

Series W-PICVXXX-16Q/25Q (DN65-DN150)

Pressure Independent Control Valve

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Pressure Independent Control Valve

◆ Application

W-PICV series Pressure Independent Control valve is designed for terminal equipment in AHU, PAU or MAU systems and for terminal equipment such as plate heat exchanger in heating systems. It is used to regulate the flow and simultaneously keep the differential pressure at both ends of the valve constant. Since the valve avoids flow fluctuation caused by the opening or closing of other equipment, the system is able to be stable, efficient and energy-saving.

◆ Features

- Equal percentage flow characteristic;
- Constant differential pressure is achieved;
- Self-compensating valve core realizes easy shutoff;
- 5 layer V-ring sealing and self-compensating spring result in higher abrasion resistance and longer service life;
- Electronic preset of maximum flow facilitates on-site commissioning;
- Fault auto-detection and alarm function, overload protection for power supply;
- Stroke auto-detection;
- Manual lever for convenient on-site commissioning and troubleshooting;
- Three test points realizes measurable across the control valve;
- The spring is not immersed in the liquid results in longer service life.



◆ Operating Principles

PICV is a three-in-one valve that plays the roles of both a differential pressure balancing valve and an electric control valve. No matter how the system's differential pressure changes, the valve will keep the differential pressure at both ends of it constant. In other words, the flow goes through the valve will not change with the pressure fluctuation of the system. This enables the valve to have an accurate equal percentage control characteristic. Consequently, the whole system remains stable when the valve is regulating the flow.

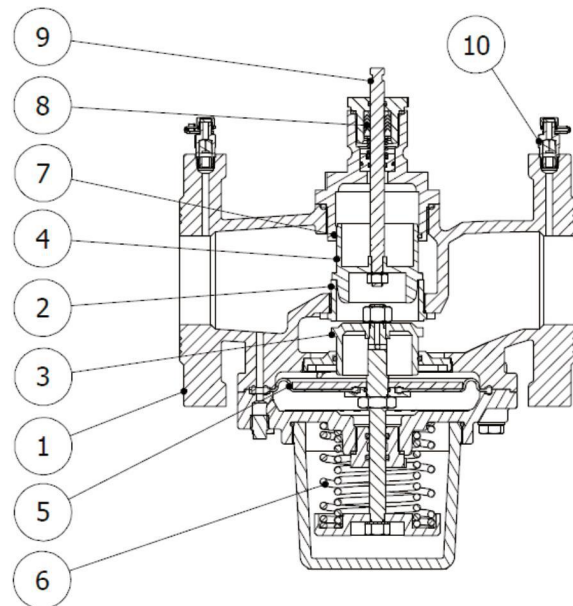
◆ Technical Specification

Dimensions: DN65–DN150
Working Temperature: –10~130°C
Working Pressure: PN16、PN25
Fluid Medium: Water / Ethylene Glycol
Connection: Flange Connection
Connection Standard: GB/T17241.6, GB/T9113.1–2000, ISO7005

Flow Deviation: ± 5%
Working ΔP: 30KPa–400KPa
IP Grade: IP54
Control Characteristic: Equal Percentage

Materials:

- ① Valve Body: Ductile Iron QT450–10
- ② Valve seat: Stainless Steel SS304
- ③ DP Valve Core: Stainless Steel SS304
- ④ Control Valve Core: Stainless Steel SS304
- ⑤ Membrane: HNBR
- ⑥ Spring: Stainless Steel SS304
- ⑦ Valve Core Sealing: HNBR
- ⑧ Valve Stem Sealing: HNBR&PTFE
- ⑨ Valve Stem: Stainless Steel SS304
- ⑩ Testing points: DZR Brass CW602N



◆ Technical Parameters

Product Type:

PN16 Valve Body:

Type	Size	EDP Code	Rated Flow(m ³ /h)	Stroke(mm)	Actuator
W-PICV065-16Q	DN65	61924771	24.2	20	W-A11A1X
W-PICV080-16Q	DN80	61924772	30.9		
W-PICV100-16Q	DN100	61924773	66.0	40	W-A11C1X
W-PICV125-16Q	DN125	61924774	103.0		
W-PICV150-16Q	DN150	61924775	145.0		

