About Watts

Since its founding in 1874, Watts has developed a reputation of “Setting the Standard in Valve Technology.” Through a family of companies, Watts Water Technologies, Inc. (collectively “Watts”) designs and manufactures innovative products and systems in five application areas: Plumbing & Flow Control, Water Reuse & Drainage, HVAC, Water Quality , and Municipal Waterworks Watts continues to create integrated solutions for water quality and conservation and to improve comfort, safety, and quality of life for people around the world through expertise in a wide range of water technologies.

Watts is a renowned global business with offices and manufacturing facilities in Europe, Asia-Pacific, and North America. Watts entered the Chinese market in 1994 and currently operates three facilities: Watts (Shanghai) Management Co., Ltd., Watts Water Equipment Manufacturing (Ningbo) Co., Ltd., and Watts (Ningbo) International Trading Co., Ltd.. In 2007, Watts established its Asia-Pacific, the Middle East and Africa headquarters in Shanghai, China, and has set up operational branches in Beijing, Guangzhou, Singapore, Australia, South Korea, and Dubai.

For more information about Watts and Watts products, please visit Watts' official website at en.watts.cn.

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Asia Pacific, the Middle East & Africa Headquarters
Address: the 26rd Floor, No.500 West Yan'an Road,
Shanghai, China
Order No: VN01EN2406

Watts Product Catalogue

Fluid Solutions







en.watts.cn

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Series 007-QT

Backflow Preventer

Size: DN15-DN50

Series 007-QT backflow preventer shall be installed at referenced cross-connections to prevent the backflow of polluted water into the potable water supply. Only those cross-connections identified by local inspection authorities as non-health hazard shall be allowed the use of an approved double check valve assembly.



Features

- Top-mounted Lead-Free* ball valve test cocks
- Modular construction and compact design with the low-pressure drop
- Replaceable seats and seat discs
- Ease of maintenance — only one cover, no special tools required for servicing

Approvals

Watermark

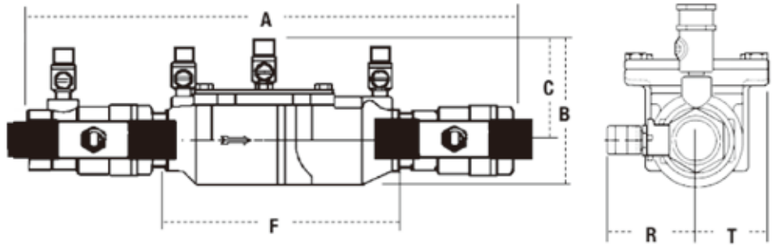
Pressure-Temperature

- Maximum Working Pressure: 1.21Mpa
- Temperature Range: 0.5°C~82°C

Material

Component	Material
Body	Bronze
Gasket	Silicone Rubber

Installation Dimensions

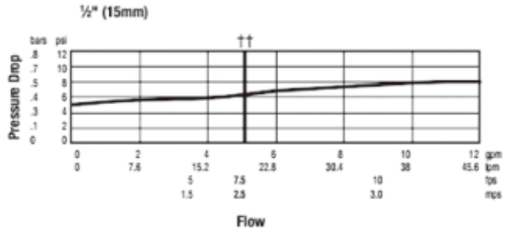


Size(DN)		Dimensions												Weight	
		A		B		C		F		R		T			
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	ibs.	kgs.
1/2	15	10	254	4 5/8	117	2 7/16	62	5	127	2 5/16	59	2 1/16	52	4.5	2
3/4	20	11 1/2	282	4	102	3 1/8	79	6 3/16	157	2 1/8	54	15/16	33	5	2.3
1	25	13 1/4	337	5 1/8	130	4	102	7 1/2	191	1 11/16	43	1 11/16	43	12	5.4
1 1/4	32	16 3/8	416	5	127	3 5/16	84	9 1/2	241	3	76	2	50	15	6.8
1 1/2	40	16 3/4	425	4 7/8	124	3 1/2	89	9 3/4	248	3 1/8	79	2 11/16	68	15.9	7.2
2	50	19 1/2	495	6 1/4	159	4	102	13 3/8	340	3 7/16	87	2 11/16	68	25.7	11.7

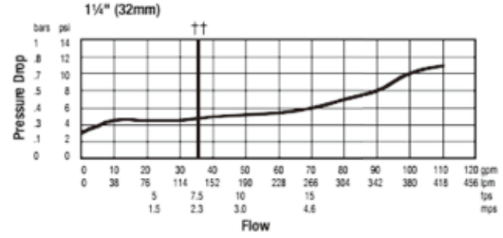
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Characteristic Curves

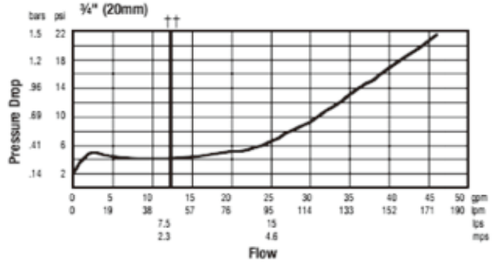
½" (15mm)



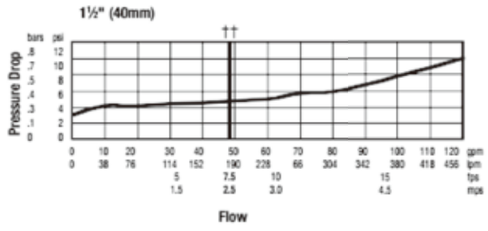
1¼" (32mm)



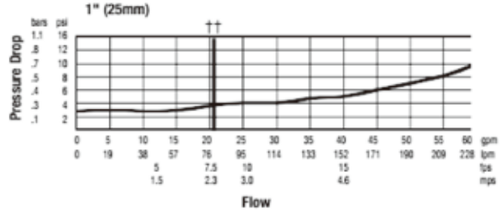
¾" (20mm)



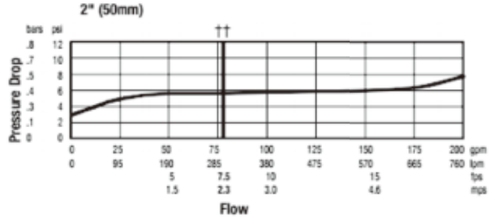
1½" (40mm)



1" (25mm)



2" (50mm)



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Series 009-QT

Backflow Preventer

Size: DN15-DN50

Series 009-QT Preventer are designed to protect potable water supplies in accordance with national plumbing codes and water authority requirements.

Features

- Single access cover and modular check construction for ease of maintenance
- Top entry – all internals immediately accessible
- Captured springs for safe maintenance
- Internal relief valve for reduced installation clearances
- Replaceable seats for economical repair
- Ball valve test cocks — screwdriver slotted
- Large body passages provide low pressure drop
- Compact, space saving design
- No special tools required for servicing

Pressure-Temperature

- Maximum Working Pressure: 1.21Mpa
- Temperature Range: 0.5°C~75°C

Specification

Connection Standard: G- GB/T 7307

Material

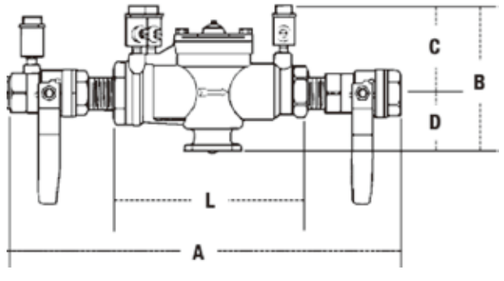
Component	Material
Body	Bronze
Seat	Stainless Steel
Disc	Silicone Rubber
Test Cocks	Silicone Rubber



Approvals

Watermark

Installation Dimensions

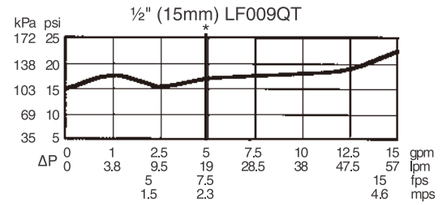


Size(DN)		Dimensions										Weight	
		A		B		C		D		L			
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	ibs.	kgs.
1/2	15	10	250	4 5/8	117	3 3/8	86	1 1/4	32	5 1/2	140	5	2
3/4	20	10 3/4	273	5	127	3 1/2	89	1 1/2	38	6 3/4	171	6	3
1	25	14 1/2	368	5 1/2	140	3	76	2 1/2	64	9 1/2	241	12	5
1 1/4	32	17 3/8	441	6	150	3 1/2	89	2 1/2	64	11 3/8	289	15	6
1 1/4	40	17 7/8	454	6	150	3 1/2	89	2 1/2	64	11 1/8	283	16	7
2	50	21 3/8	543	7 3/4	197	4 1/2	114	3 1/4	83	13 1/2	343	30	13

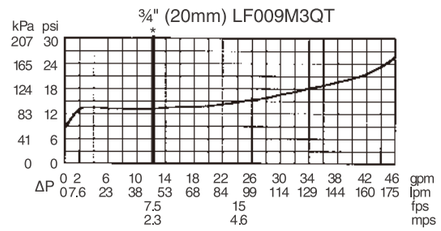
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Characteristic Curves

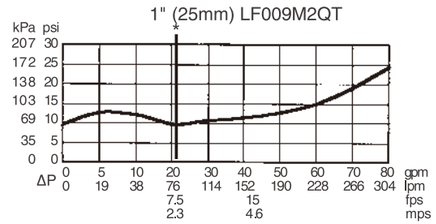
½" (15mm) LF009QT



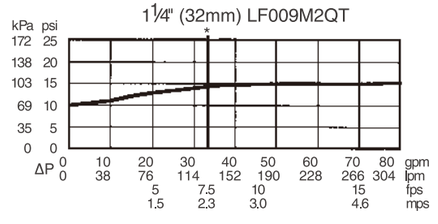
¾" (20mm) LF009M3QT



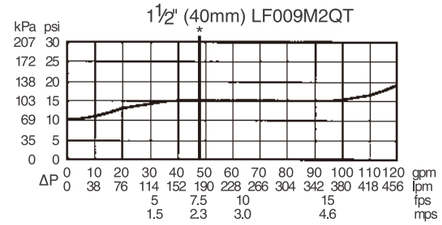
1" (25mm) LF009M2QT



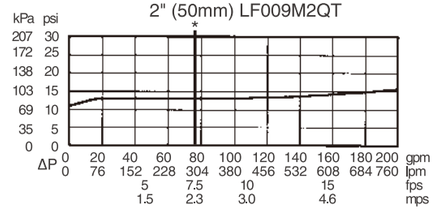
1¼" (32mm) LF009M2QT



1½" (40mm) LF009M2QT



2" (50mm) LF009M2QT



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Series 7R

Dual Check Valve

Size: DN15-DN50

Series 7R Dual Check Valves are designed for low-health hazard residential water system containment, protecting against backflow and back siphonage and in continuous pressure applications. Application example would include drinking water supply service entrances or individual outlets.
The Series 7R-AUS uses two compact replaceable check modules and can be installed in conjunction with a water meter.

Features

- High quality components for long life performance
- Individually factory tested
- Solid compact construction
- Can be installed vertically and horizontally

Specification

- Connection Standard: AS/NZS 2845.1
- Connection Type: BSP Female Thread
- Working Medium: Non corrosive liquids

Pressure-Temperature

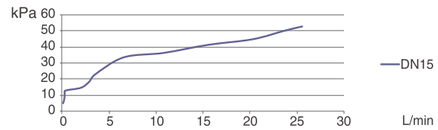
- Temperature Range: 0.5°C~82°C
- Maximum Working Pressure: 1207kPa
- Minimum Working Pressure: 35kPa

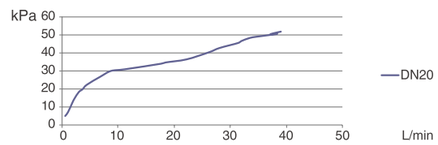


Approvals

WMK25866

Characteristic Curves

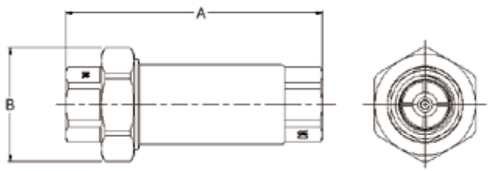




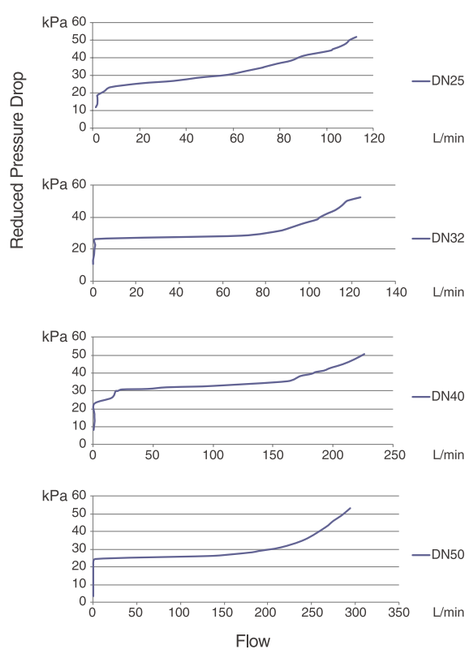
Material

Component	Material
Body	DR Brass
Check Modules	Engineered Composite
Discs	Santoprene
Seals	EPDM
Springs	Stainless Steel

Installation Dimensions



Size (DN)	Dimensions		Weight	Box		Carton	
	A	B	(Kg)	Size(MM)	QTY	Size(MM)	QTY
DN15	95	41.5	0.24	44x42x100	1	312x312x169	54
DN20	96	42.5	0.28	44x42x100	1	312x312x169	54
DN25	110	51.5	0.33	53x52x115	1	289x289x272	50
DN32	163.2	65.5	1.06	67x63x165	1	303x292x182	16
DN40	183	94	1.9	100x92x195	1	355x350x232	9
DN50	178	94	1.9	100x92x195	1	355x350x232	9



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Series 9D

Dual Check Valve with Intermediate Atmospheric Vent

Size: DN15-DN20

Series 9D is specially made for smaller supply lines and ideally suited for laboratory equipment, processing tanks, sterilizers, dairy equipment and similar applications. It is particularly recommended for boiler feed lines to prevent backflow when supply pressure falls below system pressure.
Series 9D is suitable for use on hot or cold water and can be used under continuous pressure. It features a primary check valve utilizing a rubber disc seating against a mating rubber part to ensure tight closing. A secondary check valve utilizes a rubber disc-to-metal seating. In the event of fouling of the downstream check valve, leakage would be vented to atmosphere through the vent port there by safeguarding the potable water system.
Construction is brass body with stainless steel working parts, in tegral strainer and durable rubber discs. Female union inlet and outlet connections. Sizes 15mm and 20mm. Drain is 15mm.

Features

- True line-sized construction allows the check modules to open further allowing dirt and debris to pass more freely reducing check fouling
- Stainless steel internal parts
- Maximum flow at low pressure drop
- Compact for economy combined with performance
- Design simplicity for easy maintenance
- Can be installed vertically or horizontally

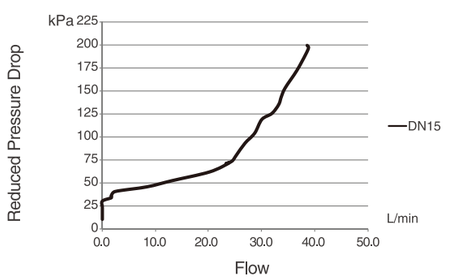
Material

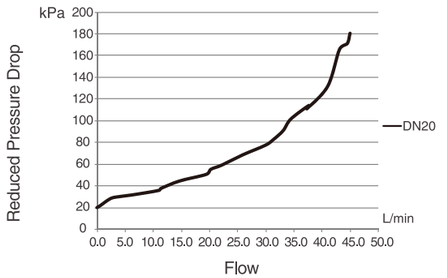
Component	Material
Body	Brass
Internal Parts	Stainless Steel
Check Valve Assemblies	Rubber

Installation Dimensions

Size		A	B	E	E1	Weight
in.	mm	mm	mm	mm	mm	kg.
1/2	15	125	65	49	65	0.68
3/4	20	114	65	49	65	0.79

Characteristic Curves







Specification

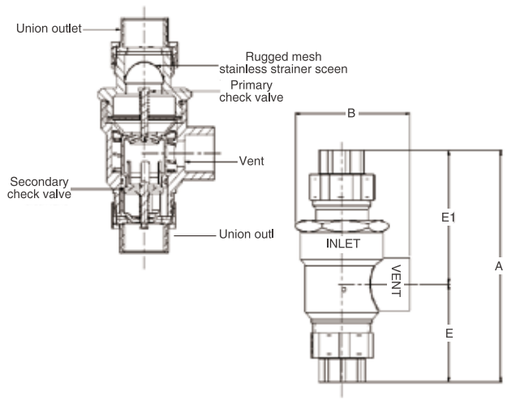
- Connection Standard: AS/NZS 2845•1
- Connection Type: BSP Female Thread
- Working Medium: Non corrosive liquids

Approvals

WMK25866

Pressure-Temperature

- Temperature Range 0.5°C-121°C
- Maximum Working Pressure: 1210kPa
- Minimum Required Pressure: 172kPa



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Series SCVT

Single Check Testable Valve Assembly

Size: DN80-DN200

The units are testable and designed for installation on potable water connections in commercial fire system applications and protect against both backsiphonage and backpressure of polluted water into the potable water supply. Available in flanged and grooved configuration.

Features

The devices are constructed from ductile iron and consist of one spring-loaded, center stem, guided check valve. Two BSP tapped holes are located one upstream and one downstream of the check valve for testing or the installation of a by-pass assembly. For ease of servicing the devices have a single top access cover utilizing a grooved pipe coupling and the check valve assembly is replaceable.

Pressure-Temperature

- Max Working Pressure: 1200 KPa (175 PSI)
- Max Working Temperature: 60°C (140°F)

Material

Component	Material
Stem	Stainless Steel
Seat	Noryl
Disc Retainer	Stainless Steel
Disc	Silicone
Disc Holder	Federalloy
Spring	Stainless Steel
Stem Retainer	Stainless Steel
O-ring	NBR
Seat Retainer	Noryl
Cover	ASTM A536 Di 65-45-12+Expoy
Coupling	ASTM A536 Di 65-45-12+Expoy
Plug	Q235+Plated
Body	ASTM A536 Di 65-45-12+Expoy



Specification

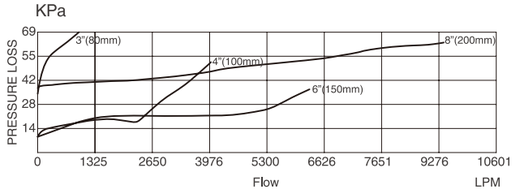
- Hydrostatic Test Pressure: 2400 KPa (350 PSI)
- End Connections: -Grooved (cut for steel pipe): AWWA C606
  -Flanged: AS 2129-2000-Table E
- Options: G-Grooved pipe connection
  E-Australian flanged connection

Approvals

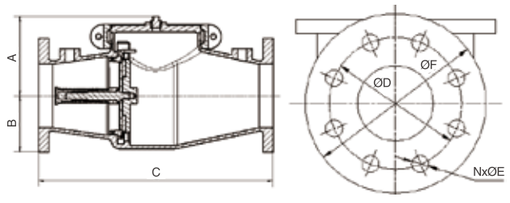
- AS2845.1-2010,Certificate WMK25866

WaterMark

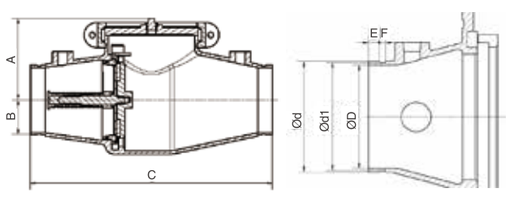
Characteristic Curves



Installation Dimensions



Size (DN)	Type	A	B	C	ØD	ØF	NxØE	Weight (Kg)
80	Flanged	127	85.7	406.4	146.1	185	4-Ø18	24
100	Flanged	150	107.95	419.1	177.8	215.9	8-Ø18	29
150	Flanged	193	139.7	571.5	235	279.4	8-Ø22	54
200	Flanged	226	168.3	698.5	292.1	333.5	8-Ø23	96



Size (DN)	Type	A	B	C	Ød	ØD	Ød1	E	F	Weight (Kg)
80	Grooved	127	85.7	406.4	88.9	76.2	84.7	15.9	7.9	18.5
100	Grooved	150	57.15	419.1	114.3	103.1	109.8	15.9	9.5	19
150	Grooved	193	82.55	571.5	165.1	154.0	160.8	15.9	9.5	41
200	Grooved	236	109.55	673.1	219.1	202.4	214.4	19.1	11.1	84

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Series SCDAT

Single Detector Check Valve Assembly (Testable)

Size: DN80-DN200

The units are testable and designed for installation on potable water connections in fire system applications and protect against both back siphonage and backpressure of polluted water into the potable water supply. Available in flanged and grooved configuration.

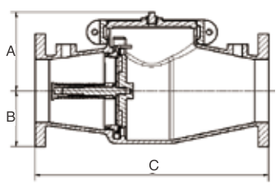
Features

The devices are constructed from ductile iron and consist of one spring-loaded, center stem, guided check valve, with two BSP tapped holes located one upstream and one downstream of the check valve for installation of a by-pass assembly, which includes a single check valve, shutoff valve and water meter for the detection of low flow. The check valves are constructed from NorylTM and bronze and are retained in place by a NorylTM and Stainless Steel clip assembly. For ease of servicing the devices have a single top access cover utilizing a grooved pipe coupling and the check valve assembly is replaceable.

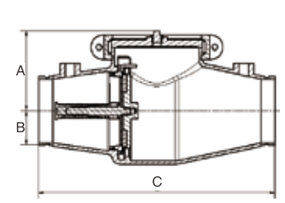
Pressure-Temperature

- Max. Working Pressure: 1200 KPa
- Max. Working Temperature: 60°C

Installation Dimensions



Size mm	Size In.	Type	A	B	C	ØD	ØF	NxØE	Weight (Kg)
80	3	Flanged	127	85.7	406.4	146.1	185	4-Ø18	24
100	4	Flanged	150	107.95	419.1	177.8	215.9	8-Ø18	29
150	6	Flanged	193	139.7	571.5	235	279.4	8-Ø22	54
200	8	Flanged	226	168.3	698.5	292.1	333.5	8-Ø23	96



Size mm	Size In.	Type	A	B	C	Ød	ØD	Ød1	E	F	Weight (Kg)
80	3	Grooved	127	85.7	406.4	88.9	76.2	84.7	15.9	7.9	18.5
100	4	Grooved	150	57.15	419.1	114.3	103.1	109.8	15.9	9.5	19
150	6	Grooved	193	82.55	571.5	165.1	154.0	160.8	15.9	9.5	41
200	8	Grooved	236	109.55	673.1	219.1	202.4	214.4	19.1	11.1	84



Specification

- Test Pressure: 2400 KPa
- End Connection Options: Grooved (cut for steel pipe) AWWA C606
- Flanged: AS 2129-2000

Approvals

- Water Mark License No.: WMK25866

WaterMark

Material

Component	Material
Body	Ductile Iron
Access Cover	Ductile Iron
Polymers	NorylTM, NSF Listed
Elastomers	Silicone, Buna-N
Springs	Stainless Steel
CV Disc	Bronze
Coating	FDA Approved Fusion Epoxy

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Series DCDA Flomatic®

Double Check Detector Assembly

Size: DN65-DN200

A double check detector assembly is a testable device designed for use in 'medium hazard' conditions to prevent backflow caused by backpressure or back-siphonage. It is intended for use in fire service lines under continuous pressure and allows monitoring of small draw-offs of water.



Features

- Stable performance, safe and reliable
- Simple operation, convenient servicing
- Long service life

Pressure-Temperature

- Nominal Pressure: PN12
- Temperature Range: 0°C~60°C

Material

NO.	Description	Material
1	Body	Ductile Iron+Epoxy
2	Seat Ring 2nd CV	Noryl
3	Disc Hide CV	Bronze
4	Stem Retainer 2nd CV	Stainless Steel
5	Stem 2nd CV	Stainless Steel
6	Disc Retainer	Stainless Steel
7	Spring 2nd CV	Stainless Steel
8	Disc	Silicon
9	O-Ring CV	NBR
10	Spring CLP	Stainless Steel
11	Cover	Ductile Iron+Epoxy
12	O-Ring Cover	NBR
13	Bolt	Stainless Steel
14	Seat Ring 1st CV	Noryl
15	Spring 1st CV	Stainless Steel
16	Stem 1st CV	Stainless Steel
17	Stem Retainer 1st CV	Stainless Steel

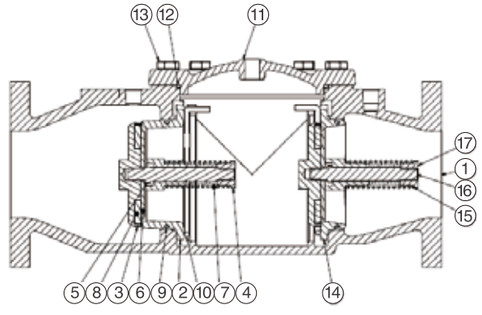
Specification

- Design Standard: AS 2845.1
- Test Standard: AS 2845.1 Section 11
- Connection Type: AS 2129-2000 Flange Table E
- Working Medium: Non-corrosive liquid

Approvals

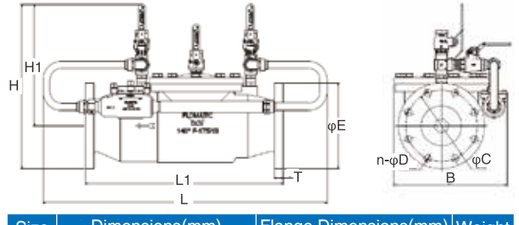
- Water Mark License No.: WMKA22155

WaterMark



Installation Dimensions

Connection Dimension: AS 2129 Table E



Size DN	Dimensions(mm) L	L1	H	H1	B	Flange Dimensions(mm) ØC	n-ØD	ØE	T	Weight (Kg)
65	732	448	420	328	290	127	4-18	165	19	33.5
80	732	448	420	328	290	146	4-18	185	19	33.5
100	770	533.5	445	330	310	178	8-18	215	23.8	56.8
150	810	625	498	360	365	235	8-22	280	22	80.2
200	885	831.5	560	392	415	292	8-22	335	25	143.9

General Instructions

- The installer must be qualified so as to conduct the installation correctly
- Check local and national codes for installation methods and seek local approvals as required
- Water supply pipe network should be cleaned before DCDA installation, eliminating sand, gravel and other debris in the pipe. Make sure there is maintenance space around the valve to undertake conveniently
- Install valve horizontally 'in line' (cover facing up), so flow arrow matches flow through the line. Install inlet and outlet isolation valves. NOTE: When using butterfly valves, insure the discs do not contact the backflow internal, otherwise improper operation or damage may occur
- Valve should be inspected regularly, ensure there is no debris in valve or filter if installed

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Series W-100X-25C

Modulating Float Control Valve

Size: DN50-DN400

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

- Opening and closing without friction
- Modularization structure
- Reliable sealing performance
- Easy to operate
- Wide application scope

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: 0°C~80°C
- Minimum Different Pressure: 0.1MPa

Material

Component	Material
Body	Carbon Steel Coated with Epoxy
Bonnet	Carbon Steel Coated with Epoxy
Pilot Valve	Stainless Steel
Connecting Pipe	Stainless Steel

Specification

- Design Standard: JB/T 10674-2006
- Test Standard: GB/T 13927-2008
- Liquid Level Control Height: ≤150mm

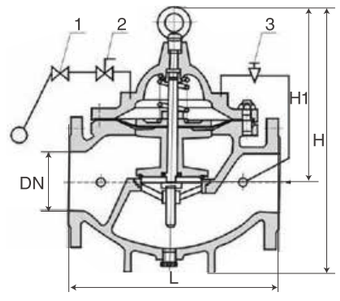
Typical Application

- Water plant and water source project
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry

Installation Dimensions

Connection Dimension: GB/T 9113

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



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

Installation Instruction

1. Prior to installation, flush line to remove debris.
2. Install valve so the flow arrow matches flow through the line.
3. Install isolation valves upstream and downstream of the main valve. Note: If using butterfly valves, ensure valve disc does not contact the main valve.
4. Provide adequate clearance for valve servicing and maintenance.
5. Avoid installing valves 6" and larger in the vertical position (main valve stem horizontal). Automatic Control Valves (ACVs) are designed for horizontal in-line installation, with the cover facing up (main valve stem vertical). Slow operation or premature stem and guide wear may occur if valve is not installed according to factory recommendations. Consult factory for detailed engineering review prior to ordering if valve is to be installed other than horizontally in-line. Vertical installation (flow downward) is forbidden.
6. If valve is equipped with a pilot control system, extra precautions should be made during installation to protect the piping circuit from damage. Only remove the pilot control system from the valve if necessary. Tubing and fittings should be kept clean, and replaced exactly as removed. Consult appropriate hydraulic schematic to ensure proper re-assembly.
7. After installation, vent entrapped air from valve cover and pilot system.

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Series W-200X-25C

Pressure Reducing Valve

Size: DN50-DN400

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

- Opening and closing without friction
- Modularization structure
- Reliable sealing performance
- Easy to operate
- Wide application scope

Pressure-Temperature

- Nominal Pressure: PN25
- Pressure Regulating Range: 0.2MPa~1.6MPa
- Temperature Range: 0°C~80°C

Typical Application

- Water plant and water source project
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry

Specification

- Design Standard: JB/T 10674-2006
- Connection Standard: BS EN 1092-1
- Test Standard: BS EN 12266-2:2002, GB/T 13927-2008
- Working Medium: Water

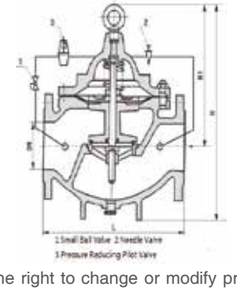
Material

Component	Body/Bonnet	Pilot Valve	Connecting Piping
Material	Carbon Steel Coated with Epoxy	Stainless Steel	Stainless Steel

Installation Dimensions

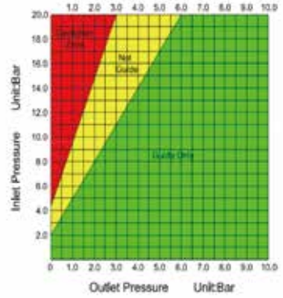
DN	50	65	80	100	125	150	200	250	300	350	400
L	203	216	241	292	330	356	495	622	698	787	914
H1	210	215	245	305	365	415	540	560	658	696	735
H	395	405	430	510	560	585	675	730	760	840	910

Connection Dimension: PN25 to BS EN 1092-1

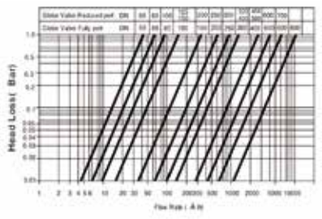




Cavitation Chart



Pressure Drop Chart



Installation Instruction

1. Prior to installation, flush line to remove debris.
2. Install valve so the flow arrow matches flow through the line.
3. Install isolation valves upstream and downstream of the main valve. Note: If using butterfly valves, ensure valve disc does not contact the main valve.
4. Provide adequate clearance for valve servicing and maintenance.
5. Avoid installing valves 6" and larger in the vertical position (main valve stem horizontal). Automatic Control Valves (ACVs) are designed for horizontal in-line installation, with the cover facing up (main valve stem vertical). Slow operation or premature stem and guide wear may occur if valve is not installed according to factory recommendations. Consult factory for detailed engineering review prior to ordering if valve is to be installed other than horizontally in-line. Vertical installation (flow downward) is forbidden.
6. If valve is equipped with a pilot control system, extra precautions should be made during installation to protect the piping circuit from damage. Only remove the pilot control system from the valve if necessary. Tubing and fittings should be kept clean, and replaced exactly as removed. Consult appropriate hydraulic schematic to ensure proper re-assembly.
7. After installation, vent entrapped air from valve cover and pilot system.

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Series W-300X-25C

Non-Surge Check Valve

Size: DN50-DN400

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

- Opening and closing without friction
- Modularization structure
- Reliable sealing performance
- Easy to operate
- Wide application scope

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: 0°C~80°C
- Minimum Different Pressure: 0.1MPa

Material

Component	Material
Body	Carbon Steel Coated with Epoxy
Bonnet	Carbon Steel Coated with Epoxy
Pilot Valve	Stainless Steel
Connecting Pipe	Stainless Steel

Typical Application

- Water plant and water source project
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry

Installation Dimensions

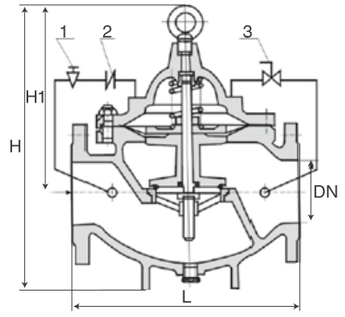
Connection Dimension: GB/T 9113

DN	50	65	80	100	125	150	200	250	300	350	400
L	203	216	241	292	330	356	495	622	698	787	914
H1	137	145	178	232	286	318	413	502	600	638	677
H	395	405	430	510	560	585	675	730	760	840	910



Specification

- Design Standard: JB/T 10674-2006
- Test Standard: GB/T 13927-2008
- Working Medium: Water



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

Installation Instruction

1. Prior to installation, flush line to remove debris.
2. Install valve so the flow arrow matches flow through the line.
3. Install isolation valves upstream and downstream of the main valve. Note: If using butterfly valves, ensure valve disc does not contact the main valve.
4. Provide adequate clearance for valve servicing and maintenance.
5. Avoid installing valves 6" and larger in the vertical position (main valve stem horizontal). Automatic Control Valves (ACVs) are designed for horizontal in-line installation, with the cover facing up (main valve stem vertical). Slow operation or premature stem and guide wear may occur if valve is not installed according to factory recommendations. Consult factory for detailed engineering review prior to ordering if valve is to be installed other than horizontally in-line. Vertical installation (flow downward) is forbidden.
6. If valve is equipped with a pilot control system, extra precautions should be made during installation to protect the piping circuit from damage. Only remove the pilot control system from the valve if necessary. Tubing and fittings should be kept clean, and replaced exactly as removed. Consult appropriate hydraulic schematic to ensure proper re-assembly.
7. After installation, vent entrapped air from valve cover and pilot system.

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Series W-500X-25C

Pressure Relief, Sustaining or Backpressure Control Valve

Size: DN50-DN400

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

- Opening and closing without friction
- Modularization structure
- Reliable sealing performance
- Easy to operate
- Wide application scope

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: 0°C~80°C
- Pressure Regulating Range: 0.2MPa~1.7MPa

Material

Component	Material
Body	Carbon Steel Coated with Epoxy
Bonnet	Carbon Steel Coated with Epoxy
Pilot Valve	Stainless Steel
Connecting Pipe	Stainless Steel

Typical Application

- Water plant and water source project
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry

Installation Dimensions

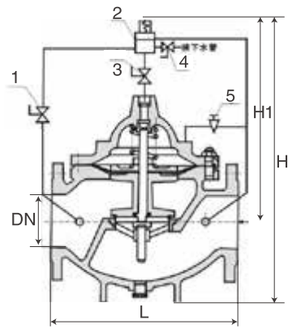
Connection Dimension: GB/T 9113

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



Specification

- Design Standard: JB/T 10674-2006
- Test Standard: GB/T 13927-2008
- Working Medium: water



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

Installation Instruction

1. Prior to installation, flush line to remove debris.
2. Install valve so the flow arrow matches flow through the line.
3. Install isolation valves upstream and downstream of the main valve. Note: If using butterfly valves, ensure valve disc does not contact the main valve.
4. Provide adequate clearance for valve servicing and maintenance.
5. Avoid installing valves 6" and larger in the vertical position (main valve stem horizontal). Automatic Control Valves (ACVs) are designed for horizontal in-line installation, with the cover facing up (main valve stem vertical). Slow operation or premature stem and guide wear may occur if valve is not installed according to factory recommendations. Consult factory for detailed engineering review prior to ordering if valve is to be installed other than horizontally in-line. Vertical installation (flow downward) is forbidden.
6. If valve is equipped with a pilot control system, extra precautions should be made during installation to protect the piping circuit from damage. Only remove the pilot control system from the valve if necessary. Tubing and fittings should be kept clean, and replaced exactly as removed. Consult appropriate hydraulic schematic to ensure proper re-assembly.
7. After installation, vent entrapped air from valve cover and pilot system.

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Series W-600X-25C

Solenoid On-Off Control Valve

Size: DN50-DN400

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

- Opening and closing without friction
- Modularization structure
- Reliable sealing performance
- Easy to operate
- Wide application scope

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: 0°C~80°C
- Minimum Different Pressure: 0.1MPa

Material

Component	Material
Body	Carbon Steel Coated with Epoxy
Bonnet	Carbon Steel Coated with Epoxy
Pilot Valve	Stainless Steel
Connecting Pipe	Stainless Steel

Typical Application

- Water plant and water source project
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry

Installation Dimensions

Connection Dimension: GB/T 9113

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



Specification

- Design Standard: JB/T 10674-2006
- Test Standard: GB/T 13927-2008
- Control Voltage: Direct Current 24V
  Alternating Current 220V
- Working Status: Normally Open/Close Type
- Working Medium: Water

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

Installation Instruction

1. Prior to installation, flush line to remove debris.
2. Install valve so the flow arrow matches flow through the line.
3. Install isolation valves upstream and downstream of the main valve. Note: If using butterfly valves, ensure valve disc does not contact the main valve.
4. Provide adequate clearance for valve servicing and maintenance.
5. Avoid installing valves 6" and larger in the vertical position (main valve stem horizontal). Automatic Control Valves (ACVs) are designed for horizontal in-line installation, with the cover facing up (main valve stem vertical). Slow operation or premature stem and guide wear may occur if valve is not installed according to factory recommendations. Consult factory for detailed engineering review prior to ordering if valve is to be installed other than horizontally in-line. Vertical installation (flow downward) is forbidden.
6. If valve is equipped with a pilot control system, extra precautions should be made during installation to protect the piping circuit from damage. Only remove the pilot control system from the valve if necessary. Tubing and fittings should be kept clean, and replaced exactly as removed. Consult appropriate hydraulic schematic to ensure proper re-assembly.
7. After installation, vent entrapped air from valve cover and pilot system.

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Series W-700X-25C

Pump Control Valve

Size: DN50-DN400

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

- Opening and closing without friction
- Modularization structure
- Reliable sealing performance
- Easy to operate
- Wide application scope

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: 0°C~80°C
- Pressure Regulating Range: 0.2MPa~1.7MPa

Material

Component	Material
Body	Carbon Steel Coated with Epoxy
Bonnet	Carbon Steel Coated with Epoxy
Pilot Valve	Stainless Steel
Connecting Pipe	Stainless Steel

Typical Application

- Water plant and water source project
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry

Installation Dimensions

Connection Dimension: GB/T 9113

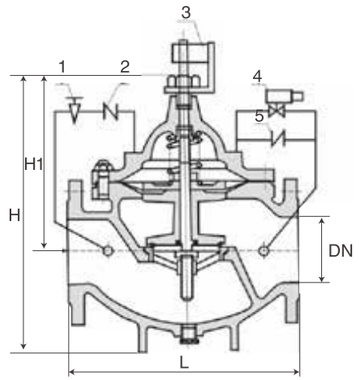
DN	50	65	80	100	125	150	200	250	300	350	400
L	203	216	241	292	330	356	495	622	698	787	914
H1	160	180	200	270	310	320	370	430	480	525	580
H	395	405	430	510	560	585	675	720	760	840	910

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



Specification

- Design Standard: JB/T 10674-2006
- Test Standard: GB/T 13927-2008
- Control Voltage: Direct Current 24V; Alternating Current 220V
- Working Medium: water



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

Installation Instruction

1. Prior to installation, flush line to remove debris.
2. Install valve so the flow arrow matches flow through the line.
3. Install isolation valves upstream and downstream of the main valve. Note: If using butterfly valves, ensure valve disc does not contact the main valve.
4. Provide adequate clearance for valve servicing and maintenance.
5. Avoid installing valves 6" and larger in the vertical position (main valve stem horizontal). Automatic Control Valves (ACVs) are designed for horizontal in-line installation, with the cover facing up (main valve stem vertical). Slow operation or premature stem and guide wear may occur if valve is not installed according to factory recommendations. Consult factory for detailed engineering review prior to ordering if valve is to be installed other than horizontally in-line. Vertical installation (flow downward) is forbidden.
6. If valve is equipped with a pilot control system, extra precautions should be made during installation to protect the piping circuit from damage. Only remove the pilot control system from the valve if necessary. Tubing and fittings should be kept clean, and replaced exactly as removed. Consult appropriate hydraulic schematic to ensure proper re-assembly.
7. After installation, vent entrapped air from valve cover and pilot system.

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Series W-800X-16Q/25C

Ductile Iron Self-operated Bypass Valve

Size: DN50-DN400

The Watts W-800X 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

- Opening and closing without friction
- Modularization structure
- Reliable sealing performance
- Easy to operate
- Wide application scope

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: 0°C~80°C
- Pressure Regulating Range: 0.1MPa~0.4MPa

Material

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

Typical Application

- Water plant and water source project
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry

Installation Dimensions

Connection Dimension: GB/T 17241.6 GB/T 9113

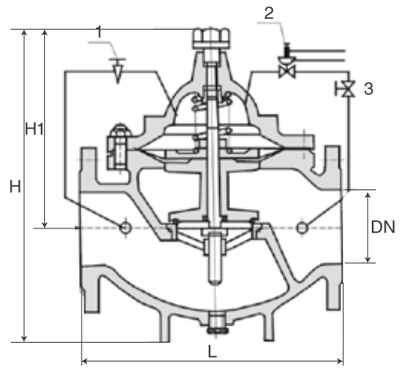
DN	50	65	80	100	125	150	200	250	300	350	400
L	203	216	241	292	330	356	495	622	698	787	914
H1	160	180	200	270	310	320	370	430	480	525	580
H	610	625	642	750	808	864	1135	1185	1325	1385	1445

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



Specification

- Design Standard: JB/T 10674-2006
- Test Standard: GB/T 13927-2008
- Working Medium: Water



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

Installation Instruction

1. Prior to installation, flush line to remove debris.
2. Install valve so the flow arrow matches flow through the line.
3. Install isolation valves upstream and downstream of the main valve. Note: If using butterfly valves, ensure valve disc does not contact the main valve.
4. Provide adequate clearance for valve servicing and maintenance.
5. Avoid installing valves 6" and larger in the vertical position (main valve stem horizontal). Automatic Control Valves (ACVs) are designed for horizontal in-line installation, with the cover facing up (main valve stem vertical). Slow operation or premature stem and guide wear may occur if valve is not installed according to factory recommendations. Consult factory for detailed engineering review prior to ordering if valve is to be installed other than horizontally in-line. Vertical installation (flow downward) is forbidden.
6. If valve is equipped with a pilot control system, extra precautions should be made during installation to protect the piping circuit from damage. Only remove the pilot control system from the valve if necessary. Tubing and fittings should be kept clean, and replaced exactly as removed. Consult appropriate hydraulic schematic to ensure proper re-assembly.
7. After installation, vent entrapped air from valve cover and pilot system.

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Series W-M110-10

Ductile Iron Modulating Float Control Valve

Size: Thread DN32-DN50 Flange DN50-DN300

The Watts W-M110-10 Modulating Float Control Valve consists of the main valve of the 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 buildings.



Features

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

Pressure-Temperature

- Nominal Pressure: PN16/CL300(Thread)
- Temperature Range: 0°C~80°C
- Float Valve Working Pressure: 116Psi(8Bar) WRAS
  43.5Psi(3Bar) Normal
- Minimum Different Pressure: 5Psi(0.035MPa)

Specification

- Design Standard: AWWA C530
- Connection Type: Thread & Flanged is available
  BSPT CL 300 BSPT to ISO 7-1
  Flange to PN16 to BS EN 1092-2
- Test Standard: ISO/DIS 5208:2007
- Float Diameter: SØ 126 mm
- Certification WRAS 1¼"-2" BSPT (F).
  DN50-DN300 Flanged

Test Pressures

Class	Pneumatic	Hydraulic
PN16	Seat: 7 bar	Shell: 24 bar Seat: 17.6 bar
CL300	Seat: 7 bar	Shell: 40 bar

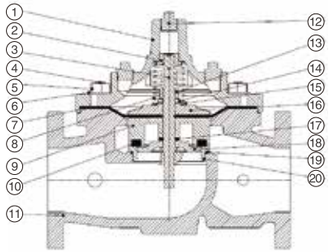
Approval

WRAS APPROVED PROOUCT

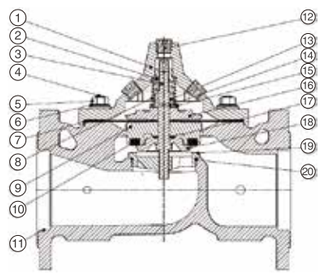
Material

No.	Component	Material	Standard
1	Cover	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
2	Cover Bearing	Stainless Steel	ASTM A276 304
3	Shaft/Stem	Stainless Steel	ASTM A276 304
4	Stud	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33ASTM A276 304
5	Cover Nut	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33/ASTM A276 304
6	Washer	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33/ASTM A276 304
7	Diaphragm	Buna-N (Nitrile) +Nylon	
8	Spring	Stainless Steel	ASTM A276 302/304
9	Disc Retainer	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
10	Seat Disc	Buna-N (Nitrile)	
11	Body	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
12	Plug	Brass/Zinc Plated Steel	H62/ASTM A570 Gr. 33
13	Stem Nut	Stainless Steel	ASTM A276 304
14	LockWasher	Stainless Steel	ASTM A276 304
15	Spring Washer	Stainless Steel	ASTM A276 304
16	Diaphragm Washer	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
17	Spacer Washer Fiber	Fiber	
18	Disc Guide	Stainless Steel	ASTM A743 CF8M(316)
19	Seat O-Ring	Buna-N (Nitrile)	
20	Seat Ring	Stainless Steel	ASTM A743 CF8M(316)

Mustang Series Main valve



EU Series Main valve



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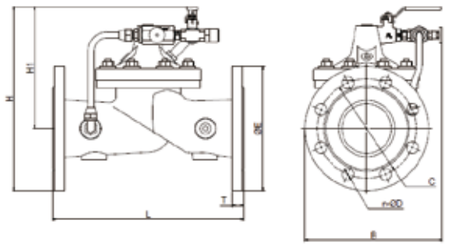
W-M110-10-EN-202108

2 Automatic Control Valve

Installation Dimensions

Connection Dimension: PN16 to BS EN 1092-2

Size DN (mm)	Dimensions(mm)					Flange Dimensions(mm)			Weight (Kg)
	L	H	H1	B	C	n-ØD	E	T	
32 BSPT	184	295	262	210	/	/	/	/	17
40 BSPT	184	295	262	210	/	/	/	/	17
50 BSPT	238	310	262	210	/	/	/	/	17.8
50	230	342	259	225	125	4-Ø19	165	19	18.2
65	290	298	205	225	145	4-Ø19	185	19	18.6
80	310	310	210	225	160	8-Ø19	200	19	19.7
100	350	345	235	310	180	8-Ø19	220	19	35.5
125	400	435	310	240	210	8-Ø19	250	19	57.2
150	480	458	315	270	240	8-Ø23	285	19	70
200	600	535	365	430	295	12-Ø23	340	20	138
250	660	648	445	518	355	12-Ø28	406	30.5	264
300	762	759	518	620	410	12-Ø28	482	31.8	463



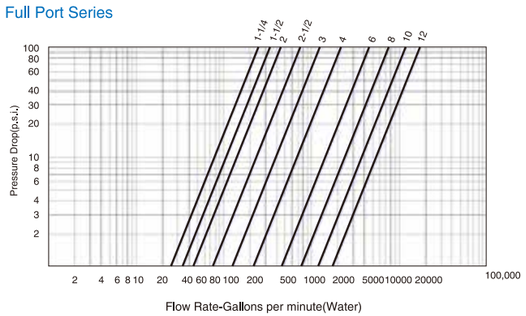
*Please contact the local salesmen if the size ≥DN300 is needed.

Flow Rates

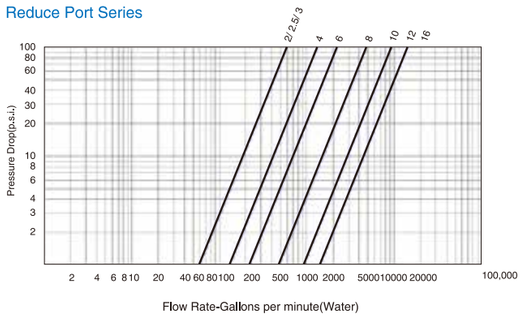
Size (DN)	32	40	50	65	80	100	150	200	250	300
Maximum Continuous (GPM)	95	130	210	300	485	800	1850	3100	5000	7000
Maximum Intermittent (GPM)	119	151	265	390	590	1000	2300	4000	6250	8725
Minimum Continuous (GPM)	1	1	1	20	30	50	115	200	300	400
CV Factor GPM (Globe)	25	30	45	75	100	175	490	770	1200	1750

Characteristic Curves

Full Port Series



Reduce Port Series



Installation Instruction

1. Prior to installation, flush line to remove debris.
2. Install valve so the flow arrow matches flow through the line.
3. Install isolation valves upstream and downstream of the main valve. Note: If using butterfly valves, ensure valve disc does not contact the main valve.
4. Provide adequate clearance for valve servicing and maintenance.
5. Avoid installing valves 6" and larger in the vertical position (main valve stem horizontal). Automatic Control Valves (ACVs) are designed for horizontal in-line installation, with the cover facing up (main valve stem vertical). Slow operation or premature stem and guide wear may occur if valve is not installed according to factory recommendations. Consult factory for detailed engineering review prior to ordering if valve is to be installed other than horizontally in-line. Vertical installation (flow downward) is forbidden.
6. If valve is equipped with a pilot control system, extra precautions should be made during installation to protect the piping circuit from damage. Only remove the pilot control system from the valve if necessary. Tubing and fittings should be kept clean, and replaced exactly as removed. Consult appropriate hydraulic schematic to ensure proper re-assembly.
7. After installation, vent entrapped air from valve cover and pilot system.

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Series W-M113-12/6

Ductile Iron Solenoid On-Off Control Valve

Size: Thread DN32-DN50 Flange DN50-DN300

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

- Stable performance, safe and reliable
- Simple operation, convenient maintenance
- Long service life
- Remote electric control or on-site manual control

Test Pressures

Class	Pneumatic	Hydraulic
PN16	Seat: 7 bar	Shell: 24 bar Seat: 17.6 bar
CL150	Seat: 7 bar	Shell: 25.2 bar
CL300	Seat: 7 bar	Shell: 40 bar

Specification

- Design Standard: AWWA C530
- Test Standard: ISO/DIS 5208:2007
- Control Voltage: Standard Voltage AC220 50/60HZ
  Optional Voltage AC 240V 60HZ,
  AC24V 60HZ
- Connection Type: Thread & Flanged is available
  W-M113-12-BSPT CL 300 BSPT to ISO 7-1
  W-M113-12/6-Flange to PN16 to BS EN 1092-2
  & CL150 to ANSI B16.42
- Working Status: Normally open/closed
- Medium: water

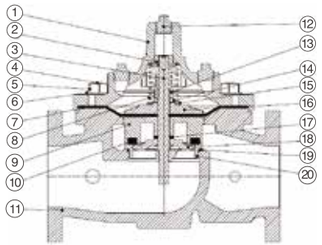
Pressure-Temperature

- Nominal Pressure: PN16/CL150/ CL300
- Temperature Range: 0°C~80°C
- Minimum Different Pressure: 5PSI (0.03MPa)

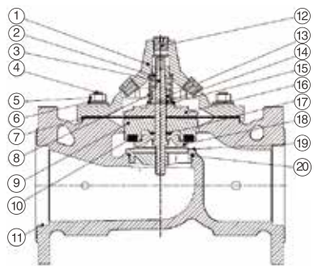
Material

No.	Component	Material	Standard
1	Cover	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
2	Cover Bearing	Stainless Steel	ASTM A276 304
3	Shaft/Stem	Stainless Steel	ASTM A276 304
4	Stud	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33ASTM A276 304
5	Cover Nut	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33/ASTM A276 304
6	Washer	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33/ASTM A276 304
7	Diaphragm	Buna-N (Nitrile) +Nylon	
8	Spring	Stainless Steel	ASTM A276 302/304
9	Disc Retainer	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
10	Seat Disc	Buna-N (Nitrile)	
11	Body	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
12	Plug	Brass/Zinc Plated Steel	H62/ASTM A570 Gr. 33
13	Stem Nut	Stainless Steel	ASTM A276 304
14	LockWasher	Stainless Steel	ASTM A276 304
15	Spring Washer	Stainless Steel	ASTM A276 304
16	Diaphragm Washer	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
17	Spacer Washer Fiber	Fiber	
18	Disc Guide	Stainless Steel	ASTM A743 CF8M(316)
19	Seat O-Ring	Buna-N (Nitrile)	
20	Seat Ring	Stainless Steel	ASTM A743 CF8M(316)

Mustang Series Main valve



EU Series Main valve



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W-M113-12/6-EN-202108

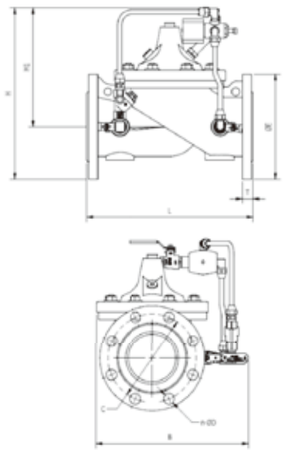
2 Automatic Control Valve

Installation Dimensions

Connection Dimension: PN16 to BS EN 1092-2

Type	Size DN (mm)	Dimensions(mm)				Flange Dimensions(mm)				Weight (Kg)
		L	H	H1	B	ØC	n-ØD	E	T	
W-M113-12	32 BSPT	184	305	271	170	/	/	/	/	17.2
	40 BSPT	184	305	271	170	/	/	/	/	17.2
	50 BSPT	238	315	268	170	/	/	/	/	18.0
	50	230	310	228	170	125	4-Ø19	165	19	18.3
	65	290	340	250	185	145	4-Ø19	185	19	18.9
	80	310	345	245	200	160	8-Ø19	200	19	19.8
	100	350	360	250	320	180	8-Ø19	220	19	36.2
	125	400	410	285	380	210	8-Ø19	250	19	58.3
W-M113-6	150	480	505	360	420	240	8-Ø23	285	19	71.5
	200	600	508	410	508	295	12-Ø23	340	20	139
	250	660	650	450	550	355	12-Ø28	406	30.5	264.5
	300	762	755	520	655	410	12-Ø28	482	31.8	464.5

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

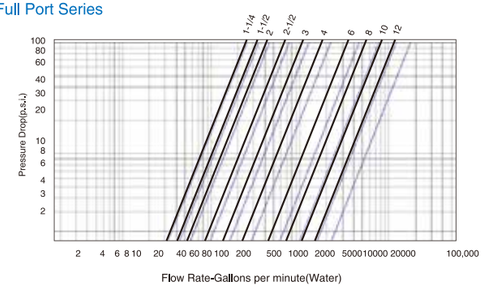


Flow Rates

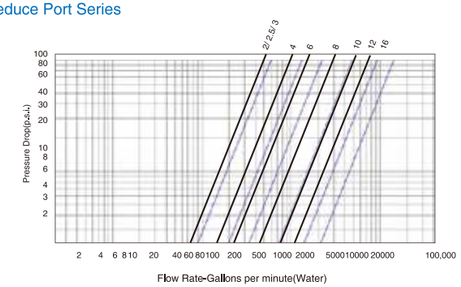
Size DN (mm)	32	40	50	65	80	100	150	200	250	300
Maximum Continuous (GPM)	95	130	210	300	485	800	1850	3100	5000	7000
Maximum Intermittent (GPM)	119	161	265	390	590	1000	2300	4000	6250	8725
Minimum Continuous (GPM)	1	1	1	20	30	50	115	200	300	400
CV Factor GPM (Globe)	25	30	45	75	100	175	490	770	1200	1750

Characteristic Curves

Full Port Series



Reduce Port Series



*NOTE: The Cv Factor of a value is the flow rate in US GPM at 60°F that will cause a 1 psi drop in pressure.
The factors stated are based upon a fully open valve.
Cv factor can be used in the following equations to determine Flow (Q) and Pressure Drop (ΔP):
Q (Flow) = $Cv\sqrt{\Delta P}$ ΔP (Pressure Drop) = $(Q/C_v)^2$
The above table is a suggested guide-.Inlet pressure, outlet pressure, minimum, normal and maximum flow rates should be considered for specific valve sizing. Contact Watts ACV details.

Installation Instruction

1. Prior to installation, flush line to remove debris.
2. Install valve so the flow arrow matches flow through the line.
3. Install isolation valves upstream and downstream of the main valve. Note: If using butterfly valves, ensure valve disc does not contact the main valve.
4. Provide adequate clearance for valve servicing and maintenance.
5. Avoid installing valves 6" and larger in the vertical position (main valve stem horizontal). Automatic Control Valves (ACVs) are designed for horizontal in-line installation, with the cover facing up (main valve stem vertical). Slow operation or premature stem and guide wear may occur if valve is not installed according to factory recommendations. Consult factory for detailed engineering review prior to ordering if valve is to be installed other than horizontally in-line. Vertical installation (flow downward) is forbidden.
6. If valve is equipped with a pilot control system, extra precautions should be made during installation to protect the piping circuit from damage. Only remove the pilot control system from the valve if necessary. Tubing and fittings should be kept clean, and replaced exactly as removed. Consult appropriate hydraulic schematic to ensure proper re-assembly.
7. After installation, vent entrapped air from valve cover and pilot system.

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Series W-M113-46/21

Pump Control Valve

Size: DN50-DN200

Mitigating water hammering of the pipeline and performing the checking action after pump starting and shuting off.
The main valve is slowly turned off or turned on in advance, so effectively protecting the pump and pipeline.



Features

- Stable performance, safety and reliability
- Easy to operate, convenient maintenance
- Long service life
- Remote electric control and field manual operation are available

Pressure-Temperature

- Maximum Working Pressure: 1.6MPa
- Temperature Range: 0°C~80°C

Test Pressures

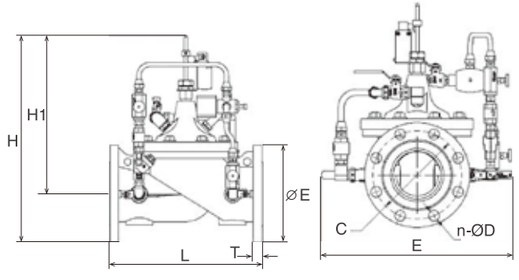
- Body Test: 2400 kPa
- Seat Sealing: 1760 kPa

Material

Component	Material
Body/ Cover	Ductile Iron
Stem	Stainless Steel
Seat	Stainless Steel
Diaphragm	Buna-N (Nitrile) +Nylon
O-Ring	Buna-N (Nitrile)

Installation Dimensions

Type	Size	Dimensions(mm)				Flange Dimensions(mm)			
	DN	L	H	H1	B	C	n-ØD	E	T
W-M113-46	50	230	390	310	250	125	4-Ø19	165	19
	65	290	410	320	265	145	4-Ø19	185	19
	80	310	420	320	270	160	8-Ø19	200	19
	100	350	480	370	410	180	8-Ø19	220	19
	125	400	570	450	450	210	8-Ø19	250	19
W-M113-21	150	480	600	455	475	240	8-Ø23	285	19
	200	600	710	545	530	295	12-Ø23	340	20



Specification

- Connection Standard: GB/T 17241.6
- Control Voltage: Standard Voltage AC220
- Working Medium: Water

Typical Application

- Municipal water supply
- Industrial and agricultural water transfer pipeline,
- Pump control, etc

Operating Principles

The valve opens and closes by controlling the 3-way solenoid valve. When the pipeline of the solenoid valve connects to the upper chamber and the inlet 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 pipeline connects to the upper chamber 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 the main valve through the needle valve. Solenoid also has manual function.

Installation Instruction

1. Prior to installation, flush line to remove debris.
2. Install valve so the flow arrow matches flow through the line.
3. Install isolation valves upstream and downstream of the main valve. Note: If using butterfly valves, ensure valve disc does not contact the main valve.
4. Provide adequate clearance for valve servicing and maintenance.
5. Avoid installing valves 6" and larger in the vertical position (main valve stem horizontal). Automatic Control Valves (ACVs) are designed for horizontal in-line installation, with the cover facing up (main valve stem vertical). Slow operation or premature stem and guide wear may occur if valve is not installed according to factory recommendations. Consult factory for detailed engineering review prior to ordering if valve is to be installed other than horizontally in-line. Vertical installation (flow downward) is forbidden.
6. If valve is equipped with a pilot control system, extra precautions should be made during installation to protect the piping circuit from damage. Only remove the pilot control system from the valve if necessary. Tubing and fittings should be kept clean, and replaced exactly as removed. Consult appropriate hydraulic schematic to ensure proper re-assembly.
7. After installation, vent entrapped air from valve cover and pilot system.

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Series W-M115

Pressure Reducing Valve

Size: DN32-DN300

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



Features

- Stable performance, safe and reliable
- Simple operation, convenient adjusting
- Precise pressure reducing
- Long service life

Pressure-Temperature

- Maximum Working Pressure: 1.6MPa
- Temperature Range: 0°C~80°C
- Pressure Regulating Range: 10PSI~125PSI (0.07MPa~0.9MPa)
- Factory Setting: 50PSI(0.35MPa)

Material

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

Operating Principle

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.

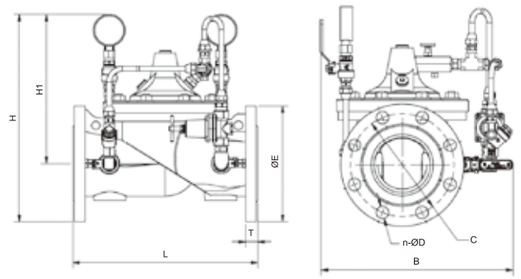
Installation Dimensions

Connection Dimension: GB/T 17241.6

Size DN (mm)	Dimensions(mm)				Flange Dimensions(mm)			
	L	H	H1	B	ØC	n-ØD	E	T
32 BSPT	184	305	271	235	/	/	/	/
40 BSPT	184	305	271	235	/	/	/	/
50 BSPT	238	315	268	250	/	/	/	/
50	230	325	245	260	125	4-Ø19	165	19
65	290	343	250	265	145	4-Ø19	185	19
80	310	345	245	275	160	8-Ø19	200	19
100	350	395	285	345	180	8-Ø19	220	19
125	400	413	288	380	210	8-Ø19	250	19
150	480	430	288	405	240	8-Ø23	285	19
200	600	540	370	475	295	12-Ø23	340	20
250	660	650	450	560	355	12-Ø28	406	30.5
300	762	755	520	670	410	12-Ø28	482	31.8

Specification

- Nominal Diameter: Thread DN32-DN50
  Flange DN50-DN300
- Connection Standard: GB/T 17241.6
- Working Medium: Water



Installation Instruction

1. Prior to installation, flush line to remove debris.
2. Install valve so the flow arrow matches flow through the line.
3. Install isolation valves upstream and downstream of the main valve. Note: If using butterfly valves, ensure valve disc does not contact the main valve.
4. Provide adequate clearance for valve servicing and maintenance.
5. Avoid installing valves 6" and larger in the vertical position (main valve stem horizontal). Automatic Control Valves (ACVs) are designed for horizontal in-line installation, with the cover facing up (main valve stem vertical). Slow operation or premature stem and guide wear may occur if valve is not installed according to factory recommendations. Consult factory for detailed engineering review prior to ordering if valve is to be installed other than horizontally in-line. Vertical installation (flow downward) is forbidden.
6. If valve is equipped with a pilot control system, extra precautions should be made during installation to protect the piping circuit from damage. Only remove the pilot control system from the valve if necessary. Tubing and fittings should be kept clean, and replaced exactly as removed. Consult appropriate hydraulic schematic to ensure proper re-assembly.
7. After installation, vent entrapped air from valve cover and pilot system.

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Series W-M116

Ductile Iron Pressure Relief, Sustaining or Backpressure Control Valve

Size: Thread DN32-DN50 Flange DN50-DN300

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

- Stable performance, safe and reliable
- Simple operation, convenient adjusting
- Precise pressure reducing
- Long service life

Test Pressures

Class	Pneumatic	Hydraulic
PN16	Seat: 7 bar	Shell: 24 bar Seat: 17.6 bar
CL150	Seat: 7 bar	Shell: 25.2 bar
CL300	Seat: 7 bar	Shell: 40 bar

Specification

- Design Standard: AWWA C530
- Test Standard: ISO/DIS 5208:2007
- Connection Type: Thread & Flanged is available
  W-M116-BSPT CL 300 BSPT to ISO 7-1
  W-M116-Flange to PN16 to BS EN 1092-2 & CL150 to ANSI B16.42 & CL300 to ANSI B16.42
- Medium: water

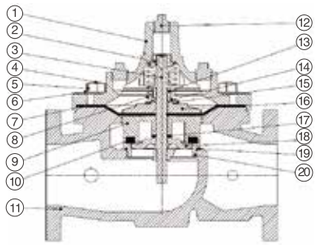
Pressure-Temperature

- Nominal Pressure: PN16/CL150/CL300
- Temperature Range: 0°C~80°C
- Pressure Regulating Range: 20 Psi~200 Psi (0.14MPa~1.4MPa)(Pilot valve)
- Pressure Gauge: 0-350Psi
- Standard Pressure Setting: 100 Psi(0.68Mpa)

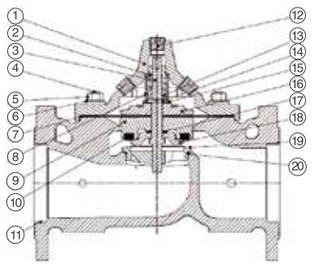
Material

No.	Component	Material	Standard
1	Cover	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
2	Cover Bearing	Stainless Steel	ASTM A276 304
3	Shaft/Stem	Stainless Steel	ASTM A276 304
4	Stud	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33ASTM A276 304
5	Cover Nut	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33/ASTM A276 304
6	Washer	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33/ASTM A276 304
7	Diaphragm	Buna-N (Nitrile) +Nylon	
8	Spring	Stainless Steel	ASTM A276 302/304
9	Disc Retainer	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
10	Seat Disc	Buna-N (Nitrile)	
11	Body	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
12	Plug	Brass/Zinc Plated Steel	H62/ASTM A570 Gr. 33
13	Stem Nut	Stainless Steel	ASTM A276 304
14	LockWasher	Stainless Steel	ASTM A276 304
15	Spring Washer	Stainless Steel	ASTM A276 304
16	Diaphragm Washer	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
17	Spacer Washer Fiber	Fiber	
18	Disc Guide	Stainless Steel	ASTM A743 CF8M(316)
19	Seat O-Ring	Buna-N (Nitrile)	
20	Seat Ring	Stainless Steel	ASTM A743 CF8M(316)

Mustang Series Main valve



EU Series Main valve



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W-M116-EN-202108

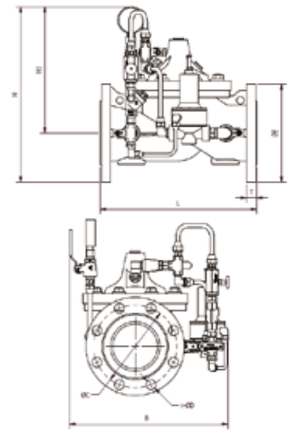
2 Automatic Control Valve

Installation Dimensions

Connection Dimension: PN16 to BS EN 1092-2

Size DN (mm)	Dimensions(mm)				Flange Dimensions(mm)				Weight (Kg)
	L	H	H1	B	C	n-ØD	E	T	
32 BSPT	184	305	271	265	/	/	/	/	17.5
40 BSPT	184	305	271	265	/	/	/	/	17.5
50 BSPT	238	315	268	275	/	/	/	/	18.2
50	230	272	190	290	125	4-Ø19	165	19	18.9
65	290	290	198	300	145	4-Ø19	185	19	19.5
80	310	290	190	310	160	8-Ø19	200	19	20.4
100	350	395	285	355	180	8-Ø19	220	19	36.7
125	400	395	285	360	210	8-Ø19	250	19	58.9
150	480	430	288	420	240	8-Ø23	285	19	72.3
200	600	540	370	485	295	12-Ø23	340	20	140.4
250	660	655	450	570	355	12-Ø28	406	30.2	265.5
300	762	760	520	680	410	12-Ø28	482	31.8	465.5

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

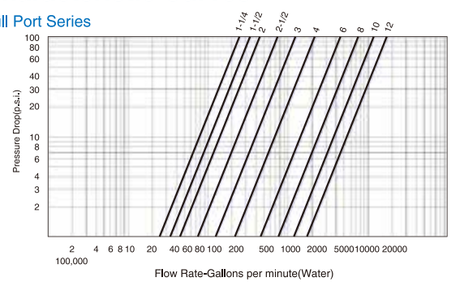


Flow Rates

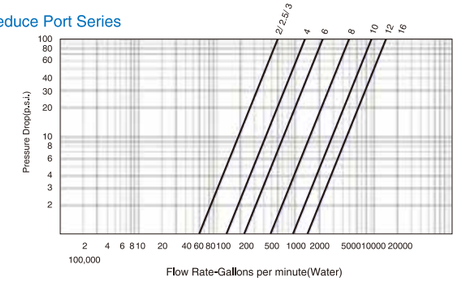
Size DN (mm)	32	40	50	65	80	100	150	200	250	300
Maximum Continuous (GPM)	95	130	210	300	485	800	1850	3100	5000	7000
Maximum Intermittent (GPM)	119	161	265	390	590	1000	2300	4000	6250	8725
Minimum Continuous (GPM)	1	1	1	20	30	50	115	200	300	400
CV Factor GPM (Globe)	25	30	45	75	100	175	490	770	1200	1750

Characteristic Curves

Full Port Series



Reduce Port Series



*NOTE: The Cv Factor of a value is the flow rate in US GPM at 60°F that will cause a 1 psi drop in pressure.
The factors stated are based upon a fully open valve.
Cv factor can be used in the following equations to determine Flow (Q) and Pressure Drop (ΔP):
Q (Flow) = $Cv\sqrt{\Delta P}$ ΔP (Pressure Drop) = $(Q/C_v)^2$
The above table is a suggested guide-.Inlet pressure, outlet pressure, minimum, normal and maximum flow rates should be considered for specific valve sizing. Contact Watts ACV details.

Installation Instruction

1. Prior to installation, flush line to remove debris.
2. Install valve so the flow arrow matches flow through the line.
3. Install isolation valves upstream and downstream of the main valve. Note: If using butterfly valves, ensure valve disc does not contact the main valve.
4. Provide adequate clearance for valve servicing and maintenance.
5. Avoid installing valves 6" and larger in the vertical position (main valve stem horizontal). Automatic Control Valves (ACVs) are designed for horizontal in-line installation, with the cover facing up (main valve stem vertical). Slow operation or premature stem and guide wear may occur if valve is not installed according to factory recommendations. Consult factory for detailed engineering review prior to ordering if valve is to be installed other than horizontally in-line. Vertical installation (flow downward) is forbidden.
6. If valve is equipped with a pilot control system, extra precautions should be made during installation to protect the piping circuit from damage. Only remove the pilot control system from the valve if necessary. Tubing and fittings should be kept clean, and replaced exactly as removed. Consult appropriate hydraulic schematic to ensure proper re-assembly.
7. After installation, vent entrapped air from valve cover and pilot system.

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Series W-M118

Slow-Closure Type Check Valve

Size: DN50-DN400

Watts W-M118 provides protection against medium backflow in the pipeline. It can be applied in municipal water supply, industrial and agricultural water transfer pipeline, etc.

Features

- Stable performance, safety and reliability
- Easy to operate, separate regulation of opening and closing
- High flow rate, low pressure loss
- Long service life
- Prevention from water hammering

Pressure-Temperature

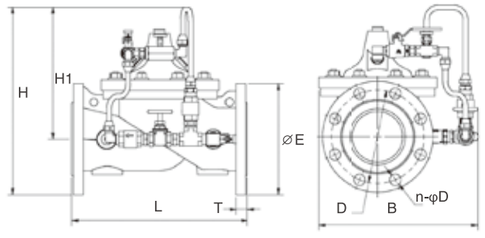
- Maximum Working Pressure: 1.6MPa
- Temperature Range: 0°C~80°C

Material

Component	Material
Body/ Cover	Ductile Iron
Stem	Stainless Steel
Seat	Stainless Steel
Diaphragm	Buna-N (Nitrile) +Nylon
O-Ring	Buna-N (Nitrile)

Installation Dimensions

Size DN	Dimensions(mm)				Flange(mm)			
	L	H	H1	B	C	n-ØD	E	T
50	230	272	190	290	125	4-Ø19	165	19
65	290	290	198	300	145	4-Ø19	185	19
80	310	375	265	320	160	8-Ø19	200	19
100	350	395	285	355	180	8-Ø19	220	19
125	400	395	285	360	210	8-Ø19	250	19
150	480	430	288	420	240	8-Ø23	285	19
200	600	540	370	485	295	12-Ø23	340	20
250	660	660	458	695	355	12-Ø28	406.4	30.2
300	762	770	524	810	410	12-Ø28	482.6	31.8
400	889	931	631	925	525	16-Ø31	596.9	36.6





Specification

- Connection Standard: GB/T 17241.6
- Working Medium: Water

Operating Principles

Two conduits and a regulating valve are used to control the opening and closing speed of the valve. When the downstream pressure is higher than the upstream pressure, the valve will be turned off.

When the downstream pressure is lower than the upstream pressure, the valve will be turned on. This valve adopts the two-way control mode to automatically regulate the opening and closing speed and thus mitigate turbulence and water hammering.

Installation Instruction

1. Prior to installation, flush line to remove debris.
2. Install valve so the flow arrow matches flow through the line.
3. Install isolation valves upstream and downstream of the main valve. Note: If using butterfly valves, ensure valve disc does not contact the main valve.
4. Provide adequate clearance for valve servicing and maintenance.
5. Avoid installing valves 6" and larger in the vertical position (main valve stem horizontal). Automatic Control Valves (ACVs) are designed for horizontal in-line installation, with the cover facing up (main valve stem vertical). Slow operation or premature stem and guide wear may occur if valve is not installed according to factory recommendations. Consult factory for detailed engineering review prior to ordering if valve is to be installed other than horizontally in-line. Vertical installation (flow downward) is forbidden.
6. If valve is equipped with a pilot control system, extra precautions should be made during installation to protect the piping circuit from damage. Only remove the pilot control system from the valve if necessary. Tubing and fittings should be kept clean, and replaced exactly as removed. Consult appropriate hydraulic schematic to ensure proper re-assembly.
7. After installation, vent entrapped air from valve cover and pilot system.

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Series W-M110-14

Ductile Iron On/Off Float Control Valve

Size: Thread DN32-DN50 Flange DN50-DN300

The Watts W-M110-14 On/Off Float Control Valve is made up of the main valve of hydraulic control valve and floating ball valve of which stroke can be adjusted. The characteristic of the valve is a large range of liquid level control height. Controlled by high and low points in the floating ball stem, it can reduce the frequency of the main valve opening and closing and prolong the service life.

