

# Air/gas proportional valve GRC



GUANGZHOU SINON COMBUSTION

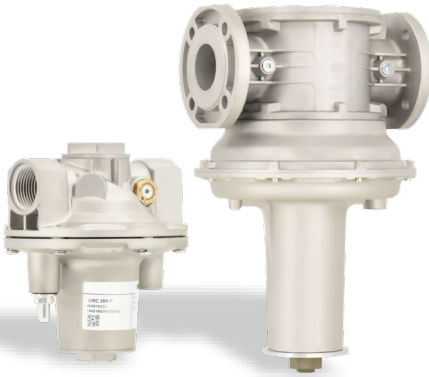
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## CHARACTERISTICS

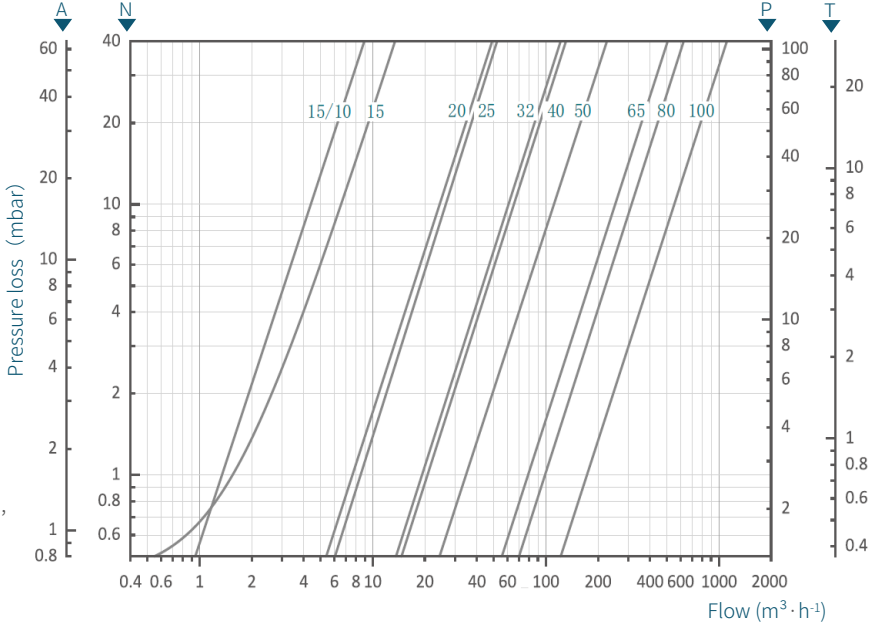
- Automatically adjust the valve outlet pressure according to the pressure of feedback tube.
- With pressure compensation, which can eliminate the effects of pressure fluctuations in the inlet medium.
- Feedback tube and valve outlet pressure ratio of 1:1, adjusting range of 1:10.
- Medium: natural gas, LPG, and other clean gases.

## APPLICATIONS

For the gas pipelines in automatic combustion system, the air-gas ratio of burner is controlled according to the feedback air pressure. It could be used in continuous proportional control systems or high/low pulse control systems, or be used as zero pressure valves in premixed combustion systems with Venturi tubes.

# SPECIFICATIONS

## Pressure loss



A: Air, 1.2 kg/m<sup>3</sup>,

N: Natural gas, 0.75 kg/m<sup>3</sup>,

P: LPG, 2.0 kg/m<sup>3</sup>,

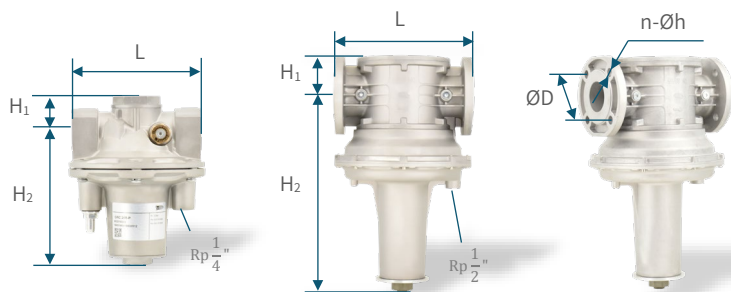
T: Town gas, 0.55 kg/m<sup>3</sup>.

Gas temperature: 20 °C.

