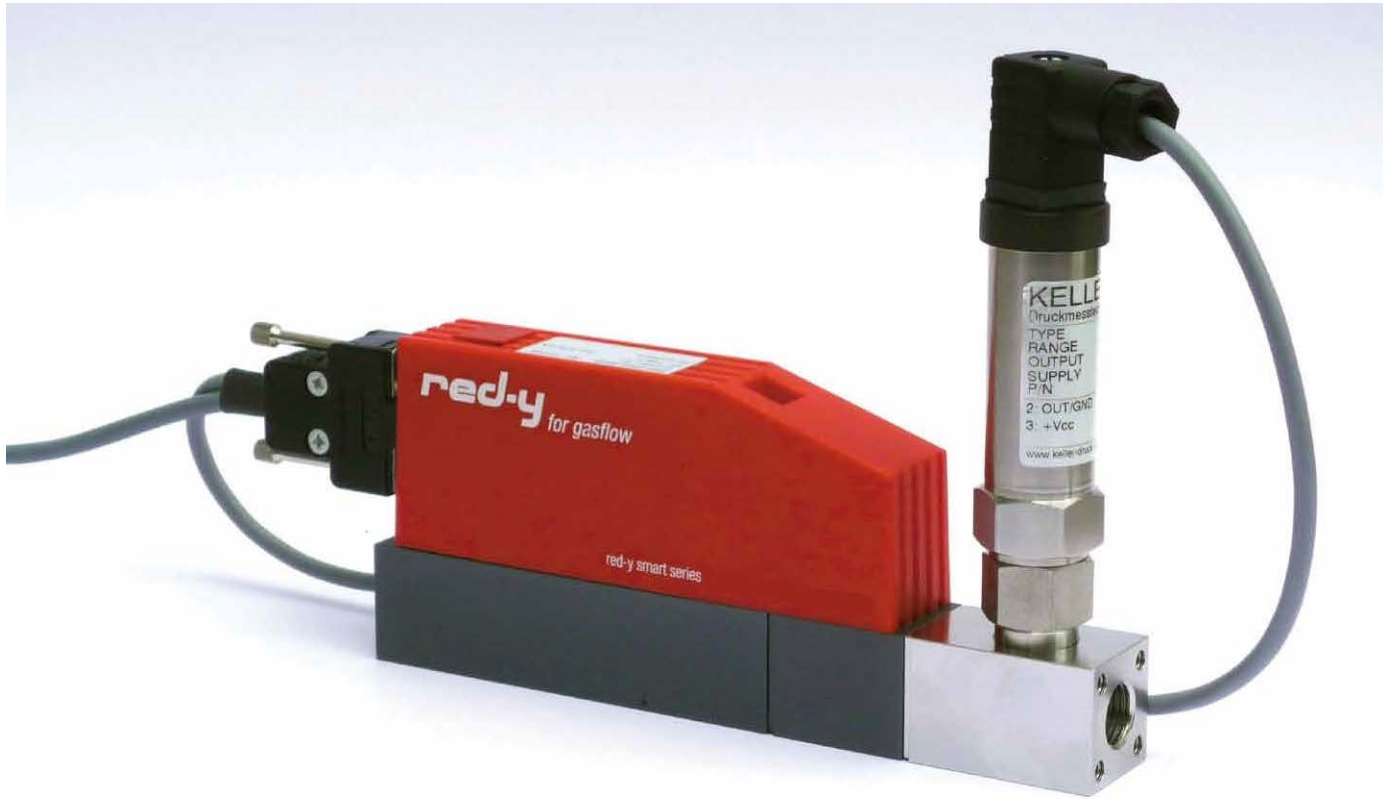


# red-y smart pressure controller



## Electronic pressure controller with integrated flow measurement

The new electronic red-y smart pressure controllers combine the reliable technology of our 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.