Features

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

Pressure-Temperature

- Nominal Pressure: PN16/CL300(Thread)
- Temperature Range: 0°C~80°C
- Minimum Different Pressure: 5Psi (0.035MPa)

Test Pressures

Class	Pneumatic	Hydraulic
PN16	Seat: 7 bar	Shell: 24 bar Seat: 17.6 bar
CL300	Seat: 7 bar	Shell: 40 bar

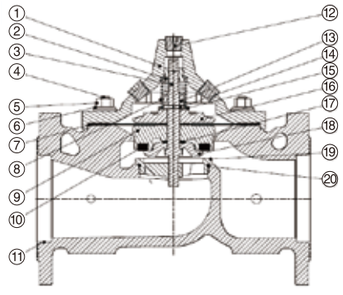


Specification

- Design Standard: AWWA C530
- Connection Standard: Thread & Flanged is available
  W-M110-14-BSPT CL 300 BSPT to BS21
  W-M110-14-Flange to PN16 to BS EN 1092-2
- Float Ball Diameter: SØ 125mm(Rubber)
- Level Control Height: ≤ 465mm

Material

No.	Component	Material	Standard
1	Cover	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
2	Cover Bearing	Stainless Steel	ASTM A276 304
3	Shaft/Stem	Stainless Steel	ASTM A276 304
4	Stud	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33ASTM A276 304
5	Cover Nut	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33/ASTM A276 304
6	Washer	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33/ASTM A276 304
7	Diaphragm	Buna-N (Nitrile) +Nylon	
8	Spring	Stainless Steel	ASTM A276 302/304
9	Disc Retainer	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
10	Seat Disc	Buna-N (Nitrile)	
11	Body	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
12	Plug	Brass/Zinc Plated Steel	H62/ASTM A570 Gr. 33
13	Stem Nut	Stainless Steel	ASTM A276 304
14	LockWasher	Stainless Steel	ASTM A276 304
15	Spring Washer	Stainless Steel	ASTM A276 304
16	Diaphragm Washer	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
17	Spacer Washer Fiber	Fiber	
18	Disc Guide	Stainless Steel	ASTM A743 CF8M(316)
19	Seat O-Ring	Buna-N (Nitrile)	
20	Seat Ring	Stainless Steel	ASTM A743 CF8M(316)

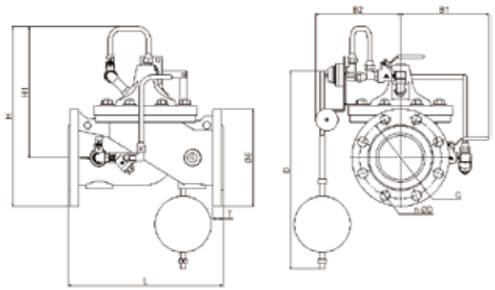


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Installation Dimensions

Connection Dimension: PN16 to BS EN 1092-2

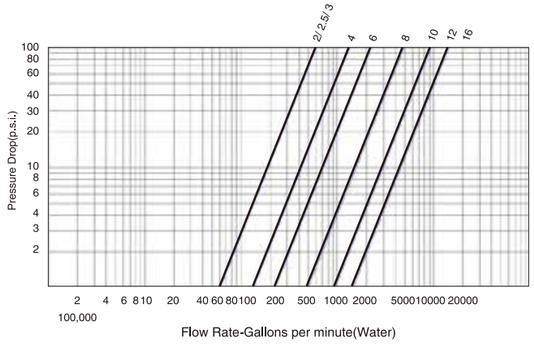
Size DN	Dimensions(mm)						Flange Dimensions(mm)				Weight (Kg)
	L	H	H1	B1	B2	D	C	n-ØD	E	T	
32 BSPT	184	313	280	86	168	448	/	/	/	/	18
40 BSPT	184	313	280	86	168	448	/	/	/	/	18
50 BSPT	238	328	280	86	168	448	/	/	/	/	18.8
50	230	363	280	86	168	448	125	4-Ø19	165	19	19.2
65	290	383	290	86	168	448	145	4-Ø19	185	19	19.6
80	310	375	275	199	169	448	160	8-Ø19	200	19	20.7
100	350	401	297	199	193	448	180	8-Ø19	220	19	36.5
125	400	480	354	209	213	448	210	8-Ø19	250	19	58.2
150	480	501	358	286	216	448	240	8-Ø23	285	19	71
200	600	575	404	324	272	448	295	12-Ø23	340	20	139
250	660	658	455	370	320	448	355	12-Ø28	406	30.5	265
300	762	740	490	415	375	448	410	12-Ø28	482	31.8	464



Flow Rates

Size DN (mm)	32	40	50	65	80	100	150	200	250	300
Maximum Continuous (GPM)	95	130	210	300	485	800	1850	3100	5000	7000
Maximum Intermittent (GPM)	119	161	265	390	590	1000	2300	4000	6250	8725
Minimum Continuous (GPM)	1	1	1	20	30	50	115	200	300	400
CV Factor GPM (Globe)	25	30	45	75	100	175	490	770	1200	1750

Characteristic Curves



Installation Instruction

1. Prior to installation, flush line to remove debris.
2. Install valve so the flow arrow matches flow through the line.
3. Install isolation valves upstream and downstream of the main valve. Note: If using butterfly valves, ensure valve disc does not contact the main valve.
4. Provide adequate clearance for valve servicing and maintenance.
5. Avoid installing valves 6" and larger in the vertical position (main valve stem horizontal). Automatic Control Valves (ACVs) are designed for horizontal in-line installation, with the cover facing up (main valve stem vertical). Slow operation or premature stem and guide wear may occur if valve is not installed according to factory recommendations. Consult factory for detailed engineering review prior to ordering if valve is to be installed other than horizontally in-line. Vertical installation (flow downward) is forbidden.
6. If valve is equipped with a pilot control system, extra precautions should be made during installation to protect the piping circuit from damage. Only remove the pilot control system from the valve if necessary. Tubing and fittings should be kept clean, and replaced exactly as removed. Consult appropriate hydraulic schematic to ensure proper re-assembly.
7. After installation, vent entrapped air from valve cover and pilot system.

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Series W-M115-74

Pressure Reducing Valve

Size: Thread DN32-DN50 Flange DN50-DN200

The WATTS ACV Pressure Reducing Control Valve with low flow By-Pass is designed to automatically reduce a fluctuating higher upstream pressure to a constant lower downstream pressure regardless of varying flow rates. Flow requirements below the normal range of the mainline Pressure Reducing Control Valve is handled by a separate, valve mounted, direct acting, Low Flow By-Pass Pressure Reducing Valve.



Features

- Throttles to reduce high upstream pressure to constant lower downstream pressure
- Low flow By-Pass controls at low flows
- Mainline valve controls at high flows
- Reducing and low flow By-Pass setpoints are separately adjustable

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: 0°C~80°C

Test Pressures

Class	Pneumatic	Hydraulic
PN16	Seat: 7 bar	Shell: 24 bar Seat: 17.6 bar
CL300	Seat: 7 bar	Shell: 40 bar

Specification

- Test Standard: ISO/DIS 5208:2007
- Design Standard: AWWA C530
- Connection Standard: Thread & Flanged is available
  W-M115-74-BSPT CL 300 BSPT to ISO 7-1
  W-M115-74-Flange to PN16 to BS EN 1092-2
- Pressure Reducing Range: 30Psi~300Psi (0.206Mpa~2.06Mpa)
- Low Flow By-Pass range: 20Ps-175Psi (0.137Mpa~1.20Mpa)
- Standard Pressure Setting: 70Psi (0.482MPa)
- Medium: water

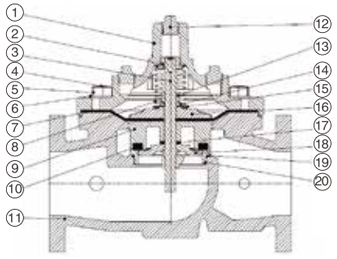
Typical Application

- Water plant and water source project
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry

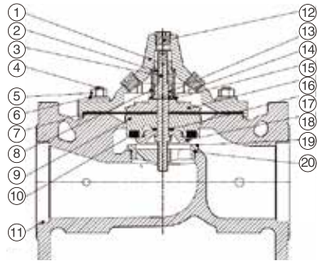
Material

No.	Component	Material	Standard
1	Cover	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
2	Cover Bearing	Stainless Steel	ASTM A276 304
3	Shaft/Stem	Stainless Steel	ASTM A276 304
4	Stud	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33ASTM A276 304
5	Cover Nut	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33/ASTM A276 304
6	Washer	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33/ASTM A276 304
7	Diaphragm	Buna-N (Nitrile) +Nylon	
8	Spring	Stainless Steel	ASTM A276 302/304
9	Disc Retainer	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
10	Seat Disc	Buna-N (Nitrile)	
11	Body	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
12	Plug	Brass/Zinc Plated Steel	H62/ASTM A570 Gr. 33
13	Stem Nut	Stainless Steel	ASTM A276 304
14	LockWasher	Stainless Steel	ASTM A276 304
15	Spring Washer	Stainless Steel	ASTM A276 304
16	Diaphragm Washer	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
17	Spacer Washer Fiber	Fiber	
18	Disc Guide	Stainless Steel	ASTM A743 CF8M(316)
19	Seat O-Ring	Buna-N (Nitrile)	
20	Seat Ring	Stainless Steel	ASTM A743 CF8M(316)

Mustang Series Main valve



EU Series Main valve



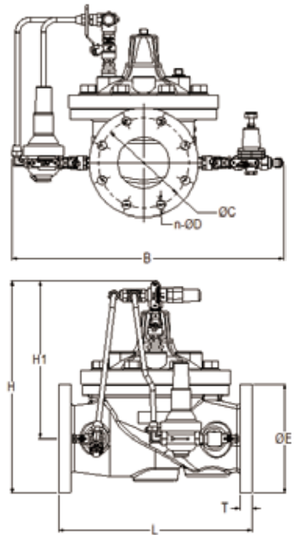
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Installation Dimensions

Connection Dimension: PN16 to BS EN 1092-2

Size DN	Dimensions(mm)				Flange Dimensions(mm)				Weight (Kg)
	L	H	H1	B	C	n-ØD	E	T	
32 BSPT	184	262	221	470	/	/	/	/	20
40 BSPT	184	262	221	470	/	/	/	/	22
50 BSPT	230	333	250	490	/	/	/	/	23
50	230	333	250	490	125	4-Ø19	165	19	19.8
65	290	343	250	495	145	4-Ø19	185	19	20.1
80	310	355	255	505	160	8-Ø19	200	19	21
100	350	397	295	545	180	8-Ø19	220	19	37.5
150	480	508	365	600	240	8-Ø23	285	19	73
200	600	600	433	650	295	12-Ø23	340	20	141

*Please contact the local salesmen if the size ≥DN250 is needed.

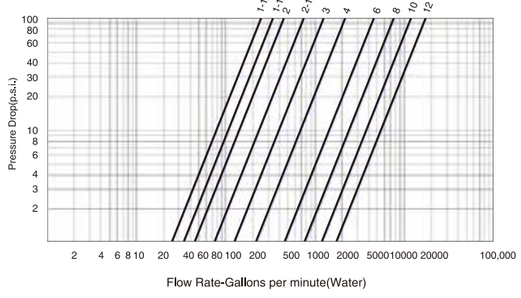


Flow Rates

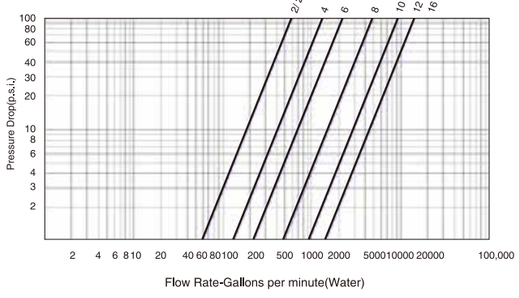
Size DN (mm)	32	40	50	65	80	100	150	200
Maximum Continuous (GPM)	95	130	210	300	485	800	1850	3100
Maximum Intermittent (GPM)	119	161	265	390	590	1000	2300	4000
Minimum Continuous (GPM)	1	1	1	20	30	50	115	200
CV Factor GPM (Globe)	25	30	45	75	100	175	490	770

Characteristic Curves

Full Port Series

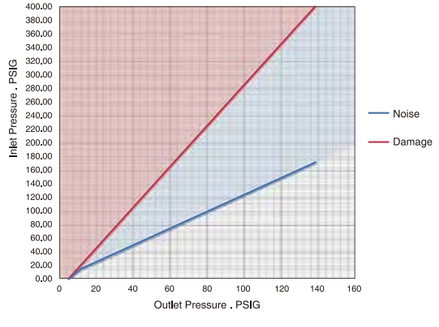


Reduce Port Series



Cavitation Chart

After selecting the valve size, locate inlet and outlet pressure on this chart. If the intersection point falls in the shaded area, cavitation can occur. Operation of valves continually in the cavitation zone should be avoided. Consult Watts ACV for alternatives.



Installation Instruction

1. Prior to installation, flush line to remove debris.
2. Install valve so the flow arrow matches flow through the line.
3. Install isolation valves upstream and downstream of the main valve. Note: If using butterfly valves, ensure valve disc does not contact the main valve.
4. Provide adequate clearance for valve servicing and maintenance.
5. Avoid installing valves 6" and larger in the vertical position (main valve stem horizontal). Automatic Control Valves (ACVs) are designed for horizontal in-line installation, with the cover facing up (main valve stem vertical). Slow operation or premature stem and guide wear may occur if valve is not installed according to factory recommendations. Consult factory for detailed engineering review prior to ordering if valve is to be installed other than horizontally in-line. Vertical installation (flow downward) is forbidden.
6. If valve is equipped with a pilot control system, extra precautions should be made during installation to protect the piping circuit from damage. Only remove the pilot control system from the valve if necessary. Tubing and fittings should be kept clean, and replaced exactly as removed. Consult appropriate hydraulic schematic to ensure proper re-assembly.
7. After installation, vent entrapped air from valve cover and pilot system.

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Series M115F/M1115F

ACV: Fire System Pressure Reducing Valve

Size: DN50-DN200

The Watts M115F (Globe) and M1115F (Angle) Pressure Reducing Valves meet all requirements for UL listed fire protection service. That automatically reduce a higher inlet pressure to an adjustable lower outlet pressure regardless of changing flow rate or varying inlet pressure.
Available as Globe in Flanged and Grooved, and Angle in Flanged.



M115F Flanged



M115F Grooved End

Features

- Pressure reducing control is a normally open pilot with an adjustable spring load to maintain a constant downstream pressure
- Stainless steel trim as standard, for greater reliability & service life
- Dual pressure gauges as standard, for ease of setting and confidence in performance
- Factory tested and downstream pressure preset to 500kPa as standard

Operating Pressure

- 150# Flanged: ANSI B16.42, Max WP 12 bar (1200Kpa)
- Grooved End: Max WP 20.7 bar (2070kPa)
- Pilot Spring: 2.07-20.7 bar (207-2070 kPa)
- UL Rated Pressue:
  Max Inlet Pressure: 2070kPa
  Reduced Pressure Adjustment Range: 340~1140kPa

Specification

- Design Standard: UL 1478
- Connection Standard: Flanged to ANSI B16.1
  Grooved to AWWA C606

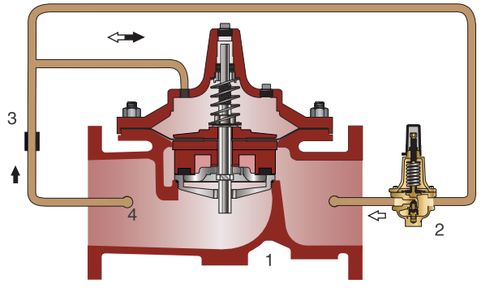
Note: Single Stage Pressure Reduction is recommended where incoming pressure is less than 1380kPa and where the reduction ratio is less than 3:1. If the initial pressure is 1390kPa or greater, or pressure reduction ratio is greater than 3:1 (e.g. from 1380kPa to 340kPa), or when the inflow pressure fluctuates greatly two stage Pressure reduction is recommended by having two PRVs in series.

Operating Principle

The main valve is controlled by a pressure reducing pilot control which is of direct acting, spring loaded-diaphragm actuated design. The control is a normally open pilot with an adjustable spring load to maintain a constant downstream pressure. As the main line downstream pressure increases to the set-point, it is sensed internally by the pilot, and the pilot throttles moving towards the closed position. This action in turn prevents the main valve cover pressure supply from being vented away, and the result is increased pressure in the main valve cover. This pressure acts to close the valve and modulate to the set point.

Approval

Approval

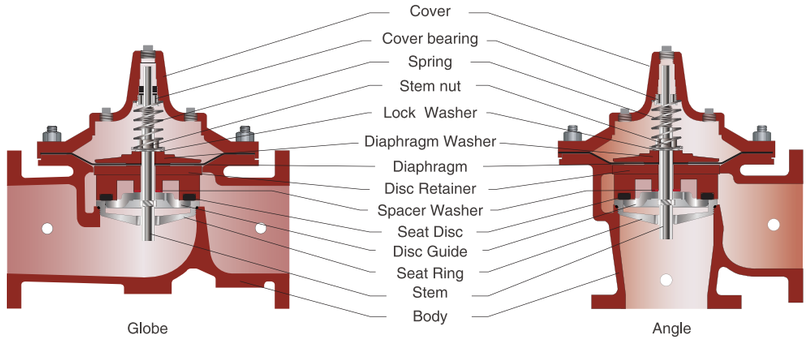


FLOW ⇨
→ CLOSES VALVE
⇨ OPENS VALVE

1 - Main Valve
2 - Pressure Reducing Control
3 - Fixed Orifice
4 - Flo-Clean Strainer

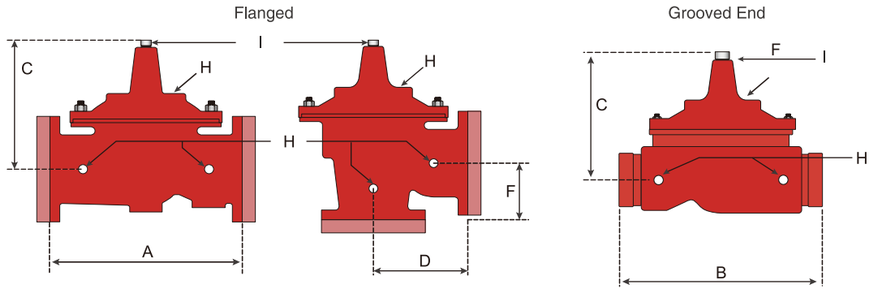
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Material



Component	Material
Body & Cover	Ductile Iron Fused Red Epoxy inside and out
Seat (Trim)	Stainless Steel-Xylan Coated (Optional)
Stem	Stainless Steel-Xylan Coated (Optional)
Spring	Stainless Steel
Elastomers	Buna-N
Pilot	Body: Copper Silicon Alloy Internals: Stainless Steel
Pilot System	Elastomers: BUNA-N (Nitrile) Strainer Flo-Clean: Brass or Stainless Steel Body, Monel Screen Fittings: Lead Free* Brass or Stainless Steel Control Tubing: Copper or Stainless Steel
Pressure Gauge	UL/FM Approved 0-2070kPa

Installation Dimensions



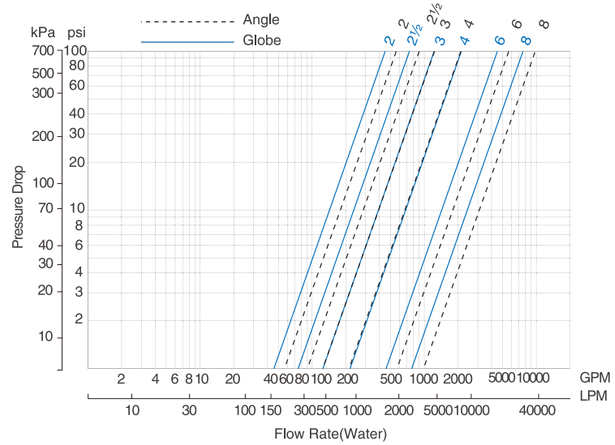
Size		Globe 150#	Globe Grooved	Center	Angle	Angle	Port Size NPT	Port Size NPT	MAX Rated Flow
		A	B	C	D	F	H	I	
in	DN	mm	mm	mm	mm	mm	mm	mm	LPM
2	50	238	229	165	121	83	10	15	568
2½	65	279	279	191	140	102	15	15	757
3	80	305	318	210	152	102	15	15	1136
4	100	381	381	270	191	127	20	20	1892
6	150	508	508	340	254	152	20	20	4920
8	200	645	645	406	324	203	25	25	5867

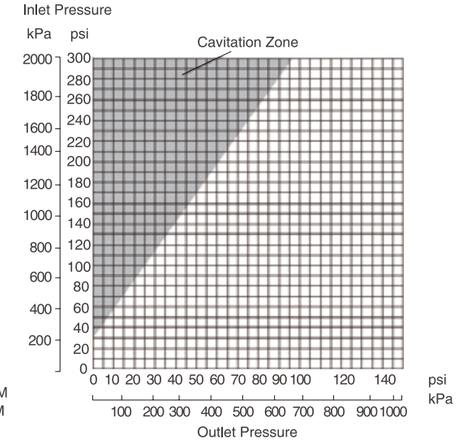
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M115F/M1115F-EN-202005

2 Automatic Control Valve

Characterisic Curves





Installation & Start-Up

Refer to Std NFPA 13, and NFPA 14 for additional installation requirements as applicable for these valves. Refer to Std NFPA 25 for inspection, maintenance, and testing requirements as applicable for these valves. These valves are to be set to provide pressures and flows, and are to be tested after installation in accordance with NFPA 13 or NFPA 14 or both, whichever is applicable, and tested periodically thereafter in accordance with NFPA 25.

System Requirements

For a Valve intended for use in sprinkler systems, a relief valve of 1/2" size or larger is to be installed on the downstream side of the main valve as shown.

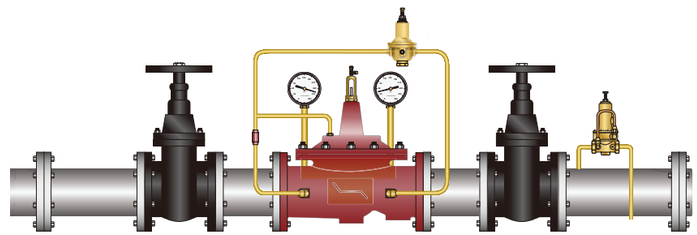
Dry Steps

- Clear the line of slag and debris
- Install the valve so that the flow arrow matches flow into the system
- Install a pressure gauge
  - -downstream of the control valve
  - -in the main valve outlet side Port
  - -in the pilot gauge port
- Loosen pilot lock nut to allow for adjustment
- Loosen a tube fitting connection near the valve cover port
- Close the downstream manual valve if installed in the system

Wet Steps

- Slowly supply pressure/fluid to the control valve by opening the upstream manual valve. This will fill or "charge" the control valve Care should be made not to overpressure the system
- Close the tube filling connection after all air has been vented from the line
- Slowly open the downstream manual valve to establish flow through
- Under flowing conditions, note the outlet (downstream) pressure
- Adjust the control pilot to the desired set-point IN-Clockwise to increase the downstream pressure OUT-Counterclockwise to decrease the downstream pressure. This adjustment should be made gradually, allowing for the system pressure to change and stabilize
- Allow the system to flow. Make final adjustments as required
- Tighten the adjustment nut on the control when the desired outlet pressure is reached and the system is stable

NOTICE: As a point of reference, the reducing control is factory set between 310-380kPa. The objective to proper start-up is to bring the valve into service under controlled conditions. Pressure reducing valves should be put into service with a lower initial setting, allowing for a gradual increase to the desired set-point. If the desired pressure is equal to or less than the factory setting, turn the adjustment screw on the pilot counter-clockwise (OUT) to lower the initial setting of the control.



NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

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Series M116FM/M1116FM

ACV: Fire Pump Relief Valve

Size: DN50-DN200

The Watts M116FM (Globe) and M1116FM (Angle) Fire Pump Relief Valves meet all requirements for UL listed fire protection service. They automatically maintain a constant pressure in the fire protectionsystem by relieving excess pressure.
Available as Globe in Flanged and Grooved, and Angle in Flanged.

Features

- Pressure relief control is normally closed, held closed by an adjustable spring setting to maintain a constant inlet pressure to the main valve
- Stainless steel trim as standard, for greater reliability & service life
- Dual pressure gauges as standard, for ease of setting and confidence in performance
- Factory tested to assure accurate control, and long life

Operating Pressure

- 150# Flanged: ANSI B16.42, Max WP 12 bar (1200Kpa)
  300# Flanged: ANSI B16.42, Max WP 20.7 bar (2070 kPa)
- Grooved End: Max WP 20.7 bar (2070kPa)
- Pilot Spring: 1.4-13.8 bar (140-1380 kPa)
  6.9-20.7bar (690-2070 kPa)

Specification

- Design Standard: UL 1478
- Connection Standard: Flanged to ANSI B16.42
  Grooved to AWWA C606



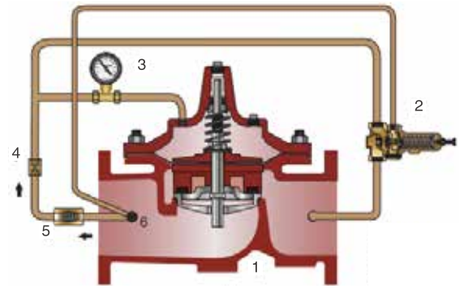
M116FM Globe



M1116FM Angle

Operating Principle

The main valve is controlled by a Pressure Relief Control. The Pressure Relief Control is normally closed, held closed by an adjustable spring setting to maintain a constant inlet pressure to the main valve.
When upstream pressure increases above the relief set-point, the Relief Control throttles open, increasing flow through the control tubing. Pressure is decreased in the main valve cover chamber, causing the main valve to modulate towards open, relieving excess upstream pressure. The desired system pressure is maintained.
As the upstream pressure decreases below the relief set-point, the Relief Control throttles closed, restricting flow through the controltubing. Pressure is increased in the main valve cover chamber, causing the main valve to modulate towards closed, maintaining the desired upstream pressure. Should upstream pressure drop below and remain below the set-point, the main valve closes drip tight.



FLOW
CLOSES VALVE
OPENS VALVE

1 - Main Valve
2 - PV20C Relief Control
3 - Pressure Gauge
4 - Fixed Orifice
5 - Check Valve
6 - Flo-Clean Strainer

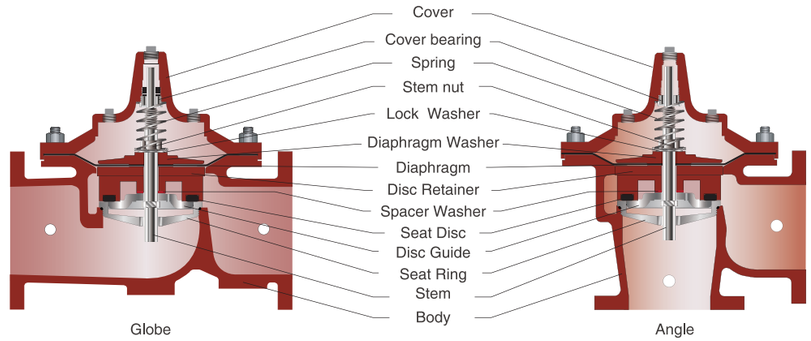
Approval

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M116FM/M1116FM-EN-202005

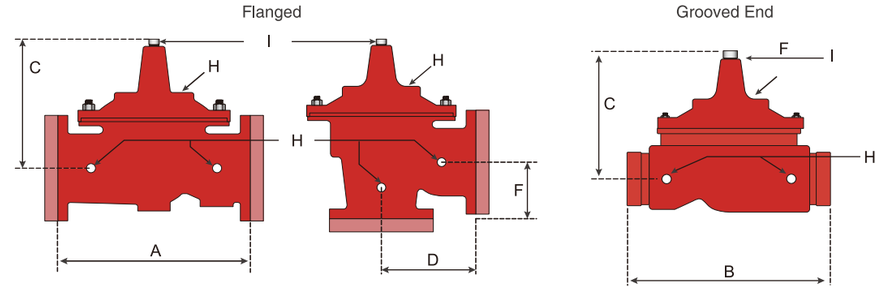
2 Automatic Control Valve

Material



Component	Material
Body & Cover	Ductile Iron Fused Red Epoxy inside and out
Seat (Trim)	Stainless Steel-Xylan Coated (Optional)
Stem	Stainless Steel-Xylan Coated (Optional)
Spring	Stainless Steel
Elastomers	Buna-N
Pilot	Body: Copper Silicon Alloy Internals: Stainless Steel Elastomers: BUNA-N (Nitrile)
Pilot System	Strainer Flo-Clean: Brass or Stainless Steel Body, Monel Screen Fittings: Lead Free* Brass or Stainless Steel Control Tubing: Copper or Stainless Steel
Pressure Gauge	UL/FM Approved 0-2070kPa

Installation Dimensions

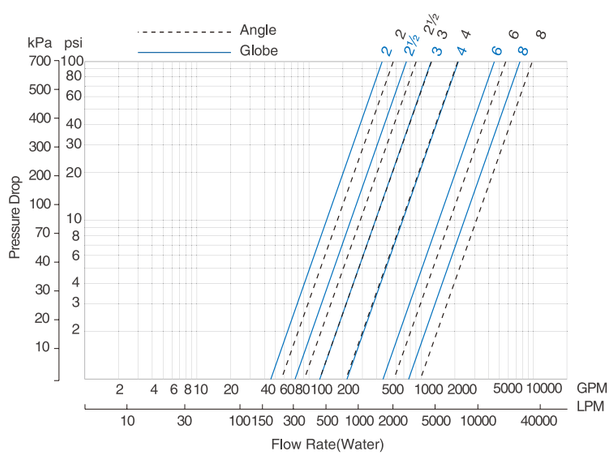


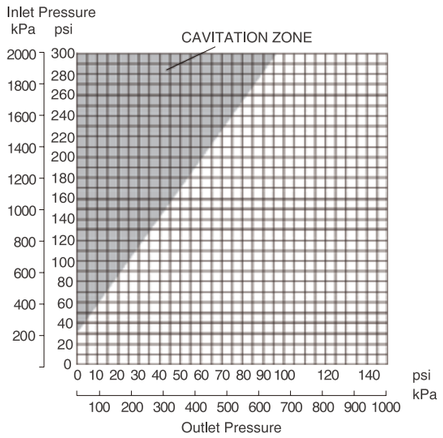
Size		Globe Flanged 150#	Globe Flanged 300#	Globe Grooved	Center	Angle	Angle	Port Size NPT	Port Size NPT
		A	A	B	C	D	F	H	I
in	DN	mm	mm	mm	mm	mm	mm	mm	mm
2	50	238	245	229	165	121	83	10	15
2 1/2	65	279	295	279	191	140	102	15	15
3	80	305	337	318	210	152	102	15	15
4	100	381	397	381	270	191	127	20	20
6	150	508	533	508	340	254	152	20	20
8	200	645	670	645	406	324	203	25	25

LPM (Water)

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Characterisic Curves





Flow Rates

	Valve Size - Inches	2	2½	3	4	6	8
Suggested	Maximum Continuous Flow Rate	795	1135	1836	3028	7000	11730
	Maximum Intermittent Flow Rate	1003	1476	2233	3785	8700	15140
	Minium Flow Rate	23	34	57	60	65	95
CV	CV Factor(Globe)	182	284	425	710	1465	2890
	CV Factor(Angle)	216	344	473	785	2160	3365

LPM (Water)

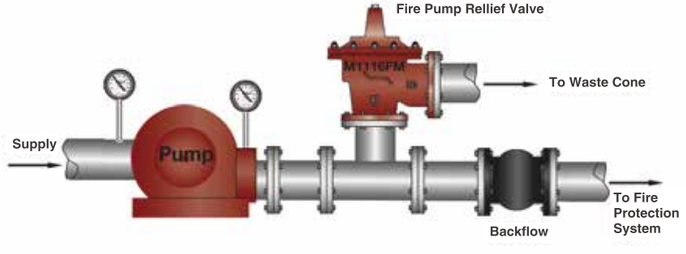
Installation & Start-Up

Start-up of an Automatic Control Valve requires followingproper procedures. Time must be allowed for the valve toreact to adjustments and the system to stabilize. The objec-tive is to bring the valve into service in a controlled mannerto protect the system from damaging overpressure.

NOTICE: Avoid mounting valves in a vertical discharge postion (valve stem horizontal or cover pointed sideways.) Valves mounted in this position may not perform as tested and approved.

- Clear the line of slag and other debris
- Install the valve so that the FLOW ARROW marked on thevalve body matches the flow through the line
- Install pressure gauge (supplied) in the fitting on valve tub-ing

1. Turn the Relief Control adjustment screw counterclockwise(out). This lowers the initial relief set-point, allowing the setpoint to be increased to the desired setting
2. Loosen a tube fitting at a high point on the valve. This allows the cover to vent trapped air during initial filling of thevalve
3. Start the pump to supply fluid/pressure to the valve
4. Tighten the tubing when all air is vented from the cover asindicated by continual flow of fluid.
   NOTICE: THE REL IEF SET-POINT SHOULD BE LOWERTHAN DESIRED AT THIS TIME
5. Turn the Relief Control adjustment screw clockwise (in) slowly, allwing time for the pressure to gradually increaseto the desired set-point.



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Series WA-M115

ACV: Pressure Reducing Valve

Size: DN40-DN300

The Watts WA-M115 Watermarked Pressure Reducing Valve is designed to automatically reduce a fluctuating or high inlet pressure to a stable lower outlet pressure. The outlet pressure is adjustable over a broad range and remains stable from maximum to minimum rated flows.



Features

- Certified to Australian Standard 5081 for control valves
- Certified to AS4020 for drinking water
- Stainless steel trim as standard, for greater reliability & service life
- Dual pressure gauges as standard, for ease of setting and confidence in performance
- Factory tested and downstream pressure preset to 500kPa as standard

Pressure-Temperature

- Operating Pressure: up to 1600kPa Standard, higher pressures on request
- Temperature Range: 0~80°C for NBR Diaphragm & Seals
- Set Pressure Range: Standard: 70 to 860kPa (set at 500 kPa) Optional: 140 to 1200kPa (set at 500 kPa)

Test Pressures

- Body Test Pressure: 2400 kPa
- Seat Test Pressure: 1760 kPa
- Based on Table E Flange

Material

Component	Material
Body/bonnet	Ductile Iron with Epoxyresin, NSF Certified Coating
Stem/seat	Stainless Steel
Diaphragm	Nylon Reinforced NBR
Main valve seal	NBR
Pressure reducing pilot	Stainless Steel
Pilot strainer, needle valve & fittings	Brass or Bronze
Pilot tubing	Copper

Operating Principle

The main valve is controlled by the action of the pressure reducing pilot valve. If the downstream pressure is below the set pressure then the pilot valve opens, releasing water from the top chamber of the main valve, causing the main valve to open and downstream pressure to rise. As the downstream pressure nears the set point the pilot valve begins to close a little, resulting in more water accumulating in the top chamber of main valve, causing main valve to modulate and maintain the downstream pressure. If the downstream pressure increases above the set point, the pilot valve closes completely, resulting in full line pressure gently closing the main valve and creating a drip tight seal. In this way the main valve responds precisely to accurately maintain the downstream pressure.

Specification

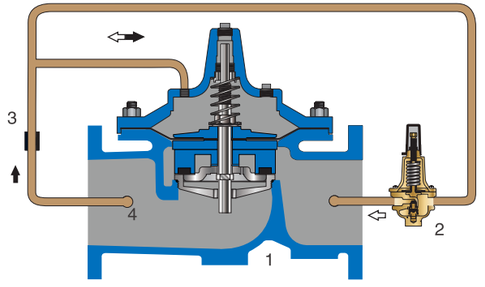
- Connection Type:
  Flanged to AS 2129 Table E or D as standard: DN50-DN300
  Threaded BSPT: DN40-DN50
  Grooved to AWWA C606: DN50-DN150
- Working Medium: Non corrosive liquids

Approval

- Water Mark License No.: WMK26355
- Standards Mark License No.: SMK26355

WaterMark

STANDARDSMARK LICENCE

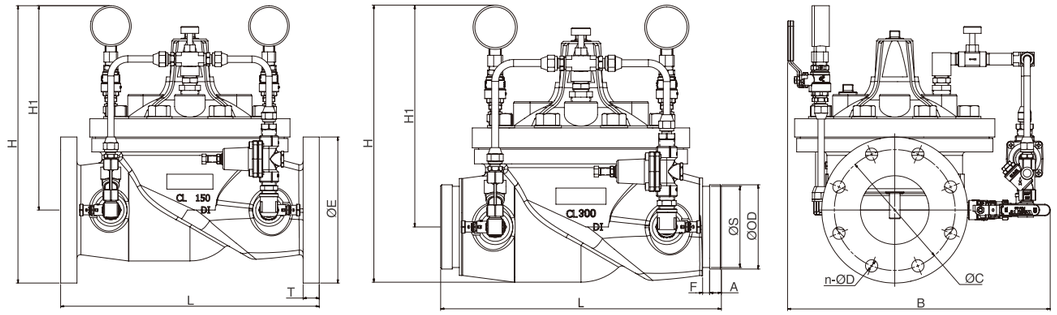


FLOW
CLOSES VALVE
OPENS VALVE

1 - Main Valve
2 - Pressure Reducing Control
3 - Fixed Orifice
4 - Flo-Clean Strainer

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Installation Dimensions



Size		Dimensions(mm)				Flange Dimensions(mm)					Groove Dimensions(mm)				Weight (Kg)
		L	H	H1	B	ØC	n-ØD (Table E)	n-ØD (Table D)	ØE	T	ØOD	ØS	A	F	
40	Threaded	184	264	225	255	-	-	-	-	-	-	-	-	-	10.1
50	Threaded	238	273	228	255	-	-	-	-	-	-	-	-	-	13.9
50	Flanged	239	340	265	297	114	4-18	4-18	150	19.1	-	-	-	-	14.1
65	Flanged	280	355	272	305	127	4-18	4-18	165	22.4	-	-	-	-	22
80	Flanged	305	380	276	365	146	4-18	4-18	185	23.9	-	-	-	-	36.4
100	Flanged	381	413	305	370	178	8-18	4-18	215	23.9	-	-	-	-	52.1
150	Flanged	508	515	375	420	235	8-22	8-18	280	25.4	-	-	-	-	111.8
200	Flanged	645	575	402	510	292	8-22	8-18	335	28.4	-	-	-	-	197
250	Flanged	745	635	430	650	356	12-22	8-22	405	25	-	-	-	-	344
300	Flanged	864	900	528	750	406	12-26	12-22	455	31.8	-	-	-	-	526
50	Grooved	229	302	265	297	-	-	-	-	-	61	58	15.9	7.9	13.5
65	Grooved	290	315	272	305	-	-	-	-	-	73	69	15.9	7.9	21
80	Grooved	318	345	276	365	-	-	-	-	-	89	85	15.9	7.9	34.4
100	Grooved	381	376	305	370	-	-	-	-	-	115	110	15.9	7.9	40.3
150	Grooved	508	475	375	420	-	-	-	-	-	169	164	15.9	10	109.5

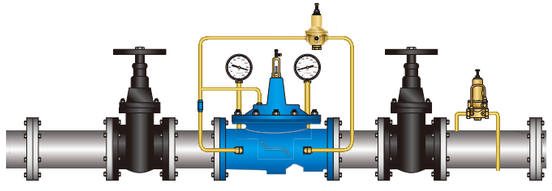
Flow Rates

Size DN	40	50	65	80	100	150	200	250	300
Maximum Continuous (l/s)	80	13	19	31	50	117	196	315	442
Maximum Intermittent (l/s)	10	17	25	37	63	145	252	394	561
Minimum Continuous (l/s)	0.3	0.4	0.6	0.9	10	1.1	1.6	3.5	4.4

Installation General Instructions

- Prior to installation, flush line to remove debris.
- Install valve horizontally “in line” (cover facing UP), so flow arrow matches flow through the line. Avoid installing valves 6” and larger vertically. Flow must be vertical. Consult factory prior to ordering if installation is other than described.
- Install inlet and outlet isolation valves. NOTE: When using butterfly valves, insure disc does not contact control valve. Damage or improper valve seating may occur.
- Provide adequate clearance for valve servicing and maintenance.
- If installation is subjected to very low flow or potentially static conditions, it is recommended a pressure relief valve (1/2” minimum) be installed downstream of the Pressure Reducing Valve for additional system protection.

General Application



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Series PRVA

Pressure Reducing Valves

PRVAS15F & PRVAS20F
PRVAR20F & PRVAR20F Press Fit

Series PRVAS15F & PRVAS20F Water Pressure Reducing Valves are designed to control and reduce the incoming water pressure to a compliant level to protect plumbing system components and assist in reducing water consumption. This series is suitable for water supply pressures up to 2000 KPa and come with factory pre-set at 500 KPa.

Series PRVAR20F & PRVAR20F Press Fit are suitable for water supply pressures up to 1600KPa and come with factory pre-set at 500KPa.

For PRVAS15F & PRVAS20F, all parts are quickly and easily serviceable without the need to remove the valve from the line.



PRVAS15F & PRVAS20F



PRVAR20F



PRVAR20F Press Fit

Features

- High performance and high flow capacity
- Adjustable Range: 150-600KPa
- No breather hole
- Low noise profile
- Serviceable in-line for PRVAS
- Compact design & Brass body construction
- Internal stainless steel strainer
- Brass disc with EPDM diaphragm
- Can be installed in any orientation
- Simple screw pressure adjustment
- Integrated 1/4" gauge ports provided
- Connections: Female BSP, Compression or Press Fit

Pressure-Temperature

PRVAS15F & PRVAS20F
- Temperature Range: 0.5°C~80°C
- Maximum Working Pressure: 2000 KPa(290psi)
- Reduced Pressure Setting: 500 Kpa±10%(72.5psi)
- Adjustable Outlet Pressure Range: 150-600 KPa(21.8-87psi)

PRVAR20F & PRVAR20F Press Fit
- Temperature Range: 0.5°C~80°C
- Maximum Working Pressure: 1600 KPa(232psi)
- Outlet Pressure: 500 KPa±10%(72.5psi)

Typical Application

- Apartment, residential and small commercial water supply

Approval

WaterMark
WMK25916

Material

PRVAS15F & PRVAS20F

Component	Material	Standard
Body	Brass	CW602N
Cover	Nylon	
Disc	Brass	CW602N
Seat	PPS	
Stem	Brass	CW602N
Strainer	SS	

PRVAR20F & PRVAR20F Press Fit

Component	Material	Standard
Body	Brass	CW602N
Cover	Brass	CW602N
Disc	Brass	
Seat	Stainless steel	30400
Stem	Brass	CW602N
Strainer	SS	

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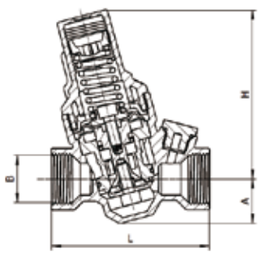
Installation Dimensions

PRVAS15F & PRVAS20F

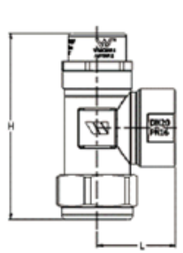
DN	Dimensions			
	L	H	A	B
mm	mm	mm	mm	
15	82	87	23	G1/2
20	82	87	23	G3/4

PRVAR20F & PRVAR20F Press Fit

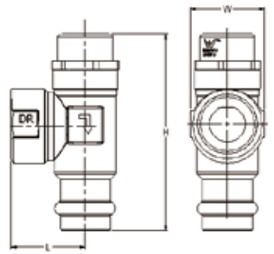
DN	Dimensions			
	L	H	W	B
mm	mm	mm	mm	
20	33	83.5	33	G3/4
20	33	88	33	G3/4



PRVAS15F & PRVAS20F



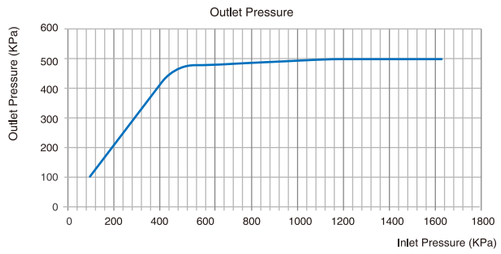
PRVAR20F



PRVAR20F Press Fit

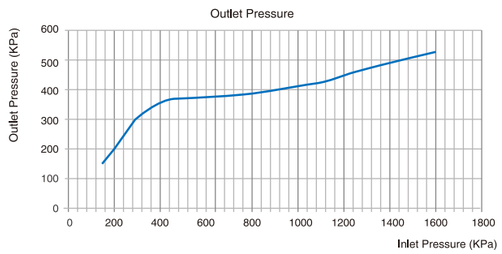
Characteristic Curves

PRVAS15F & PRVAS20F



*Graph based on different inlet pressure at same pre-set outlet pressure

PRVAR20F & PRVAR20F Press Fit



*Graph based on different inlet pressure at same pre-set outlet pressure

Installation Instructions

1. The valve's rated parameters should match the application. Make sure that the valve's rated flow satisfies the actual demand
2. The installer must be trained and 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 into the system's pipe
6. Use threaded connector that meets the correct standard to connect the valve
7. The direction of flow must match to the direction of the arrow head on the valve body
8. Do not expose valves to a torch flame or heat, excessive heat will destroy the seals and sealing components
9. Use correct tools when making the Press Fit and Compression connections
10. Consideration should be given to the design of the hydraulic circuit to avoid operating conditions where combined high inlet pressure with low outlet flow-rate results in high water velocity within the Pressure Reducing Valve. Where inlet pressures are likely to exceed 1,000 kPa, this may require pressures to be reduced through staged pressure reduction measures

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Series LFN45BM1/LFN45B

Pressure Reducing Valves

Size: DN15-DN25
Size: DN32-DN50

The Watts LFN45B Pressure Reducing Valves is designed to reduce the incoming water pressure to a sensible level to protect the system components and reduce water consumption. Its generally used in building services, water treatment etc.



Features

- Integral stainless steel strainer
- Thermoplastic seat & cage
- Lead Free cast copper silicon alloy body construction
- Serviceable in line
- Bypass feature controls thermal expansion pressure
- Sealed spring cage on all models for accessible outdoor or pit installations

Working Principles

After static pressure and dynamic pressure go into valve, adjusting the spring on the upper part of the valve to make the outlet pressure decreased; After the valve pressure expansion, leaking out pressure through the by-pass pipe to ensure the safety of channel; Built-in filter in the valve can filter out impurities when medium go through.

Pressure-Temperature

- Pressure Reducing Range: 25~75psi(172KPa~517KPa)
- Standard Pressure Setting: 50psi(345KPa)
- Maximum Pressure: LFN45BM1(DN15-DN25)
  400psi(2.76MPa)
  LFN45B(DN32-DN50)
  300psi(2.07MPa)
- Temperature Range: 0.5°C~82°C

Material

Component	Material
Body	Lead Free Bronze
Seat	Thermoplastic
Bonnet	Thermoplastic
Strainer	SS304
Diaphragm	EPDM
Disc	EPDM

Typical Application

- Water plant and water source project
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry

Specification

- Nominal Diameter: DN15~DN50
- DesignStandard: ASSE 1003, ANSI A II 2.26.2, CSAB356, IAPMO
- Connection Standard: NPT to ASME B1.20.1
- Working Medium: Water
- Note: Single stage pressure reduction is recommended when incoming pressure is less than 200psi and when reduction ratio is less than 3:1. If the incoming pressure is above 200psi or reduction ratio is more than 3:1(eg. 200psi to50 psi) or when inflow pressure fluctuates greatly, two-stage pressure reduction is recommended by adding PRV in series.

Models

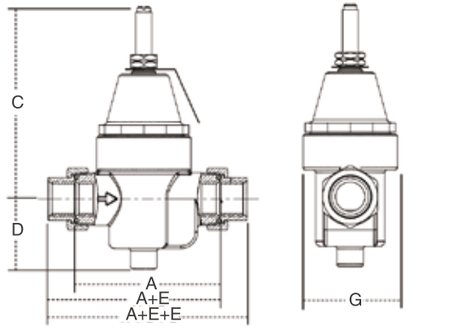
No Suffix — NPT threaded female inlet x NPT female outlet
-U — NPT threaded union inlet x NPT female outlet
-DU — Double Union–NPT threaded union female inlet and outlet
-G — Gauge tapping option1/8"

Approval

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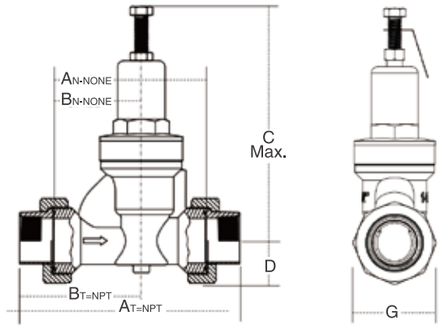
Installation Dimensions

LFN45BM1



DN	A	C	D	E_{NPT}	G
15	88	116	46	16	57
20	88	116	43	16	57
25	105	116	43	20	57

LFN45B



DN	A_T	A_N	B_T	B_N	C	D	G
32	213	148	111	78	225	36	82
40	213	148	115	83	225	41	82
50	228	162	126	93	225	47	93

Characteristic Curves

LFN45BM1(DN15, DN20, DN25)

LFN45B (DN32,DN40,DN50)

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. Use threaded connector that meets the standard to connect the valve
7. The direction of flow must accord with the direction of the arrow head on the valve body

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Series W-W1111-L/G

Wafer-Type Butterfly Valve

Size: DN50-DN150(-L)
DN50-DN600(-G)

The Watts Series W-W1111 butterfly valves are designed and manufactured to meet the stringent requirements of plumbing, HVAC, irrigation, commercial and industrial application.



Features

- Simple structure, easy to operate
- Simple installation, excellent sealing performance
- High reliability and long durability
- Position indicators

Pressure-Temperature

- Maximum Working Pressure: PN16
- Working Temperature: -20°C~120°C

Material

Component	Material	Standard
Body	Ductile Iron (Epoxy Coating)	QT450-10
Disc	Ductile Iron (Epoxy Coating) Stainless Steel	QT450-10 CF8
Seat	EPDM	
Stem	Stainless Steel	420

Specification

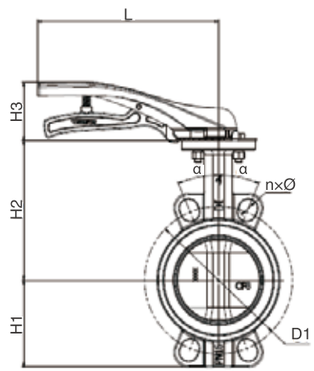
- Design Standard: EN 593
- Connection Standard: EN 1092-2
- Test Standard: EN 12266-1
- Structure-Length Standard: EN 588-1
- Connection Type: Wafer
- Working Medium: Wafer

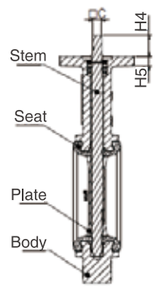
Approval

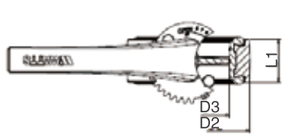
WRAS APPROVED PRODUCT

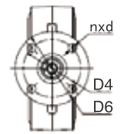
Installation Dimensions

1. Wafer-type lever operated midline butterfly valve (W-W1111-L)





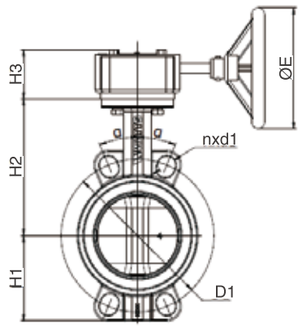


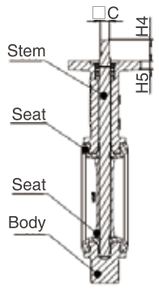


DN	H1	H2	H3	H4	L1	L	□C	D1	n×ϕ	α	D2	D3	D4	n×ϕd	D6	H5
50	62	136	71.2	24	43	218	9	ϕ125	4-ϕ19	45°	ϕ91	ϕ54	ϕ70	4-ϕ10	ϕ92	13
65	70	145	71.2	24	46	218	9	ϕ145	4-ϕ19	45°	ϕ108	ϕ70	ϕ70	4-ϕ10	ϕ92	13
80	89	151	71.2	24	46	218	9	ϕ160	4-ϕ19	22.5°	ϕ123	ϕ85	ϕ70	4-ϕ10	ϕ92	13
100	106	170	71.2	26	52	218	11	ϕ180	4-ϕ19	22.5°	ϕ150	ϕ100	ϕ70	4-ϕ10	ϕ92	13
125	119	190	71.2	26	56	304	14	ϕ210	4-ϕ19	22.5°	ϕ178	ϕ128	ϕ70	4-ϕ10	ϕ92	13
150	131	203	71.2	26	56	304	14	ϕ240	4-ϕ23	22.5°	ϕ205	ϕ155	ϕ70	4-ϕ10	ϕ92	13

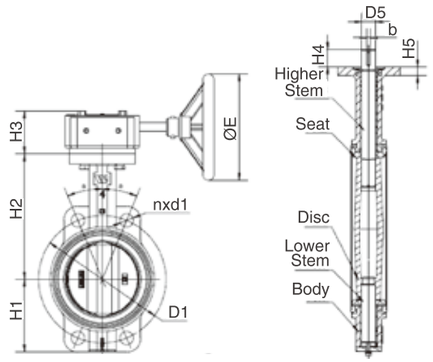
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2. Wafer-type gear operated midline butterfly valve (W-W1111-G)

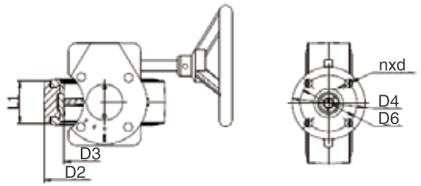




DN50-DN300



DN350-DN600



DN50-DN600

DN	H1	H2	H3	H4	L1	ϕE	□C/D5	b	D1	n×d1	α	D2	D3	D6	n×ϕd	D4	H5
50	62	136	58	24	43	ϕ146	□9	/	ϕ125	4xϕ19	45º	ϕ91	ϕ54	ϕ70	4xϕ10	ϕ92	13
65	70	145	58	24	46	ϕ146	□9	/	ϕ145	4xϕ19	45º	ϕ108	ϕ70	ϕ70	4xϕ10	ϕ92	13
80	89	151	58	24	46	ϕ146	□9	/	ϕ160	4xϕ19	22.5º	ϕ123	ϕ85	ϕ70	4xϕ10	ϕ92	13
100	106	170	58	26	52	ϕ146	□11	/	ϕ180	4xϕ19	22.5º	ϕ150	ϕ100	ϕ70	4xϕ10	ϕ92	13
125	119	190	58	26	56	ϕ146	□14	/	ϕ210	4xϕ19	22.5º	ϕ178	ϕ128	ϕ70	4xϕ10	ϕ92	13
150	131	203	58	26	56	ϕ146	□14	/	ϕ240	4xϕ23	22.5º	ϕ205	ϕ155	ϕ70	4xϕ10	ϕ92	13
200	164	245.5	75	33	60	ϕ276	□17	/	ϕ295	4xϕ23	15º	ϕ262	ϕ200	ϕ102	4xϕ12	ϕ125	17
250	199	271	80	27	68	ϕ276	□22	/	ϕ355	4xϕ28	15º	ϕ314	ϕ250	ϕ102	4xϕ12	ϕ125	17
300	230	296	80	27	78	ϕ276	□22	/	ϕ410	4xϕ28	15º	ϕ366	ϕ300	ϕ125	4xϕ14	ϕ140	17
350	288	328	71	40	78	ϕ280	ϕ31.6	8	ϕ470	4xϕ28	11.25º	ϕ436	ϕ331.5	ϕ125	4xϕ14	ϕ150	20
400	331	376	95	52	102	ϕ400	ϕ33.15	10	ϕ525	4xϕ31	11.25º	ϕ488	ϕ387.5	ϕ140	4xϕ18	ϕ175	20
450	355	407	101	52	114	ϕ400	ϕ38	10	ϕ585	4xϕ31	9º	ϕ536	ϕ438.5	ϕ140	4xϕ18	ϕ175	20
500	388	433	101	64	127	ϕ400	ϕ41.15	10	ϕ650	4xϕ34	9º	ϕ593	ϕ488.8	ϕ140	4xϕ18	ϕ175	22
600	475	508	118	70	154	ϕ400	ϕ50.65	16	ϕ770	4xϕ37	9º	ϕ820	ϕ589.9	ϕ165	4xϕ22	ϕ210	22

Instruction for Installation

(1) Compare the rated parameters required by the equipment with the rated parameters indicated on the product to ensure that the product meets the necessary requirements;
(2) Installers shall be subject to training and with experience to ensure that the installation is completed successfully;
(3) Thorough inspection shall be carried out at the end of the installation to ensure that the installation has been carried out correctly;
(4) In the direction of valve installation, the handwheel can be installed horizontally or upwards, and the handwheel is not all owed to be installed downward
(5) To ensure that there is no accident in the installation work, the piping system shall be thoroughly cleaned (using chemical reagents if necessary) before the installation of the product so as to make sure that the piping system is clean, free of corrosion and dirt and all filtering devices shall be removed to make sure that the piping is smooth before flushing;
(6) It is recommended to install temporary pipes at the pipe installation position of the equipment during the initial cleaning of the system, and then install the equipment on the pipe after the flushing work is completed;
(7) it shall be noted that the equipment shall not be used in places where the media contain more grease, mineral oil and others with high viscosity or corrosion;
(8) Flanges and corresponding bolts conforming to standards shall be used for securing;

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Series W-W1111-G

Worm-Gear Wafer-Type Midline Butterfly Valve



Size: DN700-DN1200

Watts W-W1111-G can realize medium connection, cut-off and flow control in the pipeline. It can be applied in municipal water supply, industrial and agricultural water transfer pipeline, etc.

Features

- Simple structure, easy to operate
- Easy installation, excellent sealing performance
- Long service life, high reliability
- Good part interchangeability
- A structure with no pin and no backrest ensures more reliable sealing effect

Pressure-Temperature

- Maximum Working Pressure: PN16
- Temperature Range: -20°C~120°C

Material

Component	Material	Standard
Body	Ductile Iron	QT450-10
Disc	Ductile Iron+Epoxy Coated Stainless Steel	QT450-10 CF8
Seat	EPDM	
Upper Stem	Stainless Steel	431
Lower Stem	Stainless Steel	431

Specification

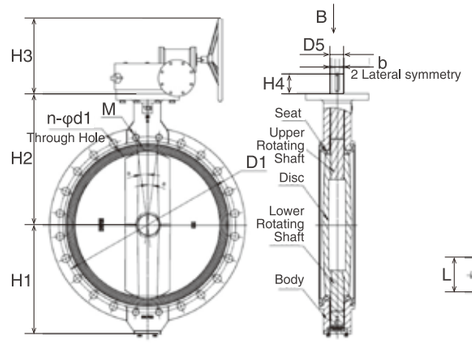
- Design Standard: GB/T 12238-2008
- Test Standard: GB/T 13927-2008
- Connection Standard: GB/T 12221-2005
- Side Flange Standard: GB/T 17241.6-2008
- Upper Flange Standard: ISO5211:2001
- Working Medium: Water

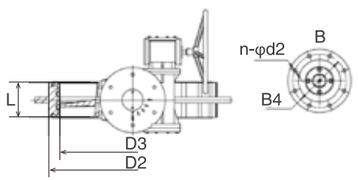
Operating Principles

The hand wheel controls the rotation of the sealing disc, opening and closing, and flow rate regulation of the valve.

Installation Dimensions

DN	H1	H2	H3	H4	L	D1	n×Ød1	M	α	D2	D3	D4	n×d2	D5	b
700	521	626	362	95	165	Ø840	20-Ø37	4×M33 Depth35	7.5°	Ø800	Ø692.2	Ø254	8-Ø18	$Ø63.35^{-0.05}_{-0.1}$	18
800	591	666	362	95	188	Ø950	20-Ø40	4×M36 Depth35	7.5°	Ø906	Ø792	Ø254	8-Ø18	$Ø63.35^{-0.05}_{-0.1}$	18
900	650	722	395	130	203	Ø1050	24-Ø40	4×M36 Depth35	6.43°	Ø1015	Ø861.2	Ø254	8-Ø18	$Ø75^{-0.05}_{-0.1}$	20
1000	713	806	395	130	216	Ø1170	24-Ø43	4×M39 Depth40	6.43°	Ø1120	Ø961	Ø254	8-Ø18	$Ø85^{-0.05}_{-0.1}$	22
1200	855	938	434	150	276	Ø1390	28-Ø49	4×M45 Depth50	5.63°	Ø1336	Ø1155.2	Ø298	8-Ø22	$Ø105^{-0.05}_{-0.1}$	28





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Series W-W1111-EK/ET

On-off/Regulating Electric Butterfly Valve

Size: DN50-DN600

Product Functions And Applications

Function: To realize piping media on-off and media flow control.
Application area: urban water supply and industrial & agricultural water transmission pipelines, etc.

Features

- Simple structure and easy operation
- Simple installation and good sealability
- Long service life and high reliability
- Good part Interchangeability
- Pinless and backless structure adopted makes sealing more reliable

Material

Component	Material
Body	Ductile cast iron QT450-11 surface epoxy spraying
Valve flap	Stainless steel CF8 Ductile cast iron QT450-10 surface epoxy spraying
Seat	Rubber EPDM
Stem	Stainless steel 2Cr13

Technical Parameters Of Electric Device

- Power Voltage: 220VAC (380VAC, 24V AC/DC Please Consult)
- Protection Class: IP67
- Ambient Temperature: -25°C ~+70°C
- Stroke Limit: bidirectional adjustable stroke ± 4.
- Motor: Insulation Class F, Built-in Overheat Protection
- Feedback: Switch Type Passive Feedback, Control Type 4-20mA (0-10V, 2-10V, Specify Before Ordering)
- Anti-Condensation: Heat Dehumidifier
- Other: Externally Led Cable, With Waterproof Press-type Quick Coupling Cable Connector; Handwheel Operation, Fault Feedback Options

Model		Torque N.m	Switch Time S	Power W	Corresponding Butterfly Valve Size
Switch type	Control type				
W-AA1S-5	W-AA1M-5	50	30	10	DN50-100
W-AA1S-10	W-AA1M-10	100	20	30	DN125
W-AA1S-16	W-AA1M-16	160	30	30	DN150
W-AA1S-25	W-AA1M-25	250	30	40	DN200
W-AA1S-60	W-AA1M-60	600	30	90	DN250-300
W-AA1S-100	W-AA1M-100	1000	30	150	DN350
W-AA1S-200	W-AA1M-200	2000	60	150	DN400-450
W-AA1S-350	W-AA1M-350	3500	70	200	DN500-600

Installation Dimensions

(1)Compare the rated parameters required by the equipment with the rated parameters indicated on the product to ensure that the product meets the necessary requirements;
(2)Installers shall be subject to training and with experience to ensure that the installation is completed successfully;
(3)Thorough inspection shall be carried out at the end of the installation to ensure that the installation has been carried out correctly;
(4)Valve installation direction: the handwheel can be installed horizontally or upwards, instead of downwards;
(5)To ensure that there is no accident in the installation work, the piping system shall be thoroughly cleaned (using chemical reagents if necessary) before the installation of the product so as to make sure that the piping system is clean, free of corrosion and dirt and all filtering devices shall be removed to make sure that the piping is smooth before flushing;
(6)It is recommended to install temporary pipes at the pipe installation position of the equipment during the initial cleaning of the system, and then install the equipment on the pipe after the flushing work is completed;
(7)it shall be noted that the equipment shall not be used in places where the media contain more grease, mineral oil and others with high viscosity or corrosion;
(8)Flanges and corresponding bolts conforming to standards shall be used for securing;



Typical Applications

- Water plant and water source works
- Environmental protection
- Municipal facilities
- Power and utilities
- Building industry
- Steel & iron and metallurgy
- Papermaking industry
- Food and beverage

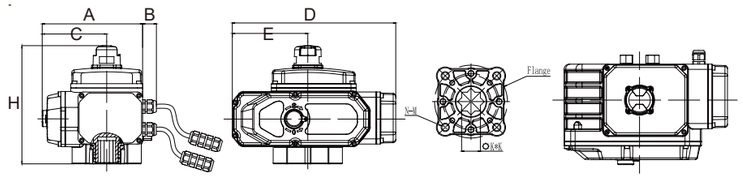
Working Principles

The rotation of the sealing butterfly plate is controlled by the electric head or handle to control the opening and closing of the valve and to regulate the flow rate.

W-W1111-EK/ET-EN-202404

4 Butterfly Valve

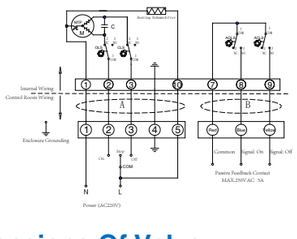
Overall Dimensions Of Electric Device



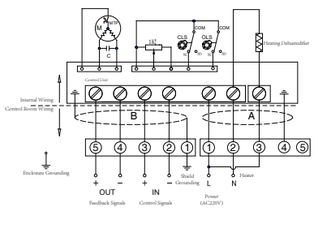
Model		Flange	A	B	C	D	E	H
W-AA1S-5	W-AA1M-5	F03.F05.F07	113	26.5	70.5	178	87	157.5
W-AA1S-10	W-AA1M-10	F05.F07	124.5	26.5	82.5	217	105	175.5
W-AA1S-16	W-AA1M-16	F05.F07	124.5	26.5	82.5	217	105	175.5
W-AA1S-25	W-AA1M-25	F07.F10.F12	166	26.5	104	291	140	194.5
W-AA1S-60	W-AA1M-60	F07.F10.F12	166	26.5	104	291	140	194.5
W-AA1S-100	W-AA1M-100	F12orF10.F14	198	26.5	124	314	145	236.5
W-AA1S-200	W-AA1M-200	F12orF10.F14	198	26.5	124	314	145	236.5
W-AA1S-350	W-AA1M-350	F14orF12.F16	242	26.5	139.5	341	150	267
W-AA1S-400	W-AA1M-400	F16.F25	266	26.5	155	439	189	347

Wiring Diagram

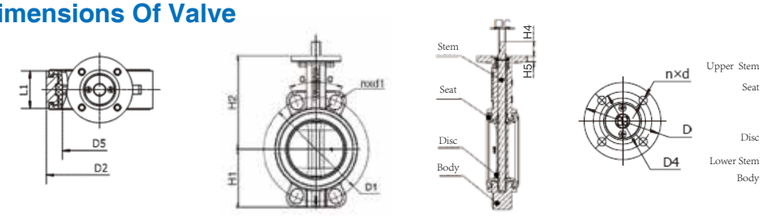
Switch Type



Control Type



Overall Dimensions Of Valve



DN50-DN300 DN350-DN600

DN	H1	H2	H4	H5	L1	□ C/D6	b	D2	D5	D1	n×d1	a	D4	n×d	D
50	62	136	24	13	43	□ 9	/	ϕ 91	ϕ 54	ϕ 125	4X ϕ 19	45°	ϕ 70	4X ϕ 10	ϕ 92
65	70	145	24	13	46	□ 9	/	ϕ 108	ϕ 70	ϕ 145	4X ϕ 19	45°	ϕ 70	4X ϕ 10	ϕ 92
80	89	151	24	13	46	□ 9	/	ϕ 123	ϕ 85	ϕ 160	4X ϕ 19	22.5°	ϕ 70	4X ϕ 10	ϕ 92
100	106	170	26	13	52	□ 11	/	ϕ 150	ϕ 100	ϕ 180	4X ϕ 19	22.5°	ϕ 70	4X ϕ 10	ϕ 92
125	119	190	26	13	56	□ 14	/	ϕ 178	ϕ 128	ϕ 210	4X ϕ 19	22.5°	ϕ 70	4X ϕ 10	ϕ 92
150	131	203	26	13	56	□ 14	/	ϕ 205	ϕ 155	ϕ 240	4X ϕ 23	22.5°	ϕ 70	4X ϕ 10	ϕ 92
200	164	245.5	33	17	60	□ 17	/	ϕ 262	ϕ 200	ϕ 295	4X ϕ 23	15°	ϕ 102	4X ϕ 12	ϕ 125
250	199	271	27	17	68	□ 22	/	ϕ 314	ϕ 250	ϕ 355	4X ϕ 28	15°	ϕ 102	4X ϕ 12	ϕ 125
300	230	296	27	17	78	□ 22	/	ϕ 366	ϕ 300	ϕ 410	4X ϕ 28	15°	ϕ 102	4X ϕ 12	ϕ 140
350	288	328	40	20	78	ϕ 31.6	8	ϕ 420	ϕ 331.5	ϕ 470	4X ϕ 28	11.25°	ϕ 125	4X ϕ 12	ϕ 140
400	331	376	52	20	102	ϕ 33.15	10	ϕ 480	ϕ 387.5	ϕ 525	4X ϕ 31	11.25°	ϕ 140	4X ϕ 18	ϕ 175
450	355	407	52	20	114	ϕ 38	10	ϕ 532	ϕ 438.5	ϕ 585	4X ϕ 31	9°	ϕ 140	4× ϕ 18	ϕ 175
500	388	433	64	22	127	ϕ 41.15	10	ϕ 582	ϕ 488.8	ϕ 650	4X ϕ 34	9°	ϕ 140	4× ϕ 18	ϕ 175
600	475	508	70	22	154	ϕ 50.65	16	ϕ 688	ϕ 589.9	ϕ 770	20X ϕ 37	9°	ϕ 165	4× ϕ 22	ϕ 210

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Series W-W1124-L/G

Wafer-Type Butterfly Valve

Size: DN50-DN150(-L)
DN50-DN300(-G)

The Watts Series W-W1124 butterfly valves are designed and manufactured to meet the stringent requirements of plumbing, HVAC, irrigation, commercial and industrial application.

Features

- Simple structure, easy to operate
- Simple installation, excellent sealing performance
- High reliability and long durability
- Position indicators

Pressure-Temperature

- Nominal Pressure: PN25
- Working Temperature: -20°C~120°C

Material

Component	Material	Standard
Body	Ductile Iron	QT450-10
Disc	Ductile Iron(Epoxy-coated) Stainless Steel	CF8 QT450-10
Seat	EPDM	
Stem	Stainless Steel	431



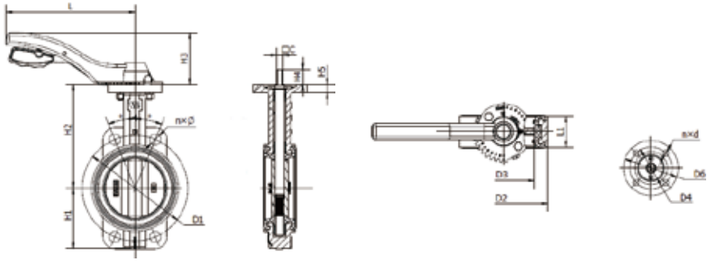


Specification

- Design Standard: EN 593
- Connection Standard: EN 1092-2
- Test Standard: EN 12266-1
- Structure-Length Standard: EN 588-1
- Connection Type: Wafer
- Working Medium: Water

Installation Dimensions

1. Wafer-type lever operated midline butterfly valve (W-W1124-L)



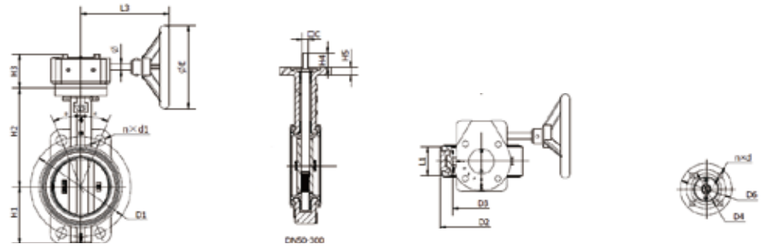
DN	H1	H2	H3	H4	L	L1	C	D1	n×Ø	α	n×D1	D2	D3	D4	n×Ød	D6	H5
50	80	161	95	24	215	43	9	Ø125	4-Ø18	45°	4-Ø18	Ø89	Ø51.7	Ø70	4×Ø10	Ø92	12
65	89	175	95	24	215	46	9	Ø145	4-Ø18	22.5°	4-Ø18	Ø105	Ø63.3	Ø70	4×Ø10	Ø92	13
80	95	181	95	24	215	46	9	Ø160	4-Ø18	22.5°	4-Ø18	Ø120	Ø77.7	Ø70	4×Ø10	Ø92	14
100	114	200	95	26	215	52	11	Ø190	4-Ø23	22.5°	4-Ø23	Ø148	Ø103.1	Ø70	4×Ø10	Ø92	14
125	127	213	30	26	300	56	14	Ø220	4-Ø28	22.5°	4-Ø28	Ø170	Ø122.2	Ø70	4×Ø10	Ø92	14
150	139	226	30	26	300	56	14	Ø250	4-Ø28	22.5°	4-Ø28	Ø203	Ø154.9	Ø70	4×Ø10	Ø92	14

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W-W1124-L/G-EN-202404

4 Butterfly Valve

2. Wafer-type gear operated midline butterfly valve (W-W1124-G)



DN	H1	H2	H3	H4	L1	ØE	C	D1	α	n×D1	D2	D3	D4	n×Ød
50	80	161	66	24	43	150	9	Ø125	45°	4-Ø18	Ø89	Ø51.7	Ø70	4×Ø10
65	89	175	66	24	46	150	9	Ø145	22.5°	4-Ø18	Ø105	Ø63.3	Ø70	4×Ø10
80	95	181	66	24	46	150	9	Ø160	22.5°	4-Ø18	Ø120	Ø77.7	Ø70	4×Ø10
100	114	200	66	26	52	150	11	Ø190	22.5°	4-Ø23	Ø148	Ø103.1	Ø70	4×Ø10
125	127	213	66	26	56	150	14	Ø220	22.5°	4-Ø28	Ø170	Ø122.2	Ø70	4×Ø10
150	139	226	66	26	56	150	14	Ø250	22.5°	4-Ø28	Ø203	Ø154.9	Ø70	4×Ø10
200	175	260	82	26	60	298	17	Ø310	15°	4-Ø28	Ø255	Ø201.3	Ø102	4×Ø12
250	203	292	82	33	68	298	22	Ø370	15°	4-Ø31	Ø303	Ø249.4	Ø102	4×Ø12
300	242	337	84	26	78	298	22	Ø430	15°	4-Ø31	Ø355	Ø300.1	Ø125	4×Ø12

Instruction for Installation

(1) Compare the rated parameters required by the equipment with the rated parameters indicated on the product to ensure that the product meets the necessary requirements;
(2) Installers shall be subject to training and with experience to ensure that the installation is completed successfully;
(3) Thorough inspection shall be carried out at the end of the installation to ensure that the installation has been carried out correctly;
(4) In the direction of valve installation, the handwheel can be installed horizontally or upwards, and the handwheel is not all owed to be installed downward
(5) To ensure that there is no accident in the installation work, the piping system shall be thoroughly cleaned (using chemical reagents if necessary) before the installation of the product so as to make sure that the piping system is clean, free of corrosion and dirt and all filtering devices shall be removed to make sure that the piping is smooth before flushing;
(6) It is recommended to install temporary pipes at the pipe installation position of the equipment during the initial cleaning of the system, and then install the equipment on the pipe after the flushing work is completed;
(7) it shall be noted that the equipment shall not be used in places where the media contain more grease, mineral oil and others with high viscosity or corrosion;
(8) Flanges and corresponding bolts conforming to standards shall be used for securing;

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Series W-W1124-EK/ET

Motorized Butterfly Valve - Water Type
Wafer Type On/Off & Regulating Type

Size: DN50-DN300

Watts W-W1124-EK/ET can realize medium connection, cut-off and flow control in the pipeline. It can be applied in municipal water supply, industrial and agricultural water transfer pipeline, etc.

Features

- Simple structure, easy to operate
- Easy installation, excellent sealing performance
- Long service life, high reliability
- Good part interchangeability
- A structure with no pin and no backrest ensures more reliable sealing effect

Pressure-Temperature

- Maximum Working Pressure: PN25
- Temperature Range: -15℃-120℃

Material

Component	Material
Body	Ductile Iron+Epoxy Coated
Disc	Ductile Iron (N. Plato) Aluminum Bronze
Seat	EPDM
Stem	Stainless Steel



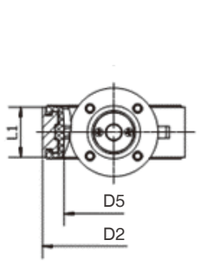
Specification

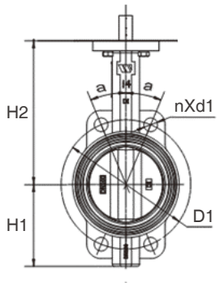
- Design Standards: GB/T 13927-2008/EN 593, BSEN 5155/MSS SP-67
- Connection Standard: GB/T 17241.6
- Connection Type: Wafer
- Working Medium: Water

Operating Principles

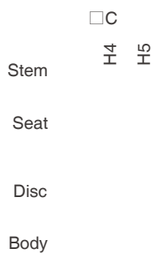
The electric actuator or the handle controls the rotation of the sealing disc, opening and closing, and flow rate regulation of the valve.

