



red-y compact series product information

Battery Powered Thermal Mass Flow Meters for Gases

Digital advantage:

Thermal Mass Flow Meters for Gases

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

The instruments offer a new level of ease of use: compact design with battery power, clear digital display and smart alarm functions.

Accurate measurement

The devices offer high accuracy and a wide dynamic range:

Accuracy ± 1 – 3% of full scale
(depending on application/measuring range)

Turndown ratio 1 : 50

CMOS sensor technology



The CMOS semiconductor chip is the centerpiece of the flow meter.



Analog-digital conversion takes place in the sensor

Portable operation



The flow meters can be powered with a battery or with a 24 Vdc power supply.



battery lifetime approx. 2 years

High-precision valve



In the versions with manual valves, high-precision needle valves are used. These valves allow fine adjustment of the flow rate



▲ compact regulator GCR/1/2" Body

The valve is flange mounted



Instrument versions "red-y compact series"

Version	Display of reading	Trend display	Manual valve	Alarm functions	Totalizer	Battery power	24 Vdc supply
compact meter GCM	●	●			⊙	●	⊙
compact regulator GCR	●	●	●		⊙	●	⊙
compact switch GCS	●	●		●	⊙		●
compact all-in GCA	●	●	●	●	⊙		●

● Standard

⊙ Option

Totalizer

In addition to the actual value, the total consumption can also be displayed. Ideal for gas consumption measurements

Pressure & temperature compensated

In contrast to variable area flow meters, thermal mass flow devices are insensitive to pressure and temperature changes

3-year warranty*



High-quality components ensure long and trouble-free operation



*does not apply to calibration, options and accessories



Autonomy and precision for your application

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



▲ Convenient variable area flow meter

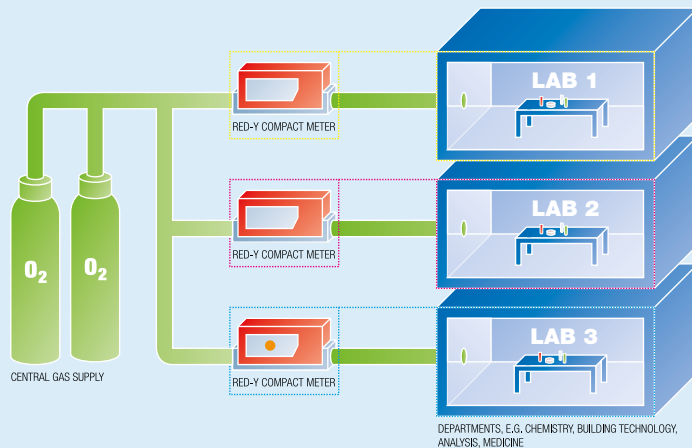
Many applications require a higher accuracy together with pressure and temperature compensation which cannot be realized with conventional variable area flow meters

- » **The devices are very compact, can be installed in any position, and are immediately ready for operation**
- » **The local LC-display offers direct reading**
- » **In addition to the actual value, the total consumption can be displayed. This creates transparency in supply systems**
- » **Intelligent alarm functions allow versatile application**
- » **The autonomous operation with battery makes the compact a high-precision alternative to variable area flow meters**
- » **High quality: All flow meters are produced at our headquarters in Switzerland**

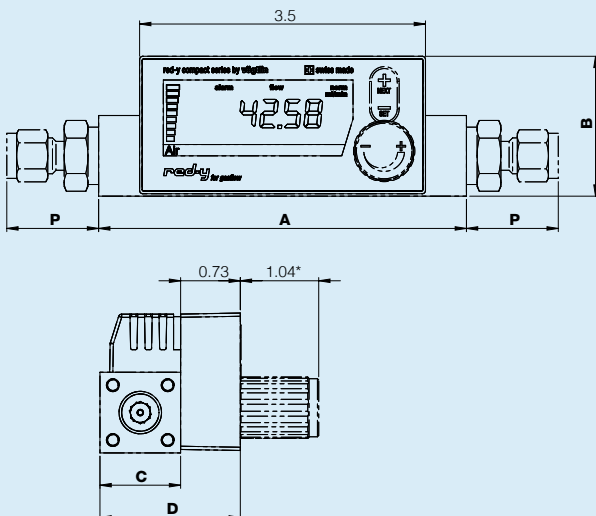
Gas consumption measurement increases safety & reduces costs

Consumption measurement for expensive gases increases resource awareness among consumers and reduces consumption.

