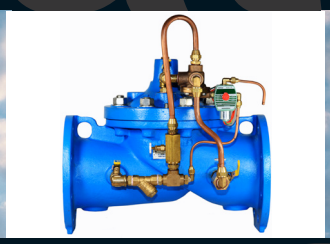
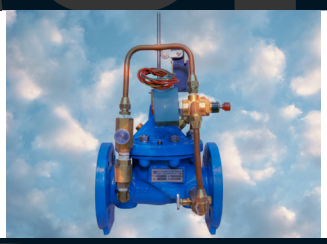
美国水工业专家
since 1874

Water Safety

ACV

“沃茨水工业”官方微信

WATTS

Watts
Water Technologies

- Since 1874

For more than 140 years, we have designed and manufactured innovative water products. In addition, by optimizing production and R&D, our Company has continued to promote the comfort and safety of people and the quality, and the conservation of water. Our integrated solutions have helped our customers expedite sustainable development, while reducing the cost.

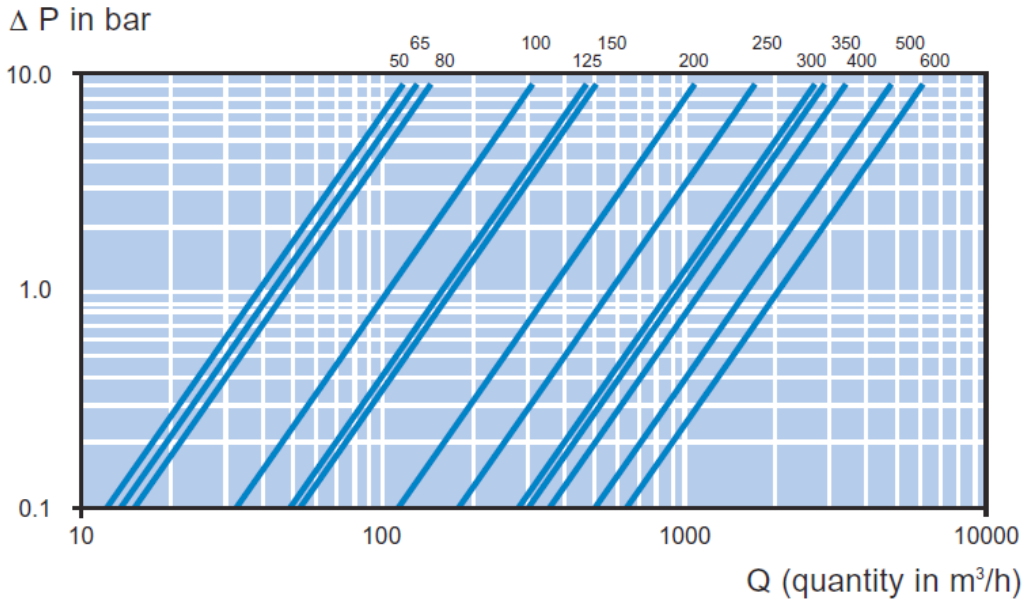
Watts Water Technologies is a respected global business, with manufacturing facilities in Europe, Asia, and North America. Since entering the Asia-Pacific market in 1994, Watts Water has established Watts (Shanghai) Management Co., Ltd., Watts Water Equipment Manufacturing (Ningbo) Co., Ltd., and Watts (Ningbo) International Trading Co., Ltd. In 2007, the Company made the decision to base its Asia-Pacific headquarters in Shanghai, China, and to set up operational branches in Beijing, Guangzhou, Chengdu, Singapore, Australia and South Korea.

In recent years, Watts Water Technologies has continued to expand its business scope. The Company successfully completed the acquisition of Danfoss Socla S.A.S and the water-control businesses of affiliated entities under the control of Danfoss A/S in a share and asset purchase transaction in April 2011. At the end of 2014, Watts acquires AERCO International Inc. whose products complement our existing portfolio, strengthening our ability to provide a total solution for our customers.In 2015, Watts acquired Apex Valves Company from New Zealand. Apex brought a wealth of knowledge to Apex and strengthened Watts immensely.Through technology innovation, continued capital injection, and by utilizing and training local talent, Watts Water has formed a solid basis for its long-term growth.

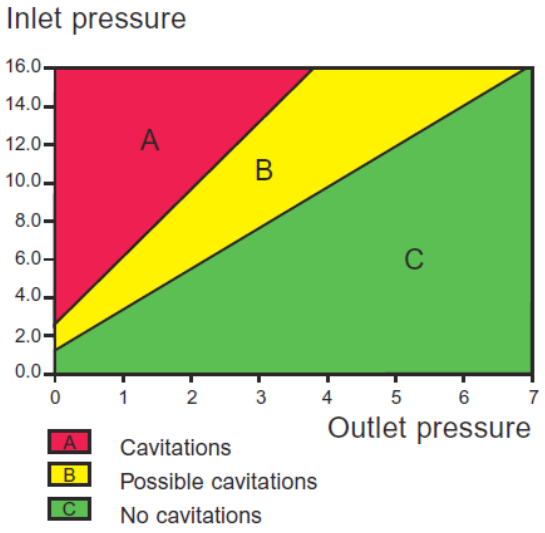
Catalog

The Main Valve Pressure Loss Curve-M Series Hydraulic Control Valve

Pressure Loss Curve



Cavitation Curve



Minimum required pressure difference for opening valve

Basic valve (chamber connected to device outlet):

- with standard spring 0.10 barRegulating valve:
- with standard spring 0.25 bar

Maximum rate of flow (measured at valve inlet):

Maximum continuous 3.4 m/s

Maximum peak 4.3 m/s (if higher rates occur, contact your supplier)

M Series Hydraulic Control Valve

Valve Name	M Series Type
Modulating Float Control Valve	W-M110-10
On/Off Float Control Valve	W-M110-14
Pressure Reducing Valve	W-M115
Non-Surge Check Valve	W-M118
Rate-of-Flow Control Valve	W-M114
Pressure Relief, Sustaining or Backpressure Control Valve	W-M116
Solenoid On-Off Control Valve	W-M113-12/6
Pump Control Valve	W-M113-46/21
One Way Flow Altitude Valve	W-M127-1

Modulating Float Control Valve
(W-M110-10)

Application:

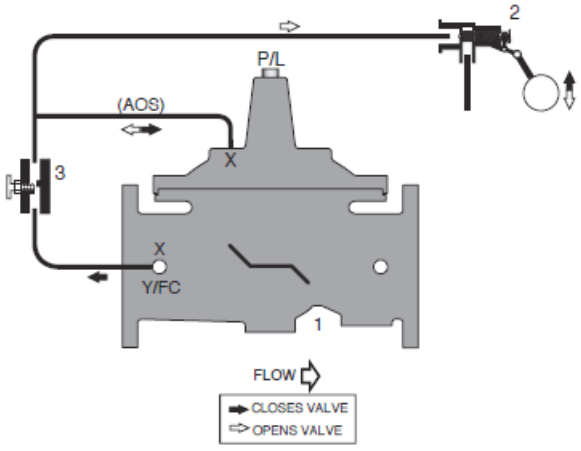
The Watts W-M110-10 Modulating Float Control Valve consists of the main valve of hydraulic control valve and adjustable floating ball valve. It can adjust the liquid level height, once the adjustment is completed, the valve will always maintain the liquid level height. It's generally used in water tank or reservoir in industrial enterprises and residential building.

Features:

1. Compact structure, reliable sealing;
2. Simple structure, convenient maintenance;
3. Control the main valve opening and closing through floating ball valve, making sure that water level inside the water tank keeps given height;
4. The main valve opening or closing speed can be adjusted by the needle valve;

Operating Principles:

The main valve, floating ball valve and needle valve are connected by copper tube (as below), when drawdown, floating ball also drops, water in the upper cavity of main valve discharges through the floating ball valve. Because of the resistance of needle valve, water pressure in the upper cavity of main valve reduces, high pressure in the main valve inlet pushes the disc, main valve opens to supply water to the water pool. When the liquid level rises, floating ball rises to close the floating ball valve, the upper cavity of main valve inflows constantly through the needle valve, until the pressure of upper cavity is equal to the inlet, and the disk area of main valve upper cavity is greater than the valve port area, upper cavity forms a downward thrust, making the main valve closed and stopping inflow of the water pool.



STANDARD COMPONENTS
1 - Main Valve (Single Chamber)
2 - Modulating Float Control
3 - Adjustable Closing Speed

OPTIONS and ACCESSORIES
- X - Isolation Cocks
- FC - Flo-Clean Strainer
- Y - Y-Strainer (Replaces Flo-Clean)
- AOS – Adjustable Opening Speed
- P - Position Indicator
- L - Limit Switch

Technical Specification:

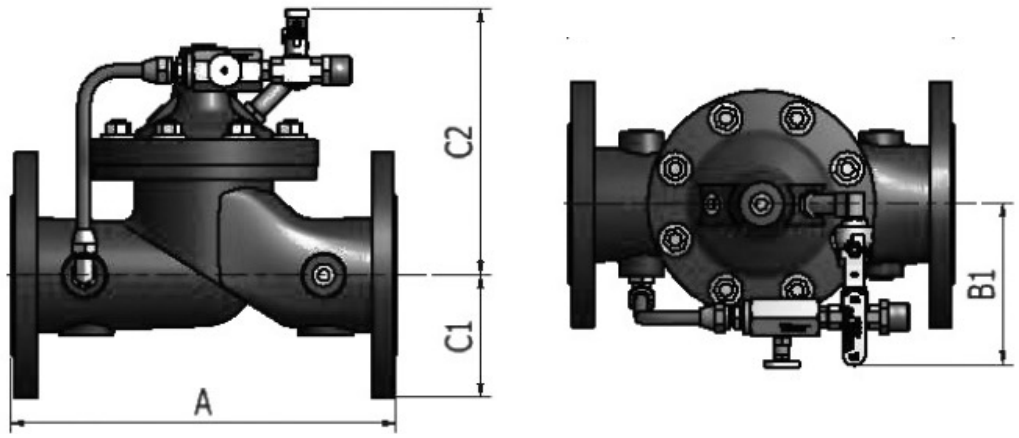
Nominal Diameter:	DN50~DN300
Nominal Pressure:	PN16
Float Diameter:	100 mm
Working Temperature:	0°C~80°C
Minimum Different Pressure:	0.035MPa
Fluid Medium:	Water
Level Control Hight:	≤100mm

Material:

Part	Body / Bonnet	Stem	Seat	Diaphram	Sealing	Float Ball
Material	Ductile Iron	Stainless Steel	Stainless Steel	NBR + Nylon	NBR	Stainless Steel

Installation Dimensions:

Connection Dimension: GB/T 17241.6;



Size(DN)	A(mm)	B1(mm)	C1(m)	C2(mm)
DN50	230	126	82.5	259
DN65	290	123	92.5	200
DN80	310	123	100	196
DN100	350	200	110	233
DN125	400	212	125	308
DN150	480	224	142.5	315
DN200	600	258	170	365
DN250	730	315	202.5	444
DN300	762	377	241	518

◆ Typical Application:

Water tank or reservoir in industrial enterprises and residential building

◆ Installation Instructions:

(1) In the process of transportation and installation, valve must avoid knock against, preventing surface coatings and accessories damage;

(2) Water supply pipeline should be washed before floating ball valve installation, eliminating sand, gravel and other debris in the pipe;

(3) The flow direction from inlet to outlet should be paid attention to in installation, and maintenance space around the valve is convenient to assemble;

(4) The inlet and outlet of main valve should be installed with gate valve or butterfly valve for easy maintenance;

(5) Float ball is 1.5m away from outlet of main valve while installing, in order to prevent water wave from damaging float ball, however, float ball will be allowed to close if there is a shield protecting it;

(6) Inlet pressure of main valve is 0.035MPa, which is bigger than outlet pressure of main valve, and the size of main valve is the same as pipeline;

(7) For the size below DN150, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN150 only can be installed horizontally;

(8) Connect Modulating Float Control to main valve using 3/8” diameter minimum copper tubing;

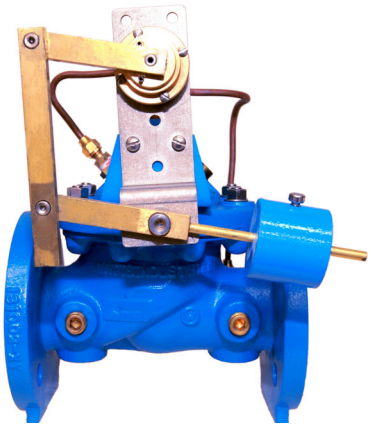
(9) The height must be enough between limited liquid level and overfall, it takes some time from closing float ball valve to closing main valve, as to ≤DN100 valves, it only takes less time, as to≥ DN100 valves, maybe it takes over 10s, during regular working, water is not allowed to flow from overfall.