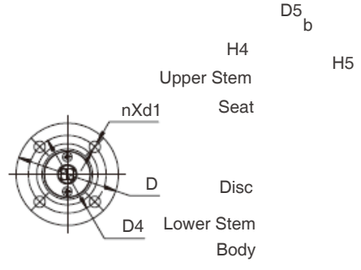
Installtion Dimensions





DN50-300





DN350-600

DN	H1	H2	H4	H5	L1	□C	D2	D5	D1	n×d1	a	D4	n×d	φ3
50	80	161	24	12	43	□ 9	φ89	φ51.7	φ125	4Xφ19	45°	φ70	4Xφ10	φ92
65	89	175	24	13	46	□ 9	φ105	φ63.3	φ145	4Xφ19	22.5°	φ70	4Xφ10	φ92
80	95	181	24	14	46	□ 9	φ120	φ77.7	φ160	4Xφ19	22.5°	φ70	4Xφ10	φ92
100	114	200	26	14	52	□ 11	φ148	φ103.1	φ190	4Xφ23	22.5°	φ70	4Xφ10	φ92
125	127	213	26	14	56	□ 14	φ170	φ122.2	φ220	4Xφ28	22.5°	φ70	4Xφ10	φ92
150	144	226	26	14	56	□ 14	φ203	φ154.9	φ250	4Xφ28	22.5°	φ70	4Xφ10	φ92
200	185	260	33	14	60	□ 22	φ263	φ201.3	φ310	4Xφ28	15°	φ102	4Xφ12	φ125
250	211	292	26	14	68	□ 22	φ310	φ249.4	φ370	4Xφ31	15°	φ102	4Xφ12	φ125
300	247	337	45	20	78	□ 27	φ363	φ300.1	φ430	4Xφ31	11.25°	φ125	4Xφ14	φ150

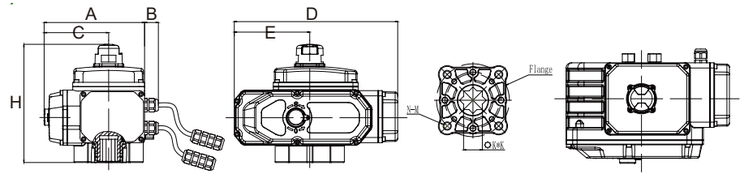
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Technical Parameters

- Power Voltage: 220VAC (380VAC, 24V AC/DC Please Consult)
- Protection Class: IP67
- Ambient Temperature: -25°C ~+70°C
- Stroke Limit: bidirectional adjustable stroke ± 4.
- Motor: Insulation Class F, Built-in Overheat Protection
- Feedback: Switch Type Passive Feedback, Control Type 4-20mA (0-10V, 2-10V, Specify Before Ordering)
- Anti-Condensation: Heat Dehumidifier
- Other: Externally Led Cable, With Waterproof Press-type Quick Coupling Cable Connector; Handwheel Operation, Fault Feedback Options

Type		Torque N.m	Actuating Times	Power W	Size
On-Off	Regulating				
W-AA1S-5	W-AA1M-5	50	30	52	DN50-100
W-AA1S-10	W-AA1M-10	100	30	70	DN125
W-AA1S-16	W-AA1M-16	160	30	83	DN150
W-AA1S-25	W-AA1M-25	250	30	105	DN200
W-AA1S-60	W-AA1M-60	600	30	220	DN250-300
W-AA1S-100	W-AA1M-100	1000	50	220	DN350
W-AA1S-200	W-AA1M-200	2000	85	264	DN400-450
W-AA1S-400	W-AA1M-400	3500	75	462	DN500-600

Overall Dimensions Of Electric Device



Model		Flange	A	B	C	D	E	H
W-AA1S-5	W-AA1M-5	F03.F05.F07	113	26.5	70.5	178	87	157.5
W-AA1S-10	W-AA1M-10	F05.F07	124.5	26.5	82.5	217	105	175.5
W-AA1S-16	W-AA1M-16	F05.F07	124.5	26.5	82.5	217	105	175.5
W-AA1S-25	W-AA1M-25	F07.F10.F12	166	26.5	104	291	140	194.5
W-AA1S-60	W-AA1M-60	F07.F10.F12	166	26.5	104	291	140	194.5
W-AA1S-100	W-AA1M-100	F12orF10.F14	198	26.5	124	314	145	236.5
W-AA1S-200	W-AA1M-200	F12orF10.F14	198	26.5	124	314	145	236.5
W-AA1S-350	W-AA1M-350	F14orF12.F16	242	26.5	139.5	341	150	267
W-AA1S-400	W-AA1M-400	F16.F25	266	26.5	155	439	189	347

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Series W-W1911-L/G

Lug-Type Butterfly Valve

Size: DN50-DN150(-L)
DN50-DN600(-G)

The Watts Series W-W1911 butterfly valves are designed and manufactured to meet the stringent requirements of plumbing, HVAC, irrigation, commercial and industrial application.



Features

- Simple structure, easy to operate
- Simple installation, excellent sealing performance
- High reliability and long durability
- Position indicators
- Double regulating feature available on request

Pressure-Temperature

- Maximum Working Pressure: PN16
- Working Temperature: -20°C~120°C

Material

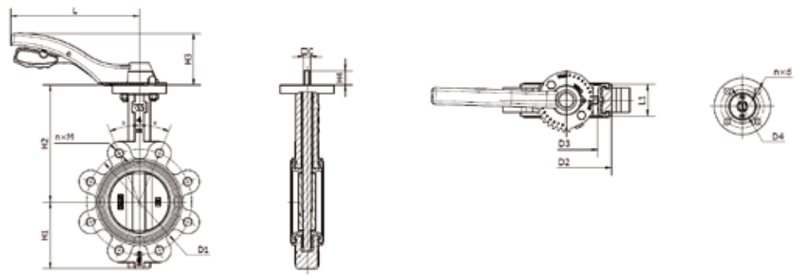
Component	Material	Standard
Body	Ductile Iron (Epoxy Coating)	QT450-10
Disc	Ductile Iron (Epoxy Coating) Stainless Steel	QT450-10 CF8
Seat	EPDM	
Stem	Stainless Steel	420

Specification

- Design Standard: EN 593
- Connection Standard: EN 1092-2
- Test Standard: EN 12266-1
- Structure-Length Standard: EN 588-1
- Connection Type: Lug
- Working Medium: Water

Installation Dimensions

1. Lug-type lever operated midline butterfly valve (W-W1911-L)



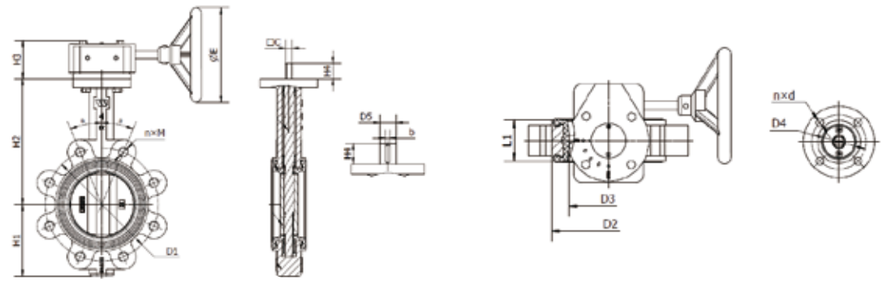
DN	H1	H2	H3	H4	L	L1	□C	D1	n×M	α	D2	D3	D4	n×ϕd
50	68	142.7	31	24	260	43	□9	ϕ125	4×M16	45°	ϕ89	ϕ51.7	ϕ70	4×ϕ10
65	77	155.4	31	24	260	46	□9	ϕ145	4×M16	45°	ϕ105	ϕ63.3	ϕ70	4×ϕ10
80	89	162	31	24	260	46	□9	ϕ160	8×M16	22.5°	ϕ120	ϕ77.7	ϕ70	4×ϕ10
100	103	177	31	26	260	52	□11	ϕ180	8×M16	22.5°	ϕ148	ϕ103.1	ϕ70	4×ϕ10
125	119	189.5	31	26	260	56	□14	ϕ210	8×M16	22.5°	ϕ170	ϕ122.2	ϕ70	4×ϕ10
150	133	204.2	31	26	260	56	□14	ϕ240	8×M20	22.5°	ϕ203	ϕ154.9	ϕ70	4×ϕ10

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W-W1911-L/G-EN-202404

4 Butterfly Valve

2. Lug-type gear operated midline butterfly valve (W-W1911-G)



DN	H1	H2	H3	H4	ϕE	L1	□C/D5	b	D1	n×M	α	D2	D3	D4	n×ϕd
50	68	142.7	61	24	160	43	□9	/	ϕ125	4×M16	45°	ϕ89	ϕ51.7	ϕ70	4×ϕ10
65	77	155.4	61	24	160	46	□9	/	ϕ145	4×M16	45°	ϕ105	ϕ63.3	ϕ70	4×ϕ10
80	89	162	61	24	160	46	□9	/	ϕ160	8×M16	22.5°	ϕ120	ϕ77.7	ϕ70	4×ϕ10
100	103	177	69	26	160	52	□11	/	ϕ180	8×M16	22.5°	ϕ148	ϕ103.1	ϕ70	4×ϕ10
125	119	189.5	69	26	160	56	□14	/	ϕ210	8×M16	22.5°	ϕ170	ϕ122.2	ϕ70	4×ϕ10
150	133	204.2	69	26	160	56	□14	/	ϕ240	8×M20	22.5°	ϕ203	ϕ154.9	ϕ70	4×ϕ10
200	163	236	69	26	200	60	□17	/	ϕ295	12×M20	15°	ϕ255	ϕ201.3	ϕ102	4×ϕ12
250	198	266	69	26	200	68	□22	/	ϕ355	12×M24	15°	ϕ303	ϕ249.4	ϕ102	4×ϕ12
300	231	306.5	71	26	280	78	□22	/	ϕ410	12×M24	15°	ϕ355	ϕ300.1	ϕ125	4×ϕ14
350	288	368	71	40	280	78	ϕ31.6	8	ϕ470	16×M24	11.25°	ϕ405	ϕ331.5	ϕ125	4×ϕ14
400	331	400	95	52	400	102	ϕ33.15	10	ϕ525	16×M27	11.25°	ϕ470	ϕ387.5	ϕ140	4×ϕ18
450	355	422	101	52	400	114	ϕ38	10	ϕ585	20×M27	9°	ϕ525	ϕ438.5	ϕ140	4×ϕ18
500	388	480	101	64	400	127	ϕ41.15	10	ϕ650	20×M30	9°	ϕ578	ϕ488.8	ϕ140	4×ϕ18
600	475	562	118	70	400	154	ϕ50.65	16	ϕ770	20×M33	9°	ϕ693	ϕ589.9	ϕ165	4×ϕ22

Instruction for Installation

(1) Compare the rated parameters required by the equipment with the rated parameters indicated on the product to ensure that the product meets the necessary requirements;
(2) Installers shall be subject to training and with experience to ensure that the installation is completed successfully;
(3) Thorough inspection shall be carried out at the end of the installation to ensure that the installation has been carried out correctly;
(4) In the direction of valve installation, the handwheel can be installed horizontally or upwards, and the handwheel is not all owed to be installed downward
(5) To ensure that there is no accident in the installation work, the piping system shall be thoroughly cleaned (using chemical reagents if necessary) before the installation of the product so as to make sure that the piping system is clean, free of corrosion and dirt and all filtering devices shall be removed to make sure that the piping is smooth before flushing;
(6) It is recommended to install temporary pipes at the pipe installation position of the equipment during the initial cleaning of the system, and then install the equipment on the pipe after the flushing work is completed;
(7) it shall be noted that the equipment shall not be used in places where the media contain more grease, mineral oil and others with high viscosity or corrosion;
(8) Flanges and corresponding bolts conforming to standards shall be used for securing;

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Series W-W1911-G

Lug-Type Butterfly Valve

Size: DN700-DN1200

The Watts Series W-W1911 Lug-Type Butterfly Valve is designed and manufactured to meet the stringent requirements of HVAC, irrigation, OEM, commercial, institutional and industrial applications. It's generally used in building services, municipal waterworks and light industrial.

Features

- Simple structure, easy to operate
- Simple installation, good sealing performance
- Long life, high reliability
- Good compatibility
- Good sealing effect, with no pin and no backrest

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -20°C~120°C

Material

Component	Material
Body	Ductile Iron QT450-10
Disc	Ductile Iron QT450-10(Epoxy coated) Stainless Steel CF8
Seat	EPDM
Stem	Stainless Steel 431



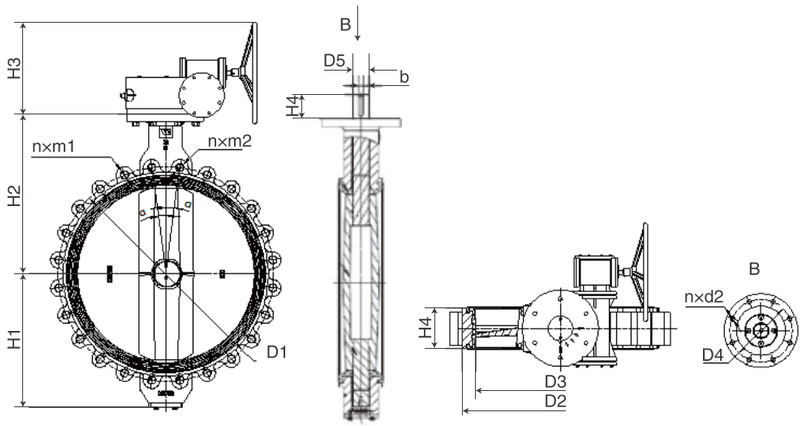
Specification

- Test Standard: GB/T 13927-2008
- Structure-Length Standard: GB/T 12221-2005
- Side Flange Standard: GB/T 17241.6-2008
- Upper Flange Standard: ISO5211:2001
- Connection Type: Lug Type
- Working Medium: Water

Typical Application

- Water plant and water source project
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry

Installation Dimensions



DN	H1	H2	H3	H4	L	D1	D2	D3	D4	D5	n×d2	n×m1	n×m2	α	b
700	521	626	362	95	165	Ø840	Ø800	Ø692.2	Ø254	$Ø63.35^{-0.05}_{-0.1}$	8×Ø18	20×M33	4×M33-T35	7.5°	18
800	591	666	362	95	188	Ø950	Ø906	Ø792	Ø254	$Ø63.35^{-0.05}_{-0.1}$	8×Ø18	20×M36	4×M36-T45	7.5°	18
900	650	722	395	130	203	Ø1050	Ø1015	Ø861.2	Ø254	$Ø75^{-0.05}_{-0.1}$	8×Ø18	24×M36	4×M36-T40	6.428°	20
1000	713	806	395	130	216	Ø1170	Ø1120	Ø961	Ø254	$Ø85^{-0.05}_{-0.1}$	8×Ø18	24×M39	4×M39-T40	6.428°	22
1200	855	938	434	150	276	Ø1390	Ø1336	Ø1155.2	Ø298	$Ø105^{-0.05}_{-0.1}$	8×Ø22	28×M45	4×M45-T50	5.625°	28

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Series W-W1911-EK

Electric Switch Type Single-clip Midline Butterfly Valve

Series W-W1911-ET

Electric Original Type Single-clip Midline Butterfly Valve

Size: DN50-DN600



Product Functions And Applications

Function: To realize piping media on-off and media flow control.
Application area: urban water supply and industrial & agricultural water transmission pipelines, etc.

Features

- Simple structure and easy operation;
- Simple installation and good sealability;
- Long service life and high reliability;
- Good part Interchangeability;
- Pinless and backless structure adopted makes sealing more reliable.

Working Principles

The rotation of the sealing butterfly plate is controlled by the electric head or handle to control the opening and closing of the valve and to regulate the flow rate.

Technical Parameters Of Electric Device

- Power voltage: 220VAC (380VAC, 24V AC/DC please consult)
- Protection class: IP67
- Ambient temperature: -25°C ~+70°C
- Stroke limit: bidirectional adjustable stroke ±4°
- Motor: insulation class F, built-in overheat protection
- Feedback: switch type passive feedback, control type 4-20mA (0-10V, 2-10V, specify before ordering)
- Anti-condensation: heat dehumidifier
- Other: externally led cable, with waterproof press-type quick coupling cable connector; handwheel operation, fault feedback options

Typical Applications

- Water plant and water source works
- Environmental protection
- Municipal facilities
- Power and utilities
- Building industry
- Steel & iron and metallurgy
- Papermaking industry
- Food and beverage

Technical parameters

- Nominal diameter: DN50~DN600
- Maximum working pressure: PN16
- Operating temperature: -15°C~120°C
- Liquid media: water
- Connection type: single-clip type
- Connection standard: GB/T 17241.6
- Test standard: GB/T 13927-2008

Material

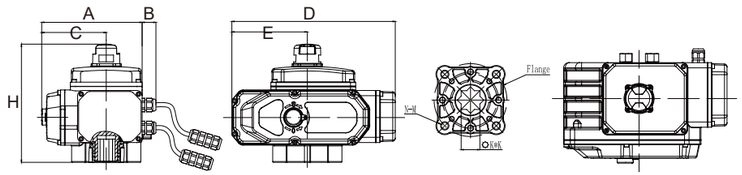
Component	Material
Body	Ductile cast iron QT450-10 surface epoxy spraying
Valve flap	Stainless steel CF8 Ductile cast iron QT450-10 surface epoxy spraying
Seat	Rubber EPDM
Stem	Stainless steel 2Cr13

Model		Torque N.m	Switch Time S	Power W	Corresponding butterfly valve size
Switch type	Control type				
W-AA1S-5	W-AA1M-5	50	30	10	DN50-100
W-AA1S-10	W-AA1M-10	100	20	30	DN125
W-AA1S-16	W-AA1M-16	160	30	30	DN150
W-AA1S-25	W-AA1M-25	250	30	40	DN200
W-AA1S-60	W-AA1M-60	600	30	90	DN250-300
W-AA1S-100	W-AA1M-100	1000	30	150	DN350
W-AA1S-200	W-AA1M-200	2000	60	150	DN400-450
W-AA1S-350	W-AA1M-350	3500	70	200	DN500-600

Installation Dimensions

(1)Compare the rated parameters required by the equipment with the rated parameters indicated on the product to ensure that the product meets the necessary requirements;
(2)Installers shall be subject to training and with experience to ensure that the installation is completed successfully;
(3)Thorough inspection shall be carried out at the end of the installation to ensure that the installation has been carried out correctly;
(4)Valve installation direction: the handwheel can be installed horizontally or upwards, instead of downwards;
(5)To ensure that there is no accident in the installation work, the piping system shall be thoroughly cleaned (using chemical reagents if necessary) before the installation of the product so as to make sure that the piping system is clean, free of corrosion and dirt, and all filtering devices shall be removed to make sure that the piping is smooth before flushing;
(6)It is recommended to install temporary pipes at the pipe installation position of the equipment during the initial cleaning of the system, and then install the equipment on the pipe after the flushing work is completed;
(7)it shall be noted that the equipment shall not be used in places where the media contain more grease, mineral oil and others with high viscosity or corrosion;
(8)Flanges and corresponding bolts conforming to standards shall be used for securing;

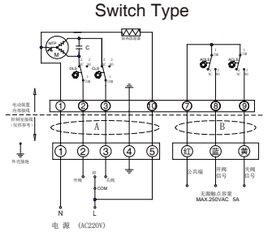
Overall Dimensions Of Electric Device



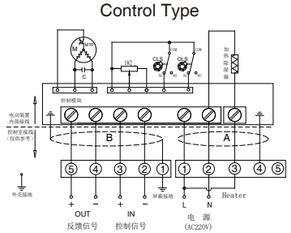
Model		Flange	A	B	C	D	E	H
W-AA1S-5	W-AA1M-5	F03.F05.F07	113	26.5	70.5	178	87	157.5
W-AA1S-10	W-AA1M-10	F05.F07	124.5	26.5	82.5	217	105	175.5
W-AA1S-16	W-AA1M-16	F05.F07	124.5	26.5	82.5	217	105	175.5
W-AA1S-25	W-AA1M-25	F07.F10.F12	166	26.5	104	291	140	194.5
W-AA1S-60	W-AA1M-60	F07.F10.F12	166	26.5	104	291	140	194.5
W-AA1S-100	W-AA1M-100	F12orF10.F14	198	26.5	124	314	145	236.5
W-AA1S-200	W-AA1M-200	F12orF10.F14	198	26.5	124	314	145	236.5
W-AA1S-350	W-AA1M-350	F14orF12.F16	242	26.5	139.5	341	150	267
W-AA1S-400	W-AA1M-400	F16.F25	266	26.5	155	439	189	347

Wiring Diagram

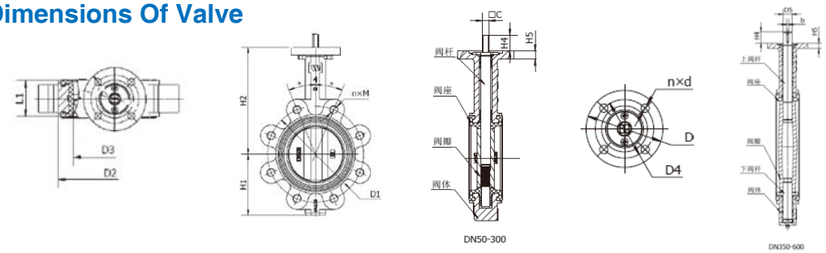
Switch Type



Control Type



Overall Dimensions Of Valve



50	68	142.7	24	12	43	□ 9	/	ϕ 93	ϕ 51.7	ϕ 125	4XM16	45°	ϕ 70	4X ϕ 10	ϕ 92
65	77	155.4	24	13	46	□ 9	/	ϕ 105	ϕ 63.3	ϕ 145	4XM16	45°	ϕ 70	4X ϕ 10	ϕ 92
80	89	161.8	24	14	46	□ 9	/	ϕ 120	ϕ 77.7	ϕ 160	8XM16	22.5°	ϕ 70	4X ϕ 10	ϕ 92
100	103	177	26	14	52	□ 11	/	ϕ 148	ϕ 103.1	ϕ 180	8XM16	22.5°	ϕ 70	4X ϕ 10	ϕ 92
125	119	189.5	26	14	56	□ 14	/	ϕ 170	ϕ 122.2	ϕ 210	8XM16	22.5°	ϕ 70	4X ϕ 10	ϕ 92
150	133	204.2	26	14	56	□ 14	/	ϕ 203	ϕ 154.9	ϕ 240	8XM20	22.5°	ϕ 70	4X ϕ 10	ϕ 92
200	162.5	236	33	14	60	□ 17	/	ϕ 255	ϕ 201.3	ϕ 295	12XM20	15°	ϕ 102	4X ϕ 12	ϕ 125
250	197.5	266.3	26	14	68	□ 22	/	ϕ 309	ϕ 249.4	ϕ 355	12XM24	15°	ϕ 102	4X ϕ 12	ϕ 125
300	231	306.5	26	19	78	□ 22	/	ϕ 359	ϕ 300.1	ϕ 410	12XM24	15°	ϕ 102	4X ϕ 12	ϕ 140
350	288	368	40	20	78	ϕ 31.6	8	ϕ 428	ϕ 331.5	ϕ 470	16XM24	11.25°	ϕ 102	4X ϕ 14	ϕ 140
400	331	400	52	20	102	ϕ 33.15	10	ϕ 480	ϕ 387.5	ϕ 525	16XM27	11.25°	ϕ 140	4X ϕ 18	ϕ 175
450	355	422	52	20	114	ϕ 38	10	ϕ 536	ϕ 438.5	ϕ 585	20XM27	9°	ϕ 140	4× ϕ 18	ϕ 175
500	388	480	64	22	127	ϕ 41.15	10	ϕ 586	ϕ 488.8	ϕ 650	20XM30	9°	ϕ 140	4× ϕ 18	ϕ 175
600	475	562	70	22	154	ϕ 50.65	16	ϕ 693	ϕ 589.9	ϕ 770	20XM33	9°	ϕ 165	4× ϕ 22	ϕ 210

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Series W-W1211-L/G

Flange Butterfly Valve

Size: DN50-DN150(-L)
DN50-DN600(-G)

The Watts Series W1211 butterfly valves are designed and manufactured to meet the stringent requirements of plumbing, HVAC, irrigation, commercial and industrial application.



Features

- Easy and convenient opening and closing
- Low fluid resistance
- Simple structure, small volume and light weight
- Good sealing performance

Pressure-Temperature

- Maximum Working Pressure: PN16
- Working Temperature: -20°C~120°C

Material

Component	Material	Standard
Body	Ductile Iron (Epoxy Coating)	QT450-10
Disc	Ductile Iron (Epoxy Coating) Stainless Steel	QT450-10 CF8
Seat	EPDM	
Stem	Stainless Steel	420

Specification

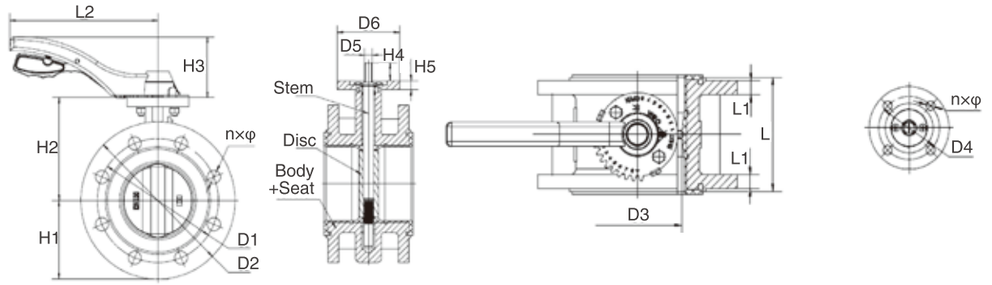
- Design Standard: EN 593
- Connection Standard: EN 1092-2
- Test Standard: EN 12266-1
- Structure-Length Standard: EN 588-1
- Connection Type: Flange
- Working Medium: Water

Operating Principles

The hand wheel controls the rotation of the sealing disc, opening and closing, and flow rate regulation of the valve.

Installation Dimensions

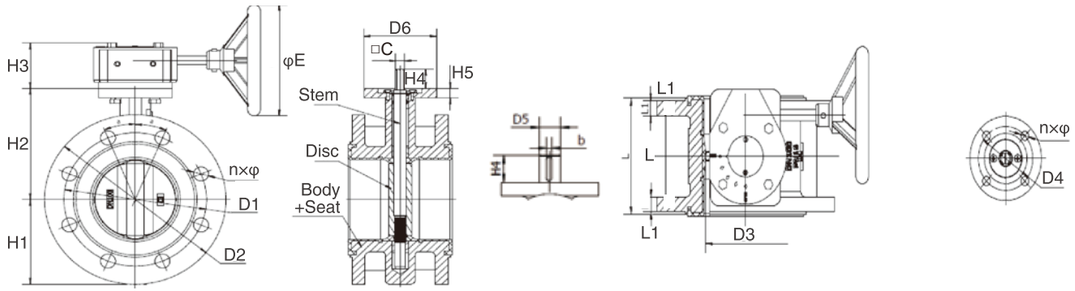
Lever Type



DN	H1	H2	H3	L2	L	L1	D2	D3	D1	n×ϕ	α	D4	n×ϕ d	D5	H4	D6	H5
50	80	110	31	260	108	16	ϕ165	ϕ51	ϕ 125	4×ϕ19	45º	ϕ70	4×ϕ10	9×9	24	ϕ92	13
65	89	134	31	260	112	16	ϕ185	ϕ62.8	ϕ 145	4×ϕ19	45º	ϕ70	4×ϕ10	9×9	24	ϕ92	13
80	100	131	31	260	114	16	ϕ200	ϕ77.3	ϕ 160	8×ϕ19	22.5º	ϕ70	4×ϕ10	9×9	24	ϕ92	13
100	114	150	31	260	127	16	ϕ220	ϕ102.7	ϕ 180	8×ϕ19	22.5º	ϕ70	4×ϕ10	11×11	26	ϕ92	13
125	127	170	31	260	140	16	ϕ254	ϕ121.8	ϕ 210	8×ϕ19	22.5º	ϕ70	4×ϕ10	14×14	26	ϕ92	13
150	142.5	180	31	260	140	16	ϕ285	ϕ154.5	ϕ 240	8×ϕ23	22.5º	ϕ70	4×ϕ10	14×14	26	ϕ92	14

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Worm-Gear Type



DN	H1	H2	H3	ϕE	L	L1	D2	D3	D1	nxϕ	α	D4	n×ϕd	□C	b	H4	D6	H5
50	80	110	61	160	108	16	ϕ165	ϕ51	ϕ125	4xϕ19	45°	ϕ70	4xϕ10	□9	/	24	ϕ92	13
65	89	134	61	160	112	16	ϕ185	ϕ62.8	ϕ145	4xϕ19	45°	ϕ70	4xϕ10	□9	/	24	ϕ92	13
80	100	131	61	160	114	16	ϕ200	ϕ77.3	ϕ160	8xϕ19	22.5°	ϕ70	4xϕ10	□9	/	24	ϕ92	13
100	114	150	69	160	127	16	ϕ220	ϕ102.7	ϕ180	8xϕ19	22.5°	ϕ70	4xϕ10	□11	/	26	ϕ92	13
125	127	170	69	160	140	16	ϕ250	ϕ121.8	ϕ210	8xϕ19	22.5°	ϕ70	4xϕ10	□14	/	26	ϕ92	13
150	142.5	180	69	160	140	16	ϕ285	ϕ154.5	ϕ240	8xϕ23	22.5°	ϕ70	4xϕ10	□14	/	26	ϕ92	14
200	175	210	69	200	152	17	ϕ340	ϕ200.9	ϕ295	12xϕ23	15°	ϕ102	4xϕ12	□17	/	33	ϕ125	14
250	203	245.5	69	200	165	19	ϕ405	ϕ248.9	ϕ355	12xϕ28	15°	ϕ102	4xϕ12	□22	/	26	ϕ125	14
300	242	276	71	280	178	20.5	ϕ460	ϕ299.9	ϕ410	12xϕ28	15°	ϕ125	4xϕ14	□22	/	26	ϕ150	19
350	269	328	71	280	190	26.5	ϕ520	ϕ331.5	ϕ470	16xϕ28	11.25°	ϕ125	4xϕ14	ϕ31.6	8	40	ϕ150	20
400	325	376	95	400	216	28	ϕ580	ϕ387.5	ϕ525	16xϕ31	11.25°	ϕ140	4xϕ18	ϕ33.15	10	52	ϕ175	20
450	355	407	101	400	222	30	ϕ640	ϕ438.5	ϕ585	20xϕ31	9°	ϕ140	4xϕ18	ϕ38	10	52	ϕ175	20
500	378	433	101	400	229	31.5	ϕ715	ϕ488.8	ϕ650	20xϕ34	9°	ϕ140	4xϕ18	ϕ41.15	10	64	ϕ175	22
600	462	508	118	400	267	36	ϕ840	ϕ589.9	ϕ770	20xϕ37	9°	ϕ165	4xϕ23	ϕ50.65	16	70	ϕ210	22

Instruction for Installation

(1) Compare the rated parameters required by the equipment with the rated parameters indicated on the product to ensure that the product meets the necessary requirements;
(2) Installers shall be subject to training and with experience to ensure that the installation is completed successfully;
(3) Thorough inspection shall be carried out at the end of the installation to ensure that the installation has been carried out correctly;
(4) In the direction of valve installation, the handwheel can be installed horizontally or upwards, and the handwheel is not all owed to be installed downward
(5) To ensure that there is no accident in the installation work, the piping system shall be thoroughly cleaned (using chemical reagents if necessary) before the installation of the product so as to make sure that the piping system is clean, free of corrosion and dirt and all filtering devices shall be removed to make sure that the piping is smooth before flushing;
(6) It is recommended to install temporary pipes at the pipe installation position of the equipment during the initial cleaning of the system, and then install the equipment on the pipe after the flushing work is completed;
(7) it shall be noted that the equipment shall not be used in places where the media contain more grease, mineral oil and others with high viscosity or corrosion;
(8) Flanges and corresponding bolts conforming to standards shall be used for securing;

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Series W-W1211-EK

Electric On/Off Flanged Centre-line Butterfly Valve

Series W-W1211-ET

Electric Adjustable Flanged Centre-line Butterfly Valve

Size: DN50-DN600



Product Functions And Applications

Function: To realize piping media on-off and media flow control.
Application area: urban water supply and industrial & agricultural water transmission pipelines, etc.

Features

- Simple structure and easy operation;
- Simple installation and good sealability;
- Long service life and high reliability;
- Good part Interchangeability;
- Pinless and backless structure adopted makes sealing more reliable.

Working Principles

The rotation of the sealing butterfly plate is controlled by the electric head or handle to control the opening and closing of the valve and to regulate the flow rate.

Technical Parameters Of Electric Device

- Power voltage: 220VAC (380VAC, 24V AC/DC please consult)
- Protection class: IP67
- Ambient temperature: -25°C ~+70°C
- Stroke limit: bidirectional adjustable stroke ±4°
- Motor: insulation class F, built-in overheat protection
- Feedback: switch type passive feedback, control type 4-20mA (0-10V, 2-10V, specify before ordering)
- Anti-condensation: heat dehumidifier
- Other: externally led cable, with waterproof press-type quick coupling cable connector; handwheel operation, fault feedback options

Typical Applications

- Water plant and water source works
- Environmental protection
- Municipal facilities
- Power and utilities
- Building industry
- Steel & iron and metallurgy
- Papermaking industry
- Food and beverage

Technical parameters

- Nominal diameter: DN50~DN600
- Maximum working pressure: PN16
- Operating temperature: -15°C~120°C
- Liquid media: water
- Connection type: Double flange
- Connection standard: GB/T 17241.6
- Test standard: GB/T 13927-2008

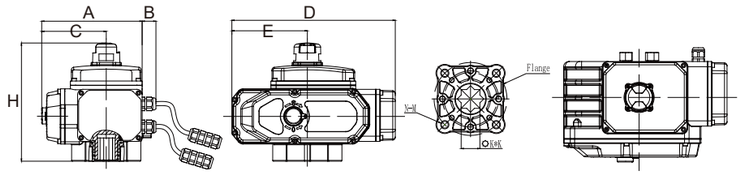
Material

Component	Material
Body	Ductile cast iron QT450-10 surface epoxy spraying
Valve flap	Stainless steel CF8 Ductile cast iron QT450-10 surface epoxy spraying
Seat	Rubber EPDM
Stem	Stainless steel 2Cr13

Model		Torque N.m	Switch Time S	Power W	Corresponding butterfly valve size
Switch type	Control type				
W-AA1S-5	W-AA1M-5	50	30	10	DN50-100
W-AA1S-10	W-AA1M-10	100	20	30	DN125
W-AA1S-16	W-AA1M-16	160	30	30	DN150
W-AA1S-25	W-AA1M-25	250	30	40	DN200
W-AA1S-60	W-AA1M-60	600	30	90	DN250-300
W-AA1S-100	W-AA1M-100	1000	30	150	DN350
W-AA1S-200	W-AA1M-200	2000	60	150	DN400-450
W-AA1S-350	W-AA1M-350	3500	70	200	DN500-600

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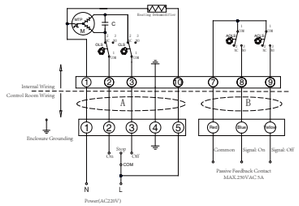
Overall Dimensions Of Electric Device



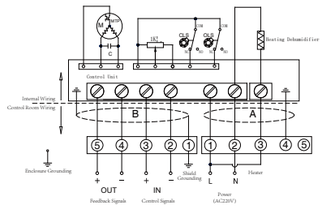
Model		Flange	A	B	C	D	E	H
W-AA1S-5	W-AA1M-5	F03.F05.F07	113	26.5	70.5	178	87	157.5
W-AA1S-10	W-AA1M-10	F05.F07	124.5	26.5	82.5	217	105	175.5
W-AA1S-16	W-AA1M-16	F05.F07	124.5	26.5	82.5	217	105	175.5
W-AA1S-25	W-AA1M-25	F07.F10.F12	166	26.5	104	291	140	194.5
W-AA1S-60	W-AA1M-60	F07.F10.F12	166	26.5	104	291	140	194.5
W-AA1S-100	W-AA1M-100	F12orF10.F14	198	26.5	124	314	145	236.5
W-AA1S-200	W-AA1M-200	F12orF10.F14	198	26.5	124	314	145	236.5
W-AA1S-350	W-AA1M-350	F14orF12.F16	242	26.5	139.5	341	150	267
W-AA1S-400	W-AA1M-400	F16.F25	266	26.5	155	439	189	347

Wiring Diagram

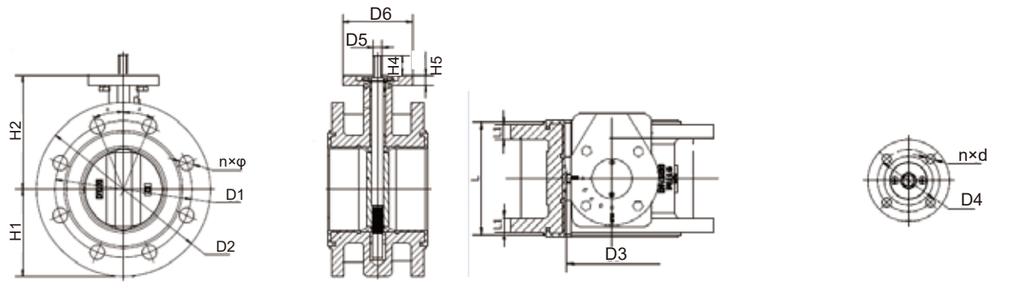
Switch Type



Control Type



Overall Dimensions Of Valve

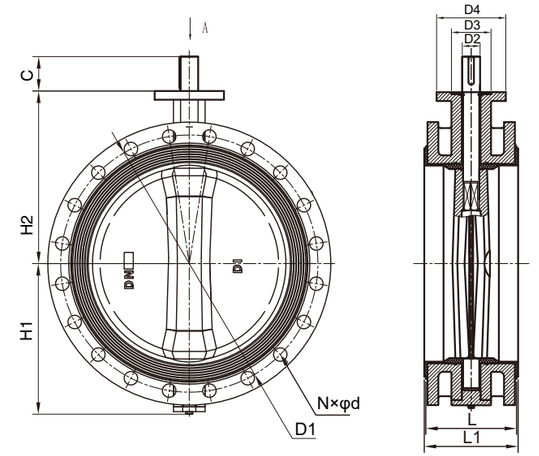


DN	H1	H2	L	L1	D2	D3	D1	n×φ	α	D4	n×φd	D5	H4	D6	H5
50	80	110	108	16	φ165	φ51	φ125	4×φ19	45°	φ70	4×φ10	9x9	24	φ92	13
65	89	134	112	16	φ185	φ62.8	φ145	4×φ19	45°	φ70	4×φ10	9x9	24	φ92	13
80	100	131	114	16	φ200	φ77.3	φ160	8×φ19	22.5°	φ70	4×φ10	9x9	24	φ92	13
100	114	150	127	16	φ220	φ102.7	φ180	8×φ19	22.5°	φ70	4×φ10	11x11	26	φ92	13
125	127	170	140	16	φ250	φ121.8	φ210	8×φ19	22.5°	φ70	4×φ10	14x14	26	φ92	13
150	142.5	180	140	16	φ285	φ154.5	φ240	8×φ23	22.5°	φ70	4×φ10	14x14	26	φ92	14
200	175	210	152	17	φ340	φ200.9	φ295	12×φ23	15°	φ102	4×φ12	17x17	33	φ125	14
250	203	245.5	165	19	φ405	φ248.9	φ355	12×φ28	15°	φ102	4×φ12	22x22	26	φ125	14
300	242	276	178	20.5	φ460	φ299.9	φ410	12×φ28	15°	φ102	4×φ12	22x22	26	φ140	19

Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

W-W1211-EK/ET-EN-202404

4 Butterfly Valve



DN	H2	H1	C	L	L1	D1	D2	D3	D4	D5	N-D	n×φd	Button
350	328	269	40	190	196	470	φ31.6	φ85	φ150	φ125	4-φ12	16-φ28	8
400	376	325	52	216	223	525	φ33.15	φ100	φ175	φ140	4-φ18	16-φ31	10
450	407	355	52	222	229	585	φ38	φ100	φ175	φ140	4-φ18	16-φ31	10
500	433	378	64	229	237	650	φ41.15	φ100	φ175	φ140	4-φ18	16-φ34	10
600	508	462	70	267	275	770	φ50.65	φ130	φ210	φ165	4-φ22	16-φ37	16

Installation Dimensions

(1)Compare the rated parameters required by the equipment with the rated parameters indicated on the product to ensure that the product meets the necessary requirements;
(2)Installers shall be subject to training and with experience to ensure that the installation is completed successfully;
(3)Thorough inspection shall be carried out at the end of the installation to ensure that the installation has been carried out correctly;
(4)Valve installation direction: the handwheel can be installed horizontally or upwards, instead of downwards;
(5)To ensure that there is no accident in the installation work, the piping system shall be thoroughly cleaned (using chemical reagents if necessary) before the installation of the product so as to make sure that the piping system is clean, free of corrosion and dirt, and all filtering devices shall be removed to make sure that the piping is smooth before flushing;
(6)It is recommended to install temporary pipes at the pipe installation position of the equipment during the initial cleaning of the system, and then install the equipment on the pipe after the flushing work is completed;
(7)it shall be noted that the equipment shall not be used in places where the media contain more grease, mineral oil and others with high viscosity or corrosion;
(8)Flanges and corresponding bolts conforming to standards shall be used for securing;

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Series W-W1224-L/G

Flange Butterfly Valve

Size: DN50-DN150(-L)
DN50-DN300(-G)

The Watts Series W-W1224 butterfly valves are designed and manufactured to meet the stringent requirements of plumbing, HVAC, irrigation, commercial and industrial application.



Features

- Simple structure, easy to operate
- Simple installation, good sealing performance
- Long life, high reliability
- Good compatibility
- Good sealing effect, with no pin and no backrest

Specification

- Design Standard: EN 593
- Connection Standard: EN 1092-2
- Test Standard: EN 12266-1
- Structure-Length Standard: EN 588-1
- Connection Type: Flange
- Working Medium: Water

Pressure-Temperature

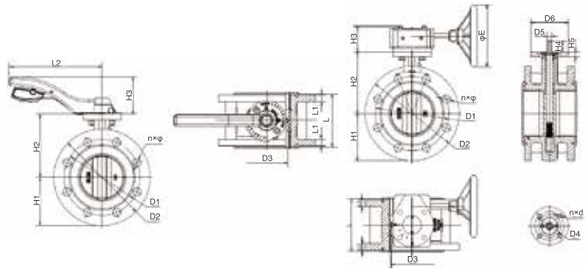
- Nominal Pressure: PN25
- Temperature Range: -20°C~120°C

Operating Principles

- Round disc is used as mechanism for opening and closing, and it rotates together with the stem to open, close and adjust fluid
- Round disc rotates 0°~90° around the axial line

Material

Component	Material	Standard
Body	Ductile Iron	QT450-10
Disc	Ductile Iron(Epoxy-coated) Stainless Steel	QT450-10 CF8
Seat	EPDM	
Stem	Stainless Steel	431



Installation Dimensions

DN	H1	H2	L	D2	D3	D1	n×Ø	α	H5	D5	H4	D4	n×Ød	D6	Gear		Lever	
															H3	ØE	H3	L2
50	83	120	150	Ø165	Ø51	Ø125	4×Ø19	45°	12	Ø9	24	Ø70	4×Ø10	Ø92	66	150	95	215
65	93	130	170	Ø185	Ø62.8	Ø145	8×Ø19	22.5°	13	Ø9	24	Ø70	4×Ø10	Ø92	66	150	95	215
80	100	145	180	Ø200	Ø77.3	Ø160	8×Ø19	22.5°	14	Ø9	24	Ø70	4×Ø10	Ø92	66	150	95	215
100	114	155	190	Ø235	Ø102.7	Ø190	8×Ø23	22.5°	13	Ø11	26	Ø70	4×Ø10	Ø92	66	150	95	215
125	125	170	200	Ø270	Ø121.8	Ø220	8×Ø28	22.5°	14	Ø14	26	Ø70	4×Ø10	Ø92	66	150	30	300
150	143	190	210	Ø300	Ø154.5	Ø250	8×Ø28	22.5°	14	Ø14	26	Ø70	4×Ø10	Ø92	66	150	30	300
200	170	205	230	Ø360	Ø200.9	Ø310	12×Ø28	15°	14	Ø22	33	Ø102	4×Ø12	Ø125	82	298	/	/
250	198	235	250	Ø425	Ø248.9	Ø370	12×Ø31	15°	14	Ø22	26	Ø102	4×Ø12	Ø125	82	298	/	/
300	222.5	280	270	Ø485	Ø299.9	Ø430	16×Ø31	11.25°	20	Ø27	45	Ø125	4×Ø14	Ø150	84	298	/	/

Instruction for Installation

(1) Compare the rated parameters required by the equipment with the rated parameters indicated on the product to ensure that the product meets the necessary requirements;
(2) Installers shall be subject to training and with experience to ensure that the installation is completed successfully;
(3) Thorough inspection shall be carried out at the end of the installation to ensure that the installation has been carried out correctly;
(4) In the direction of valve installation, the handwheel can be installed horizontally or upwards, and the handwheel is not all owed to be installed downward
(5) To ensure that there is no accident in the installation work, the piping system shall be thoroughly cleaned (using chemical reagents if necessary) before the installation of the product so as to make sure that the piping system is clean, free of corrosion and dirt and all filtering devices shall be removed to make sure that the piping is smooth before flushing;
(6) It is recommended to install temporary pipes at the pipe installation position of the equipment during the initial cleaning of the system, and then install the equipment on the pipe after the flushing work is completed;
(7) it shall be noted that the equipment shall not be used in places where the media contain more grease, mineral oil and others with high viscosity or corrosion;
(8) Flanges and corresponding bolts conforming to standards shall be used for securing;

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Series ZSDF7-Q-XXX-16

Lever&Wafer Type Midline Butterfly Valve

Size: DN50-DN150

Watts ZSDF7-Q-XXX-16 can realize the cut-off, connection and flow control of the pipeline system And it can be applied in water supply and drainage, building fire protection systems, etc.



Features

- Compact structure, easy to operate
- Easy installation, excellent sealing performance
- Long service life, high reliability
- Good part interchangeability
- A structure with no pin and no backrest ensures more reliable sealing effect

Specification

- Test Standard: GB/T 5135.6-2018
- Flange Standard: GB/T 17241.6-2008
  ISO5211:2001
- Structure-Lenght Standard: GB/T 12221-2005

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -20°C~120°C

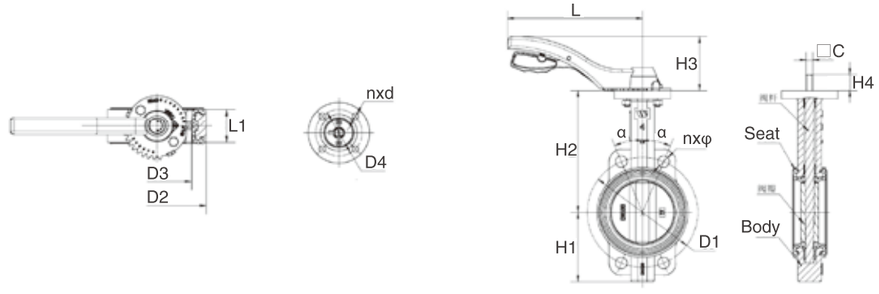
Operating Principles

The rotation of the sealing tapped plate, opening and closing, and flow rate regulation of the valve are all controlled by rotating the handle.

Material

Component	Material	Standard
Body	Ductile Iron+Epoxy Coated	QT450-10
Disc	Ductile Iron+Epoxy Coated	QT450-10
Seat	EPDM	
Stem	Stainless Steel	431

Installation Dimensions



Size	H1	H2	H3	H4	L	L1	ØC	D1	n×Ø	α	D2	D3	D4	n×Ød
50	80	161	95	24	215	43	Ø9	Ø125	4×Ø19	45°	Ø89	Ø51.7	Ø70	4×Ø10
65	89	175	95	24	215	46	Ø9	Ø145	4×Ø19	45°	Ø105	Ø63.3	Ø70	4×Ø10
80	95	181	95	24	215	46	Ø9	Ø160	4×Ø19	22.5°	Ø120	Ø77.7	Ø70	4×Ø10
100	114	200	95	26	215	52	Ø11	Ø180	4×Ø19	22.5°	Ø148	Ø103.1	Ø70	4×Ø10
125	127	213	30	26	300	56	Ø11	Ø210	4×Ø19	22.5°	Ø170	Ø122.2	Ø70	4×Ø10
150	139	226	30	26	300	56	Ø14	Ø240	4×Ø23	22.5°	Ø203	Ø154.9	Ø70	4×Ø10

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Series ZSXDF7-Q-XXX-16

Wafer-Type Signal Butterfly Valve

Size: DN50-DN250

Watts ZSXDF7-Q-XXX-16 can realize the cut-off, connection and flow control of the pipeline system. It can be applied in water supply and drainage, building fire protection systems, etc.



Features

- Compact structure, easy to operate
- Easy installation, excellent sealing performance
- Long service life, high reliability
- Good part interchangeability
- A structure with no pin and no backrest ensures more reliable sealing effect

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -20°C~120°C

Material

Component	Material	Standard
Body	Ductile Iron+Epoxy Coated	QT450-10
Disc	Ductile Iron+Epoxy Coated	QT450-10
Seat	EPDM	
Stem	Stainless Steel	431

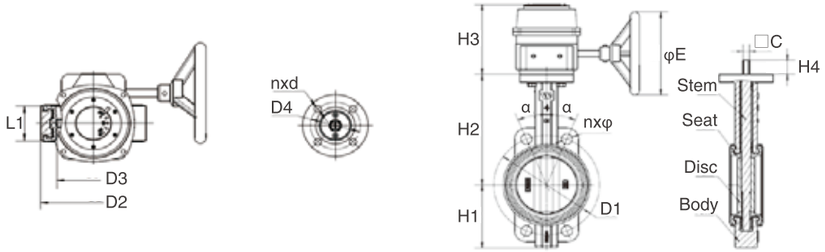
Specification

- Test Standard: GB/T 5135.6-2018
- Flange Standard: GB/T 17241.6-2008
  ISO5211:2001
- Structure-Lenght Standard: GB/T 12221-2005
- Working Medium: Water

Operating Principles

The rotation of the sealing tapped plate, opening and closing, and flow rate regulation of the valve are all controlled by rotating the handle.

Installation Dimensions



Size	H1	H2	H3	H4	ØE	L	ØC	D1	n×Ø	α	D2	D3	D4	n×Ød
50	80	161	135	24	150	43	Ø9	Ø125	4×Ø19	45°	Ø89	Ø51.7	Ø70	4×Ø10
65	89	175	135	24	150	46	Ø9	Ø145	4×Ø19	45°	Ø105	Ø63.3	Ø70	4×Ø10
80	95	181	135	24	150	46	Ø9	Ø160	4×Ø19	22.5°	Ø120	Ø77.7	Ø70	4×Ø10
100	114	200	135	26	150	52	Ø11	Ø180	4×Ø19	22.5°	Ø148	Ø103.1	Ø70	4×Ø10
125	127	213	135	26	150	56	Ø11	Ø210	4×Ø19	22.5°	Ø170	Ø122.2	Ø70	4×Ø10
150	139	226	135	26	150	56	Ø14	Ø240	4×Ø23	22.5°	Ø203	Ø154.9	Ø70	4×Ø10
200	175	260	144	33	298	60	Ø17	Ø295	4×Ø23	15°	Ø255	Ø201.3	Ø102	4×Ø12
250	203	292	144	26	298	68	Ø22	Ø355	4×Ø28	15°	Ø303	Ø249.4	Ø102	4×Ø12

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Series W-WGR11-L

PN16 Grooved Type Buttefly Valve with Lever Handle

Series W-WGR11-G

PN16 Grooved Type Buttefly Valve with Gearbox

Size: DN80-DN150(-L)
DN80-DN200(-G)



Potable water service Butterfly Valves with Watermark certification, for on and off flow control service. Suitable applications would include building services, water and wastewater, general industry, and irrigation water supply.

Features

- Quality robust construction
- Excellent sealing due to unique disk and seat contour
- Single piece 316SS shaft eliminating potential pin and bolt leakages
- Position indicators

Pressure-Temperature

- Nominal Pressure: PN16
- Working Temperature: -20°C~120°C

Material

Component	Material
Body	Ductile Iron
Disc	Ductile Iron+EPDM
Stem	Stainless Steel
Seat	EPDM

Specification

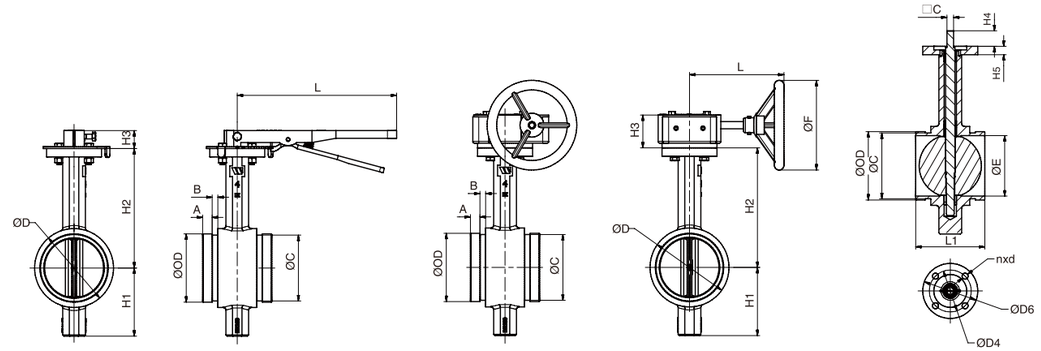
- Design Standard: ATS 5200.012-2005
- Test Standard: ISO 5208-2008
- Connection Type: Groove End
- Connection Standard: ANSI/AWWA C606-06
- Working Medium: Non corrosive liquids
  Maximum 30% glycol/water mix

Approvals

- Water Mark License No.: WMK26060

WaterMark

Installation Dimensions



A	Contour Dimension(mm)				End Connection Dimension(mm)					End Connection Dimension(mm)						
										H4	H5	□ C	ØE			
	H1	H2	ØD	L1	ØOD	ØC	A	B	ØE				Type	ØD6	ØD4	nxd
80	95	181	105	97	88.9	84.9	15.9	7.9	77.7	24	14	□ 9	F07	92	70	4-Ø10
100	114	200	132	116	114.3	110	15.9	9.5	101.2	26	14	□ 11	F07	92	70	4-Ø10
150	139	226	185	148	165.1	160.8	15.9	9.5	150.5	26	14	□ 14	F07	92	70	4-Ø10
200	175	260	239	134	219.1	214.4	19.1	11.1	203.2	33	14	□ 17	F10	125	102	4-Ø12

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DN	Lever Operated Blue		Gear Operated Blue		
	H3	L	H3	ØF	L
80	32	267	66	150	160
100	32	267	66	150	160
150	32	267	66	150	160
200	/	/	82	298	240

Installation Instructions

1. Compare the rated parameters of the equipment with the rated parameters marked on product, ensure that products meet the requirements of the application.
2. Installation personnel should be trained and experienced, to ensure that the installation is completed correctly.
3. At the end of the installation, check thoroughly to make sure it is installed correctly.
4. In order to ensure the installation work does not cause an accident or operation issue, thoroughly clean the pipe system before the product installation (using chemical reagent if it is necessary). To ensure that the pipeline system is clean of, no corrosion and no dirt, additionally remove all the filters before washing to ensure that the pipeline is unblocked and clean. Advice is to install temporary pipeline in place of device within the installation, then install the equipment into the pipeline after finishing the cleaning work.
5. Notice that the devices must not be used in the applications where the medium is containing a higher viscosity such as oil, mineral oil or is a corrosive medium.
6. If testing the device use the standard nominal connections.

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Series W7000

Stainless Steel Butterfly Valve

Size: DN15-DN200

W7000 series stainless steel butterfly valve is designed for isolation service in the pipeline. With welding and clamp connection types available for selection, the product is suitable for use in the fields of liquid cooling and industrial application.



Welding Clamp

Features

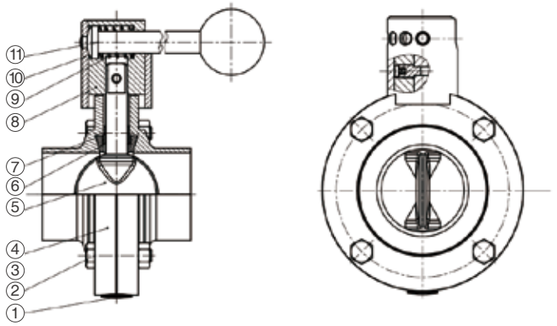
- Low resistance
- Convenient maintenance
- Low operation torque
- De-oiling and de-greasing

Pressure-Temperature

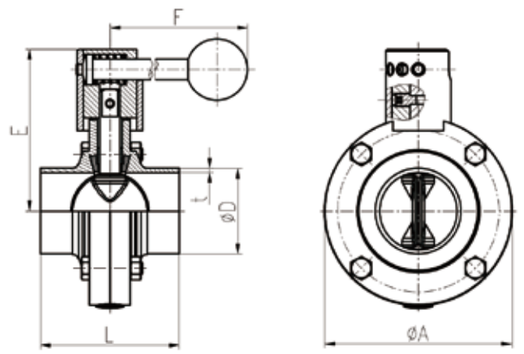
- Nominal pressure: PN10
- Temperature range: -10°C~100°C
- Connection standard: Welding: DIN 11850 / ISO 2037
  Clamp: DIN 32676 / ISO 2852
- Test standard: GB/T 13927
- Suitable media: Water, ≤50% ethylene glycol

Materials

No.	Part	Material
1	Dust cover	PP
2	Bolt	Stainless steel
3	Nut	Stainless steel
4	Body	Stainless steel
5	Disc	Stainless steel
6	Seat	EPDM
7	Bushing	PVDF
8	Rotator	Stainless steel
9	Spring	Stainless steel
10	Sleeve	Stainless steel
11	Handle	Stainless steel



Installation Dimensions



DIN welding

Type	DN	ØD	t	E	F	L	ØA	H
W7600	DN15	19	1.5	67	125	44	79	69
	DN20	23	1.5	67	125	44	79	69
	DN25	29	1.5	67	125	44	79	69
	DN32	35	1.5	70	125	44	79	76
	DN40	41	1.5	73	125	48	88	82
	DN50	53	1.5	83	125	48	100	98
	DN65	70	2	91	125	50	121	118
	DN80	85	2	102	160	56	140	134
	DN100	104	2	115	160	60	162	155
	DN125	129	2	126	180	70	193	185
	DN150	154	2	146	190	80	218	217
	DN200	204	2	186	190	80	300	284

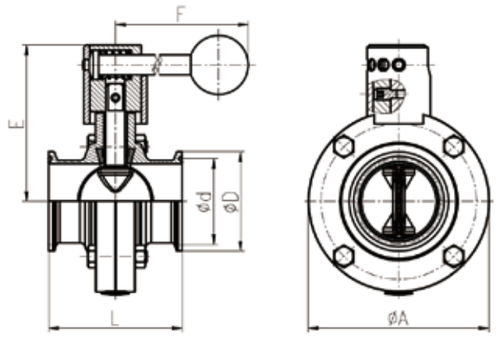
ISO welding

Type	Size	ØD	t	E	F	L	ØA
W7600	3/4	19.05	1.5	67	125	44	69
	1	25.4	1.5	67	125	44	69
	11/4	31.8	1.5	70	125	44	76
	11/2	38.1	1.5	73	125	44	82
	2	50.8	1.5	83	125	50	98
	21/2	63.5	2	91	125	50	118
	3	76.2	2	95	160	56	125
	31/2	88.9	2	102	160	56	134
	4	101.6	2	115	160	60	155
	41/4	108	2	115	160	60	155
	41/2	114.3	2	115	160	60	155
	5	127	2	126	180	70	185

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DIN clamp

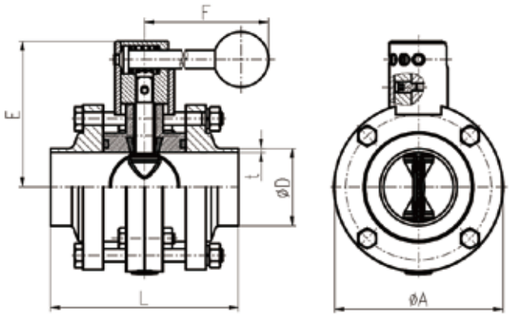
Type	DN	ØD	Ød	E	F	L	ØA
W7800	DN15	34	27.5	67	125	66	69
	DN20	34	27.5	67	125	66	69
	DN25	50.5	43.5	67	125	66	69
	DN32	50.5	43.5	70	125	66	76
	DN40	50.5	43.5	73	125	68	82
	DN50	64	56.5	83	125	70	98
	DN65	91	83.5	91	125	70	118
	DN80	106	97	102	160	90	134
	DN100	119	110	115	160	94	155
	DN125	145*	134.5	126	180	100	185
	DN150	166.8*	156.4	146	190	100	217
	DN200	217.7*	207.2	186	190	100	284



Note: *The dimension conforms to the common used standard in China. Confirm whether or not the dimensions of the provided clamp ring is consistent with this.

DIN welding - 3 piece

Type	DN	ØD	Ød	E	F	L	ØA
W7300	DN15	19	1.5	67	125	88	69
	DN20	23	1.5	67	125	88	69
	DN25	29	1.5	67	125	88	69
	DN32	35	1.5	70	125	88	76
	DN40	41	1.5	73	125	92	82
	DN50	53	1.5	83	125	92	98
	DN65	70	2	91	125	94	118
	DN80	85	2	102	160	104	134
	DN100	104	2	115	160	104	155
	DN125	129	2	126	180	120	185
	DN150	154	2	146	190	120	217
	DN200	204	2	186	190	120	284



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Series W-WB131

Bronze Gate Valve

Size: DN15-DN50

The Watts W-WB131 Full-flow Bronze Gate Valve is designed for the isolation of clean water and other non-corrosive fluids that are compatible with the materials of construction. It's generally used in building services, water treatment, etc.



Features

- Compact structure, reliable sealing
- Threaded bonnet
- Solid wedge disc
- Low-pressure drop
- Unrestricted flow direction
- Easy maintenance

Specification

- Connection Standard: NPT to ASMEB1.20.1
  BSPT to BS21
  G to GB/T 7306.2
- Medium: water, noncorrosive liquid

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: -20°C~120°C

Approval

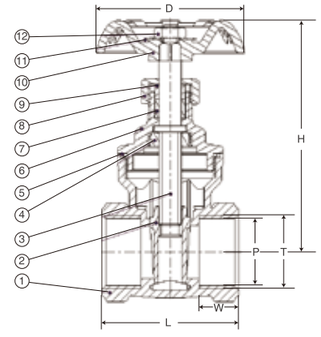
WRAS APPROVED PRODUCT

Test Pressures

Pneumatic	Hydraulic
Shell: 6 bar	Shell: 37.5 bar
Seat: 6 bar	Seat: 27.5 bar

Material

No.	Component	Material	Standard
1	Valve Body	Bronze	C84400
2	Valve Disc	Brass	CW602N
3	Stem	Brass	HPb59-1
4	Nut	Brass	HPb58-3
5	Sealing Washer	PTFE	
6	Cover	Bronze	C84400
7	Packing	PTFE	
8	Nut	Brass	HPb58-3
9	Gasket	Brass	HPb58-3
10	Handwheel	Cast iron with spray paint(Red)	
11	Name Plate	AL	
12	Nut	Steel(Galvanized)	



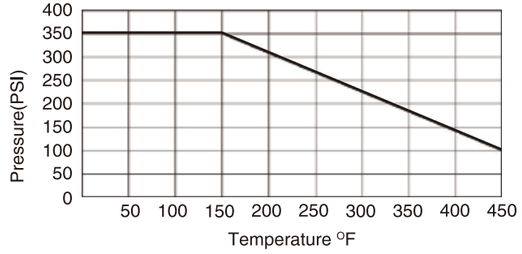
Installation Dimensions

Connection Dimensions: ASME B1.20.1

Size DN(mm)	Dimensions(mm)				
	L	H	P	D	W
15	45	71.3	Ø12.7	Ø54	12.5
20	50	83.7	Ø19.2	Ø56	14.5
25	57	96.6	Ø25	Ø62	16
32	64	116.6	Ø32	Ø67	16.5
40	66	136.2	Ø38.1	Ø75	16.5
50	73	157.5	Ø50	Ø82	19.5

It is available in both connection standard ASME and BS EN.

Characteristic Curve



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Series E3243

NRS Gate Valve, Resilient Seated

Size: DN50-DN600

The main function of Series E3243 is to realize the on-off function of pipeline system. It can be used in plumbing, HVAC, irrigation, commercial and industrial application.

Features

- Resilient seating
- Inside screw
- Superior stem packing with three O ring, one primary O ring seal and dust seal
- High strength thrust collar
- Epoxy Coating

Typical Application

- Water Works
- Environmental Protection
- Public Facilities
- Electricity and Utilities
- Building
- Paper industry

Material

NO.	Compontent	Material
1	Body	Ductile Iron GGG50
2	Disc	Ductile Iron + EPDM
3	Stem Nut	Brass Hpb59-1
4	Bonnet Gasket	EPDM
5	Stem	SS420
6	Bonnet	Ductile Iron GGG50
7	O ring	EPDM
8	Gland	Ductile Iron GGG50
9	Handwheel	Ductile Iron GGG50
10	Bolts	C45E/1045
11	Washers	C45E/1045
12	Dust Ring	EPDM
13	O Ring	EPDM
14	Axle Sleeve	Nylon 66
15	O Ring	EPDM
16	Screw	C45E/1045

Installation Dimensions

DN	L	H	D	K	n-Φd
50	178	270	165	125	4-Φ19
65	190	310	185	145	4-Φ19
80	203	325	200	160	8-Φ19
100	229	365	220	180	8-Φ19
125	254	400	250	210	8-Φ19
150	267	460	285	240	8-Φ23
200	292	560	340	295	12-Φ23
250	330	650	405	355	12-Φ28
300	356	740	460	410	12-Φ28
350	381	820	520	470	16-Φ28
400	406	900	580	525	16-Φ31
450	432	990	640	585	20-Φ31
500	457	1070	715	650	20-Φ34
600	508	1270	840	770	20-Φ37



Specifications

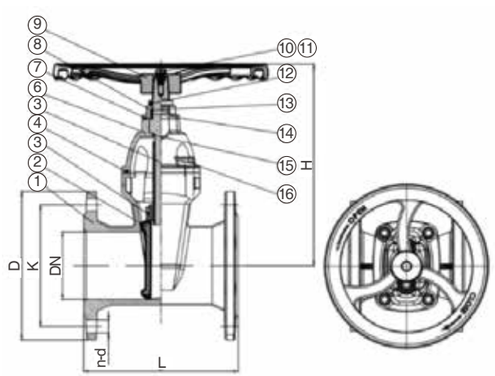
- Nominal Pressure: PN16
- Temperature Range: 0°C~80°C
- Design Standard: BS5163, EN1171, EN1074-2
- Connection Standard: EN1092-2
- Test Standard: EN12266-1
- Working Medium: Water

Test Pressure

Hydraulic
Shell: 24 bar
Seat: 17.6 bar

Approval

WRAS APPROVED PRODUCT



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Series 405-NRS-RW

Non-Rising Stem, Resilient Wedge, Flanged Gate Valves

Size: DN50-DN300

Series 405-NRS-RW Non-Rising Stem Resilient Wedge Gate Valves are available in sizes 2"-12" (50-300mm) flanged by flanged and 2½"-10" (65-250mm) flanged by grooved configurations. The valve body is epoxy coated internally and externally. The valve is operated by a Handwheel or an operating nut and valve key. The resilient wedge disc design offers both positive seating and resistance against high differential pressure. The Series 405-NRS-RW is best suited for service in either the fully open or closed position but is suitable for use as a throttling valve. This series is recommended for irrigation, potable water, water distribution service, feed lines and sewage disposal facilities.



Features

- Full port flow, low head loss
- Epoxy coated, internal and external
- Vulcanized encapsulated resilient wedge
- In-line serviceable
- Boss-tapped and plugged
- MSS-SP-70 conformance

Material

No.	Component	Material	Standard
1	*Body (FxF) *Body (FxG)	Cast Iron Ductile Iron	A126 Class B A536 65-45-12
2	Bonnet	Cast Iron	A126 Class B
3	Wedge	Cast Iron & Rubber (EDPM)	A126 Class B
4	Hand Wheel	Cast Iron	A126 Class B
5	Stem	Stainless Steel	A276 Type 304
6	Stuffing Bo	Cast Iron	A126 Class B
7	O-ring A	Rubber	D2000AA6014
8	O-ring B	Rubber	D2000AA6014
9	Bonnet Gasket	Rubber	D2000AA6014
10	Stem Nut	Bronze	B62
11	Wiper Ring	Rubber	D2000AA6014
12	Bonnet Bolt & Nut	Steel	A307 Grade B
13	Stud & Nut	Steel	A307 Grade B
14	Hand Wheel Washer	Steel	A307 Grade B
15	Top Nu	Steel	A307 Grade B
16	Operating Nut	Cast Iron	A126 Class B
17	TAP Plug	Bronze	B62

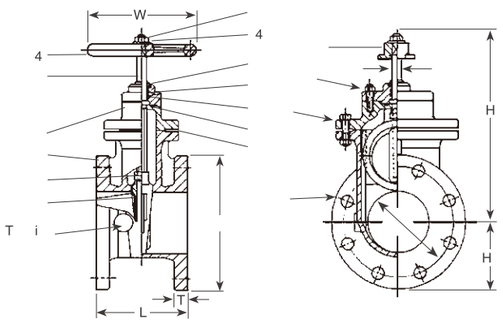
*Body Configuration: FxF-Flanged by Flanged, FxG-Flanged by Grooved

Specification

- Connection Standard: ASME B16.1 Class 125 & AWWA Class D -Flange end connection
  AWWA C515 & C606-Grooved end connection
- Flanged by flanged valve bodies shall comply with ASTM A126
- Flanged by grooved valve bodies shall comply with ASTM A536

Pressure-Temperature

- Nominal Pressure: 200psi (14 bar) CWP
- Maximum Temperature: 140°F (60°C)



Installation Dimensions

Size (DN)				Flange Dimensions																405 (Fxf) Weight		405 (Fxg) Weight	
		L		D		C		Bolt Holes h		n	T		W		H (NRS)		H1		S				
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	# of Holes	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.	lbs.	kgs.
2	50	7	178	6	152	4¾	121	¾	19	4	⅝	16	7 1/16	179	7 15/16	230	3	76	⅝	16	22	10	-	-
2½	65	7½	191	7	178	5½	140	¾	19	4	11/16	18	7 1/16	179	9 1/16	259	3½	89	⅝	16	29	13	26	12
3	80	8	200	7½	191	6	152	¾	19	4	¾	19	7⅞	200	10¼	289	3¾	95	11/16	18	40	18	37	17
4	100	9	229	9	229	7½	191	¾	19	8	15/16	24	8 13/16	224	12½	352	4½	114	13/16	21	62	28	57	26
6	150	10½	267	11	279	9½	241	⅞	22	8	1	25	11	279	16 13/16	470	5½	140	15/16	24	111	50	106	48
8	200	11½	292	13½	343	11¾	298	⅞	22	8	1⅛	29	11	279	20⅞	575	6¾	171	1	25	194	88	189	86
10	250	13	330	16	406	14¼	362	1	25	12	1 3/16	30	12 7/16	316	23⅞	657	8	203	1¼	32	272	123	267	121
12	300	14	356	19	483	17	432	1	25	12	1¼	32	14	356	28 3/16	773	9½	241	1¼	32	383	274	-	-

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Series W-Z41X-16Q

Rising Stem Resilient Wedge Gate Valve

Size: DN50-DN400

The Watts W-Z41X Rising Stem Resilient Wedge Gate Valve is designed to realize on-off of piping system. It's generally used in petroleum, chemical industry, metallurgy, water treatment, etc.

Features

- Small fluid resistance
- Unrestricted medium flow direction
- Good sealing performance
- Interpretable opening degree

Pressure-Temperature

- Nominal Pressure: PN16/CL150
- Temperature Range: 0°C~80°C

Material

Component	Material
Body	Ductile Iron Coated with Epoxy
Bonnet	Ductile Iron Coated with Epoxy
Stem	Stainless Steel 20Cr13
Disc	Ductile Iron Coated with EPDM



Specification

- Test Standard: GB/T 13927-2008
- Design Standard: GB/T12221-2005
- Working Medium: Water

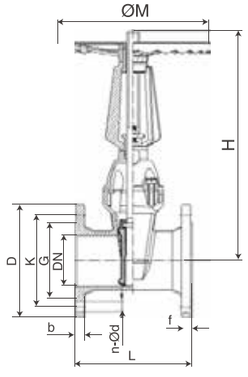
Typical Application

- Water plant and water source project
- Environmental protection
- Municipal facilities
- Construction industry

Installation Dimensions

Connection Dimension: GB/T 17241.6

Size DN	L	H	ØM	D	K	G	b	f	n-d
50	178	280	200	165	125	99	19	3	4-Ø19
65	190	340	200	185	145	118	19	3	4-Ø19
80	203	370	240	200	160	132	19	3	8-Ø19
100	229	405	240	220	180	156	19	3	8-Ø19
125	254	535	280	250	210	184	19	3	8-Ø19
150	267	565	280	285	240	211	19	3	8-Ø23
200	292	700	350	340	295	266	20	3	12-Ø23
250	330	885	450	405	355	319	22	3	12-Ø28
300	356	1071	456	460	410	370	26	4	12-Ø28
350	381	1260	456	520	470	429	26.5	4	16-Ø28
400	406	1420	667	580	525	480	28	4	16-Ø31



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Series R3001/R3001N

Brass Non-Rising Gate Valve

Size: DN15-DN50

The Watts R3001/R3001N Brass Gate Valve is designed for the isolation of clean water and other non-corrosive fluids that are compatible with the material of construction. It's generally used in building services, residential, etc.,

Features

- Compact structure, reliable sealing
- Threaded bonnet
- Non-rising stem to minimize installation height
- Low pressure drop

Pressure - Temperature

- Nominal Pressure: PN16
- Temperature Range: -20°C~110°C

Test Pressures

Pneumatic	Hydraulic
Shell: 6 bar	Shell: 24bar
Seat: 6 bar	Seat: 17.6 bar



Specification

- Connection Standard: BSPT to ISO 7-1, NPT to ASME B1.20.1
- Medium: water
- Design Standard: BS EN 12288/ MSS SP-80

Material

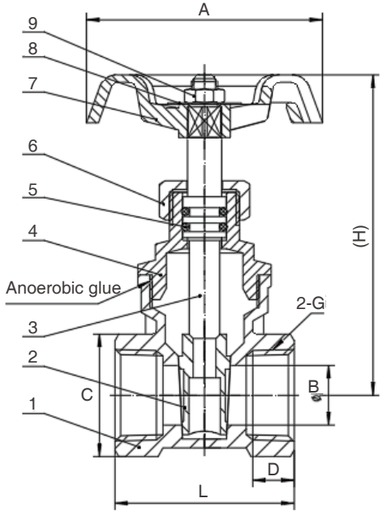
NO.	Component	Material
1	Body	Brass
2	Disc	Brass
3	Spindle	Brass
4	Bonnet	Brass
5	O-Ring	EPDM
6	Compression nut	Brass
7	Hand Wheel	Cast Iron
8	Nameplate	Aluminum
9	Nut	Steel

Approval

Installation Dimensions

Size DN(mm)	Dimensions(mm)						Wt.(kg)
	A	B	D	(H)	L	G*	
15	53	13	11	66	39	1/2”	0.21
20	53	15	11.5	68	44	3/4”	0.26
25	59	19.5	12	76	45.5	1”	0.35
32	72	26	13	90	49	1-1/4”	0.51
40	72	32	13.5	103.5	52.5	1-1/2”	0.64
50	78	38	16	115	58	2”	0.98

*Available in both connections standard BSPT & NPT



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Series ZSZF4-Q-XXX-16

Non-Rising Stem Type Resilient-Seated Gate Valve

Size: DN50-DN250

Watts ZSZF4-Q-XXX-16 can realize on-off of pipeline system. It is applied in fire-fighting pipeline system.



