

PFV Pneumatic Flow Control Valve
(Siemens positioner)

Operation Manual

Hangzhou Fuyang HENT
Electromechanical Engineering Co.,Ltd

Application:

PFV series pneumatic flow control valve (that is, Dual function pneumatic flow control valve) is the special discharging equipment which avails of the most advanced oversea technology for both raw meal silos and cement silos; particularly is the best replacement of similar import equipment in sealing and discharge linear. It has a good efficiency contrast to similar imported products in the 1000t/d, 2500 t/d and 5000 t/d cement production line. Pneumatic flow control valve opens quickly through the driving force of the rotary cylinder. The automatic adjustment of the opening size is realized by the control signal through Siemens positioner. It mainly plays a role of flow control switch mainly in powder, grain materials, small particle transmission flow control system; it is used normally with manual cut-off valve together(that is, manual gate valve). PFV series pneumatic flow control valve is equipped with rotary cylinder, Siemens positioner as its control drive device so that to realize quick opening and closing of the valve, which is ideal equipment for flow regulation.

Structure Features:

(1). This product has the features as following: open and close flexibly, hard to be blocked, seal tightly without leakage, the spool and the valve end are hardly washout, high ability of worn out and high temperature resistance, high control accuracy, low noise rate and vibration, long service life etc.

(2). The rotary cylinder is original England KINETROL; Oil-water separator the original Taiwan AirTAC; positioner is the SIEMENS, SIPART SP2, 4-20 mA signal control can be accelerating rapidly with precise valve control.

(3). PFV series pneumatic flow control valve has a pleasing appearance, compact structure, small size, light weight, high sensitivity, non resistance, and no angle limit for installation and using.

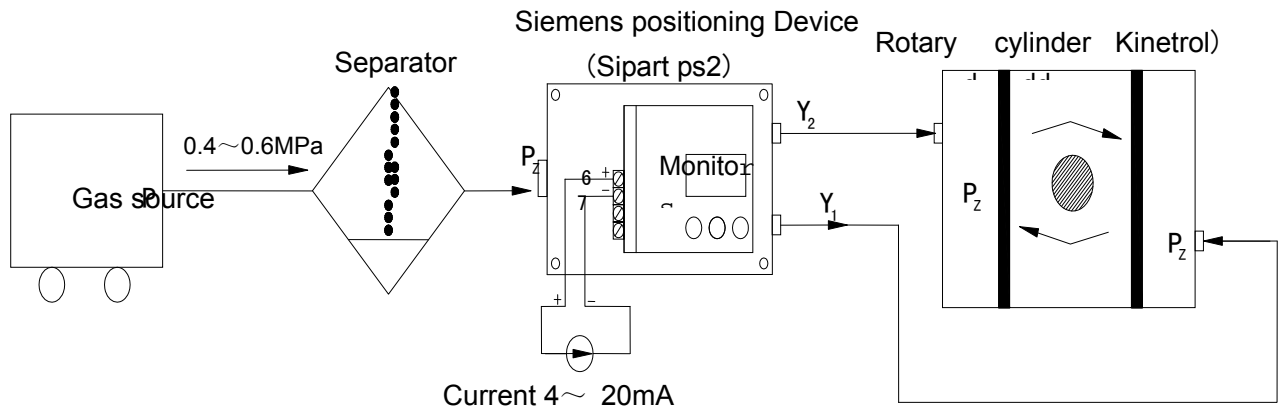
(4). Spool uses high wear performance materials; the arc style opening makes material flow without resistance. Spool sealed softly with quality high-density felt. The adjustment of the seal box can be undergone externally so that to adjust the degree of tightness of the spool and felt for the purpose of no leakage. The felt has a long service life, and can be replaced conveniently after worn.

