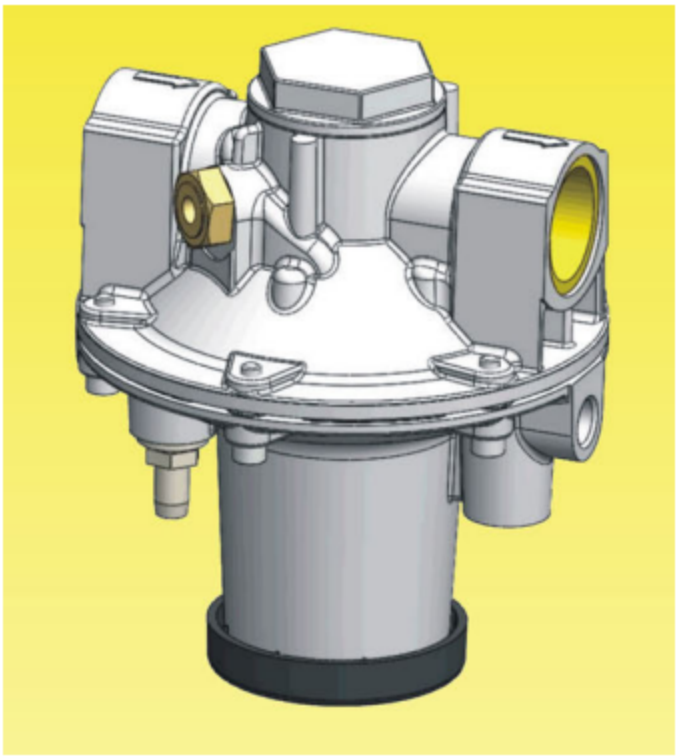
Astechnic
诺 一

AGK
Air-Fuel Proportional Valve



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AGK Air-Fuel Proportional Valve

Overview

AGK air-fuel proportional valve is a kind of valve which realizes constant ratio of gas to air, which is used to adjust gas flow in continuous control or pulse control. It can be applied in gas network control and commercial heating in the metal, glass and ceramic industries, such as packaging, paper and food industries.

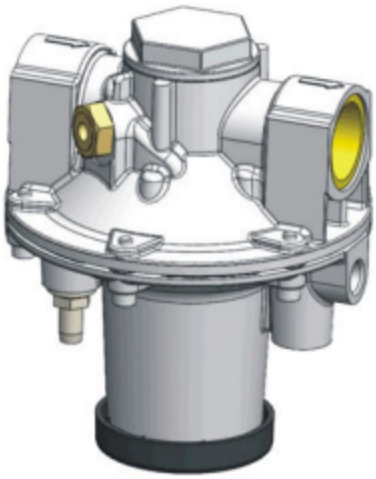


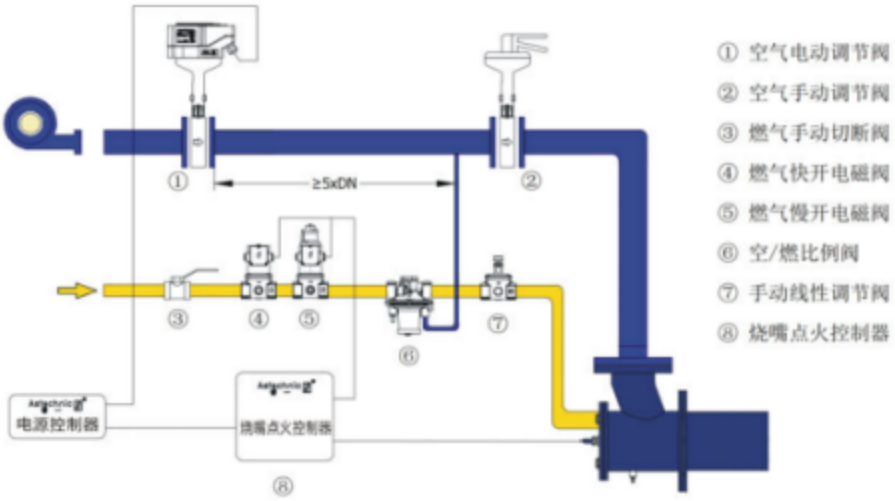
Fig. 1 AGK proportional valve

Features

- Proportional valve AGK series automatically adjusts the outlet pressure of proportional valve according to the feedback pressure of feedback pipe.
- The valve has the function of pressure compensation to eliminate the influence of pressure fluctuation in the inlet medium and maintain the stability of regulation.
- The pressure ratio of the feedback pipe to the valve outlet is 1:1 and the regulator range is 1:10.
- It is suitable for natural gas, liquefied gas, and other clean gases.