Features

- Low fluid resistance
- Unrestricted medium flow direction
- Good sealing performance
- Saving installation space
- Stainless steel stem
- Very low torque
- Stainless steel bolt, good resistance to corrosion
- Electrostatic powder coating

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: 0°C~80°C

Material

Component	Material	Standard
Body	Ductile Iron+Epoxy Coated	QT450-10
Cover	Ductile Iron+Epoxy Coated	QT450-10
Disc	EPDM	
Stem	Stainless Steel	2Cr13

Specification

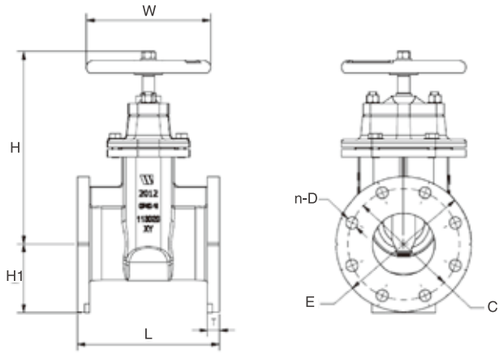
- Design Standard: GB/T 12232-2005
- Test Standard: GB/T 5135.6-2018
- Connection Standard: GB/T 17241.6
- Working Medium: Water

Operating Principles

The stem nut which installed on the gate plate drives the plate to rise and fall through the stem rotation. The stem does not have any lifting movement.

Installation Dimensions

Size DN	L	H	H1	W	C	n-D	E	T
50	178	228	83	160	125	4-Ø19	165	19
65	190	250	95	160	145	4-Ø19	185	19
80	203	273	100	180	160	8-Ø19	200	19
100	229	311	110	220	180	8-Ø19	220	19
125	254	362	126	280	210	8-Ø19	250	19
150	267	406	143	280	240	8-Ø23	285	19
200	292	508	172	340	295	12-Ø23	340	20
250	330	607	203	385	355	12-Ø28	405	22



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Series ZSZF4-Q-XXX-16-M

Rising Gate Valve for Fire-Protection Service

Size: DN50-DN250

Watts ZSZF4-Q-XXX-16-M can realize the connection and disconnection of the pipeline system. It can be applied in firefighting system.



Features

- Low fluid resistance
- Unrestricted medium flow direction
- Good sealing performance
- Identifiable disc lifting height
- Red surface epoxy coating

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: 0°C~80°C

Material

Component	Material	Standard
Body	Ductile Iron+Epoxy Coated	QT450-10
Cover	Ductile Iron+Epoxy Coated	QT450-10
Disc	EPDM	
Stem	Stainless Steel	20Cr13

Specification

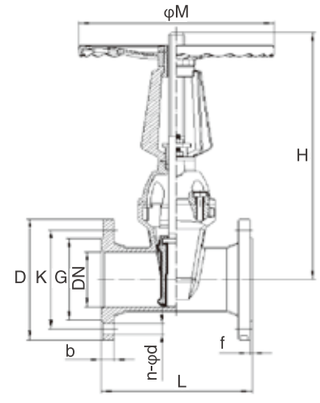
- Design Standard: GB/T 12221-2005
- Test Standard: GB/T 5135.6-2018
- Connection Standard: GB/T 17241.6-2008
- Working Medium: Water

Operating Principles

The stem has lifting and lowering movement through the rotation of the hand wheel which can control the lifting and lowering of the disc.

Installation Dimensions

Size DN	L	H	ØM	D	K	G	b	D1	n-D
50	190	320	200	165	125	99	19	3	4-Ø19
65	190	320	203	185	145	118	19	3	4-Ø19
80	203	380	203	200	160	132	19	3	8-Ø19
100	229	454	203	220	180	156	19.5	3	8-Ø19
125	254	492	280	250	210	184	19.5	3	8-Ø19
150	267	592	280	285	240	211	19.5	3	8-Ø23
200	292	730	365	340	295	266	21	3	12-Ø23
250	330	914	401	406	355	319	24	3	12-Ø28



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Series ZSXZF4-Q-XXX-16

Signal Gate Valve for Fire-Protection Service

Size: DN50-DN250

Watts ZSXZF4-Q-XXX-16 can realize the connection and disconnection of the pipeline system. It can be applied in applied in firefighting systems.

Features

- Low fluid resistance
- Unrestricted medium flow direction
- Good sealing performance
- Saving installation space
- Red surface epoxy coating
- It can transmit electric signals for real-time monitoring of the water supply pipeline

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: 0°C~80°C

Material

Component	Material	Standard
Body	Ductile Iron+Epoxy Coated	
Cover	Ductile Iron+Epoxy Coated	
Disc	EPDM	
Stem	Stainless Steel	20Cr13

Installation Dimensions

Size DN	L	H	ØM	D	K	G	b	D1	n-D
50	190	301	203	165	125	99	19	3	4-Ø19
65	190	301	203	185	145	118	19	3	4-Ø19
80	203	338	203	200	160	132	19	3	8-Ø19
100	229	385	203	220	180	156	19.5	3	8-Ø19
125	254	414	280	250	210	184	19.5	3	8-Ø19
150	267	471	280	285	240	211	19.5	3	8-Ø23
200	292	585	330	340	295	266	21	3	12-Ø23
250	330	737	382	406	355	319	24	3	12-Ø28

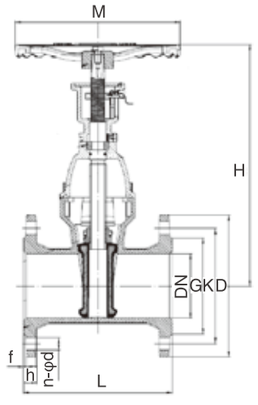


Specification

- Design Standard: GB/T 12221-2005
- Test Standard: GB/T 5135.6-2018
- Connection Standard: GB/T 17241.6-2008
- Nominal Voltage: 220V AC
- Maximum Working Voltage: 250V AC
- Rated Current: 3A
- Protection Grade: IP54
- Working Medium: Water

Operating Principles

The stem nut which installed on the gate plate drives the plate to rise and fall through the stem rotation. The stem does not have any lifting movement.



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Series W-Z15W-16P

Stainless Steel Threaded Non-Rising Stem Gate Valve

Size: DN15-DN50

Watts W-Z15W-16P is designed to realize the on-off of pipeline system. The W-Z15W-16P stainless steel non-rising stem gate valve has a wide range of applications in municipal facilities, building construction, water supply engineering, and other similar water supply and drainage systems, which have stringent requirements for water quality. This valve has a non-rising stem structure, so it is also widely used in applications that require installation space.

Features

- Low fluid resistance
- Corrosion resistance, long service life
- Unrestricted medium flow direction
- Good sealing performance
- Compact structure, saving installation space

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -29°C~200°C

Material

Component	Material	Standard
Body	Stainless Steel	CF8
Cover	Stainless Steel	CF8
Disc	Stainless Steel	CF8
Stem	Stainless Steel	304

Installation Dimensions

Size (DN)	Dimensions			
	L	H	ØW	Weight
15	51	87	63	0.27
20	57	95	63	0.35
25	60	107	63	0.45
32	70	123	77	0.7
40	73	134	98	0.9
50	84	155	98	1

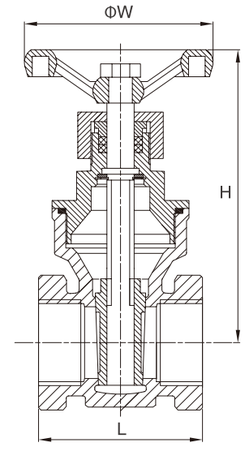


Specification

- Test Standard: GB/T 13927-2008
- Connection Standard: GB/T 7307-2001
- Connection Type: Thread Type
- Working Medium: Water

Operating Principles

The stem nut of the non-rising stem gate valve is installed on the gate plate. The hand wheel is rotated to drive the stem, as well as the lifting and lowering of the stem nut. The gate plate performs the valve opening and closing by lifting and lowering the stem nut.



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Series W-Z41W-16P

Stainless Steel Flanged Rising Gate Valve

Size: DN50-DN300

Watts W-Z41W-16P is designed to realize the on-off of pipeline system. The Watts W-Z41W-16P stainless steel rising gate valve has a wide range of applications in municipal facilities, building construction, water supply engineering, and other similar water supply and drainage systems, which have stringent requirements for water quality. This valve has a rising structure, so it is also widely used in applications that require the indication of valve opening degree.



Features

- Low fluid resistance
- Corrosion resistance, long service life
- Unrestricted medium flow direction
- Good sealing performance
- Identifiable valve opening degree

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -29°C~200°C

Material

Component	Material	Standard
Body	Stainless Steel	CF8
Cover	Stainless Steel	CF8
Disc	Stainless Steel	CF8
Stem	Stainless Steel	304

Specification

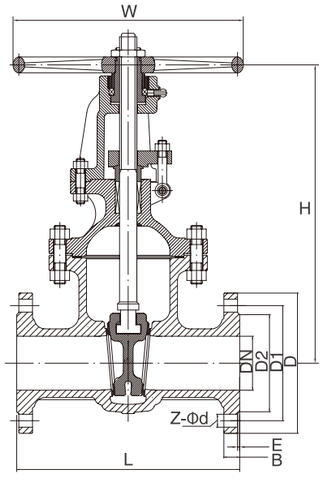
- Test Standard: GB/T 13927-2008
- Connection Standard: JB/T 79.1-1994
- Working Medium: Water

Operating Principles

The stem nut of the rising gate valve is installed on the support. The hand wheel is rotated to drive the stem nut, as well as the lifting and lowering of the stem. As the other end of the stem is connected to the gate plate, the gate plate can perform the valve opening and closing by lifting and lowering the stem.

Installation Dimensions

Size (DN)	Dimensions									
	L	D	D1	D2	B	E	Z-Ød	H	W	Weight
50	250	160	125	100	16	3	4-Ø18	438	240	13.5
65	265	180	145	120	18	3	4-Ø18	450	240	18.5
80	280	195	160	135	20	3	8-Ø18	528	280	22.1
100	300	215	180	155	20	3	8-Ø18	620	320	31
125	325	245	210	185	22	3	8-Ø18	753	360	43
150	350	280	240	210	24	3	8-Ø23	847	360	57
200	400	335	295	265	26	3	12-Ø23	1039	400	86
250	450	405	355	320	30	3	12-Ø25	1245	450	165
300	500	460	410	375	30	4	12-Ø25	1472	560	235



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Series W-Z45W-16P

Stainless Steel Flanged Non-Rising Stem Gate Valve

Size: DN50-DN250

Watts W-Z45W-16P is designed to realize the on-off of pipeline system. The Watts W-Z45W-16P stainless steel gate valve has a wide range of applications in municipal facilities, building construction and water supply engineering, and other similar water supply and drainage systems, which have stringent requirements for water quality. This valve has a non-rising stem structure, so it is also widely used in applications that require installation space.



Features

- Low fluid resistance
- Corrosion resistance, long service life
- Unrestricted medium flow direction
- Good sealing performance
- Compact structure, saving installation space

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -29°C~200°C

Material

Component	Material	Standard
Body	Stainless Steel	CF8
Cover	Stainless Steel	CF8
Disc	Stainless Steel	CF8
Stem	Stainless Steel	304

Specification

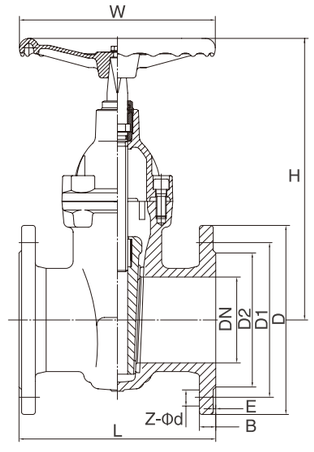
- Test Standard: GB/T 13927-2008
- Connection Standard: JB/T 79.1-1994
- Connection Type: Flange Type
- Working Medium: Water

Operating Principles

The stem nut of the non-rising stem gate valve is installed on the gate plate. The hand wheel is rotated to drive the stem, as well as the lifting and lowering of the stem nut. The gate plate performs the valve opening and closing by lifting and lowering the stem nut.

Installation Dimensions

Size (DN)	Dimensions									
	L	D	D1	D2	B	E	Z-Ød	H	W	Weight
50	250	160	125	100	16	3	4-Ø18	310	200	15
65	265	180	145	120	18	3	4-Ø18	350	220	21
80	280	195	160	135	20	3	8-Ø18	375	240	22.5
100	300	215	180	155	20	3	8-Ø18	415	280	34.5
125	325	245	210	185	22	3	8-Ø18	470	320	47.5
150	350	280	240	210	24	3	8-Ø23	520	320	67.5
200	400	335	295	265	26	3	12-Ø23	630	360	104
250	450	405	355	320	30	3	12-Ø25	720	400	155



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Series B3001/B3001N

Bronze Non-Rising Gate Valve

Size: DN15-DN50

The Watts B3001 Bronze Gate Valve is designed for the isolation of clean water and other non-corrosive fluids that are compatible with the material of construction. It's generally used in building services, water treatment etc.

Features

- Compact structure, reliable sealing
- Threaded bonnet
- Non-rising stem to minimize installation height
- Low pressure drop

Pressure-Temperature

- Nominal Pressure: PN20
- Temperature Range: 0°C~170°C

Test Pressures

Pneumatic	Hydraulic
Shell: 6 bar	Shell: 30 bar
Seat: 6 bar	Seat: 22 bar

Material

No.	Component	Material	Standard
1	Nut	Brass	CW614N
2	I.D Plate	Aluminium	
3	HandWheel	Aluminium	
4	Stem	DZR Brass	CW602N
5	Packing Nut	Brass	CW614N
6	Ring	Brass	CW614N
7	Packing	PTFE	
8	Stem Bush	DZR Brass	CW602N
9	Bonnet	Bronze	CC491K
10	Body	Bronze	CC491K
11	Disc	Bronze	CC491K

Installation Dimensions

DN	d	L	H	D	A	Weight(kg)
15	12.7	49.5	74	56.5	15	0.26
20	19.1	53.5	85	69	16.3	0.37
25	25.4	62	106	75.5	19.1	0.55
32	31.8	70	113	81	21.4	0.83
40	38.2	77	132	94	21.4	1.23
50	50.9	87	155	100	25.7	1.84

*Available in both connection standard BSPT & NPT

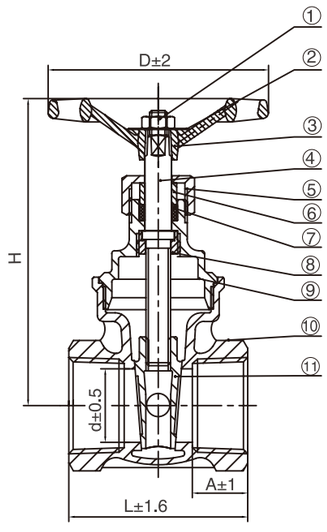


Specification

- Design standard: BSEN 12288
- Connection Standard: Threaded to BS21 BSPT. Available with NPT threading Model B3001N
- Test Standard: BS6755
- Medium: water, oil, steam

Approval

WRAS APPROVED PRODUCT



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Series W-WB132

Bronze Rising Gate Valve

Size: DN15-DN50

The Watts W-WB132 Bronze Rising Gate Valve is designed to cut off or connect water, noncorrosive liquid in the pipeline. It's generally used in building services, water treatment, etc.

Features

- Compact structure, reliable sealing
- Threaded bonnet
- Solid wedge disc
- Low pressure drop
- Unrestricted flow direction
- Easy maintenance

Pressure-Temperature

- Nominal Pressure: PN20
- Working Temperature: -20°C~120°C

Test Pressures

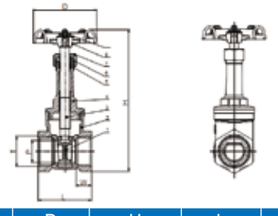
Pneumatic	Hydraulic
Shell: 6 bar	Shell: 30 bar
Seat: 6 bar	Seat: 22 bar

Material

No.	Component	Material	Standard
1	Valve Disc	Bronze	C87800
2	Valve Body	Bronze	C87800
3	Stem	Brass	C46500
4	Bonnet	Bronze	C87800
5	Packing	PTFE	
6	Packing Gland	Brass	HPb58-2
7	Nut	Brass	HPb58-2
8	Hand Wheel	Cast Iron with spray paint(Red)	
9	Name plate	AL	
10	Hand Nut	SUS	304

Installation Dimensions

Connection Dimensions: ASME B1.20.1 or BS EN 10226(BS21)

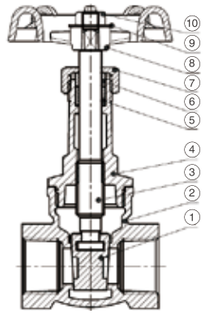


Size in.	P		D		H		L		M		Weight (g)
	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	
½"	13	0.51	60	2.36	110.5	4.35	50	1.97	15	0.59	0.65
¾"	20	0.79	72	2.83	135	5.31	52	2.05	15	0.59	0.69
1"	25	0.98	72	2.83	160	6.3	60	2.36	18.5	0.73	1.01
1¼"	32	1.26	78	3.07	187	7.36	65	2.56	19	0.75	1.64
1½"	38.1	1.5	90	3.54	210	8.27	69	2.72	19	0.75	4.20
2"	50	1.97	100	3.94	260	10.24	75.5	2.97	20.5	0.81	4.35

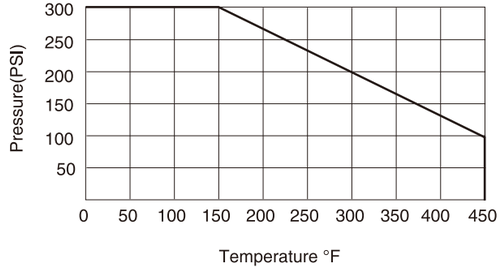


Specification

- Connection Type: NPT to ASME B1.20.1
  BSPT to BS21
- Medium: water, noncorrosive liquid



Characteristic Curve



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Series W-Z45H-16Q

Gate Valve, NRS, Metal Seated

Size: DN50-DN400

Implementation of piping system on and off; Used in plumbing, HVAC, irrigation, commercial, and industrial application.

Features

- Low pressure drop
- Large temperature range
- Bidirectional flow
- Sealed performance
- Compact design
- High reliability and long durability



Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -10°C~120°C

Specification

- Connection Standard: PN16 to EN1092-2
- Corrosion Protection: internally and externally liquid epoxy painted
- Medium: water, oil, gas

Test Pressures

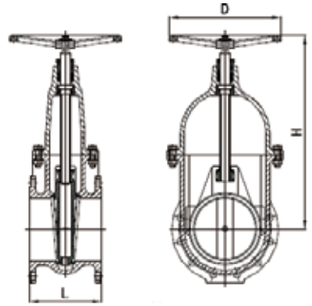
Hydraulic
Shell: 24 bar
Seat: 17.6 bar

Approval

WRAS APPROVED PRODUCT

Material

Component	Material	EN Spec	ASTM Spec
Body	Ductile Iron	DN-JS1050	A536 65-45-12
Bonnet	Ductile Iron	DN-JS1050	A536 65-45-12
Seat	Bronze	EN1982 CC491K	B62 C83600
Wedge	Ductile Iron	DN-JS1050	A536 65-45-12
Wedge Trim	Bronze	EN1982 CC491K	B62 C83600
Stem	Stainless Steel	BS970 420S37	AISI 420
Wedge Nut	Brass	CuZn39Pb3	B16 C36000
Gasket	PTFE	Polytetrafluoroethylene	ASTM D3294
Packing	EPDM	EN681-1	ASTM D3568
Packing Nut	Stainless Steel	BS970 304S15	AISI 304
Bonnet Bolts & Nuts	Stainless Steel	BS970 304S15	AISI 304
Hand Wheel	Ductile Iron	EN-JS1050	A536 65-45-12

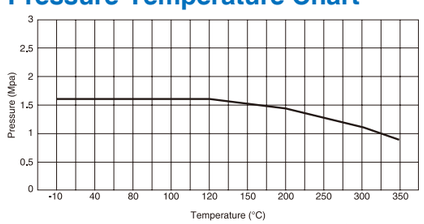


Installation Dimensions

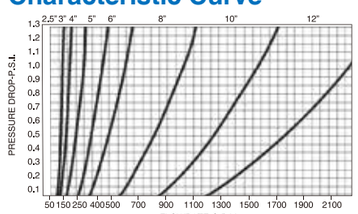
Connection Dimension: PN16 to BS EN1092-2

Size(mm)	50(mm)	65(mm)	80(mm)	100(mm)	125(mm)	150(mm)	200(mm)	250(mm)	300(mm)	350(mm)	400(mm)
L	178	190	203	229	254	267	292	330	356	381	406
H	214	223	262	323	380	438	518	615	705	790	855
D	180	200	200	220	254	280	315	405	405	558	558

Pressure-Temperature Chart



Characteristic Curve



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Series W-Z45H-25Q

Gate Valve, NRS, Metal Seated

Size: DN50-DN300

Implementation of piping system on and off; Used in plumbing, HVAC, irrigation, commercial, and industrial application.

Features

- Low pressure drop
- Large temperature range
- Bidirectional flow
- Sealed performance
- Compact design
- High reliability and long durability



Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: -10°C~120°C

Specification

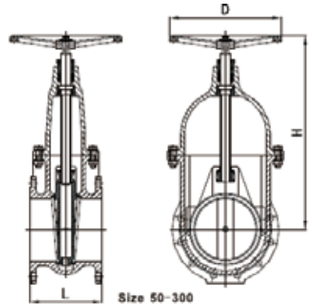
- Connection Standard: PN25 to EN1092-2
- Corrosion Protection: internally and externally liquid epoxy painted
- Medium: water, oil, gas

Test Pressures

Hydraulic
Shell: 37.5 bar
Seat: 27.5 bar

Material

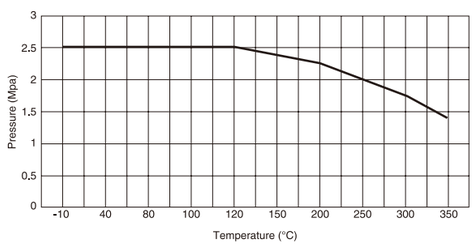
Component	Material	EN Spec	ASTM Spec
Body	Ductile Iron	DN-JS1050	A536 65-45-12
Bonnet	Ductile Iron	DN-JS1050	A536 65-45-12
Seat	Bronze	EN1982 CC491K	B62 C83600
Wedge	Ductile Iron	DN-JS1050	A536 65-45-12
Wedge Trim	Bronze	EN1982 CC491K	B62 C83600
Stem	Stainless Steel	BS970 420S37	AISI 420
Wedge Nut	Brass	CuZn39Pb3	B16 C36000
Gasket	PTFE	Polytetrafluoroethylene	ASTM D3294
Packing	EPDM	EN681-1	ASTM D3568
Packing Nut	Stainless Steel	BS970 304S15	AISI 304
Bonnet Bolts & Nuts	Stainless Steel	BS970 304S15	AISI 304
Hand Wheel	Ductile Iron	EN-JS1050	A536 65-45-12



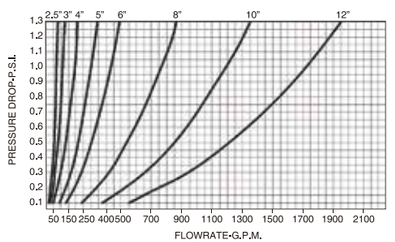
Installation Dimensions

Size(mm)	50(mm)	65(mm)	80(mm)	100(mm)	125(mm)	150(mm)	200(mm)	250(mm)	300(mm)
L	178	190	203	229	254	267	292	330	356
H	214	223	262	323	380	438	518	615	705
D	200	200	254	254	315	315	315	405	405

Pressure-Temperature Chart



Characteristic Curve



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Series W-Z45H-125Q

Gate Valve, NRS, Metal Seated

Size: DN50-DN400

Implementation of piping system on and off; Used in plumbing, HVAC, irrigation, commercial, and industrial application.

Features

- Low pressure drop
- Large temperature range
- Bidirectional flow
- Sealed performance
- Compact design
- High reliability and long durability



Pressure-Temperature

- Nominal Pressure: CL125
- Temperature Range: -10°C~120°C

Specification

- Connection Standard: CL125 to ANSI B16.1
- Corrosion Protection: internally and externally liquid epoxy painted
- Medium: water, oil, gas

Test Pressures

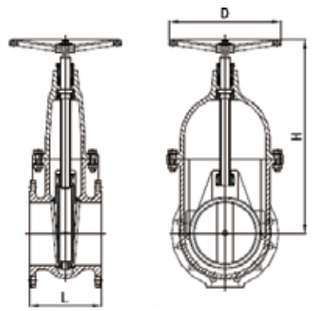
Hydraulic
Shell: 24 bar
Seat: 17.6 bar

Approval

WRAS APPROVED PRODUCT

Material

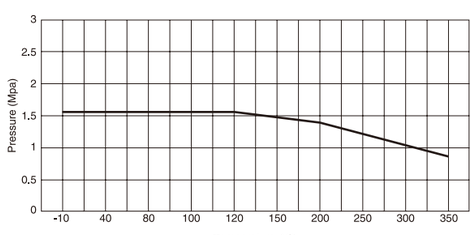
Component	Material	EN Spec	ASTM Spec
Body	Ductile Iron	DN-JS1050	A536 65-45-12
Bonnet	Ductile Iron	DN-JS1050	A536 65-45-12
Seat	Bronze	EN1982 CC491K	B62 C83600
Wedge	Ductile Iron	DN-JS1050	A536 65-45-12
Wedge Trim	Bronze	EN1982 CC491K	B62 C83600
Stem	Stainless Steel	BS970 420S37	AISI 420
Wedge Nut	Brass	CuZn39Pb3	B16 C36000
Gasket	PTFE	Polytetrafluoroethylene	ASTM D3294
Packing	EPDM	EN681-1	ASTM D3568
Packing Nut	Stainless Steel	BS970 304S15	AISI 304
Bonnet Bolts & Nuts	Stainless Steel	BS970 304S15	AISI 304
Hand Wheel	Ductile Iron	EN-JS1050	A536 65-45-12



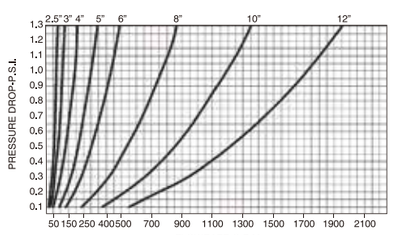
Installation Dimensions

Size(mm)	50(mm)	65(mm)	80(mm)	100(mm)	125(mm)	150(mm)	200(mm)	250(mm)	300(mm)	350(mm)	400(mm)
L	178	190	203	229	254	267	292	330	356	381	406
H	214	223	262	323	380	438	518	615	705	790	855
D	200	200	254	254	315	315	315	405	405	558	558

Pressure-Temperature Chart



Characteristic Curve



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Series W-Z41H-16Q

Gate Valve, OSY, Metal Seated

Size: DN50-DN400

Implementation of piping system on and off; Used in plumbing, HVAC, irrigation, commercial, and industrial application.

Features

- Low pressure drop
- Large temperature range
- Bidirectional flow
- Sealed performance
- Compact design
- High reliability and long durability



Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -10°C~120°C

Specification

- Connection Standard: PN16 to EN1092-2
- Corrosion Protection: internally and externally liquid epoxy painted
- Medium: water, oil, gas

Test Pressures

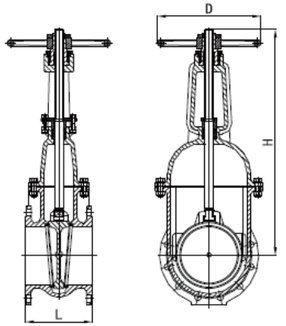
Hydraulic
Shell: 24 bar
Seat: 17.6 bar

Approval

WRAS APPROVED PRODUCT

Material

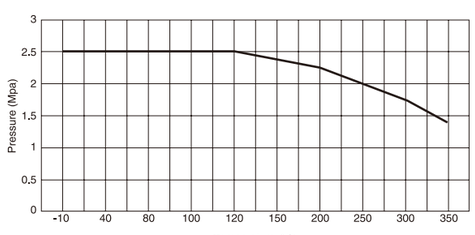
Component	Material	EN Spec	ASTM Spec
Body	Ductile Iron	DN-JS1050	A536 65-45-12
Bonnet	Ductile Iron	DN-JS1050	A536 65-45-12
Seat	Bronze	EN1982 CC491K	B62 C83600
Wedge	Ductile Iron	DN-JS1050	A536 65-45-12
Wedge Trim	Bronze	EN1982 CC491K	B62 C83600
Stem	Stainless Steel	BS970 420S37	AISI 420
Wedge Nut	Brass	CuZn39Pb3	B16 C36000
Gasket	PTFE	Polytetrafluoroethylene	ASTM D3294
Packing	EPDM	EN681-1	ASTM D3568
Packing Nut	Stainless Steel	BS970 304S15	AISI 304
Bonnet Bolts & Nuts	Stainless Steel	BS970 304S15	AISI 304
Hand Wheel	Ductile Iron	EN-JS1050	A536 65-45-12



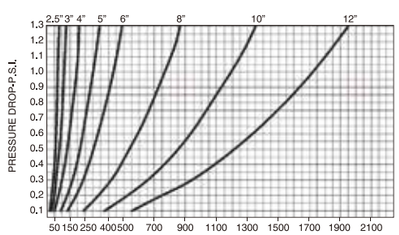
Installation Dimensions

Size(mm)	50(mm)	65(mm)	80(mm)	100(mm)	125(mm)	150(mm)	200(mm)	250(mm)	300(mm)	350(mm)	400(mm)
L	178	190	203	229	254	267	292	330	356	381	406
H	265	316	338	409	486	573	701	843	984	1990	2121
D	180	200	200	220	254	280	355	405	405	558	558

Pressure-Temperature Chart



Characteristic Curve



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Series W-Z41H-25Q

Gate Valve, OSY, Metal Seated

Size: DN50-DN300

Implementation of piping system on and off; Used in plumbing, HVAC, irrigation, commercial, and industrial application.

Features

- Low pressure drop
- Large temperature range
- Bidirectional flow
- Sealed performance
- Compact design
- High reliability and long durability

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: -10°C~120°C

Test Pressures

Hydraulic
Shell: 37.5 bar
Seat: 27.5 bar

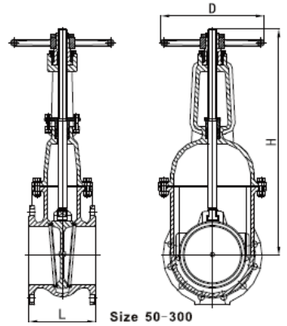


Specification

- Connection Standard: PN25 to EN1092-2
- Corrosion Protection: internally and externally liquid epoxy painted
- Medium: water, oil, gas

Material

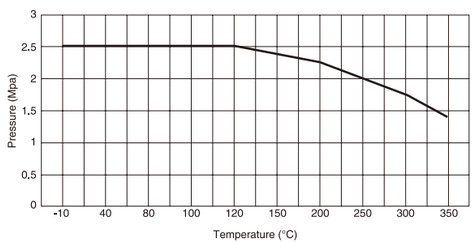
Component	Material	EN Spec	ASTM Spec
Body	Ductile Iron	DN-JS1050	A536 65-45-12
Bonnet	Ductile Iron	DN-JS1050	A536 65-45-12
Seat	Bronze	EN1982 CC491K	B62 C83600
Wedge	Ductile Iron	DN-JS1050	A536 65-45-12
Wedge Trim	Bronze	EN1982 CC491K	B62 C83600
Stem	Stainless Steel	BS970 420S37	AISI 420
Wedge Nut	Brass	CuZn39Pb3	B16 C36000
Gasket	PTFE	Polytetrafluoroethylene	ASTM D3294
Packing	EPDM	EN681-1	ASTM D3568
Packing Nut	Stainless Steel	BS970 304S15	AISI 304
Bonnet Bolts & Nuts	Stainless Steel	BS970 304S15	AISI 304
Hand Wheel	Ductile Iron	EN-JS1050	A536 65-45-12



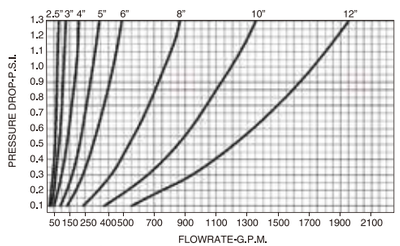
Installation Dimensions

Size(mm)	50(mm)	65(mm)	80(mm)	100(mm)	125(mm)	150(mm)	200(mm)	250(mm)	300(mm)
L	178	190	203	229	254	254	292	330	356
H	265	316	338	409	380	486	701	843	984
D	200	200	254	254	315	315	315	405	405

Pressure-Temperature Chart



Characteristic Curve



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Series W-Z41H-125Q

Gate Valve, OSY, Metal Seated

Size: DN50-DN400

Implementation of piping system on and off; Used in plumbing, HVAC, irrigation, commercial, and industrial application.

Features

- Low pressure drop
- Large temperature range
- Bidirectional flow
- Sealed performance
- Compact design
- High reliability and long durability

Pressure-Temperature

- Nominal Pressure: CL125
- Temperature Range: -10°C~120°C

Test Pressures

Hydraulic
Shell: 24 bar
Seat: 17.6 bar



Specification

- Connection Standard: CL125 to ANSI B16.1
- Corrosion Protection: internally and externally liquid epoxy painted
- Medium: water, oil, gas

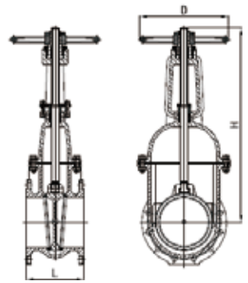
Approval

WRAS APPROVED PRODUCT

Material

Component	Material	EN Spec	ASTM Spec
Body	Ductile Iron	DN-JS1050	A536 65-45-12
Bonnet	Ductile Iron	DN-JS1050	A536 65-45-12
Seat	Bronze	EN1982 CC491K	B62 C83600
Wedge	Ductile Iron	DN-JS1050	A536 65-45-12
Wedge Trim	Bronze	EN1982 CC491K	B62 C83600
Stem	Stainless Steel	BS970 420S37	AISI 420
Wedge Nut	Brass	CuZn39Pb3	B16 C36000
Gasket	PTFE	Polytetrafluoroethylene	ASTM D3294
Packing	EPDM	EN681-1	ASTM D3568
Packing Nut	Stainless Steel	BS970 304S15	AISI 304
Bonnet Bolts & Nuts	Stainless Steel	BS970 304S15	AISI 304
Hand Wheel	Ductile Iron	EN-JS1050	A536 65-45-12

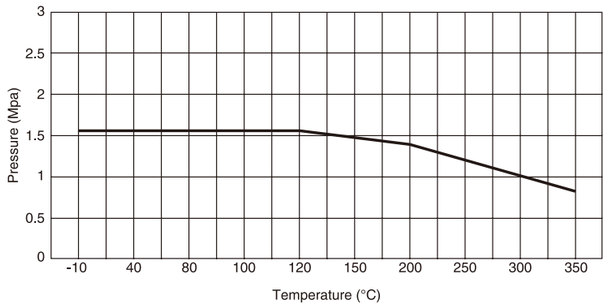
Installation Dimensions



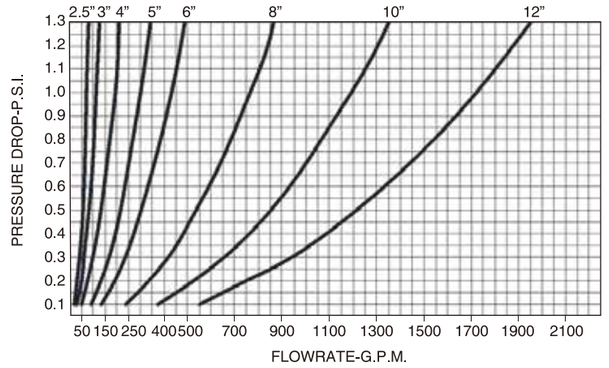
Size(mm)	50(mm)	65(mm)	80(mm)	100(mm)	125(mm)	150(mm)	200(mm)	250(mm)	300(mm)	350(mm)	400(mm)
L	178	190	203	229	254	267	292	330	356	381	406
H	267	316	338	409	486	573	701	843	984	1990	2121
D	200	200	254	254	315	315	315	405	405	558	558

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Pressure-Temperature Chart



Characteristic Curve



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Series W-WB251-16

Brass Globe Valve

Size: DN15-DN50

Watts W-WB251-16 can realize the connection and cut-off of the pipeline system. It can be applied in petroleum, chemical, metallurgy, water treatment, etc.



Features

- Small operating stroke, short opening and closing time
- Small volume, simple structure, and easy to manufacture and maintain
- Good sealing effect, low friction between sealing faces, and longer service life

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: 0°C~120°C

Material

Component	Material
Body	Brass
Cover	Brass
Screw	Brass
Handwheel	Cast Iron
Packing	PTFE

Specification

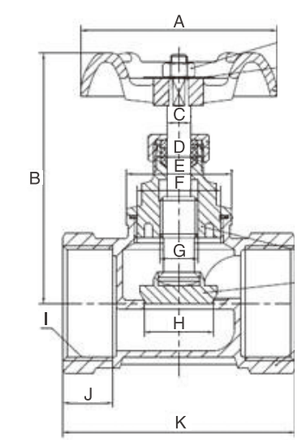
- Test Standard: GB/T 13927-2008
- Connection Standard: GB/T 7307
- Working Medium: Water, oil, gas

Operating Principles

The hand wheel drives the stem to apply pressure downward, so that the sealing faces of the disc and the seat can be closely fitted to prevent medium from flowing.

Installation Dimensions

Size	A	B	C	D	E	F	G	H	I	J	K
15	Ø53	62	Ø7.2	M15*1	Ø23	M18*1.5	Tr10*2	Ø11	G1/2-14	10.5	48
20	Ø53	65	Ø8	M16*1	Ø25	M20*1.5	Tr10*2	Ø12.7	G3/4-14	11	54
25	Ø59	76	Ø8	M16*1	Ø31	M26*1.5	Tr12*2	Ø19	G1-11	14	67
32	Ø71	91	Ø8.5	M18*1.5	Ø38	M32*1.5	Tr14*3	Ø25	G1 1/4-11	16	78
40	Ø78	100	Ø9.5	M20*1.5	Ø47	M40*1.5	Tr16*3	Ø33	G1 1/2-11	16	87
50	Ø97	120	Ø12	M24*1.5	Ø54	M46*1.5	Tr18*3	Ø40	G2-11	19	100



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Series W-J11W-16P

Stainless Steel Threaded Globe Valve

Size: DN15-DN50

Due to the relatively shorter opening or closing stroke of the stem and its very reliable cut-off action, this valve is very suitable for medium cut-off, regulating and throttling.The Watts W-J11W-16P stainless steel stop valve has a wide range of applications in municipal facilities, building construction, water supply engineering, and other similar water supply and drainage systems, which have stringent requirements for water quality.



Features

- Small volume, simple structure
- Excellent sealing performance, long service life
- Small operating stroke, short opening and closing time

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -29°C~200°C

Specification

- Test Standard: GB/T 13927-2008
- Connection Standard: GB/T 7307-2001
- Connection Type: Thread Type
- Working Medium: Water

Material

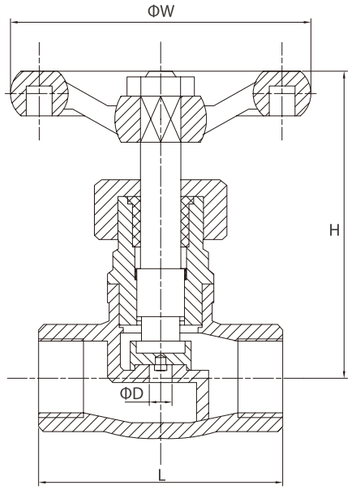
Component	Material	Standard
Body	Stainless Steel	CF8
Cover	Stainless Steel	CF8
Disc	Stainless Steel	304
Stem	Stainless Steel	304

Operating Principles

The hand wheel drives the stem to apply pressure downward, so that the sealing faces of the disc and the seat can be closely fitted to prevent medium from flowing.

Installation Dimensions

Size DN	Dimensions				
	L	ØD	H	ØW	Weight(kg)
15	64	15	85	66	0.35
20	74	20	90	66	0.48
25	84	25	102	72	0.67
32	102	32	118	90	1.2
40	113	40	130	98	1.5
50	132	50	148	107	2.1



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Series W-J41W-16P

Stainless Steel Flanged Globe Valve

Size: DN50-DN200

Due to the relatively shorter opening or closing stroke of the stem and its very reliable cut-off action, this valve is very suitable for medium cut-off, regulating and throttling. The Watts W-J41W-16P stainless steel stop valve has a wide range of applications in municipal facilities, building construction, water supply engineering, and other similar water supply and drainage systems, which have stringent requirements for water quality.



Features

- Small volume, simple structure
- Excellent sealing performance, long service life
- Small operating stroke, short opening and closing time

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -29°C~200°C

Specification

- Test Standard: GB/T 13927-2008
- Connection Standard: JB/T 79.1-1994
- Connection Type: Flange Type
- Working Medium: Water

Material

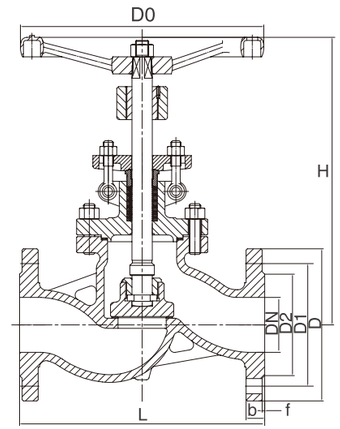
Component	Material	Standard
Body	Stainless Steel	CF8
Cover	Stainless Steel	CF8
Disc	Stainless Steel	304
Stem	Stainless Steel	304

Operating Principles

The hand wheel drives the stem to apply pressure downward, so that the sealing faces of the disc and the seat can be closely fitted to prevent medium from flowing.

Installation Dimensions

Size DN	Dimensions									Weight (kg)
	L	D	D1	D2	b	f	Z-Ød	H	D0	
50	230	160	125	100	16	3	4-Ø18	412	240	13.3
65	290	180	145	120	18	3	4-Ø18	445	280	19
80	310	195	160	135	20	3	8-Ø18	480	320	23.3
100	350	215	180	155	20	3	8-Ø18	523	360	29
125	400	245	210	185	22	3	8-Ø18	460	350	45
150	480	280	240	210	24	3	8-Ø23	675	360	65
200	600	335	295	265	26	3	12-Ø23	820	400	103



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Series W-J41T-16Z

Globe Valve

Size: DN50-DN300

The series W-J41T Globe Valve is designed to regulate the flow in a pipeline. It's generally used in plumbing, HVAC, irrigation, commercial, and industrial application.



Features

- Simple structure
- Metal seat
- Packing replaceable under pressure

Pressure-Temperature

- Working Pressure: PN16
- Temperature Range: -15°C~120°C

Test Pressures

Hydraulic
Shell: 24 bar
Seat: 17.6 bar

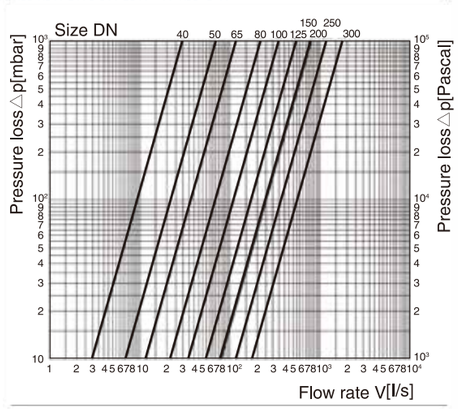
Specification

- Connection Standard: PN16 to EN1092-2
- Nominal Diameter: DN50-DN300
- Medium: water oil gas
- Connection: Flange
- Corrosion Protection: internally and externally liquid epoxy painted

Material

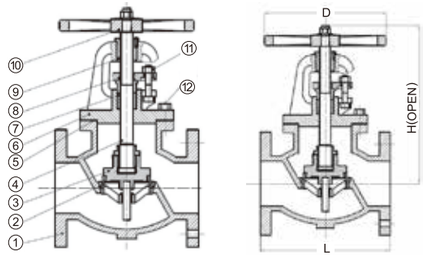
No.	Component	Material	Standard
1	Valve Body	Cast Iron	A126
2	Seat & Disc ring	Bronze	
3	Disc	Cast Iron	A126
4	Stem	Brass	
5	Gasket	Graphite	
6	Valve Bonnet	Cast Iron	A126
7	Packing	Graphite	
8	Packing Gland	Ductile Iron	A536
9	Stem Nut	Carbon Steel	
10	Handwheel	Cast Iron	A126
11	Nut	Carbon Steel	
12	Bolts	Carbon Steel	

Characteristic Curve



Installation Dimensions

Dimension (mm)	DN(mm)								
	50	65	80	100	125	150	200	250	300
D	203	216	241	292	330	356	495	622	698
H	295	330	365	400	450	525	595	685	830
L	178	178	200	254	300	300	348	400	457
Weight(Kg)	16.5	22.4	29	42.5	62	88.4	143	220	290



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Series W-J41T-125Z

Globe Valve

Size: DN50-DN300

The series W-J41T Globe Valve is designed to regulate the flow in a pipeline. It's generally used in plumbing, HVAC, irrigation, commercial, and industrial application.



Features

- Simple structure
- Metal seat
- Packing replaceable under pressure

Pressure-Temperature

- Nominal Pressure: CL125
- Temperature Range: -15°C~120°C

Test Pressures

Hydraulic
Shell: 24 bar
Seat: 17.6 bar

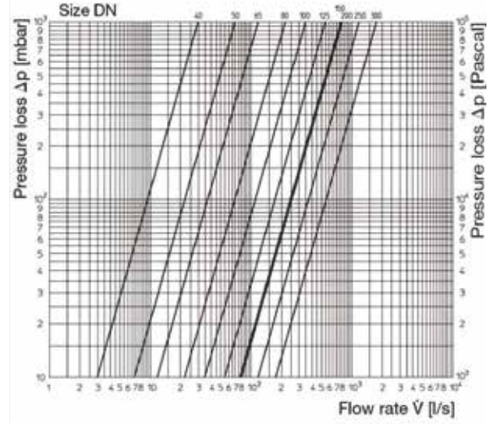
Specification

- Design Standard: MSS-SP-85
- Connection Standard: CL125 to ANSI B16.1
- Connection: Flange
- Corrosion Protection: internally and externally liquid epoxy painted
- Medium: water, oil, gas

Material

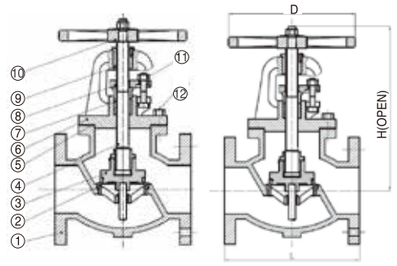
No.	Component	Material	Standard
1	Valve Body	Cast Iron	A126
2	Seat & Disc ring	Bronze	
3	Disc	Cast Iron	A126
4	Stem	Brass	
5	Gasket	Graphite	
6	Valve Bonnet	Cast Iron	A126
7	Packing	Graphite	
8	Packing Gland	Ductile Iron	A536
9	Stem Nut	Carbon Steel	
10	Handwheel	Cast Iron	A126
11	Nut	Carbon Steel	
12	Bolts	Carbon Steel	

Characteristic Curve



Installation Dimensions

Dimension (mm)	DN(mm)								
	50	65	80	100	125	150	200	250	300
D	203	216	241	292	330	356	495	622	698
H	295	330	365	400	450	525	595	685	830
L	178	178	200	254	300	300	348	400	457
Weight(Kg)	16.5	22.4	29	42.5	62	88.4	143	220	290



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Series W-J11W-20TQ

Bronze Globe Valve

Size: DN15-DN50

The series W-J11W-20TQ Globe Valve is designed to regulate the flow in the pipeline. It's generally used in building services, water treatment, etc.

Features

- Simple structure
- Metal seat
- Rising stem

Pressure-Temperature

- Nominal Pressure: PN20
- Temperature Range: 0°C~170°C

Material

Component	Material
Body	Bronze
Cover	Bronze
Stem	Brass
Handwheel	Aluminium Alloy
Packing	PTFE

Installation Dimensions

Size(DN)	L	H	A
15	52	72	Ø60
20	63	86	Ø65
25	76	95	Ø70
32	84	110	Ø78
40	98	124	Ø92
50	116	141	Ø103

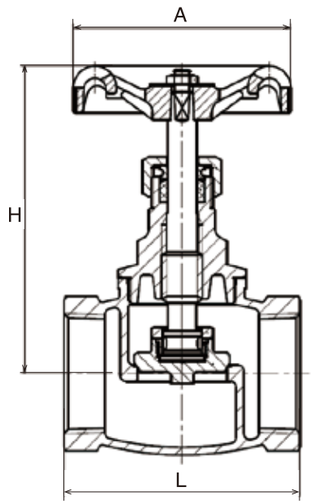
Installation Instructions

- Compare the rated parameters required by the equipment with those indicated on the product to ensure that the rated flow of the product meets the application requirements
- The installation personnel must be trained and experienced to ensure the smooth completion of the installation work
- After the installation, it must be thoroughly checked to ensure that the installation is correct
- In order to ensure that there is no accident in the installation, the pipeline system must be thoroughly cleaned (if necessary, use chemical reagents) before the product installation. To ensure that the pipeline system is clean and free of rust and dirt, all filter devices must be removed before flushing, so that the pipeline is unobstructed
- It is recommended to install the temporary pipeline at the installation pipeline of the equipment during the initial cleaning of the system. It is recommended to install the equipment on the pipeline after the completion of the flushing work
- Noted that the equipment should not be used in places with high viscosity or corrosiveness which medium containing more grease and mineral oil
- Use standard threaded joints for connection



Specification

- Test Standard: GB/T 13927-2008
- Connection Standard: GB/T 7306.2
- Working Medium: Water, oil, gas



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Series R5001/R5001N

Brass Silent Check Valve

Size: DN15-DN50

The Watts R5001/R5001N Brass Silent Check Valve is designed to protect against medium backflow. The series is suitable for potable water application.

Features

- Operates in any position
- Low head loss
- Silent & robust
- Does not generate hammering

Pressure - Temperature

- Nominal Pressure: PN16
- Temperature Range: -20°C~110°C

Test Pressures

Pneumatic	Hydraulic
Shell: 6 bar	Shell: 24bar
Seat: 6 bar	Seat: 17.6 bar

Material

NO.	Component	Material
1	Body	Brass
2	Gasket	EPDM
3	Core	Brass
4	Spring	Stainless Steel
5	Bonnet	Brass

Installation Dimensions

Size DN(mm)	Dimensions(mm)				Wt.(kg)
	A	B	E	G*	
15	49.5	33	11	1/2”	0.118
20	47	37.5	11.5	3/4”	0.14
25	53	41.5	12	1”	0.187
32	61	54.5	13	1-1/4”	0.34
40	65	64.5	13.5	1-1/2”	0.5
50	81	78	16	2”	0.81

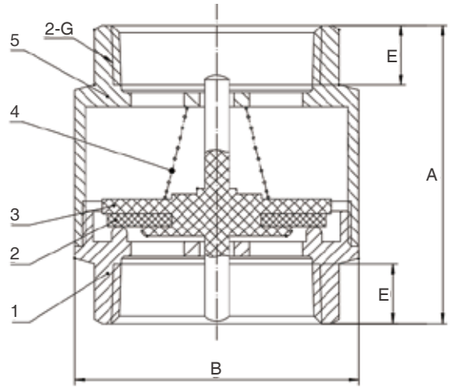
*Available in both connection standard BSPT & NPT



Specification

- Connection Standard: BSPT to ISO 7-1, NPT to ASME B1.20.1 / MSS SP-80
- Test Standard: BS EN 12266-1
- Medium: water

Approval



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Series 402AF

Silencing Check Valve

Size: Flange DN50-DN600

The Watts 402 Silent Check Valve is designed to protect against medium backflow, The valve is suitable for water supply and drainage systems, high-rise building pipe network, and widely used in the pipeline of pump discharge, HVAC, irrigation, commercial, industrial application.

Features

- Horizontal or vertical installation
- Low noise and reliable sealing
- Low head loss
- Effective protection against water hammer

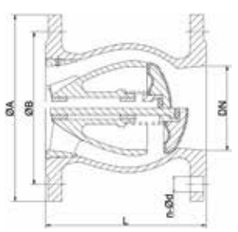
Operating Principle:

When the medium flows in the specified direction, the valve disc is opened by the force of the medium. When the medium flows in reverse, the valve disc is closed by the combined effect of its own weight, the reverse force of the medium, and the spring force, ensuring a tight seal between the valve disc and the valve seat, thus preventing backflow of the medium.

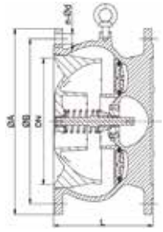
Material

Component	Material
Valve Body	Ductile iron
Valve Disc	Ductile iron/stainless steel
Valve Stem	Stainless steel
Seal Ring	EPDM
Spring	Stainless steel
Air Deflector	Ductile iron

Installation Dimensions



DN50-350



DN400-600

口径(DN)	L(mm)	φA	φB	n-φd
50	150	165	125	4-φ19
65	170	185	145	4-φ19
80	180	200	160	8-φ19
100	190	220	180	8-φ19
125	200	250	210	8-φ19
150	210	285	240	8-φ23
200	230	340	295	12-φ23
250	250	405	355	12-φ28
300	270	460	410	12-φ28
350	290	520	470	16-φ28
400	310	580	525	16-φ31
450	330	640	585	20-φ31
500	350	715	650	20-φ34
600	390	840	770	20-φ37



Specification

- Nominal diameter: DN50-DN600
- Maximum operating pressure: PN16
- Operating temperature: 0℃-80℃
- Liquid media: Water
- Connection standard: GB/T 17241.6-2008
- Test standard: GB/T 13927-2008

Typical Applications

- Water plant and water source engineering
- Environmental protection
- Municipal facilities
- Electricity and utilities
- Construction industry

Model Descriptions

1. Compare the rated parameters required by the equipment with the rated parameters indicated on the product to ensure that the product meets the required requirements;
2. The installation personnel must be well trained and experienced to ensure the smooth completion of the installation;
3. Thorough inspection is required after the installation to ensure that the installation is correct.
4. To avoid unexpected incidents during the installation, thorough cleaning of the pipeline system (using chemical agents if necessary) is required before installing the product, so as to ensure the cleanliness, and absence of rust and debris in the pipeline system. All filtration devices should be removed before flushing to ensure unobstructed flow in the pipeline;
5. It is recommended to install temporary pipelines at the equipment installation points during the initial system cleaning. The equipment can be installed onto the pipelines after flushing is completed;
6. Please avoid using this equipment in places where the medium contains excessive grease, mineral oil, or corrosive substances with high viscosity;
7. Use flanges that comply with the standards and secure them with corresponding bolts;
8. During installation, pay attention to aligning the flow direction of the medium with the direction indicated by the arrow on the valve body.

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Series W-H41X-25C

Silent Check Valve

Size: DN50-DN600

The Watts W-H41X Silent Check Valve is designed to prevent medium backflow; it can automatically open and close the valve disc, relying on the flow of medium itself. It's generally used in construction industry, water treatment, etc.

Features

- Simple structure, low manufacturing cost
- Rely on the flow of medium itself to open and close the disc
- No noise

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: 0°C~80°C

Material

Component	Material
Body	Carbon Steel with Spray Paint
Disc	Stainless Steel/Carbon Steel
Sealing	NBR
Spring	Stainless Steel

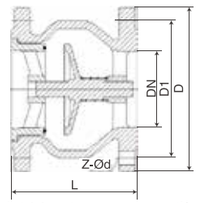
Operating Principles

When media flow in a specified direction, the disc opens because of the media; when media back flow, the sealing faces of the disc and seat tightly fit because of the gravity of disc and the effect of backward force of media and spring force, realizing the purpose of preventing media backflow.

Installation Dimensions

Connection Dimension: GB/T 9113

DN	L	D	D1	Z-Ød
50	120	165	125	4-Ø18
65	130	185	145	8-Ø18
80	150	200	160	8-Ø18
100	165	235	190	8-Ø22
125	190	270	220	8-Ø26
150	210	300	250	8-Ø26
200	255	360	310	12-Ø26
250	310	425	370	12-Ø30
300	320	485	430	12-Ø30
350	380	555	490	16-Ø33
400	405	620	550	16-Ø36
450	430	670	600	20-Ø36
500	450	730	660	20-Ø36
600	510	845	770	20-Ø39



Specification

- Test Standard: GB/T 13927-2008
- Connection Standard: GB/T 17241.6
- Working Medium: Water

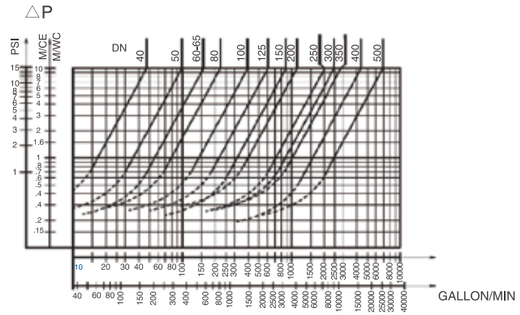
Typical Application

- Water plant and water source project
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry

Operating Principles

When media flow in specified direction, the disc opens because of media; when media back flows, the sealing faces of disc and seat tightly fit to close because of the gravity of disc and the action of media backward force and spring force on the disc, realizing the purpose of preventing medium backflow.

△P



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Series W-H77X-16Q

Wafer Double Door Check Valve

Size: DN50-DN600

The Watts W-H77X Wafer Style Check Valve is designed to automatically open the valve by the flow of the medium itself, and close the disc relying on the spring torsion and medium flow, which is used to prevent the backflow of the medium. It's generally used in building services, water treatment, plate heat exchanger, etc.



Features

- Light weight and compact structure
- Rely on the torsion spring to quickly close on its own
- Can be installed in both horizontal and vertical pipes
- Safe and reliable performance, good anti-interference performance

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -10°C~120°C

Test Pressures

Hydraulic
Shell: 24 bar
Seat: 17.6 bar

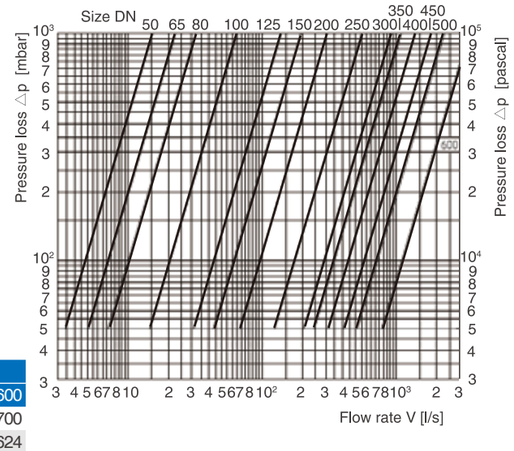
Material

No.	Component	Material	Standard
1	Body	Gray Cast Iron coated with Epoxy	
2	Seat	EPDM	
3	Disc	Stainless Steel	CF8
4	Spring	Stainless Steel	316
5	Valve Shaft	Stainless Steel	410

Specification

- Connection Standard: EN1092-2
- Connection Type: Wafer
- Medium: water

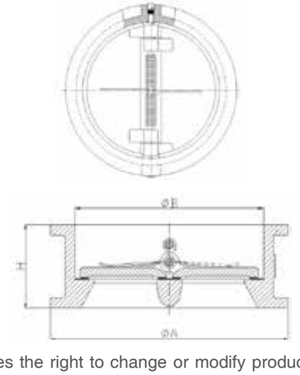
Characteristic Curve



Installation Dimensions

Connection Dimension:EN558-1 series 16

Dimension (mm)	DN(mm)													
	50	65	80	100	125	150	200	250	300	350	400	450	500	600
A	107	127	142	162	192	218	273	328	380	439	490	539	594	700
B	65	80	94	117	145	170	224	265	310	360	410	450	505	624
H	43	46	64	64	70	76	89	114	114	127	140	152	152	178



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Series W-H44X-16Q

Swing Check Valve

Size: DN50-DN600

The Watts W-H44X Swing Check Valve is designed to automatically open and close the disc by relying on flow of the medium itself to prevent media backflow. It's generally used in petroleum, chemical industry, metallurgy, water treatment, etc.



Features

- Good opening and closing performance under low pressure
- Low head loss
- The disc is coated with rubber, avoiding pollution
- Long service life

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: 0°C~80°C

Material

Component	Material
Body	Ductile Iron Coated with Epoxy
Bonnet	Ductile Iron Coated with Epoxy
Disc	Ductile Iron Coated with EPDM

Operating Principles

When media flow in specified direction, the disc opens because of the media; when media back flows, the disc automatically closes because of the flow of medium itself, realizing the purpose of preventing media backflow.

Installation Dimensions

Connection Dimension: GB/T 17241.6

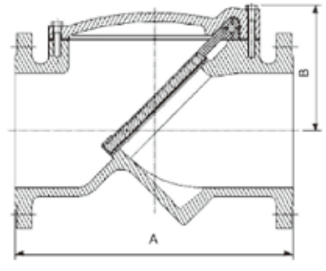
DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
A	203	216	241	292	330	356	495	622	696	787	914	978	978	1295
B	86	100	110	120	140	150	180	251	310	350	380	400	450	520

Specification

- Test Standard: GB/T 13927-2008
- Working Medium: Water

Typical Application

- Water plant and water source project
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry
- Petroleum & Chemical industry
- Steel & Metallurgy
- Papermaking industry



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Series W-HQ41X-16Q

Ball Check Valve

Size: DN50-DN400

The Watts W-HQ41X Ball Check Valve is designed to automatically open and close the spherical valve disc by the flow of medium itself, which is used to prevent the backflow of medium. It's generally used in petroleum, chemical industry, metallurgy, water treatment, etc.

Features

- Simple Structure, light weight
- The spherical disc closes quickly
- Good sealing performance
- Long service life, high Reliability

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: 0°C~80°C

Material

Component	Material
Body	Ductile Iron coated with Epoxy
Bonnet	Ductile Iron coated with Epoxy
Spherical Valve Disc	Cast Aluminium or Cast Iron coated with NBR

Operating Principles

When the medium flows in accordance with the regulation direction, the spherical valve disc opens because of the force of medium; when the medium counters current, the spherical valve disc closes on its own quickly, relying on the flow of medium itself, to reach the purpose of preventing medium countercurrent.

Installation Dimensions

Connection Dimension: GB/T 17241.6

DN	50	65	80	100	125	150	200	250	300	400
L	200	249	260	300	350	400	500	600	700	900
H	105	130	162	185	245	298	374	456	541	720

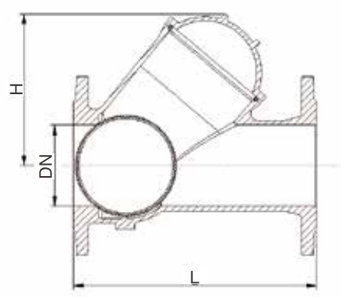


Specification

- Test Standard: GB/T 13927-2008
- Connection Standard: GB/T 17241.6
- Working Medium: Water

Typical Application

- Water plant and water source project
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry
- Petroleum & Chemical industry
- Steel & Metallurgy
- Papermaking industry



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Series W-H44W-16P

Stainless Steel Flanged Swing Check Valve

Size: DN50-DN200

It is mainly designed to prevent against medium backflow and prevent a pump and its drive motor from reversal. The Watts W-H44W-16P stainless steel check valve has a wide range of applications in municipal facilities, building construction, water supply engineering, and other similar water supply and drainage systems, which have stringent requirements for water quality.

Features

- Unobstructed flow passage and low fluid resistance
- Quick disc closing
- Sensitive action and excellent sealing performance
- Long service life, high reliability

Pressure-Temperature

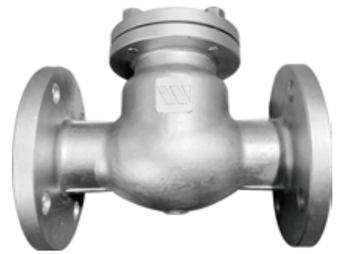
- Nominal Pressure: PN16
- Temperature Range: -29°C~150°C

Material

Component	Material	Standard
Body	Stainless Steel	CF8
Cover	Stainless Steel	CF8
Disc	Stainless Steel	CF8
Swinging Arm	Stainless Steel	304

Installation Dimensions

Size DN	Dimensions						
	L	D	D1	D2	b	f	Z-Ød
50	230	160	125	100	16	3	4-Ø18
65	290	180	145	120	18	3	4-Ø18
80	310	195	160	135	20	3	8-Ø18
100	350	215	180	155	20	3	8-Ø18
125	400	245	210	185	22	3	8-Ø18
150	480	280	240	210	24	3	8-Ø23
200	500	335	295	265	26	3	12-Ø23
250	650	405	355	320	30	3	12-Ø25
300	750	460	410	375	30	4	12-Ø25

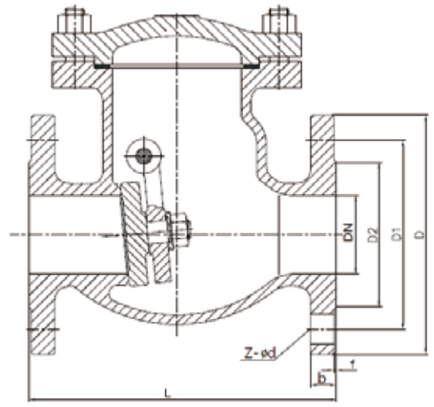


Specification

- Test Standard: GB/T 13927-2008
- Connection Standard: JB/T 79.1-1994
- Connection Type: Flange Type
- Working Medium: Water

Operating Principles

When medium flows in the required direction, the disc is opened by the force of medium to achieve medium flowing.
When the pressure at the inlet end is lower than that at the outlet end, the disc will be closed by its own weight and under the pressure applied by medium reverse flow, preventing against medium backflow.



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Series B5002/B5002N

Bronze Check Valve

Size: DN15-DN50

The Watts B5002 Bronze Check Valve is designed to protect against medium backflow. The series is suitable for potable water application.

Features

- Simple Structure
- Low head loss
- Long Service Life

Pressure-Temperature

- Nominal Pressure: PN20
- Temperature Range: 0°C~80°C

Test Pressures

Pneumatic	Hydraulic
Shell: 6 bar	Seat: 30 bar
Shell: 6 bar	Seat: 22 bar

Material

NO.	Component	Material	ASTM Spec
1	Drive Screw	Copper	TP2
2	Name Plate	Aluminum	
3	Cap	Bronze	CC491K
4	Packing	PTFE	
5	Hinge Pin	Stainless Steel	304
6	Hinge	Bronze	CC491K
7	Disc	NBR	
8	Disc Holder	Bronze	CC491K
9	Hinge Nut	Stainless Steel	304
10	Body	Bronze	CC491K

Installation Dimensions

DN	Rc	d	L	H	A	Weight(kg)
DN15	1/2	12	58	36.5	10	0.22
DN20	3/4	18	66	43	11	0.37
DN25	1	24	76	49	12.7	0.54
DN32	1 1/4	30.6	88	57	14.5	0.83
DN40	1 1/2	37	96	62.5	15	1.12
DN50	2	48.6	112	72	18	1.74

*Available in both connection standard BSPT & NPT

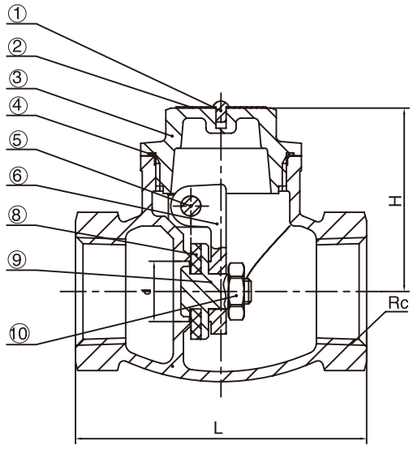


Specification

- Design Standard: GB/T 8464
- Connection Standard: Threaded to
- BS21 BSPT, Available with NPT threading Model B5002N
- Test Standard: BS6755
- Medium: water, oil, steam

Approval

WRAS APPROVED PRODUCT



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Series W-H44T-16Q

Swing Check Valve

Size: DN50-DN300

The series W-H44T Swing Check Valve is designed to protect against medium backflow. It's generally used in plumbing, HVAC, irrigation, commercial, and industrial application.

Features

- Simple structure
- Low head loss
- Long service life

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -15˚C~120˚C

Test Pressures

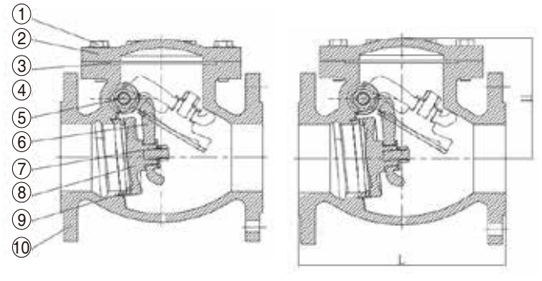
Hydraulic
Shell: 24bar
Seat: 17.6bar

Material

NO.	Component	Material
1	Bolt	Stainless Steel
2	Valve Bonnet	Ductile Iron(16Q)
3	Gasket	Graphite
4	Hinge Pin	Stainless Steel
5	Plug	Stainless Steel
6	Arm	Ductile Iron
7	Bolt Assembly	Stainless Steel
8	Valve Disc	Ductile Iron(16Q)
9	Seat&Discring	Bronze
10	Valve Body	Ductile Iron(16Q)

Installation Dimensions

Dimension (mm)	DN (mm)								
	50	65	80	100	125	150	200	250	300
L	203	216	241	292	330	356	495	622	698
H	113	133	142	163	197	212	257	299	331

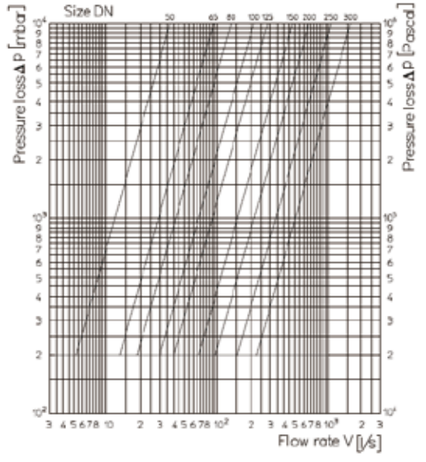




Specification

- Design Standard: BS5153
- Connection Standard: PN16 to EN 1092-2
- Connection: Flange
- Corrosion Protection: internally and externally liquid epoxy painted
- Medium: water

Characteristic Curve



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Series W-H44T-125Q

Swing Check Valve

Size: DN50-DN300

The series W-H44T Swing Check Valve is designed to protect against medium backflow. It's generally used in plumbing, HVAC, irrigation, commercial, and industrial application.

Features

- Simple structure
- Low head loss
- Long service life

Pressure-Temperature

- Nominal Pressure: CL125
- Temperature Range: -15˚C~120˚C

Test Pressures

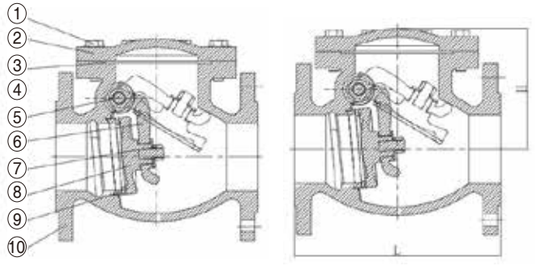
Hydraulic
Shell: 24bar
Seat: 17.6bar

Material

NO.	Component	Material
1	Bolt	Stainless Steel
2	Valve Bonnet	Cast Iron
3	Gasket	Graphite
4	Hinge Pin	Stainless Steel
5	Plug	Stainless Steel
6	Arm	Ductile Iron
7	Bolt Assembly	Stainless Steel
8	Valve Disc	Cast Iron
9	Seat& Disc ring	Bronze
10	Valve Body	Ductile Iron

Installation Dimensions

Dimension (mm)	DN (mm)								
	50	65	80	100	125	150	200	250	300
L	203	216	241	292	330	356	495	622	698
H	118	132	140	162	175	210	240	287	319

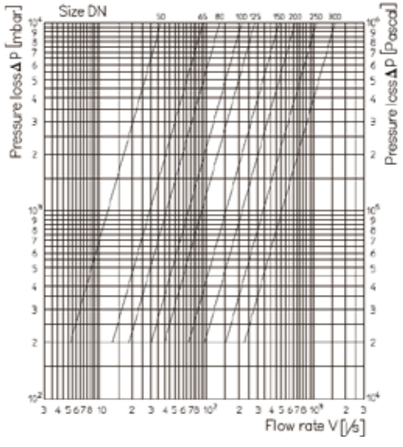




Specification

- Design Standard: MSS SP-71
- Connection Standard: CL125 to ANSI B16.1
- Connection: Flange
- Corrosion Protection: internally and externally liquid epoxy painted; Color: WATTS blue
- Medium: water, oil, gas

Characteristic Curve



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Series W-DPC01

Dual Plate Wafer Check Valve

Size: DN50-DN300

The Watts Series W-DPC01 Wafer Check valves are designed for to protect pumps and other critical service equipment from flow reversal during normal operation. They are intended for installation on pipes with either horizontal or vertically upwards flow in HVAC and other fluid systems that are compatible with the materials of construction.

Pressure-Temperature

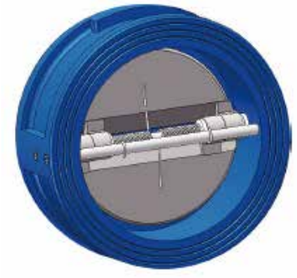
- Nominal Pressure: 1600 kPa
- Working Temperature: -10°C~90°C

Test Pressures

- Up to 2400 kPa

Material

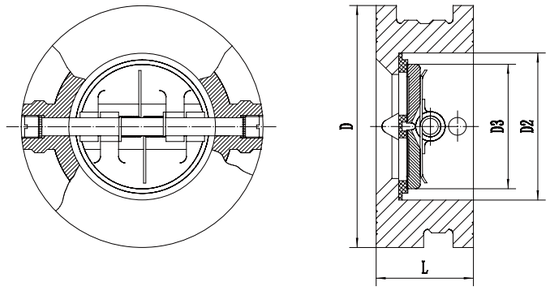
Component	Material
Body	Cast Iron
Disc	Stainless Steel
Spring	Stainless Steel
Seat	EPDM
Stem	Stainless Steel
Adjustment pad	PTFE



Specification

- Connection Type: Wafer Construction for fitment between Table E flanges
- Working Medium: Non corrosive liquids

Installation Dimensions



Size DN(mm)	D	L	D2	D3
DN50	96	43	65	56
DN65	109	46	80	70
DN80	128	64	94	85
DN100	160	64	117	101
DN125	192	70	145	133.5
DN150	213	76	170	155.5
DN200	270	89	224	208
DN250	328	114	265	251
DN300	378	114	310	292

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Series W5000

Stainless Steel Check Valve

Size: DN15-DN100

W5000 series stainless steel check valve is designed to protect against medium backflow.With welding and clamp connection types available for selection, the product is suitable for use in the fields of liquid cooling and industrial application.