(10) Valve should be checked regularly, ensuring the debris in filter being cleaned.

On/Off Float Control Valve
(W-M110-14)

Application:

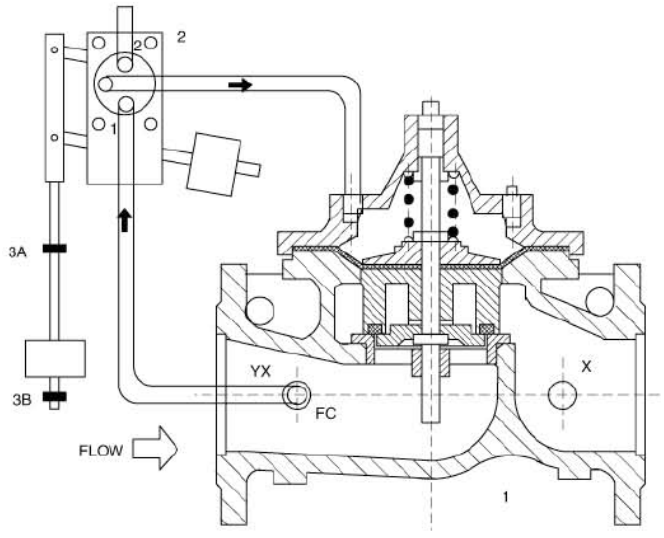
The Watts W-M110 On/Off Float Control Valve is made up of the main valve of hydraulic control valve and floating ball valve whose stroke can be adjusted, the main valve whose size is bigger than DN150 also adds an accelerator to accelerate opening or closing. The characteristic of the valve is a large range of liquid level control height. Controlled by high and low points in floating ball stem, can reduce the frequency of the main valve opening and closing and prolong the service life. It can be installed with the main valve or remote installation.



Features:

1. Compact structure, reliable sealing;
2. Simple structure, convenient maintenance;
3. Control the main valve opening and closing through floating ball valve, making sure the water level inside the water tank keeps setting height;
4. The main valve opening or closing speed can be adjusted by the needle valve.

Working Principles:



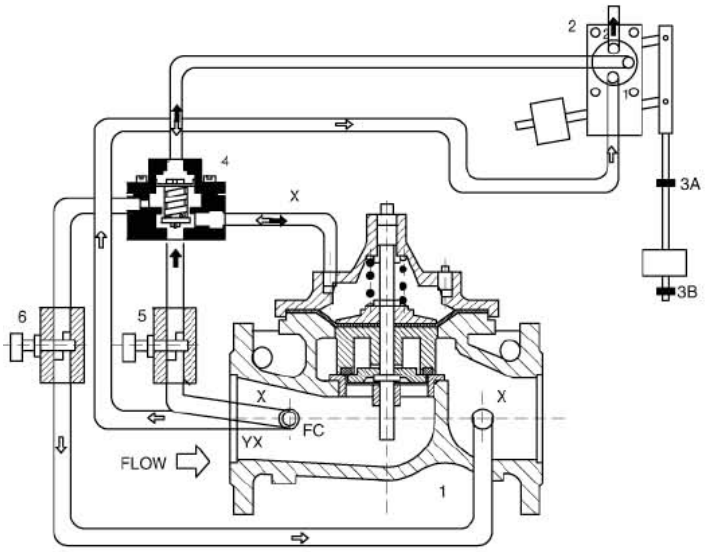
1. Main Valve
2. Float Pilot
3. Level Adjustment Stops

1. DN100 and smaller

The On-Off Float Control Valve is designed to open fully or close drip-tight as commanded by the Float Control Pilot. The Float Pilot may be either valve or remote mounted. The valve closes drip tight when water level reaches the adjustable high-level setpoint, and opens fully when water level is below the adjustable low-level setpoint, allowing a calculated “draw-down” of water level to increase tank circulation.

The On-Off Float Pilot commands the routing of fluid and pressure into and out of the cover chamber of the main valve. When water level reaches the adjustable high-level setpoint, the Float Pilot connects the cover chamber of the valve to upstream pressure, closing the valve drip tight. The valve remains closed as water level decreases. When water level reaches the adjustable low-level setpoint, the Float Pilot connects the cover chamber of the valve to atmosphere (wet drain), opening the valve fully.

High and low levels are separately adjustable by positioning stop collars on the float rod(s) at desired opening and closing setpoints. If desired, the on-off action of the valve can be “reversed” by modifying the hydraulic connections of the On-Off Float Pilot.



1. Main Valve
2. Float Pilot
3. Level Adjustment Stops
   3A-Upper Level
   3B-Lower Level
4. Accelerator
5. Needle Valve(ACS)
6. Needle Valve(AOS)

2. DN150 and larger

The On-Off Float Control Valve is designed to open fully or close drip-tight as commanded by the Float Control Pilot. The Float Control Pilot may be either valve or remote mounted..The valve closes drip tight when water level reaches the adjustable high-level setpoint 3A, and opens fully when water level is below the adjustable low-level setpoint 3B,allowing a calculated “draw-down” of water level to increase tank circulation.

The On-Off Float pilot directs upstream pressure into and out of the cover chamber of the 3-way Accelerator Pilot. When the cover of the Accelerator Pilot is pressurized, the main valve cover chamber is vented downstream, causing the valve to open fully. When the cover of the Accelerator Pilot is de-pressurized, the main valve cover chamber is connected to upstream pressure, causing the valve to close drip tight. Valve opening and closing speeds are separately adjustable. When water level reaches the adjustable high-level setpoint, the Float Pilot de-pressurizes the cover chamber or the 3-Way Accelerator, closing the valve drip tight. The valve remains closed as water level decreases. When water level reaches the adjustable low-level setpoint, the Float Pilot pressurizes the cover chamber of the 3-Way Accelerator, opening the valve fully. High and low levels are separately adjustable by positioning stop collars on the float rod(s)at desired opening and closing setpoints. If desired, the on-off action of the valve can be “reversed” by modifying the hydraulic connections of the On-Off Float Pilot.

Technical Parameters:

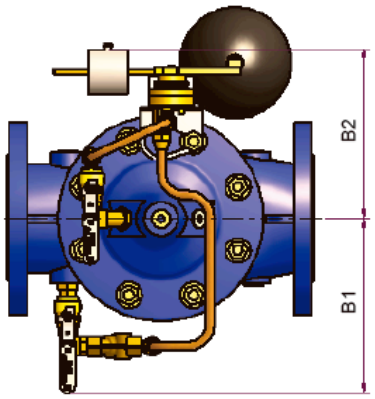
Nominal Diameter:	DN50~DN200
Nominal Pressure:	PN16
Float Ball Diameter:	φ125mm
Working Temperature:	0°C~80°C
Minimum differential pressure:	0.035MPa
Working Medium:	Water
Level control height:	≤ 465mm
Connection Type:	Flanged
Connection Standard:	ISO7005-2:2004/BS, EN1092-2:1997

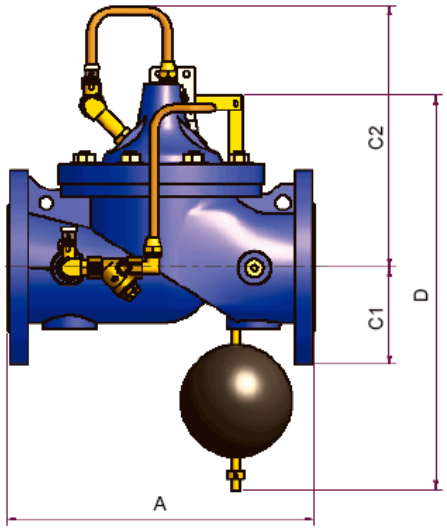
Material:

Part	Body / Bonnet	Stem/Seat	Diaphram	Sealing	Float Ball
Material	Ductile Iron with Epoxy	Stainless Steel	NBR + Nylon	NBR	Plastic

Installation Dimensions:

Connection Dimension: GB/T 17241.6;





Size DN(mm)	Dimension parameter(mm)					
	A	B1	B2	C1	C2	D
50	230	85.7	168	82.5	279	448
65	290	85.7	168	92.5	290	448
80	310	199	169	100	275	448
100	350	199	193	110	297	448
125	400	209	213	125	354	448
150	480	286	213	142.5	358	448
200	600	324	272	170	404	448

*Please contact the local salesmen if the size ≥DN200 are needed.

◆ Typical Application:

Water supply tank in industry enterprise and residential building;

◆ Installation Instructions:

(1) Inlet pressure of main valve is 0.035MPa bigger than outlet pressure of main valve;

(2) Install valve horizontally “in line” (cover facing up). Avoid installing valves 6” and larger vertically;

(3) While installing the main valve with needle valve, we have to close the needle valve, then return out (counterclockwise)1.5~2.5 turn so as to initially set, after finished, we adjust it accordingly as system demands;

(4) While installing, we have to adjust the position between setpoint 3A and 3B, floater should be protected with cover from damage of water wave;

(5) If we install float pilot with remote ,we pay attention to it below;

1) Diameter for copper pipe that connect both main valve and float pilot is more than 3/8”, and, the pipe length doesn’t exceed 10 feet, if exceed 10 feet, then choose 1/2” copper pipe or pipe connector;

2) End connection: in case of main valve with no accelerator(no more than 4”) , Port 1 of float pilot is connected with inlet of main valve, and, port 2 for float pilot is connected with atmosphere, ports C is connected with the cover chamber of main valve. In case of main valve with accelerator, Port 1 of float pilot is connected with atmosphere, and, port 2 for float pilot is connected with inlet of main valve, ports C is connected with the cover chamber of main valve(1/8NPT);

3) Adjust the stem for float ball and weight, in the meantime, take the float ball from stem, and through the position of additional weight , make stop collar of float pilot is at midpoint of switch on and switch off limit position, at that time , if add a force to lever, stop collar can switch on or off the position quickly, then install the float ball on the stem;

4) Adjust the position between upper limit and low limit on the stem per control water level of tank.

Solenoid On-Off Control Valve
(W-M113-12/6)

Application:

The Watts W-M113 Solenoid On-Off Control Valve can remotely control the switch of valve and truncate the flow of medium in the pipeline. It's generally used in city water supply, industrial and agricultural water transmission pipeline, etc.

Features:

1. Stable performance, safe and reliable;
2. Simple operation, convenient maintenance;
3. Long service life;
4. Remote electric control or on-site manual control.

Operating Principles:

The valve opens and closes by controlling the 3-way solenoid valve. When the pipeline of solenoid valve connects the upper cavity and the inlet of the valve, the valve closes. When the pipeline of solenoid valve connects the upper cavity and the outlet of the valve, the valve opens. Solenoid valve also has manual function.