PN25 Valve Body:

Type	Size	EDP Code	Rated Flow(m ³ /h)	Stroke(mm)	Actuator
W-PICV065-25Q	DN65	61924776	24.2	20	W-A11A1X
W-PICV080-25Q	DN80	61924777	30.9		
W-PICV100-25Q	DN100	61924778	66.0	40	W-A11C1X
W-PICV125-25Q	DN125	61924779	103.0		
W-PICV150-25Q	DN150	61924780	145.0		

Actuator:

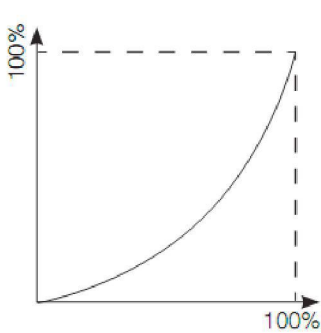
Type	EDP Code	Actual Output Force(N)	Working Voltage	Control Signal	Actuating Time(s/mm)
W-A11A1X	616P2241	500-700	24VAC	0(2)-10V, 0(4)-20mA	3.85
W-A11C1X	616P2243	1800-2000			3.2

Coding Rules:

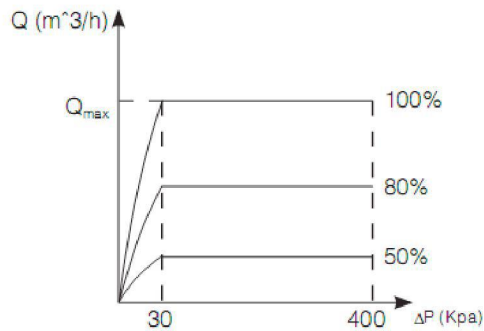
W	WATTS	W-	PICV	100	-25	Q
PICV	Pressure Independent Control Valve					
Size						
065-150:	DN65-DN150					
Working pressure						
16-PN16	25-PN25					
Body Material: Ductile Cast Iron						

Electronic Preset of Maximum Flow:

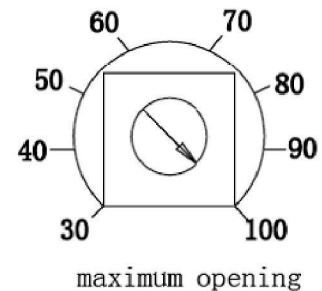
Any opening rate ranging from 30% to 100% (maximum flow) can be preset by regulating the potentiometer in the actuator. The factory presetting value is 100%. This function satisfies the special demand of customers and increases the control precision.



Equal Percentage Control Characteristics



Differential Pressure-Flow Characteristics



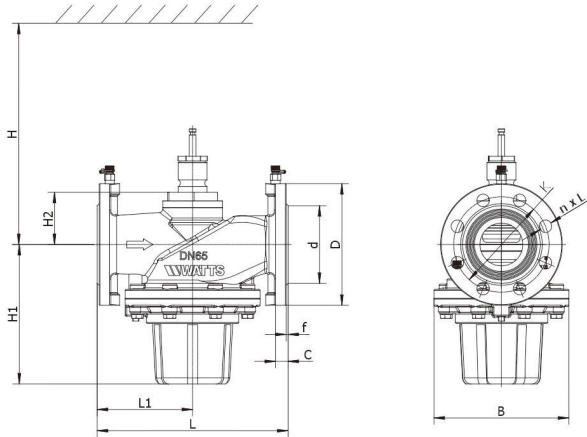
Regulator potentiometer

Opening-Flow Chart (m³/h)