Welding



Clamp

Features

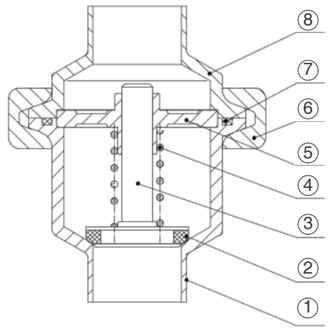
- Low resistance
- Convenient maintenance
- De-oiling and de-greasing

Pressure-Temperature

- Nominal pressure: PN10
- Temperature range: -10°C-100°C
- Connection standard: Welding: DIN 11850 / ISO 2037
  Clamp: DIN 32676 / ISO 2852
- Test standard: GB/T 13927
- Suitable media: water, ≤50% ethylene glycol

Materials

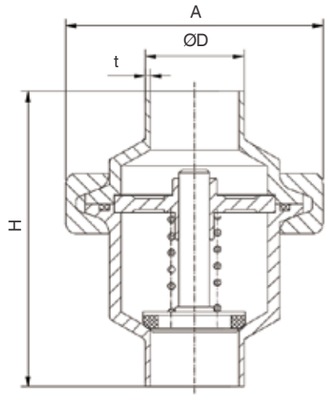
No.	Part	Material
1	Body	Stainless steel
2	Seal	EPDM(FKM optional)
3	Dsic	Stainless steel
4	Spring	Stainless steel
5	Seat	Stainless steel
6	Clamp	Stainless steel
7	Seal	EDPM(FKM optional)
8	Bonnet	Stainless steel



Installation Dimensions

DIN welding

Type	DN	ØD	t	ØA	H
W5600	DN15	19	1.5	72	97
	DN20	23	1.5	72	97
	DN25	29	1.5	72	97
	DN32	35	1.5	72	97
	DN40	41	1.5	87	97
	DN50	53	1.5	102	97
	DN65	70	2	116	97
	DN80	85	2	144.5	101
	DN100	104	2	169.3	103



DIN welding

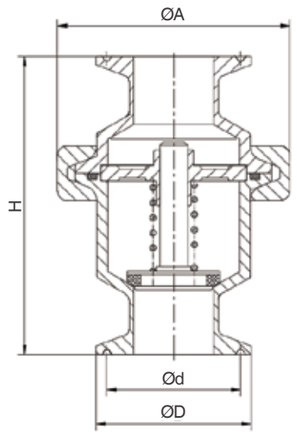
Type	Size	ØD	t	ØA	H
W5600	3/4	19.05	1.5	72	97
	1	25.4	1.5	72	97
	11/4	31.8	1.5	72	97
	11/2	38.1	1.5	72	97
	2	50.8	1.5	87	97
	21/2	63.5	2.0	102	97
	3	76.2	2.0	116	97
	31/2	88.9	2.0	144.5	101
	4	101.6	2.0	169.3	103

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W5000-EN-202312

DIN clamp

Type	DN	ØD	Ød	ØA	H
W5800	DN15	34	27.5	72	97
	DN20	34	27.5	72	97
	DN25	50.5	43.5	72	97
	DN32	50.5	43.5	72	97
	DN40	50.5	43.5	87	97
	DN50	64	56.5	102	97
	DN65	91	83.5	116	97
	DN80	106	97	144.5	101
	DN100	119	110	169.3	103



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Series W-FBV-G

2-Piece, Full Port, Bronze Ball Valve

Size: DN15-DN50

The Watts W-FBV 2-Piece, Full Port, Bronze Ball Valves is designed to cut off or get through the media in the pipeline, and also adjust and control the fluid. It's generally used in building services, water treatment, etc.



Features

- Compact structure, reliable sealing
- Simple structure, convenient maintenance
- In the closed state, sealing surface and spherical surface are not easily to erode by media
- Convenient operation, quick opening and closing, easy to maintenance
- Unrestricted media flow direction
- Small fluid resistance

Pressure-Temperature

- Nominal Pressure: PN40
- Temperature Range: -18°C~177°C

Material

Component	Material
Body	Bronze
Bonnet	Bronze
Stem	Brass
Ball	Brass
Hand Wheel	Galvanized Carbon Steel
Seat	PTFE

Specification

- Test Standard: GB/T 13927-2008
- Working Medium: Water, oil and gas

Typical Application

- Water plant and water source project
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry

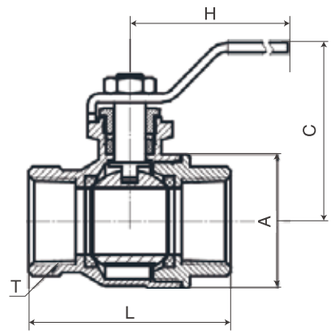
Operating Principles

Relying on the handle to rotate the valve stem, and the stem drives the ball to open and close within the range of 0~90°.

Installation Dimensions

Connection Dimension: GB/T 17241.6

DN	H	C	L	A	T
15	96.6	46.1	50.2	29.3	G 1/2
20	118.3	58.8	60.5	40.8	G 3/4
25	128.5	66.8	72.7	50.3	G 1
32	128.6	73.8	81.2	60.8	G 1-1/4
40	148.6	82.6	89.8	70.3	G 1-1/2
50	163.4	90.5	104.5	87.3	G 2



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Series W-Q41F-16C

Flanged Ball Valve

Size: DN50-DN150

Used to cut off or connect medium in the pipeline, and to regulate and control fluid.



Features

- Compact structure, reliable sealing
- The sealing faces and the sphere are in a closed state, so they are not easily eroded by medium
- Easy to operation, quick opening and closing and easy to repair and maintain
- Unrestricted medium flow direction
- Low fluid resistance

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -20°C~120°C

Material

Component	Material
Body/ Cover	Carbon Steel Surface Painting
Stem	Stainless Steel
Ball	Stainless Steel
Handwheel	Carbon Steel
Seat	PTFE

Specification

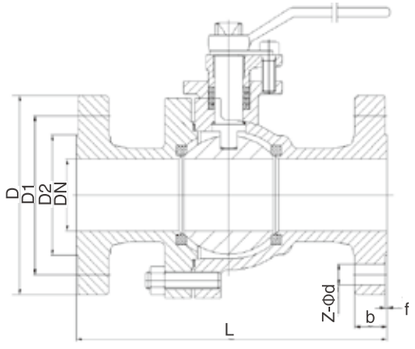
- Test Standard: GB/T 13927-2008
- Connection Standard: GB/T 9113
- Working Medium: Water, oil, gas

Operating Principles

The stem is driven by the handle and simultaneously drives the ball to rotate between 0° and 90° for opening and closing of the valve.

Installation Dimensions

Size DN	Dimensions						
	L	D	D1	D2	b	f	Z-Ød
50	200	165	125	100	20	2	4-18
65	220	185	145	120	20	2	4-18
80	250	200	160	135	20	2	8-18
100	280	220	180	155	22	2	8-18
125	320	250	210	185	22	2	8-18
150	394	285	240	210	24	2	8-22



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Series W-Q11F-25P

Stainless Steel Threaded Ball Valve

Size: DN15-DN50

Watts W-Q11F-25P is used to cut off or connect medium in the pipeline, and to regulate and control fluid.This W-Q11F-25P stainless steel ball valve has a wide range of applications in municipal facilities, building construction, water supply engineering, and other similar water supply and drainage systems, which have stringent requirements for water quality. It also has other applications which have higher requirements for valve opening and closing speed and flow resistance, as it can be turned on and off quickly and its flow resistance is low.



Features

- Low fluid resistance
- Reliable sealing
- Easy to operation, quick opening and closing
- Unrestricted medium flow direction
- Simple structure, small volume and light weight

Specification

- Test Standard: GB/T 13927-2008
- Connection Standard: GB/T 7306.2
- Connection Type: Thread Type
- Working Medium: Water

Pressure-Temperature

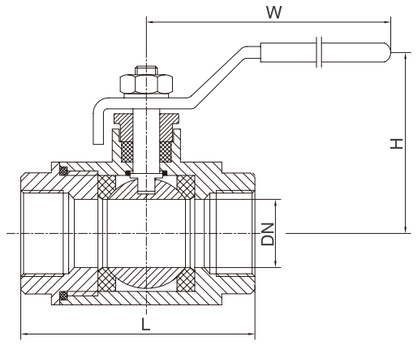
- Nominal Pressure: PN25
- Temperature Range: -20°C~120°C

Operating Principles

The stem is driven by the handle and simultaneously drives the ball to rotate between 0° and 90°, so realizing the opening and closing of the valve.

Material

Component	Material	Standard
Body	Stainless Steel	CF8
Ball	Stainless Steel	304
Stem	Stainless Steel	304
Seat	PTFE	



Installation Dimensions

Size DN	Dimensions		
	L	W	H
15	61	100	55
20	70	110	56
25	81	120	64
32	95	140	80
40	105	160	88
50	118	175	95

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Series W-Q41F-16P

Stainless Steel Flanged Ball Valve

Size: DN50-DN200

Watts W-Q41F-16P is used to cut off or connect medium in the pipeline, and to regulate and control fluid.The Watts W-Q41F-16P stainless steel ball valve has a wide range of applications in municipal facilities, building construction, water supply engineering, and other similar water supply and drainage systems, which have stringent requirements for water quality. It also can fit with applications which have higher requirements for valve opening and closing speed and flow resistance, as it can be turned on and off quickly and its flow resistance is low.



Features

- Low fluid resistance
- Reliable sealing
- Easy to operation, quick opening and closing
- Unrestricted medium flow direction
- Simple structure, small volume and light weight

Specification

- Test Standard: GB/T 13927-2008
- Connection Standard: JB/T 79.1-1994
- Connection Type: Flange Type
- Working Medium: Water

Pressure-Temperature

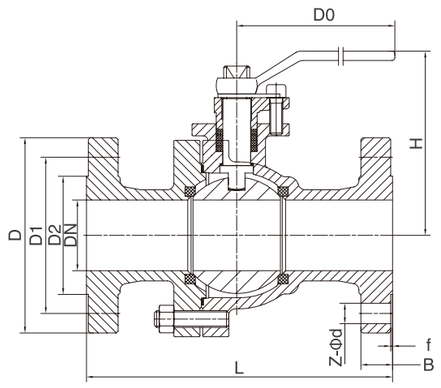
- Nominal Pressure: PN16
- Temperature Range: -20°C~120°C

Operating Principles

The stem is driven by the handle and simultaneously drives the ball to rotate between 0° and 90°, so realizing the opening and closing of the valve.

Material

Component	Material	Standard
Body	Stainless Steel	CF8
Ball	Stainless Steel	304
Stem	Stainless Steel	304
Seat	PTFE	



Installation Dimensions

Size DN	Dimensions						Weight (kg)
	L	D	D1	D2	B-f	Z-Ød	
50	200	160	125	100	16-3	4-Ø18	7.2
65	220	180	145	120	18-3	4-Ø18	11.2
80	250	195	160	135	20-3	8-Ø18	14
100	280	215	180	155	20-3	8-Ø18	18
125	320	245	210	185	22-3	8-Ø18	28
150	360	280	240	210	24-3	8-Ø23	34.3
200	400	335	295	265	26-3	12-Ø23	65

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Series FBV-25/25N

Bronze Ball Valve

Size: DN15-DN50

The Watts FBV-25 Bronze Ball Valve is light compact design, easy to install and operate. The series is designed to be used for water, oil and gas applications.

Features

- Light, compact, and easy to install and operate
- Minimal pressure drop due to full size ports
- Low operating torque

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: 0°C~170°C

Test Pressures

Pneumatic	Hydraulic
Shell: 6 bar	Shell: 37.5 bar
Shell: 6 bar	Seat: 27.5 bar

Material

No.	Component	Material	Standard
1	Seat Retainer	Bronze	CC491K
2	Gasket	PTFE	
3	Seat	PTFE	
4	Ball	Brass	CW614N
5	Body	Bronze	CC491K
6	Stem	Brass	CW614N
7	Stem Gasket	PTFE	
8	Packing	PTFE	
9	Gland Nut	Brass	CW614N
10	Lever	Carbon Steel	Q235
11	Lever Cover	PVC	
12	Gasket	Steel	65Mn
13	Lever Nut	Brass	CW614N

Installation Dimensions

DN	d	L	L1	H	A	Weight(kg)
DN15	14	53	95	44	12	0.219
DN20	19	61	110	51	13	0.359
DN25	24	71	110	55	14.5	0.519
DN32	31	85	140	65	16.5	0.801
DN40	38	92	140	70	16.5	1.03
DN50	49	114	160	83	21	1.798

*Available in both connections standard BSPT & NPT



Specification

- Connection Standard: Threaded to BS21 BSPT, Available with NPT threading Model FBV-25N
- Test Standard: BS6755
- Medium: water, oil, steam

Approval

WRAS APPROVED PRODUCT



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Series LF-FBV

Bronze Ball Valve 2-Piece, Full Port

Size: DN15-DN50

The series LF-FBV Bronze Ball Valve is designed to be used for water, oil and gas, and also applies to aggressive media such as oxygen, hydrogen peroxide, methane, and ethylene, etc.

Features

- Suitable for a full range of liquids and gases
- Minimal pressure drop due to full-size ports
- Bottom loaded blowout proof stem
- Virgin PTFE stem packing seal, thrust washer and seat
- Vinyl insulator on heavy-duty zinc plated carbon steel handles
- Fast quarter-turn open or close operation
- Excellent for throttling and balancing application of non-abrasive fluids where the minimum flow is 20% to 100% of valve capacity
- Low operating torque
- Adjustable stem packing gland
- 600psi(41 bar) WOG, 125psi(8.6 bar) WSP

Pressure-Temperature

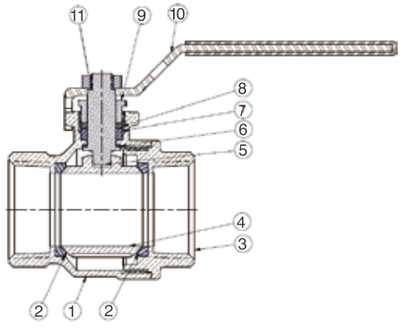
- Nominal Pressure: PN41
- Temperature Range: -18°C~177°C

Test Pressures

Pneumatic
Shell: 6 bar
Seat: 6 bar

Material

No.	Component	Material	Standard
1	Body	Bronze	C84400
2	Seats	Virgin PTFE	
3	Adaptor	Forged brass	
4	Ball	Stainless Steel	304
5	Stem	Brass	
6	Thrust Washer	Virgin PTFE	
7	Stem Packing	Virgin PTFE	
8	Packing Spacer		Hpb59-3
9	Packing Nut	Brass	
10	Handle	Zinc plated carbon steel with vinyl insulator	
11	Handle Nut	Zinc plated carbon steel	





Specification

- Design standard: MSS SP-110
- Connection Standard: Thread PTF to ANSI B1.20.3
- Test Standard: MSS SP-110
- Medium: water, oil, gas

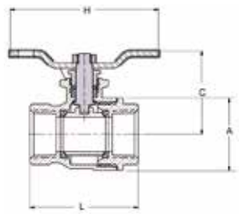
Approval

NSF

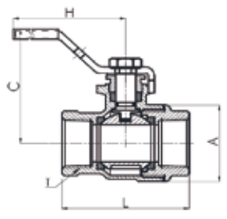
Installation Dimensions

DN	H	C	L	A	T
DN15	79.5	38.2	50.2	29.3	1/2"-14 PTF-SAESHORT
DN20	84.5	45.9	60.5	40.8	3/4"-14 PTF-SAESHORT
DN25	84.5	54.6	72.7	50.3	1"-11.5 PTF-SAESHORT
DN32	128.6	72.3	81.2	60.8	1 1/4"-11.5 PTF-SAESHORT
DN40	148.6	81.1	89.9	70.3	1 1/2"-11.5 PTF-SAESHORT
DN50	163.4	89.0	104.5	87.3	2"-11.5 PTF-SAESHORT

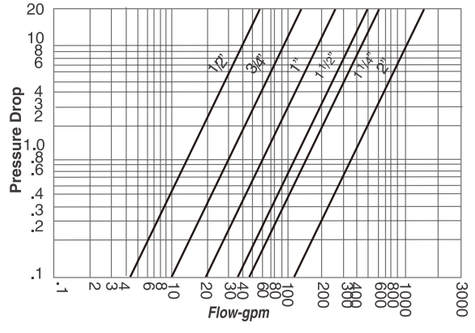
DN15-DN50



DN32-DN50



Characteristic Curve



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Series W-L-FBV-BSPT

Bronze Ball Valve 2-Piece, Full Port

Size: DN15-DN50

The series W-L-FBV-BSPT Bronze Ball Valve is designed to be used for water, oil and gas, and also applies to aggressive media such as oxygen, hydrogen peroxide, methane, and ethylene, etc.

Features

- Suitable for a full range of liquids and gases
- Minimal pressure drop due to full-size ports
- Bottom loaded blowout proof stem
- Virgin PTFE stem packing seal, thrust washer and seat
- Vinyl insulator on heavy-duty zinc plated carbon steel handles
- Fast quarter-turn open or close operation
- Excellent for throttling and balancing application of non-abrasive fluids where the minimum flow is 20% to 100% of valve capacity
- Low operating torque
- Adjustable stem packing gland
- 600psi(41 bar) WOG, 125psi(8.6 bar) WSP

Pressure-Temperature

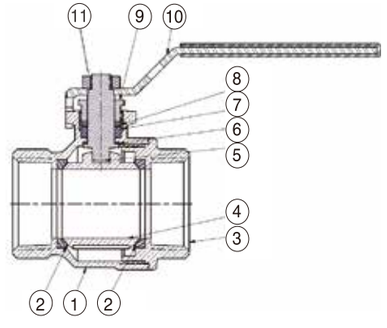
- Nominal Pressure: PN41
- Temperature Range: -18°C~177°C

Test Pressures

Pneumatic
Shell: 6 bar
Seat: 6 bar

Material

No.	Component	Material	Standard
1	Body	Lead Bronze	
2	Seats	Virgin PTFE	
3	Adaptor	Forged brass	
4	Ball	Stainless Steel	304
5	Stem	Brass	
6	Thrust Washer	Virgin PTFE	
7	Stem Packing	Virgin PTFE	
8	Packing Spacer		Hpb59-3
9	Packing Nut	Brass	
10	Handle	Zinc plated carbon steel with vinyl insulator	
11	Handle Nut	Zinc plated carbon steel	





Specification

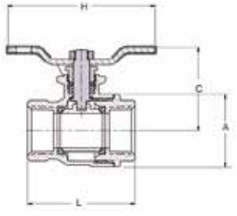
- Design standard: MSS SP-110
- Connection Standard: Thread BSPT to BS21
- Test Standard: MSS SP-110
- Medium: water, oil, gas

Approval

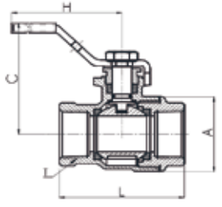
Installation Dimensions

DN	H	C	L	A	T
DN15	79.5	38.2	50.2	29.3	1/2"-14 PTF-SAESHORT
DN20	84.5	45.9	60.5	40.8	3/4"-14 PTF-SAESHORT
DN25	84.5	54.6	72.7	50.3	1"-11.5 PTF-SAESHORT
DN32	128.6	72.3	81.2	60.8	1 1/4"-11.5 PTF-SAESHORT
DN40	148.6	81.1	89.9	70.3	1 1/2"-11.5 PTF-SAESHORT
DN50	163.4	89.0	104.5	87.3	2"-11.5 PTF-SAESHORT

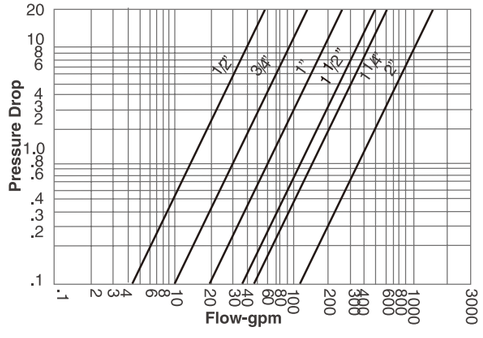
DN15-DN50



DN32-DN50



Characteristic Curve



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Series LFFBV-3C-M1

2-Piece, Full Port, Lead-Free Brass Ball Valve

Size: DN8-DN100

Series LFFBV-3C-M1, 2-piece, full port, Lead-Free ball valves are used in commercial and industrial applications for a full range of liquids and gases. They feature a bottom-loaded blowout proof stem, virgin PTFE seats, thrust washer, and adjustable stem packing gland, stem packing nut, chrome plated Lead-Free brass ball, copper silicon alloy brass adapter, and steel handle. The Series LFFBV-3C-M1 features Lead-Free construction to comply with Lead-Free* installation requirements.

Features

- Lead-Free forged copper silicon alloy body and adapter
- Fluorocarbon elastomer stem O-ring prevents stem leaks
- Adjustable stem packing gland for easy maintenance
- PTFE stem packing seal, thrust washer, and seats for reliable performance
- Bottom loaded blowout proof stem
- Available with stem extension

Pressure-Temperature

- Nominal Pressure: PN41(1/4"-2"); PN27(2 1/2"-3")
- Temperature Range: -40°C~204°C

Material

No.	Component	Material	Standard
A	Handle Nut	Zinc plated carbon steel	
B	Handle Assembly	Zinc plated carbon steel with vinyl insulator	
C	Packing Nut	Brass	HPB59-3
D	Stem Packing	Virgin PTFE	
E	O-ring	Fluorocarbon elastomer (FKM)	
F	Thrust Washer	Virgin PTFE (for the 2"-4")	
G	Stem	Brass	HPb59-1
H	Tag	Cardboard, Mylar coated both sides	
I	Body	Forged Lead Free* copper silicon alloy WTS-LLB	
J	Seats	Virgin PTFE	
K	Ball	Chrome plated Lead Free* brass	DN8-DN32 HBI59-1.5 DN40-DN100 C46500
L	Adapter	Forged Lead Free* copper silicon alloy brass	WTS-LLB



Specification

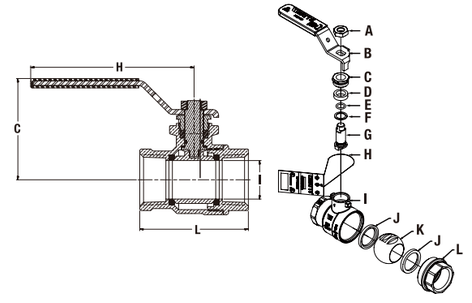
- Design Standard: MSS-SP-110
- Connection Standard: NPT to ASME B1.20.1
- Threaded valves 1/4"-2" shall be CSA approved to 1/2, 5, and 125psig (14, 34 and 862 kPa), UL/FM approved and 1/4"-4" certified to NSF/ANSI standard 61/8
- Solder valves 1/2"-2" to be UL listed FM approved, and certified to NSF/ANSI standard 61/8

Test Pressures

Pneumatic
Shell: 6 bar
Seat: 6 bar

Approval

FM Approved



Installation Dimension

Size	Dimensions												Weight	
	C		H		H1		I		L		L1		Threaded	
in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
1/4	1 13/16	46	3 7/16	87	-	-	1/2	13	2	48	-	-	0.4	0.2
3/8	1 13/16	46	3 7/16	87	-	-	1/2	13	2	48	-	-	0.4	0.2
1/2	1 13/16	46	3 7/16	87	3 7/16	87	1/2	13	2 3/8	61	2 1/16	52	0.4	0.2
3/4	2 1/4	53	4 1/16	103	4 1/16	103	3/4	18	2 7/16	62	2 1/2	66	0.7	0.3
1	2 3/8	60	4 1/4	108	4 1/4	108	1 5/16	24	3 1/16	77	3 1/4	83	1.2	0.5
1 1/4	2 1/2	64	4 1/4	108	4 1/4	108	1 1/4	31	3 6/16	85	3 3/4	93	1.6	0.7
1 1/2	3	76	5 1/4	135	5 5/16	135	1 1/2	37	3 3/4	93	4 1/4	107	2.4	1.1
2	3 1/2	89	6	152	6	152	1 15/16	50	4 1/8	108	5 1/4	135	4.0	1.8
2 1/2	4 1/16	103	7 3/8	187	7 3/8	187	2 1/2	64	5 1/2	140	6 1/4	158	8.3	3.8
3	4 1/2	114	7 3/4	197	7 3/4	197	3	75	6 5/16	161	7 3/8	184	12.5	5.7
4	5 3/8	136	9 5/8	245	-	-	4	102	7 5/8	194	-	-	23.3	10.6

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Series LFFBV-4

2-Piece, Full Port, Brass Ball Valves

Size: DN8-DN80

Series LFFBV-4, 2-Piece, Full Port, Brass Ball Valves are suitable for a full range of liquids and gases in residential and commercial applications. These valves feature an adjustable packing for longer service life, a bottom loaded blow-out proof stem for safety, a fluorocarbon elastomer stem O-ring to prevent stem leaking at installation.



Features

- Machined chrome-plated Lead Free brass ball
- Metal-to-metal adapter body seal to eliminate adapter leaks after soldering
- Fluorocarbon elastomer stem O-ring prevents stem leaks
- Adjustable stem packing gland provides longer service life
- Bottom loaded blowout proof stem
- PTFE stem packing seal and seats

Material

No.	Component	Material
A	Handle Nut	Zinc pated carbon steel
B	Handle Assembly	Zinc pated carbon steel with vinyl insulator
C	Packing Nut	Brass
D	Stem Packing	Virgin PTFE
E	O-Ring	Fluorocarbon elastomer (FKM)
G	Stem	Machined Brass
H	Tag	Cardboard, Mylar coated both sides
I	Body	Forged Lead Free* copper silicon alloy
J	Seats	Virgin PTFE
K	Ball	Chrome plated Lead Free* brass
L	Adapter	Forged Lead Free* copper silicon alloy

Specification

- Design Standard: MSS-SP-110
- Connection Standard: Threaded size ½"-3" are CSA approved to ½ psig and 5 psig and certified to NSF/ANSI Standard 61/8 by NSF. Solder valves are certified by NSF to NSF/ANSI Standard 61/8

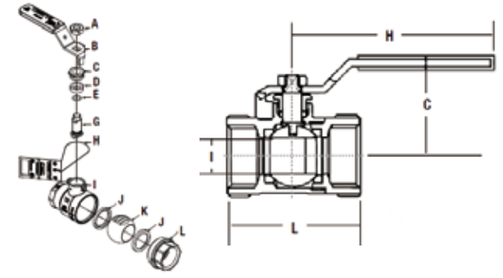
Pressure-Temperature

- Nominal Pressure: PN41(¼"-2"); PN27(2½"-3")
- Temperature Range: -40°C~204°C

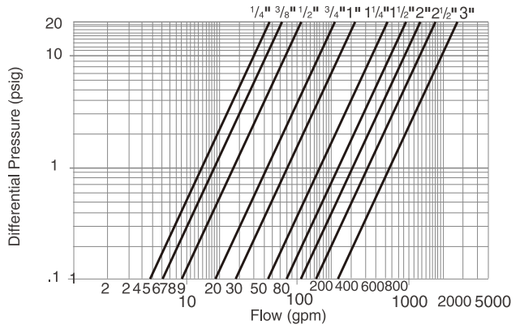
Approval

Installation Dimension

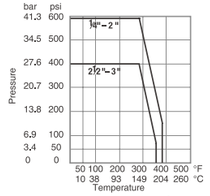
Size	Dimensions								
	C	H		I		L		FBV-4	
in.	in.	in.	mm	in.	mm	in.	mm	lbs.	kg
¼	1 13/16	3 7/16	87	7/16	11	1 3/4	45	0.4	0.16
⅜	1 13/16	3 7/16	87	½	13	1 3/4	44.7	0.4	0.17
½	1 13/16	3 7/16	87	½	13	2	50	0.4	0.18
¾	2 1/16	3 15/16	101	11/16	18	2 1/4	57	0.6	0.27
1	2 7/16	4 1/4	108	15/16	24	2 13/16	71	1.1	0.49
1¼	2½	4 1/4	108	1 3/16	31	3 1/8	80	1.5	0.68
1½	3	5 5/16	135	1 7/16	37	3 7/16	88	2.3	1.06
2	3½	6	153	2	51	4 1/8	105	3.7	1.69
2½	4 1/16	7 3/8	188	2½	64	5 5/16	134	7.9	3.57
3	4½	7 3/4	197	3	76	6 1/8	155	11.8	5.37



Characteristic Curve



Valve Seat Rating



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Series FBV-3C-AUS-EX
FBV-3C-AUS-TC & MB & EX
FBV-3C-AUS-TC
FBV-3C-AUS-TC & MB

HVAC Ball Valves

Size: DN15-DN50

Series FBV-3C-AUS, Full Port, Brass Ball Valves are used in commercial and industrial applications for a range of liquids. They are mainly used to cut off or connect medium in the pipe and can also be used for now adjustment.



FBV-3C-AUS-EX



FBV-3C-AUS-TC & MB & EX



FBV-3C-AUS-TC



FBV-3C-AUS-TC & MB

Model

FBV-3C-AUS-EX	15mm-50mm with threaded connections and extended spindle
FBV-3C-AUS-TC	15mm-50mm with threaded connections and measure nipple
FBV-3C-AUS-TC & MB	15mm-50mm with threaded connections, measure nipple and mini ball valve
FBV-3C-AUS-TC & MB&EX	15mm-50mm with threaded connections, measure nipple, mini ball valve and extended spindle

Features

- Watermark approved threaded valves 15mm-50mm
- Full port design
- Fluorocarbon elastomeric stem O-ring prevents stem leaks
- Adjustable stem packing gland
- PTFE stem packing seal, thrust washer, and seats
- Bottom loaded blowout proof stem
- Machined chrome plated brass ball
- Brass adapter and steel handle

Pressure-Temperature

- Pressure Ratings: 41 bar(4100 kPa) WOG, non-shock
- Temperature Range: -40°C~204°C

Material

Component	Material
Body	Forged Brass
Adapter	Forged Brass
Stem	Brass
Ball	Plated Brass
Handle Assembly	With Vinyl insulator
Seat	Virgin PTFE

Working Principles

- Use the lever to drive the stem to rotate and the stem drives the ball to open and close within 0°~90°

Typical Application

- Non corrosive liquids in building services, municipal waterworks and light industrial

Specification

- Test Standard: WMTS012-2016
- Connection Dimension: AS 3688
- Valves comply to MSS-SP-110 standard

Approval

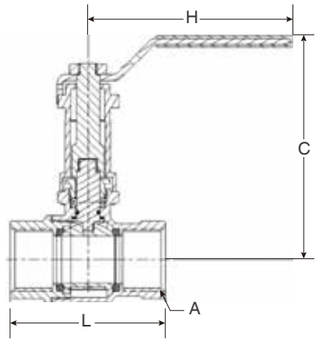
WMKA22100

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Installation Dimensions

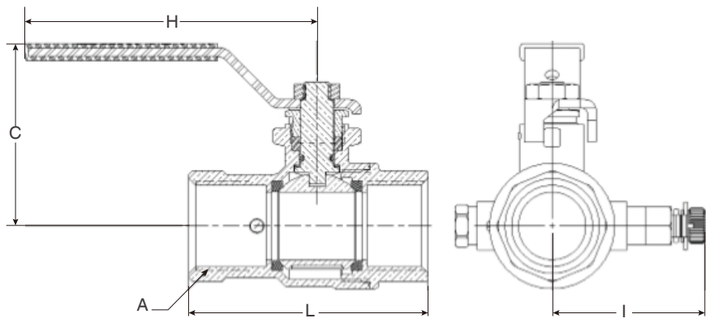
Series FBV-3C-AUS are used to connect with the corresponding threaded pipe or threaded fitting.

FBV-3C-AUS-EX



Size		Dimensions									Weight	
		A	C		H		I		L			
in.	mm		in.	mm	in.	mm	in.	mm	in.	mm	lbs	Kg
1/2	15	G 1/2-14	3.49	88.74	3.42	86.9	0.50	12.8	2.26	57.4	0.575	0.261
3/4	20	G 3/4-14	3.95	100.44	3.97	100.9	0.76	19.2	2.70	68.6	0.979	0.444
1	25	G 1-11	4.65	118	4.26	108.2	1.00	25.5	3.23	82.1	1.640	0.744
1¼	32	G1 1/4-11	4.83	122.75	4.26	108.2	1.26	31.9	3.33	84.5	2.414	1.095
1½	40	G1 1/2-11	5.30	134.7	5.31	134.9	1.50	38	4.03	102.3	3.269	1.483
2	50	G 2-11	5.66	143.71	6.03	153.2	2.00	50.9	4.94	125.5	4.462	2.024

FBV-3C-AUS-TC

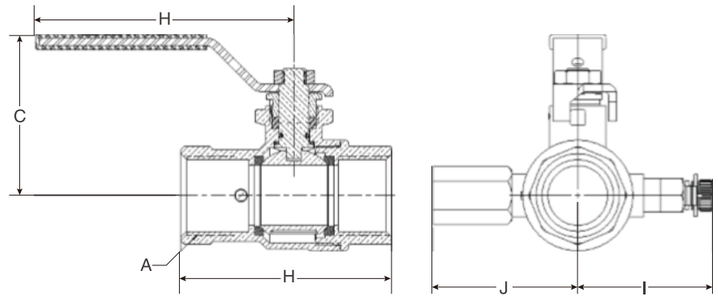


Size		Dimensions								
		A	C		H		I		L	
in.	mm		in.	mm	in.	mm	in.	mm	in.	mm
1/2	15	G 1/2-14	1.82	46.2	3.42	86.9	1.97	50	2.42	61.5
3/4	20	G 3/4-14	2.28	57.9	3.97	100.9	2.07	52.7	2.87	72.9
1	25	G 1-11	2.64	67.1	4.26	108.2	2.23	56.6	3.39	86.2
1¼	32	G1 1/4-11	2.83	71.8	4.26	108.2	2.36	59.95	3.49	88.6
1½	40	G1 1/2-11	3.16	80.2	5.31	134.9	2.55	64.8	4.19	106.4
2	50	G 2-11	3.52	89.4	6.03	153.2	2.82	71.7	5.1	129.6

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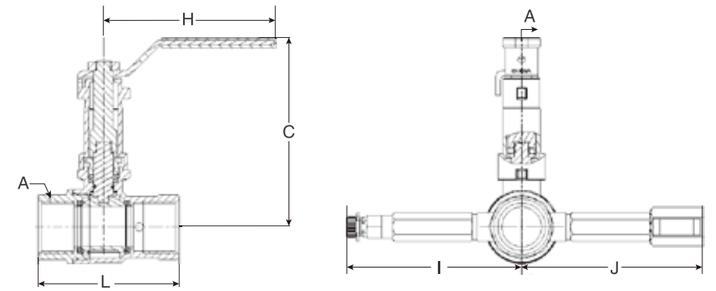
FBV-3C-AUS-HVAC-201912

FBV-3C-AUS-TC & MB



Size		Dimensions									
		A	C		H		I		L		J	
in.	mm		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
1/2	15	G 1/2-14	1.82	46.2	3.42	86.9	1.97	50	2.42	61.5	2.13	54
3/4	20	G 3/4-14	2.28	57.9	3.97	100.9	2.07	52.7	2.87	72.9	2.23	56.7
1	25	G 1-11	2.64	67.1	4.26	108.2	2.23	56.6	3.39	86.2	2.39	60.6
1¼	32	G1 1/4-11	2.83	71.8	4.26	108.2	2.36	59.95	3.49	88.6	2.52	64
1½	40	G1 1/2-11	3.16	80.2	5.31	134.9	2.55	64.8	4.19	106.4	2.71	68.8
2	50	G 2-11	3.52	89.4	6.03	153.2	2.82	71.7	5.1	129.6	2.98	75.7

FBV-3C-AUS-TC & MB & EX



Size		Dimensions									
		A	C		H		I		L		J	
in.	mm		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
1/2	15	G 1/2-14	3.49	88.74	3.42	86.9	1.97	105	2.42	61.5	2.13	109
3/4	20	G 3/4-14	3.95	100.44	3.97	100.9	2.07	107.7	2.87	72.9	2.23	111.7
1	25	G 1-11	4.65	118	4.26	108.2	2.23	111.6	3.39	86.2	2.39	115.6
1¼	32	G1 1/4-11	4.83	122.75	4.26	108.2	2.36	115	3.49	88.6	2.52	119
1½	40	G1 1/2-11	5.30	134.7	5.31	134.9	2.55	119.8	4.19	106.4	2.71	123.8
2	50	G 2-11	5.66	143.71	6.03	153.2	2.82	126.7	5.1	129.6	2.98	130.7

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Series RABV

Brass Right Angle Ball Valve with Press Fit
Brass Right Angle Ball Valve with Compression

Size: DN20

This Right Angle Ball Valve is designed to cut off or let through media in the pipeline, It is generally used in residential water supply.

Features

- Watermark Approved WMK26060
- Lockable anti-vandal DR Brass lever handle
- Compact structure, reliable sealing
- In the closed state, sealing surface and spherical are not easily eroded by media
- Convenient operation, quick opening and closing
- Full port design
- Low head loss in fully open position

Pressure-Temperature

- Nominal Pressure: 25 bar(2500 kPa)
- Temperature Range: 0°C~60°C

Material

Press Fit

No.	Component	Material
1	Body	DR Brass
2	Adapter	DR Brass
3	Ball	DR Brass
4	Seat	PTFE
5	Stem	DR Brass
6	O-ring	EPDM
7	Hand	DR Brass
8	Pin	Stainless Steel
9	O-ring	EPDM

Compression

No.	Component	Material
1	Body	DR Brass
2	Adapter	DR Brass
3	Ball	DR Brass
4	Seat	PTFE
5	Stem	DR Brass
6	O-ring	EPDM
7	Hand	DR Brass
8	Pin	Stainless Steel
9	Nut	DR Brass



Press Fit



Compression

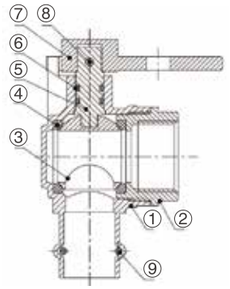
Specification

- Design Standard: WMTS-012
- Test Standard: WMTS-012
- Connection Type: Thread Rp 3/4”
- Working Medium: Potable water

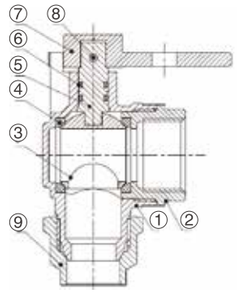
Approval

Australia WaterMark Approved. License No.: WMK26060

WMK26060



Press Fit



Compression

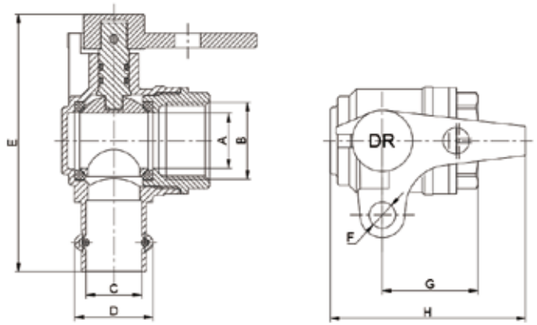
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RABV-EN-201912

Installation Dimensions

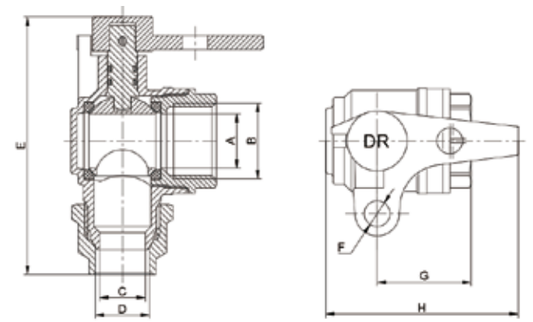
Connection Dimension: PN25 to AS3688

Press Fit



Size mm	A	B	C	D	E	F	G	H
DN20	ϕ19	Rp3/4	ϕ19.2	ϕ27	88.5	ϕ9	33	67.5

Compression



Size mm	A	B	C	D	E	F	G	H
DN20	ϕ19	Rp3/4	ϕ16	ϕ19.1	91	ϕ9	33	67.5

Installation Instructions

- The valve is installed above the ground
- The valve’s rated parameters should match the application. Make sure that the valve’s rated flow satisfies the actual demand
- The installer must be trained and experienced so as to operate the installation correctly
- A thorough check after installation is needed to ensure no errors
- A thorough cleaning before installation is needed 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
- 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 into the system’s pipe
- Use correct tools when making the Press fit and Compression connections
- Use the correct threaded connector that meets the standard to connect the valve
- Do not expose valves to a torch flame or heat, excessive heat will destroy the seals and sealing components

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Series W6000

Stainless Steel Three-Piece Ball Valve

Size: DN15-DN100

W6000 series stainless steel three-piece ball valve is designed for isolation service in the pipeline. With welding and clamp connection types available for selection, the product is suitable for use in the fields of liquid cooling and industrial application.

Features

- Low resistance
- Convenient maintenance
- Low operation torque

Pressure-Temperature

- Nominal pressure: PN16(DN15-50) PN10(DN65-100)
- Temperature range: -10°C-100°C
- Connection standard: Welding: DIN 11850 / ISO 2037
  Clamp: DIN 32676 / ISO 2852
- Test standard: GB/T 13927
- Suitable media: water, oil, gas

Materials

No.	Part	Material
1	Bonnet	Stainless steel
2	Bolt, spring washer, nut	Stainless steel
3	Body	Stainless steel
4	Seat	PTFE
5	Ball	Stainless steel
6	Stem	Stainless steel
7	Washer	PTFE
8	Filler	PTFE
9	Gland	Stainless steel
10	Handle	Stainless steel
11	Nut, spring washer	Stainless steel

Installation Dimensions

DIN Clamp

Type	DN	ØD	Ød	L	H	A	W
W6800	DN15	34	27.5	97	51	49	106
	DN20	34	27.5	108	59	56	113
	DN25	50.5	43.5	112	64	60	128
	DN32	50.5	43.5	126	73	68	144
	DN40	50.5	43.5	140	87	80	163
	DN50	64	56.5	156	95	91	175
	DN65	91	83.5	180	119	117	219
	DN80	106	97	206	131	137	229
	DN100	119	110	250	177	172	290

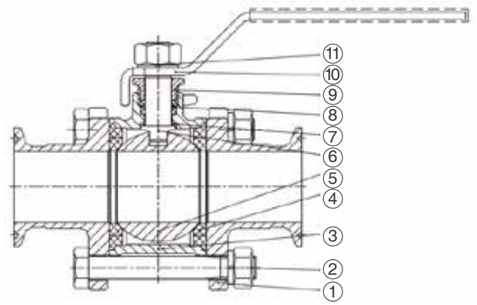
*Contact us for other clamp sizes

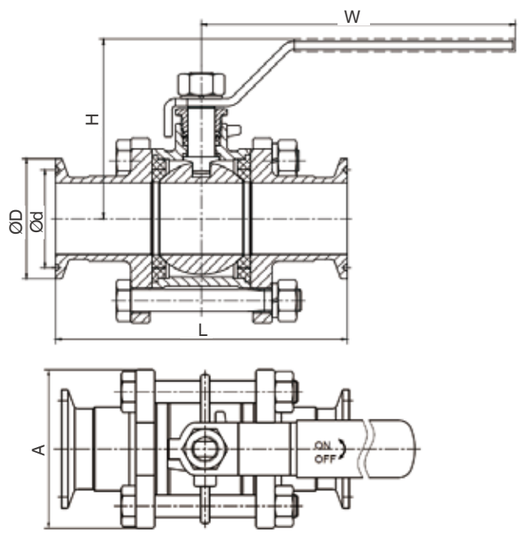


Welding



Clamp





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W6000-EN-202406

DIN Welding

Type	DN	ØD	t	L	H	A	W
W6600	DN15	19	1.5	72	51	49	106
	DN20	23	1.5	80	59	56	113
	DN25	29	2	90	64	60	128
	DN32	35	1.5	102	73	68	144
	DN40	41	1.5	112	87	80	163
	DN50	53	1.5	138	95	91	175
	DN65	70	2	181	119	117	219
	DN80	85	2	204	131	137	229
	DN100	104	2	260.5	177	172	290

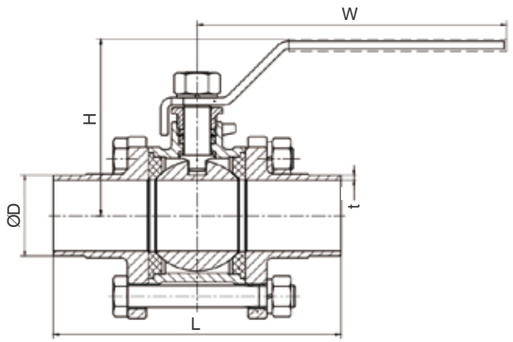
ISO Welding

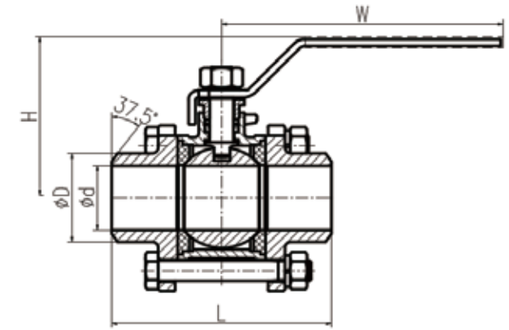
Type	Size	ØD	t	L	H	A	W
W6600	3/4	19.05	1.5	72	51	49	106
	1	25.4	1.5	80	59	56	113
	11/4	31.8	1.5	90	64	60	128
	11/2	38.1	1.5	102	73	68	144
	2	50.8	1.5	112	87	80	163
	21/2	63.5	1.5	138	95	91	175
	3	76.2	2.0	181	119	117	219
	31/2	88.9	2.0	204	131	137	229
	4	101.6	2.0	260.5	177	172	290

Butt-welding

Type	DN	ØD	Ød	L	H	A	W
W6600	DN15	22	14.5	72	51	49	106
	DN20	27	19	80	59	56	113
	DN25	32	24	90	64	60	128
	DN32	39.5	31	102	73	68	144
	DN40	47	39	112	87	80	163
	DN50	57	49	138	95	91	175
	DN65	75.5	66	182.5	119	117	219
	DN80	91	79	205	131	137	229
	DN100	110	98	260.5	177	172	290

Contact with us for other welding size





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Series W-W4112

Ductile Iron Y Strainer

Size: Flange DN50-DN600

The Watts W-W4112 Y Strainer is designed to remove impurities in the medium to protect the valve and equipment for normal use. It's generally used in plumbing, HVAC, irrigation, commercial, and industrial application.



Features

- Low-pressure drop
- Simple structure and convenient to clean
- Large impuring holding capacity
- Other screen perforation size available

Pressure - Temperature

- Nominal Pressure: PN16
- Working Temperature: 0°C~80°C
- Mesh: 30 mesh

Material

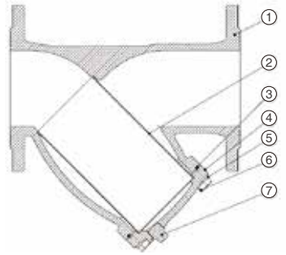
NO.	Component	Material
1	Body	Ductile Iron+Epoxy Coated
2	Filter	Stainless Steel (SS304)
3	O-ring	EPDM
4	Cover	Ductile Iron+Epoxy Coated
5	Washer	Stainless Steel (SS304)
6	Bolt	Stainless Steel (SS304)
7	Plug	Steel+Znic plating

Specification

- Test Standard: ISO/DIS 5208：2007
- Connection Type: Flanged, PN16 to BS EN 1092-2
- Medium: water, sewage

Test Pressures

Hydraulic
Shell: 24 bar
Seat: 17.6 bar

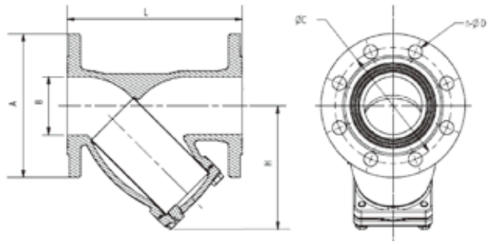


Installation Dimensions

Connection Dimension: GB/T 17241.6

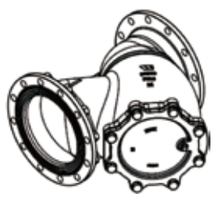
Size DN (mm)	L	H	A	B	ϕC	n-ϕD
50	203	128	165	50	125	4-ϕ19
65	222	135	185	65	145	4-ϕ19
80	241	152	200	80	160	8-Φ19
100	305	205	220	100	180	8-Φ19
125	356	230	250	125	210	8-Φ19
150	394	250	285	150	240	8-Φ23
200	457	330	340	200	295	12-Φ23
250	533	440	405	250	355	12-Φ28
300	610	480	460	300	410	12-Φ28
350	686	550	520	350	470	16-Φ28
400	762	645	580	400	525	16-Φ31
450	864	715	640	450	585	20-Φ31
500	914	880	715	500	650	20-Φ34
600	1067	1020	840	600	770	20-Φ37

Note: DN200 and above are equipped with drain valve as standard, please inquire for the rest of the configuration.





DN50-100



DN125-600

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Series W-YG41-25C

Y Strainer

Size: DN50-DN450

The Watts W-YG41 Y Strainer is designed to remove impurities in the medium to protect valve and equipment for normal use. It's generally used in petroleum, chemical industry, metallurgy, water treatment, etc.



Features

- Low resistance
- Simple structure and convenient installation & cleaning
- Large pollutant-holding volume and convenient pollutant discharge

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: -20°C~120°C

Material

Component	Material
Body	Carbon Steel with Spray Paint
Bonnet	Carbon Steel with Spray Paint
Screen	Stainless Steel

Typical Application

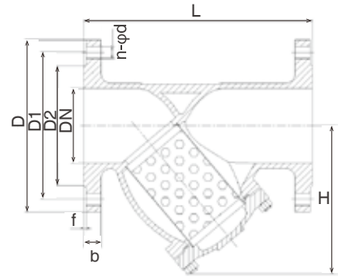
- Water plant and water source project
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry
- Petroleum & Chemical industry
- Steel & Metallurgy
- Papermaking industry

Specification

- Design Standard: GB/T 14382-2008
- Test Standard: GB/T 13927-2008
- Filter Screen Diameter: Ø3mm, the flow area of filter screen is two to three times of the passage area
- Working Medium: Water, sewage

Operating Principles

When the media flow through the strainer, the filter screen in the strainer will block solid impurity particles in the media in the screen and allow clean fluid to flow through the screen and discharge from the strainer outlet while the screen hole size can be adjusted based on the size of impurities.



Installation Dimensions

DN	L	D	D1	D2	n-Ød	b	f	h	Filter
50	220	165	125	100	4-Ø18	20	3	181	Ø2
65	250	185	145	120	8-Ø18	22	3	250	Ø2
80	280	200	160	135	8-Ø18	24	3	280	Ø3
100	310	230	190	160	8-Ø23	24	3	320	Ø3
125	345	270	220	188	8-Ø26	28	3	374	Ø3
150	385	300	250	218	8-Ø26	30	3	430	Ø3
200	460	360	310	278	12-Ø26	34	3	515	Ø4
250	535	425	370	332	12-Ø30	36	3	595	Ø4
300	595	485	430	390	16-Ø30	40	4	680	Ø5
350	685	555	490	448	16-Ø34	44	4	765	Ø5
400	780	610	550	448	16-Ø34	48	4	855	Ø5
450	850	660	600	555	20-Ø34	50	4	940	Ø5

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Series W-JZG44-16Q

Water Pump Diffuser

Size: DN50-DN600

The Watts W-JZG44 Water Pump Diffuser is designed to have elbow,strainers and rectifier function at the same time. It' s generally used in chemical industry, metallurgy, water treatment, etc.

Features

- Drastically reduce the installation space
- Big filter area, small water resistance
- Special current plate structure, which can eliminate the turbulent flow and reduce cavitation
- Filter screen is removable for cleaning
- Eliminate noise, stabilize water flow and prolong the service life of the pump

Pressure-Temperature

- Maximum Working Pressure: PN16
- Temperature Range: -20℃- 120℃

Material

Component	Material
Body	Ductile Iron+Epoxy Coated
Bonnet	Ductile Iron+Epoxy Coated
Punching Hole Meshes	Stainless Steel 304 (Bore diameter:Ø4mm)
Rayon Mesh	Stainless Steel 304 (The number of mesh:20)

Installation Dimensions

DN1×DN2 DN(mm)	Dimensions (mm)				
	L1	L2	L3	L4	L5
50×50	105	120	168	155	205
65×65	115	125	195	165	220
80×80	130	135	220	185	250
100×80	130	135	220	185	250
100×100	145	185	250	230	330
125×100	145	185	250	230	330
125×125	180	230	300	300	400
150×100	145	185	250	230	330
150×125	180	230	300	300	400
150×150	209	220	349	275	380
200×125	205	220	345	275	380
200×150	205	220	345	275	380
200×200	240	280	410	370	501

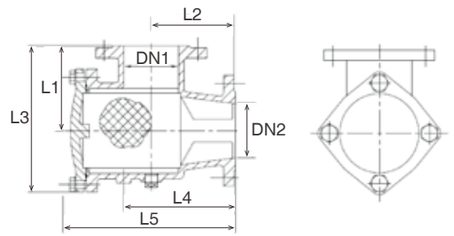


Specification

- Test Standard: GB/T 13927-2008
- Connection Standard: GB/T 17241.6-20
- Working Medium: Water

Operating Principles

Water Pump Diffuser is pump diffuser. After medium enters, the inside filter screen can filter out impurities,according to the direction transformation of elbow, current plate can eliminate the turbulent flow and reduce the cavitation.



DN1×DN2 DN(mm)	Dimensions (mm)				
	L1	L2	L3	L4	L5
250×200	240	280	410	370	495
250×250	280	325	470	425	615
300×200	280	325	470	425	625
300×250	280	325	470	425	615
300×300	305	380	545	485	682
350×250	305	380	545	485	692
350×300	308	380	548	485	682
350×350	356	420	636	550	785
400×300	320	380	580	480	695
400×350	356	420	636	550	785
400×400	360	390	640	450	697
450×450	400	440	715	520	784
500×500	460	490	810	550	860
600×600	580	820	1020	900	1357

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Series W-YG11-16P

Stainless Steel Threaded Y Strainer

Size: DN15-DN50

Watts W-YG11-16P is used extensively to strain foreign matter from pipe lines and provide economical protection for costly pumps, meters, valves, and other similar mechanical equipment. The Watts W-YG11-16P stainless steel threaded Y strainer has a wide range of applications in municipal facilities, building construction, water supply engineering, and other similar water supply and drainage systems, which have stringent requirements for water purification. It is an indispensable filtering device in the pipeline system for conveying media.

Features

- High efficiency, accurate filtering
- Simple structure, less maintenance
- Large capacity of pollutants, convenient pollutant discharging

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -29°C~200°C

Material

Component	Material	Standard
Body	Stainless Steel	CF8
Cover	Stainless Steel	CF8
Filter Screen	Stainless Steel	304

Installation Dimensions

Size DN	Dimensions(mm)		
	L	H	d
15	65	38	14
20	75	45.5	18
25	87	54	22
32	105	65.5	28
40	120	77.5	38
50	140	95.5	48

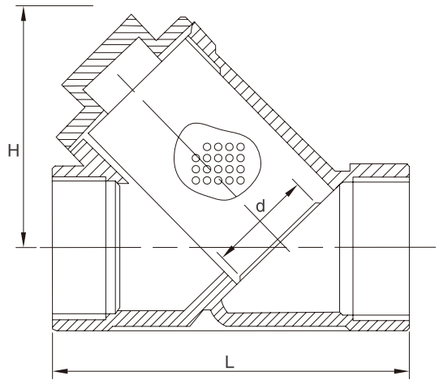


Specification

- Test Standard: GB/T 13927-2008
- Connection Standard:GB/T 7307-2001
- Connection Type: Thread Type
- Mesh: 20
- Working Medium: Water

Operating Principles

Y strainer is a small device designed to remove a small amount of solid particles in medium. It can protect the normal operation of the equipment.
When the fluid enters the filter cartridge with filter screen of a certain size, the impurities will be held, and the clean media will be discharged through the outlet of Y strainer.
When cleaning is required, just remove and reinstall the removable filter screen after processing.
It is extremely convenient to use and maintain.



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Series W-YG41-16P

Stainless Steel Flanged Y Strainer

Size: DN50-DN300

Watts W-YG41-16P is used extensively to strain foreign matter from pipe lines and provide economical protection for costly pumps, meters, valves, and other similar mechanical equipment. The Watts W-YG41-16P stainless steel threaded Y strainer has a wide range of applications in municipal facilities, building construction, water supply engineering, and other similar water supply and drainage systems, which have stringent requirements for water purification. It is an indispensable filtering device in the pipeline system for conveying media.



Features

- High efficiency, accurate filtering
- Simple structure, less maintenance
- Large capacity of pollutants, convenient pollutant discharging

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -29°C~150°C

Material

Component	Material	Standard
Body	Stainless Steel	CF8
Cover	Stainless Steel	CF8
Filter Screen	Stainless Steel	304

Installation Dimensions

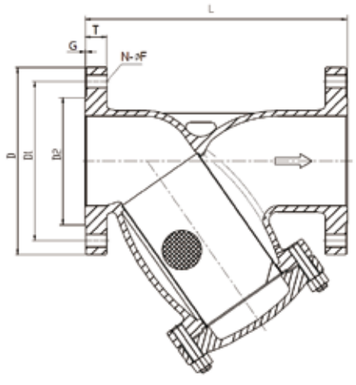
Size DN	Dimensions						
	L	D	D1	D2	T	N-ØF	G
50	222	160	125	100	16	4-Ø18	3
65	254	180	145	120	18	4-Ø18	3
80	284	195	160	135	20	8-Ø18	3
100	320	215	180	155	20	8-Ø18	3
125	342	245	210	185	22	8-Ø18	3
150	385	280	240	210	24	8-Ø23	3
200	480	335	295	265	26	12-Ø23	3
250	555	405	355	320	30	12-Ø25	3
300	630	460	410	375	30	12-Ø25	4

Specification

- Test Standard: GB/T 13927-2008
- Connection Standard: JB/T 79.1-1994
- Connection Type: Flange Type
- Mesh: 30
- Working Medium: Water

Operating Principles

Y strainer is a small device designed to remove a small amount of solid particles in medium. It can protect the normal operation of the equipment.
When the fluid enters the filter cartridge with filter screen of a certain size, the impurities will be held, and the clean media will be discharged through the outlet of Y strainer.
When cleaning is required, just remove and reinstall the removable filter screen after processing.
It is extremely convenient to use and maintain.



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Series YG11-20/20N

Bronze Y-Type Strainer

Size: DN15-DN50

The Watts YG11-20 Bronze Strainer is designed to remove impurities in the medium to protect valve and equipment for normal use. The Series is generally used in chilled water, potable water and other water treatment applications.



Features

- Low resistance
- Simple structure and convenient installation & cleaning
- Large pollutant-holding volume and convenient pollutant discharge
- Easy to install and to operate

Pressure-Temperature

- Nominal Pressure: PN20
- Temperature Range: 0°C~170°C

Test Pressures

Pneumatic	Hydraulic
Shell: 6 bar	Shell: 30 bar
Shell: 6 bar	Seat: 22 bar

Material

No.	Component	Material	Standard
1	Body	Bronze	CC491K
2	Screen	Stainless Steel	304
3	Gasket	PTFE	
4	Cap	Bronze	CC491K
5	ID Plate	Aluminum	

Installation Dimensions

DN	L	H	A	Weight(kg)
DN15	58	41	15	0.162
DN20	70	51	16.3	0.273
DN25	88	57.6	19.1	0.384
DN32	96	68.5	21.4	0.641
DN40	107	74	21.4	0.886
DN50	126	95	24	1.425

*Available in both connections standard BSPT & NPT

Screen Specifications

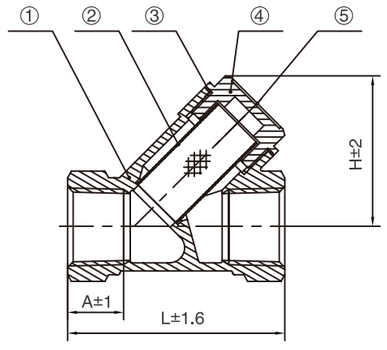
Meshes of Strainer for YG11-20/20N				
Spe.	Meshes/cm²	Thickness	Diameter of Hole	Free Area percentage
DN15 DN20	56-60	0.3-0.35	0.7-0.8	45-50%
DN25 DN32 DN40 DN50	26-28	0.4	1.4	50-55%

Specification

- Connection Standard: Threaded to BS21 BSPT. Available with NPT threading Model YG11-20N
- Test Standard: BS6755
- Medium: water, oil, gas

Approval

WRAS APPROVED PRODUCT



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Series W-WB551

Brass Y-Strainer

Size: DN15-DN50

The Watts Brass Strainer is designed to remove impurities in the medium to protect vialve and equipment for normal use. It's generally used in Chilled water and other water treatment applications.

Features

- Low resistance
- Simple structure and convenient installation & cleaning
- Large pollutant-holding volume and convenient pollutant discharge

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: -30°C~95°C

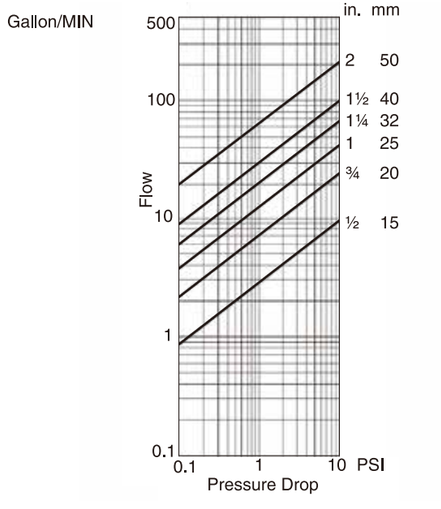
Test Pressures

Hydraulic
Shell: 37.5 bar
Seat: 27.5 bar

Material

No.	Component	Material	Standard
1	Body	Brass	HPb59-1
2	Bonnet	Brass	HPb59-1
3	Screen	Stainless Steel	304
4	O-Ring	NBR	

Characteristic Curve



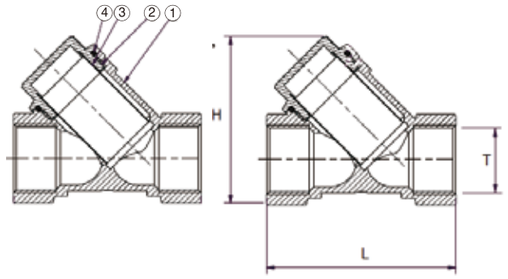


Specification

- Test Standard: GB/T 13927-2008
- Connection Standard: Threaded NPT to ASME B1.20.1
  BSPT to BS 21
  G to GB/T 7307
- Mesh Number: 30
- Working Medium: water, oil and gas

Typical Application

- Chilled water application
- Water plant and water source project
- Municipal facilities, power utilities



Installation Dimensions

Connection Dimensions: ASME B1.20.1/ BS 21 GB/T 7307

Size	DN(mm)			Weight
mm	L	H	T	(kg)
15	59	49	1/2”	173
20	65	64	3/4"	300
25	79	68.6	1"	400
32	97	89	11/4"	700
40	107	101.5	11/2"	900
50	128	115.6	2"	1300

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Series Y-Strainer

Y-Strainer

Size: DN15-DN50

Strainers are designed to protect system components from dirt, rust and other damaging debris in the piping system.

Features

- Low headloss
- Simple structure, easy to clean

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: 0°C~80°C

Material

Component	Material
O-Ring	EPDM
Screen	Stainless Steel
Cover	DZR
Body	DZR



Specification

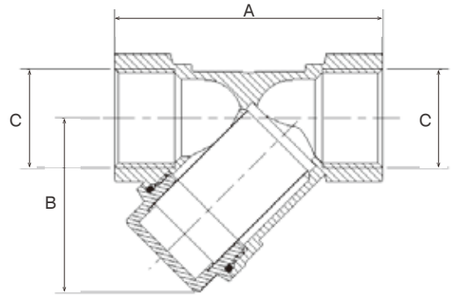
- Design Standard: AS 3688-2005
- Test Standard: AS 3688-2005
- Thread Type: G Thread
- Working Medium: Non corrosive liquids

Approval

Certificate WMKA 25882

WaterMark

Installation Dimensions



SIZE(DN)		Dimension Parameter			Mesh	Mesh Diameter	Weight
mm	In.	C	A	B			Kg
			mm	mm			
15	1/2"	G 1/2-14	63	37	30	0.2	0.164
20	3/4"	G 3/4-14	72	47	30	0.2	0.273
25	1"	G 1-11	86	48	30	0.2	0.346
32	1 1/4"	G 1 1/4-11	102	55	30	0.25	0.630
40	1 1/2"	G 1 1/2-11	111	74	30	0.25	0.863
50	2"	G 2-11	134	83	30	0.25	1.196

1. Y-Strainer series can be installed in vertical or horizontal pipes.
2. Install the filter in the direction indicated by the arrow and with the cap towards the bottom, so that when opening all im-purities collected will be taken out together with the fluid flowing down, thus not going back into the pipe system.
3. During installation, be careful to allow enough space for maintenance.

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Series W-YS01

Y Strainer

Pressure-Temperature

- Nominal Pressure: PN16(1600kPa)
- Temperature Range: -10°C~90°C

Material

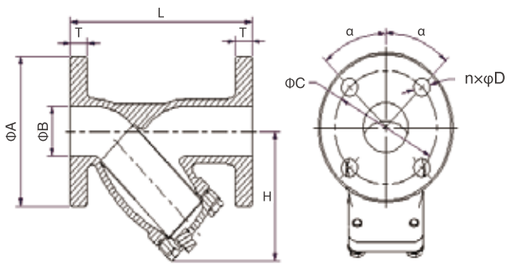
Component	Material
Body	Cast Iron
Cover	Ductile Iron
Filter	304 Stainless Steel
Connection	304 Stainless Steel
O'Ring	EPDM
Plug	304 Stainless Steel

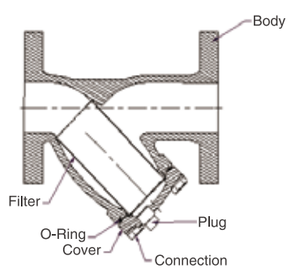


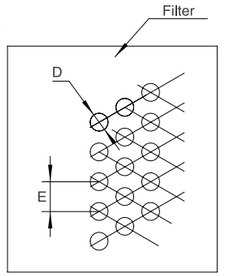
Specification

- Connection Dimension: AS2129 Table D&E (Flange Standard)
- Test Standard: BS EN 12266-2003, GB/T13927-2008
- Working Medium: Non corrosive water

Installation Dimensions







Size	Contour Dimension(mm)			Connection Dimension(mm) Table E				Connection Dimension(mm) Table D					
mm	L	H	ØA	ØC	T	n×ØD	α	ØC	T	n×ØD	α	E	D
50	236	113	150	114	10	4×Ø18	45°	-	-	-	-	2.4	1.2
65	255	116	165	127	10	4×Ø18	45°	-	-	-	-	3	1.8
80	285	139	185	146	11	4×Ø18	45°	-	-	-	-	3	1.8
100	355	155	215	178	13	8×Ø18	22.5°	178	13	4×Ø18	45°	3	1.8
125	405	191	255	210	14	8×Ø18	22.5°	-	-	-	-	3.8	2.2
150	445	219	280	235	17	8×Ø22	22.5°	235	17	8×Ø18	22.5°	3.8	2.2
200	506	283	335	292	19	8×Ø22	22.5°	292	19	8×Ø18	22.5°	3.8	2.2
250	587	324	405	356	22	12×Ø22	15°	-	-	-	-	3.8	2.2
300	630	395	455	406	25	12×Ø26	15°	-	-	-	-	3.8	2.2

Installation Instructions

NOTE: Before installing the “Y” strainer, be sure its pressure rating is correct for the system by checking the maximum pressure rating listed on the valve’s specification sheet against the maximum system pressure.

The strainer must be installed in the correct direction and orientation to function properly.

Locate the arrow on the strainer body; it must point in the direction of flow.

Refer to Mounting Positions.

Mounting Positions



Vertical Horizontal

The cover of the “Y” side should face down

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Series W2000

Stainless Steel Strainer

Size: DN15-DN100

W2000 series stainless steel strainer is designed to remove impurities in the medium to protect valve and equipment for normal use. With welding and clamp connection types available for selection, the product is suitable for use in the fields of liquid cooling and industrial application.



Welding



Clamp

Features

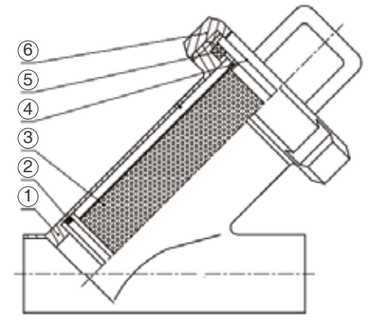
- Low resistance
- Convenient maintenance
- Convenient sewage discharge
- De-oiling and de-greasing

Pressure-Temperature

- Nominal pressure: PN10
- Temperature range: -10°C-100°C
- Connection standard: Welding: DIN 11850 / ISO 2037
  Clamp: DIN 32676 / ISO 2852
- Test standard: GB/T 13927
- Suitable media: Water, ≤50% ethylene glycol
- Filter screen: Hole diameter 48 μm, 300 meshes

Materials

No.	Part	Material
1	Body	Stainless steel
2	Sealing	EPDM(FKM optional)
3	Screen	Stainless steel
4	Bonnet	Stainless steel
5	Sealing	EPDM(FKM optional)
6	Nut	Stainless steel



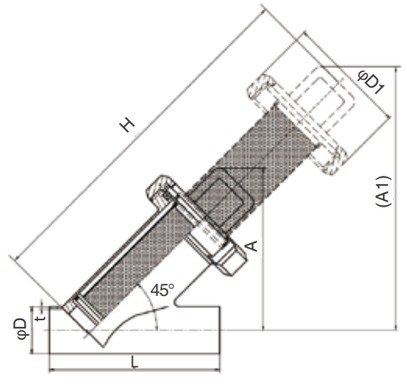
Installation Dimensions

DIN welding

Type	DN	φD	t	L	φD1	H	A	A1
W2600	DN15	19	1.5	130	72	230	94.5	164.5
	DN20	23	1.5	130	72	230	96.5	166.5
	DN25	29	1.5	130	72	230	99.5	169.5
	DN32	35	1.5	140	82	235	105.5	170.5
	DN40	41	1.5	175	97	275	127.5	202.5
	DN50	53	1.5	210	111	320	145.5	240.5
	DN65	70	2	260	138	445	203	331
	DN80	85	2	300	148	500	206.5	341.5
	DN100	104	2	360	185	565	240	400

ISO welding

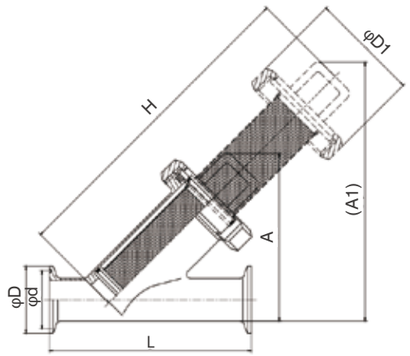
Type	OD	φD	t	L	φD1	H	A	A1
W2600	OD19	19.05	1.5	130	72	230	94.5	164.5
	OD25	25.4	1.5	130	72	230	97.3	167.3
	OD32	31.8	1.5	140	82	235	104.1	164.1
	OD38	38.1	1.5	175	97	275	126.0	201.0
	OD51	50.8	1.5	210	111	320	144.6	239.6
	OD63	63.5	2	245	125	405	183.3	298.3
	OD76	76.2	2	280	138	445	193.9	321.9
	OD89	88.9	2	300	148	500	200.6	335.6
	OD102	101.6	2	360	185	565	239.2	399.2
	OD114	114	2	485	240	700	325.0	478.0



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DIN clamp

Type	DN	φD	φd	L	φD1	H	A	A1
W2800	DN15	34	27.5	173	72	230	94.5	164.5
	DN20	34	27.5	173	72	230	96.5	166.5
	DN25	50.5	43.5	173	72	230	99.5	169.5
	DN32	50.5	43.5	183	82	235	105.5	170.5
	DN40	50.5	43.5	218	97	275	127.5	202.5
	DN50	64	56.5	253	111	325	145.5	240.5
	DN65	91	83.5	303	138	445	203	331
	DN80	106	97	343	148	500	206.5	341.5
	DN100	119	110	403	185	565	240	400



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Series C100XL

Temperature and Pressure Relief Valves

Size: DN15-DN20

The Pressure and Temperature Relief valve will relieve increased pressure caused by hot water expansion during the normal heating cycle. Providing fully automatic temperature and pressure relief protection for water heaters and hot water storage tanks.

Features

- Complies with AS1357.1
- Features a unique thermostat with special thermo-bonded coating
- An all bronze body
- Stainless steel spring
- Thermostat is accurate and proven. Exclusively designed and manufactured by Watts
- Temperature relief at 93-99°C
- Pressure relief at 1000kpa or 1400kpa depending on model
- Auxiliary pressure relief device
- Precision machined
- Compact design
- Endurance Tested to Australian Standards (10000 cycles temperature relief and re tested, 25000 cycles pressure relief and retested)
- Field Tested in high use commercial hot water applications
- Two year guarantee against faulty materials and manufacturing. Refer website for terms and conditions.

Installation Dimensions

SIZE(DN)		Model	Dimensions		Pressure Setting
in.	mm		Height	Probe Length	
1/2	15	C100XL	82.60	100.00	1000kPa
1/2	15	C100XL	82.60	100.00	1400kPa
3/4	20	C100XL	82.60	100.00	1000kPa
3/4	20	C100XL	82.60	100.00	1400kPa
1/2	15	CL100XL	108.00	74.60	1000kPa
1/2	15	CL100XL	108.00	74.60	1400kPa
3/4	20	CL100XL	108.00	74.60	1000kPa
3/4	20	CL100XL	108.00	74.60	1400kPa

Installation Instruction

- Installation must comply with AS/NZS 3500.4:2005
- Valves must NOT be installed in the ground.
- Valves must be installed in a position where reasonable access is provided for maintenance and/or replacement.

Caution: do not apply heat near valves during installation.

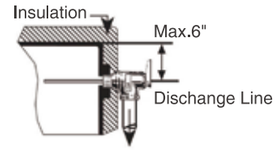
DRAIN LINES

- Drain line diameter must be no smaller than the nominal size of the valve outlet.
- Tundish must be used if drain line length greater than 9m.
- Drain Line must be of copper piping.
- If combining expansion valve and temperature/pressure relief valve drain lines refer to AS/NZS 3500.4:2015 Clause 5.11.3 Only one of each to be combined.
- Drain line lengths and bends table

Maximum Relief Drain Length	Maximum Numbers of Changes in Direction(greater than 45°)
9	3
8	4
7	5
6	6

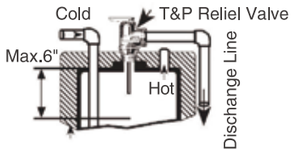


Mounting Options



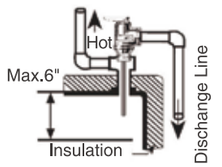
Direct Side Tapping

- For External Flue Heaters
  Use extra length extension thermostat to extend into water storage tank
- For Internal Flue Heaters
  Use short or standard length thermostat.Vertical discharge line must be installedwith its direction downward



Direct Top Tapping

- For Heaters
  Use standard or extra length extension thermostat.



Alternate

Only when the tappings are not pro-vided
Use standard or extra length extension thermostat.

Approval

WaterMark
AS1357.1
LIC. WMKA26120

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Series W-PQ21X-16T

Air Vent Valve

Size: DN15-DN25

Air vent valves provide automatic air venting for hot or cold water distribution systems.