Technical Specification:

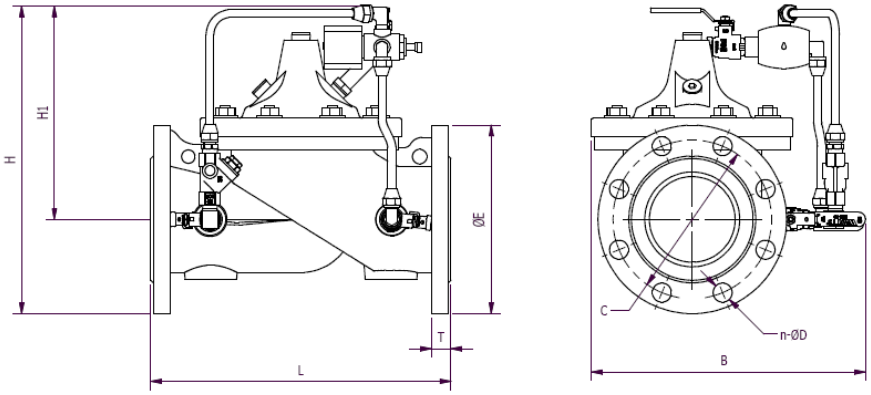
Nominal Diameter:	DN50~DN200
Maximum Working Pressure:	1.6MPa
Working Temperature:	0°C~80°C
Fluid Medium:	Water
Minimum Different Pressure:	5PSI (0.03MPa)
Control Voltage:	Standard voltage AC220 (optional 36/110V,etc)
Working status:	Normally open/closed

Material:

Part	Body / Bonnet	Stem	Seat	Diaphram	Sealing
Material	Ductile Iron	Stainless Steel	Stainless Steel	NBR+Nylon	NBR

Installation Dimensions:

Connection Dimension: GB/T 17241.6;



Type	Size DN	Dimensions (mm)				Flange dimensions (mm)			
		L	H	H1	B	C	n-φD	E	T
W-M113-12	50	230	310	228	170	125	4-φ19	165	19
	65	290	340	250	185	145	4-φ19	185	19
	80	310	345	245	200	160	8-φ19	200	19
	100	350	360	250	320	180	8-φ19	220	19
	125	400	410	285	380	210	8-φ19	250	19
W-M113-6	150	480	505	360	420	240	8-φ23	285	19
	200	600	508	410	508	295	12-φ23	340	20

*Please contact the local salesmen if the size ≥DN200 are needed.

Typical Application:

1. Water plant and water source project;
2. Environmental protection;
3. Municipal facilities;
4. Electric power and utilities;
5. Construction industry.

Installation Instructions:

(1) The valve's rated parameters should match the equipment's. Make sure that the valve's rated flow satisfies the actual demand;

(2) The installer must be trained or experienced so as to operate the installation correctly;

(3) When ordering, the valve must be indicated with Normally Open (close when power on) or Normally Close (open when power on) and Working Voltage;

(4) After debugging, the needle type throttle valve must be locked with locknut;

(5) The flow direction from inlet to outlet should be paid attention to in installation, and maintenance space around the valve is convenient to assemble;

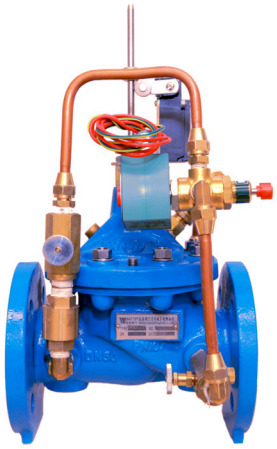
(6) For the size below DN150, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN150 only can be installed horizontally;

(7) Valve should be checked regularly, ensuring the debris in filter being cleaned.

Pump Control Valve
(W-M113-46/21)

Application:

When the water pump on and off, the main valve closes slowly in advance to relieve pipeline water hammer and starts pipeline check function, which can protect the pump and pipeline effectively. It's generally used in pump controlling of city water supply, industrial and agricultural water transmission pipeline, etc.



Features:

1. Stable performance, safe and reliable;
2. Simple operation, convenient maintenance;
3. Long service life;
4. Remote electric control or on-site manual control.

Operating Principles:

The valve opens and closes by controlling the 3-way solenoid valve. When the pipeline of solenoid valve connects the upper cavity and the inlet of the valve, the valve closes, and the pump motor closes by the limit switch when the valve has closed 90%.When the pipeline of solenoid valve connects the upper cavity and the outlet of the valve, the valve opens, and the pump motor opens by the limit switch when the valve has opened 10%. Adjusting the opening and closing speed of main valve by needle type valve. Solenoid valve also has manual function.

Technical Specification:

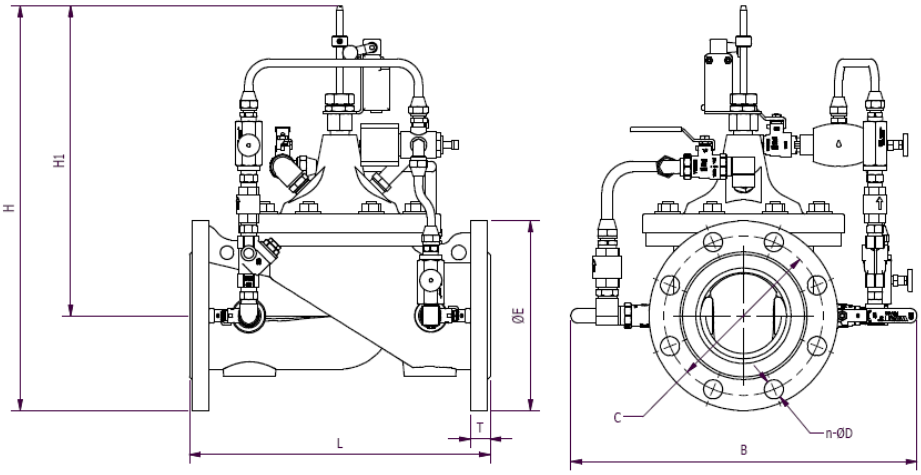
Nominal Diameter:	DN50~DN200
Maximum Working Pressure:	1.6MPa
Working Temperature:	0°C~80°C
Fluid Medium:	Water
Minimum Different Pressure:	5PSI (0.03MPa)
Control Voltage:	Standard voltage AC220 (optional 36/110V,etc)

Material:

Part	Body / Bonnet	Stem	Seat	Diaphram	Sealing
Material	Ductile Iron	Stainless Steel	Stainless Steel	NBR+Nylon	NBR

Installation Dimensions:

Connection Dimension: GB/T 17241.6;



Type	Size DN	Dimensions(mm)				Flange Dimensions(mm)			
		L	H	H1	B	C	n-φD	E	T
W-M113-46	50	230	390	310	250	125	4-φ19	165	19
	65	290	410	320	265	145	4-φ19	185	19
	80	310	420	320	270	160	8-φ19	200	19
	100	350	480	370	410	180	8-φ19	220	19
	125	400	570	450	450	210	8-φ19	250	19
W-M113-21	150	480	600	455	475	240	8-φ23	285	19
	200	600	710	545	530	295	12-φ23	340	20

*Please contact the local salesmen if the size ≥DN200 are needed.

Typical Application:

1. Water plant and water source project;
2. Environmental protection;
3. Municipal facilities;
4. Electric power and utilities;
5. Construction industry.

Installation Instructions:

(1) The valve's rated parameters should match the equipment's. Make sure that the valve's rated flow satisfies the actual demand;

(2) The installer must be trained or experienced so as to operate the installation correctly;

(3) Adjusting the speed of opening and closing by needle type throttle valve, and locking with locknut after setting;

(4) The flow direction from inlet to outlet should be paid attention to in installation, and maintenance space around the valve is convenient to assemble;

(5) For the size below DN150, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN150 only can be installed horizontally;

(6) Valve should be checked regularly, ensuring the debris in filter being cleaned.

Rate-of-Flow Control Valve
(W-M114)

Application:

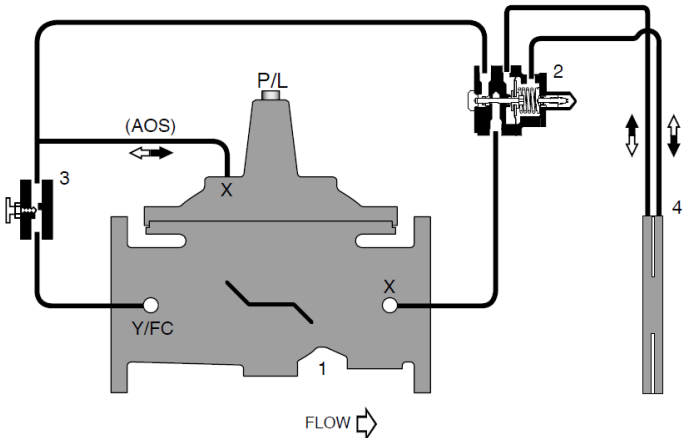
The Watts W-M114 Rate-of-Flow Control Valve is designed to install on the pipe where flow needs to be controlled, no matter how the pressure in the pipe changes, the flow keeps in a set range, and the setting of the maximum flow can be adjusted according to the need, the valve can be installed on each branch pipe of water supply pipelines, to ensure that the entire pipeline will supply water to balance as planned. It's generally used in the water supply pipeline of industrial enterprises and residential building.

Features:

1. Compact structure, reliable sealing;
2. Simple structure, convenient maintenance;
3. Stable flow control;
4. The main valve opening or closing speed can be adjusted by the needle valve.

Working Principles:

The Watts ACV Rate-of-Flow Control Valve is designed to automatically limit flow rate to a constant, adjustable, maximum. It is controlled by a normally open, differential control pilot designed to: 1) Open (allowing fluid out of the main valve cover chamber) when the differential pressure across the orifice plate is below the adjustable set point, and, 2) Close (allowing fluid to fill the main valve cover chamber) when the differential pressure across the orifice plate is above the adjustable set point. A decrease in differential pressure causes the valve to modulate towards an open position, increasing flow rate. An increase in differential pressure causes the valve to modulate towards a closed position, decreasing flow rate.



1. Main Valve
2. Rate-of-Flow Control
3. Adjustable Closing Speed
4. Orifice Plate Assembly

Technical Parameters:

Nominal Diameter: DN50~DN200

Nominal Pressure: PN16

Working Temperature: 0°C~80°C

Working Medium: Water

Rate of flow:

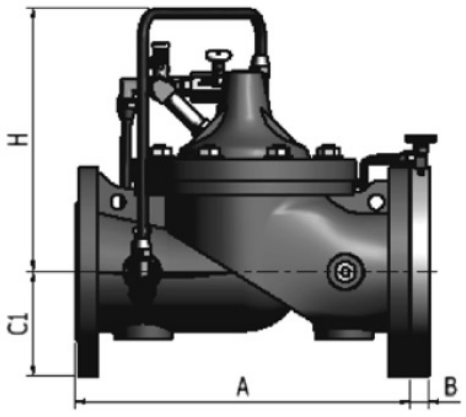
Size	DN	50	65	80	100	150	200
Rate of flow	M^3/ h	4~10 10~25 25~30	12~37 15~35	10~25 20~40 30~50 35~55 45~75	30~45 30~80	35~120 60~200	110~280

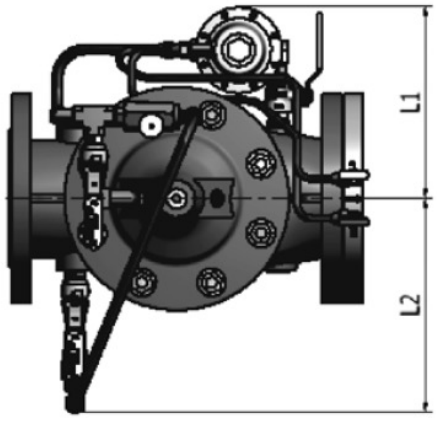
Material:

Part	Body/Bonnet	Stem	Seat	Diaphragm	Sealing
Material	Ductile Iron	Stainless Steel	Stainless Steel	NBR+Nylon	NBR

Installation Dimensions:

Connection Dimension: GB/T 17241.6;





Size	DN	A(mm)	B(mm)	H(mm)	C1(mm)	L1(mm)	L2(mm)
W-M114	DN50	230	19.05	246	82.5	186	142
	DN65	290	19.05	253	92.5	190	148
	DN80	310	19.05	248	100	195	150
	DN100	350	19.05	276	110	201	226
	DN150	480	19.05	316	142.5	-	320
	DN200	600	19.05	365	170	-	362

*Please contact the local salesmen if the size ≥DN200 are needed.

◆ Typical Application:

1. Water plant and water source project;
2. Environmental protection;
3. Municipal facilities;
4. Electric power and utilities;
5. Construction industry.