## Type table

Type	GRC	20	R	-P	
Dimension	15/10: DN15	15: DN15	20: DN20	25: DN25	32: DN32
	40: DN40	50: DN50	65: DN65	80: DN80	100: DN100
Access	R: Thread	F: Flange (DN65~DN100)			
Other	P: Bypass				

## Dimensions



Type	Connection	L/mm	H <sub>1</sub> /mm	H <sub>2</sub> /mm	Max inlet pressure /mbar
GRC 15/10R	Rp $\frac{1}{2}$ "	126	32	132	200
GRC 15R	Rp $\frac{1}{2}$ "	126	32	132	200
GRC 20R	Rp $\frac{3}{4}$ "	126	33	132	200
GRC 25R	Rp 1"	126	33	132	200
GRC 32R	Rp $1\frac{1}{4}$ "	157	46	149	200
GRC 40R	Rp $1\frac{1}{2}$ "	157	46	149	200
GRC 50R	Rp 2"	202	52	168	200

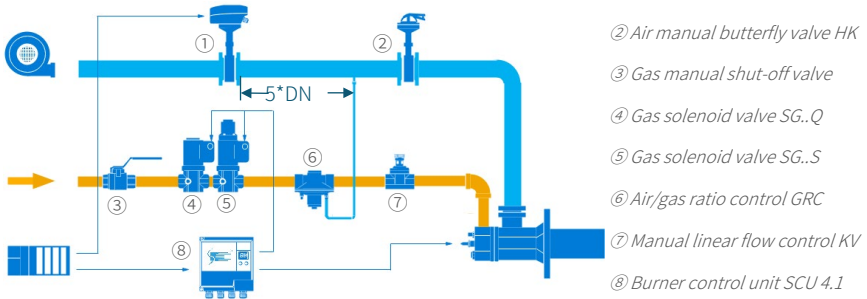
Type	Connection	L/mm	H <sub>1</sub> /mm	H <sub>2</sub> /mm	D/mm	h/mm	n	Max inlet pressure/mbar
GRC 65F	DN 65	310	89	440	145	18	4	200
GRC 80F	DN 80	310	100	440	160	18	8	200
GRC 100F	DN 100	350	115	495	180	18	8	200

When the interfaces are flange connections, the paired flanges conform to

GB/T9119-2010 in PN 1.6 MPa.

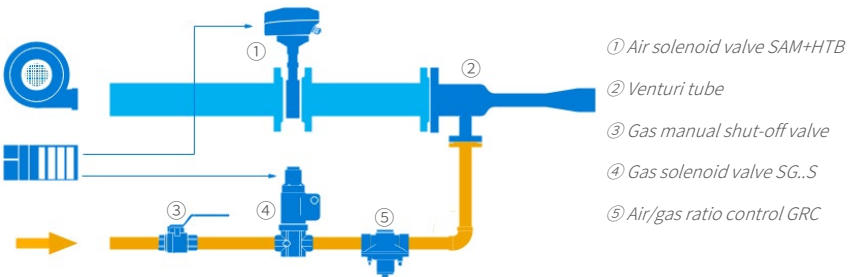
## SOLUTIONS

For continuous control or pulse control



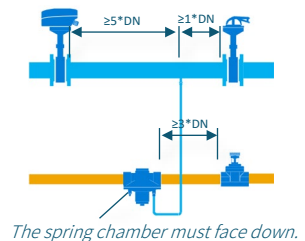
- In continuous control system, the valve is controlled by a 3-point step controller or 4~20 mA current controller (SAM).
- In pulse control system, the valve is controlled by a 2-point step controller (SAM).

Zero-pressure shut-off



## INSTALLATION

- Installation position: horizontal, with the spring chamber facing down.
- The arrow on the valve body indicates the flow direction, determine the installation direction according to the arrow.



- Ambient temperature: -15~60 °C, install away from heat sources.
- Reserve enough space under the valve for adjustment with an inner hex wrench.
- Feedback tube inlet: installed on the straight pipe between over 5\*DN downstream of the SAM and over 1\*DN upstream of the HK.
- Proportional valve: installed in the straight pipe at over 3\*DN upstream of the HK and downstream of the SG..S.

## Attention

- The pipe must be purged before installing the valve, pay attention to the correct use of sealing materials, forbid foreign matters falling into in the valve.
- Do not weld the pipe around the valve after installing to prevent foreign matters from blocking or damaging the valve.
- To facilitate maintenance, install a manual shut-off valve upstream.
- Install the filter SF upstream to protect the GRC from foreign matters.
- The valve inlet gas pressure needs to be greater than combustion air pressure due to the valve outlet pressure and feedback pipe pressure ratio is 1:1.
- Do not exceed the max inlet pressure of 200 mbar.
- The air-gas ratio is adjusted by the air manual butterfly valve and the gas manual control valve.
- For low fire rate, the gas ratio is adjusted by the knob at the bottom of the valve, adjustment range:  $\pm 3$  mbar.
- For high/low pulse control, adjust low-fire rate by adjustable bypass, while adjusting the knob to the Max.



 **Overpressure prohibited!**

## Maintenance

- Once a year. Increase the times of maintenance as is the case.