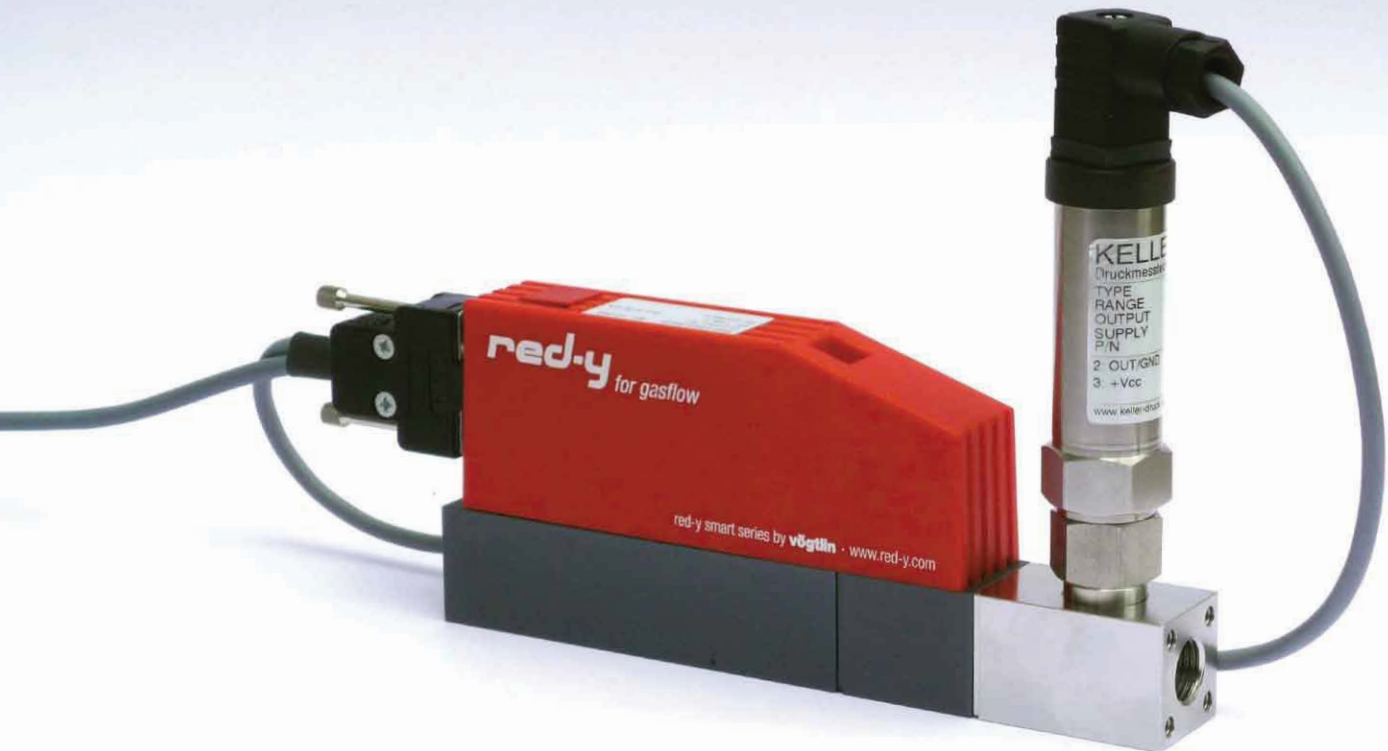


## red-y smart pressure controller product information



# Electronic pressure controller with integrated flow measurement

# 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.

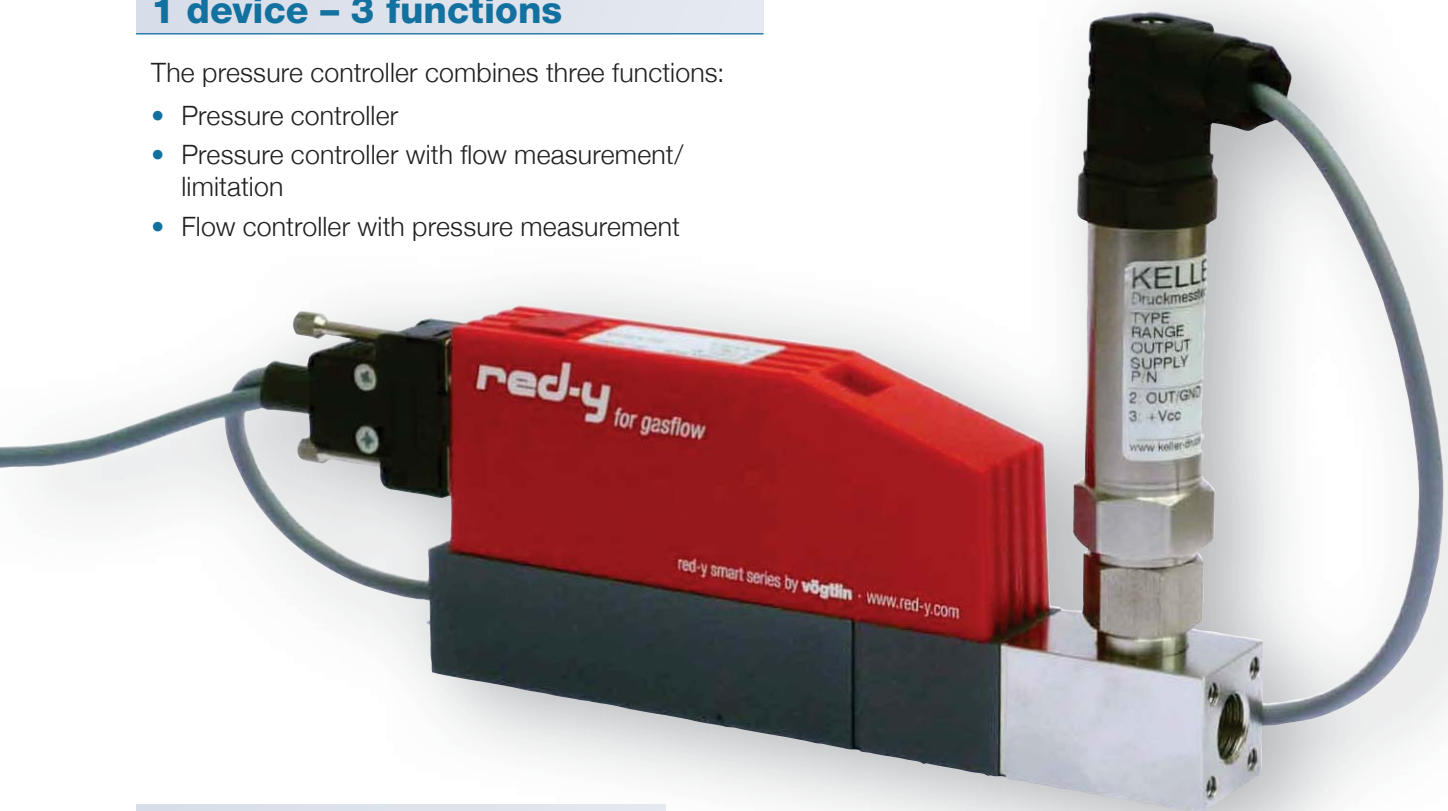
The devices automatically control a predefined process pressure and at the same time measure and/or limit the flow rate.

