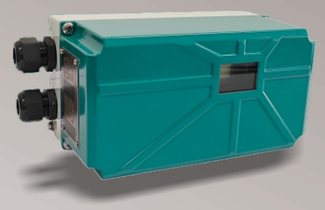
Accessory Series



HVP3 series
(intelligent type)



HVP11 series
(intrinsically–safety type)



HVP12 series
(intrinsically–safety type)



HVP20 series
(explosion–proof type)

HVP Series Intelligent Positioner

HVP series Intelligent positioner is the field Intelligent control instrument. It uses a piezoelectric valve control features to realize the static balance control for valve. Very low air consumption and strong vibration resistance. Since the mass product introduce to the market, have gained good reputation in customers from the oil, chemicals, power, light industry, metallurgy and other industries field.

Technical Feature

- Control Precision:0.5 class
- Quick installation and one click initialization
- Good resist vibration, high EMI class, can adapt to harsh environments
- Support HART, PROFIBUS–PA communication protocol
- Fuzzy Control Algorithm, high control quality, can overcome more friction to control
- Meet many output feature need
- Fault detect and self–diagnostics function
- Friendly human–machine interface, non–intrusive operation, dual–line LCD display
- Diagnostics software package
- Low power consumption, low air consumption, low operating cost
- Use the operating system software
- Software and hardware use the standard modular design
- Designed for many complex conditions
- IP65/ IP66, strong protection ability, can adapt to harsh environment
- Seismic and impact resistance

Operation Feature

- Less air consumption. Steady–State Air Consumption< 3.6x10 –2 Nm^3/h.Good energy saving
- MTBF ⩾ 100,000 hours
- Can replace the current traditional mechanical valve positioner and other kind of Intelligent positioner
- PC user management information
- Single one position can be used on both sliding–stem and Rotary type
- Hardware apply the modular design, easy to disassembly and change
- Easy and quick Self–tuning and parameter configuration

1、Technical Parameter

HVP Series Intelligent Positioner applies a two-wire transmission (i.e. power supply, 4 ~ 20mA analog signals, two-way digital communications signal with the two transmission lines), compose a feedback control loop with the pneumatic actuator. In this control loop, the valve opening is the signal be controlled and compared with the signal from the controller in the MPU (micro processor), through the control operation processing, the MPU output the control pulses of different lengths, lead the output pressure at the I/P conversion unit pressure output port be changed, so that the control valve get drive for control.

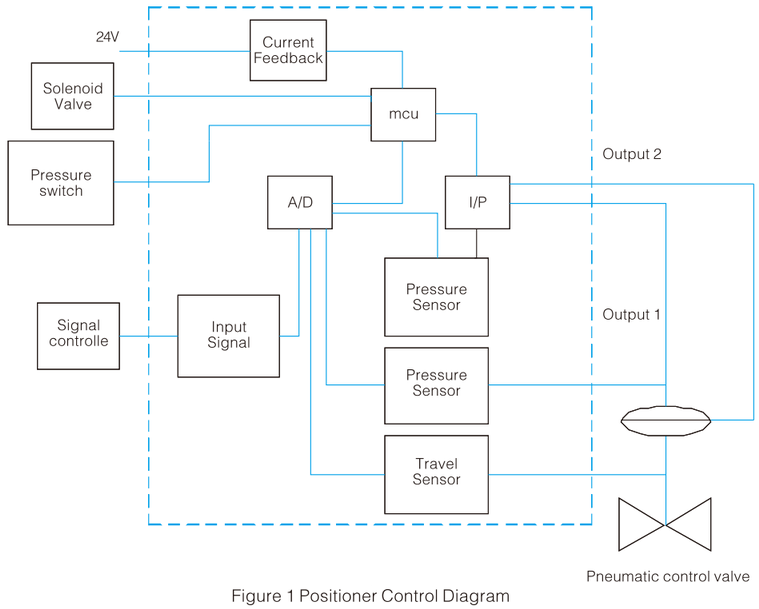


Figure 1 Positioner Control Diagram

1. Ambient Requirement

Operating Temperature Limits:-30℃- +80℃(Standard),
-40℃- +80℃(Low temperature Type Only be used in Non-explosion-proof condition);
Relative Humidity:5%～95%;
Atmosphere Pressure:86kPa～106kPa;
The ambient air must be noncorrosive
Air supply requirement:

- The air supply must be clean and dry, it should not contain obvious oil, oil steam and other liquid;
- Supply air must be noncorrosive, oil-free,steam-free;
- The particle quantity<5mg/m^3,particle diameter<5μm,Lubricant content<5mg/m^3;
- Under the operating pressure, the air supply dew point should be at least 10° C lower than the lowest site operating temperature.