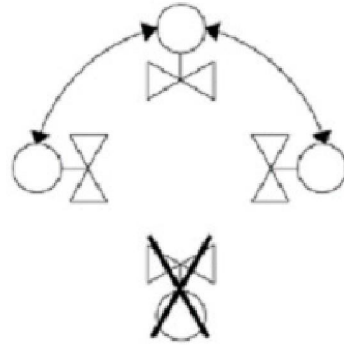
Size \ Opening	30%	40%	50%	60%	70%	80%	90%	100%
DN65	7.2	7.4	7.7	9.1	11.2	15.2	20.3	24.2
DN80	8.2	8.5	9.5	11.7	15.0	19.5	25.8	30.9
DN100	14.4	14.6	17.8	22.9	33.8	46.2	56.2	66.0
DN125	26.3	31.9	36.5	48.0	70.2	81.2	95.4	103.0
DN150	35.5	50.5	70.0	96.0	113.7	128.7	139.0	145.0

◆ Installation

Installation Dimensions:(in mm)



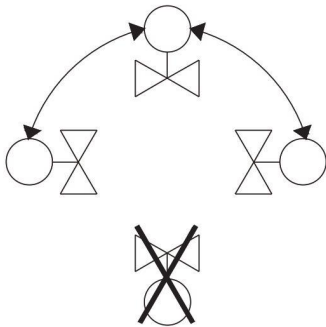
Installation Direction:



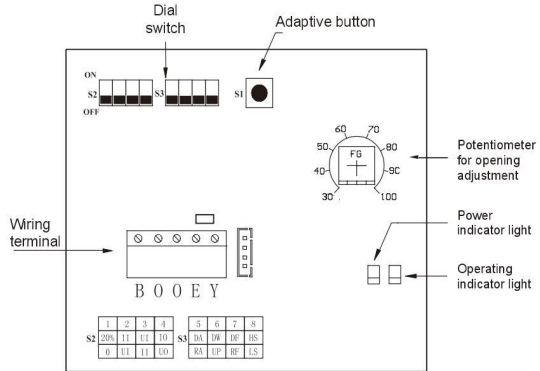
Downward Installation Prohibited

DN	PN16			PN25			d	f	C	L	L1	B	H	H1	H2	阀体重量 KG
	D	K	n x L	D	K	n x L										
65	185	145	4x19	185	145	8x19	118	3	19	290	145	204	415	212	80	25
80	200	160	8x19	200	160	8x19	132	3	19	310	155	224	419	215	84	29
100	220	180	8x19	235	180	8x23	156	3	19	350	175	255	672	231	127	41
125	250	210	8x19	270	220	8x28	184	3	19	400	200	293	673	290	128	60
150	285	240	8x23	300	250	8x28	211	3	20	480	240	371	690	320	145	86

Wiring and Panel Diagrams of Electric Actuator:

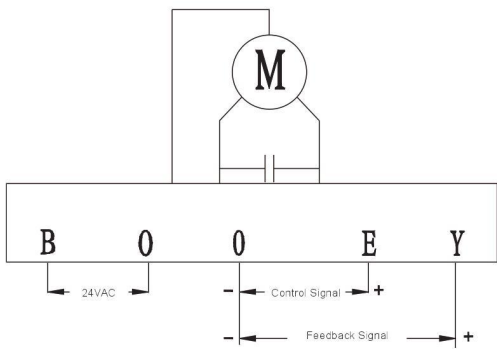


Downward Installation Prohibited

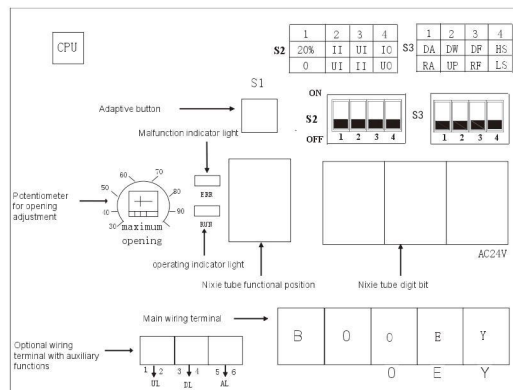


W-A11A(B)1X (500/1000N)

Wiring and Panel Diagrams of Electric Actuator:



Wiring Terminal Diagram



W-A11C(D)1X (1800/3000N)