Working Principle:

0.4~0.7Mpa gas is provided by the driving gas source to the oil-water separator of PFV series pneumatic flow control valve, by the oil-water separator filter, clean gas is supply to Siemens double action Siemens positioner, and then the stable gas flows to the double action rotary cylinder, and the rotary cylinder led the stem rapidly rotate. The signal is given back from the feedback panel inside the positioner to the program controller so that the valve can start / stop or do adjustment by the 4-20 mA signals. Input 4mA control signal to positioner, the valve will be fully closed, and 20mA control

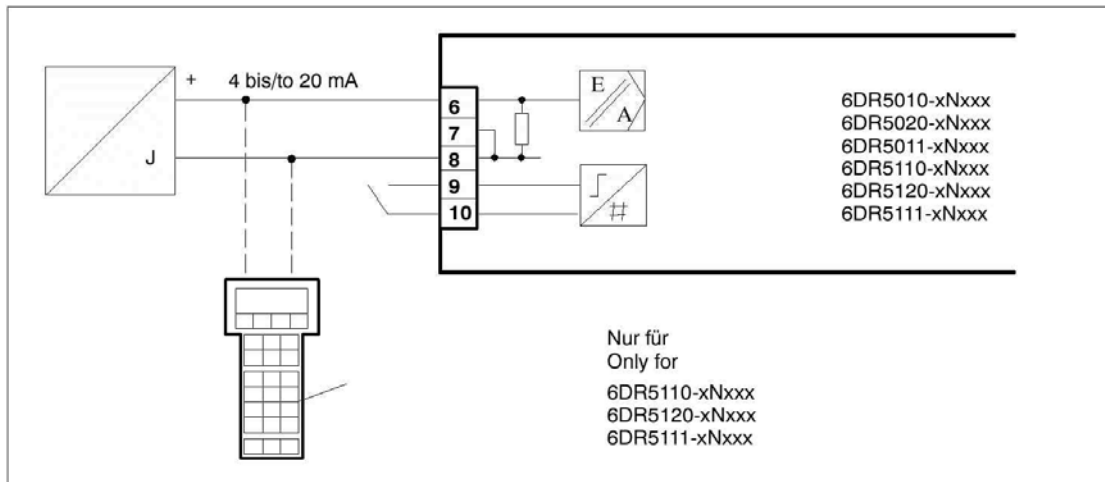
signal for positioner will allow the valve for fully open state. If the control signal suddenly disappeared, the valve will be quick-closed.

Gas circuit connection diagram:

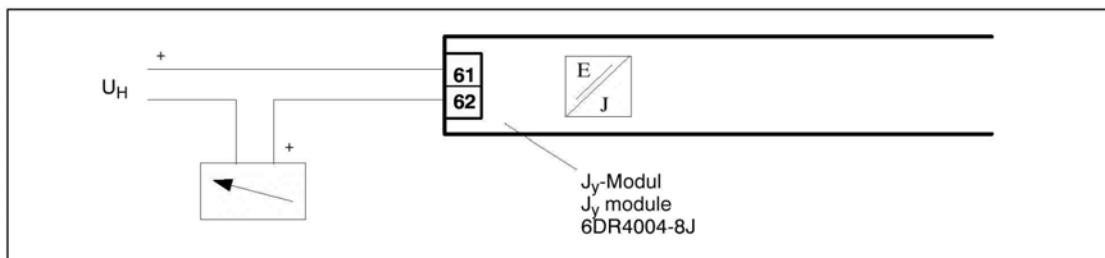


The circuit connection diagram

Signal supplied 4~20mA signal



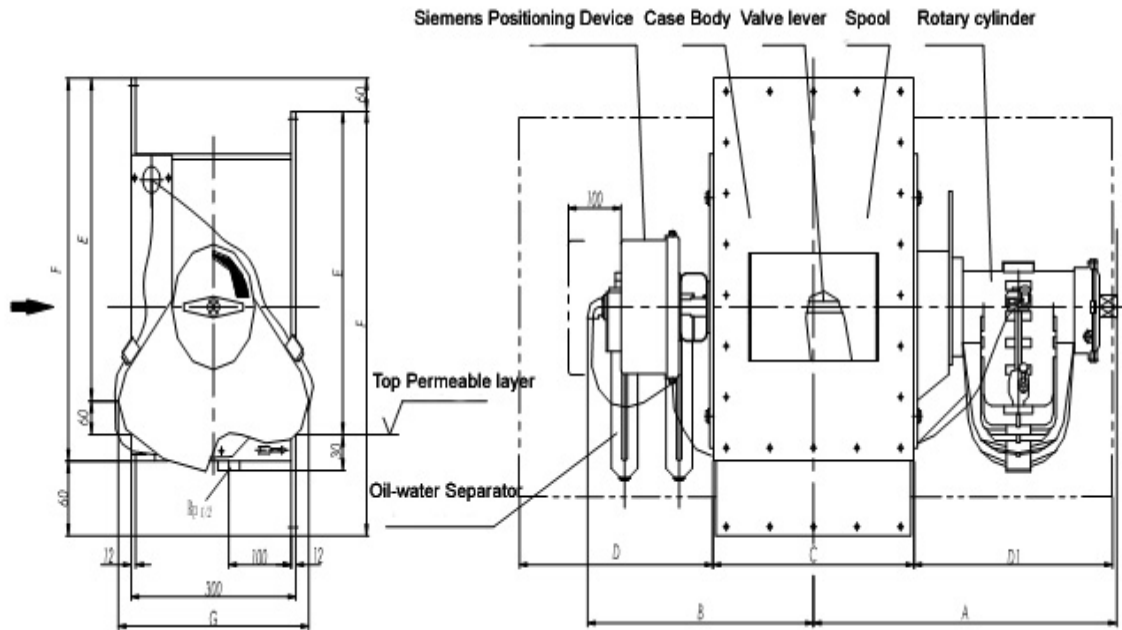
Feedback components circuit connected — +24V active circuit