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2. Basic Parameters

Parameters \ Type	HVP11	HVP12	HVP20	HVP3
Control Signal	4-20 mA.DC			
Supply Voltage	9V/10.5V(with HART)		9V	
Intrinsic Errors	±1%(Standard)、±0.5%			
Feedback deviation	≤1.0%(Standard)、≤0.5%			
Lightning protection	(Voltage peak)12.0kV (Current peak)1.0kA			
Deadband	0.1%(Min)			
Action Type	Double or Single Acting	Single Acting		Double or Single Acting
Explosion Protection	Ex ia ⅡC T4…T6 Ga	Ex db ⅡC T4…T6 Gb Ex tb ⅢC T100℃/T135℃ Db	Ex ia ⅡC T4 Gb Ex iaD 21 T135	Ex ia ⅡC T4…T6 Gb Ex ia ⅢC T85℃…T135℃ Db Ex db ⅡB/ⅡC T4…T6 Gb Ex tb ⅢC T85℃…T135℃ Db
Ingress Protection	IP65		IP66	
Communication	HART/PROFIBUS-PA	HART	HART/ModBus/ PROFIBUS-PA/FF	HART
Air Supply Connections	Rc 1/4、NPT 1/4(Standard)			
Electrical Connections	M20x1.5 (Standard)、NPT 1/2			
Travel Range	Sliding-stem:10-100 mm,Rotary:45° -95°			
Enclosure Material	Aluminium Alloy			
Temperature Sensor	Yes			
Pressure Sensor	No		Yes	No
Limit Switch	No		Yes	No
Solenoid Valve interfaces	No		Yes	No
Pressure Switch			Yes	No
interfaces	No		Yes	No
Valve Fault Diagnostics Function	No		Yes	No
Functional safety (optional)	SIL2			
Diagnostics software	No		Yes	No
Pressure Meter Manifold	Yes	No	Yes	Yes
Weight	1.8kg	2.4kg	2.0kg	2.8kg

3. The main parameters of the program configuration

Position Direction	Up or Down can be set
Signal Direction	Up or Down can be set
Valve action	Direct or Reverse acting can be set
Actuator	Single or Double Acting

Signal Cut off	Start and end point can be set
Shutdown function	Can be set
Flow Characteristic	Linear,Quick-Open, Equal Percentage、set as request

4. Accessibility Function

Position Feedback	4-20 mA.DC 4-20 mA.DC
Proximity switches 24V microswithes	2 proximity switches for min. and max. position 2 24V microswitches for min. and max. Position
Position frozen	When the interrupt of power,air or signal of Positioner happened,the controlled valve maintains the current opening position.(Note：Need Configure Solenoid Valve).
Internal Leakage Detection	Positioner will raise the ALARM when Bellows seal or packing broken and leakage arise. (Note:Need Configure the Pressure Switch)
Pressure Detection	Detect the Positioner pressure and Actuator container pressure.

5. Electrical Parameters

Signal Electical Parameters	
Power Source	Loop Supply Power :4-20 mA
Minimum Signal	3.6 mA
Mximum Signal	20.8mA
Supply Voltage	9V(Non-HART) 10.5V(HART)
Reverse Protection	-35 VDC
Overcurrent Protection	Effective Overload :35 mA

Feedback Electical Parameters	
Supply Power Source	24V.DC(For Current feedback and alarm module output function)
Output Signal	(Galvanic isolation 500VDC)
Voltage	18-35V
Feedbackdeviation	0.5%
Resistance	0-750Ω
Open-circuit Voltage	Ex d IIC T4/T5/T6 Ui ⩽ 28 V Ex ia IIC T6 Ui ⩽ 28 V