◆ Installation Instructions:

(1) In the process of transportation and installation, valve must avoid knock against, preventing surface coatings and accessories damage;

(2) Water supply pipeline should be washed before rate-of-flow control valve installation, eliminating sand, gravel and other debris in the pipe;

(3) The flow direction from inlet to outlet should be paid attention to in installation, and maintenance space around the valve is convenient to assemble;

(4) The inlet and outlet of main valve should be installed with gate valve or butterfly valve for easy maintenance;

(5) The size of main valve is the same as pipeline, and the flow which needs to be controlled is between the minimum flow and maximum flow;

(6) The pressure gauge should be installed on the inlet and outlet of main valve for monitoring the pressure;

(7) For the size below DN150, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN150 only can be installed horizontally;

(8) If the main valve is installed with needle speed regulating valve, needle valve must be tweaked to closed position and then returned 1.5 to 2.5 circles for preliminary setting. After the main valve installation, concretely adjust it according to the system requirements;

(9) Adjusting the bolt of pilot valve while setting the flow rate, and the bolt must be locked after adjusting;

(10) If the control failure, it is necessary to check whether the control line is clear, especially whether the filter in the main valve is blocked, and the film of main valve and pilot valve is broken or not.

Pressure Reducing Valve
(W-M115)

Application:

The Watts W-M115 Pressure Reducing Valve is designed to adjust, set and maintain downstream pressure of pipeline. It's generally used in city water supply, industrial and agricultural water transmission pipeline, etc.

Features:

1. Stable performance, safe and reliable;
2. Simple operation, convenient adjusting;
3. Precise pressure reducing;
4. Long service life.

Operating Principles:

The valve sets downstream pressure by adjusting the control pilot valve. When downstream pressure is below the set pressure, the opening of the valve seat, flow and downstream pressure increase. When downstream pressure is above the set pressure, the opening of valve seat decreases, flow and downstream pressure reduce. Valve downstream pressure is stable in set range automatically.

Technical Specification:

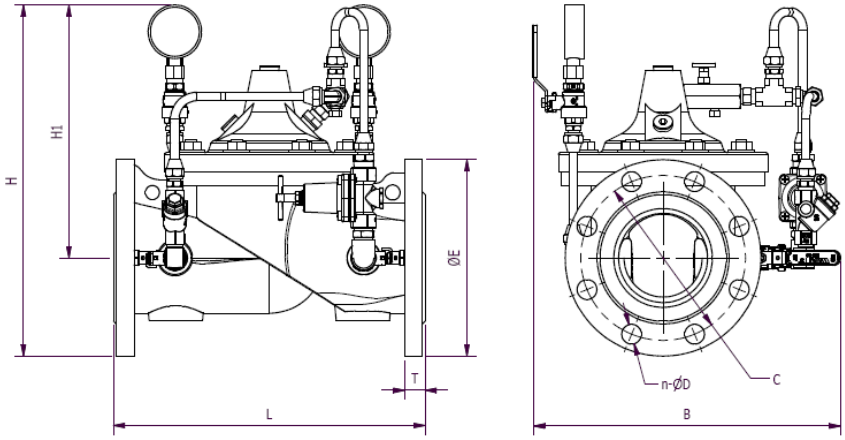
Nominal Diameter:	DN50~DN300
Maximum Working Pressure:	1.6MPa
Working Temperature:	0°C~80°C
Fluid Medium:	Water
Pressure Regulating Range:	10PSI~125PSI (0.07MPa~0.9MPa)
Factory Setting:	50PSI (0.35MPa)

Material:

Part	Body / Bonnet	Stem	Seat	Diaphram	Sealing
Material	Ductile Iron	Stainless Steel	Stainless Steel	NBR+Nylon	NBR

Installation Dimensions:

Connection Dimension: GB/T 17241.6;



Size DN	Dimensions(mm)				Flange Dimensions(mm)			
	L	H	H1	B	C	n-φD	E	T
50	230	325	245	260	125	4-φ19	165	19
65	290	343	250	265	145	4-φ19	185	19
80	310	345	245	275	160	8-φ19	200	19
100	350	395	285	345	180	8-φ19	220	19
125	400	413	288	380	210	8-φ19	250	19
150	480	430	288	405	240	8-φ23	285	19
200	600	540	370	475	295	12-φ23	340	20
250	660	650	450	560	355	12-φ28	406	30.5
300	762	755	520	670	410	12-φ28	482	31.8

*Please contact the local salesmen if the size ≥DN300 are needed.

Typical Application:

1. Water plant and water source project;
2. Environmental protection;
3. Municipal facilities;
4. Electric power and utilities;
5. Construction industry.

Installation Instructions:

(1) The valve's rated parameters should match the equipment's. Make sure that the valve's rated flow satisfies the actual demand;

(2) The installer must be trained or experienced so as to operate the installation correctly;

(3) Water supply pipe network should be washed before pressure reducing valve installation, eliminating sand, gravel and other debris in the pipe;

(4) The flow direction from inlet to outlet should be paid attention to in installation, and maintenance space around the valve is convenient to assemble;

(5) For the size below DN150, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN150 only can be installed horizontally;

(6) After debugging, the pilot valve and the needle type flow valve must be locked with locknut;

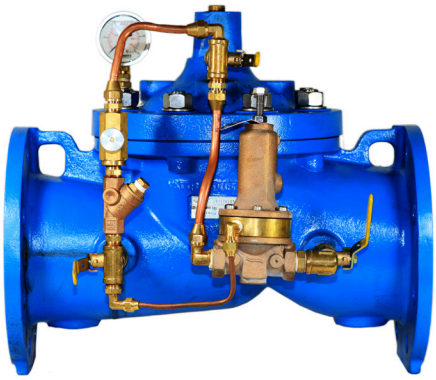
(7) Valve should be checked regularly, ensuring the debris in filter being cleaned.

Pressure Relief, Sustaining or Backpressure Control Valve

(W-M116)

Application:

The Watts W-M116 Pressure Relief, Sustaining or Backpressure Control Valve is designed to adjust, set and maintain piping upstream pressure when it's installed in the pipeline; while it is installed in the by-pass line, the function is pressure relief. It's generally used in city water supply, industrial and agricultural water transmission pipeline, etc.



Features:

1. Stable performance, safe and reliable;
2. Simple operation, convenient adjusting;
3. Precise pressure reducing;
4. Long service life.

Operating Principles:

The inlet side of the main valve connects to the pilot valve by control tube, when the pressure of inlet side is greater than the set pressure value of pilot valve, the pilot valve opens, and the pressure of diaphragm upper cavity is removed, then the main valve opens. The pressure of main valve reduces, when the pressure drops to the set pressure, pilot valve closes, and the main valve closes.

Technical Specification:

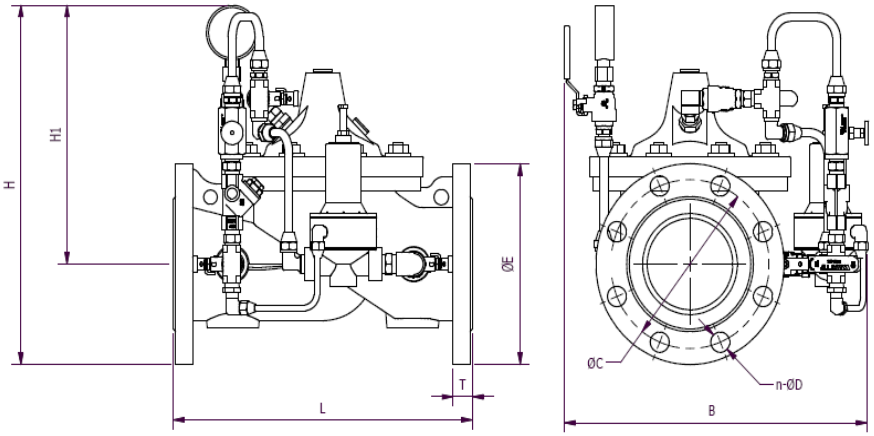
Nominal Diameter:	DN50~DN300
Maximum Working Pressure:	1.6MPa
Working Temperature:	0°C~80°C
Fluid Medium:	Water
Pressure Regulating Range:	20PSI~200PSI (0.14MPa~1.4MPa)

Material:

Part	Body / Bonnet	Stem	Seat	Diaphram	Sealing
Material	Ductile Iron	Stainless Steel	Stainless Steel	NBR+Nylon	NBR

Installation Dimensions:

Connection Dimension: GB/T 17241.6



Size DN	Dimensions(mm)				Flange Dimensions(mm)			
	L	H	H1	B	C	n-φD	E	T
50	230	272	190	290	125	4-φ19	165	19
65	290	290	198	300	145	4-φ19	185	19
80	310	290	190	310	160	8-φ19	200	19
100	350	395	285	355	180	8-φ19	220	19
125	400	395	285	360	210	8-φ19	250	19
150	480	430	288	420	240	8-φ23	285	19
200	600	540	370	485	295	12-φ23	340	20
250	660	655	450	570	355	12-φ28	406	30.2
300	762	760	520	680	410	12-φ28	482	31.8

*Please contact the local salesmen if the size ≥DN300 are needed.

Typical Application:

1. Water plant and water source project;
2. Environmental protection;
3. Municipal facilities;
4. Electric power and utilities;
5. Construction industry.

Installation Instructions:

(1) The valve's rated parameters should match the equipment's. Make sure that the valve's rated flow satisfies the actual demand;

(2) The installer must be trained or experienced so as to operate the installation correctly;

(3) The flow direction from inlet to outlet should be paid attention to in installation, and maintenance space around the valve is convenient to assemble;

(4) After debugging, the pilot valve and the needle type flow valve must be locked with locknut;

(5) For the size below DN150, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN150 only can be installed horizontally;

(6) Used as a pressure relief valve, it is necessary to keep the outlet pipe unobstructed (flow to a pool or a drain)

(7) Valve should be checked regularly, ensuring the debris in filter being cleaned.

Non-Surge Check Valve
(W-M118)

Application:

The Watts W-M118 Non-Surge Check Valve is designed to prevent the backflow of medium in pipeline. It's generally used in city water supply, industrial and agricultural water transmission pipeline, etc.

Features:

1. Stable performance, safe and reliable;
2. Simple operation, and adjust the opening and closing speed respectively;
3. Large flow, small pressure loss;
4. Long service life;
5. Can prevent water hammer.

Operating Principles:

The valve controls the opening and closing speed through the two way pipe and the regulator valve, when the downstream pressure is higher than the upstream pressure, the valve closes. When the downstream pressure is below the upstream pressure, the valve opens. The valve adjusts the opening and closing speed automatically by two way controlling, reducing turbulence and water hammer.

Technical Specification:

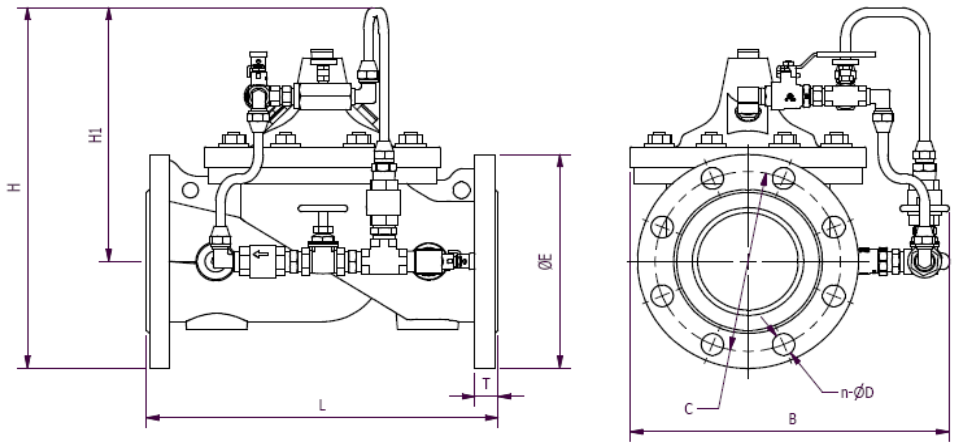
Nominal Diameter:	DN50~DN400
Maximum Working Pressure:	1.6MPa
Working Temperature:	0°C~80°C
Fluid Medium:	Water
Minimum Different Pressure:	5PSI (0.035MPa)

Material:

Part	Body / Bonnet	Stem	Seat	Diaphram	Sealing
Material	Ductile Iron	Stainless Steel	Stainless Steel	NBR+Nylon	NBR

Installation Dimensions:

Connection Dimension: GB/T 17241.6;



Size DN	Dimensions(mm)				Flange Dimensions(mm)			
	L	H	H1	B	C	n-φD	E	T
50	230	272	190	290	125	4-φ19	165	19
65	290	290	198	300	145	4-φ19	185	19
80	310	375	265	320	160	8-φ19	200	19
100	350	395	285	355	180	8-φ19	220	19
125	400	395	285	360	210	8-φ19	250	19
150	480	430	288	420	240	8-φ23	285	19
200	600	540	370	485	295	12-φ23	340	20
250	660	660	458	695	355	12-φ28	406.4	30.2
300	762	770	524	810	410	12-φ28	482.6	31.8
400	889	931	631	925	525	16-φ31	596.9	36.6

Typical Application:

1. Water plant and water source project;
2. Environmental protection;
3. Municipal facilities;
4. Electric power and utilities;
5. Construction industry.