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:  $\pm 0.5\%$  of full scale
- Integrated back pressure control  
Accuracy:  $\pm 0.5\%$  of full scale
- Pressure control with external pressure transmitters
- Pressure controller with gas mixer function



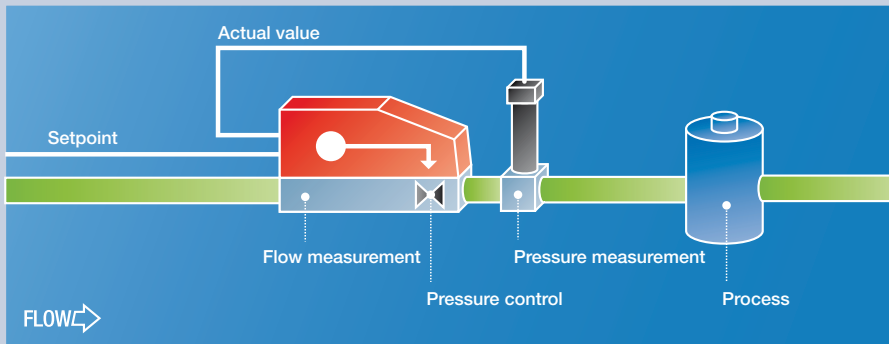
### It's a red-y smart

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.