Your costs are reduced, and you know exactly where, when and how much gas is used. Thermal mass flow meters can be installed simply in the gas pipe and be read immediately.



Dimensions “red-y compact series”



Type / Body	Length (inch)				Length of fitting P
	A	B	C	D	
GCM / 1/4" GCR / 1/4" GCS / 1/4" GCA / 1/4"	4.49	1.73	0.98	1.73	We offer a range of different inlet/outlet fittings. See document 329-2092_en_fittings.pdf for types and dimensions
GCM / 1/2" GCS / 1/2"	6.3	2.13	1.38	2.13	
GCR / 1/2" GCA / 1/2"	8.15	2.13	1.38	2.13	

* only valve units (GCR+GCA)

Our specialists will be happy to advise:
800-850-6110 or www.vogtlinusa.com

Technical data “red-y compact series”

Instrument types



**compact meter
GCM**
Mass flow meter



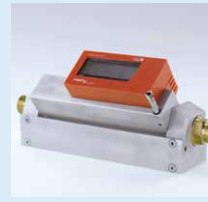
**compact regulator
GCR**
Mass flow meter
with manual valve



**compact switch
GCS**
Mass flow meter
with alarm functions



**compact all-in
GCA**
Mass flow meter with
manual valve & alarm
functions



OEM version
For customer-specific
requirements



Panel mounting kit
Panel mounting kits
for IP50 and IP65
protection

Measuring ranges

(full scale freely selectable)

	Type	Measuring range (air)	
compact meter GCM	GCM/¼"	from 0 ... 27 SCCM	to 0 ... 64 SLPM
compact regulator GCR	GCR/½"	from 0 ... 65 SLPM	to 0 ... 480 SLPM
compact switch GCS			
compact all-in GCA			

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)
Accuracy (air & equivalents)	Eco: ± 2.0% of full scale; ranges > 200 SLPM ± 3.0% of full scale Special: ± 1.0% of full scale up to 50 SLPM
Turndown ratio	1 : 50
Response time	from 500 ms (depending on the application)
Repeatability	± 1% of full scale
Longterm stability	< 1% of measured value / year
Power supply Meter & Regulator	Lithium battery (lifetime about 2 years with constant flow) Option: External supply +12...30 Vdc or power supply device (current consumption max. 30 mA)
Power supply Switch & All-in	External supply +12...30 Vdc or power supply device (current consumption max. 30 mA)
Operation pressure	3 - 160 psia (0.2 - 11 bara)
Temperature (environment/gas)	32 - 122°F (0 - 50°C)
Body Materials	Anodized aluminum, optional stainless steel electropolished
Seals	FKM, optional EPDM
Pressure sensitivity	<0.014%/psi (<0.2%/bar) of reading (typical N ₂)
Temperature sensitivity	<0.012% FS measuring range type per 1°F (<0.025% per 1°C)
Warm-up time	< 1 sec. for full accuracy

Integration & Installation

Display	6-digit LCD in engineering units and bar graph
Process connection	G¼" (BSPP* female) up to 64 SLPM, G½" (BSPP* female) up to 480 SLPM *British Standard Pipe Parallel
Inlet section	None required
Mounting orientation	Any orientation (horizontal only above 73 psi / 5 bar)
Connection cable	For external power supply: 6.5 ft and 16.4 ft with loose ends