Main technical parameters

Spec. Items		Units	B200	B250	B300	B400	B500	B630	B800
Valve Body	Flow Control Scope	m ³ /h	40~260	60~360	70~480	90~650	110~820	140~1450	160~1600
	Angle θ	°	71	71	71	71	71	71	71
	Outer Diameter Width	mm	200	250	300	346	346	346	900
	Outer Diameter Length	mm	346	346	346	400	500	600	900
	Circulation Area	m ²	0.012	0.014	0.017	0.026	0.032	0.051	0.073
Rotary Cylinder	Cylinder		England KINETROL cylinder						
	Maximum torque	N.m	355	355	355	490	1275	1375	1500
	Angle θ	°	80~100	78~100	80~102	80~102	78~93	78~93	78~93
	Gas Supply	MPa	0.4~0.7						
P3 positioner	Power supply	VDC	24						
	Input signal	mA	4~20						
	Feedback power supply	VDC	24						
	Gas supply	MPa	0.4~0.7 (dry, clean, oilless gas)						
Permeable layer	Material		PET5-6	PET5-6	PET5-6	PET5-6	PET5-6		
	Ventilation Area	m ²	0.057	0.064	0.07	0.09		0.13	
	Gas Consumption	m ³ /min	0.4	0.5		0.6		0.7	
Flow properties		Linear or percentage							
Action time		2s							
Working temperature		≤180°C							

Dimension and structure chart of the Flow control valve:



规格	A	B	C	D	E	F	H
200	435	175	290	507	375	484	257
250	460	200	340				
300	485	225	390				
350	510	250	440	500	398	520	272
400	535	275	490				
500	585	325	590				
630	655	390	730	655	575	730	305
800	787	592	900	655	745	900	450

Installation and usage:

1. In storage and transit should keep it properly to avoid the rain and humid.
2. Install it according to the instructions shown on the valve, no reverse.
3. Can be installed in vertical or level on pipeline.
4. Must be carefully inspected and cleaned the packaging materials of the valve before installation, to prevent foreign bodies into the valve and causing abnormal open, close or deadly block.

5. When install the flange valve, pay attention to tighten the bolts with symmetry. Valve flange and pipe flange must be paralleled, and the clearance must be reasonable so as not to cause excessive pressure, and even cracking.
6. Convenient operation must be considered for the valve installation place. The best height of the valve is 1.2 meters above the operation floor; the standing room should be left for operators if the valve is near the wall or the equipment. Avoid the fault operation.
7. We provide plant-driven device, which installed and debugged in the valve before leaving the factory. Users only need to supply 4-20mA current control signal and 0.4~0.7Mpa gas source.

Maintenance:

1. Regularly observe the operating conditions after first use, and resolve timely if any problem appears.
2. Fill the lubricate oil regularly to maintain the good working conditions of the running parts.
3. High-density felt must be promptly replaced after serious worn or rupture.
4. Please regularly check and maintain the integrity of the valve parts.
5. Regularly discharge the oil and water from the oil-water separator, and the oil should not exceed the 3/4 of the volume.

Hangzhou Fuyang HENT Electromechanical Engineering Co.,Ltd

Email:htjd@htgy.cn

<http://www.htgy.cn>