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SIC CONTROL VALVE

Overall dimension

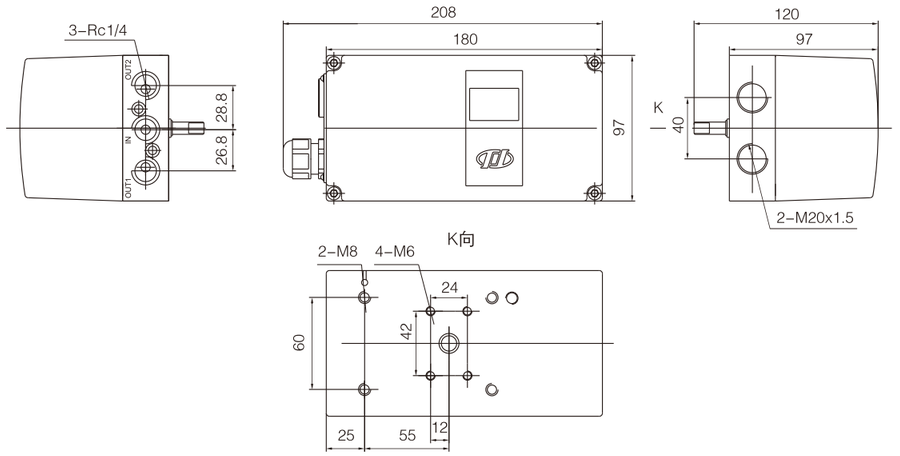


Figure 2 HVP11 Intelligent Positioner

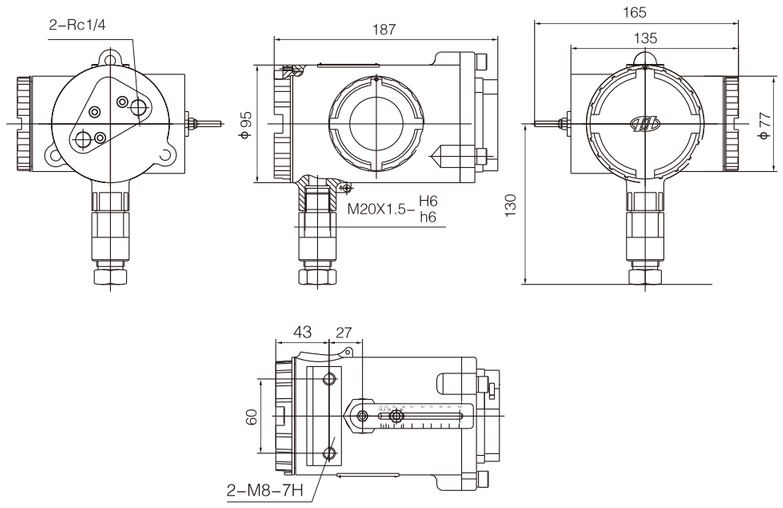


Figure 3 HVP12 Intelligent Positioner

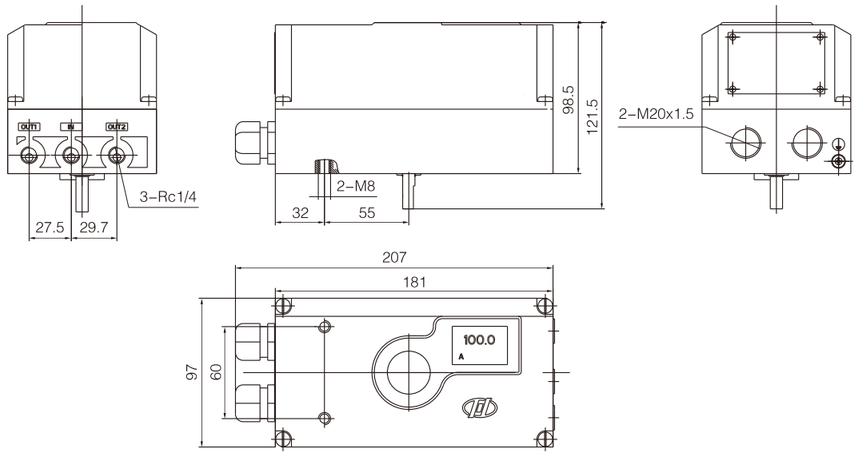


Figure4 HVP20 Intelligent Positioner

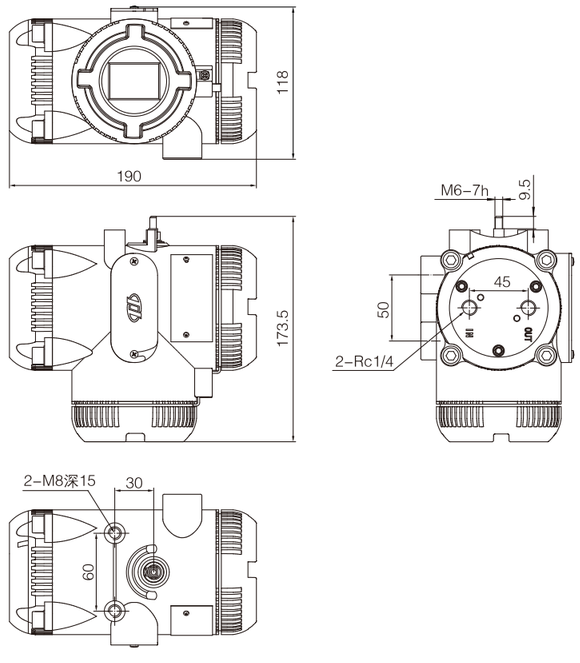


Figure 4 HVP3 Intelligent Positioner

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SIC CONTROL VALVE

Selection Sheet

HVP11Selection Sheet

	Type Code								
Intelligent Positioner	HVP								
Intrinsically Safe		11							
Single Acting Double Acting			1 2						
Sliding-stem Rotary				L R					
No communication HART Communication Profibus-PA Communication FF Communication					0 1 2 3				
No Position feedback module With Current feedback module With Alarm Module With Current feedback and alarm Module						0 1 2 3			
Cable Connection: M20x1.5 NPT1/2							0 1		
Air Connection: Rc1/4 NPT1/4								0 1	
Operating Temperature: Standard Low temperature									S L

HVP12Selection Sheet

	Type Code									
Intelligent Positioner	HVP									
Flameproof		12								
Single Acting			1							
Sliding-stem Rotary				L R						
No communication HART Communicatio					0 1					
No Position feedback Function With Position feedback Function						0 1				
Cable Connection: M20x1.5 NPT1/2							0 1 2			
Air Connection: Rc1/4 NPT1/4								0 1 2		
Operating Temperature Standard									S	
Non dust explosion proofy Dust explosion proof										0 S

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SIC CONTROL VALVE

HVP20 Selection Sheet

	Type Code									
Intelligent Positioner	HVP									
Diagnostics		20								
Single Acting Double Acting			1 2							
Sliding-stem Rotary				L R						
HART Profibus-PA FF	HART Communication Profibus-PA Communication FF Communication				1 2 3					
No Position feedback Function With Position feedback Function						0 1				