Features

- Leveraged sealing mechanism
- Small size, light weight, simple and reliable structure
- Higher pressure range

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: 0°C~110°C

Test Pressures

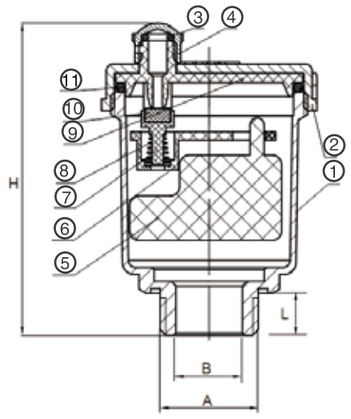
Hydraulic
Shell: 24 bar
Seat: 17.6 bar

Specification

- Connection Standard: G Thread
- Test Standard: GB/T 13927-2008
- Working Medium: water

Material

No.	Component	Material	Standard
1	Body	Brass	HPb57-3
2	Bonnet	Brass	HPb57-3
3	O-Ring	EPDM	
4	Cap	Brass	HPb57-3
5	Floating Ball	PP	
6	Stem	POM	
7	Core	PP	
8	Spring	SUS	304
9	Stents	POM	
10	Disc Washer	EDPM	
11	O-Ring	EDPM	



Installation Dimensions

Connection Dimensions: G Thread

Size DN	A	H	B	L
In.		mm	mm	mm
1/2"	1/2" G Thread	70	14	8
3/4"	3/4" G Thread	72	20	9
1"	1" G Thread	93	26	12

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Series 9101A

Double Orifice Air Vent

Size: DN50-DN200

Features

- Dual air releases vent the accumulated small volumes of air during normal system operation
- Allow inflow/venting of large volumes of air during draining/filling of the pipeline
- Provide protection from pipeline collapse due to vacuum



Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -10°C~120°C

Test Pressures

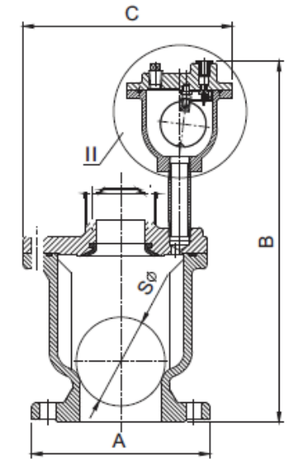
Float Ball	Shell	Sealing at High Pressure	Sealing At Low Pressure
25 bar	25 bar	17.6 bar	0.5 bar

Specification

- Design Standard: EN 1717 2002
- Connection Standard: Flanged to EN 1092-2, or ANSI B16.1

Material

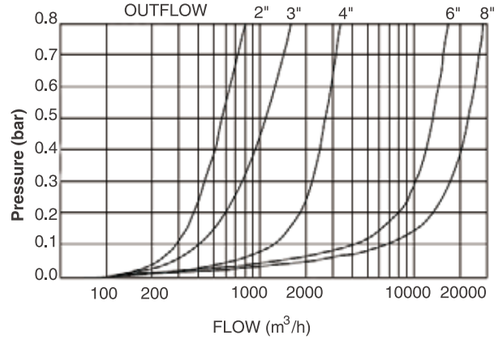
Component	Material	Standard
Body	Cast Iron	EN-JL-1040
Cover	Cast Iron	EN-JL-1040
Larger Ball	Stainless Steel	BS 970 304S15
Small Ball	Stainless Steel	BS 970 304S15
Gasket	EPDM	D2000
Cap	Stainless Steel	BS 970 304S15
Screen	Stainless Steel	BS 970 304S15

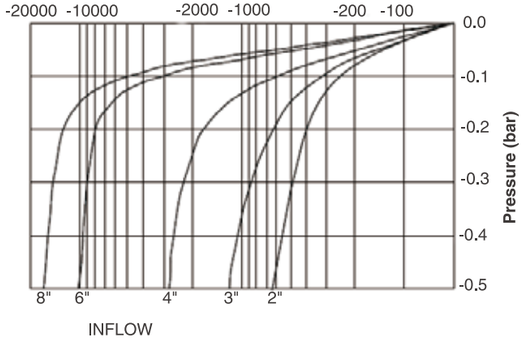


Installation Dimensions

Size	DN 50	DN 65	DN 80	DN 100	DN 150	DN 200
A	165	185	200	220	285	340
B	370	425	425	450	490	540
C	190.5	230	230	260	320	341
SØ	65	94	94	110	150	150
II	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"

Characteristic Curves





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Series 9701

Automatic Air Vent Valve

Size: DN15-DN25



Features

- Small orifice of 1.6mm to release air under pressure during normal pipeline operation
- The float is connected to the vent via a linkage mechanism which is capable of operating the vent under full pipeline pressure

Pressure-Temperature

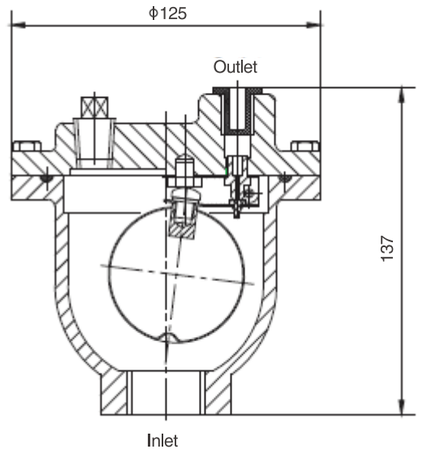
- Nominal Pressure: PN16
- Temperature Range: -10°C~120°C

Material

Component	Material	Standard
Body	Cast Iron	EN-JL-1040
Cover	Cast Iron	EN-JL-1040
Lever Frame	Stainless Steel	BS 970 304S15
Seat	Stainless Steel	BS 970 304S15
Float Ball	Stainless Steel	BS 970 304S15
Gasket	EPDM	D2000
Cover Bolt	Carbon Steel	Gr.4.8
Float Arm	Stainless Steel	BS 970 304S15
Orifice	Viton	
Pivot Pin	Stainless Steel	BS 970 304S15
Pin Retainer	Stainless Steel	BS 970 304S15
Plug	Malleable Iron	
Locator	Stainless Steel	

Specification

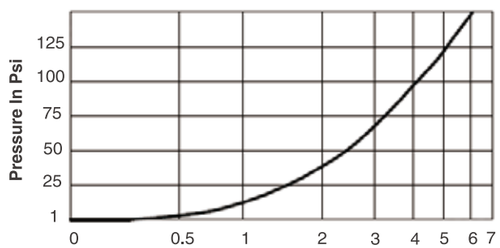
- Design Standard: EN 1717 2002
- Connection Standard: NPT to ASTM B1.20.1, or BSPT to BS EN 10226



Installation Dimensions

Size	Inlet Size	Outlet Size	Orifice Size	Weight(kg)
1/2"	1/2" BSPorNPT	1/2" BSPorNPT	1/16"	3
3/4"	3/4" BSPorNPT	1/2" BSPorNPT	1/16"	3
1"	1/2" BSPorNPT	1/2" BSPorNPT	1/16"	3

Characteristic Curve



Discharge Of Air Through An Orifice In Scfm
(standard Cubic Feet Of Free Air Per Minute)

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Series W-XGD1-16

Flexible Rubber Tubing

Size: DN25-DN600

Watts W-XGD1-16 is able to provide vibration isolation, noise reduction and displacement compensation in pipeline projects for protection and treatment systems. It can be applied in plumbing and ventilation pipes, water supply and drainage, circulating water pipes, etc.



Features

- A multi-layered sphere structure, powerful vibration absorption, and good noise reduction effect
- Working under high pressure, larger antiknock and elastic situations
- It can play a good role in compensation for compression, tension and torsion deformation
- The flange joint and thread adapter for 360° free rotation are used for connection to make installation convenient and flexible

Pressure-Temperature

- Maximum Working Pressure: PN16
- Bursting Pressure: PN48
- Temperature Range: -15°C~115°C

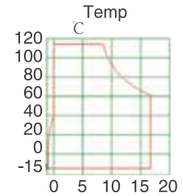
Material

Component	Material
Flange	Zinc Plated Steel
Main Part	EPDM+Nylon

Specification

- Connection Standard: GB/T 9119-2000
- Vacuum Degree: 750mmHg(DN25-DN300)
  500mmHg(DN350-DN600)
- Working Medium: Water

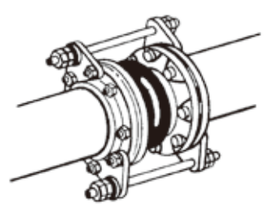
Pressure-Temperature Chart



Kg/cm²
Working Pressure

Installation Dimensions

Size DN	L mm	Permitted displacement			
		Compress	Stretching	Deviation	Winding
25	95	9	6	9	15
32	95	10	6	9	15
40	95	10	6	9	15
50	105	10	7	10	15
65	115	13	8	12	15
80	130	15	8	12	15
100	135	19	12	15	15
125	170	19	12	15	15
150	180	20	12	15	10
200	205	20	12	22	10
250	240	28	16	22	10
300	260	28	16	25	10
350	265	28	16	25	10
400	265	28	16	25	10
450	265	28	16	25	10
500	265	28	16	25	10
600	265	28	16	25	10



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Series W-LFDEU

Dielectric Unions

Size: DN15-DN50

The Watts Dielectric Unions W-LFDEU can be used in commercial and residential applications to prevent accelerated corrosion and deterioration in the piping system due to galvanic and stray current.

Features

- Designed and manufactured to the highest quality standards
- Factory certified to withstand a minimum of 600 volts on a dry line with no flashove
- Steel part is plated by zinc

Pressure-Temperature

- Nominal Pressure: PN20
- Temperature Range: 0°C~82°C

Material

No.	Component	Material	Standard
1	Adapter	Steel	20#
2	Gasket	EPDM	
3	Union Nut	Steel	20#
4	Insulator	Polysulfone	
5	Brass Adapter	Brass	C46500

Installation Dimensions

W-LFDEU-SFxBM-BSPT(DN20-DN25)
Connection Dimensions: BS EN10226(BS21)

Size (Steel)	Size (Brass)	H	L	A	B	Weight (Kg)
		mm	mm			
3/4"	3/4"	41	76	3/4" BSPT	3/4" BSPT	0.28
1"	1"	48	87	1" BSPT	1" BSPT	0.40

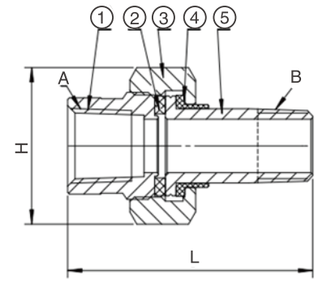
W-LFDEU-SMxBSLD-BSPT(DN15)
Connection Dimensions: BS EN10226(BS21)

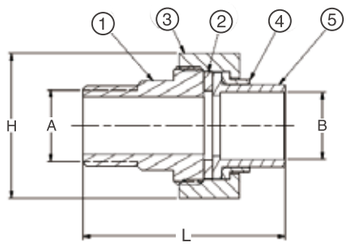
Size		H		L		A	B	
A	B	In.	mm	In.	mm		In.	mm
1/2"	1/2"	1.50	38	2.48	63	1/2" BSPT Male	0.627/0.631	15.93/16.03



Specification

- Connection Type: Threaded NPT to ASME B1.20.1, BSPT to BS EN 10226(BS21)
- Dielectric Strength: >600 volts/mil
- Medium: Water, noncorrosive liquid





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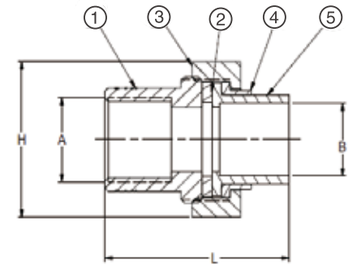
W-LFDEU-EN-201906

Series W-LFDEU-SFxBSLD-NPT(DN15-DN50)
Series W-LFDEU-SFxBSLD-BSPT(DN15, DN25, DN50)
Connection Dimensions: ASME B1.20.1

Size		H		L		A	B	
A	B	In.	mm	In.	mm		In.	mm
1/2"	1/2"	1.50	38	2.05	52	1/2" NPT Female	0.627/0.631	15.93/16.03
3/4"	3/4"	1.61	41	2.17	55	3/4" NPT Female	0.877/0.881	22.28/22.38
1"	1"	1.89	48	2.05	52	1" NPT Female	1.128/1.132	28.65/28.75
1 1/4"	1 1/4"	2.24	57	2.24	57	1 1/4" NPT Female	1.378/1.382	35.00/35.10
1 1/2"	1 1/2"	2.76	70	2.68	68	1 1/2" NPT Female	1.628/1.633	41.35/41.48
2"	2"	3.50	89	2.80	71	2" NPT Female	2.128/2.133	54.05/54.18

Connection Dimensions: BS EN10226(BS21)

Size		H		L		A	B	
A	B	In.	mm	In.	mm		In.	mm
1/2"	1/2"	1.50	38	2.05	52	1/2" BSPT Female	0.627/0.631	15.93/16.03
1"	1"	1.89	48	2.05	52	1" NPT Female	1.128/1.132	28.65/28.75
2"	2"	3.50	89	2.80	71	2" NPT Female	2.128/2.133	54.05/54.18

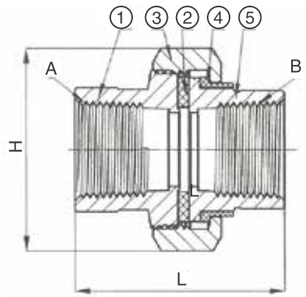


Series W-LFDEU-SFxBF-NPT(DN20)
Series W-LFDEU-SFxBSLD-BSPT(DN15-DN50)
Connection Dimensions: ASME B1.20.1

Size		H		L		A	B	Weight(Kg)
A	B	In.	mm	In.	mm			
3/4"	3/4"	1.89	48	2.24	57	3/4" NPT	3/4" NPT	0.30

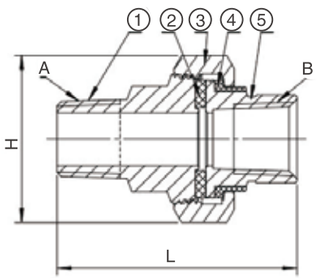
Connection Dimensions: BS EN10226(BS21)

Size		H		L		A	B	Weight (Kg)
A	B	In.	mm	In.	mm			
3/4"	3/4"	1.89	48	2.24	57	3/4" BSPT	3/4" BSPT	0.298
1"	1"	2.24	57	2.52	64	1" BSPT	1" BSPT	0.458
1 1/4"	1 1/4"	2.76	70	2.76	70	1 1/4" BSPT	1 1/4" BSPT	0.641
1 1/2"	1 1/2"	3.5	89	2.76	70	1 1/2" BSPT	1 1/2" BSPT	1.195
2"	2"	4.13	105	3.11	79	2" BSPT	2" BSPT	1.886



Series W-LFDEU-SMxBF-BSPT(DN25)
Connection Dimensions: BS EN10226(BS21)

Size (Steel)	Size (Brass)	H	L	A	B	Weight (Kg)
A	B	mm	mm			
1"	1"	57	87.5	1" BSPT	1" BSPT	0.64



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Series W-ZKB

Flexible Rubber Expansion Joint Single Bellow Flanged Type

Size: DN32-DN600

Mounted on piping installations, the joint can absorb expansions, contractions, oscillations, and vibrations, diminish hammering, reduces noise and prevents electric currents from spreading.



Features

- The multi-level sphere structure, vibration absorbing ability, Good effect of noise reduction
- Can work under high pressure, larger antiknock and elastic situations
- On compression, tensile and torsion deformation can better displacement compensation effect
- 360° rotation of the flange connection, make the installation more convenient and flexible

Pressure-Temperature

- Nominal Pressure: PN10/PN16
- Temperature Range: -20°C~80°C
- Bursting Pressure: PN48

Specification

- Connection Standard: ISO7005-1
  EN1092-1
- Test Standard: ISO5208-2008
- Vacuum Degree: 650mmHg
- Deflection Angle: 15°
- Medium: water, oil, gas

Test Pressures

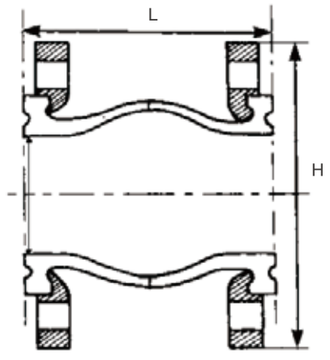
Pneumatic	Hydraulic
Shell: 6 bar	Shell: PN10 15 bar
	PN16 24 bar

Material

Component	Flange	Rubber	
Material	Galvanised carbon steel	EPDM	NBR

Installation Dimensions

Size DN(mm)	H	L	Allowable Displacement	
	mm	mm	Compression	Extension
32	140	95	9	6
40	150	95	10	6
50	165	105	10	7
65	185	115	13	7
80	200	130	15	8
100	220	135	19	10
125	250	170	19	12
150	285	180	20	12
200	340	205	25	16
250	405	240	25	16
300	460	260	25	16
350	520	265	25	16
400	580	265	25	16
450	640	265	25	16
500	715	265	25	16
600	780	265	25	16



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Series W-ZKT

Flexible Rubber Expansion Joint Double Bellow Union Type

Size: DN20-DN80

Mounted on piping installations, the joint can absorb expansions, contractions, oscillations and vibrations, diminishes hammering, reduces noise and prevents electric currents from spreading.



Features

- The multi-level sphere structure, vibration absorbing ability, good effect of noise reduction
- Can work under high pressure, larger antiknock and elastic situations
- On compression, tensile and torsion deformation can better displacement compensation effect
- 360 ° rotation of the union and nipple connection, make the installation more convenient and flexible

Pressure-Temperature

- Nominal Pressure: PN20
- Temperature Range: -25°C~120°C

Specification

- Test Standard: ISO5208-2008 or
  BS EN12266-2:2002
- Connection Standard: ISO7-1
- Vacuum Degree: 650mmHg
- Deflection Angle: 15°
- Medium: water, oil, gas

Test Pressures

Pneumatic	Hydraulic
Shell: 6 bar	Shell: 24 bar

Typical Application

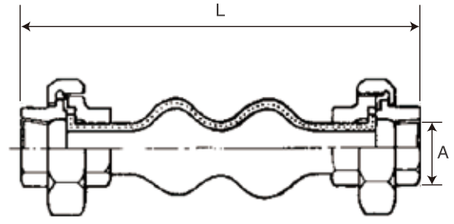
- Chilled water and potable water application
- Environmental protection
- Municipal facilities
- Electric power and utilities
- Construction industry

Material

Component	Union nut	Rubber	
Material	Colored Zinc-plated ductile iron	EPDM	NBR

Installation Dimensions

DN	L	Allowable Displacement	
	mm	Compression	Extension
20	200	22	6
25	200	22	6
32	200	22	6
40	200	22	6
50	200	22	6
65	225	22	6
80	225	22	6



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Series W-ZKT-F

Flexible Rubber Expansion Joint Double Bellow Flange Type

Size: DN32-DN600

Mounted on piping installations, the joint can absorb expansions, contractions, oscillations and vibrations, diminishes hammering, reduces noise and prevents electric currents from spreading.



Features

- The multi-level sphere structure, vibration absorbing ability, good effect of noise reduction
- Can work under high pressure, larger antiknock and elastic situations
- On compression, tensile and torsion deformation can better displacement compensation effect
- 360° rotation of the flange connection, make the installation more convenient and flexible

Pressure-Temperature

- Nominal Pressure: PN16(DN32-DN300)
  PN10(DN350-DN600)
- Bursting Pressure: PN48(DN32-DN300)
  PN30(DN350-DN600)
- Temperature Range: -15°C~115°C

Test Pressures

Pneumatic	Hydraulic
Shell: 6 bar	Shell: PN10 15 bar
	PN16 24 bar

Specification

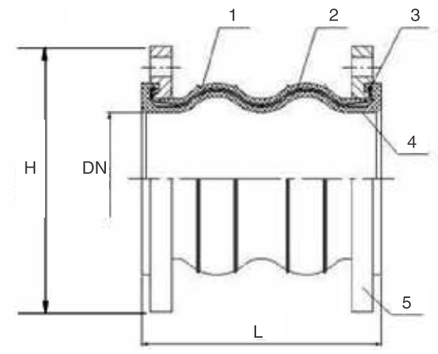
- Test Standard: ISO5208-2008 or BS EN12266-2:2002
- Connection Standard: ISO7005-2:1998 PN16 or BS EN1092:2-1997 PN16
- Deflection Angle: 30°(DN32-DN250)
  20°(DN300)
  10°(DN350-DN600)
- Medium: water, oil, gas

Material

Component	Union nut	Rubber	
Material	Carbon steel+ZINC PLUS YELLOW	EPDM	NBR

Installation Dimensions

DN	H	L	Allowable Displacement	
	mm	mm	Compression	Extension
32	140	95	30	20
40	150	95	30	20
50	165	105	30	20
65	185	115	50	25
80	200	130	50	25
100	220	135	50	35
125	250	170	50	35
150	285	180	50	35
200	340	205	50	35
250	405	240	50	35
300	460	260	50	35
350	520	265	40	25
400	580	265	40	25
450	640	265	40	25
500	715	265	40	25
600	780	265	40	25



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Series RGS/RGF

Staineless Steel Thread / Flange Metal Hose

Size: RGS DN20~DN50
RGF DN40~DN600

Series RGS/RGF is able to compensate displacement and installation deviation, absorb vibration and reduce noise. It could be applied in facilities, petroleum, chemical industry, electric power, medicine, and food manufactory, etc.



Features

- Good flexibility and fatigue resistance
- Excellent temperature resistance and corrosion resistance

Pressure - Temperature

- Maximum Working Pressure: PN16
- Working Temperature: -20℃ ~180℃

Material

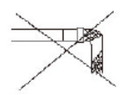
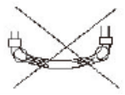
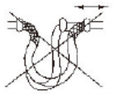
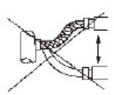
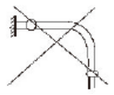
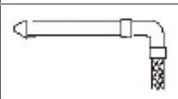
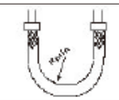
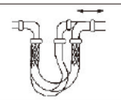
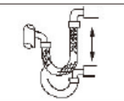
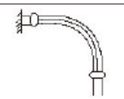
Component	Material
BSPT Connection	Stainless Steel 304
Flange	Carbon Steel / Stainless Steel(optional)
Bellows Body	Stainless Steel 304
Net Cover	Stainless Steel 304

Specification

- Connection Standard: RGS: Male thread BSPT ISO 7-1
  RGF: GB Flange GB/T 9113
- Working Medium: Water,oil,gas

Installation Instructions

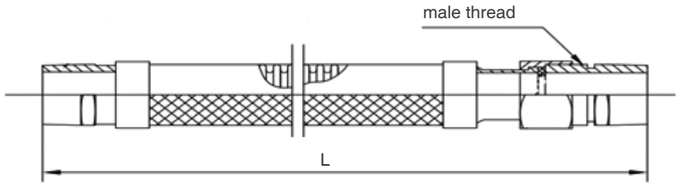
- Compare the rated parameters required by the equipment with the rated parameters marked on the product to ensure that the product meets the required requirements;
- The installation personnel shall be trained and experienced to ensure the smooth completion of the complete installation;
- After installation, it is necessary to conduct a thorough inspection to ensure that the installation is correct;
- Use standard flanges and corresponding bolts for fixation;

Example	1	2	3	4	5
Wrong					
	Extremely curved shape of the joint	The hose length is not appropriate, and the root is bent at right angles	Both ends of the moving part are in extreme bending	Staggered bending and extreme distortion behind the joint	The hose between two parts is twisted by installing the threaded joint or relative movement
Correct					
	Use rigid elbow joints to keep the hose straight	Determine the correct length of hose according to the bending radius	Use two rigid bends to eliminate extreme bending and select the correct hose length	Two rigid bends are used to eliminate staggered bending and twisting	When assembling the hose, it shall be prevented from twisting, The hose shall be in a free state after tightening

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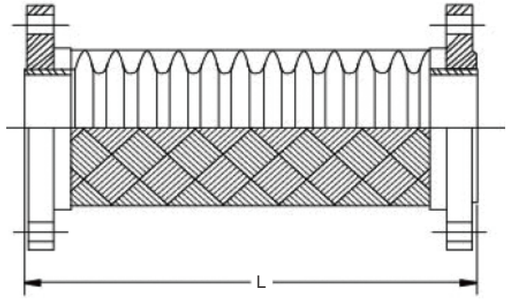
Installation Dimensions

RGS



Size DN(mm)	L(mm)	Deflection Angle (°)	Allowable Displacement (mm)	
			compress	stretching
20	300	45	15	10
25	300	45	15	10
32	300	45	15	10
40	300	45	15	10
50	300	30	20	10

RGF



Size DN(mm)	L(mm)	Deflection Angle (°)	Allowable Displacement (mm)	
			compress	stretching
40	300	40	15	10
50	300	30	20	10
65	300	20	20	10
80	300	15	20	10
100	300	15	20	10
125	300	15	20	10
150	300	10	20	10
200	300	10	20	10
250	300	5	20	10
300	300	5	20	10
350	300	5	20	10
400	500	10	30	15
450	500	10	30	15
500	500	10	30	15
600	500	10	30	15

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Series LVH

Pressure Limiting Valve

Size: DN15-DN20

Protection for High (mains) Pressure hot water systems and ring mains. Compact in-line solution for balancing domestic cold systems.

Features

- Designed to protect systems running hot water up to 80°C
- Pressure compensated to give constant outlet pressure regardless of inlet pressure
- Factory set to 350, 500 and 600 kPa outlet pressures (fully compensated)
- 100% hand tested
- DR Brass construction
- Precision machined
- Compact design
- Endurance type tested to Australian Standards (50,000 cycles and re-tested)
- Field tested in high use commercial hot water application

Pressure-Temperature

- Temperature Range: 1°C~80°C
- Maximum Inlet Pressure: 2000kPa
- Factory Set Outlet Pressures: 350kPa, 500kPa, 600kPa
- Flow Rates: 700kPa

Material

Component	Material
Inlet Body Outlet Body	DR Brass
Jet Piston Components	Polysulfone
O-Rings	EPDM
Spring	Stainless Steel

Installation Dimensions

Model No	DN	Thread Size	Connection Type	L	W
LVH15500C	15	1/2"	Compression	97	39
LVH15350FM, 500FM, 600FM	15	1/2"	Female	97	39
LVH15500FL	15	1/2"	Flare	97	39
LVH20500C	20	3/4"	Compression	97	41
LVH20350FM, 500FM, 600FM	20	3/4"	Female	97	41
LVH20500FL	20	3/4"	Flare	97	41

Pressure Limiting Valve Product Code	Size DN	ECV Product Pressure Rating	Power Rating
LVH15350FM	15mm	ECV15550	10kW
LVH20350FM	20mm	ECV20550	47kW
LVH15500C,FM, FL	15mm	ECV15700	10kW
LVH20500C,FM,FL	20mm	ECV20700	47kW
LVH15600FM	15mm	ECV15850	10kW
LVH20600FM	20mm	ECV20850	47kW
LVH15600FM	15mm	ECV151200	10kW
LVH20600FM	20mm	ECV201200	47kW





Specification

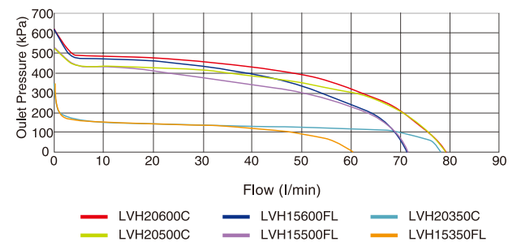
- Test Standard: AS1357.2
- Patent No: 595427
- Connection Options: Compression, Female, Flare Types
- Working Medium: Potable Water

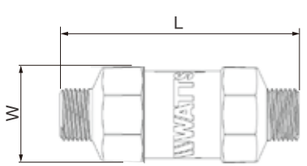
Pressure	Size	Flow
350kPa	15mm	55 l/m
	20mm	95 l/m
500kPa	15mm	70 l/m
	20mm	100 l/m
600kPa	15mm	70 l/m
	20mm	100 l/m

Approval

WMKA25916

Characteristic Curve





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Series NRI

Non Return Isolation Valve

Size: DN15-DN20

Non return valve with isolation for mains pressure water systems.

Features

- 100% hand tested
- DR Brass construction, precision machined
- Compact design
- Endurance Tested to Australian Standards
- Two year guarantee against faulty materials and manufacturing. Refer website for terms and conditions.
- Nuts and olives included with Compression variant, nuts included with Flare variant

Installation Dimensions

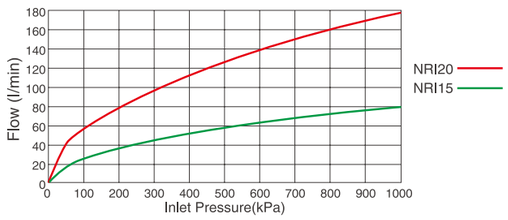
Model No	Size DN	Connection Type (inlet,outlet)	Thread size	L mm	H mm
NRI15C	15	Compression	½" BSP	69	74
NRI15FM	15	Female	½" BSP	69	74
NRI15FL	15	Flare	½" BSP	69	74
NRI20C	20	Compression	¾" BSP	77	85
NRI20FM	20	Female	¾" BSP	77	85
NRI20FL	20	Flare	¾" BSP	77	85

Approval

WMKA25916

Characteristic Curve

Flow Rates



Installation Instruction

- Check that the valve is suitable for the application
- Valve must be fitted by a qualified plumber
- Flush pipes prior to fitting
- Must be fitted downstream of an approved strainer
- Must be fitted downstream of pressure limiting valve(if fitted)
- Do not install in ground
- Do not apply heat during installation
- At the end of the installation, check thoroughly that it 1s installed correctly



NRI15C



NRI15FM NRI15FL



NRI20C



NRI20FM NRI20FL



NRI15C NRI20C

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Series TVA

Tempering Valves-Standard

Size: DN15-DN20

Used in hot water supply systems to mix hot and cold water to a controlled outlet temperature, reducing the risk of exposure to excessively hot water.

Features

- Mains pressure installations
- Can be installed in any orientation
- Failsafe shutdown-in the event of failure of hot and cold supplies
- High quality corrosion resistant DR Brass body
- 100% Tested
- Two year guarantee against faulty materials and manufacturing. Refer website for terms and conditions
- Nuts, olives and insulation included with valve
- Hot Water Supply Temperatures: 65°C~99°C

Installation Dimensions

Model No	Size DN	Thread size	W(mm)	H(mm)
TVA15C	15	½" BSP	99	109
TVA20C	20	¾" BSP	103	106

Approval

WMKA26118



TVAS15C



TVA15 INSULATION KIT



TVA20C



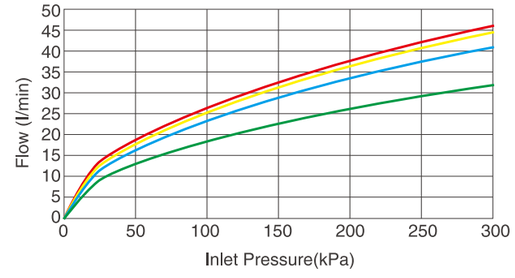
TVA20 INSULATION KIT

Installation Instruction

- Check that the valve is suitable for the application
- Valve must be fitted by a qualified plumber
- Installation must comply with local authority requirements
- Valve may be installed in any orientation
- Flush pipes prior to ftting
- Connections are H(hot inlet), C(cold inlet) and OUT(mixed temperature outlet)
- Do NOT apply heat near valve during installation-this maydamage the mechanism
- Do NOT install valve directly into outlet of cylinder
- At the end of the installation, check thoroughly that it isinstalled correctly
- Adjust temperature by removing cap. Use screwdriver to adjust to desired temperature.To increase, turn anti clockwise(H). To decrease, turn clockwise(C). Replace cap. Maximum delivered hot water temperature at any sanitary fixture used for personal hygiene shall not exceed 50°C
- Maintenance is to be carried out to AS 4032.3
- Commissioning: All valves must be commissioned and the discharge water temperature set and verified with a thermometer. Valves not installed in accordance to these instructions may result in unsafe performance

Characteristic Curve

Flow Rates



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Series TVAS

Tempering Valves-Solar

Size: DN15-DN20

Used in hot water supply systems to mix hot and cold water to a controlled outlet temperature, reducing the risk of exposure to excessively hot water. Higher hot water supply temperature rating so as to be suitable for solar hot water applications.

Features

- Mains pressure installations
- Can be installed in any orientation
- Failsafe shutdown in the event of failure of hot and cold supplies
- High quality corrosion resistant DR Brass body
- 100% Tested
- Two year guarantee against faulty materials and manufacturing. Refer website for terms and conditions
- Nuts, olives and insulation included with valve
- Hot Water Supply Temperatures: 65°C~110°C

Installation Dimensions

Model No	Size DN	Thread size	W(mm)	H(mm)
TVAS15C	15	½" BSP	158	106
TVAS20C	20	¾" BSP	103	106

Approval

WMKA26118



TVAS15C SOLAR



TVAS15 INSULATION KIT



TVAS20C SOLAR



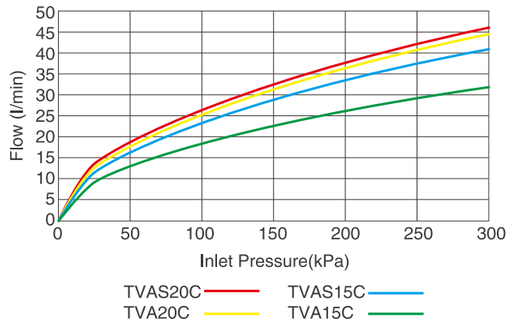
TVAS20 INSULATION KIT

Installation Instruction

- Check that the valve is suitable for the application
- Valve must be fitted by a qualified plumber
- Installation must comply with local authority requirements
- Valve may be installed in any orientation
- Flush pipes prior to ftting
- Connections are H(hot inlet), C(cold inlet) and OUT(mixed temperature outlet)
- Do NOT apply heat near valve during installation-this maydamage the mechanism
- Do NOT install valve directly into outlet of cylinder
- At the end of the installation, check thoroughly that it isinstalled correctly
- Adjust temperature by removing cap. Use screwdriver to adjust to desired temperature.To increase, turn anti clockwise(H). To decrease, turn clockwise(C). Replace cap. Maximum delivered hot water temperature at any sanitary fixture used for personal hygiene shall not exceed 50°C
- Maintenance is to be carried out to AS 4032.3
- Commissioning: All valves must be commissioned and the discharge water temperature set and verified with a thermometer. Valves not installed in accordance to these instructions may result in unsafe performance

Characteristic Curve

Flow Rates



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Series ECV

Expansion Control Valves

Size: DN15-DN20

Energy saving valve relieves cold water rather than hot water, saving electricity, and protects against excessive hot water cylinder pressure.

Features

- All bronze body
- Expansion control at SSOkPa, 700 kPa, 850 kPa, 1200 kPa
- Auxiliary pressure relief device
- Precision machined
- Compact design
- Endurance Tested to Australian Standards (25000 cycles pressure relief and re-tested)
- Two year guarantee against faulty materials and manufacturing Refer website for terms and conditions

Approval

WMKA26120



ECV15



ECV20

Installation Instruction

- Check that the valve is suitable for the application
- Valve must be installed by a licenced plumber in accordance with AS/NZS 3500.4
- Flush pipes prior to fitting
- The valve must be installed between all other valves and the cylinder cold inlet
- The valve must be installed with unobstructed access for maintenance and to allow for operation of the easing gear
- No heat must be applied to the screwed pipe connections of the valve
- Except for heater isolation valves in multiple installations(see AS/NZ 3500.4.5 .10.2.h). There must be no other valve installed between the expansion control valve and the water cylinder
- The insulation included with the valve must be attached to the valve with the cable ties supplied
- Refer to table for appropriate ECV valve product code with pressure limiting valve product code
- The valve must not be repaired or altered in any way
- Refer to AS/ NZS 3500.4 for information on installation if required

Specification

Pressure Limiting Valve Product Code	Size DN	ECV Product Pressure Rating	Power Rating
LVH15350FM	15mm	ECV15550	20kW
LVH20350FM	20mm	ECV20550	60kW
LVH15500C, FM, FL	15mm	ECV15700	20kW
LVH20500C, FM, FL	20mm	ECV20700	60kW
LVH15600FM	15mm	ECV15850	20kW
LVH20600FM	20mm	ECV20850	60kW
LVH15600FM	15mm	ECV151200	20kW
LVH20600FM	20mm	ECV201200	60kW

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Series W-STBV-25T

Static Balancing Valve

Size: DN15-DN50

The Series W-STBV static balancing valves are designed for flow balancing in cooling, heating or process water systems. Its measuring points enable convenient system troubleshooting.



Features

- Accurate flow control
- Numerical indicator of opening degree on the hand wheel
- Lockable set position
- Shut-off function for troubleshooting or maintenance
- Self-sealing measuring points to protect against leakage
- Nonrising-stem

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: -10°C~120°C

Test Pressures

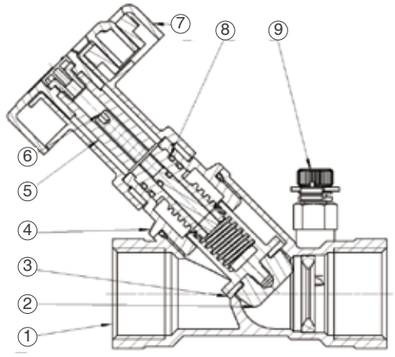
Pneumatic	Hydraulic
Shell: 6 bar(600kPa)	Shell: 37.5 bar(3750kPa)

Material

No.	Component	Material
1	Body	DZR Brass
2	Core	DZR Brass
3	Valve Base Sealing	PTFE
4	Bonnet	DZR Brass
5	Stem	DZR Brass
6	Core Rod	DZR Brass
7	Hand wheel	ABS Plastic
8	Shaft Sealing	EPDM O-ring
9	Measuring Orifices	DZR Brass

Specification

- Connection Standard: ISO 7-1
- Working Medium: Non corrosive liquids



Product Model

Type	Size	Kvs(Total Valve)	Kvs(Fixed Orifice)
W-STBV015-25T	DN15	2.6	3.3
W-STBV020-25T	DN20	4.7	6.9
W-STBV025-25T	DN25	7.5	10.9
W-STBV032-25T	DN32	12.9	21.6
W-STBV040-25T	DN40	18.5	29.0
W-STBV050-25T	DN50	28.8	49.0

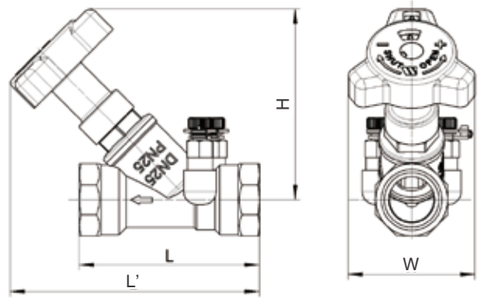
Model Code

		W-	STBV	015-	25	T
W	WATTS					
STBV	Static Balancing Valve					
Size						
015-DN15	020-DN20					
025-DN25	032-DN32					
040-DN40	050-DN50					
Nominal Pressure	PN25					
Material	DZR Brass					

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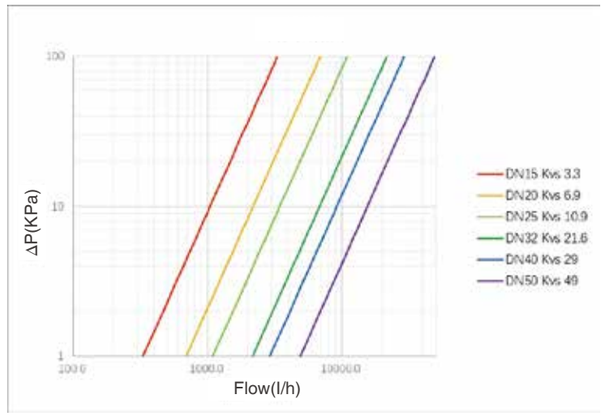
W-STBV-25T-EN-202312

Installation Dimensions



Size	L(mm)	L'(mm)	H(mm)	W(mm)	Weight(Kg)
DN15	85	133	103.5	70.3	0.49
DN20	85	133	103.5	70.3	0.54
DN25	100	141	107.5	70.3	0.71
DN32	115	154	116.0	70.3	0.97
DN40	120	157	120.0	70.3	1.23
DN50	140	174	131.0	70.3	1.70

Characteristic Curves

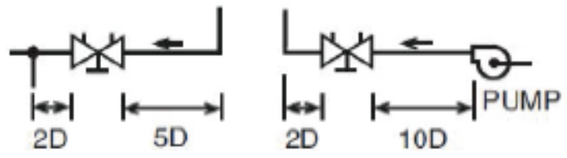


Measuring:

The flow through W-STBV-25T valve can be measured by measuring instruments. the instruments are using this formula:
$Q=Kvs^*\sqrt{\Delta p}$
Kvs is fixed orifice flow coefficient
Δp is measured across the measuring orifices

Installation Instructions

The static balancing valve is normally installed on the return pipe,
When it is used with the differential pressure balancing valve valve, the static balancing valve is installed on the supply pipe.
When it is connected with elbow, a minimum of 5 pipe diameters of straight pipe upstream, a minimum of 2 pipe diameters of straight pipe downstream are required.
When it is connected with pump, a minimum of 10 pipe diameters of straight pipe upstream, a minimum of 2 pipe diameters of straight pipe downstream are required.



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Series W-STBV-25T

Static Balancing Valve

Size: DN15-DN50

The Series W-STBV static balancing valves are designed for flow balancing in cooling, heating or process water systems. Its measuring points enable convenient system troubleshooting.



Features

- Accurate flow control
- Numerical indicator of opening degree on the hand wheel
- Lockable set position
- Shut-off function for troubleshooting or maintenance
- Self-sealing measuring points to protect against leakage
- Variable orifice
- Nonrising-stem

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: -10°C~120°C

Test Pressures

Pneumatic	Hydraulic
Shell: 6 bar(600kPa)	Shell: 37.5 bar(3750kPa)

Material

No.	Component	Material
1	Body	Bronze
2	Core	DZR Brass
3	Valve Base Sealing	PTFE
4	Bonnet	Bronze
5	Stem	DZR Brass
6	Core Rod	DZR Brass
7	Hand wheel	ABS Plastic
8	Shaft Sealing	EPDM O-ring
9	Measuring Orifices	DZR Brass

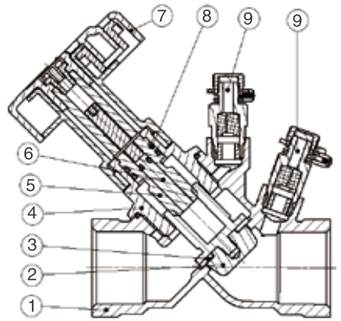
Specification

- Connection Standard: AS3688
- Working Medium: Non corrosive liquids

Approval

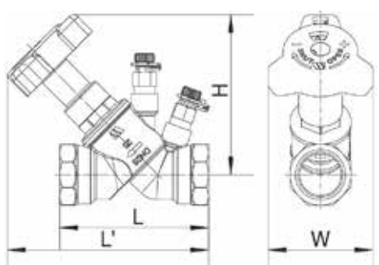
- WaterMark No. : WMK26060

WMK26060



Installation Dimensions

Size	L(mm)	L'(mm)	H(mm)	W(mm)	Weight(Kg)	Kvs
DN15	85	133	103.5	70.3	0.64	4.18
DN20	85	133	103.5	70.3	0.67	7.45
DN25	100	141	107.5	70.3	0.89	11.11
DN32	115	154	116.0	70.3	1.22	19.02
DN40	120	157	120.0	70.3	1.45	25.95
DN50	140	174	131.0	70.3	2.05	38.08



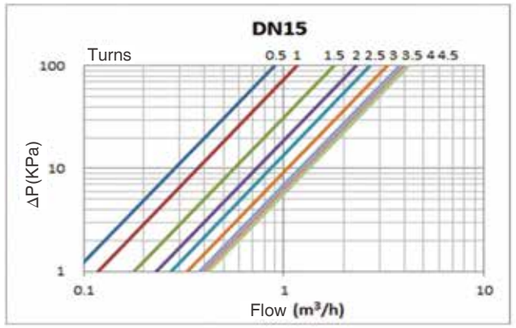
Kv Values

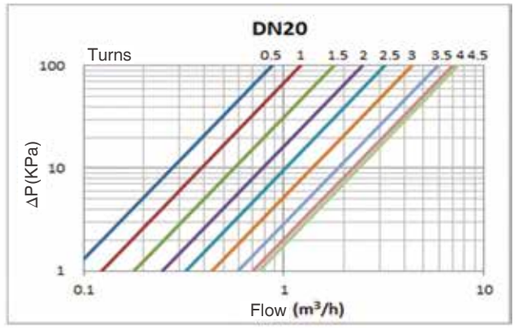
Turns	DN15	DN20	DN25	DN32	DN40	DN50
0.5	0.90	0.87	1.66	2.10	2.73	3.32
1.0	1.17	1.22	2.35	3.37	4.15	5.02
1.5	1.78	1.78	3.21	5.38	6.49	8.34
2.0	2.31	2.46	3.95	7.27	8.89	11.56
2.5	2.71	3.21	5.01	9.40	11.50	15.49
3.0	3.27	4.36	6.65	12.38	15.70	21.37
3.5	3.80	5.91	8.53	15.40	19.84	27.77
4.0	4.02	6.99	9.98	17.40	23.22	33.37
4.5	4.18	7.45	11.11	19.02	25.95	38.08

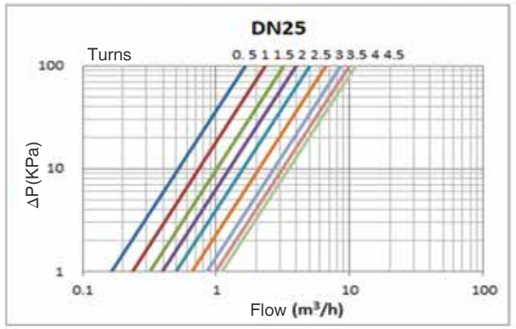
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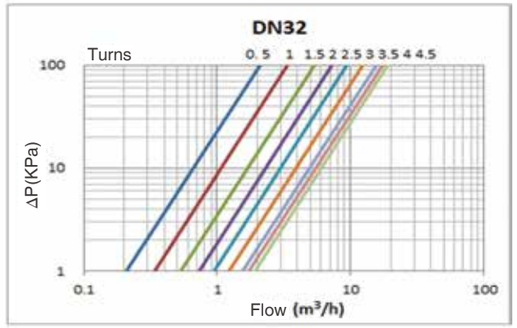
W-STBV-25T-EN-202312

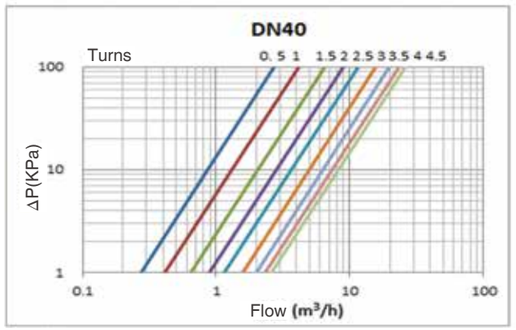
Characteristic Curves

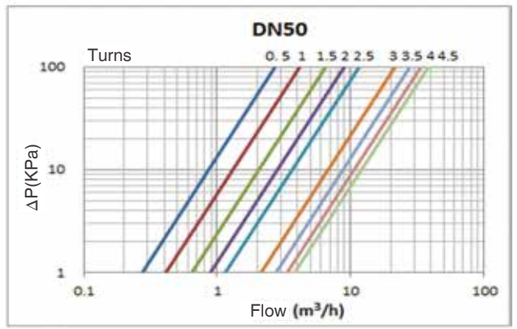






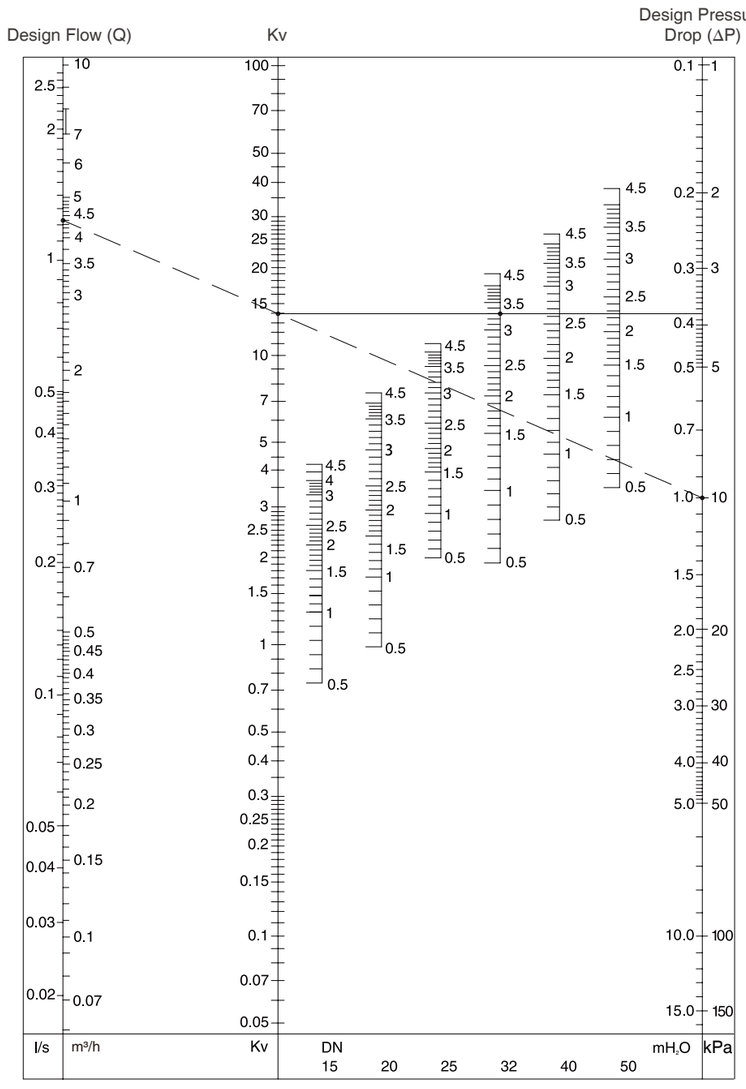






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14 Balancing



Selection Drawing

Example of Type Selection:

Q: It is needed to install a Static Balancing valve on the bypass on an air-conditioning system. Given that the design flow is Q = 4.4 m³/hr, and the design pressure loss is ΔP = 10 kPa, select a Static Balancing Valve of proper size.

A: Draw a straight line between Q = 4.4 m³/hr (1.23 L/s) and ΔP = 10 kPa, creating an intersection of this line and the Kv scale in the middle: Kv = 14. Based on the intersection, draw a horizontal line crossing 3 opening scales of the different sized valves. These three new intersections are 3.3 turns for DN32, 2.6 turns for DN40 and 2.3 turns for DN50 respectively. Since it is recommended to set the valve at around 75% opening rate, choose the Static Balancing Valve of DN40.

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Series STBV-25/ 25N

Fixed Orifice Double Regulating Valve

Size: DN15-DN50

The Watts STBV-25 Static Balancing Valve is designed for flow balancing in cooling, heating or process water systems. Its fixed orifice measuring points enable convenient and accurate system commissioning.



Features

- Accurate flow control
- Numerical indicator of opening degree on the hand wheel
- Self-sealing measuring points to protect against leakage
- Integral fixed orifice and test points
- Shut-off function for troubleshooting or maintenance

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: 0 °C ~120 °C

Test Pressures

Pneumatic	Hydraulic
Shell: 6 bar	Shell: 37.5 bar
Shell: 6 bar	Seat: 27.5 bar

Specification

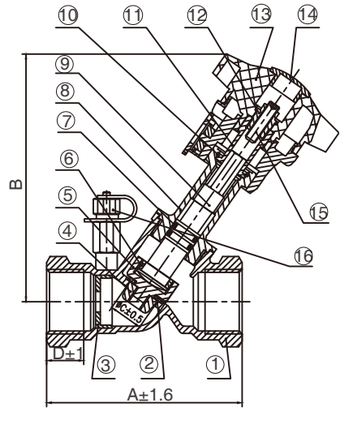
- Design standard: BS7350
- Connection Standard: Threaded to ISO 7-1/ASME B1.20.1
- Test Standard: BS6755
- Medium: water

Approval

WRAS APPROVED PRODUCT

Material

NO.	Component	Material
1	Body	Bronze
2	Disc Face	DZR Brass (DN15-DN20) PTFE (DN25 – DN50)
3	Orifice Plate	DZR Brass
4	Nut	DZR Brass
5	Disc	DZR Brass
6	Disc Retaining Ring	DZR Brass
7	O Ring	NBR
8	Bonnet	DZR Brass (DN15-DN32) Bronze (DN40- DN50)
9	Stem	DZR Brass
10	Retainer Ring	Stainless Steel (SS304)
11	Sleeve	Brass
12	Screw	Brass
13	Hand Wheel	PA
14	Cap	PA
15	Screw	Stainless Steel (SS304)
16	Test Point	DZR Brass



Installation Dimensions

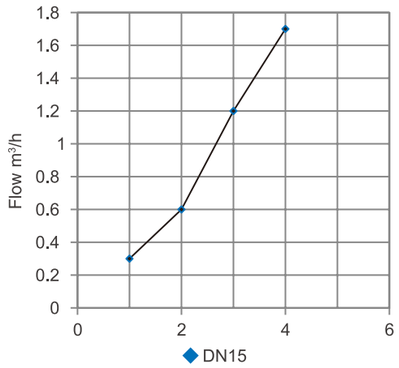
DN	A	B	C	Weight(kg	Flow	KV
DN15	87	105	10	0.528	1.72	2.2
DN20	96	106	13.7	0.585	2.97	4.6
DN25	100	127	17.4	0.812	4.75	8.5
DN32	114	128	24.6	1.021	10.25	16.7
DN40	125	143	31.8	1.447	16.83	26.1
DN50	146	144	38.9	2.003	27.26	43.2

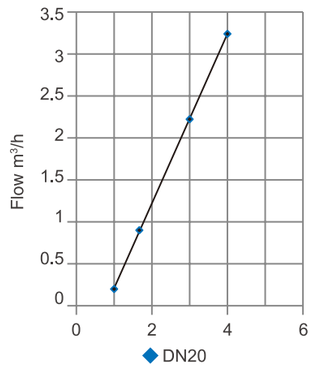
Kv Values/ Position Setting

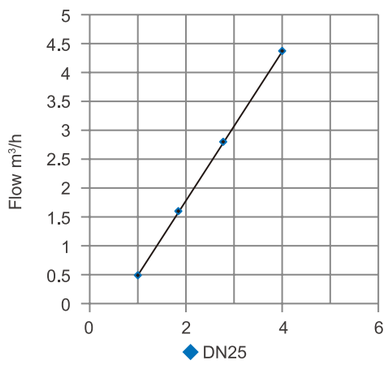
Setting	DN15	DN20	DN25	DN32	DN40	DN50
1	0.3	0.4	0.7	1.3	2.3	2.79
2	0.6	0.9	1.6	4	5.3	7.5
3	1.2	2.3	2.8	8.5	13.7	20.63
4	1.7	3.3	4.6	10.5	16.8	27.37

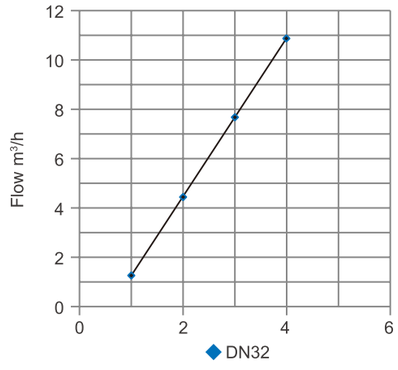
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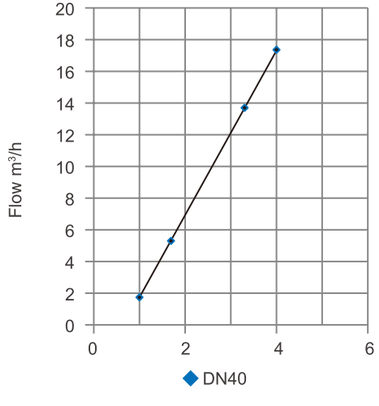
Characteristic Curves

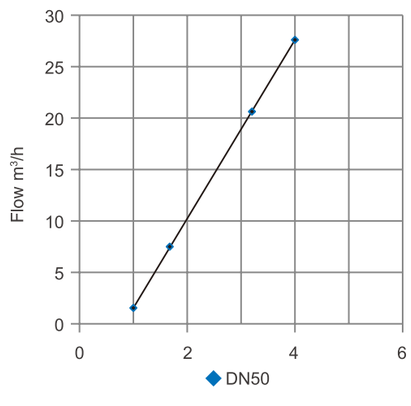












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Series W-STBV-16Q

Static Balancing Valve (Variable Orifice)

Size: DN65-DN500

The Series W-STBV static balancing valves are designed for flow balancing in cooling, heating or process water systems.Its measuring points enable convenient system troubleshooting.



Features

- Accurate flow control
- Numerical indicator of opening degree on the hand wheel
- Lockable set position
- Shut-off function for troubleshooting or maintenance
- Using balanced valve core, easy to adjust
- Self-sealing measuring points to protect against leakage
- No-Rising stem, Variable Orifice

Specification

- Connection Standard: BS EN 1092-2
- Medium: cold and hot water/glycol
- Patent No: ZL 2013 2 0890615.7

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -10°C~120°C

Approval

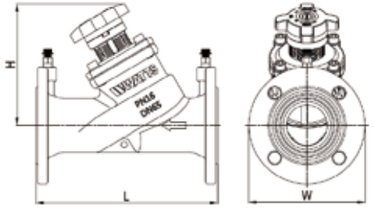
WRAS APPROVED PRODUCT

Test Pressures

Hydraulic
Shell: 24 bar
Seat: 18bar

Material

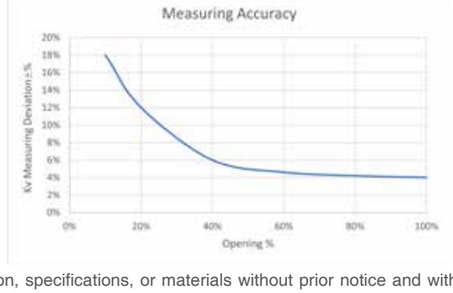
No.	Component	Material
1	Body	Ductile Iron
2	Core	Brass Carbon Steel Ductile Iron
3	Seat Sealing	EPDM
4	Stem	Brass Stainless Steel
5	Bonnet	Ductile Iron
6	Core Rod	Brass Stainless Steel
7	Handwheel	Nylon DN65-DN250 Aluminium DN300 Ductile Iron DN350-DN500
8	Stem Sealing	EPDM
9	Measuring Orifices	Brass



Installation Dimensions

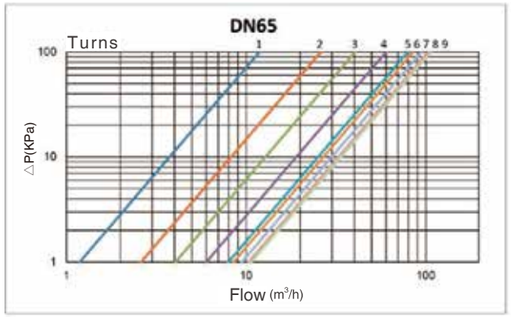
Size	L(mm)	H(mm)	W(mm)	Weight(Kg)	Kvs
DN65	290	195	185	15.6	94.47
DN80	310	215	200	20.0	137.31
DN100	350	230	220	26.3	211.20
DN125	400	330	250	38.1	330.22
DN150	480	350	285	52.6	408.32
DN200	600	420	340	91.7	759.21
DN250	730	460	405	152.3	1162.44
DN300	850	600	460	230.0	1703.45
DN350	980	595	520	300.0	2115.00
DN400	1100	635	580	413.0	3050.00
DN450	1200	688	640	567.0	3720.00
DN500	1250	745	715	682.0	4180.00

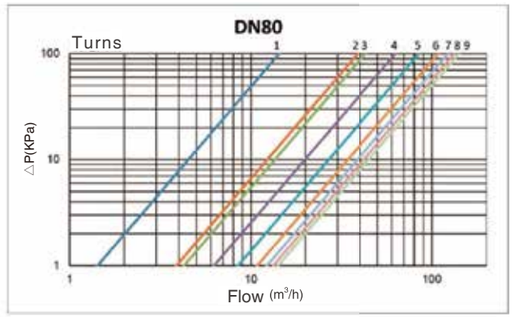
Kv Values

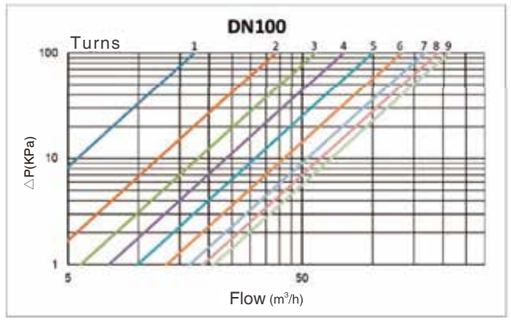


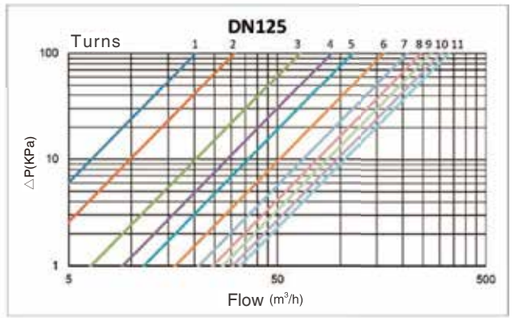
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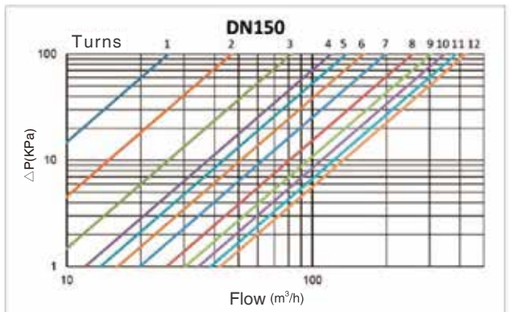
Characteristic Curves

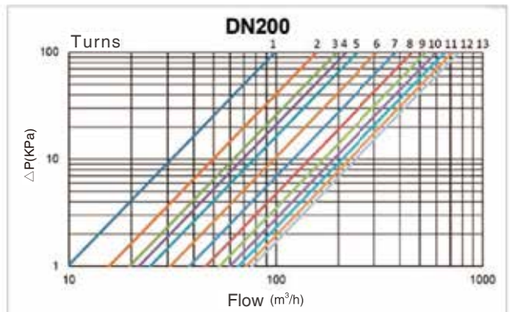








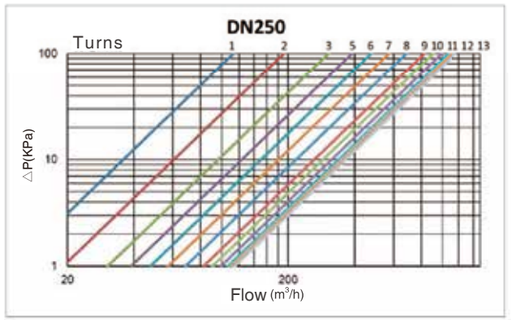


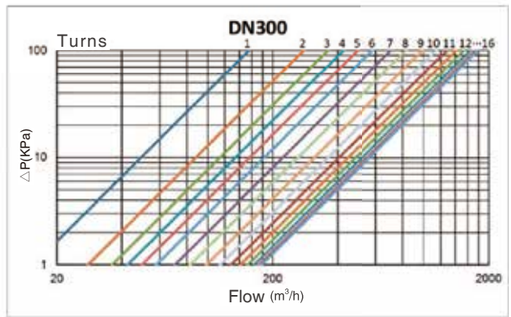


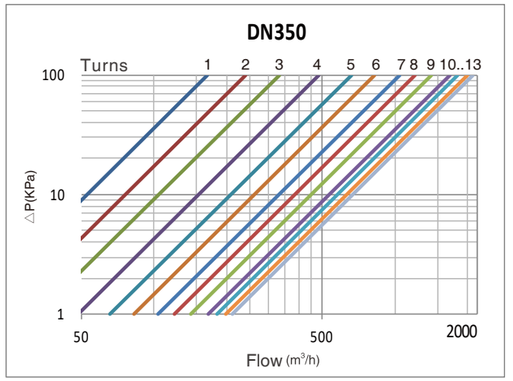
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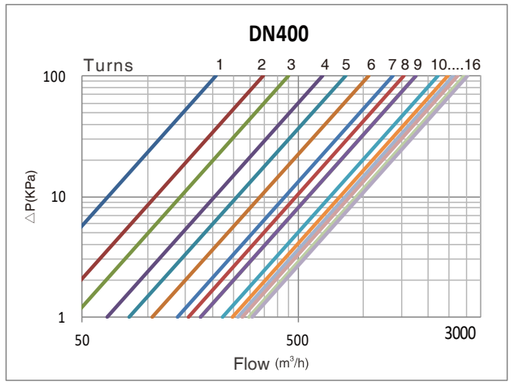
W-STBV-16Q-EN-202404

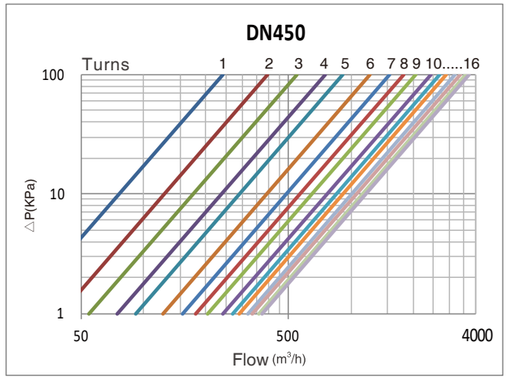
Characteristic Curves

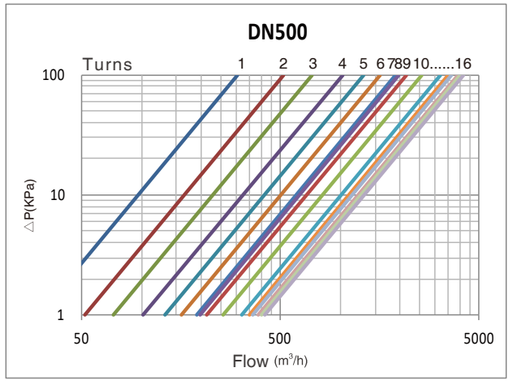










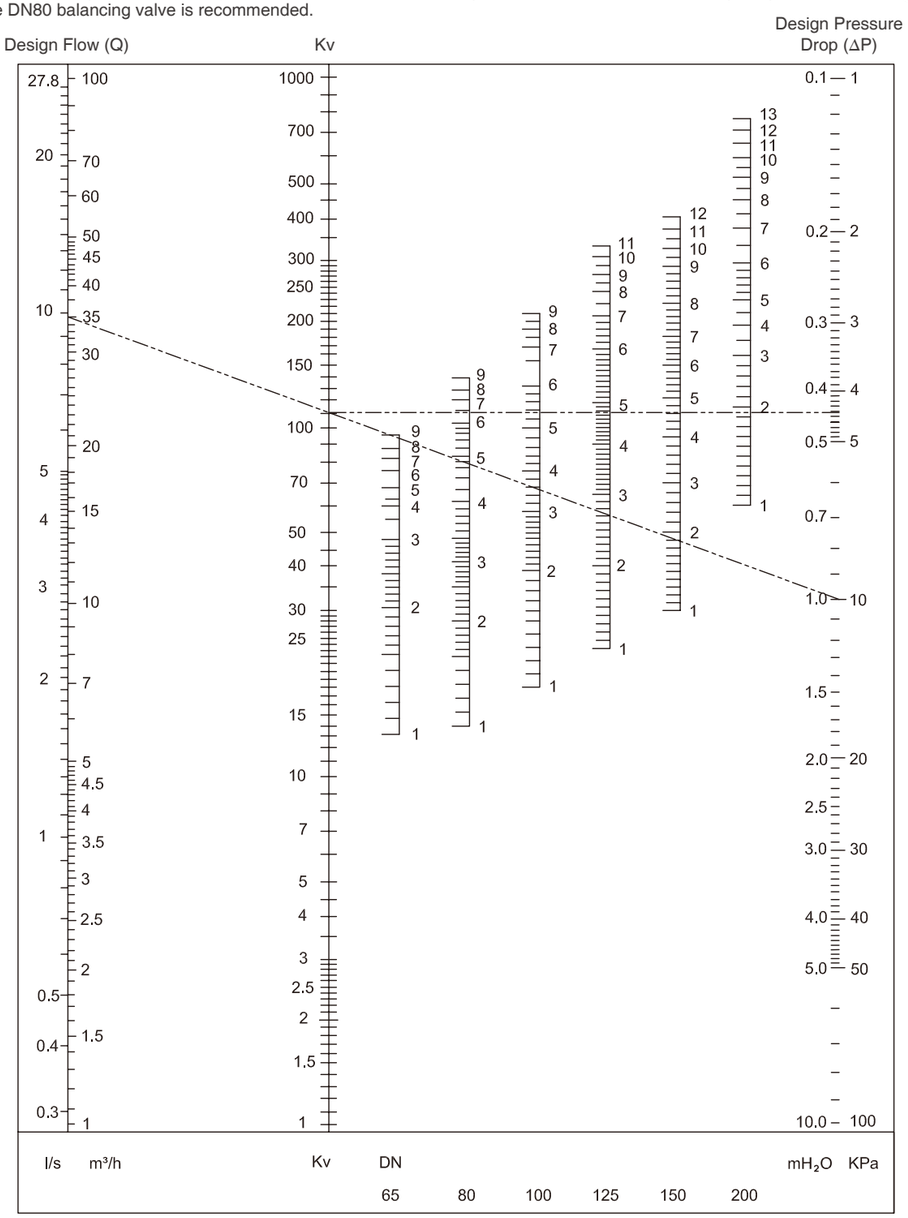


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Selection Drawing

For example:
Q: An air conditioning system is equipped with a static balancing valve, with a design flow of 35 m^3/h and a pressure drop of 10 kPa. Now we need to select a suitable static balancing valve.

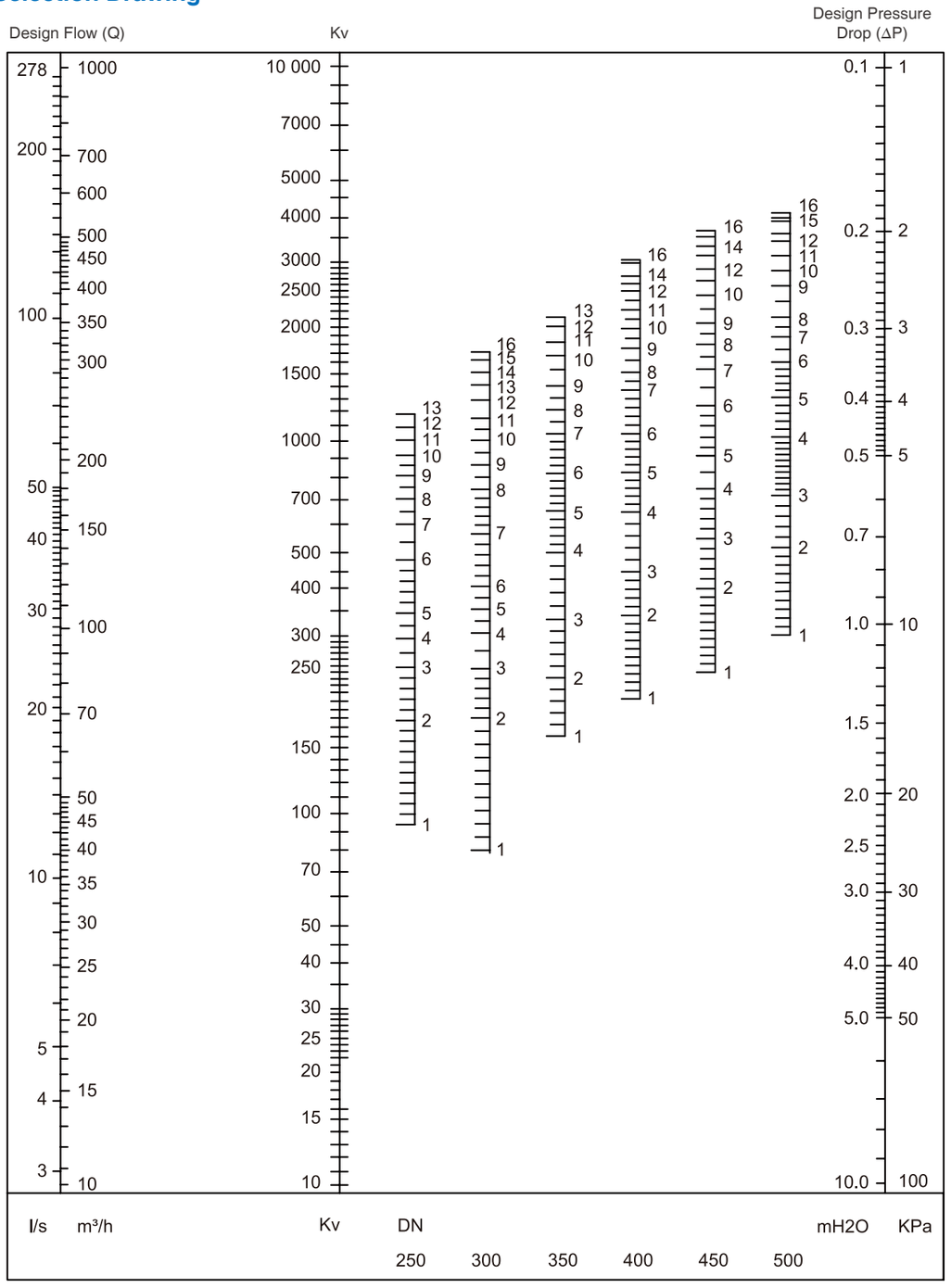
A: As shown in the below model selection line diagram, read out the position point with Q=35m^3/h from the left flow scale line, read the position point of 10 kPa from the right pressure drop scale line, connect the two points and the intersection point of Kv value scale line, and make the intersection point of horizontal line and the opening scale line of balance valve of different caliber. The intersection of DN80 intersection point is 6.9 circle, that of DN 100 intersection point is 5.4 circle, that of DN 125 intersection point is 4.8 circle, that of DN150 intersection point is 4.6 circle, and that of DN200 intersection point is 2.25 circle Based on the principle that the setting value is 75%, the DN80 balancing valve is recommended.



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W-STBV-16Q-EN-202404

Selection Drawing



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Series W-STBV-25Q

Staic Balancing Valve

Size: DN65-DN500

The Series W-STBV static balancing valves are designed for flow balancing in cooling, heating or process water systems. Its measuring points enable convenient system troubleshooting.

