red-y smart pressure controller product information

Electronic pressure controller with integrated flow measurement

vögtlin instruments

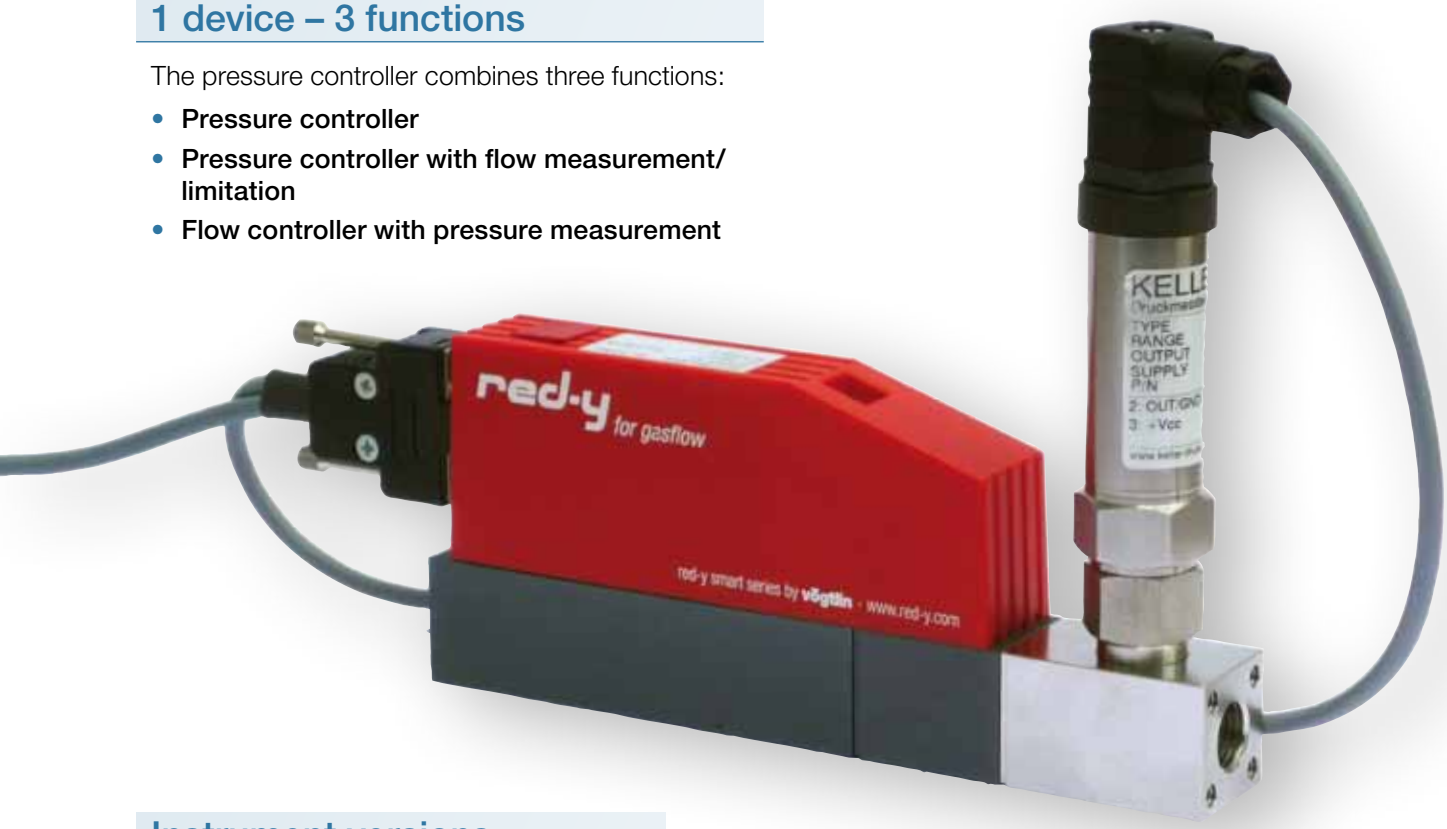
Pressure and flow in a single device:
Electronic pressure controller for gases with integrated flow measurement

The new electronic red-y smart pressure controllers combine the reliable technology our of thermal mass flow controllers with electronic pressure control.
The devices automatically control a predefined process pressure and at the same time measure and/or limit the flow rate.
On-the-fly switching between pressure control and flow control offers maximum flexibility.