Functions and Applications

- The AGK series of proportional valves are used on the gas pipe in automatic combustion systems. It can output the corresponding gas according to the air pressure feedback of the feedback tube, and realize the control of the air-fuel ratio of the burner.
- It can be used in continuous proportional control system and large and small fire pulse control system, and can also be used as zero pressure valve in premixing with Venturi tube; in combustion system.



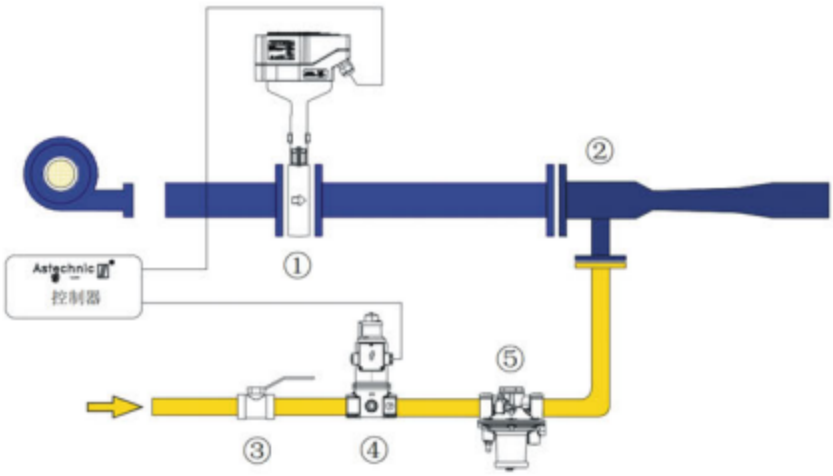
AGK Air-Fuel Proportional Valve

① Air electric control valve
② Manual air control valve
③ Gas manual shutoff valve
④ Gas manual shutoff valve
⑤ Gas quick opening solenoid valve
⑥ Air / fuel proportional valve
⑦ Manual linear regulating valve
⑧ Burner Ignition Controller

Power Supply Controller Burner Ignition Controller

Fig. 2 Installation example of continuous Control or Pulse Control of AGK proportional Valve

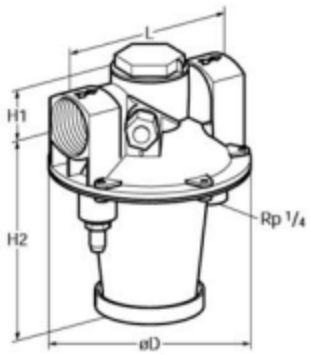
- In continuous control, the electric regulating valve usually adopts 3-point control or 4 ~ 20mA control.
- In pulse control, the electric regulating valve mostly adopts 2-point control.



① Air electric control valve
② Venturi tube
③ Gas manual shutoff valve
④ Gas quick opening solenoid valve
⑤ Air / fuel proportional valve

Fig. 3 Installation example of zero pressure control of AGK proportional valve

AGK Air-Fuel Proportional Valve

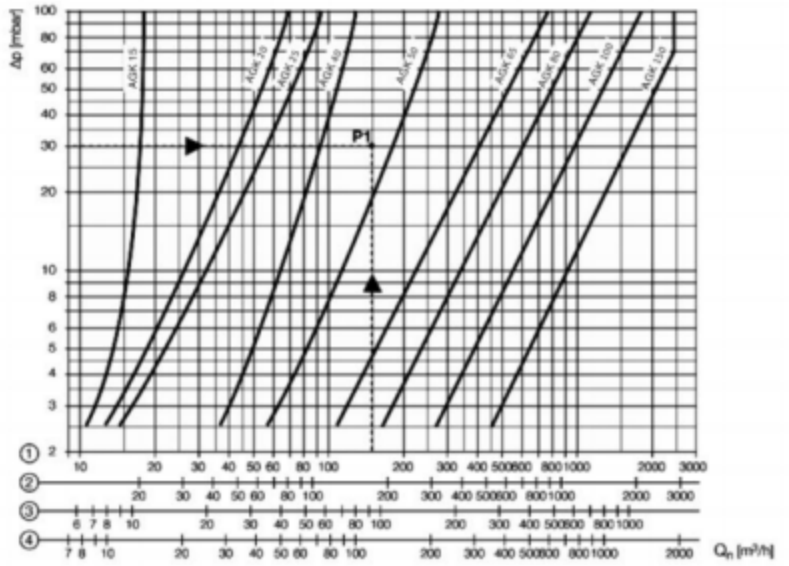


No.	Model	Nominal dimension	Connecting thread	Structural Dimension(mm)			
				L	H1	H2	φD
1	AGK15/AGK15-T	15	Rp1/2	120	34	132	134
2	AGK20/AGK20-T	20	Rp3/4	125	34	132	134
3	AGK25/AGK25-T	25	Rp1	125	34	132	134
4	AGK32/AGK32-T	32	Rp1-1/4	155	45	149	185
5	AGK40/AGK40-T	40	Rp1-1/2	155	45	149	185
6	AGK50/AGK50-T	50	Rp2	200	52	167	234