Installation Instructions:

(1) The valve's rated parameters should match the equipment's. Make sure that the valve's rated flow satisfies the actual demand;

(2) The installer must be trained or experienced so as to operate the installation correctly;

(3) The flow direction from inlet to outlet should be paid attention to in installation, and maintenance space around the valve is convenient to assemble;

(4) After debugging, the pilot valve and the needle type flow valve must be locked with locknut;

(5) For the size below DN150, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN150 only can be installed horizontally;

(6) Valve should be checked regularly, ensuring the debris in filter being cleaned.

One Way Flow Altitude Valve
(W-M127-1)

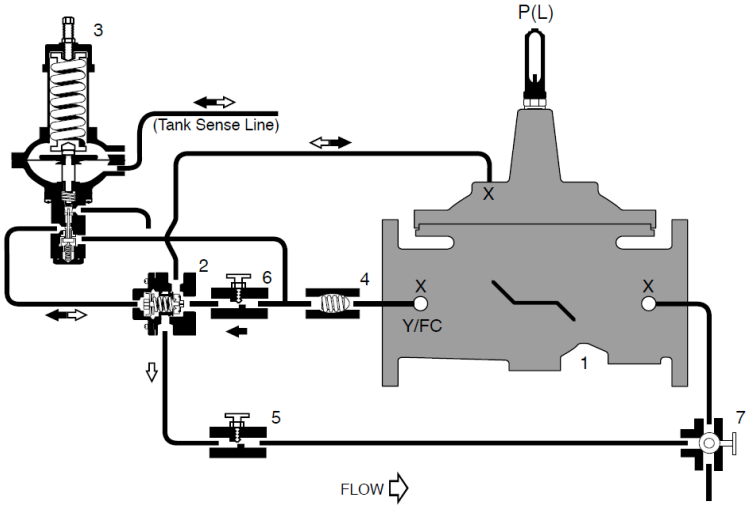
Application:

The Watts W-M127 One Way Flow Altitude Valve is designed to sense the change of pressure in the water tank through pilot valve, the pilot valve controls the main valve opening or closing, keeping water level of the water tank always in the setting height. With an accelerator, the valve accelerates the main valve opening or closing. It's generally used in water supply tank in industry enterprise and residential building.

Features:

1. Compact structure, reliable sealing;
2. Simple structure, easy to maintain;
3. The main valve opening or closing speed can be adjusted by the needle valve.

Working Principles:



1. Main Valve
2. Accelerator Control
3. Altitude Control
4. Check Valve
5. Needle Valve(AOS)
6. Needle Valve(ACS)
7. 3-Way Ball Valve

The Watts ACV One Way Flow Altitude Valve is designed to open, allowing flow into a reservoir or elevated storage tank (tank fill), and close drip tight when high water level is achieved. The Altitude Pilot remotely senses static tank head pressure (water level) through a field installed sensing line, and directs pressure into and out of the cover chamber of the 3-way Accelerator Pilot. When the cover of the Accelerator Pilot is pressurized, the main valve cover chamber is vented downstream (dry drain) or to atmosphere (wet drain), causing the valve to open fully. When the cover of the Accelerator Pilot is de-pressurized, the main valve cover chamber is connected to upstream pressure, causing the valve to close drip tight.

As water level decreases, static tank head pressure falls below the adjustable setpoint of the Altitude Pilot, causing it to pressurize the cover of the Accelerator Pilot, opening the valve. As water level increases, static tank head exceeds the adjustable setpoint of the Altitude Pilot, causing it to depressurize the cover of the Accelerator Pilot, closing the valve drip tight. Valve opening and closing speeds are separately adjustable. The Position Indicator with Air Bleed Petcock allows for visual indication of valve position, and easy venting of air entrapped in the main valve cover chamber.

Technical Parameters:

Nominal Diameter:	DN50~DN200
Nominal Pressure:	PN16
Working Temperature:	0°C~80°C
Working Medium:	Water
Three types of options:	① (5-20)ft. ② (10-75)ft. ③ (50-225)ft.
Connection Type:	Flange
Connection Standard:	ISO7005-2:2004/BS EN1092-2:1997

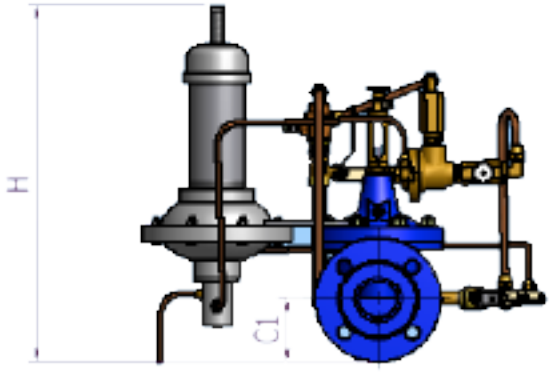
Material:

Part	Body / Bonnet	Stem/Seat	Diaphram	Sealing
Material	Ductile Iron with Epoxy	Stainless Steel	NBR + Nylon	NBR

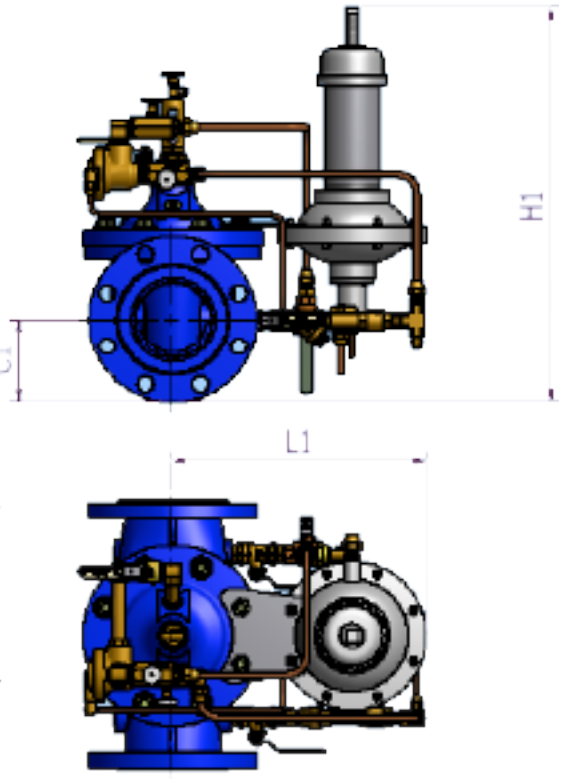
Installation Dimensions:

Connection Dimension: GB/T 17241.6;

DN80 以下



DN100 以下



Size DN	Dimension parameter(mm)					
	A	H	L	C1	L1	H1
DN50	230	466	510	82.5	-	-
DN65	290	482	516	92.5	-	-
DN80	310	484	520	100	-	-
DN100	350	-	-	110	329	516
DN125	400	-	-	125	356	574
DN150	480	-	-	142.5	356	595
DN200	600	-	-	170	414	659

*Please contact the local salesmen if the size ≥DN200 are needed.

Installation Instructions:

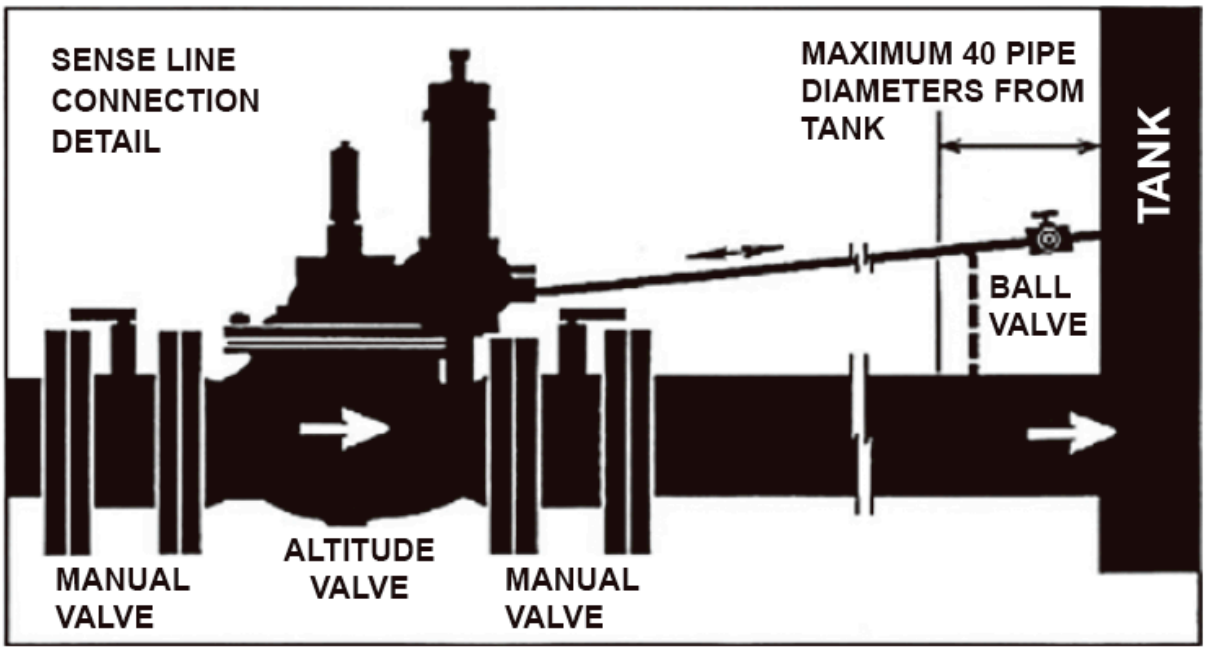
(1) Install inlet and outlet isolation valves.

(2) Nominal diameters of main valve are in line with that of pipe, install pressure gauges to monitor valve inlet and outlet pressure.

(3) Install valve horizontally “in line” (cover facing up).Avoid installing valves 6” and larger vertically.

(4) Before ordering the valve, should indicate the height of tank to choose the adequate type.

(5) Install static tank head sense line. For optimum control ,sense line should be 1) installed with an upward angle(towards reservoir) to avoid air accumulation ,2)Connected no further than forty-five pipe diameters from the reservoir, and 3)A minimum of 1/2” diameter.



Modulating Float Control Valve
(W-100X-25C)

Application:
The Watts W-100X Modulating Float Control Valve is designed to control the liquid height of the water tower, tank and pool. It's generally used in building services, water treatment, etc.

Features:
1. Opening and closing without friction;
2. Modularization structure;
3. Reliable sealing performance;
4. Easy to operate;
5. Wide application scope.

Operating Principles:
When the liquid level reaches the set height, the valve closes automatically, when the liquid level drops to a certain height, the valve automatic fills water.