Optional Flow Switch

Settings	<i>Function:</i> Min. or max. alarm <i>Threshold:</i> Adjustable between 0 and full scale, normally open or closed <i>Failsafe Condition:</i> User configurable <i>Alarm delay:</i> Adjustable 0 – 180 s <i>Alarm hysteresis:</i> Fully adjustable <i>Alarm suppression:</i> User configurable <i>Alarm reset:</i> Automatic or manual
-----------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Contact	Floating changeover contact (24 V, 1 A)
----------------	-----------------------------------------

Safety

Test pressure	240 psia (16 bara)
Leak rate	< 1 x 10 ⁻⁶ mbar l/s He
Environmental protection	IP50 (conforms to NEMA 1) Panel mounting kits for IP50 (conforms to NEMA 1) & IP65 (conforms to NEMA 4)
EMC	EN 61326-1

Type code “red-y compact series”

Instrument type	red-y compact series (Gas)	G	C																	
Function	Meter																			M
	Regulator – With manual valve																			R
	Switch – With alarm																			S
	All-In – With manual valve & alarm																			A
Full scale of measuring range (Air)	Divider A, up to 640 SCCM, ¼" Body																			A 9
	Divider B, up to 6,400 SCCM, ¼" Body																			B 9
	Divider C, up to 64 SLPM, ¼" Body																			C 9
	Divider D, up to 480 SLPM, ½" Body																			D 9
Instruments version	Eco (±2.0% of FS / > 200 SLPM ±3.0% of FS, 1 : 50)																			E
	Special (±1.0% of FS, 1 : 50)																			S
	Customer-specific / OEM																			K
Materials (Body, seals)	Aluminum, FKM**																			A
	Aluminum, EPDM																			B
	Stainless steel, FKM																			S
	Stainless steel, EPDM																			T
	Customer-specific / OEM																			K
Supply/Totalizer	Battery Standard																			B
	Battery Totalizer																			P
	External supply 24 Vdc Standard																			F
	External supply 24 Vdc Totalizer																			T
	Customer-specific / OEM																			K
Material valve (regulator, all-in)	Nickel-plated brass, FKM																			A
	Nickel-plated brass, EPDM																			B
	Stainless steel, FKM																			S
	Stainless steel, EPDM																			T
	Customer-specific / OEM																			K
Manual valve defined by manufacturer	No valve																			N
	NS 1.0																			1 0
	NS 1.5																			1 5
	NS 2.0																			2 0
	NS 2.5																			2 5
	NS 3.0																			3 0
	NS 3.5																			3 5
	NS 4.0																			4 0
	NS 6.0																			6 5
	Valve not defined																			8 8
	Valve mounted																			9 5
	Customer-specific / OEM																			9 9
No valve																			0 0	
Type code																				G C - -

**Standard

Available types of fittings (additional fittings on request)

Compression			Push-in for Polytube			VCO® & VCR® Alternatives		
Type	Body Size	max. flow (SLPM)	Type	Body Size	max. flow (SLPM)	Type	Body Size	max. flow (SLPM)
1/8" SS	¼"	5	1/4" Brass	¼"	50	1/4" SS	¼"	50
1/4" SS	¼"	50	6mm Brass	¼"	50	1/2" SS	½"	480
1/4" Brass	¼"	50	8mm Brass	¼"	64	VCO® & VCR® are registered Trademarks of Swagelok		
6 mm SS	¼"	50	3/8" Brass	½"	300			
8 mm SS	¼"	50	1/2" Brass	½"	480			
3/8" SS	½"	300	12mm Brass	½"	480			
3/8" Brass	½"	300						
1/2" SS	½"	480						
1/2" Brass	½"	480						
8 mm SS	½"	300						
12 mm SS	½"	480						

M.A. Selmon Company, Inc
4 Oxford Rd.
Milford, CT 06460
(203) 377-3525
<http://www.maselmon.com/>



Vogtlin Massflow USA

8809 Industrial Drive | Franksville, WI 53126

Phone 800-850-6110 | Fax: 262-884-9810

info@vogtlinusa.com | www.vogtlinusa.com

vögtlin 
massflow