Fig. 4 Installation drawing of AGK proportional valve

Technical parameters of AGK proportional valve

- Product Structure: Internal thread connection;
- Air control pressure PL range: 0.5~120mbar;
- Outlet pressure Pa range: 0.2~119mbar; maximum pressure difference between inlet pressure Pin and outlet pressure Pout: 100mbar;
- Working medium: coal gas, liquefied petroleum gas, natural gas and other clean gases;
- Operating temperature: -15℃~60℃;



1=Natural gas 0.80 kg/m3; 2=Coal gas 0.58 kg/m3; 3=Liquefied gas 2.01 kg/m3; 4=air 1 .29 kg/m3

Fig. 5 Flow and pressure correspondence chart of proportional valve

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AGK Air-Fuel Proportional Valve

Order code and Model of AGK proportional valve

No.	Order code	Model	Product Description
1	104010150001	AGK15	Thread connection Rp 1/2 Continuous control
2	104010150002	AGK15-T	Thread connection Rp 1/2 small fire regulation
3	104010200001	AGK20	Thread connection Rp 3/4 Continuous control
4	104010200002	AGK20-T	Thread connection Rp 3/4 small fire regulation
5	104010250001	AGK25	Thread connection Rp1 Continuous control
6	104010250002	AGK25-T	Thread connection Rp1 small fire regulation
7	104010320001	AGK32	Thread connection Rp1 1/4 Continuous control
8	104010320002	AGK32-T	Thread connection Rp1 1/4 small fire regulation
9	104010400001	AGK40	Thread connection Rp1 1/2 Continuous control
10	104010400002	AGK40-T	Thread connection Rp1 1/2 small fire regulation
11	104010500001	AGK50	Thread connection Rp2 Continuous control
12	104010500002	AGK50-T	Thread connection Rp2 small fire regulation

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AGK Air-Fuel Proportional Valve

Precautions for system design, installation and maintenance of proportional valves

Installation location:

It can only be installed on horizontal pipes with the spring cavity vertically downward;

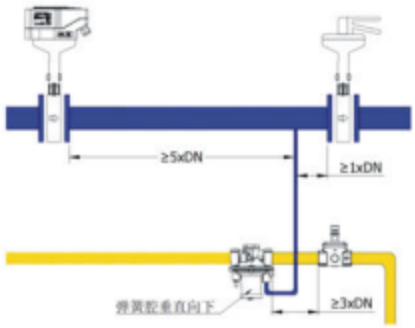
The arrow on the valve body indicates the direction of airflow, which should be paid attention to when installing;

The position under the valve should be reserved for easy adjustment with Allen wrench;

The working environment temperature is: -15 ° C ~ 60 ° C, it needs to be installed as far away from the heat source as possible;

The pressure intake position of the feedback pipe should be more than 5 times the pipe section of the upstream electric control valve, and the distance of the downstream air manual control valve should be greater than 1 times the pipe straight pipe section;

The downstream of the proportional valve shall be equipped with a gas manual regulating valve in the straight pipe section greater than 3 times, and the slow-opening gas solenoid valve shall be installed upstream of the proportional valve;



Note:

The pipe should be cleaned before the proportional valve is installed, and the sealing materials such as raw material belt should be used correctly during installation to prevent foreign bodies from falling into the valve.

Do not weld the pipe and flange after assembling the flange with the proportional valve in advance to prevent the welding melt or other impurities from blocking or damaging the valve.

It is recommended that a manual cut-off valve should be installed upstream of the proportional valve to facilitate valve maintenance.

It is recommended that a filter AF be installed upstream of the proportional valve to protect the proportional valve from foreign bodies, dust, etc.

Use:

When the proportional valve is used in the combustion system, the ratio of the gas outlet pressure to the feedback pipe pressure is 1: 1, so the inlet gas pressure of the proportional valve needs to be greater than the combustion air pressure.

The air pressure ratio of entering the burner is adjusted by the manual air butterfly valve downstream of the feedback pipe pressure position and the gas manual control valve downstream of the proportional valve.

Under the condition of low fire, the gas ratio of the proportional valve can be adjusted by the adjusting knob at the bottom of the proportional valve, and the adjusting range is about ±3mbar.

When used for large and small fire pulse control, the amount of small fire gas can be adjusted by adjustable bypass, and the adjusting knob can be adjusted to make the spring in a relaxed state.

The maintenance cycle is once a year, and the number of maintenance is increased as appropriate.