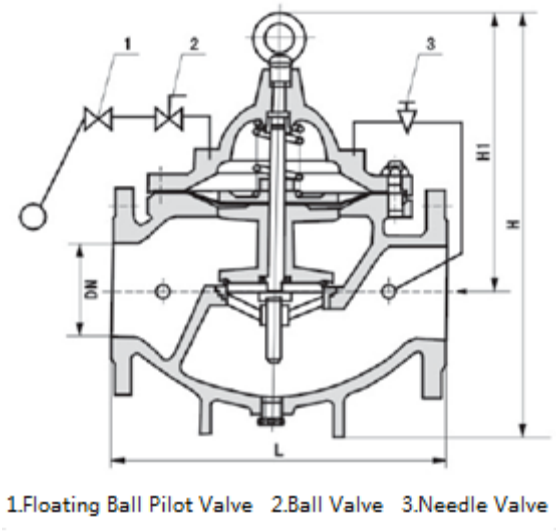
Technical Specification:

Nominal Diameter:	DN50~DN600
Nominal Pressure:	PN25
Working Temperature:	0°C~80°C
Fluid Medium:	Water
Minimum Different Pressure:	0.1MPa
Design Standard:	JB/T 10674-2006
Test Standard:	GB/T 13927-2008
Liquid Level Control Height:	≤150mm

Material:

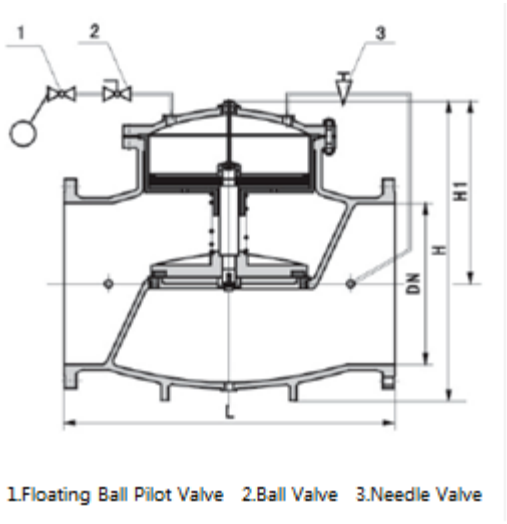
Part	Body	Bonnet	Pilot Valve	Connecting Pipe
Material	Carbon Steel Coated with Epoxy	Carbon Steel Coated with Epoxy	Copper	Copper /Stainless Steel

Installation Dimensions:
Connection Dimension: GB/T 9113;



1.Floating Ball Pilot Valve 2.Ball Valve 3.Needle Valve

DN50-DN450



1.Floating Ball Pilot Valve 2.Ball Valve 3.Needle Valve

DN500-DN600

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L	203	216	241	292	330	356	495	622	698	787	914	978	1075	1230
H1	210	215	245	305	365	415	510	560	658	696	735	735	620	695
H	265	310	350	460	520	570	840	890	1030	1090	1150	1150	750	850

◆ Typical Application:

1. Water plant and water source project;
2. Environmental protection;
3. Municipal facilities;
4. Electric power and utilities;
5. Construction industry.

◆ Installation Instructions:

(1) The valve's rated parameters should match the equipment's. Make sure that the valve's rated flow satisfies the actual demand;

(2) The installer must be trained or experienced so as to operate the installation correctly;

(3) A thorough check after installation is needed to ensure no errors;

(4) A thorough cleaning before installation is needed (chemical reagent can be applied if it is necessary) to ensure that there is not any rusting or dirt in the pipe. All the filters must be removed before washing to keep the pipe smoothly open;

(5) When beginning to wash the system, it is suggested to install the valve on a temporary pipe. After finishing system cleaning, move the valve back and install it on the system's pipe;

(6) This product should not be used when the fluid medium has high viscosity (contains much grease or mineral oil), or under corrosive circumstances;

(7) Use flange and the corresponding bolts that meet the standard to connect the valve;

(8) The direction of flow must accord with the direction of the arrow head on the valve body;

(9) For the size below DN200, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN200 only can be installed horizontally.

Pressure Reducing Valve
(W-200X-25C)

Application:

The Watts W-200X Pressure Reducing Valve is designed to make the water in the pipe decreasing automatically from high pressure to stable low pressure, when there is pressure wave in front of the valve or flow change, and the outlet pressure can be adjusted at will within a certain range. It's generally used in building services, water treatment, etc.

Features:

1. Opening and closing without friction;
2. Modularization structure;
3. Reliable sealing performance;
4. Easy to operate;
5. Wide application scope.

Operating Principles:

When valve supplies water from the inlet, water flows into the main valve control room through the needle valve, outlet pressure affects the pilot valve through the pipe. When the outlet pressure is higher than the set value of pilot valve spring, pilot valve closes, control room stops drainage, at this time, the pressure of main valve control room increases and main valve closes, outlet pressure no longer increases. When the outlet pressure of valve decreases to the set pressure of pilot valve spring, pilot valve opens, the control room drains water to the downstream. Because the water discharge of pilot valve system is greater than the water inflow of needle valve, the pressure of main valve control room drops. The inlet pressure makes the main valve open. Under the steady state, the water inflow of control room is the same as the water discharge, the opening degree of main valve is changeless, and the outlet pressure is stable. The outlet pressure can be set by adjusting the pilot valve spring.

Technical Specification:

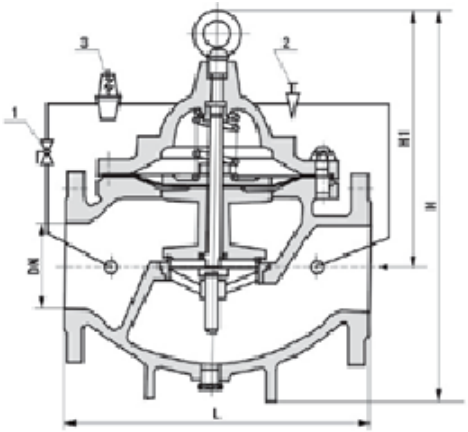
Nominal Diameter:	DN50~DN600
Nominal Pressure:	PN25
Working Temperature:	0°C~80°C
Fluid Medium:	Water
Pressure Regulating Range:	0.2MPa~1.6MPa
Design Standard:	JB/T 10674-2006
Test Standard:	GB/T 13927-2008

Material:

Part	Body	Bonnet	Pilot Valve	Connecting Pipe
Material	Carbon Steel Coated with Epoxy	Carbon Steel Coated with Epoxy	Copper	Copper /Stainless Steel

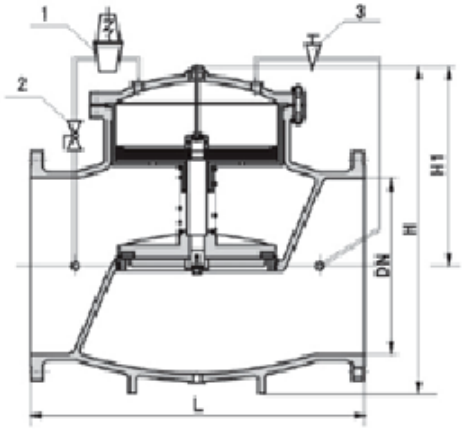
Installation Dimensions:

Connection Dimension: GB/T 9113;



1.Small Ball Valve 2.Needle Valve
3.Pressure Reducing Pilot Valve

DN50-450



1.Pilot Valve 2.Ball Valve 3.Needle Valve

DN500-600

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L	203	216	241	292	330	356	495	622	698	787	914	978	1075	1230
H1	210	215	245	305	365	415	510	560	658	696	735	735	620	695
H	395	405	430	510	560	585	675	730	760	840	910	910	750	850

Typical Application:

1.Water plant and water source project;

2.Environmental protection;

3.Municipal facilities;

4.Electric power and utilities;

5.Construction industry.

Installation Instructions:

(1) The valve's rated parameters should match the equipment's. Make sure that the valve's rated flow satisfies the actual demand;

(2) The installer must be trained or experienced so as to operate the installation correctly;

(3) A thorough check after installation is needed to ensure no errors;

(4) A thorough cleaning before installation is needed (chemical reagent can be applied if it is necessary) to ensure that there is not any rusting or dirt in the pipe. All the filters must be removed before washing to keep the pipe smoothly open;

(5) When beginning to wash the system, it is suggested to install the valve on a temporary pipe. After finishing system cleaning, move the valve back and install it on the system's pipe;

(6) This product should not be used when the fluid medium has high viscosity (contains much grease or mineral oil), or under corrosive circumstances;

(7) Use flange and the corresponding bolts that meet the standard to connect the valve;

(8) The direction of flow must accord with the direction of the arrow head on the valve body;

(9) For the size below DN200, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN200 only can be installed horizontally.

Non-Surge Check Valve
(W-300X-25C)

Application:

The Watts W-300X Non-Surge Check Valve is designed to adjust the valve opening and closing speed, preventing the water backflow in the pipe. It's generally used in building services, water treatment, etc.

Features:

1. Opening and closing without friction;
2. Modularization structure;
3. Reliable sealing performance;
4. Easy to operate;
5. Wide application scope.

Operating Principles:

When the valve supplies water from the inlet, the water flows into the main valve control room through the micro strainer, needle valve and check valve, and then drains water to the downstream through the ball valve. Because the opening degree of the needle valve is less than the ball valve, it means the water drainage speed of the main valve control room is faster than the water inflow speed, so the pressure in the control room reduces, the inlet pressure on the bottom of the main valve opens the main valve to supply water to the downstream. When pipe stops supplying water, if the downstream water flowing back, part of the return water enters the main control room, because of the check valve, the reflux water cannot flow from the main control room, which causes the pressure of the main control room rises gradually, and the main valve closes slowly.

Technical Specification:

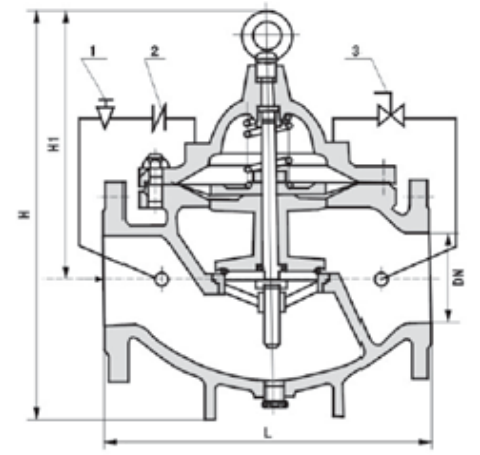
Nominal Diameter:	DN50~DN600
Nominal Pressure:	PN25
Working Temperature:	0°C~80°C
Fluid Medium:	Water
Minimum Different Pressure:	0.1MPa
Design Standard:	JB/T 10674-2006
Test Standard:	GB/T 13927-2008

Material:

Part	Body	Bonnet	Pilot Valve	Connecting Pipe
Material	Carbon Steel Coated with Epoxy	Carbon Steel Coated with Epoxy	Copper	Copper /Stainless Steel

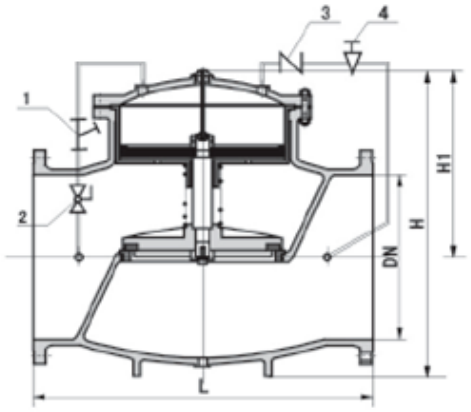
Installation Dimensions:

Connection Dimension: GB/T 9113;



1.Needle Valve 2.Check Valve 3.Small Ball Valve

DN50-450



1.Strainer 2.Ball Valve
3.Check Valve 4.Needle Valve

DN500-600

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L	203	216	241	292	330	356	495	622	698	787	914	978	1075	1230
H1	137	145	178	232	286	318	413	502	600	638	677	677	620	695
H	225	270	289	375	420	570	722	769	906	1025	1027	1027	750	850

Typical Application:

1. Water plant and water source project;
2. Environmental protection;
3. Municipal facilities;
4. Electric power and utilities;
5. Construction industry.

Installation Instructions:

(1) The valve's rated parameters should match the equipment's. Make sure that the valve's rated flow satisfies the actual demand;

(2) The installer must be trained or experienced so as to operate the installation correctly;

(3) A thorough check after installation is needed to ensure no errors;

(4) A thorough cleaning before installation is needed (chemical reagent can be applied if it is necessary) to ensure that there is not any rusting or dirt in the pipe. All the filters must be removed before washing to keep the pipe smoothly open;

(5) When beginning to wash the system, it is suggested to install the valve on a temporary pipe. After finishing system cleaning, move the valve back and install it on the system's pipe;

(6) This product should not be used when the fluid medium has high viscosity (contains much grease or mineral oil), or under corrosive circumstances;

(7) Use flange and the corresponding bolts that meet the standard to connect the valve;

(8) The direction of flow must accord with the direction of the arrow head on the valve body;

(9) For the size below DN200, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN200 only can be installed horizontally.