1 device – 3 functions

The pressure controller combines three functions:

- **Pressure controller**
- **Pressure controller with flow measurement/ limitation**
- **Flow controller with pressure measurement**



Instrument versions

- **Integrated pressure control**
  Accuracy:± 0.5 % of full scale
  Turndown ratio: 1 : 10
- **Integrated back pressure control**
  Accuracy:± 0.5 % of full scale
  Turndown ratio: 1 : 5
- **Pressure control with external pressure transmitters**
- **Pressure controller with gas mixer function**

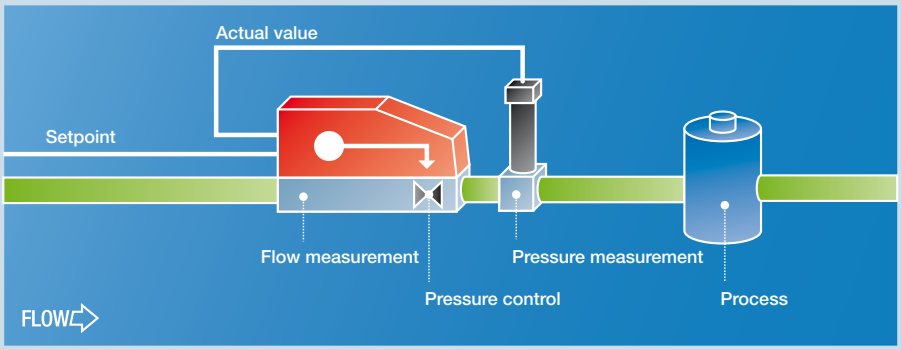
It‘s a red-y smart

The pressure controllers combine the innovative equipment design of the red-y smart series with the development competence of Vögtlin Instruments AG. High-quality components ensure long and trouble-free operation.

Our specialists will be happy to advise you:
+41 61 756 63 00 or **www.voegtlin.com**

Pressure control

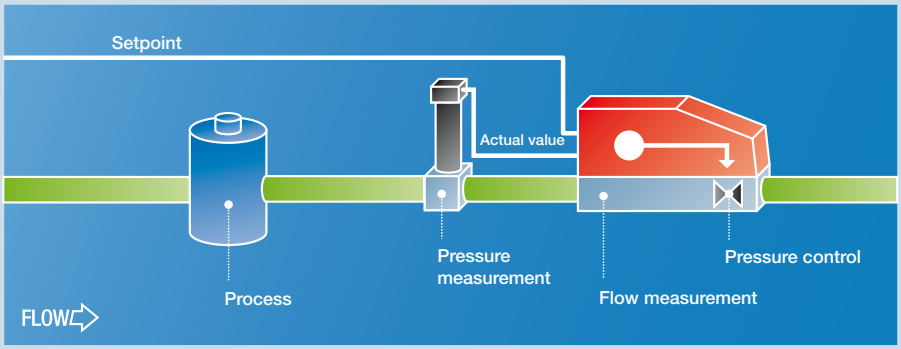
In this application the electronic pressure controller regulates a digitally specified set pressure value.
The flow rate depends on the process consumption. Maximum flow limitation enables pressure control of stable gas mixtures, for example.



Application example:
Pressure control of a pressure vessel containing a stable gas mixture for laser gas or welding applications.

Back pressure control

In this configuration the effect of the control valve is reversed. The process generates a certain pressure, which must be readjusted.



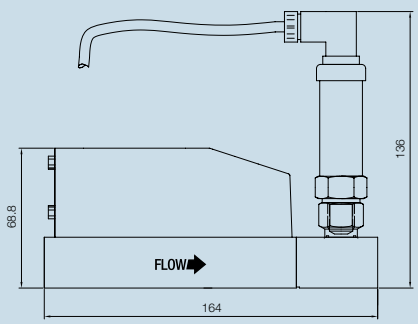
Application example:
Overpressure control of a sterile chamber. The flow rate is used as a leakage indicator.

Wide range of accessories – ready for operation

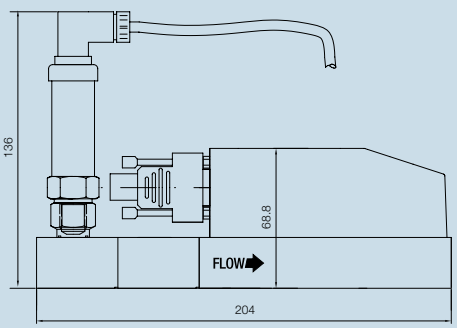
Connection cables, power supplies, software «get red-y»
Optimal range of cables and power supply units for fast integration of the pressure controllers.
With the free software «get red-y» you can easily define functions and parameters.

Fittings, filters
All flow meters and controllers are available with fittings and filters.