## Pressure control

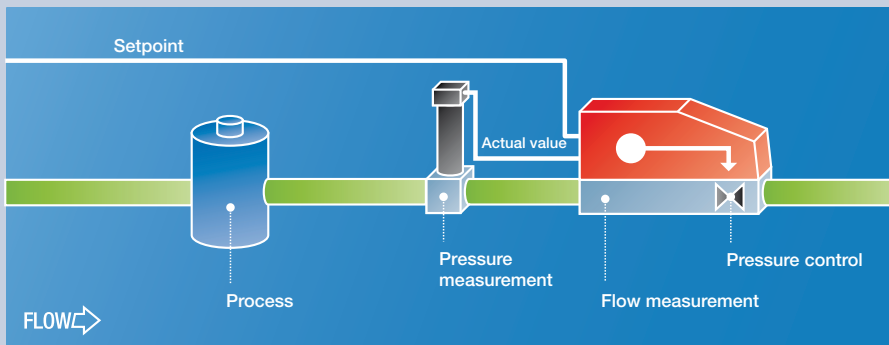
In this application the electronic pressure controller regulates a digitally specified set pressure value. The flow rate depends on the process consumption. Maximum flow limitation enables pressure control of stable gas mixtures, for example.



**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

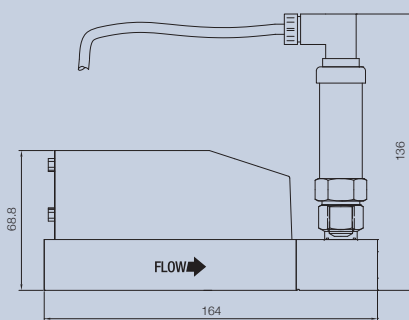
### Connection cables, power supplies, software «get red-y»

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.