Flow Control Valve
(W-400X-25C)

Application:

The Watts W-400X Flow Control Valve is designed to control the flow of the medium in the pipeline, ensuring the flow will not increase because of the increased pressure. It's generally used in building services, water treatment, etc.

Features:

1. Opening and closing without friction;
2. Modularization structure;
3. Reliable sealing performance;
4. Easy to operate;
5. Wide application scope.

Operating Principles:

When the valve supplies water from the inlet, the water flows into the main valve control room through the needle valve, and flows from the main valve control room to the outlet through the pilot valve and ball valve, at this moment, the main valve is in the fully open or floating state. Adjusting the flow control valve on the top of the main valve can set a certain opening degree of the main valve. Adjusting the opening degree of needle valve and the spring pressure of pilot valve can keep the opening degree of the main valve in the set value, in addition, pilot valve adjusts automatically when pressure changes, and keeps the flow rate unchanged.

Technical Specification:

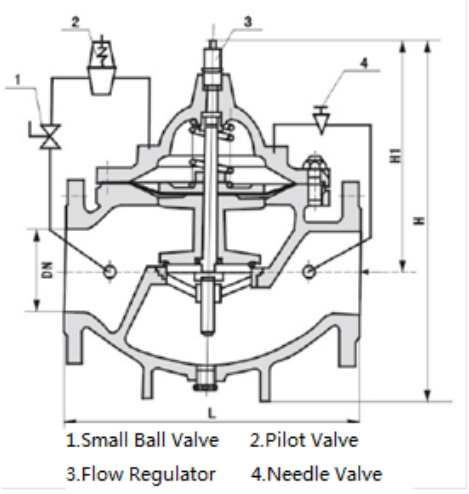
Nominal Diameter:	DN50~DN450
Nominal Pressure:	PN25
Working Temperature:	0°C~80°C
Fluid Medium:	Water
Design Standard:	JB/T 10674-2006
Test Standard:	GB/T 13927-2008

Material:

Part	Body	Bonnet	Pilot Valve	Connecting Pipe
Material	Carbon Steel Coated with Epoxy	Carbon Steel Coated with Epoxy	Copper	Copper /Stainless Steel

Installation Dimensions:

Connection Dimension: GB/T 9113;



DN	50	65	80	100	125	150	200	250	300	350	400	450
L	203	216	241	292	330	356	495	622	698	787	914	978
H1	278	298	313	350	365	420	450	470	490	526	570	570
H	395	405	430	510	560	585	675	730	760	840	910	910

*Please contact the local salesmen if the size ≥DN450 are needed.

Typical Application:

1. Water plant and water source project;
2. Environmental protection;
3. Municipal facilities;
4. Electric power and utilities;
5. Construction industry.

Installation Instructions:

(1) The valve's rated parameters should match the equipment's. Make sure that the valve's rated flow satisfies the actual demand;

(2) The installer must be trained or experienced so as to operate the installation correctly;

(3) A thorough check after installation is needed to ensure no errors;

(4) A thorough cleaning before installation is needed (chemical reagent can be applied if it is necessary) to ensure that there is not any rusting or dirt in the pipe. All the filters must be removed before washing to keep the pipe smoothly open;

(5) When beginning to wash the system, it is suggested to install the valve on a temporary pipe. After finishing system cleaning, move the valve back and install it on the system's pipe;

(6) This product should not be used when the fluid medium has high viscosity (contains much grease or mineral oil), or under corrosive circumstances;

(7) Use flange and the corresponding bolts that meet the standard to connect the valve;

(8) The direction of flow must accord with the direction of the arrow head on the valve body;

(9) For the size below DN200, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN200 only can be installed horizontally.

Pressure Relief, Sustaining or Backpressure Control Valve

(W-500X-25C)

Application:

The Watts W-500X Pressure Relief, Sustaining or Backpressure Control Valve is designed to control the pressure of pipeline system, eliminate the excess pressure of pipe, and keep the pressure of system on the preset pressure point, ensuring the safe operation of the pipeline system. It's generally used in building services, water treatment, etc.

Features:

1. Opening and closing without friction;
2. Modularization structure;
3. Reliable sealing performance;
4. Easy to operate;
5. Wide application scope.

Operating Principles:

As a Pressure Relief Valve: When the pressure relief/sustaining pilot valve is adjusted to pressure relief condition, water flows to the outlet through the needle valve, the main valve control room, the ball valve, pressure relief/sustaining pilot valve, at this time, the main valve is fully open. When the inlet pressure exceeds the safe value set by the pressure relief/sustaining pilot valve, pressure relief pilot valve will automatically open, let out part water through ball valve, and make the pressure of pipeline unloading. When the pressure recovers to the safe value, pressure relief valve automatically shuts down. As a pressure relief valve, every ball valve normally opens.

As a Pressure Sustaining Valve: When the pressure relief/sustaining pilot valve is adjusted to pressure sustaining condition, as long as the pressure of main valve inlet is lower than the set point of pilot valve, pilot valve closes. The pressure of main valve control room increases, the main valve shuts down. When the upstream supplying water pressure of main valve exceeds the set pressure of pilot valve, pressure sustaining pilot valve opens, water in the control room flows to the outlet through the ball valve, the pressure of control room decreases and the main valve opens, water supply starts, it means the upstream water pressure is maintained. As a pressure sustaining valve, ball valve normally closes or is substituted by a plug.

Technical Specification:

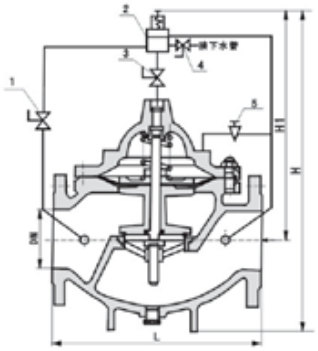
Nominal Diameter:	DN50~DN600
Nominal Pressure:	PN25
Working Temperature:	0°C~80°C
Fluid Medium:	Water
Pressure Regulating Range:	0.2MPa~1.7MPa
Design Standard:	JB/T 10674-2006
Test Standard:	GB/T 13927-2008

Material:

Part	Body	Bonnet	Pilot Valve	Connecting Pipe
Material	Carbon Steel Coated with Epoxy	Carbon Steel Coated with Epoxy	Copper	Copper /Stainless Steel

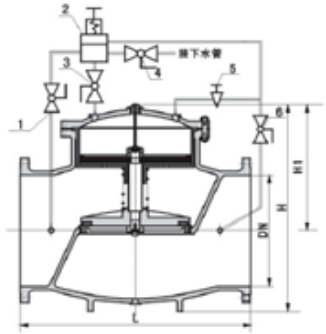
Installation Dimensions:

Connection Dimension: GB/T 9113;



1.Small Ball Valve 2.Pilot Valve 3.Small Ball Valve
4.Small Ball Valve 5.Needle Valve

DN50-450



1.Small Ball Valve 2.Pilot Valve 3.Small Ball Valve
4.Small Ball Valve 5.Needle Valve 6.Small Ball

DN500-600

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L	203	216	241	292	330	356	495	622	698	787	914	978	1075	1230
H1	516	520	537	596	653	709	805	855	953	990	1030	1030	620	695
H	610	625	642	750	808	864	1135	1185	1325	1385	1445	1445	750	850

Typical Application:

1. Water plant and water source project;
2. Environmental protection;
3. Municipal facilities;
4. Electric power and utilities;
5. Construction industry.

Installation Instructions:

(1) The valve's rated parameters should match the equipment's. Make sure that the valve's rated flow satisfies the actual demand;

(2) The installer must be trained or experienced so as to operate the installation correctly;

(3) A thorough check after installation is needed to ensure no errors;

(4) A thorough cleaning before installation is needed (chemical reagent can be applied if it is necessary) to ensure that there is not any rusting or dirt in the pipe. All the filters must be removed before washing to keep the pipe smoothly open;

(5) When beginning to wash the system, it is suggested to install the valve on a temporary pipe. After finishing system cleaning, move the valve back and install it on the system's pipe;

(6) This product should not be used when the fluid medium has high viscosity (contains much grease or mineral oil), or under corrosive circumstances;

(7) Use flange and the corresponding bolts that meet the standard to connect the valve;

(8) The direction of flow must accord with the direction of the arrow head on the valve body;

(9) For the size below DN200, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN200 only can be installed horizontally.

Solenoid On-Off Control Valve
(W-600X-25C)

Application:

The Watts W-600X Solenoid On-Off Control Valve is designed to remote control and switch the pipeline system. The closing speed of the valve is adjustable. It's generally used in building services, water treatment, etc.

Features:

1. Opening and closing without friction;
2. Modularization structure;
3. Reliable sealing performance;
4. Easy to operate;
5. Wide application scope.

Operating Principles:

When the valve supplies water from the inlet, the water flows into the main valve control room through the needle valve, when the solenoid pilot valve opens, the water in the control room flows out through solenoid pilot valve and ball valve. The opening degree of ball valve is greater than the needle valve, the pressure in the main valve control room is very low, the main valve is in the fully open status. When solenoid pilot valve closes, the water in the main valve control room can't flow out, the pressure in the control room increases, pushing the diaphragm to close the main valve.

Technical Specification:

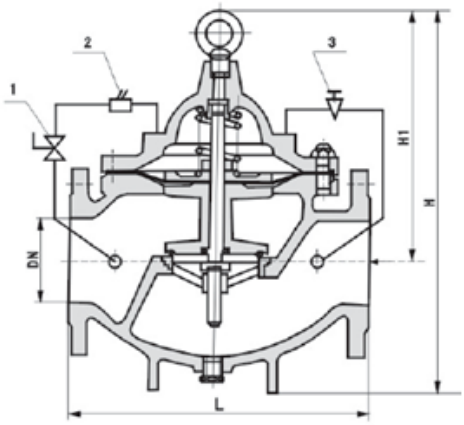
Nominal Diameter:	DN50~DN450
Nominal Pressure:	PN25
Working Temperature:	0°C~80°C
Fluid Medium:	Water
Minimum Different Pressure:	0.1MPa
Control Voltage:	Direct Current 24V; Alternating Current 220V
Working status:	Normally Open / Close Type
Design Standard:	JB/T 10674-2006
Test Standard:	GB/T 13927-2008

Material:

Part	Body	Bonnet	Pilot Valve	Connecting Pipe
Material	Carbon Steel Coated with Epoxy	Carbon Steel Coated with Epoxy	Copper	Copper /Stainless Steel

Installation Dimensions:

Connection Dimension: GB/T 9113;



1.Small Ball Valve 2.Solenoid Valve 3.Needle Valve

DN	50	65	80	100	125	150	200	250	300	350	400	450
L	203	216	241	292	330	356	495	622	698	787	914	978
H1	300	288	310	340	380	410	440	460	480	516	560	560
H	395	385	420	500	540	575	665	720	750	830	900	900

*Please contact the local salesmen if the size ≥DN450 are needed.

Typical Application:

1. Water plant and water source project;
2. Environmental protection;
3. Municipal facilities;
4. Electric power and utilities;
5. Construction industry.

Installation Instructions:

(1) The valve's rated parameters should match the equipment's. Make sure that the valve's rated flow satisfies the actual demand;

(2) The installer must be trained or experienced so as to operate the installation correctly;

(3) A thorough check after installation is needed to ensure no errors;

(4) A thorough cleaning before installation is needed (chemical reagent can be applied if it is necessary) to ensure that there is not any rusting or dirt in the pipe. All the filters must be removed before washing to keep the pipe smoothly open;

(5) When beginning to wash the system, it is suggested to install the valve on a temporary pipe. After finishing system cleaning, move the valve back and install it on the system's pipe;

(6) This product should not be used when the fluid medium has high viscosity (contains much grease or mineral oil), or under corrosive circumstances;

(7) Use flange and the corresponding bolts that meet the standard to connect the valve;

(8) The direction of flow must accord with the direction of the arrow head on the valve body;

(9) For the size below DN200, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN200 only can be installed horizontally.