Dimensions G¼″*



red-y smart pressure controller GSP



red-y smart back pressure controller GSB

*Dimensions G½″ on request

Technical Data ‹red-y smart pressure controller›

Instrument types

red-y smart pressure controller GSP
Electronic pressure controller

red-y smart back pressure controller GSB
Electronic back pressure controller

Pressure controller with **external transmitter** and **customer-specific solutions** on request

Instrument versions flow

‹Standard› – The economic solution

Accuracy: *± 1.5 % of full scale*
Turndown ratio: *1 : 30*

‹Hi-Performance› – With highest accuracy and turndown ratio

Accuracy: *± 0.3 % of full scale + ± 0.5% of reading*
Turndown ratio: *1 : 100*

Instrument versions pressure

Pressure control

Accuracy: *± 0.5 % of full scale*
Turndown ratio: *1 : 10*

Back pressure control

Accuracy: *± 0.5 % of full scale*
Turndown ratio: *1 : 5*

Differential pressure controller according to customer specifications

Measuring ranges flow (Air)

Full scale freely selectable

pressure controller GS**P**
back pressure controller GS**B**

Type	Measuring range (Air)		Connection
GS**X**-A	from 0 ... 25 mln/min	to 0 ... 500 mln/min	G¼“
GS**X**-B	from 0 ... 500 mln/min	to 0 ... 5000 mln/min	G¼“
GS**X**-C	from 0 ... 5 ln/min	to 0 ... 50 ln/min	G¼“
GS**X**-D	from 0 ... 50 ln/min	to 0 ... 450 ln/min	G½“

Measuring ranges pressure

Full scale gauge pressure	0.5 bar g, 1 bar g, 2 bar g, 5 bar g, 10 bar g
Full scale absolute pressure	1.2 bar a, 2 bar a, 5 bar a, 10 bar a

Performance data

Media (real gas calibration)	Air, O2, N2, He, Ar, CO2, H2, CH4, C3H8, SF6 Other gases and gas mixtures on request (real gas calibration or conversion factors)
Response time	50ms
Repeatability	± 0.2% of full scale
Longterm stability	< 1% of measured value / year
Power supply	24 Vdc (18 – 30 Vdc)
Current consumption	max. 250mA
Temperature	0 – 50°C
Materials	Anodized aluminium, optional stainless steel electropolished
Seals	FKM, NBR (Valve), optional EPDM
Pressure sensitivity	< 0.2% / bar (typical N2)
Temperature sensitivity	< 0.025% / °C

Integration

Output signals	
analog *(for actual value flow only)*	0..20 mA, 4..20 mA, 0..5 V, 1..5 V, 0..10 V, 2..10 V
digital *(for pressure and flow)*	RS-485; Modbus RTU (Slave); Lab View-VI‘s available Option: ProfiBus DP-V0, DP-V1
Process connection	G¼″ female less than 50 ln/min, G½″ female less than 450 ln/min
Inlet section	None required
Electrical connection	Sub D plug, 9 pole
Mounting orientation	Any orientation (horizontal only above 5 bar)

Safety

Test pressure	16 bar a
Leak rate	< 1 x 10^{-6} mbar l/s He
Environmental protection	IP-50
EMC	EN 61326-1

Subject to technical alterations

Type code ‹red-y smart pressure controller›

Instrument type	red-y smart series (Gas)	G	S															
Function	Pressure controller				P													
	Back pressure controller				B													
	With external pressure transmitter				K													
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										
	500 mln/min						A	5										
	Customer-specific (Divider A, up to 500mln/min)						A	9										
	500 mln/min (G¼″, 25 x 25mm)						B	2										
	1000 mln/min						B	3										
	2000 mln/min						B	4										
	5000 mln/min						B	5										
	Customer-specific (Divider B, up to 5'000mln/min)						B	9										
	5 ln/min (G¼″, 25 x 25mm)						C	2										
	10 ln/min						C	3										
	20 ln/min						C	4										
	50 ln/min						C	5										
	Customer-specific (Divider C, up to 50 ln/min)						C	9										
	50 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 (±1.5% full sclale, 1 : 30)									S								
	Hi-Performance (±0.3% full scale, ±0.5% reading, 1 : 100)									T								
	Customer-specific / OEM									K								
Materials (Body, seals)	Aluminium, FKM**											A						
	Aluminium, EPDM											B						
	Stainless steel, FKM											S						
	Stainless steel, EPDM											T						
	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			
Full scale of pressure range	Gauge pressure 0.5 bar g															Q		
	Gauge pressure 1 bar g															R		
	Gauge pressure 2 bar g															S		
	Gauge pressure 5 bar g															T		
	Gauge pressure 10 bar g															U		
	Absolute pressure 1.2 bar a															V		
	Absolute pressure 2 bar a															W		
	Absolute pressure 5 bar a															X		
	Absolute pressure 10 bar a															Y		
	Customer-specific / OEM															K		
Control valve (integrated)	Nozzle 0.1 mm																2	1
defined by manufacturer	Nozzle 0.2 mm																2	2
	Nozzle 0.5 mm																2	3
	Nozzle 1.2 mm																2	6
	Nozzle 4.5 mm																1	2
	Nozzle 8.0 mm																1	3
	Valve not defined																8	8
	Valve mounted																9	5
	Customer-specific / OEM																9	9
	No valve																0	0
Type code		G	S			–							–					

**Standard

Do you have any questions about our products?
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Or write us an e-mail:
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You will find your local Vögtlin sales partner on the internet:
www.voegtlin.com

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