertical mounting)							
Connection cable	For externa	al power supply: 2 m and 5	m with loose ends						
Safety									
Test pressure	16 bar a								
Leak rate	< 1 x 10 <sup>-6</sup> r	< 1 x 10 <sup>-6</sup> mbar I/s He							
Environmental protection	IP-50								
EMC	EN 61326-	1							
Options									

#### **Options**







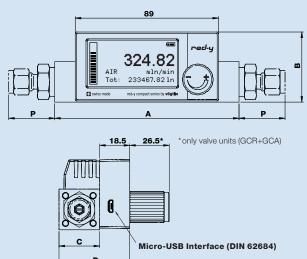
# Type code (red-y compact series)



Instrument type	red-y compact series (Gas)	С					
Function	Meter	м					
	Regulator – With manual valve	R					
	Switch* - With alarm	s					
	All-In* – With manual valve & alarm		A				
Full scale of measuring range (Air)	Customer-specific (Divider A, up to 600 mln/min)	A X					
defined by manufacturer	Customer-specific (Divider B, up to 6000 mln/min)			вх			
	Customer-specific (Divider C, up to 60 ln/min)						
	Customer-specific (Divider D, up to 450 ln/min)	D X					
Instrument version	Eco (±2.0% of FS / > 200 In/min ±3.0% of FS, 1 : 50)	E					
	Special (±1.0% of FS, 1 : 100)	s					
	Customer-specific/OEM	К					
Materials (Body, seals)	Aluminium, FKM				-	١	
	Aluminium, EPDM	Т	В				
	Stainless steel, FKM		S				
	Stainless steel, EPDM	т					
	Customer-specific/OEM	K					
Supply (Micro-USB always available)	Battery supply	Т	В		3		
	External supply 24 Vdc				F		;
	Customer-specific/OEM					K	<u> </u>
Material valve (regulator, all-in)	Nickel-plated brass						A
	Stainless steel						s
	Customer-specific/OEM						K
	No valve						N
Manual valve	NS 1.0						1 (
defined by manufacturer	NS 1.5						1 4
	NS 2.0						2 (
	NS 2.5						2 !
	NS 3.0						3 (
	NS 3.5						3 :
	NS 4.0						4
	NS 6.0						6
	Valve not defined						8
	Valve mounted						9
	Customer-specific/OEM						9
	No valve						0 (

\*available end of 2015

# **Dimensions (red-y compact series)**



		Lengt	Length of fitting		
Type/Body	A	В	С	D	Р
GCM G <sup>1</sup> / <sub>4</sub> " GCR G <sup>1</sup> / <sub>4</sub> " GCS G <sup>1</sup> / <sub>4</sub> "	114	44	25	44	We offer a range of different inlet/outlet fittings. See document 329-2092 en
GCM G½" GCS G½"	160	54	35	54	fittings.pdf for types and dimensions
GCR G½" GCA G½"	207	54	35	54	