Pump Control Valve
(W-700X-25C)

Application:

The Watts W-700X Pump Control Valve is designed to protect the pump from water hammer shock. It's generally used in building services, water treatment, etc.

Features:

1. Opening and closing without friction;
2. Modularization structure;
3. Reliable sealing performance;
4. Easy to operate;
5. Wide application scope.

Operating Principles:

When the working valve of pump supplies water to the water downstream, solenoid pilot valve fully opens, the needle valve is adjusted to the appropriate opening degree, the upstream water enters the main valve control room through needle valve and check valve, and flows out through the solenoid pilot valve, at this time, the pressure of main valve control room maintains the appropriate opening degree, and the normal water downstream. When the pump stop working, solenoid pilot valve shuts off, the main valve control room stops the drainage, the pressure of control room increases, the main valve begins to close, when close to 90%, the position limit switch on the top of main valve outputs the pump stopping signal, water pump stops running. At this point the downstream backwater enters into the main valve control room through check valve, the pressure of control room increases, and the main valve is closed.

Technical Specification:

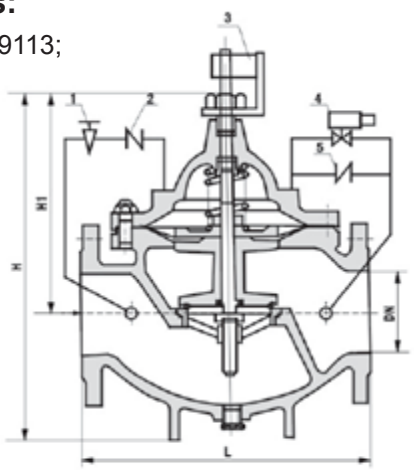
Nominal Diameter:	DN50~DN450
Nominal Pressure:	PN25
Working Temperature:	0°C~80°C
Fluid Medium:	Water
Minimum Different Pressure:	0.1MPa
Control Voltage:	Direct Current 24V; Alternating Current 220V
Design Standard:	JB/T 10674-2006
Test Standard:	GB/T 13927-2008

Material:

Part	Body	Bonnet	Pilot Valve	Connecting Pipe
Material	Carbon Steel Coated with Epoxy	Carbon Steel Coated with Epoxy	Copper	Copper /Stainless Steel

Installation Dimensions:

Connection Dimension: GB/T 9113;



1.Needle Valve 2.Check Valve 3.Limit Switch
4.Solenoid Valve 5.Check Valve

DN	50	65	80	100	125	150	200	250	300	350	400	450
L	203	216	241	292	330	356	495	622	698	787	914	978
H1	160	180	200	270	310	320	370	430	480	525	580	635
H	395	405	430	510	560	585	675	730	760	840	910	910

*Please contact the local salesmen if the size ≥DN450 are needed.

Typical Application:

1. Water plant and water source project;
2. Environmental protection;
3. Municipal facilities;
4. Electric power and utilities;
5. Construction industry.

Installation Instructions:

(1) The valve's rated parameters should match the equipment's. Make sure that the valve's rated flow satisfies the actual demand;

(2) The installer must be trained or experienced so as to operate the installation correctly;

(3) A thorough check after installation is needed to ensure no errors;

(4) A thorough cleaning before installation is needed (chemical reagent can be applied if it is necessary) to ensure that there is not any rusting or dirt in the pipe. All the filters must be removed before washing to keep the pipe smoothly open;

(5) When beginning to wash the system, it is suggested to install the valve on a temporary pipe. After finishing system cleaning, move the valve back and install it on the system's pipe;

(6) This product should not be used when the fluid medium has high viscosity (contains much grease or mineral oil), or under corrosive circumstances;

(7) Use flange and the corresponding bolts that meet the standard to connect the valve;

(8) The direction of flow must accord with the direction of the arrow head on the valve body;

(9) For the size below DN200, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN200 only can be installed horizontally.

Ductile Iron Self-operated Bypass Valve
(W-800X-16Q/25C)

Application:

The Watts W-800X Ductile Iron Self-operated Bypass Valve is designed to improve the utilization rate of system and maintain a constant and accurate value of differential pressure, besides, it can minimize the system noise, and decrease the damage caused by the too large differential pressure on the equipment. It's generally used in building services, water treatment, etc.

Features:

1. Opening and closing without friction;
2. Modularization structure;
3. Reliable sealing performance;
4. Easy to operate;
5. Wide application scope.

Operating Principles:

When differential pressure of the main valve changes between inlet and outlet, differential pressure changes at the both ends of the pilot valve, the opening degree of pilot valve changes, the opening degree is large when the differential pressure is large, the water discharge of control room increases, the pressure of main valve control room drops, the opening degree of main valve increases, the differential pressure of main valve between inlet and outlet decreases. On the other hand, the differential pressure of main valve between inlet and outlet decreases, the opening degree of pilot valve decreases, the pressure of main valve control room increases, making the differential pressure of main valve increases with the decrease of the opening degree. This kind of negative feedback effect makes the differential pressure of main valve between inlet and outlet stable on the set value. Setting the opening degree of needle valve and the pressure of pilot valve spring can decide the differential pressure of main valve between inlet and outlet.

Technical Specification:

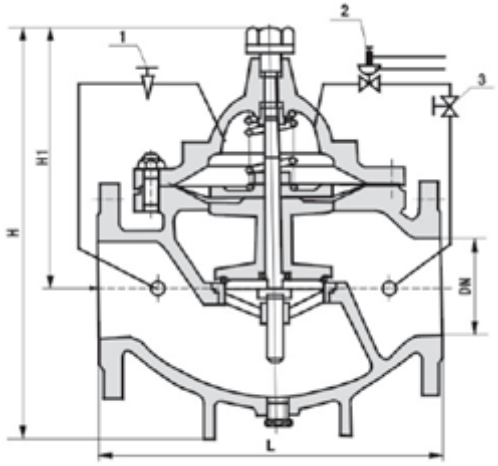
Nominal Diameter:	DN50~DN450
Nominal Pressure:	PN16/25
Working Temperature:	0°C~80°C
Fluid Medium:	Water
Pressure Regulating Range:	0.1MPa~0.4MPa
Design Standard:	JB/T 10674-2006
Test Standard:	GB/T 13927-2008

Material:

Part	Body		Bonnet		Pilot Valve	Connecting Pipe
Material	Ductile Iron Coated with Epoxy (PN16)	Carbon Steel Coated with Epoxy (PN25)	Ductile Iron Coated with Epoxy (PN16)	Carbon Steel Coated with Epoxy (PN25)	Copper	Copper / Stainless Steel

Installation Dimensions:

Connection Dimension: GB/T 17241.6, GB/T 9113;



1.Needle Valve 2.Pilot Valve 3.Ball Valve

DN	50	65	80	100	125	150	200	250	300	350	400	450
L	203	216	241	292	330	356	495	622	698	787	914	978
H1	160	180	200	270	310	320	370	430	480	525	580	635
H	610	625	642	750	808	864	1135	1185	1325	1385	1445	1445

*Please contact the local salesmen if the size ≥DN450 are needed.

Typical Application:

1. Water plant and water source project;
2. Environmental protection;
3. Municipal facilities;
4. Electric power and utilities;
5. Construction industry.

Installation Instructions:

(1) The valve's rated parameters should match the equipment's. Make sure that the valve's rated flow satisfies the actual demand;

(2) The installer must be trained or experienced so as to operate the installation correctly;

(3) A thorough check after installation is needed to ensure no errors;

(4) A thorough cleaning before installation is needed (chemical reagent can be applied if it is necessary) to ensure that there is not any rusting or dirt in the pipe. All the filters must be removed before washing to keep the pipe smoothly open;

(5) When beginning to wash the system, it is suggested to install the valve on a temporary pipe. After finishing system cleaning, move the valve back and install it on the system's pipe;

(6) This product should not be used when the fluid medium has high viscosity (contains much grease or mineral oil), or under corrosive circumstances;

(7) Use flange and the corresponding bolts that meet the standard to connect the valve;

(8) The direction of flow must accord with the direction of the arrow head on the valve body;

(9) For the size below DN200, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN200 only can be installed horizontally.

Ductile Iron Emergency Shut-off Valve
(W-900X-16Q/25C)

Application:

The Watts W-900X Ductile Iron Emergency Shut-off Valve is designed to protect the pipe network system and save construction cost and water consumption. It's generally used in building services, water treatment, etc.

Features:

1. Opening and closing without friction;
2. Modularization structure;
3. Reliable sealing performance;
4. Easy to operate;
5. Wide application scope.

Operating Principles:

Normally, the main valve opens for the domestic water, when the fire break out, water for firefighting is needed, the main valve closes automatically, the domestic water is shut off, ensuring sufficient fire water. When firefighting stops using water, the pressure decreases, and the valve automatically restores the domestic water.

Technical Specification:

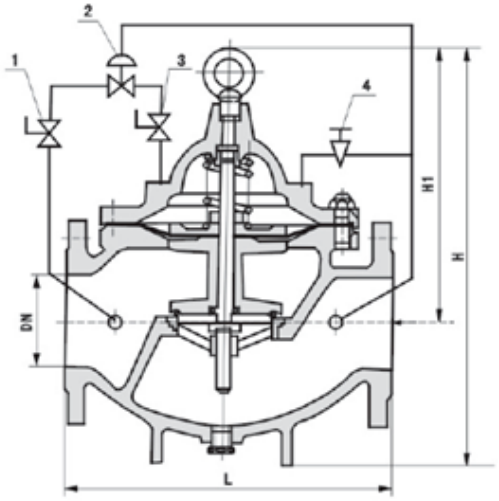
Nominal Diameter:	DN50~DN450
Nominal Pressure:	PN16/25
Working Temperature:	0°C~80°C
Fluid Medium:	Water
Pressure Regulating Range:	0.1MPa~1.0MPa(PN16)
	0.2MPa~1.6MPa(PN25)
Design Standard:	JB/T 10674-2006
Test Standard:	GB/T 13927-2008

Material:

Part	Body		Bonnet		Pilot Valve	Connecting Pipe
Material	Ductile Iron Coated with Epoxy (PN16)	Carbon Steel Coated with Epoxy (PN25)	Ductile Iron Coated with Epoxy (PN16)	Carbon Steel Coated with Epoxy (PN25)	Copper	Copper / Stainless Steel

Installation Dimensions:

Connection Dimension: GB/T 17241.6, GB/T 9113;



1.Small Ball Valve 2.Pilot Valve
3.Small Ball Valve 4.Needle Valve

DN	50	65	80	100	125	150	200	250	300	350	400	450
L	203	216	241	292	330	356	495	622	698	787	914	978
H1	278	298	313	350	365	420	450	470	490	526	570	570
H	395	405	430	510	560	585	675	730	760	840	910	910

*Please contact the local salesmen if the size ≥DN450 are needed.

Typical Application:

1. Water plant and water source project;
2. Environmental protection;
3. Municipal facilities;
4. Electric power and utilities;
5. Construction industry.

Installation Instructions:

(1) The valve's rated parameters should match the equipment's. Make sure that the valve's rated flow satisfies the actual demand;

(2) The installer must be trained or experienced so as to operate the installation correctly;

(3) A thorough check after installation is needed to ensure no errors;

(4) A thorough cleaning before installation is needed (chemical reagent can be applied if it is necessary) to ensure that there is not any rusting or dirt in the pipe. All the filters must be removed before washing to keep the pipe smoothly open;

(5) When beginning to wash the system, it is suggested to install the valve on a temporary pipe. After finishing system cleaning, move the valve back and install it on the system's pipe;

(6) This product should not be used when the fluid medium has high viscosity (contains much grease or mineral oil), or under corrosive circumstances;

(7) Use flange and the corresponding bolts that meet the standard to connect the valve;

(8) The direction of flow must accord with the direction of the arrow head on the valve body;

(9) For the size below DN200, the main valve can be installed horizontally or vertically, but horizontal installation is better. The size above DN200 only can be installed horizontally.

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