## Pressure and flow in a single device:

### 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.

[Technical Data on page 3](#)

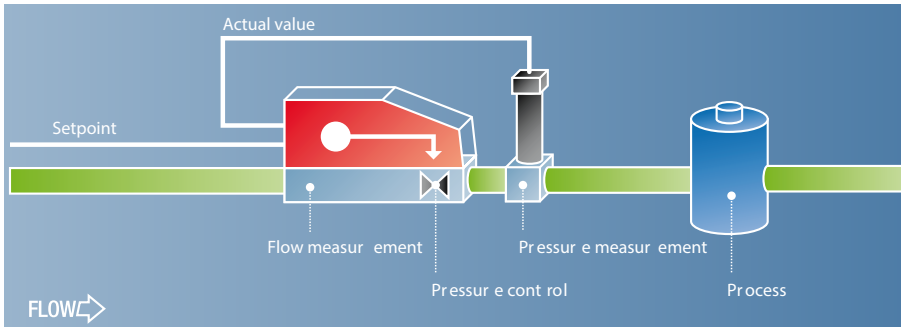


# red-y smart pressure controller

## 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.

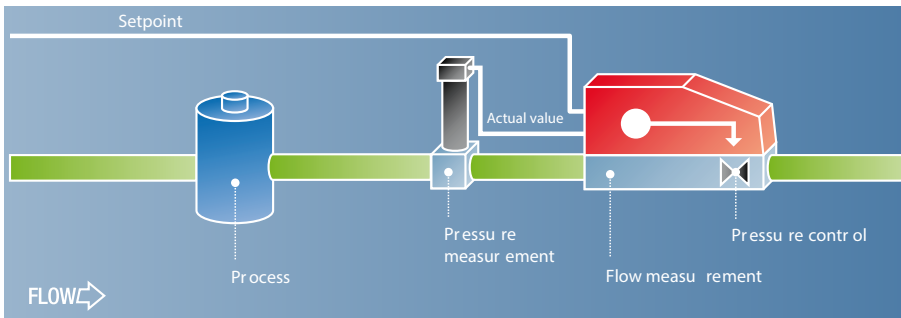


### Application example:

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

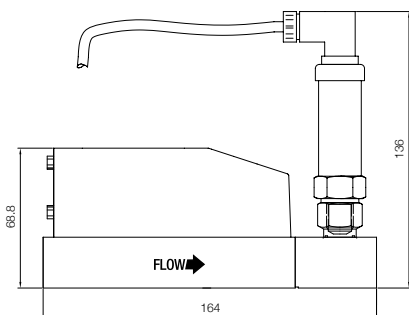
### Connection cables, power supplies, software «get red-y»

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.