Cable Connection:	M20x1.5 NPT1/2						0 1			
Air Connection: NPT1/4								1		
Operating Temperature:	-30~+80℃ -40~+80℃								S L	
Limit Switch	No Intrinsically Safe Switch									0 1
Solenoid valve control:	No Have									0 1

Note: equipment with solenoid valve control can only be used in non explosion-proof places!

5–4 HVP3 Selection Sheet

	Type Code											
Intelligent Positioner	HVP											
Non explosion proof type		30										
Intrinsically safe explosion proof type		31										
Explosion proof type		32										
Intrinsically safe dust type		33										
Dust enclosure type		34										
Composite explosion–proof type (intrinsically safe + flameproof + dust)		35										
Single Acting			1									
Sliding–stem Rotary				L R								
No communication HART Communication					0 1							
No Position feedback module With Current feedback module With Alarm Module With Current feedback and alarm Module						0 1 2 3						
Cable Connection M20x1.5 NPT1/2							0 1					
Air Connection: Rc1/4 NPT1/4								0 1				
Operating Temperature: –30~+80℃ –40~+80℃									S L			
Pressure meter assembly: No Have										0 1		
Coating corrosion resistance: Standard Enhance											0 1	
Identification code:												–00

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SIC CONTROL VALVE

Ordering Information:

- When the TYPE Number of limit switch selected is mechanical switch, only be used in non– Intrinsically Safe condition;
- Complementary products: modems, PC monitoring software, special installation accessories, air filter regulator etc;
- Valve position feedback module, limit switch module, the display module can be sold separately;
- If you have any questions about the product, or require information not included in this manual, please contact the Sichuan Chongqing sales offices or agents;
- Product Type and specifications and technical parameters may be changed due to technological improvement.