Features

- Accurate flow control
- Numerical indicator of opening degree on the hand wheel
- Lockable set position
- Shut-off function for troubleshooting or maintenance
- Self-sealing measuring points to protect against leakage
- Using balanced valve core, easy to adjust
- The hand wheel adopt the die casting aluminum, strong and durable
- The hand wheel wrench connection with energy saving

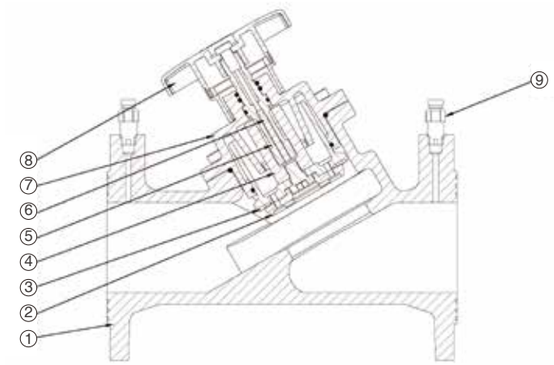


Material

NO.	Component	Material
1	Body	Ductile Iron GGG40
2	Core	Ductile Iron GGG40
3	Seat Sealing	EPDM
4	Shaft Barrel	DN65-150 Brass HPb59-1 DN200-500 Ductile Iron GGG40
5	Stem	Brass HPb59-1
6	Limit Valve Core	Brass HPb59-1
7	Cover	Ductile Iron GGG40
8	Handwheel	DN65-300 Nylon 66 DN350-500 Ductile Iron GGG40
9	Measuring Mouth	Brass HPb59-1

Specification

- Nominal Pressure: PN25
- Working Temperature: -10~120℃
- Connect Standard: GB/T 17241.6，ISO7005
- Working Medium: cold and hot water/ethylene glycol



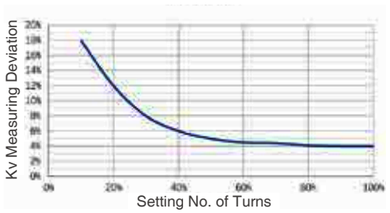
Product Model

Type	Size	Kvs	EDP
W-STBV065-25Q	DN65	92.7	61170004
W-STBV080-25Q	DN80	114.5	61170005
W-STBV100-25Q	DN100	187.5	61170006
W-STBV125-25Q	DN125	286.5	61170007
W-STBV150-25Q	DN150	395.0	61170008
W-STBV200-25Q	DN200	758.0	61170009
W-STBV250-25Q	DN250	1102.5	61170010
W-STBV300-25Q	DN300	1516.6	61170011
W-STBV350-25Q	DN350	2115.0	61170012
W-STBV400-25Q	DN400	3050.0	61170013
W-STBV450-25Q	DN450	3720.0	61170014
W-STBV500-25Q	DN500	4180.0	61170015

Product Type

	W-	STBV	065-	25	Q
W	WATTS				
STBV	Static Balancing Valve				
Size					
065-DN65	080-DN80				
100-DN100	125-DN125				
150-DN150	200-DN200				
250-DN250	300-DN300				
350-DN350	400-DN400				
450-DN450	500-DN500				
Pressure	PN25				
Body Material	Ductile Iron				

Kv Value Curve



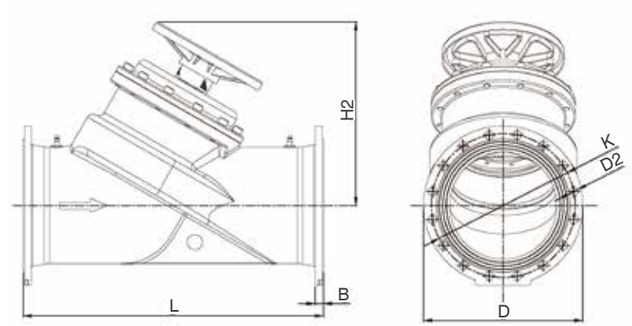
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W-STBV-25Q-EN-202312

Kvs

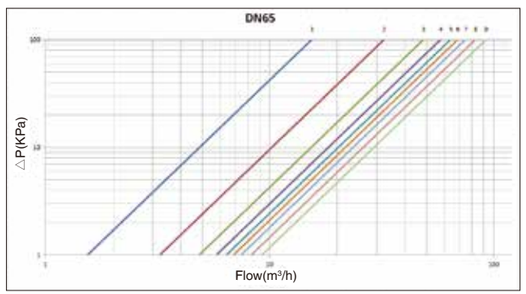
Turns	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400	DN450	DN500
1	15.5	16.3	26.0	22.0	27.9	67.0	109.0	128.0	167.2	208.0	240.5	305.2
2	32.5	32.2	45.0	53.0	54.9	127.0	184.0	211.1	240.0	344.0	396.5	518.0
3	48.7	52.5	59.0	74.0	76.8	191.0	264.0	290.3	330.0	452.0	548.0	724.0
4	58.1	67.5	69.0	96.0	97.6	278.0	356.0	350.6	485.0	651.0	749.0	1024.0
5	64.4	77.2	95.0	125.0	117.2	388.7	438.8	481.2	658.0	824.0	915.0	1315.0
6	69.2	86.2	127.0	156.0	143.2	474.3	538.6	624.2	824.0	1054.5	1242.0	1592.0
7	74.9	96.4	144.5	193.0	186.5	558.7	661.7	731.0	1045.0	1380.0	1541.0	1890.0
8	83.1	104.7	166.5	226.0	225.2	638.1	770.0	886.9	1215.0	1542.0	1792.0	2142.0
9	92.7	114.5	187.5	253.2	265.9	719.5	826.7	1042.1	1420.0	1765.0	2046.0	2586.0
10				286.5	321.5	758.0	920.0	1177.3	1685.0	1980.0	2425.0	2845.0
11					362.6		1010.0	1330.1	1824.0	2220.0	2680.0	3192.0
12					395.0		1102.5	1429.1	1988.0	2480.0	2880.0	3480.0
13								1516.6	2115.0	2620.0	3180.0	3640.0
14										2750.0	3350.0	3892.0
15										2940.0	3580.0	4024.0
16										3050.0	3720.0	4180.0

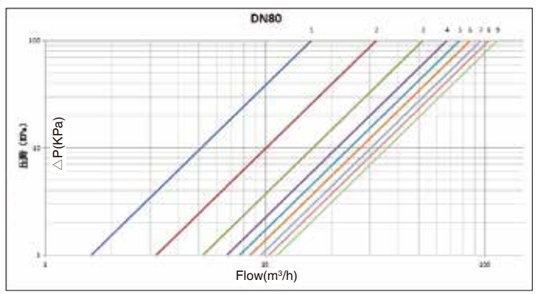
Installation Dimensions

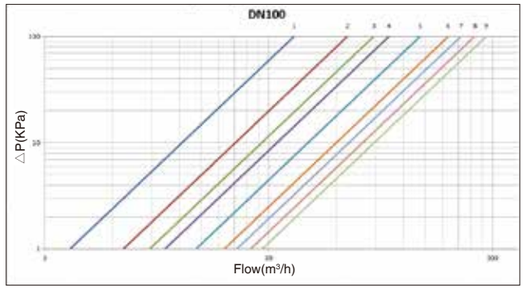


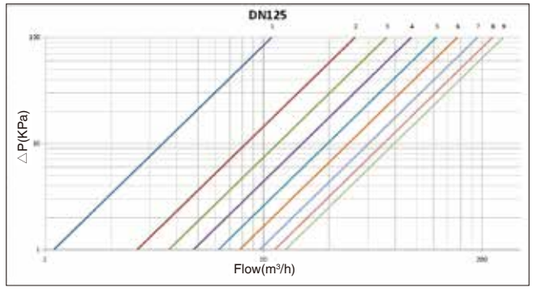
Type	B(mm)	K(mm)	D2(mm)	D(mm)	L(mm)	H2(mm)	Weight(Kg)
W-STBV065-25Q	19	145	8-19	185	290	200	15.5
W-STBV080-25Q	19	160	8-19	200	310	210	20
W-STBV100-25Q	19	190	8-23	235	350	246	26
W-STBV125-25Q	19	220	8-28	270	400	256	38
W-STBV150-25Q	20	250	8-28	300	480	286	52
W-STBV200-25Q	22	310	12-28	360	600	460	99
W-STBV250-25Q	24.5	370	12-31	425	730	493	146
W-STBV300-25Q	27.5	430	16-31	485	850	535	200
W-STBV350-25Q	30	490	16-34	555	980	595	321
W-STBV400-25Q	32	550	16-37	620	1100	635	438
W-STBV450-25Q	34.5	600	20-37	670	1200	688	589
W-STBV500-25Q	36.5	660	20-37	730	1250	745	705

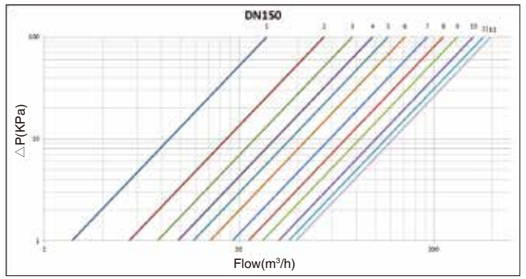
Characteristic Curves

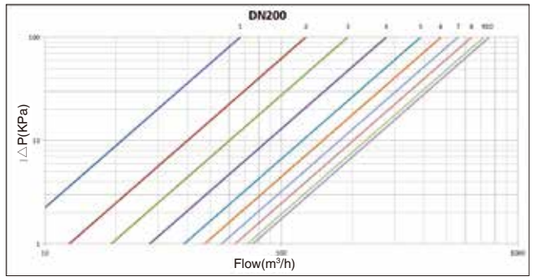


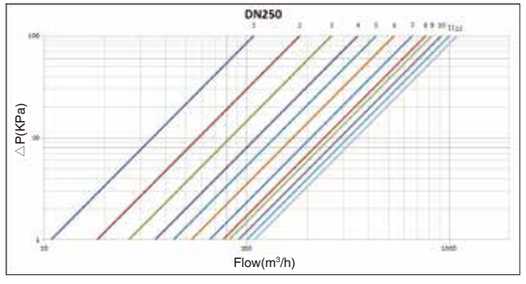


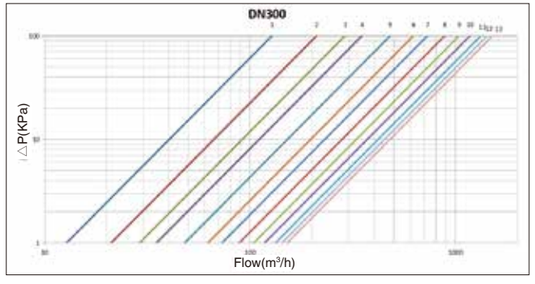


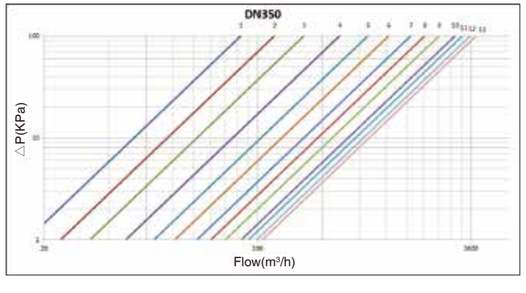


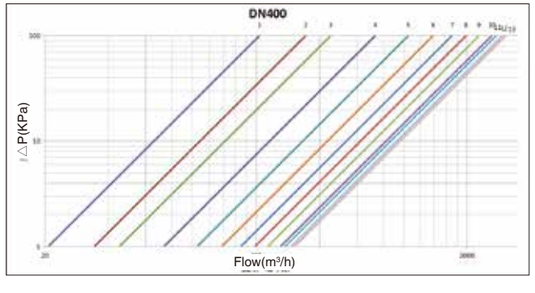


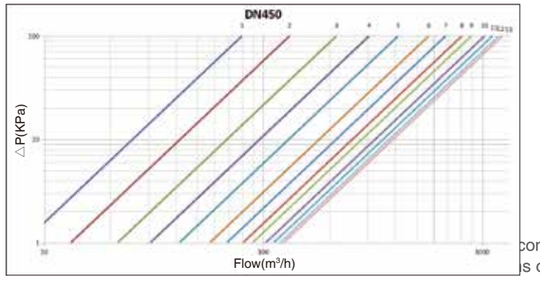


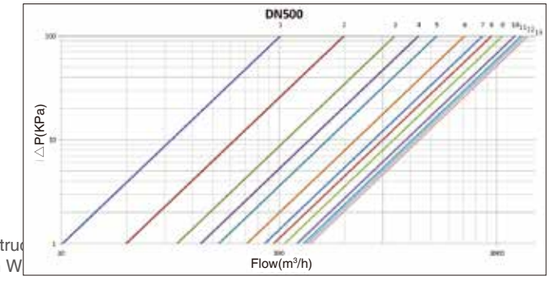




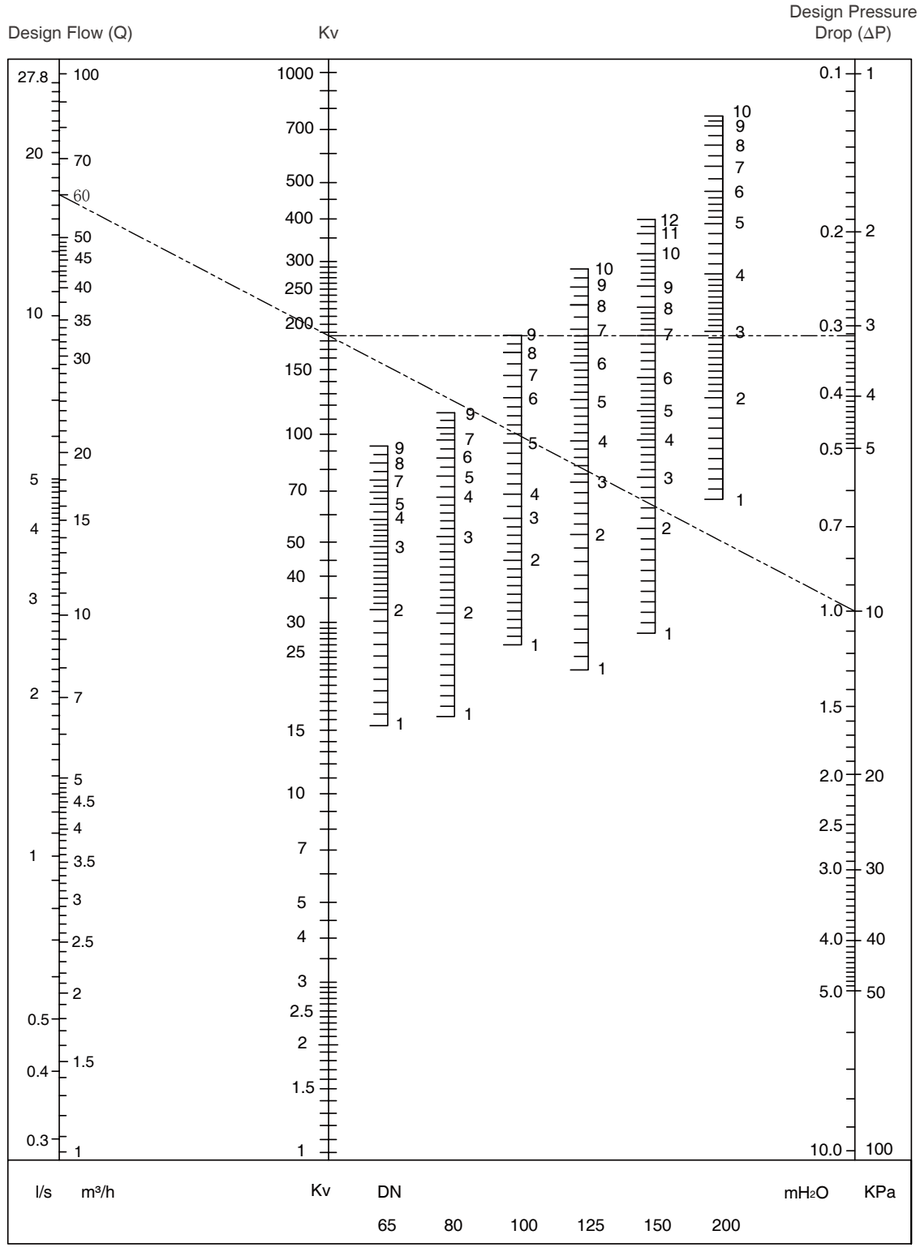




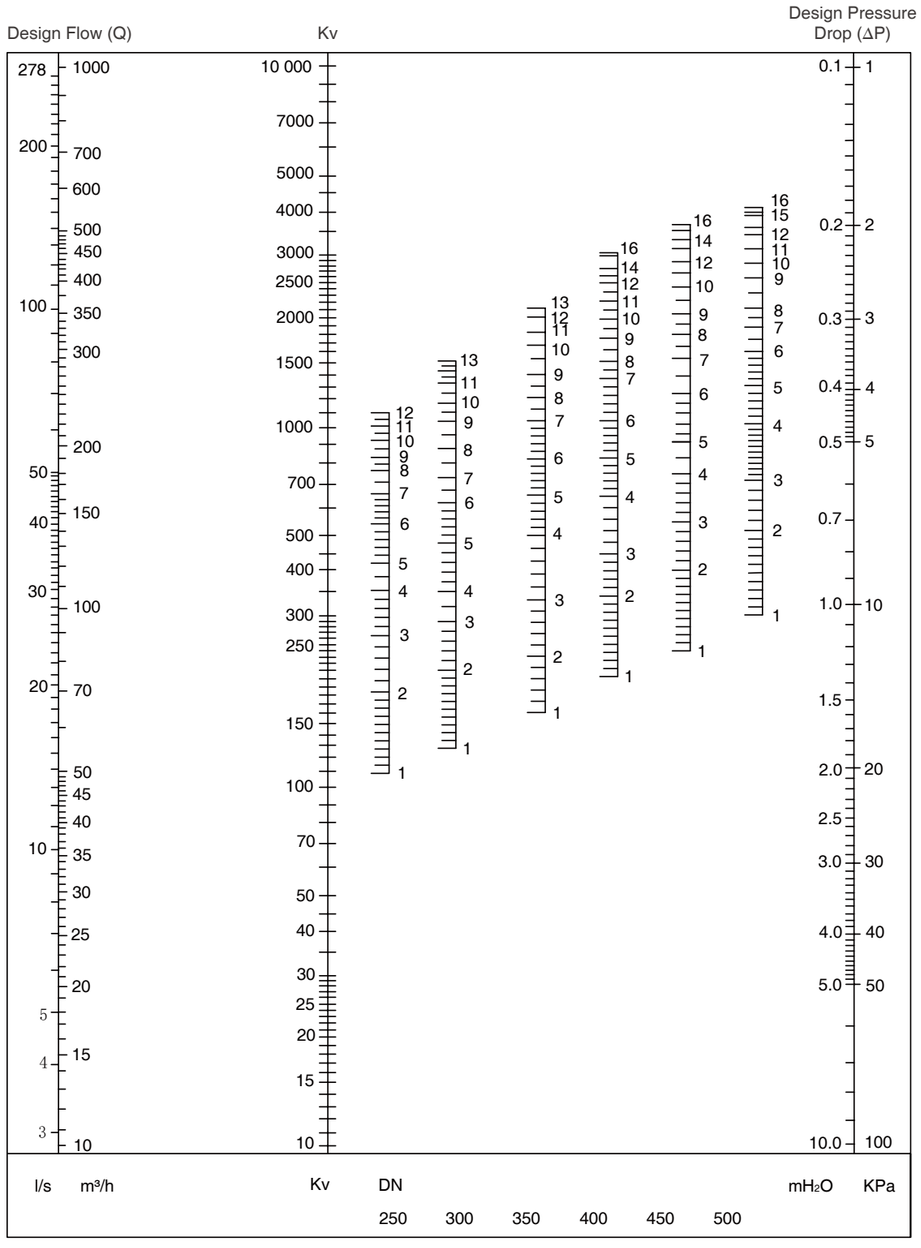




Selection Drawing



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For Example
Q: An air conditioning system is equipped with a static balancing valve, with a design flow of 60m3/h and a pressure drop of 10 kPa. Now we need to select a suitable size static balancing valve.
A: As shown in the model selection line diagram, read the position point with q= 60m3/h from the left flow scaleline, and read the position point of 10 kPa from the right pressure drop scale line, and connect the two points with the Kv value scale line. When the intersection point kV= 187, make the intersection point between the horizontal line and the opening scale line of the balance valve of different diameters. The intersection point of DN 100 is 9 circles, that of DN 125 is 6.8, that of DN 150 is 7, and that of DN200 is 2.9. According to the principle of 75% opening, the balancing valve with diameter of DN 125 should be selected.

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Series W-TDV-16Q/25Q

Constant-flow Multi-Functional Valve

Size: DN50-DN500

This valve can substitute the outlet stop, throttling and check valves, so achieving one valve for multiple purposes.The Watts W-TDV Series multi-functional valves is designed for petroleum, chemical, metallurgical, water treatment and other industries industrial applications.

Features

- An opening indicator showing the opening and closing degree(s) of the valve
- Closing by operating the hand wheel
- Self-sealing measure nipple
- Excellent adjustment performance

Pressure-Temperature

- Nominal Pressure: PN16/PN25
- Temperature Range: -20℃-120℃

Material

Component	Material
Body	Ductile Iron PN16 Duction Iron PN25
Disc	Duction Iron
Stem	Stainless Steel (SS420)
Spring	Stainless Steel (SS304)
Gasket	EPDM
Handwheel	Cast Iron



Specification

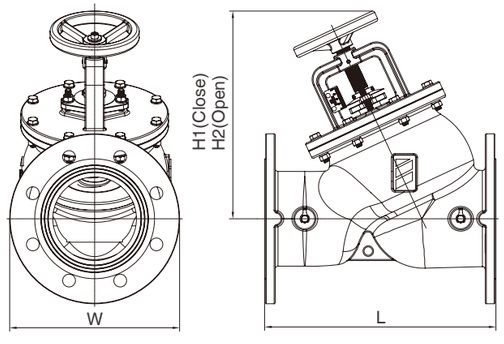
- Test Standard: BS EN 12266-1
- Connection Standard: GB/T 17241.6 EN1092-2
- Connection Type: Flange Type
- Working Medium: Water, glycol

Operating Principles

The body is equipped with a quick closing spring, which adopts the quick-closing principle to prevent water-hammering, protect against medium backflow, and to achieve silent closing.
There is an opening indicator, which can be used to adjust the output of the pump by adjusting the opening degree. By closing the stem, medium can be cut off. Therefore, this valve can function as a stop valve.

Installation Dimensions

Size	L(mm)	H1(mm)	H2(mm)	W(mm)		Weight(kg)	
				PN16	PN25	PN16	PN25
DN50	205	267	285	165	165	12.0	12.5
DN65	229	276	294	185	185	15.0	16.0
DN80	250	267	285	200	200	18.0	19.5
DN100	320	319	341	220	235	26.0	28.0
DN125	370	346	377	250	270	35.0	39.0
DN150	415	373	407	285	300	51.0	55.0
DN200	500	582	636	340	360	88.5	92.0
DN250	605	629	693	405	425	121.0	126.0
DN300	725	681	753	460	485	213.0	219.0
DN350	733	717	797	520	555	255.0	264.0
DN400	990	1010	1094	580	620	460.0	469.0
DN450	1000	1025	1138	640	670	535.0	545.0
DN500	1100	1110	1237	715	730	682.0	693.0



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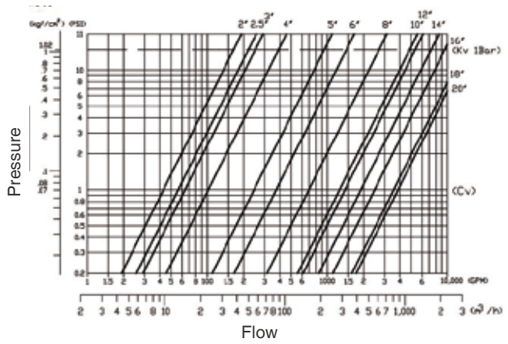
Product Parameters

Type	Size DN	Kvs	Product Code
W-TDV050-16Q	DN50	47.1	616P7054M
W-TDV050-25Q			616P7055M
W-TDV065-16Q	DN65	48.5	616P7059M
W-TDV065-25Q			616P7060M
W-TDV080-16Q	DN80	53.5	616P7064M
W-TDV080-25Q			616P7065M
W-TDV100-16Q	DN100	86.6	616P7069M
W-TDV100-25Q			616P7070M
W-TDV125-16Q	DN125	219.1	616P7074M
W-TDV125-25Q			616P7075M
W-TDV150-16Q	DN150	331.4	616P7079M
W-TDV150-25Q			616P7080M
W-TDV200-16Q	DN200	599.8	616P7084M
W-TDV200-25Q			616P7085M
W-TDV250-16Q	DN250	1063.9	616P7089M
W-TDV250-25Q			616P7090M
W-TDV300-16Q	DN300	1133.9	616P7094M
W-TDV300-25Q			616P7095M
W-TDV350-16Q	DN350	1858.8	616P7099M
W-TDV350-25Q			616P7100M
W-TDV400-16Q	DN400	2084.1	616P7120M
W-TDV400-25Q			616P7105M
W-TDV450-16Q	DN450	2967.1	616P7125M
W-TDV450-25Q			616P7110M
W-TDV500-16Q	DN500	3352.4	616P7130M
W-TDV500-25Q			616P7115M

Kvs Valve

	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400	DN450	DN500
10%	5.3	7.0	5.1	8.5	12.5	33.2	37.0	122.7	91.6	-	-	-	-
20%	10.5	7.8	5.4	14.4	14.4	42.0	46.2	146.6	101.4	120.9	182.4	186.1	255.6
30%	16.7	8.8	5.5	15.6	19.4	50.2	60.8	253.0	117.8	134.9	228.5	262.9	334.6
40%	22.7	10.4	6.1	16.5	28.3	67.8	54.5	392.8	167.5	213.8	314.5	413.2	456.9
50%	30.3	13.0	7.7	17.7	43.6	92.8	125.5	513.8	264.4	366.0	499.1	667.0	652.7
60%	36.5	16.8	10.7	20.5	74.7	134.9	183.7	652.4	389.2	635.3	785.7	1090.7	933.0
70%	41.3	22.5	17.1	26.4	108.1	177.2	271.9	757.3	523.7	942.9	1087.4	1479.7	1381.5
80%	44.3	30.3	25.7	41.3	141.7	225.6	373.7	881.8	721.5	1254.0	1464.1	1947.9	1975.7
90%	46.2	38.9	41.1	61.7	175.4	291.7	480.6	974.3	910.3	1541.7	1814.3	2492.1	2647.0
100%	47.1	48.5	53.5	86.6	219.1	331.4	599.8	1063.9	1133.9	1858.8	2084.1	2967.1	3352.4

Characteristic Curve



Series W-DPBV-20T

Differential Pressure Balancing Valve

Size: DN15-DN50

The Series W-DPBV differential pressure-balancing valve is designed to keep constant differential pressure between supply pipes and return pipes of a bypass, control valve or terminal equipment in air-conditioning or heating system. It avoids hydraulic disturbances resulting from variations in system differential pressure.



Features

- Self-acting differential pressure control, no external power needed
- The on-site setting of differential pressure
- Wide controllable range of differential pressure
- Handwheel equipped with differential pressure indicator
- Able to be shut off by handwheel
- Self-sealing measuring points to protect against leakage
- Equipped with measuring points and air vent
- Equipped with a three-way measuring connector

Working Principle

When the service pressure difference of the system pipe increases, relying on the pressure change of its high and low pressure, the dynamic differential pressure balancing valve's chambers re-balance the forces acting on both sides of the diaphragm, at the same time, it drives the valve stem to move, reduces the valve opening, absorbs the increased utility pressure difference, and ensures the constant pressure difference at the controlled side.

Material

NO.	Component	Material
1	Body	Brass
2	Seal	EPDM
3	Core	Brass
4	Plug	Brass
5	Stem	Brass
6	Spring	Stainless Steel304
7	Membrane	Brass
8	Pressure Pipe Joint	Brass
9	Handwheel	PA

Product Model

Type	Size DN	△P Control(Kpa)	Kvs
W-DPBV015S-20T	DN15	5-30	2.5
W-DPBV020S-20T	DN20	5-30	4
W-DPBV025S-20T	DN25	5-30	6.5
W-DPBV032S-20T	DN32	5-30	11.5
W-DPBV040S-20T	DN40	5-30	15.5
W-DPBV050S-20T	DN50	5-30	23.3
W-DPBV015L-20T	DN15	30-70	2.5
W-DPBV020L-20T	DN20	30-70	4
W-DPBV025L-20T	DN25	30-70	6.5
W-DPBV032L-20T	DN32	30-70	11.5
W-DPBV040L-20T	DN40	30-70	15.5
W-DPBV050L-20T	DN50	30-70	23.3

Pressure-Temperature

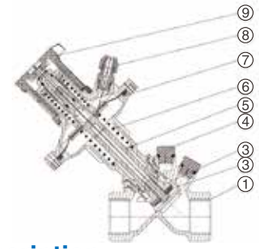
- Nominal Pressure: PN20
- Temperature Range: -10°C~120°C

Installation Dimensions

Size	L(mm)	H(mm)	W(mm)
DN15	80	160	112
DN20	85	160	112
DN25	100	165	112
DN32	110	180	112
DN40	120	185	112
DN50	150	200	112

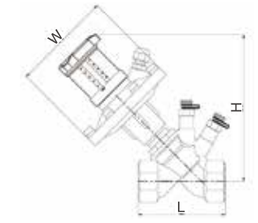
Specification

- Connection Standard: GB/T7306.1, ISO7/1
- Control Accuracy: ±10%
- Maximum Working Differential Pressure: ≤300Kpa
- Working Medium: cold and hot water/ethylene glycol



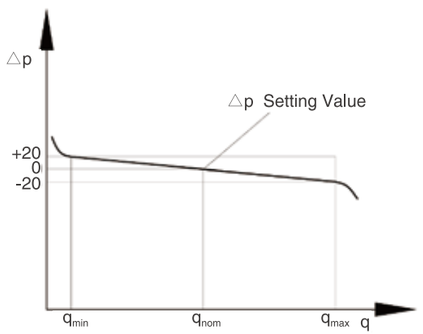
Model Description

		W-	DPBV	025	S-	20	T
W	WATTS						
DPBV	Dynamic Differential Pressure Balancing Valve						
Size							
015-DN15	020-DN20	025-DN25					
032-DN32	040-DN40	050-DN50					
△P							
S:Small Range	L:Big Range						
Nominal Pressure							
PN20							
Nominal Pressure	Brass						



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Working Differential Pressure Range



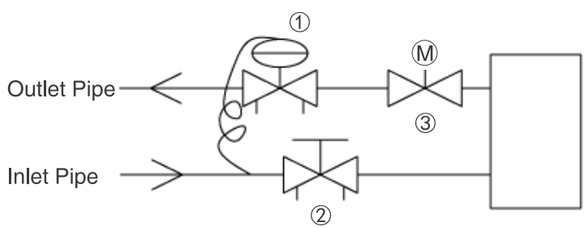
DN	△P(kPa)											
	5			10			20			30		
	q_{min}	q_{nom}	q_{max}	q_{min}	q_{nom}	q_{max}	q_{min}	q_{nom}	q_{max}	q_{min}	q_{nom}	q_{max}
15	0.02	0.25	0.48	0.03	0.32	0.66	0.04	0.47	0.91	0.05	0.60	1.13
20	0.03	0.41	0.89	0.04	0.61	1.19	0.05	0.84	1.64	0.07	1.02	1.96
25	0.08	0.71	1.04	0.10	0.98	1.67	0.13	1.23	2.48	0.15	1.78	3.41
32	0.10	1.06	2.19	0.13	1.42	2.72	0.16	2.05	3.88	0.20	2.77	5.13
40	0.11	1.66	3.34	0.23	2.22	4.17	0.35	3.04	5.72	0.55	3.83	6.31
50	0.20	2.21	3.94	0.31	3.71	5.07	0.53	3.82	7.00	0.66	4.56	8.58

DN	△P(kPa)											
	30			40			50			60			70		
	q_{min}	q_{nom}	q_{max}	q_{min}	q_{nom}	q_{max}	q_{min}	q_{nom}	q_{max}	q_{min}	q_{nom}	q_{max}	q_{min}	q_{nom}	q_{max}
15	0.06	0.64	1.19	0.06	0.70	1.31	0.07	0.80	1.48	0.08	0.85	1.60	0.09	0.90	1.71
20	0.08	1.07	2.07	0.09	1.19	2.28	0.11	1.37	2.56	0.13	1.46	2.81	0.15	1.60	3.06
25	0.16	1.86	3.60	0.19	2.13	3.98	0.21	2.38	4.53	0.23	2.59	4.91	0.25	2.72	5.73
32	0.21	2.93	5.42	0.27	3.47	6.61	0.35	3.99	7.43	0.41	4.24	8.03	0.47	4.65	8.92
40	0.58	4.04	6.66	0.68	4.47	8.83	0.79	5.01	9.44	0.83	5.51	10.15	0.93	5.88	10.93
50	0.69	4.82	9.05	0.80	5.53	10.04	0.95	6.12	11.36	1.04	6.52	12.32	1.10	7.04	13.37

Installation Instructions

The dynamic differential pressure balancing valve can be used alone or in combination with the static balancing valve. The dynamic differential pressure balancing valve is always installed on the return pipe. When it is used with the static balance valve, the static balancing valve is installed on inlet pipe. Please see as follows.

① —DPBV
② —STBV
③ —ECV



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Series W-DPBV-16/25Q

Differential Pressure Balancing Valve

Size: DN65-DN150

The Series W-DPBV differential pressure-balancing valve is designed to keep constant differential pressure between supply pipes and return pipes of a bypass, control valve or terminal equipment in air-conditioning or heating system. It avoids hydraulic disturbances resulting from variations in system differential pressure.



Features

- Self-acting differential pressure control, no external power needed
- The on-site setting of differential pressure
- Wide controllable range of differential pressure
- Handwheel equipped with differential pressure indicator
- Able to be shut off by handwheel
- Self-sealing measuring points to protect against leakage
- Equipped with measuring points and air vent
- Equipped with three-way measuring connector
- High-pressure guide tube with a small ball valve, eliminate general congestion

Pressure-Temperature

- Maximum Pressure: PN16、PN25
- Working Pressure: ≤400Kpa
- Temperature Range: -10°C~130°C

Specification

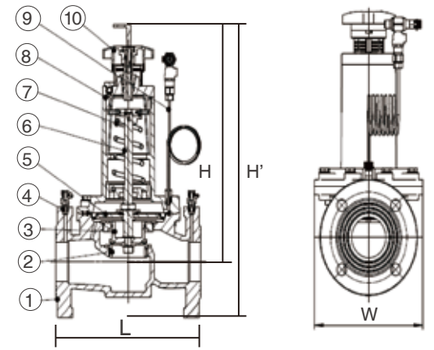
- Connection Standard: ISO7005
- Control Deviation: ±8%
- Patent No: ZL 2016 2 0992099.2
- Medium: cold and hot water/ethylene glycol

Test Pressures

PN16 Hydraulic	PN25 Hydraulic
Shell 24 bar	Shell 37.5 bar

Material

No.	Component	Material
1	Body	Ductile Iron
2	Seat	Stainless Steel (SS304)
3	Core	Stainless Steel (SS304)
4	Measuring Points	CW602N
5	Diaphragm	HNBR
6	Stem	Stainless Steel (SS304)
7	Spring	Stainless Steel (SS304)
8	Sealing	EPDM/FKM
9	Pressure Pipe	T2M
10	Handwheel	PA66

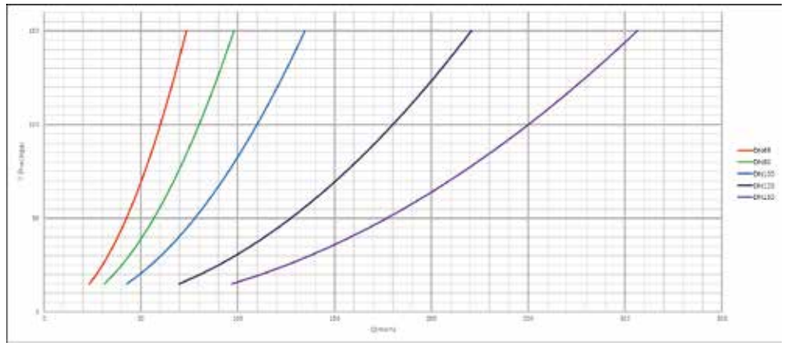


Installation Dimensions

Size	L (mm)	H (mm)	H' (mm)	W (mm)	Weight (kg)
DN65	290	360	453	205	26.5
DN80	310	392	492	225	33.5
DN100	350	470	581	255	47
DN125	400	519	644	293	69.5
DN150	480	592	735	371	102

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Characteristic Curves



Models

Type	Size	△P Control (Kpa)	KVs	EDP Code
W-DPBV065S-16Q	DN65	20-80	60	61985801
W-DPBV080S-16Q	DN80		80	61985803
W-DPBV100S-16Q	DN100		110	61985805
W-DPBV125S-16Q	DN125		180	61985807
W-DPBV150S-16Q	DN150		250	61985809
W-DPBV065L-16Q	DN65	40-150	60	61985802
W-DPBV080L-16Q	DN80		80	61985804
W-DPBV100L-16Q	DN100		110	61985806
W-DPBV125L-16Q	DN125		180	61985808
W-DPBV150L-16Q	DN150		250	61985810
W-DPBV065S-25Q	DN65	20-80	60	61985981
W-DPBV080S-25Q	DN80		80	61985983
W-DPBV100S-25Q	DN100		110	61985985
W-DPBV125S-25Q	DN125		180	61985987
W-DPBV150S-25Q	DN150		250	61985989
W-DPBV065L-25Q	DN65	40-150	60	61985982
W-DPBV080L-25Q	DN80		80	61985984
W-DPBV100L-25Q	DN100		110	61985986
W-DPBV125L-25Q	DN125		180	61985988
W-DPBV150L-25Q	DN150		250	61985990

ΔP Setting Instruction

Turns	DN65		DN80		DN100		DN125		DN150	
	20-80Kpa	40-150Kpa	20-80Kpa	40-150Kpa	20-80Kpa	40-150Kpa	20-80Kpa	40-150Kpa	20-80Kpa	40-150Kpa
0	20	40	22	44	22	40	21	42	24	41
1	24	46	25	50	26	46	26	48	32	48
2	30	54	30	56	30	54	30	55	37	53
3	35	62	36	62	34	62	34	64	41	59
4	40	70	42	70	38	70	38	67	43	64
5	45	78	48	78	42	77	45	75	48	70
6	50	86	52	87	46	85	48	84	53	78
7	56	96	58	96	50	94	51	93	58	86
8	62	108	65	106	55	105	61	100	59	94
9	68	120	72	118	60	118	64	106	63	102
10	74	134	80	136	66	126	71	116	66	111
11	80	150	88	154	72	138	76	124	70	123
12					79	145	80	135	78	135
13					85	156	85	157	82	146

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Series W-DPBV-16Q

Differential Pressure Balancing Valve

Size: DN65-DN150

The Series W-DPBV differential pressure-balancing valve is designed to keep constant differential pressure between supply pipes and return pipes of a bypass, control valve or terminal equipment in air-conditioning or heating system. It avoids hydraulic disturbances resulting from variations in system differential pressure.

Features

- Self-acting differential pressure control, no external power needed
- Able to do on-site setting of differential pressure
- Wide controllable range of differential pressure
- Self-sealing measuring points to protect against leakage
- Equipped with a three-way measuring connector

Pressure-Temperature

- Maximum Pressure: PN16
- Temperature Range: -10 ℃~95 ℃
- Maximum Working Differential Pressure: ≤ 400KPa

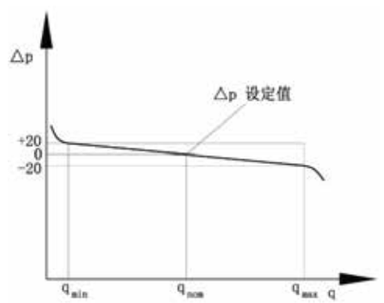
Material

No.	Component	Material
1	Body	Ductile Iron QT450-10
2	Core	Stainless Steel 304
3	Measuring Points	CW602N
4	Diaphragm	HNBR
5	Stem	Stainless Steel 304
6	Spring	Stainless Steel 304
7	Sealant	EPDM/FKM
8	Pressure Sealing	T2M

Product Model

Type	Size	ΔP kPa	Kvs	EDP
W-DPBV065S-16Q	DN65	20-80	80	61180028
W-DPBV080S-16Q	DN80	20-80	115	61180030
W-DPBV100S-16Q	DN100	20-80	150	61180032
W-DPBV125S-16Q	DN125	20-80	230	61180034
W-DPBV150S-16Q	DN150	20-80	360	61180036
W-DPBV065L-16Q	DN65	40-150	80	61180029
W-DPBV080L-16Q	DN80	40-150	115	61180031
W-DPBV100L-16Q	DN100	40-150	150	61180033
W-DPBV125L-16Q	DN125	40-150	230	61180035
W-DPBV150L-16Q	DN150	40-150	360	61180037

Differential pressure range





Specification

- Connection Standard: ISO 7005
- Working Medium： Cold And Hot Water/ethylene Glycol

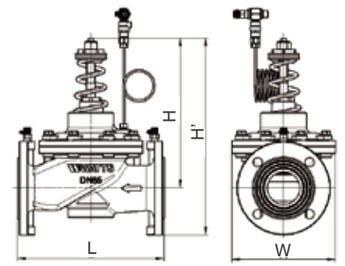
Working Principle

When the service pressure difference of the system pipe increases, relying on the pressure change of its high and low pressure, the dynamic differential pressure balancing valve's chambers re-balance the forces acting on both sides of the diaphragm, at the same time, it drives the valve stem to move, reduces the valve opening, absorbs the increased utility pressure difference, and ensures the constant pressure difference at the controlled side.

Model Description

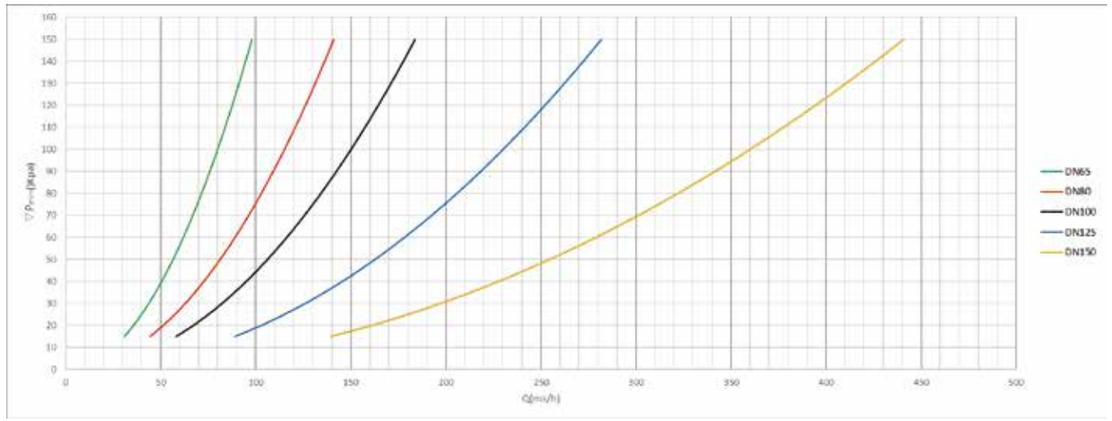
		W-	DPBV	065	S-	16	Q
W	WATTS						
DPBV	Differential Pressure Balancing Valve						
Size							
065-DN65	080-DN80						
100-DN100	125-DN125						
150-DN150							
△P Control:							
S: 20-80kPa	L:40-150kPa						
Nominal Pressure							
PN16							
Material	Ductile Iron						

Installation Dimensions



Size	L(mm)	H(mm)	H'(mm)	W(mm)	Weight(Kg)
DN65	290	312	405	205	22
DN80	310	311	411	225	26.5
DN100	350	366	476	255	36
DN125	400	427	552	293	54.5
DN150	480	523	666	371	64.5

Characteristic Curve



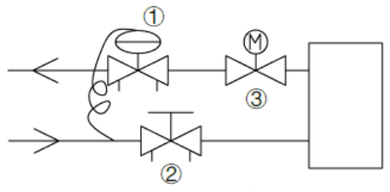
△P Setting Instruction

Turns (mm)	DN65		DN80		DN100		DN125		DN150	
	20-80kPa	40-150Kpa	20-80Kpa	40-150Kpa	20-80Kpa	40-150Kpa	20-80Kpa	40-150Kpa	20-80Kpa	40-150Kpa
0	18		19		19		22		24	42
2	21.8	40	22.7	40	22.4	35	25.1	36	26.8	47.0
4	25.6	47.1	26.4	47.1	25.7	41.6	28.2	42.4	29.5	52.1
6	29.5	54.3	30.1	54.1	29.1	48.2	31.3	48.9	32.3	57.1
8	33.3	61.4	33.8	61.2	32.5	54.8	34.4	55.3	35.0	62.2
10	37.1	68.5	37.5	68.3	35.8	61.4	37.5	61.8	37.8	67.2
12	40.9	75.6	41.2	75.3	39.2	68.1	40.6	68.2	40.6	72.3
14	44.8	82.8	44.9	82.4	42.6	74.7	43.7	74.7	43.3	77.3
16	48.6	89.9	48.6	89.4	45.9	81.3	46.8	81.1	46.1	82.4
18	52.4	97.0	52.4	96.5	49.3	87.9	49.9	87.6	48.9	87.4
20	56.2	104.1	56.1	103.6	52.7	94.5	53.1	94.0	51.6	92.5
22	60.1	111.3	59.8	110.6	56.1	101.1	56.2	100.4	54.4	97.5
24	63.9	118.4	63.5	117.7	59.4	107.7	59.3	106.9	57.1	102.6
26	67.7	125.5	67.2	124.8	62.8	114.3	62.4	113.3	59.9	107.6
28	71.5	132.6	70.9	131.8	66.2	120.9	65.5	119.8	62.7	112.7
30	75.4	139.8	74.6	138.9	69.5	127.6	68.6	126.2	65.4	117.7
32	79.2	146.9	78.3	145.9	72.9	134.2	71.7	132.7	68.2	122.8
34	83	154	82	153	76.3	140.8	74.8	139.1	71.0	127.8
36					79.6	147.4	77.9	145.6	73.7	132.9
38					83	154	81	152	76.5	137.9
40									79.2	143.0
42									82	148

Installation Instructions

The dynamic differential pressure balancing valve can be used alone or in combination with the static balancing valve. The dynamic differential pressure balancing valve is always installed on the return pipe. When it is used with the static balance valve, the static balancing valve is installed on supply pipe. Please see as follows.

①—DPBV
②—STBV
③—ECV



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Series W-DP15-25T

Dynamic Flow Balancing Valve

Size: DN15-DN40

The Series W-DP15 Dynamic Flow Balancing Valve is designed for air-conditioning or heating system to keep the flow less than or equal to design value. It is generally used in constant flow systems.

Features

- Dynamic Balancing: constant flow is achieved through the valve cartridge's auto-adjustment of the opening rate when ΔP of the system fluctuates
- Precision calibrated valve plug keeps the flow deviation no greater than ±5%
- The flow rate is factory preset multiple ΔP ranges available for each size
- No on-site commissioning is needed, saving time and labor costs
- No need of re-balancing after system changes

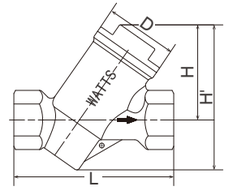
Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: 0℃-110℃

Material

NO.	Component	Material	Standard
1	Valve Body	Brass	CuZn40Pb2
2	Valve Core	Brass	CuZn40Pb2
3	Spring	Stainless Steel	304
4	Valve Bonnet	Brass	CuZn40Pb2
5	O ring	EPDM	
6	Rubber Gasket	EPDM	

Installation Dimensions



Size	L(mm)	H(mm)	H'(mm)	D(mm)	Weight (Kg)
DN15	100	60	90	45	0.73
DN20	100	60	90	45	0.69
DN25	110	65	95	45	0.80
DN32	140	80	110	55	1.25
DN40	145	84	115	55	1.65

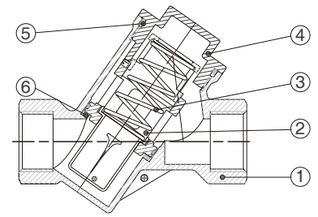
Operating Principles

- Acting as a simple orifice plate, the valve plug will fully openwhen Δ P across the valve is below its control range. This allows the flow rate increases with the growth of ΔP (Figure 1)
- If ΔP is in the control range, the valve plug will adjust its opening in terms of the system's ΔP change. This ensures a constant flow rate with a deviation no greater than ±5 % (Figure 2)
- If ΔP exceeds the control range, the valve plug will work as an orifice plate again to achieve the smallest opening rate. And the flow rate increases with the growth of ΔP (Figure 3)
- ΔP-Flow Curve shows that in the in the working ΔP range, the flow rate stay the same (Figure 4)



Specification

- Test Standard: GB/T13927-2008
- Connection Standard: GB/T 7306.1-2000
- Connection type: Threaded Connection
- Working Medium: Water / Ethylene Glycol

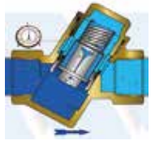


Technical Parameters

Type	Size	Δ P Code	Δ P Range (KPa)	Flow Range (m³/h)
W-DP15015-25T	DN15	A	15-150	0.432-1.51
W-DP15020-25T	DN20	B	20-200	0.54-1.98
W-DP15025-25T	DN25	C	30-300	0.68-2.77
		D	80-800	1.00-4.18
		E	10-100	0.216-0.54
W-DP15032-25T	DN32	A	15-150	0.54-3.13
W-DP15040-25T	DN40	B	20-200	0.68-3.67
		C	30-300	0.79-4.82
		D	80-800	1.44-7.52


Figure 1


Figure 2


Figure 3

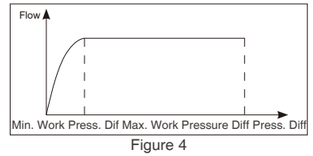


Figure 4

Series W-DP71-25Q

Dynamic Flow Balancing Valve

Size: DN50-DN500

The Series W-DP71 dynamic flow balancing valve is designed for air-conditioning or heating system to keep the flow less than or equal to design value. It is generally used in constant flow systems.

Features

- Dynamic Balancing: constant flow is achieved through the valve plug's auto-adjustment of the opening rate when ΔP fluctuates in the system
- Precision calibrated valve plug keeps the flow deviation no greater than ±5%
- The flow rate is factory preset multiple ΔP ranges available for each size
- No on-site commissioning is needed, saving time and labor costs
- No need of re-balancing after system changes

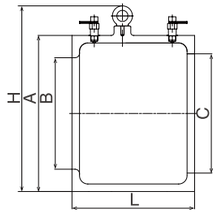
Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: 0°C~110°C

Material

No.	Component	Material	Standard
1	Valve Body	Ductile Iron	QT450-10
2	Valve Plug	Valve Core:Stainless Steel Spring:Stainless Steel	304 304
3	O ring	EPDM	
4	Measuring Points	Brass	CuZn40Pb2
5	Ring Bolt	Stainless Steel	304

Installation Dimensions

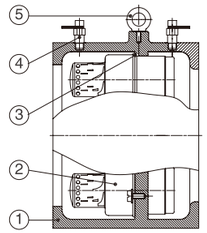


Size	L(mm)	H(mm)	A(mm)	B(mm)	C(mm)	Weight(Kg)
DN50	180	106	106	50	83	5.7
DN65	180	120	120	65	83	5.9
DN80	180	132	132	80	83	6.2
DN100	220	177	177	100	133	10.7
DN125	220	193	193	125	140	15.3
DN150	220	273	220	150	162	21.7
DN200	220	333	280	200	214	30.2
DN250	220	394	341	250	280	34.5
DN300	223	469	400	300	328	50.7
DN350	223	517	448	350	382	58.8
DN400	242	579	510	400	440	90.3
DN450	242	629	560	450	487	110.8
DN500	242	687	618	500	545	149.7



Specification

- Connection Standard: GB/T 17241.6, GB/T 9113.1-2000
- Connection Type: Wafer Connection
- Medium: Water/Ethylene Glycol



Operating Principles

- Acting as a simple orifice plate, the valve plug will fully open when ΔP across the valve is below its control range. This allows the flow rate increases with the growth of ΔP (Figure 1)
- If ΔP is in the control range, the valve plug will adjust its opening in terms of the system's ΔP change. This ensures a constant flow rate with a deviation no greater than ±5 % (Figure 2)
- If ΔP exceeds the control range, the valve plug will work as an orifice plate again to achieve the smallest opening rate. And the flow rate increases with the growth of ΔP (Figure 3)
- ΔP-Flow Curve shows that in the in the working ΔP range, the flow rate stay the same (Figure 4)



Figure 1



Figure 2

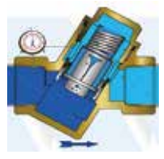


Figure 3

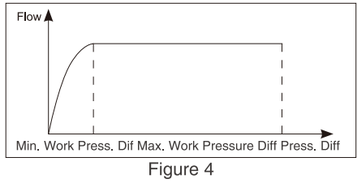


Figure 4

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W-DP71-25Q-EN-202003

Technical Parameters

Type	Size	ΔP Code	ΔP Range(KPa)	Flow Range(m³/h)
W-DP71050-25Q W-DP71065-25Q W-DP71080-25Q	DN50 DN65 DN80	A	15-150	3~15
		F	22-220	4~19
		G	33-330	5~23
		K	35-250	5~45
		H	90-900	8~38
W-DP71100-25Q	DN100	A	15-150	3~52
		F	22-220	4~66
		G	33-330	5~46
		K	35-250	5~90
		H	90-900	8~140
W-DP71125-25Q	DN125	A	15-150	3~78
		F	22-220	4~99
		G	33-330	5~69
		K	35-250	5~135
		H	90-900	8~210
W-DP71150-25Q	DN150	A	15-150	3~104
		F	22-220	4~132
		G	33-330	5~92
		K	35-250	5~180
		H	90-900	8~280
W-DP71200-25Q	DN200	A	15-150	3~182
		F	22-220	4~231
		G	33-330	5~161
		K	35-250	5~315
		H	90-900	8~490
W-DP71250-25Q	DN250	A	15-150	3~286
		F	22-220	4~363
		G	33-330	5~253
		K	35-250	5~495
		H	90-900	8~770
W-DP71300-25Q	DN300	A	15-150	3~390
		F	22-220	4~495
		G	33-330	5~345
		K	35-250	5~675
		H	90-900	8~1050
W-DP71350-25Q	DN350	A	15-150	3~520
		F	22-220	4~660
		G	33-330	5~460
		K	35-250	5~900
		H	90-900	8~1400
W-DP71400-25Q	DN400	A	15-150	3~650
		F	22-220	4~825
		G	33-330	5~575
		K	35-250	5~1125
		H	90-900	8~1750
W-DP71450-25Q	DN450	A	15-150	3~806
		F	22-220	4~1023
		G	33-330	5~713
		K	35-250	5~1395
		H	90-900	8~2170
W-DP71500-25Q	DN500	A	15-150	3~962
		F	22-220	4~1221
		G	33-330	5~851
		K	35-250	5~1665
		H	90-900	8~2590

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Series W-DP915-25T

Electric Dynamic Balancing Two-way Valve

Size: DN15-DN25

The Series W-DP915 electric dynamic balancing two-way valve is designed for FCU or heating system. Through opening or closing the valve, the room temperature is regulated. Moreover, the valve can effectively help the system to avoid dynamic hydraulic disturbances and keep the flow rate stable, so as to achieve more accurate temperature control.

Features

- On/Off control according to control signals
- Dynamic flow balancing to eliminate mutual disturbance of terminal equipment
- Higher system control precision than that of a traditional variable flow system
- Able to preset flow on-site
- Convenient for on-site debugging, higher system operation efficiency

Working Principle

In traditional cooling and heating systems, FCUs are usually controlled by electric two-way valves. When some FCUs are closed, the flows through the running FCUs increase, leading to room temperature fluctuation. To solve this problem, the Series W-DP915 electric dynamic balancing two-way valve, controlled by an electro-thermic actuator, is designed. It is a two-in-one valve that plays the roles of both an electric two way valve and a dynamic flow balancing valve. When the room temperature reaches the set value, the room thermostat will send a signal to the electro-thermic actuator to close the valve. When the room temperature is greater (cooling system) or lower (heating system) than the set value, the valve will be opened in a similar way. In the whole process, a built-in cartridge automatically adjusts the flow to remain unchanged, so as to ensure higher control precision.

Material

No.	Material	Standard
1	Body	Anti-dezincification Brass CW602N
2	Differential Pressure	SS304
3	Valve Spool Control Valve Spool	Brass
4	Diaphragm	HNBR
5	Spring	304 Spring Steel
6	Seal Ring	HNBR
7	Valve Stem Seal	HNBR
8	Stem	
9	Measuring Nozzle	Anti-dezincification Brass CW602N
10	Actuator	Shell: Flame retardant PC Actuator Internals: POM

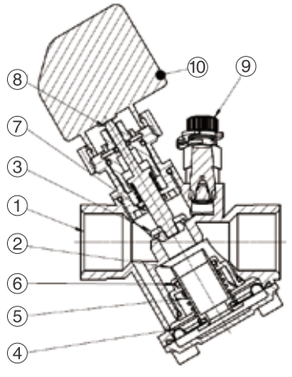


Specification

- Connection Standard: ISO7-1
- IP Grade of Actuator: IP54
- Control Characteristic: On/Off control
- Working Voltage: 220VAC 50Hz
- Startup Time: 5min
- Working Medium: Water/Ethylene Glycol/Propylene Glycol

Pressure-Temperature

- Nominal Pressure: PN25
- Temperature Range: 0°C~110°C
- Working Differential Pressure: 30-400KPa
- Seat leakage: EN 1349
  DN15-20: No visible leakage at 400kPa/0.05%Kvs at 600kPa
  DN25: No visible leakage at 200kPa/0.05%Kvs at 400kPa



Product Model

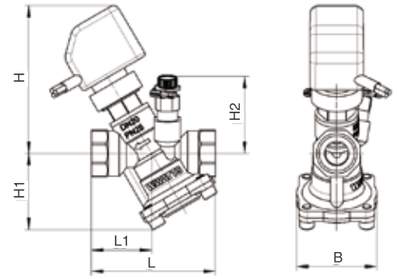
Type	Size	Working Pressure (KPa)	Preset Flow(m^3/h)							
			30%	40%	50%	60%	70%	80%	90%	100%
W-DP915015TP-25T	DN15	30-400	0.30	0.39	0.47	0.56	0.66	0.76	0.90	1.05
W-DP915020TP-25T	DN20	30-400	0.30	0.50	0.47	0.56	0.66	0.76	1.90	2.30
W-DP915025TP-25T	DN25	30-400	0.30	0.42	0.75	1.00	1.30	1.60	0.95	1.05
W-DP915015-25T	DN15	30-400	0.31	0.42	0.53	0.63	0.74	0.84	0.95	1.05
W-DP915020-25T	DN20	30-400	0.31	0.50	0.53	0.63	0.74	0.84	1.90	2.30
W-DP915025-25T	DN25	30-400	0.30	0.50	0.75	1.00	1.30	1.60	1.90	2.30

Note: The factory default is 100% preset flow.

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W-DP915-25T-EN-202104

Installation Dimensions

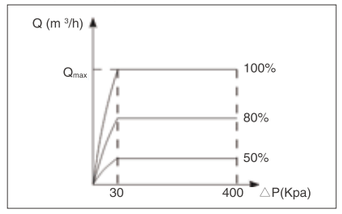


Size	Thread	L(mm)	L1(mm)	B(mm)	H(mm)	H1(mm)	H2(mm)	Weight(Kg)
DN15	Rp 1/2	82	39.9	55	102	53	53	0.67
DN20	Rp 3/4	85	41.4	55	102	53	53	0.69
DN25	Rp 1	96	44.6	60	102	63	58	0.95

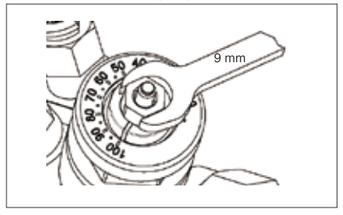
Flow Setting

Through the hexagonal at the top of the valve, 30% to 100% of opening can be preset, with the factory default of 100%. This function can not only meet the needs of special users, but also improve the control accuracy.

Differential pressure flow characteristics

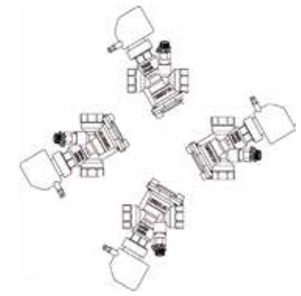


Opening regulation

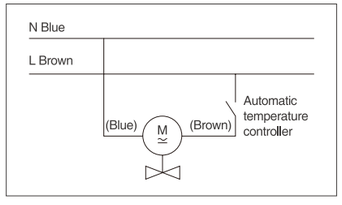


Installation Instructions

Installation direction: IP54 can be installed in any position.



Actuator Wire Diagram



Model Description

		W-	DP	9	15	015-	TP	-25	T
W	WATTS								
DP	Electric Dynamic Balancing								
9	Eectric								
15	Series								
Size 015-DN15 025-DN25	020-DN20								
Working Differential Pressure TP: With measuring joint	None: Without measuring joint								
Pressure 25: PN25									
Body Material	Brass								

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Series W-PICVXXX-25T/25Q

Pressure Independent Control Valve

Size: DN15-DN50

Series W-PICVXXX-25T/25Q pressure independent control valve is designed for terminal equipment in AHU, PAU or MAU system to regulate the flow through the valve as well as to keep the constant differential pressure at both ends of the valve. It avoids the flow fluctuation caused by the opening or closing of other equipment in the system so as to keep the system stable, efficient and energy-saving.



DN15-DN32



DN40-DN50

Features

- Constant differential pressure between the two ends of the control Valve
- Equal percentage flow characteristics with actuator
- Preset maximum flow rate to facilitate on-site debugging
- Designed with front and rear differential pressure measuring nozzles
- Dust-proof O-ring design & O-ring on disc for zero leakage
- BSRIA Tested

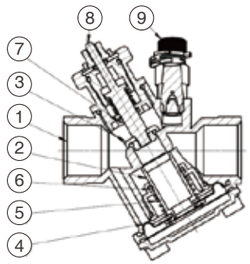
Pressure - Temperature

- Temperature Range: -10~120℃
- Nominal Pressure: PN25
- Working Differential pressure: 30KPa-600KPa

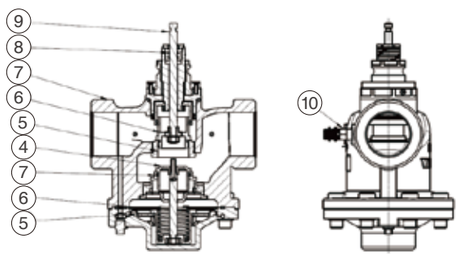
Specification

- Connection Mode: Threaded connection
- Thread Standard: GB/T 7306.1 ISO 7-1
- Protection Level of Actuator: IP54
- Working Medium: Air conditioning hot and cold water, ethylene glycol solution

Material



DN15-DN32



DN40-DN50

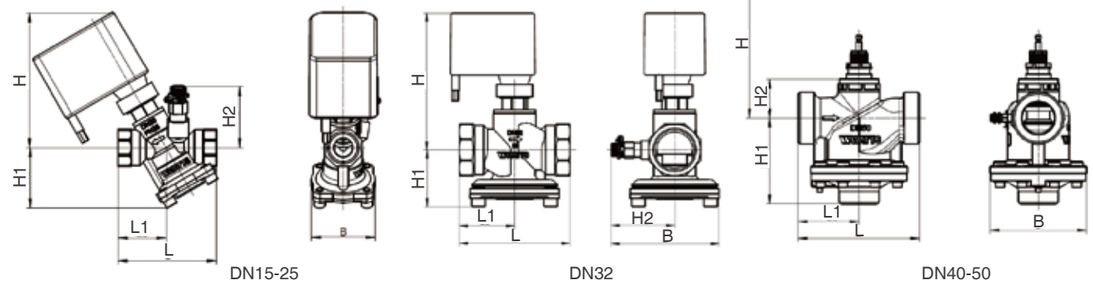
No.	Component	Material
1	Valve Body	DZR Brass (DN15-DN25) Bronze (DN32)
2	Differential Pressure valve spool	Stainless Steel
3	Control Valve Spool	Brass
4	Diaphragm	HNBR
5	Spring	Stainless Steel
6	Seal Ring	HNBR
7	Valve Stem Seal	HNBR
8	Valve Stem	Stainless Steel
9	Measuring Nozzle	DZR Brass

No.	Component	Material
1	Valve Body	Ductile Iron
2	Valve Seat	Stainless Steel
3	Differential Pressure valve spool	Stainless Steel
4	Control Valve Spool	Stainless Steel
5	Diaphragm	HNBR
6	Spring	Stainless Steel
7	Seal Ring	HNBR
8	Valve Stem Seal	HNBR
9	Valve Stem	Stainless Steel
10	Measuring Nozzle	DZR Brass

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W-PICVXXX-25T/25Q-EN-202404

Installation Dimensions



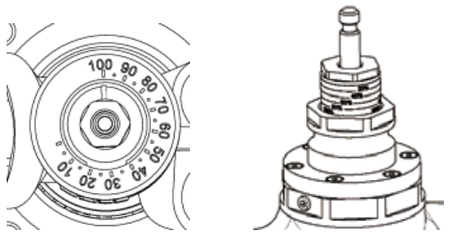
DN15-25 DN32 DN40-50

DN	Thread	L	L1	B	H	H1	H2	Weight of valve body KG
15	Rp 1/2	82	39.9	55	117	53	53	0.67
20	Rp 3/4	85	41.4	55	117	53	53	0.69
25	Rp 1	96	44.6	60	116	63	58	0.95
32	Rp 1 1/4	107	53.5	105	132	55	62	1.47
40	Rp 1 1/2	214	107	170	403	151	68	11.9
50	Rp 2	214	107	170	403	151	68	12.1

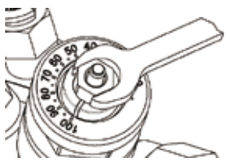
DN15~DN32 actuator leaves ≥50mm operation space.

Flow Setting

Through the hexagonal at the top of the valve, 30% to 100% of opening can be preset, with the factory default of 100%. This function can not only meet the needs of special users, but also improve the control accuracy.



Opening regulation



DN15-DN32



DN40-DN50 Loosen the lock nut before preset, and tighten it

Flow Rate

Table of Flow Rate with Preset Opening (m^3/h)

Caliber \ Opening	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
DN15	0.11	0.21	0.30	0.39	0.47	0.56	0.66	0.76	0.90	1.05
DN20	0.11	0.21	0.30	0.39	0.47	0.56	0.66	0.76	0.90	1.05
DN25	0.1	0.2	0.3	0.6	0.9	1.2	1.5	1.7	2.1	2.5
DN32	0.3	0.5	0.9	1.3	1.7	2.1	2.5	2.8	3.1	3.3
DN40	0.7	2	2.8	3	3.7	4.3	5.9	8.2	10.7	13
DN50	0.7	2	2.8	3	3.7	4.3	5.9	8.2	10.7	13

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Product Type

Model	Size	EDP	Max Flow Rate(M^3/h)	Valve Stem Travel(Mm)	Supporting Actuator
W-PICV015-25T	DN15	61984715	1.05	3.2	W-AR2M-16
W-PICV020-25T	DN20	61984716	1.05	3.2	W-AR2M-16
W-PICV025-25T	DN25	61984717	2.5	5.5	W-AR2M-25
W-PICV032-25T	DN32	61984718	3.3	5.5	W-AR2M-25
W-PICV040-25Q	DN40	61984719	13	15	W-A11A1X
W-PICV050-25Q	DN50	61984720	13	15	W-A11A1X

Actuator Type

Model	EDP	Output Shut-Off Force (N)	Operating Voltage	Control Model	Running Speed(s/mm)
W-AR2M-16	61230019	＞160	24VAC	0(2)-10V, 0(4)-20mA	5
W-AR2M-25	61230020	＞250	24VAC		5
W-A11A1X	616P2241	500-700	24VAC		3.85

Model Description

W-	PICV	020	-25	T

W WATTS

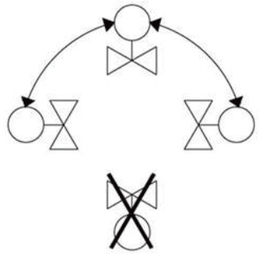
PICV Pressure Independent Control Valve

Size
015-050: DN15-DN50

Pressure
25: PN25

Body Material
T: Copper Q: Ductile Iron

Installation Instruction



Prohibit downward installation of actuators

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WATTS VAL-KIT

PICV Kit for Fan Coil Units

Series WATTS VAL-Kit is designed for providing optimal hydronic balance in cooling and heating system with variable flow. WATTS PICV controls the flow which avoids both overflowing & efficiency reduction of the unit. WATTS VAL-Kit has a very compact design which includes dynamic flow, pressure and temperature control valves with isolation, flushing, draining and measurement components within a pre-assembled, tested, and ready to install terminal bypass unit.





Features

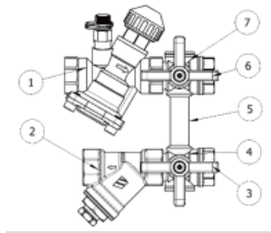
- Ease & fast insulation and maintenance.
- Very compact design.
- Efficient control of flow, temperature & pressure.
- Actuator options:On/off and modulating
- It can be supplied with flexible hoses & EPP insulation.
- Connection: Threaded ends
- Easy flushing, draining & bypass
- BSRIA tested PICVs.

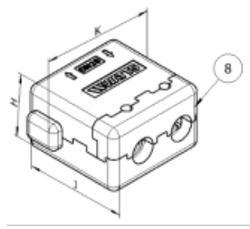
Pressure –Temperature

- Temperature Range: -10~100℃
- Nominal Pressure: PN20
- Suitable media: Cold/hot water, 50% ethylene glycol

Material

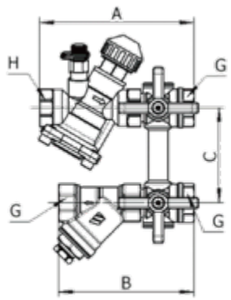
Size	Component	Material	Qty
1	PICV	CW602N	1
2	Strainer	CW602N	1
3	Blue handle	Aluminum	1
4	3-way inlet valve	CW602N	1
5	Bypass	CW602N	1
6	Red handle	Aluminum	1
7	3-way return valve	CW602N	1
8	Insulation	EPP	1

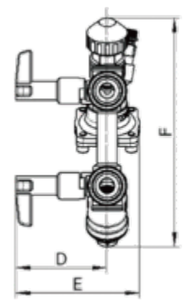




Installation dimensions

DN	DN15	DN20	DN25
A (mm)	128	130	163
B (mm)	102	114	143
C (mm)	80	80	80
D (mm)	77	77	77
E (mm)	105	105	107
F (mm)	183	193	196
G	Internal BSP 1/2”	Internal BSP 3/4”	Internal BSP 1”
H (mm)	110	110	112
J (mm)	142	142	181
K (mm)	194	194	200





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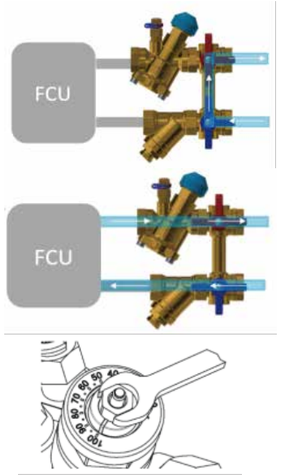
Flushing

a)Flushing main system:

To perform main flush, adjust the both 3-way valves to open bypass position and start the flushing process. This is performed remove impurities and debris which could affect the correct functioning of the unit.

b)Forward flushing / Normal operation:

We suggest performing forward flushing which is similar to normal operation of the system. During normal operating conditions, both the 3-way valves are adjusted to open position to the operating line thereby closing the bypass line. Strainer is placed on the supply line in order to protect the unit from impurities / debris, and the PICV is placed on the return line in order to regulate the flow through the circuit.



Flow Setting

Through the hexagonal at the top of the valve, 10% to 100% of opening can be preset,with the factory default of 100%. This function can not only meet the needs of special users, but also improve the control accuracy.

Flow rate details

Table of Flow Rate with Preset Opening (m^3/h)

Opening/ Size	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
DN15	0.11	0.21	0.30	0.39	0.47	0.56	0.66	0.76	0.90	1.05
DN20	0.11	0.21	0.30	0.39	0.47	0.56	0.66	0.76	0.90	1.05
DN25	-	0.21	0.31	0.60	0.90	1.20	1.50	1.70	2.10	2.50

Accessories



EPP Insulation



Multiple choice of flexible hoses



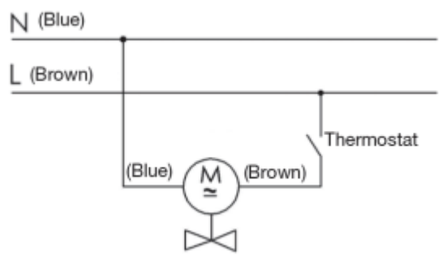
ON/OFF electrothermic actuator



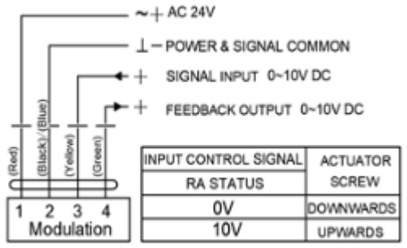
Modulating electronic actuator 0-10V - IP54

Wiring drawings for Actuators

On/Off Type



Modulating Type



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Series W-PICV-16/25Q

Pressure Independent Control Valve

Size: DN65-DN150

The Series W-PICV pressure independent control valve is designed for terminal equipment in AHU, PAU or MAU system to regulate the flow through the valve as well as to keep a constant differential pressure at both ends of the valve. It avoids flow fluctuation caused by the openng or closing of other equipment in the system so as to keep the system stable, efficient and energy-saving.



Features

- Equal percentage flow characteristic
- Constant differential pressure is achieved
- Self-balancing valve core realizes easy shutoff
- 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-siting commissioning and troubleshooting
- Spring is cut off from the water, longer service life

Pressure-Temperature

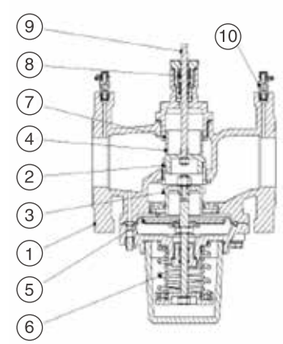
- Maximum Pressure: PN16/PN25
- Working ΔP: 30~400KPa
- Temperature Range: -10°C~130°C

Test Pressures

PN16 Hydraulic	PN25 Hydraulic
Shell: 24 bar	Shell: 37.5 bar

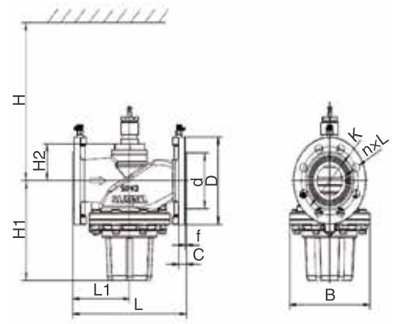
Specification

- Connection Standard: GB/T 17241.6, GB/T9113.1-2000, ISO7005
- Flow Deviation: ±5%
- Protection Grade: IP54
- Control Characteristic: equal percentage
- Medium: water/ethylene glycol



Material

No.	Component	Material	Standard
1	Body	Ductile Iron	QT450-10
2	Seat	Stainless Steel	304
3	Differential pressure Valve Core	Stainless Steel	304
4	Control Core	Stainless Steel	304
5	Membrane	HNBR	
6	Spring	Stainless Steel	304
7	Sealing	HNBR	
8	Membrane	HNBR&PTFE	
9	Stem	Stainless Steel	304
10	Measuring Points	Brass	CW602N



Installation Dimensions

DN	PN16			PN25			d	f	C	L	L1	B	H	H1	H2	Body Weight(kg)
	D	K	nxL	D	K	nxL										
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

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Models

PN16 Body

Type	Size	EDP Code	Rated Flow(m³/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 Body

Type	Size	EDP Code	Rated Flow(m³/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		

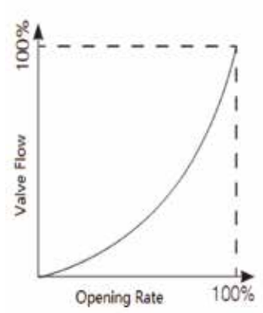
Actuator Type

Type	EDP Code	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

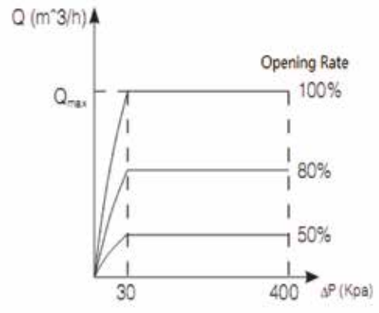
Flow Setting

Electric Preset of Maximum Flow:

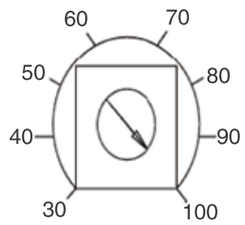
Any opening ranging from 30% to 100% (maximum flow) can be preset by regulating the potentiometer in the actuator. The factory defaultvalue is 100%. This function both satisfies the special demand of customers and increases the control precision.



Equal Percentage Control Characteristics



Differential Pressure-Flow Characteristics



maximum opening

Size \ Opening Rat	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

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Series W-PICV-16/25Q

Pressure Independent Control Valve

Size: DN200-DN250

The Series W-PICV pressure independent control valve is designed for terminal equipment in AHU, PAU or MAU system to regulate the flow through the valve as well as to keep a constant differential pressure at both ends of the valve. It avoids flow fluctuation caused by the openng or closing of other equipment in the system so as to keep the system stable, efficient and energy-saving.



Features

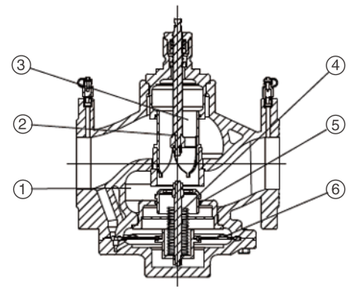
- Equal percentage flow characteristic
- Constant differential pressure is achieved
- Self-balancing valve core realizes easy shutoff
- V-ring sealing and self-compensating spring result in higher abrasion resistance and longer service life
- Electronic preset of maximum flow facilitates on-site commissioning
- Fault auto-detection and alarm function
- Overload protection for power supply, Stroke auto-detection
- Manual lever for convenient on-siting commissioning and troubleshooting

Specification

- Connection Standard: GB/T 17241.6, ISO7005
- Flow Deviation: ±5%
- Protection Grade: IP54
- Control Characteristic: equal percentage
- Medium: water/ethylene glycol/propylene glycol

Pressure-Temperature

- Maximum Pressure: PN16/PN25
- Working ΔP: 30~400KPa
- Temperature Range: -10°C~130°C

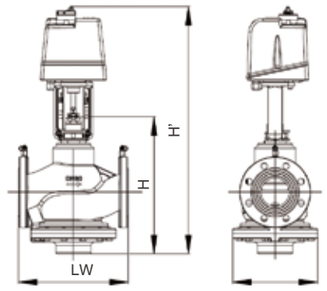


Test Pressures

PN16 Hydraulic	PN25 Hydraulic
Shell: 24 bar	Shell: 37.5 bar

Material

No.	Component	Material	Standard
1	Body	Ductile Iron	
2	Valve Core	Stainless Steel	304
3	Stem	Stainless Steel	304
4	Spring	Stainless Steel	304
5	Spring	PTFE	
6	Membrane	EPDM	



Installation Dimensions

Size	L(mm)	H(mm)	H'(mm)	W(mm)	Weight(Kg)
DN200	500	502	801	400	140
DN250	600	564	863	445	207

Models

Body

Type	Size	EDP Code	Rated Flow(m³/h)	Stroke(mm)	Actuator
W-PICV200-16Q	DN200	61816047	208	40	W-A11D1X
W-PICV250-16Q	DN250	61816041	240		
W-PICV200-25Q	DN200	616P2211	208		
W-PICV250-25Q	DN250	616P2212	240		

Actuator Type

Actuator Type	EDP Code	Rated Output Force(N)	Actual Output Force(N)	Working Voltage	Control Signal	Actuating Time (s/mm)
W-A11D1X	616P2244	3000	3000	24VAC	0(2)~10V, 0(4)~20mA	3.2

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W-SCBV-20T Series
W-SCBV-16Q Series
W-SCBV-16C Series

Intelligent Control Valve

Size：DN15-DN400

W-SCBV series intelligent control valves serves for fluid control applications such as central air conditioning, heating, water treatment, etc. It is a set of pressure-independent products integrated with energy meter, control ball valve and intelligent actuator.