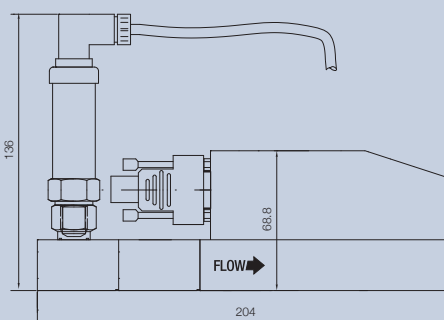
### Fittings, filters

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

## Dimensions G $\frac{1}{4}$ " \*




red-y smart pressure controller GSP



red-y smart back pressure controller GSB

\*Dimensions G $\frac{1}{2}$ " on request

## Technical Data «red-y smart pressure controller»

<b>Instrument types</b>																										
	<b>red-y smart pressure controller GSP</b> <i>Electronic pressure controller</i>	<b>red-y smart back pressure controller GSB</b> <i>Electronic back pressure controller</i>																								
	Pressure controller with <b>external transmitter</b> and <b>customer-specific solutions</b> on request																									
<b>Instrument versions flow</b>	<b>«Standard»</b> – The economic solution Accuracy: $\pm 1.0\%$ of full scale Turndown ratio: 1 : 50 <b>«Hi-Performance»</b> – With highest accuracy and turndown ratio Accuracy: $\pm 0.3\%$ of full scale + $\pm 0.5\%$ of reading Turndown ratio: 1 : 100 for GSM < 200 lN/min / GSC < 150 lN/min (air)																									
<b>Instrument versions pressure</b>	<b>Pressure control</b> Accuracy: $\pm 0.5\%$ of full scale <b>Back pressure control</b> Accuracy: $\pm 0.5\%$ of full scale <b>Differential pressure controller according to customer specifications</b>																									
<b>Measuring ranges flow (Air)</b>	<b>Full scale freely selectable</b> pressure controller GSP back pressure controller GSB	<table border="1"> <thead> <tr> <th>Type</th> <th colspan="2">Measuring range (Air)</th> <th>Connection</th> </tr> </thead> <tbody> <tr> <td>GSX-A</td> <td>from 0 ... 25 mlN/min</td> <td>to 0 ... 600 mlN/min</td> <td>G<math>\frac{1}{4}</math>"</td> </tr> <tr> <td>GSX-B</td> <td>from 0 ... 600 mlN/min</td> <td>to 0 ... 6000 mlN/min</td> <td>G<math>\frac{1}{4}</math>"</td> </tr> <tr> <td>GSX-C</td> <td>from 0 ... 6 lN/min</td> <td>to 0 ... 60 lN/min</td> <td>G<math>\frac{1}{4}</math>"</td> </tr> <tr> <td>GSX-D</td> <td>from 0 ... 60 lN/min</td> <td>to 0 ... 450 lN/min</td> <td>G<math>\frac{1}{2}</math>"</td> </tr> <tr> <td colspan="4">Other ranges on request</td> </tr> </tbody> </table>	Type	Measuring range (Air)		Connection	GSX-A	from 0 ... 25 mlN/min	to 0 ... 600 mlN/min	G $\frac{1}{4}$ "	GSX-B	from 0 ... 600 mlN/min	to 0 ... 6000 mlN/min	G $\frac{1}{4}$ "	GSX-C	from 0 ... 6 lN/min	to 0 ... 60 lN/min	G $\frac{1}{4}$ "	GSX-D	from 0 ... 60 lN/min	to 0 ... 450 lN/min	G $\frac{1}{2}$ "	Other ranges on request			
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Other ranges on request																										
<b>Measuring ranges pressure</b>	<b>Full scale gauge pressure</b> 0.5 bar g, 1 bar g, 2 bar g, 5 bar g, 10 bar g <b>Full scale absolute pressure</b> 1.2 bar a, 2 bar a, 5 bar a, 10 bar a																									
<b>Performance data</b>	<b>Media (real gas calibration)</b> Air, O <sub>2</sub> , N <sub>2</sub> , He, Ar, CO <sub>2</sub> , H <sub>2</sub> , CH <sub>4</sub> , C <sub>3</sub> H <sub>8</sub> Other gases and gas mixtures on request <b>Response time</b> 50 ms <b>Repeatability</b> $\pm 0.2\%$ of full scale <b>Longterm stability</b> < 1% of measured value / year <b>Power supply</b> 24 Vdc (18 – 30 Vdc), 15 Vdc on request <b>Current consumption</b> max. 250mA <b>Temperature (environment/gas)</b> 0 – 50°C <b>Materials</b> Anodized aluminium, optional stainless steel electropolished <b>Seals</b> FKM, optional EPDM <b>Pressure sensitivity</b> < 0.2% / bar of reading (typical N <sub>2</sub> ) <b>Temperature sensitivity</b> < 0.025% FS measuring range type / °C																									
<b>Integration</b>	<b>Output signals</b> <i>analog (for actual value flow only)</i> 0..20 mA, 4..20 mA, 0..5 V, 1..5 V, 0..10 V, 2..10 V <i>digital (for pressure and flow)</i> RS-485; Modbus RTU (Slave); Lab View-VI's available Option: ProfiBus DP-V0, DP-V1 <b>Process connection</b> G $\frac{1}{4}$ " female less than 60 lN/min, G $\frac{1}{2}$ " female less than 450 lN/min <b>Inlet section</b> None required <b>Electrical connection</b> Sub D plug, 9 pole <b>Mounting orientation</b> Any orientation (horizontal only above 5 bar)																									
<b>Safety</b>	<b>Test pressure</b> 16 bar a <b>Leak rate</b> < 1 x 10 <sup>-6</sup> mbar l/s He <b>Environmental protection</b> IP-50 <b>EMC</b> EN 61326-1																									

## Type code «red-y smart pressure controller»

<b>Instrument type</b>	red-y smart series (Gas)	G	S																		
<b>Function</b>	Pressure controller									P											
	Back pressure controller									B											
	With external pressure transmitter									K											
<b>Full scale of measuring range (Air)</b>	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 600mln/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 6'000mln/min)									B	9										
	5 lln/min (G¼", 25 x 25mm)									C	2										
	10 lln/min									C	3										
	20 lln/min									C	4										
	50 lln/min									C	5										
	Customer-specific (Divider C, up to 60 lln/min)									C	9										
	50 lln/min (G½", 35 x 35mm)									D	2										
	100 lln/min									D	3										
	200 lln/min									D	4										
	450 lln/min									D	5										
	Customer-specific (Divider D, up to 450lln/min)									D	9										
<b>Instruments version</b>	Standard (±1.0% full scale, 1 : 50)																		S		
	Hi-Performance (±0.3% full scale, ±0.5% reading, 1 : 100)																		T		
	Customer-specific / OEM																		K		
<b>Materials (Body, seals)</b>	Aluminium, FKM**																		A		
	Aluminium, EPDM																		B		
	Stainless steel, FKM																		S		
	Stainless steel, EPDM																		T		
	Customer-specific / OEM																		K		
<b>Analog signals (Output)</b>	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	
<b>Analog output signals pressure transmitter</b>	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	
<b>Control valve (integrated)</b>	Nozzle 0.1 mm																			2	1
<i>defined by manufacturer</i>	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
<b>Type code</b>		G	S	-																	

\*\*Standard