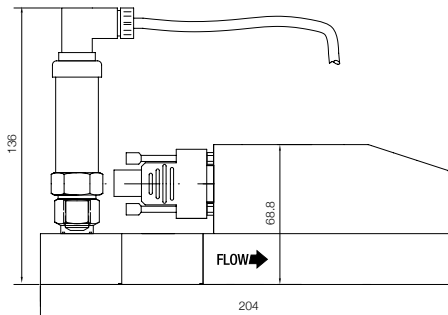
### Fittings, filters

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

## Dimensions G $\frac{1}{4}$ " (Dimensions G $\frac{1}{2}$ " on request)





red-y smart pressure controller GSP



red-y smart back pressure controller GSB

Technical Data on page 3

# red-y smart pressure controller

Technical Data																			
Instrument types																			
	<b>red-y smart pressure controller GSP</b> Electronic pressure controller Pressure controller with <b>external transmitter</b> and <b>customer-specific solutions</b> on request	<b>red-y smart back pressure controller GSB</b> Electronic back pressure controller																	
Instrument versions flow	<b>«Standard» – The economic solution</b>																		
	Accuracy: $\pm 1.0\%$ of full scale Turndown ratio: 1 : 50																		
Instrument versions pressure	<b>«Hi-Performance» – With highest accuracy and turndown ratio</b>																		
	Accuracy: $\pm 0.3\%$ of full scale + $\pm 0.5\%$ of reading Turndown ratio: 1 : 100 for GSM < 200 l <sub>n</sub> /min / GSC < 150 l <sub>n</sub> /min (air)																		
Measuring ranges flow (Air)	<b>Pressure control</b> Accuracy: $\pm 0.5\%$ of full scale																		
	<b>Back pressure control</b> Accuracy: $\pm 0.5\%$ of full scale																		
Measuring ranges pressure	<b>Differential pressure controller according to customer specifications</b>																		
	<b>Full scale freely selectable</b> pressure controller GSP back pressure controller GSB	<table border="1"> <thead> <tr> <th>Type</th> <th>Measuring range (Air)</th> <th>Connection</th> </tr> </thead> <tbody> <tr> <td>GSX-A</td> <td>from 0...25 ml<sub>n</sub>/min to 0...600 ml<sub>n</sub>/min</td> <td>G¼"</td> </tr> <tr> <td>GSX-B</td> <td>from 0...600 ml<sub>n</sub>/min to 0...6000 ml<sub>n</sub>/min</td> <td>G¼"</td> </tr> <tr> <td>GSX-C</td> <td>from 0...6 l<sub>n</sub>/min to 0...60 l<sub>n</sub>/min</td> <td>G¼"</td> </tr> <tr> <td>GSX-D</td> <td>from 0...60 l<sub>n</sub>/min to 0...450 l<sub>n</sub>/min</td> <td>G½"</td> </tr> <tr> <td colspan="3">Other ranges on request</td> </tr> </tbody> </table>	Type	Measuring range (Air)	Connection	GSX-A	from 0...25 ml <sub>n</sub> /min to 0...600 ml <sub>n</sub> /min	G¼"	GSX-B	from 0...600 ml <sub>n</sub> /min to 0...6000 ml <sub>n</sub> /min	G¼"	GSX-C	from 0...6 l <sub>n</sub> /min to 0...60 l <sub>n</sub> /min	G¼"	GSX-D	from 0...60 l <sub>n</sub> /min to 0...450 l <sub>n</sub> /min	G½"	Other ranges on request	
Type	Measuring range (Air)	Connection																	
GSX-A	from 0...25 ml <sub>n</sub> /min to 0...600 ml <sub>n</sub> /min	G¼"																	
GSX-B	from 0...600 ml <sub>n</sub> /min to 0...6000 ml <sub>n</sub> /min	G¼"																	
GSX-C	from 0...6 l <sub>n</sub> /min to 0...60 l <sub>n</sub> /min	G¼"																	
GSX-D	from 0...60 l <sub>n</sub> /min to 0...450 l <sub>n</sub> /min	G½"																	
Other ranges on request																			
Performance data	<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																	
Integration	<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> )																	
Safety	<b>Temperature sensitivity</b>	< 0.025% FS measuring range type / °C																	
	<b>Output signals</b>	analog (for actual value flow only)																	
	<b>Process connection</b>	digital (for pressure and flow)																	
	<b>Inlet section</b>	0..20 mA, 4..20 mA, 0..5 V, 1..5 V, 0..10 V, 2..10 V																	
	<b>Electrical connection</b>	RS-485; Modbus RTU (Slave); Lab View-VI's available Option: ProfiBus DP-V0, DP-V1																	
	<b>Mounting orientation</b>	G¼" female less than 60 l <sub>n</sub> /min, G½" female less than 450 l <sub>n</sub> /min																	
Safety	<b>Test pressure</b>	None required																	
	<b>Leak rate</b>	Sub D plug, 9 pole																	
	<b>Environmental protection</b>	Any orientation (horizontal only above 5 bar)																	
	<b>EMC</b>	16 bar a < 1 x 10 <sup>-6</sup> mbar l/s He IP-50 EN 61326-1																	

Rev.11\_022017\_red-y smart with pressure controller\_engl - subject to technical alterations

# red-y smart pressure controller

Type code											
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 600mln/min)				A	9					
	500 mln/min (G¼", 25 x 25mm)				B	2					
	1'000 mln/min				B	3					
	2'000 mln/min				B	4					
	5'000 mln/min				B	5					
	Customer-specific (Divider B, up to 6'000mln/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 60 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 (±1.0% full scale, 1 : 50)						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		
	Kundenspezifisch / OEM								K		
Analog output signals pressure transmitter	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	Nozzle 0.1 mm									2	1
	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

Rev.11\_022017\_red-y smart with pressure controller\_engl - subject to technical alterations