Features

- Integrated Bluetooth, analog signal, Modbus RTU and BACnet MS/TP control
- Monitoring both on site and remotely
- Integrated multiple control modes
- High protection level

Operating Principles

W-SCBV series intelligent control valve, receives standard regulating signals (flowrate, energy，valve positon) from DDC or PLC by intelligent actuator, compares the measured value with the target value，after a series of advanced PID algorithm, the valve's opening is adjusted in real-time, the pressure-independent control is realized.

Material

Compontent	Body	Seat	Ball	Stem	O-Ring
Material	Brass (DN15-50)	PTFE (DN15-200)	Stainless Steel (DN15-200)	Stainless Steel (DN15-400)	EPDM (DN15-200)
	DI (DN50-200)	304+STL (DN200-400)	304+Cr (DN250-400)		FKM (DN250-400)
	WCB (DN250-400)				

Specification

- Nominal Diameter: DN15~DN400
- Working Pressure: PN20 (DN15-50 Threaded connection)
  PN16 (DN50-400 Flange connection)
- Temperature Range: 4~95℃
- Working Medium: Hot and cold water, ≤50% ethyl/propylene glycol solution
- Connection Standard: GB/T 7307 (DN15-50)
  GB/T 17241.6 (DN50-200)
  GB/T 9113 (DN250-400)
- Closing Differential Pressure: 600KPa
- Leakage Rate: ≤0.01%Kvs (DN15-200)
  ≤0.1%Kvs (DN250-400)
- Power: 24VAC/24VDC(DN15-150)
  220VAC(DN200-400)
- Protection Level: Actuator IP67
  Energy Meter IP65(Thread), IP67(Flange)

Product Type

Type	Size	Working Differential Pressure（kPa）	Closing Differential Pressure（kPa）	Flow Range（m³/h）	Cooling Energy(kW)			Heating Energy(kW)	
					ΔT 5K	ΔT 6K	ΔT 7K	ΔT 10K	ΔT 15K
W-SCBV2015S2X-20T	DN15	25-300	600	0.38~1.25	7.3	8.7	10.2	14.5	21.8
W-SCBV2020S2X -20T	DN20	25-300	600	0.81~2.7	15.7	18.8	22.0	31.4	47.1
W-SCBV2025S2X -20T	DN25	25-300	600	1.29~4.3	25.0	30.0	35.0	50.0	75.0
W-SCBV2032S2X -20T	DN32	25-300	600	2.34~7.8	45.4	54.4	63.5	90.7	136.1
W-SCBV2040S2X -20T	DN40	25-300	600	3.9~13.0	75.6	90.7	105.8	151.2	226.8
W-SCBV2050S2X -20T	DN50	25-300	600	4.95~16.5	95.9	115.1	134.3	191.9	287.8
W-SCBV2050S2X -16Q	DN50	25-300	600	5.7~ 19.0	110.5	132.6	154.7	220.9	331.4
W-SCBV2065S2X -16Q	DN65	25-300	600	9.8 ~ 32.5	189.0	226.7	264.5	377.9	566.9
W-SCBV2080S2X -16Q	DN80	25-300	600	16.5 ~ 55.0	319.8	383.7	447.7	639.5	959.3
W-SCBV2100S2X -16Q	DN100	25-300	600	24.0 ~ 80.0	465.1	558.1	651.2	930.2	1395.3
W-SCBV2125S2X -16Q	DN125	25-300	600	30.0 ~ 100.0	581.4	697.7	814.0	1162.8	1744.2
W-SCBV2150S2X -16Q	DN150	25-300	600	45.0 ~ 150.0	872.1	1046.5	1220.9	1744.2	2616.3
W-SCBV2200S2X -16Q	DN200	25-300	600	96.0 ~ 320.0	1860.5	2232.6	2604.7	3720.9	5581.4
W-SCBV2250S2X -16C	DN250	25-300	600	225.0 ~ 750.0	4360.5	5232.6	6104.7	8720.9	13081.4
W-SCBV2300S2X -16C	DN300	25-300	600	360.0 ~ 1200.0	6976.7	8372.1	9767.4	13953.5	20930.2
W-SCBV2350S2X -16C	DN350	25-300	600	405.0~ 1350.0	7848.8	9418.6	10988.4	15697.7	23546.5
W-SCBV2400S2X -16C	DN400	25-300	600	450.0 ~ 1500.0	8720.9	10465.1	12209.3	17441.9	26162.8

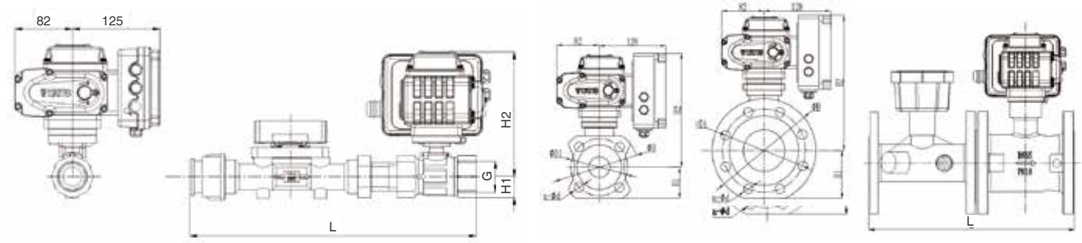
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W-SCBV-20T/16Q/16C-EN-202403

Coding Rules

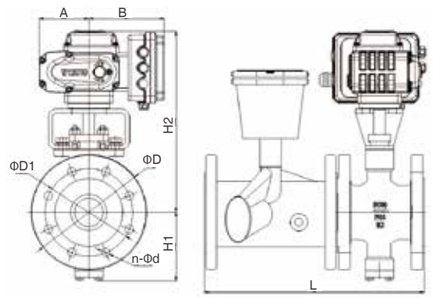
		W-	SCBV	2	015	S2X-	20	T
W	WATTS							
SCBV	Intelligent control valve							
2	Two-way							
Size								
015-DN15：	020-DN20	025-DN25：	032-DN32					
040-DN40：	050-DN50	065-DN65：	080-DN80					
100-DN100：	125-DN125	150-DN150：	200-DN200					
250-DN250	300-DN300	350-DN350	400-DN400					
S2X	Intelligent Actuator							
Valve Working Pressure	20-PN20	16-PN16						
Valve Body Material		T:Brass	Q:Ductile Iron C:Ductile Iron					

Installation Dimensions



Dimension / Size	Thread(G)	L (mm)	H1 (mm)	H2 (mm)
DN15	1/2”	202	16	164
DN 20	3/4”	230	18	169
DN 25	1”	283	21	169
DN 32	11/4”	320	25	175
DN 40	11/2”	370	30	180
DN 50	2”	398	36	190

Dimension / Size	L (mm)	H1 (mm)	H2 (mm)	D (mm)	D1 (mm)	n (mm)	d (mm)
DN50	341	65	226	165	125	4	18
DN65	341	75	236	185	145	4	18
DN80	398	92	244	200	160	8	18
DN100	438	101	260	220	180	8	18
DN125	470	120	270	250	210	8	18
DN150	550	141	285	285	240	8	22



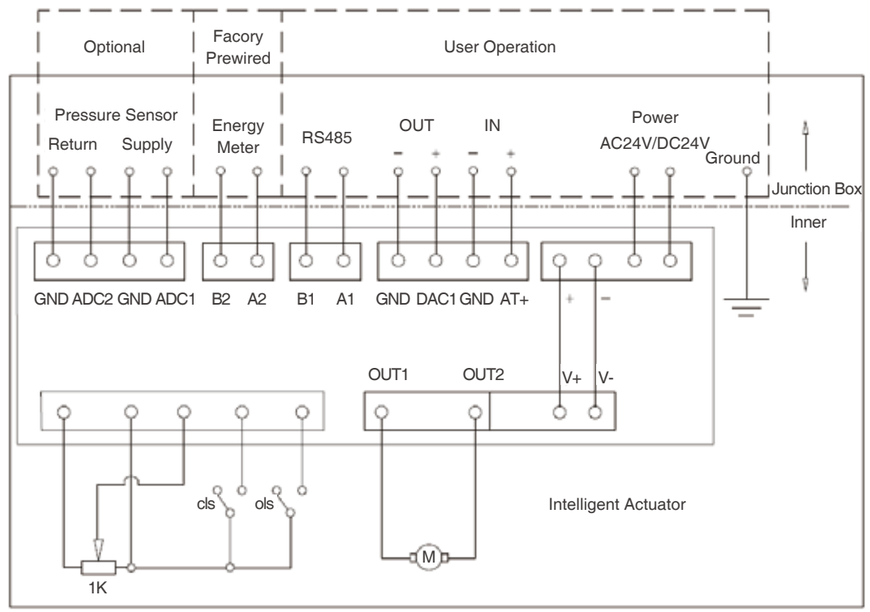
Dimension / Size	L (mm)	A (mm)	B (mm)	H1 (mm)	H2 (mm)	D (mm)	D1 (mm)	n (mm)	d (mm)
DN200	650	98	152	159	361	340	295	12	22
DN250	747	128	187	248	596	405	355	12	26
DN300	838	128	187	290	641	460	410	12	26
DN350	905	128	187	318	674	520	470	16	26
DN400	905	150	212	351	735	580	525	16	30

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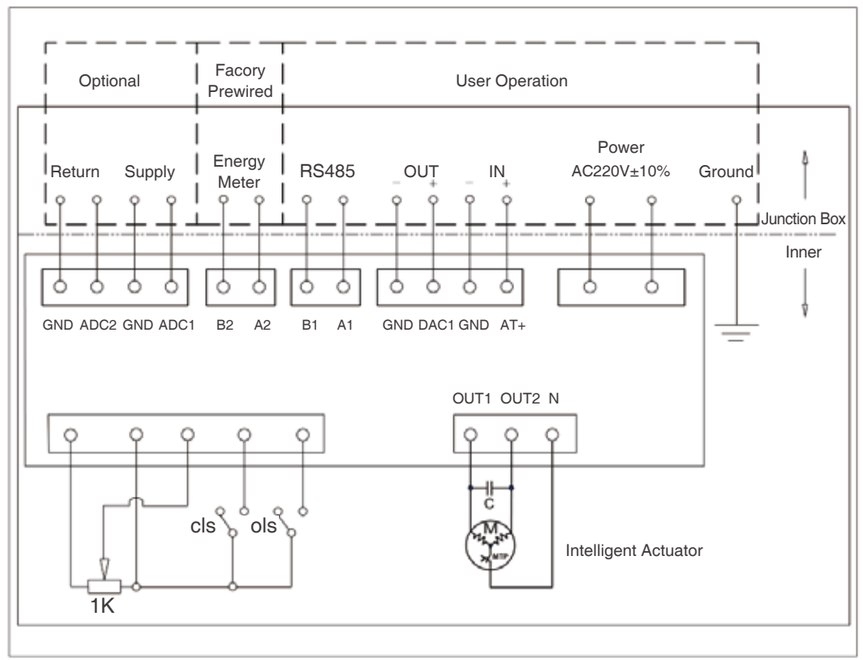
14 Balancing

Wiring Diagram:

DN15-150



DN200-400



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Series W-WMS-16/25P

Metering Station

Size: DN50-DN600

The series W-WMS metering station is designed for up and down stream measurement.



Features

- Simple structure
- SS304 body

Pressure-Temperature

- Nominal Pressure: PN16(W-WMS-16P)
  PN25(W-WMS-25P)
- Temperature Range: -10°C~120°C

Material

No.	Component	Material	Standard
1	Body	Stainless Steel	304
2	Extensions	Stainless Steel	304
3	Test Points	Brass	

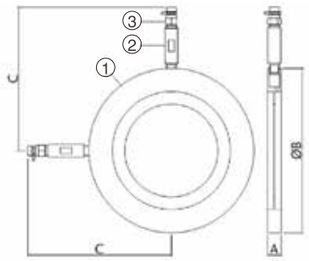
Specification

- Connection Type: Wafer
- Medium: water

Installation Dimensions

W-WMS-16P

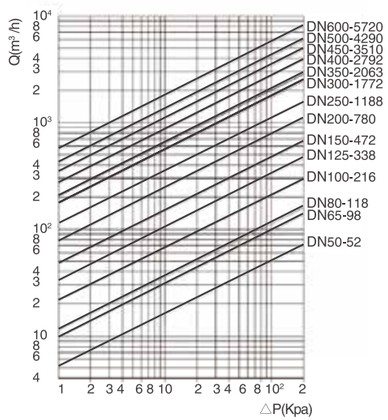
Size DN (mm)	DN(mm)													
	50	65	80	100	125	150	200	250	300	350	400	450	500	600
A	18	18	18	18	18	18	18	18	18	21	21	21	21	25
B	105	127	142	162	192	218	273	329	384	444	495	555	617	734
C	148	159	166	176	191	204	232	260	287	317	346	373	404	462



W-WMS-25P

Size DN (mm)	DN(mm)													
	50	65	80	100	125	150	200	250	300	350	400	450	500	600
A	18	18	18	18	18	18	18	18	18	21	21	21	21	25
B	105	127	142	168	194	224	284	340	400	457	514	564	624	731
C	148	159	166	179	192	207	237	265	295	324	352	377	407	461

Characteristic Curve



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Series W-STBV-TP

Test Points

The Series W-STBV-TP test point is an instrument for pressure and flow measurements. The intended usage is checking and documentation of water flow in heating and cooling constructions.



Features

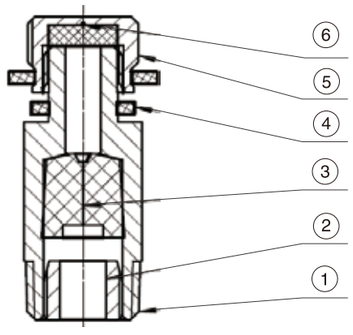
- Self-sealing measuring points
- Light weight and corrosion resistance
- Simple structure, convenient installation

Pressure-Temperature

- Temperature Range: -10°C~120°C

Material

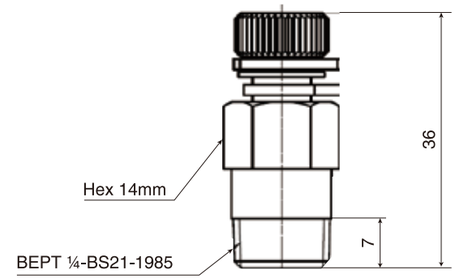
No.	Component	Material	Standard
1	Body	BRASS-DZR	CW602N
2	Plug	BRASS-DZR	CW602N
3	Rubber	EPDM	
4	Belt	PP	
5	Cap	BRASS	Hpb59-3
6	Gasket	EPDM	



Specification

- Connection Standard: BSPT 1/4 to BS21-1985
  NPT 1/4 to ASME B1.20.1
- Medium:cold and hot water/glycol

Installation Dimensions



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Series W-F129-20T

FCU Electric Valve

Size: DN15-DN25

In HVAC water systems, the FCUs are usually controlled by two-way or three-way valves. The Series W-F129 FCU Electric Two-way or Three-way Valve is designed for FCU cooling or heating pipes. Through opening and closing the pipe, the valve can effectively regulate the room temperature. The valve's actuator has spring auto-reset function. If the actuator suddenly loses power, the spring will help the actuator to reset and shut down automatically.



Features

- Forged brass valve body
- On/off control
- Both normally closed two-way structure and diverting threeway structure are available
- Fully enclosed one-way hysteresis synchronous motor drive with water-proof function
- Spring auto-reset function enables automatic shutoff when an emergent power loss happens
- Removable actuator for convenient repair and maintenance
- Rotary motion valve disc
- High shutoff pressure

Pressure-Temperature

- Nominal Pressure: PN20
- Temperature Range: 0°C~94°C

Material

Component	Material	Standard
Valve Body	Forged Brass	HPB59-2
Valve Stem	Nickel Plated Brass	HPB60-2
Valve Disc	NBR	
Sealing	NBR	
Actuator Shell	Aluminum	
Actuator Base	Stainless Steel	

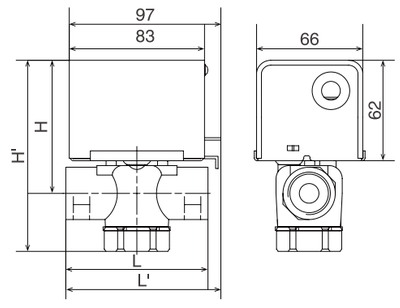
Operating Principles

The valve is normally closed when receiving no signals. If the room thermostat emits an opening signal to open the valve, cold/hot water will go through the FCUs to provide the room with cooling/heating capacity. When the room temperature reaches the set temperature, the room thermostat will send a closing signal to the actuator to close the valve, so that the cold/hot water in the pipe will not influence the room temperature any more. By opening and closing the valve, the room temperature is kept within the setting range.

Specification

- Connection Standard: GB/T 7306.1-2000
- Connection Type: Threaded Connection
- IP Grade: IP20
- Working Voltage: 220VAC 50/60Hz
- Power: 6W
- Speed: 4r/min
- Actuating Time: Full Open: ≤18s; Full Close: ≤5s
- Control Characteristic: On/off Control
- Working Medium: Water/Ethylene glycol

Installation Dimensions



Size	L(mm)	L'(mm)	H(mm)	H'(mm)	Weight(kg)
DN15 Two-way	70	82	86	105	0.70
DN15 Three-way	70	82	86	119	0.85
DN20 Two-way	87	82	93	105	1.00
DN20 Three-way	87	82	93	119	0.75
DN25 Two-way	94	82	95	107	0.90
DN25 Three-way	94	82	95	124	1.05

Technical Parameters

Type	Structure	Size	Kv	Shutoff Pressure
W-F129215S-20T	Two-way Valve	DN15	2.2	180KPa
W-F129220S-20T		DN20	3.0	160KPa
W-F129225S-20T		DN25	6.9	140KPa
W-F129315S-20T	Diverting Three-way Valve	DN15	2.6	180KPa
W-F129320S-20T		DN20	3.4	160KPa
W-F129325S-20T		DN25	6.5	140KPa

Type	Structure	Size	Kv	Shutoff Pressure
W-F129215L-20T	Two-way Valve	DN15	1.7	450KPa
W-F129220L-20T		DN20	2.2	350KPa
W-F129225L-20T		DN25	3.0	200KPa
W-F129315L-20T	Diverting Three-way Valve	DN15	1.7	450KPa
W-F129320L-20T		DN20	2.6	350KPa
W-F129325L-20T		DN25	3.4	200KPa

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Series W-FCBV-20T

FCU Electric Valve

Size: DN15-DN32

W-FCBV series electric ball valve are mainly used in HVAC water system. It can control the flow of the cold and hot media accurately according to actual needs. The temperature will not change dramatically so that the room temperature can be real-time and accurately controlled.

Features

- Good dust-proof and water-proof
- Good thermal insulation between the media and the actuator
- Easy installation and disassembly of the actuator
- The actuator can be installed after the installation of equipment and pipelines to enhance the installation efficiency
- The eccentric actuator allows the valve installed close to the wall
- The ball valve can be open/close by ordinary tools without installing the actuator
- High close pressure difference to avoid chocking
- Soft start to avoid water hammer
- When the valve opening is in place, the motor does not bear any force to ensure longest motor life

Pressure-Temperature

- Nominal Pressure: PN20
- Temperature Range: 1°C~95°C
- Close Pressure Difference: 10Bar

Material

Component	Material
Valve Body	Forging Brass
Valve Ball	Stainless Steel
Valve Stem	Brass
Teflon Seat	Polytetrafluoroethylene
Seal	Three ethylene propylene rubber
Motor	Reversible synchronous hysteresis motor

Operating Principles

The control valve is driven by a bidirectional motor. The motor is connected to the thermostat. The thermostat keeps sampling and processing the on-site data, sending out control signals, operating or stopping the electric valve motor, controlling the opening and closing of the ball valve, controlling cold and hot water entering the fan coil unit and providing air-conditioning or heating for the room. When the room temperature reached to the set valve to ensure the room temperature is always within the temperature range set by the thermostat.

Installation Dimensions

Size	Dimension(mm)				
	L	L1	L2	H	S
1/2”(DN15)	67	33.5	39	34	27
3/4”(DN20)	66	33	39	36	32.5
1”(DN25)	88	44	48	40	40
1 1/4”(DN32)	100	50	60	-	48

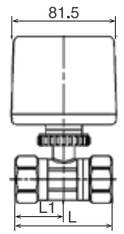


Specification

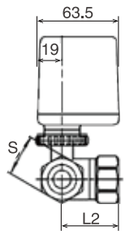
- Connection Standard: Standard British flat thread BSPP(internal thread)
- Connection Type: Threaded connection
- Control Characteristic: On/off Control
- IP Grade: IP65
- Working Voltage: AC220V 50/60Hz
- Power: 6W
- Actuating Time: 12s~18s
- Torque: 3Nm
- Stroke: 90degree angle stroke
- Working Medium: Water/60% Ethylene Glycol

Technical Parameters

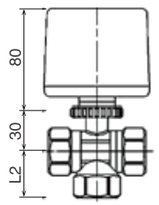
Type	Structure	Size Inch (mm)	orifice	Kv
W-FCBV215-20T	Two-way Valve	DN15(1/2")	Ø14	4.62
W-FCBV220-20T		DN20(3/4")	Ø14	7.50
W-FCBV225-20T		DN25(1")	Ø14	8.50
W-FCBV232-20T		DN32(1 1/4")	Ø22	25.97
W-FCBV3A15-20T	Three-way side -out Valve	DN15(1/2")	Ø14	4.62
W-FCBV3A20-20T		DN20(3/4")	Ø14	7.50
W-FCBV3A25-20T		DN25(1")	Ø14	8.50
W-FCBV3A32-20T		DN32(1 1/4")	Ø22	25.97
W-FCBV3B15-20T	Three-way bottom -out valve	DN15(1/2")	Ø14	4.62
W-FCBV3B20-20T		DN20(3/4")	Ø14	7.50
W-FCBV3B15-20T		DN25(1")	Ø14	8.50



Two-way Valve



Three-way side-out Valve



Three-way bottom-out valve

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Series W-912-16P

Electrical Two-way Control Valve

Size: DN15-DN80

The Series W-912 Electric Two-way Control Valves are used with Series W-A11 actuators. They are extensively applied to HVAC water systems, boiler systems, heat exchange systems or AHU steam systems to regulate the flow rates of fluids in these systems.

Features

- Equal percentage control characteristic achieves high control precision
- Electronic presetting function facilitates on-site commissioning
- Automatic fault detection and alarm functions
- Overload protection function for the power supply

Pressure-Temperature

- Nominal Pressure: PN16
- Temperature Range: -25°C~150°C(Water Valve)
  2°C~180°C(Steam Valve)

Material

Component	Material
Valve Body	Stainless Steel
Valve Core	Stainless Steel
Valve Stem	Stainless Steel
Spring	Stainless Steel
Sealing	PTFE

Operating Principles

After the valve’s actuator receives a control signal from the BA System, the actuator moves the valve stem to regulate the valve’s opening rate, and thus changes the system’s flow rate.

Technical Parameters

Water Valve

Type	Size	Kvs	Stroke (mm)	Actuator Force(N)	Shutoff ΔP(KPa)
W-912AW015-16P	DN15	1.9	10	500	≤1600
W-912AW020-16P	DN20	4.4	10	500	≤1100
W-912AW025-16P	DN25	8	15	500	≤700
W-912AW032-16P	DN32	10	20	500	≤400
W-912AW040-16P	DN40	20	20	500	≤250
W-912BW050-16P	DN50	32	20	1000	≤300
W-912BW065-16P	DN65	50	20	1000	≤1600
W-912BW080-16P	DN80	66	20	1000	≤1600

Steam Valve

Type	Size	Kvs	Stroke (mm)	Actuator Force(N)	Shutoff ΔP(KPa)
W-912AS015-16P	DN15	1.9	10	500	≤1600
W-912AS020-16P	DN20	4.4	10	500	≤1100
W-912BS025-16P	DN25	8	15	1000	≤1200
W-912BS032-16P	DN32	10	20	1000	≤800
W-912CS040-16P	DN40	20	20	1800	≤1200
W-912CS050-16P	DN50	32	20	1800	≤750

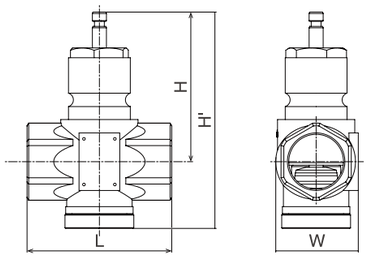


Specification

- Connection Standard: ISO 7/1, GB/T 7306.1
- Connection Type: Threaded Connection
- Flow Deviation: ±5%
- Function: Two-way Control
- Control Characteristic: Equal Percentage
- Leak Rate: ≤0.02% Kvs
- Working Medium: Water/Ethylene Glycol/Propylene Glycol/Steam

Installation Dimensions

The valve must be installed vertically. The direction of the arrow head on the valve body should be in line with the flow direction. As for the electronic actuator, its wiring should be correct, and it cannot be exposed to water.



Size	L(mm)	H(mm)	H'(mm)	W(mm)	H+Actuator (mm)	Weight(kg)
DN15	80	95	133	44	256	1
DN20	80	98	138	44	259	1.1
DN25	100	101	145	53	262	1.5
DN32	103	107	154	60	268	1.8
DN40	122	113	165	70	274	2.3
DN50	138	118	183	82	279	3.4
DN65	160	128	205	102	289	5.2
DN80	180	135	222	125	296	6.8

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Series W-942-16/25Q

Electrical Two-way Control Valve

Size: DN15-DN500

The Series W-942-16/25Q Electrical Two-way Control Valves are used with Series W-A11 actuators. They are extensively applied to HVAC water systems, boiler systems, heat exchange systems or AHU steam systems to regulate the flow rates of fluids in these systems.

Features

- Equal percentage control characteristic achieves high control precision
- Electronic presetting function facilitates on-site commissioning
- Automatic fault detection and alarm functions
- Overload protection function for the power supply
- V-shaped(cone)sealing ring and spring self-compensation structure result in higher abrasion resistance and longer service life

Pressure-Temperature

- Nominal Pressure: PN16/PN25(Water Valve)
- Temperature Range: -20°C~82°C

Material

NO.	Component	Material
1	Body	Ductile Iron
2	Seat	Stainless Steel(DN65-150)
2	Core	Stainless Steel
3	Stem	Stainless Steel
5	Cap	Stainless Steel (DN65-150)
6	Sealing	HNBR/FKM

Technical Parameters

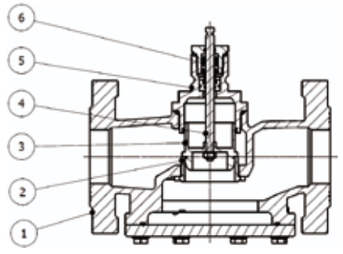
Water Valve

Type	Size	Kvs	Stroke (mm)	Actuator Force(N)	Shutoff ΔP(KPa)
W-942AW015-16Q	DN15	2	20	500	≤1600
W-942AW020-16Q	DN20	3	20	500	≤1100
W-942AW025-16Q	DN25	5	20	500	≤700
W-942AW032-16Q	DN32	8	20	500	≤400
W-942AW040-16Q	DN40	20	20	500	≤250
W-942BW050-16Q	DN50	31	20	1000	≤300
W-942BW065-16Q	DN65	39	20	1000	≤400
W-942BW080-16Q	DN80	62	20	1000	≤400
W-942CW100-16Q	DN100	96	40	1800	≤400
W-942CW125-16Q	DN125	161	40	1800	≤400
W-942CW150-16Q	DN150	227	40	1800	≤400
W-942EW200-16Q	DN200	520	40	5000	≤1600
W-942EW250-16Q	DN250	750	40	5000	≤1600
W-942FW300-16Q	DN300	1200	100	16000	≤1600
W-942FW350-16Q	DN350	1800	100	16000	≤1600
W-942FW400-16Q	DN400	2200	100	16000	≤1600
W-942FW450-16Q	DN450	2600	100	16000	≤1600
W-942FW500-16Q	DN500	3200	100	16000	≤1600



Specification

- Connection Standard: ISO7005
- Connection Type: Flange Connection
- Flow Deviation: ±5%
- Function: Two-way Control
- Control Characteristic: Equal Percentage
- Leak Rate: ≤0.02% Kvs
- Working Medium: Water/Ethylene Glycol/Propylene Glycol/Steam

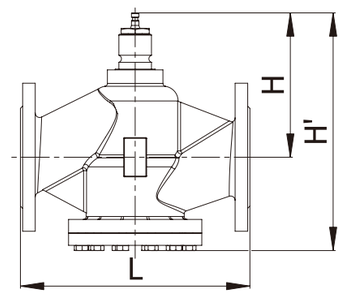


Operating Principles

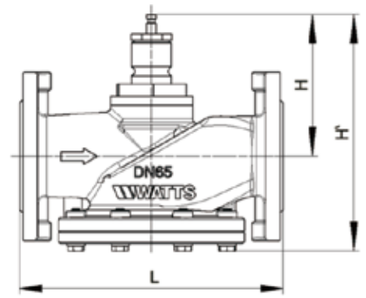
Once the valve's actuator receives a control signal from the BA System, it will regulate the valve's opening rate by moving the valve stem, and thus change the system's flow rate.

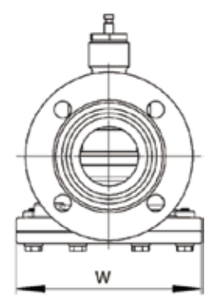
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Installation Dimensions



DN200-500





DN65-DN150

Size	L(mm)	H(mm)	H'(mm)	W(mm)	H-1(mm)	H-2(mm)	H-3(mm)	H-4(mm)	Weight(kg)
DN15	130	107	177	95	269	378	407	/	3.7
DN20	150	107	177	105	269	378	407	/	4.3
DN25	160	112	187	115	274	383	412	/	5.4
DN32	180	121	201	140	283	392	421	/	7.7
DN40	200	126	208	150	288	397	426	/	9.2
DN50	230	136	234	165	298	407	436	/	12.5
DN65	290	166	271	185	328	437	466	/	20
DN80	310	170	277	200	332	441	470	/	24.5
DN100	350	213	337	220	/	484	513	/	35
DN125	400	214	359	250	/	485	514	/	51
DN150	480	231	402	285	/	502	531	/	75.5
DN200	500	339	575	340	/	610	639	/	112.7
DN250	600	391	681	405	/	662	691	/	202
DN300	700	485	807	460	/	/	/	1084	340
DN350	788	565	965	520	/	/	/	1164	467
DN400	912	615	1037	580	/	/	/	1214	589
DN450	980	586	1006	640	/	/	/	1187	712
DN500	978	650	1170	715	/	/	/	1247	878

*H-1: when connected to a 500N/1000N actuator
H-2: when connected to an 1800N/3000N/5000N actuator without manual lever
H-3: when connected to an 1800N/3000N/5000N actuator with manual lever
H-4: when connected to a 16000N actuator

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Series W-ECBV-25T

Electric Control Ball Valve

Size: DN15-DN50

W-ECBV series electric control ball valves are widely used in fluid control of central air conditioning, heating, water treatment, industrial processing and other systems. The actuator model used in conjunction is W-A13 series. The actuator receives the standard regulating or switching signals and rotates the ball to the specified position.

Features

- Unique V-shaped inlet design realizes accurate equal percentage flow control characteristics
- Concise structure of flow passage largely avoids blockage, safe and reliable
- High flow capacity, low resistance loss
- Double-seal design, no leakage and double-security
- Ultra-silence channel to ensure quiet environment
- High shut-off pressure, high pressure
- Equipped with manual switch and opening indicationa
- Valve position holding or zeroing function when signal disconnection

Working Principle

W-ECBV series electric control ball valve is driven by the angular travel actuator W-A13. The actuator drives the valve to change the flow area between the ball and the valve seat by receiving the regulating signal (0 (2)-10V or 0 (4)-20mA) or switching signal, so as to control the flow rate passing through the valve and realize the automatic regulation function.

Material

Compontent	Material
Valve Body	Nickel plated brass
Valve Seat	PTFE+EPDM
Valve Ball	Stainless Steel 304
Valve Shaft	Stainless Steel 304
Seal Ring	EPDM

Product Model

Model	Size	Kvs	Supporting Actuator
W-ECBV2015C*-25T	DN15	6.3	W-A13C series
W-ECBV2020C*-25T	DN20	10	
W-ECBV2025C*-25T	DN25	16	
W-ECBV2032C*-25T	DN32	25	
W-ECBV2040C*-25T	DN40	40	
W-ECBV2050C*-25T	DN50	70	



Specification

- Nominal Pressure: PN25
- Working Temperature: -5~95°C
- Protection Level: IP54
- Connection Standard: GB/T 7306.1-2000
- Turn-off Dfferential Pressure: 1400Kpa
- Flow Characteristics: Equal percentage characteristic curve
- Leakage Rate: Control path ≤0.01%Kvs
- Regulating Mode: Angular travel 90°
- Working Medium: Air conditioning cold and hot water, ≤50% ethylene glycol/propylene glycol solution

Actuator parameters

- Power supply: Switch/Floating: 24VAC/DC±10% or 220VAC±10%
  Proportional: 24VAC/DC±10%
- Power consumption: 5W in operation, 1W in standby
- Signal: Switch/Floating: 24VAC, 24VDC or 220VAC
  Proportional: Control and feedback 0-10V or 4-20mA
- Runtime: 60s
- Torque: 10N.m
- Protection level: IP54
- Wire specification: 4x0.55mm ², black PVC sheathed wire, 0.5m

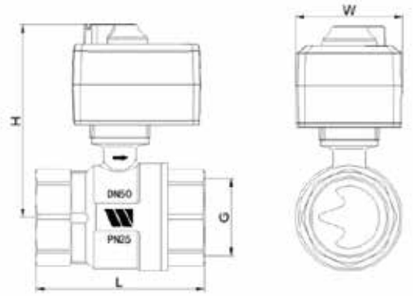
Model Description

		W-	ECBV	2	015	C-	25	T
W	WATTS							
ECBV	Electric control ball valve							
Diameter	2: Two-way							
Size								
015-DN15	020-DN20							
025-DN25	032-DN32							
040-DN40	050-DN50							
supporting actuator	C:10Nm,0-10V							
	CA:10Nm,4-20mA							
	CF： 10Nm, swtich, 24VAC / 24VDC / 220VAC							
Pressure-bearing grade	PN25							
Valve body material	Brass							

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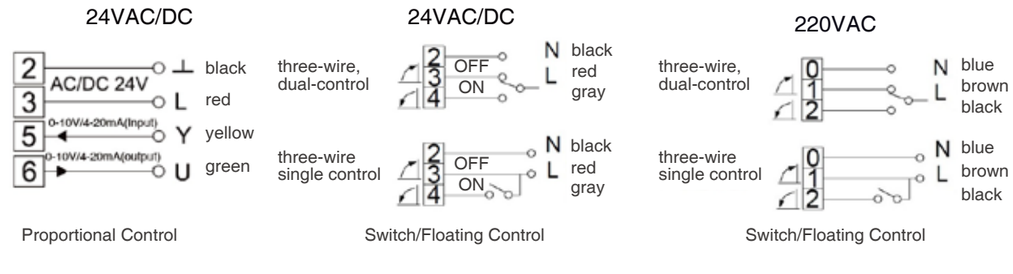
W-ECBV-20T-EN-202403

Installation Dimensions



DN	G	L (mm)	W (mm)	H (mm)
15	Rp 1/2"	61	80	120.5
20	Rp 3/4"	73	80	124
25	Rp 1"	83	80	130
32	Rp 1-1/4"	93	80	134
40	Rp 1-1/2"	109	80	141.5
50	Rp 2"	123	80	150

Wiring Diagram



Installation Instruction

1.The two-way control ball valve is recommended to be installed in the return pipe of the system to reduce the thermal stress on the valve;
2.Use thread that meets the requirements for connection;
3.Please note that the medium flow direction must be consistent with the arrow direction of the valve body during installation.
4.The ball valve can be installed horizontally or vertically, but it cannot be installed upside down;
5.The product leaves the factory in a closed state.

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Series W-ECBV-16Q

Flange Electric Control Ball Valve

Size: DN65-DN150

W-ECBV series electric control ball valves are widely used in fluid control of central air conditioning, heating, water treatment, industrial processing and other systems. The actuator model used in conjunction is W-A13 series. The actuator receives the standard regulating or switching signals and rotates the ball to the specifiedposition.



Features

- Unique conical inlet design realizes accurate equal percentage flow control characteristics
- Concise structure of flow passage largely avoids blockage, safe and reliable
- High flow capacity, low resistance loss
- Double-seal design, no leakage and double-security
- Ultra-silence channel to ensure quiet environment
- High shut-off pressure, high pressure
- Equipped with manual switch and opening indication

Working Principle

W-ECBV series electric control ball valve is driven by the angular travel actuator W-A13. The actuator drives the valve to change the flow area between the ball and the valve seat by receiving the regulating signal (0 (2)-10V or 0 (4)-20mA) or switching signal, so as to control the flow rate passing through the valve and realize the automatic regulation function.

Specification

- Nominal Pressure: PN16
- Working Temperature: 5~95°C
- Protection Level: IP54
- Connection Standard: GB/T 17241.6
- Turn-off Differential Pressure: 600Kpa
- Flow Characteristics: Equal Percentage characteristic curve
- Leakage Rate: Control path ≤0.01%Kvs
- Regulating Mode: Angular travel 90°
- Working Medium: Air conditioning cold and hot water, ≤50% ethylene glycol solution

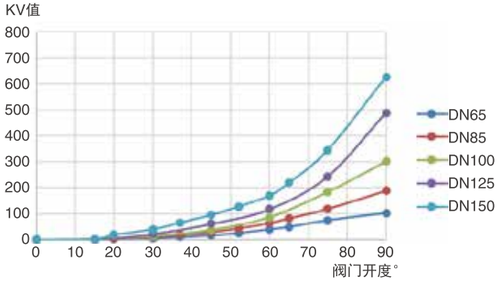
Material

Component	Material	Standard
Valve Body	Ductile Cast Iron	QT400-18
Valve Seat	PTFE+EPDM	
Valve Ball	Stainless Steel	304
Valve Shaft	HPB58-2	
Seal Ring	HNBR	

Product Model

Model	Type	Size	Kvs	Supporting Actuator
W-ECBV2065D-16Q	Two-way valve	DN65	103	W-A13D series
W-ECBV2080D-16Q	Two-way valve	DN80	185	W-A13D series
W-ECBV2100E-16Q	Two-way valve	DN100	300	W-A13E series
W-ECBV2125F-16Q	Two-way valve	DN125	480	W-A13F series
W-ECBV2150F-16Q	Two-way valve	DN150	600	W-A13F series

Characteristic Curve



Model Description

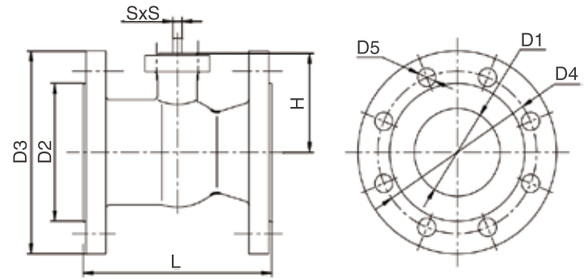
W- ECBV 2 065 D F- 16 Q

W	WATTS
ECBV	Electric control ball valve
Diameter 2: Two-way	
Size 065-DN65 080-DN80 100-DN100 125-DN125 150-DN150	
Supporting actuator D: 15Nm E: 20Nm F: 30Nm Blank: Not configured	
Control mode Blank: regulating type F: on-off type	
Pressure-bearing grade PN16 Valve body material Ductile iron	

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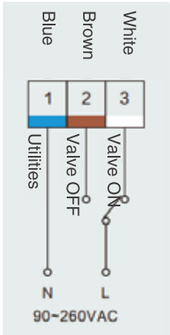
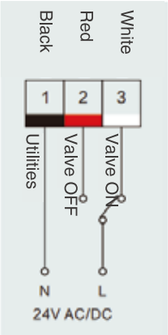
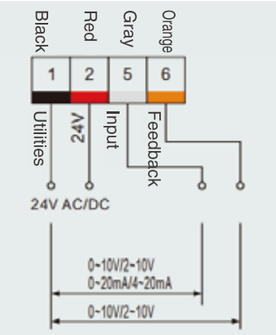
W-ECBV-16Q-EN-202007

Installation Dimensions



Size	L (mm)	H (mm)	D1 (mm)	D2 (mm)	D3 (mm)	D4 (mm)	D5 (mm)	S×S (mm)	Number of D5 passing through the bolt holes	Bolt thread Th
DN65	190	86	43	120	185	145	18	10×10	4	M16
DN80	203	94	54	136	200	160	18	10×10	8	M16
DN100	229	103	65	156	220	180	18	12×12	8	M16
DN125	245	117	84	188	250	210	18	12×12	8	M16
DN150	250	130	100	210	285	240	22	12×12	8	M20

Wiring Diagram

Three-wire Wiring Diagram 220V AC	Three-wire Wiring Diagram 24V AC/DC	Analog Quantity Wiring Diagram 24V AC/DC
		

Installation Instruction

1.The two-way control ball valve is recommended to be installed in the return pipe of the system to reduce the thermal stress on the valve;

2.The three-way control ball valve can be used in the shunting or mixed-flow system respectively. When installing, attention shall be paid to the direction of the T-shaped marking slot and switch at the top of the valve stem, as detailed in the schematic diagram below;

3.The ball valve can be installed horizontally or vertically, but it cannot be installed upside down;

4.The product leaves the factory in a closed state.

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Series W-WECBV-16Z

Wafer Type Electric Control Ball Valve

Size: DN65-DN150

W-WECBV series electric control ball valves are widely used in fluid control of central air conditioning, heating, water treatment, industrial processing and other systems. The actuator model used in conjunction is W-A13 series. The actuator receives the standard regulating or switching signal and rotates the ball to the specified position.



Features

- Unique V-shaped inlet design realizes accurate equal percentage flow control characteristics
- Concise structure of flow passage largely avoids blockage, safe and reliable
- High flow capacity, low resistance loss
- Double-seal design, leakage free and double-security
- Ultra-silence channel to ensure quiet environment
- High shut-off pressure, high pressure
- Equipped with manual switch and opening indication

Working Principle

W-WECBV series electric control ball valve is driven by the angular travel actuator W-A13. The actuator drives the valve to change the flow area between the ball and the valve seat by receiving the regulating signal (0 (2)-10V or 0 (4)-20mA) or switching signal, so as to control the flow rate passing through the valve and realize the automatic regulation function.

Material

Component	Material
Valve Body	HT250
Valve Seat	PTFE+EPDM
Valve Ball	Stainless Steel 304
Valve Shaft	HPB58-2
Seal Ring	HNBR

Specification

- Nominal Pressure: PN16
- Working Temperature: 5~95°C
- Protection Level: IP54
- Connection Standard: GB/T 17241.6
- Turn-off Differential Pressure: 600Kpa
- Flow Characteristics: Equal Percentage characteristic curve
- Leakage Rate: Control path ≤0.01%Kvs
- Regulating Mode: Angular travel 90°
- Working Medium: Air conditioning cold and hot water, ≤50% ethylene glycol solution

Model Description

W- WECBV 2 065 D F- 16 Z

W	WATTS
ECBV	Wafer electric control ball valve
Diameter	2: Two-way
Size	065-DN65, 080-DN80, 100-DN100, 125-DN125, 150-DN150
Supporting actuator	D: 15Nm, E: 20Nm, F: 30Nm, Blank: Not configured
Control mode	Blank: regulating type F: on-off type
Pressure-bearing grade	PN16
Valve body material	Ductile iron

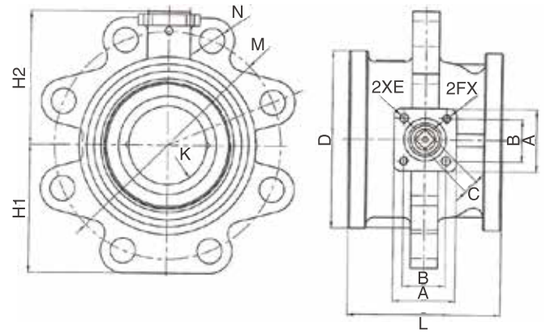
Product Model

Model	Type	Size	Kvs	Supporting Actuator
W-WECBV2065D-16Z	Two-way valve	DN65	42	W-A13D series
W-WECBV2080D-16Z	Two-way valve	DN80	70	W-A13D series
W-WECBV2100E-16Z	Two-way valve	DN100	110	W-A13E series
W-WECBV2125F-16Z	Two-way valve	DN125	190	W-A13F series
W-WECBV2150F-16Z	Two-way valve	DN150	258	W-A13F series

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W-WECBV-16Z-EN-202007

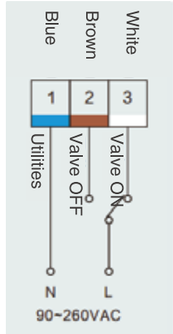
Installation Dimensions



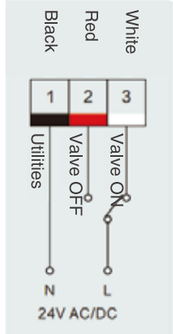
Size	A (mm)	B (mm)	C×C (mm)	D (mm)	H1 (mm)	H2 (mm)	L (mm)	M (mm)	N (mm)
DN65	44	30	10×10	105	67	86	93	145	4×ϕ18
DN80	44	30	10×10	125	90	94	108	160	8×ϕ18
DN100	52	35	12×12	148	99	103	120	180	8×ϕ18
DN125	52	35	12×12	179	114	117	144.5	210	8×ϕ18
DN150	52	35	12×12	205	138	131	167	240	8×ϕ22

Wiring Diagram

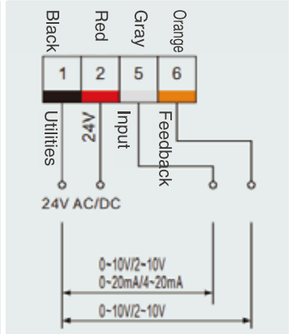
Three-wire Wiring Diagram 220V AC



Three-wire Wiring Diagram 24V AC/DC



Analog Quantity Wiring Diagram 24V AC/DC



Installation Instruction

1.In order to debug conveniently, the opening and closing condition of the ball in the valve body shall be understood, thus the top plane of the valve stem is engraved with a straight slot, and its direction is consistent with the direction of the ball passing through the hole;

2.It shall be installed according to the direction of flow indicated by the valve body;

3.The ball valve can be installed horizontally or vertically, but it cannot.

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Series W-A11

Electrical Control Valve Actuator

Series W-A11 actuator is widely used in auto-control system to regulate the opening rate of electronic valves. Along with Series W-912, Series W-913 Series W-942 or Series W-943 valve body, the actuator is able to control the system's temperature, pressure and flow through receiving different kinds of signals.



Features

- With valve position indicator
- Electronic presetting facilitates on-site commissioning
- Manual operation facilitates on-site trouble-shooting
- Automatic fault detection and alarm functions
- Overload protection function for the power supply
- Precise positioning achieved by self-calibration function (automatically run when first starts up)

Operating Principles

Intelligent Proportional Control Actuator
Intelligent proportional control actuator can realize linear flow control. Through inputting 0(2)-10VDC or 0(4)-20mA control signal, automatic control of the valve and consequently of the fluid is allowed. Intelligent proportional control actuator automatically runs self-calibration function without manual adjustment when first starts up. Meanwhile, its operation indicating light(RUN) begins to blink at 1 Hz. The actuator's shaft moves outwards to its lower limit position and then retracts to its upper position(at this moment the actuator is not in the control of any control signal). After around 150s, the indicating light stops blinking, and the whole self-calibration process is completed.
At this point, the actuator starts to be controlled by control signals.

Additionally, if self-calibration is needed in the running of the actuator, press the red button on the actuator's circuit board for more than 3s, and then the actuator will begin self-calibrating. This is namely manual selfcalibration function, the process of which is the same as that of the automatic self-calibration.

Floating Point Control Actuator
Through the wiring modes of three-point control or on/off control, the floating point control enables the actuator to realize the states of on, off or pause. Optional functions of floating control actuator: DF1 stands for feedback function with potentiometer; DF2 stands for feedback function with dry contact; DF3 indicates active feedback function with limit position.

Material

Component	Material
Actuator Support	Die Casting Aluminum
Actuator Shell	500/1000N: PC 800/3000/5000/16000N: Die Casting Aluminum

Technical Parameters

Intelligent Proportional Control Actuator

Type	W-A11A1(2)X	W-A11B1(2)X	W-A11C1(2)X	W-A11D1(2)X	W-A11E1(2)X	W-A11F2X
Power Voltage	1:24VAC 2:220VAC	1:24VAC 2:220VAC	1:24VAC 2:220VAC	1:24VAC 2:220VAC	1:24VAC 2:220VAC	2:220VAC
Power Frequency(Hz)	50±1%	50±1%	50±1%	50±1%	50±1%	50±1%
Energy Consumption	7.5VA	7.5VA	15VA	15VA	15VA	100VA
Rated Actuator Force(N)	500	1000	1800	3000	5000	16000
Actual Actuator Force(N)	500-700	1000-1200	1800-2000	3000-3500	4500-5500	16000-16500
Action Time(s/mm)	3.85	3.85	3.2	3.2	3.2	1.36
Stroke(mm)	22	22	44	44	44	110
IP Grade	IP54	IP54	IP54	IP54	IP54	IP54
Input Signal	0(2)-10VDC, 0(4)-20mA	0(2)-10VDC, 0(4)-20mA	0(2)-10VDC, 0(4)-20mA	0(2)-10VDC, 0(4)-20mA	0(2)-10VDC, 0(4)-20mA	0(2)-10VDC, 0(4)-20mA
Output Signal	0(2)-10VDC, 0(4)-20mA	0(2)-10VDC, 0(4)-20mA	0(2)-10VDC, 0(4)-20mA	0(2)-10VDC, 0(4)-20mA	0(2)-10VDC, 0(4)-20mA	0(2)-10VDC, 0(4)-20mA
Wiring Diagram	24VAC: Fig.1 220VAC: Fig.2	24VAC: Fig.1 220VAC: Fig.2	24VAC: Fig.1 220VAC: Fig.2	24VAC: Fig.1 220VAC: Fig.2	24VAC: Fig.1 220VAC: Fig.2	Fig.3
Control Panel Diagram	24VAC: Fig.1 220VAC: Fig.2	24VAC: Fig.1 220VAC: Fig.2	24VAC: Fig.3 220VAC: Fig.4	24VAC: Fig.3 220VAC: Fig.4	24VAC: Fig.3 220VAC: Fig.4	Fig.5

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W-A11-EN-202003

Floating Point Control Actuator

Typ	W-A11A1(2)F	W-A11B1(2)F	W-A11C1(2)F	W-A11D1(2)F	W-A11E1(2)F
Power Voltage	1:24VAC 2:220VAC	1:24VAC 2:220VAC	1:24VAC 2:220VAC	1:24VAC 2:220VAC	1:24VAC 2:220VAC
Power Frequency(Hz)	50±1%	50±1%	50±1%	50±1%	50±1%
Energy Consumption	5.5VA	5.5VA	13VA	13VA	13VA
Rated Actuator Force(N)	500	1000	1800	3000	5000
Actual Actuator Force(N)	500-700	1000-1200	1800-2000	3000-3500	4500-5500
Action Time(s/mm)	3.85	3.85	3.2	3.2	3.2
Stroke(mm)	22	22	44	44	44
IP Grade	IP54	IP54	IP54	IP54	IP54
Input Signal	3-Point	3-Point	3-Point	3-Point	3-Point
Wiring Diagram	Fig.4	Fig.4	Fig.5	Fig.5	Fig.5
Control Panel Diagram	-	-	Fig.6	Fig.6	Fig.6

Wiring and Panel Diagrams of Electric Actuator

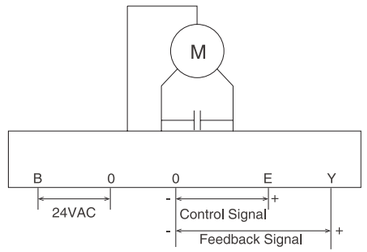


Fig.1: Intelligent Proportional Control Wiring500/1000/1800/3000 /5000N (24VAC)

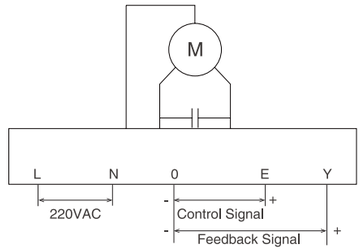


Fig.2: Intelligent Proportional Control Wiring 500/1000/1800/3000 /5000N (220VAC)

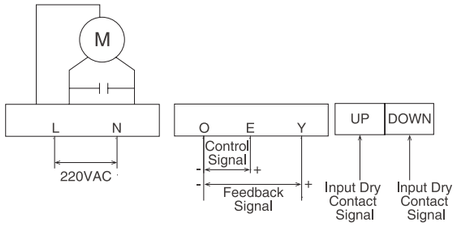


Fig.3: Intelligent Proportional Control Wiring 16000N (220VAC)

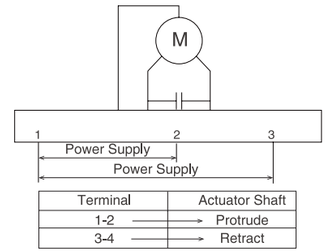


Fig.4: Floating Point Control Wiring 500/1000N

Remark:
A. When a voltage is applied between End 1 and End 2, the actuator's shaft moves outwards.
B. When a voltage is applied between End 1 and End 3, the actuator's shaft moves inwards.
C. When there is no voltage, the actuator's shaft stays at the current position.
*It is forbidden to apply voltages between End 1 and End 2, and between End 1 and End 3 simultaneously!

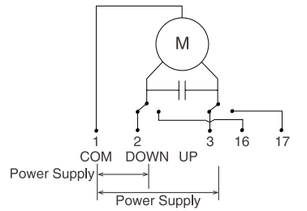


Fig.5: Floating Point Control Wiring 1800/3000/5000N

Remark:
A. When a voltage is applied between End 1 and End 2, the actuator's shaft moves outwards.
B. When a voltage is applied between End 1 and End 3, the actuator's shaft moves inwards.
C. When a voltage is applied between End 1 and End 16, the actuator's shaft moves outwards to its lower limit position, providing active feedback (DF3 Function).
D. When a voltage is applied between End 1 and End 17, the actuator's shaft moves inwards to its upper limit position, providing active feedback (DF3 Function).
*It is forbidden to apply voltages between End 1 and End 2, and between End 1 and End 3 simultaneously!

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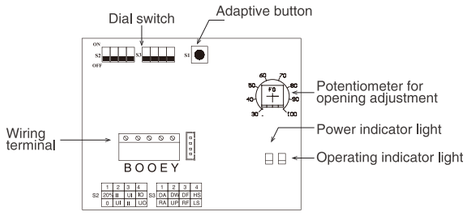


Fig.6: Control Panel - Intelligent Proportional Control 500/1000N (24VAC)

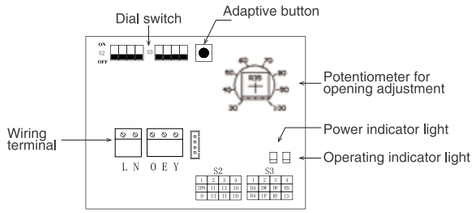


Fig.7: Control Panel - Intelligent Proportional Control 500/1000N (220VAC)

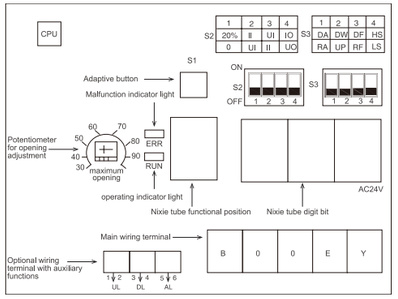


Fig.8: Control Panel - Intelligent Proportional Control 1800/3000/5000N 24VAC)

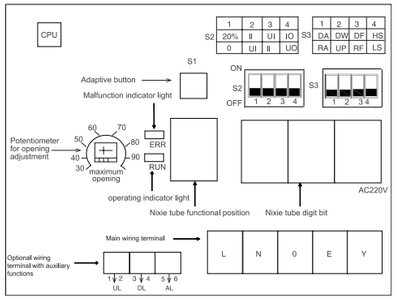


Fig.9: Control Panel - Intelligent Proportional Control 1800/3000/5000N (220VAC)

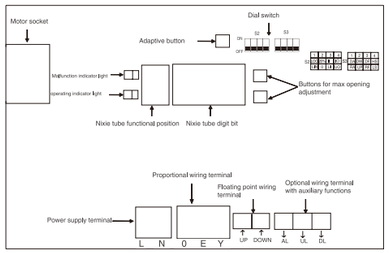


Fig.10: Control Panel - Intelligent Proportional Control 16000N (220VAC)

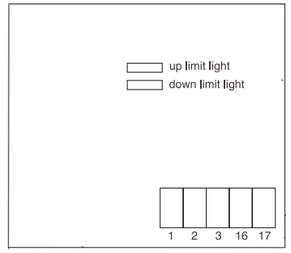
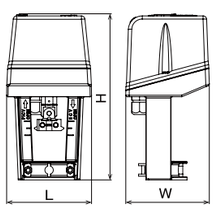


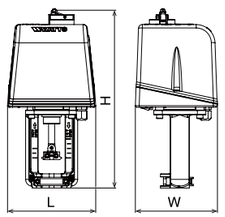
Fig.11: Control Panel – Floating Point Control 1800/3000/5000N

Installation Dimensions

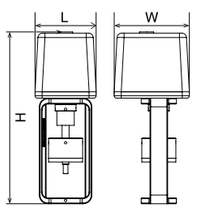
Size	L(mm)	H(mm)	W(mm)	Weight(kg)
500N	122	238	120	1.8
1000N	122	238	120	1.8
1800N	187	376	174	5.5
3000N	187	376	174	5.5
5000N	187	376	174	5.5
16000N	260	727	330	50



Series W-A11 500/1000N Actuator



Series W-A11 1800/3000/5000N Actuator



Series W-A11 16000N Actuator

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Series W-A13

Electric Control Ball Valve Actuator

Series W-A13 ball valve actuator adopts bilateral control. Along with Series W-ECBV electric control ball valve, the actuator can regulate the flow rate of cold or hot water. It is widely used in air conditioning, heating, water treatment and industrial processing systems to control the fluids.



Features

- Easy installation
- AC voltage bidirectional synchronous motor
- Equipped with manual switch, flexible to operate
- The proportional control signal can provide DC 0 (2)~10V feedback signal output
- Switch position indication device

Operating Principles

It is used together with W-ECBV electric control valve. It can drive the valve to change the flow area between the valve ball and the valve seat by receiving the regulating signal (0 (2)-10V or 0 (4)-20mA) or on-off signal, so as to control the flow through the valve and realize the automatic regulation function.

Technical Specification

Type	W-A13A1X	W-A13B1X	W-A13C1X	W-A13D1X	W-A13E(F)1X
Control Signal	0(2)~10V DC 0(4)~20mA	0(2)~10V DC 0(4)~20mA	0(2)~10V DC 0(4)~20mA	0(2)~10V DC 0(4)~20mA	0(2)~10V DC 0(4)~20mA
Consumption	2W(Running) 0.2W(Standby)	1.2W(Running) 0.2W(Standby)	2.1W(Running) 0.2W(Standby)	3.0W(Running) 0.2W(Standby)	3.7W(Running) 0.2W(Standby)
Feedback Signal	0(2)~10V DC	0(2)~10V DC	0(2)~10V DC	0(2)~10V DC	0(2)~10V DC
Rotation Angle	90° Mechnial Angle 95°	90° Mechnial Angle 95°	90° Mechnial Angle 95°	90° Mechnial Angle 95°	90° Mechnial Angle 95°
IP Grade	IP54	IP54	IP54	IP54	IP54
Operating Environment Temperature	-20°C~+50°C	-20°C~+50°C	-20°C~+50°C	-20°C~+50°C	-20°C~+50°C
Storage Environment Temperature	-30°C~+60°C	-30°C~+60°C	-30°C~+60°C	-30°C~+60°C	-30°C~+60°C
Humidity	Relative Humidity 5%~95% No Condensation	Relative Humidity 5%~95% No Condensation	Relative Humidity 5%~95% No Condensation	Relative Humidity 5%~95% No Condensation	Relative Humidity 5%~95% No Condensation

Technical Parameters

Type	Torque	No Load OperationTime	Rated Power Supply	Regulate Type
W-A13A1F	3.5Nm	40~50s	24VAC	On/off Type
W-A13A2F	3.5Nm	40~50s	220VAC	On/off Type
W-A13A1X	3.5Nm	40~50s	24VAC	Regulate Type
W-A13B1F	5Nm	55~65s	24VAC/DC	On/off Type
W-A13B2F	5Nm	55~65s	220VAC	On/off Type
W-A13B1X	5Nm	55~65s	24VAC/DC	Regulate Type
W-A13C1F	10Nm	80~100s	24VAC/DC	On/off Type
W-A13C2F	10Nm	80~100s	220VAC	On/off Type
W-A13C1X	10Nm	80~100s	24VAC/DC	Regulate Type
W-A13D1F	15Nm	80~100s	24VAC/DC	On/off Type
W-A13D2F	15Nm	80~100s	220VAC	On/off Type
W-A13D1X	15Nm	80~100s	24VAC/DC	Regulate Type
W-A13E1F	20Nm	80~100s	24VAC/DC	On/off Type
W-A13E2F	20Nm	80~100s	220VAC	On/off Type
W-A13E1X	20Nm	80~100s	24VAC/DC	Regulate Type
W-A13F1F	30Nm	170~190s	24VAC/DC	On/off Type
W-A13F2F	30Nm	170~190s	220VAC	On/off Type
W-A13F1X	30Nm	170~190s	24VAC/DC	Regulate Type

Coding Rules

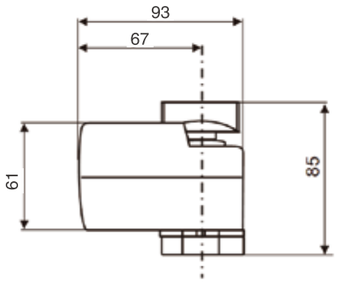
W- A13 A 1 X

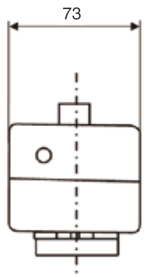
W	WATTS
A13	ECBV actuator
Actuator Torque	
A: 3.5Nm	B: 5Nm
C: 10Nm	D: 15Nm
E: 20Nm	F: 30Nm
Working Voltage:	
1: 24VAC	2: 220VAC
Control Type	
X: Regulate	F: On/off

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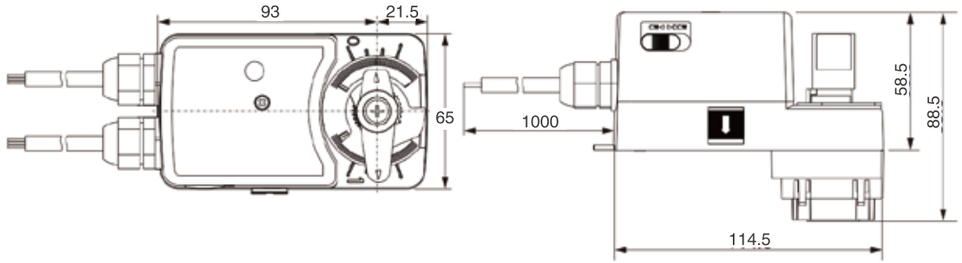
Installation Dimensions

W-A13A



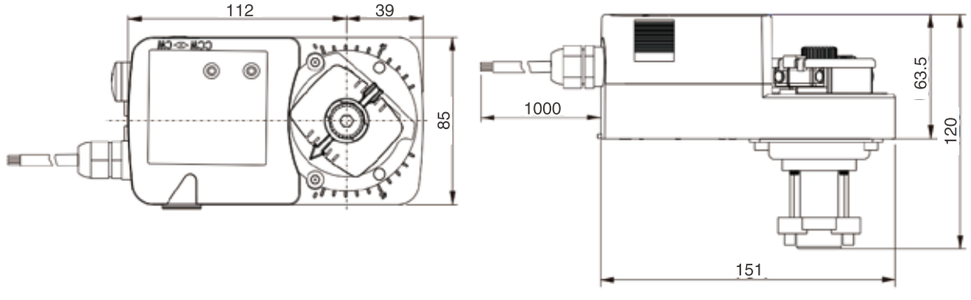


W-A13B



W-A13C

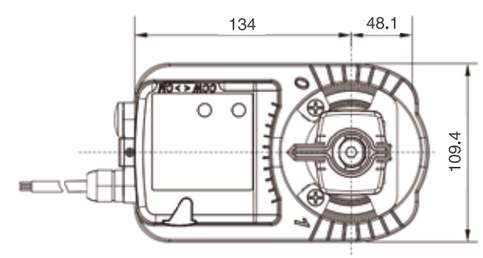
W-A13D&W-A13E

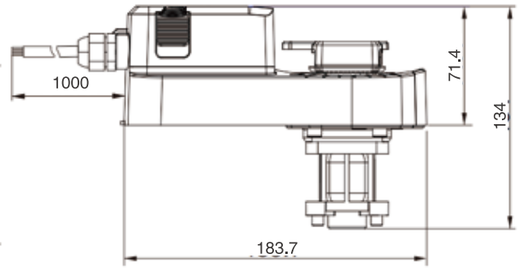


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W-A13-EN-2011

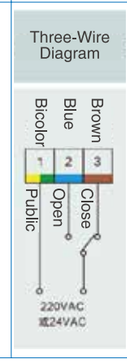
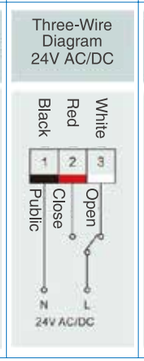
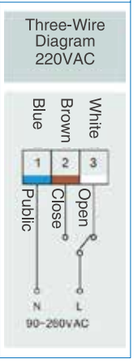
W-A13F



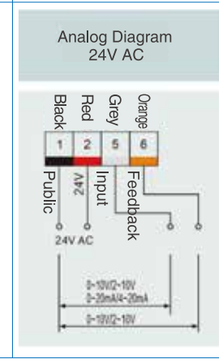
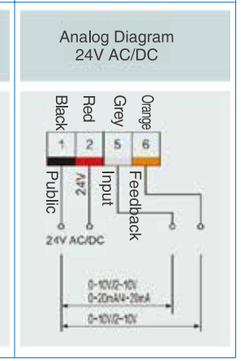


Wiring Diagrams

On/off

Actuator Type	W-A13A1(2)F	W-A13B(C~F)1F	W-A13B(C~F)2F
Wiring Diagram			

Regulate

Actuator Type	W-A13A1X	W-A13B(C~F)1X
Wiring Diagram		

Installation Dimensions

Please install in accordance with the flow direction marked on the valve body; the installation and connection methods are specified in the instructions in the package box of the type of actuator used. The ball valve can be installed horizontally or vertically, but it can not be installed upside down.

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Series W-AR

Electric Actuator

Series W-AR actuator is widely used in auto-control system to regulate the opening rate of electronic valves. Along with Series W-PICV valve body, the actuator is able to control the system's temperature, pressure and flow through receiving different kinds of signals.



Features

- Easy to debug on site, no need to remove the shell
- Electronic presetting facilitates on-site commissioning
- Manual operation facilitates on-site trouble-shooting
- Precise positioning achieved by self-calibration function

Working Principle

Modulation Type W-AR2M

The modulation type electric actuator can realize equal percentage flow control. By inputting 0 (2)-10VDC and 0 (4)-20mA control signals, the feedback output signal of valve position can be observed, and the automatic regulation and control of pipeline fluid medium can be realized, which makes the application of control valve more flexible. After the modulation type electric actuator is powered on, by pressing the SW1 learning /reset button on the shell, the actuator will firstly go down to find the valve closing position, and then reverse the upward direction to return to the reference position and stop. After the self-adaptation is completed, it will automatically enter the operation state. MCU (chip) will automatically save the parameters obtained during learning, and it will not be lost even after power failure. At this time, the driver power indicator on long time light indicates that the self-adaptive is over, and the coordination and adjustment of valve body and driver are completed. Currently, the running direction of the driver is controlled by the control signal. When the driver is powered on, press the SW1 learning/reset button on the shell to enter the adaptive state if it needs to be adaptive.

On-off Type W-AR1S

The W-AR1S motorized actuator accepts two-wire and one–control on/off type control. When the power is switched on, the actuator drives the screw downwards one-way to close the valve. When the external power is cut off, auto reset is triggered electronically to drive the screw upwards to keep the valve open.

Model Description

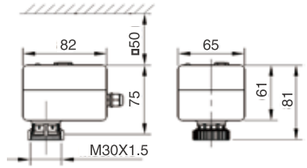
		W-	A	R	1	S-	16

- W — WATTS
- A — Electric Actuator
- R — Multi-turn
- Power Supply: 1=110~240VAC; 2=24VAC/DC
- Control Mode: S=ON/OFF Type; M=Modulation Type
- Output Force: 16=160N; 25=250N

Material

Component	Material
Upper Shell	Flame-Retardant ABS Engineering Plastics
Lower Shell	Glass Fiber Flame-Retardant Nylon PA66+30%
Center Crew and gear	10% Glass Fiber Reinforced POM
Connecting Nut	Brass HPb59-1

Installation Dimensions (mm)



Upstream installation dimension of 160N actuator=13.6mm
Upstream installation dimension of 250N actuator=15.8mm

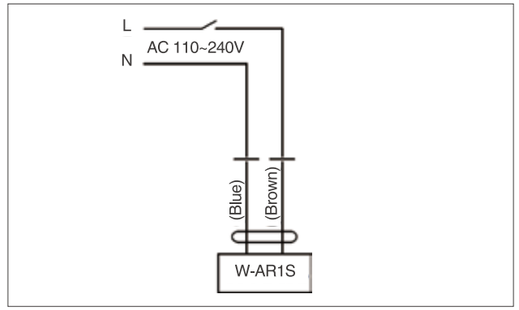
Specifications

Model No.	W-AR1S-16	W-AR1S-25	W-AR2M-16	W-AR2M-16
Thrust Output	>160N	>250N	>160N	>250N
Power Supply	110~240VAC 50/60H		24VAC/DC±10%	
Control Signal	On/off type (two-wire, one control)		0(2)~10V DC(input resistance 200KΩ) 0r 0(4)~20mA DC(input resistance 500Ω)	
Feedback Signal	-		0~10V DC (1mA)	
Connecting Wire Spec.	Two-core Length 200mm(2X0.5mm²)		Four-core Lengt 400mm(4X0.3mm²)	
Power Consumption	<2W			
Operating Time	≈5s/mm			
Max. Stroke	6.5mm			
Factory Preset	The actuator drives the screw downwards to close the valve when the power is on and drives the screw upwards to open the valve when power is off		Switch JP1 setting: 0~10 V DC control,RA status: the actuator drives the screw upwards to close the valve by 0V control signal and drives the screw upwards to open the valve by 10V control signal.	
	The screw is preset in the upwards position for easy connection to the valve.			
Protection Class	IP54			
Temperature Limits	Operation: 2~+55˚C Storage: -20~+65˚C			
Max. RH	<90% and no condensation			

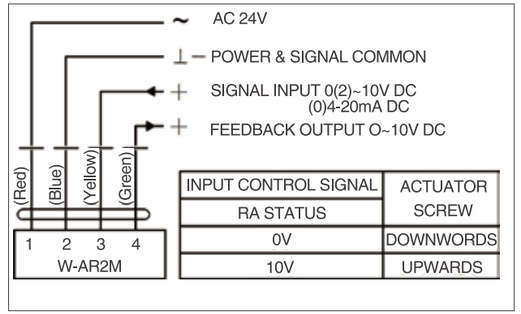
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W-AR-EN-2007

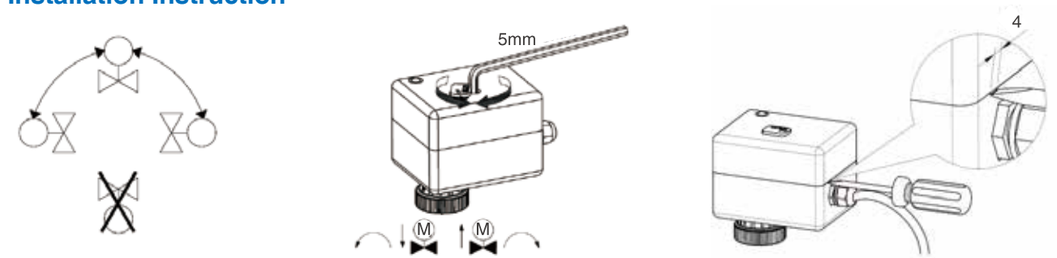
Wiring for On/Off Type



Wiring for Modulation Type



Installation Instruction



Cut 0ff The Power Supply Before Manual Operation

Notes

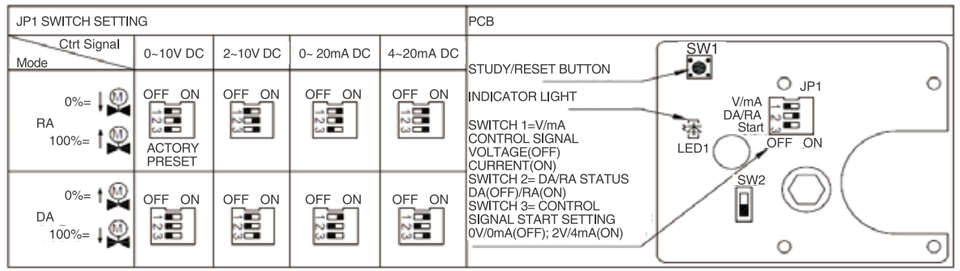
1.The actuator's screw is preset upwards to the top (position of fully open valve) in the factory, allowing for direct connection with the valve. If the actuator is electrically tested before installing (for example in the 0V status) and the screw is set downwards to the bottom; the screw must be set to the top by powering on or manual operation before installation, in order to connect to the valve.

2.Leave enough space over the actuator for easy disassembly and maintenance.

3.The actuator must be protected against water leakage and damage to the internal components.

4. Manual operation is forbidden when the actuator is powered on.

Self-stroking for W-AR2M modulation type actuator: Do not need to disassemble the housing. Press the Learn/Reset Button SW1 on the shell after the actuator is power on. The actuator will drive the screw downwards and check the position for closing the valve, then upwards and stop after it returning to the preset position. The self-stroking is completed and the actuation will automatically enter the operation status. The MCU (chip) will automatically save the parameters during the self-stroking and the parameters will not be lost after powering off. Control signal and status shift of W-AR2M modulation type actuator: Disassemble the housing by straight screwdriver. Set the JP1 switch (refer to the table above) correctly according to the required functions after powering on. Then press the SW1 Learn/Reset button. The indicator light flashes in the Learn status, the actuator will drive the screw downwards and check the position for closing the valve, then upwards and stop after returning to the preset position. The indicator light stops flashing and is on after self-stroking is completed. The actuation will automatically enter the operation status.



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