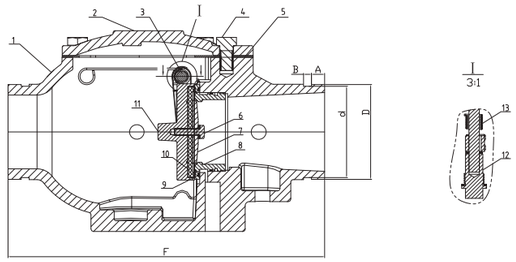
Wet Alarm Check Valve (ZSFZ), PN10/16

ZSFZ

- Connection Ends: Groove to ISO 6182
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃
- Coating: Painting or Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550

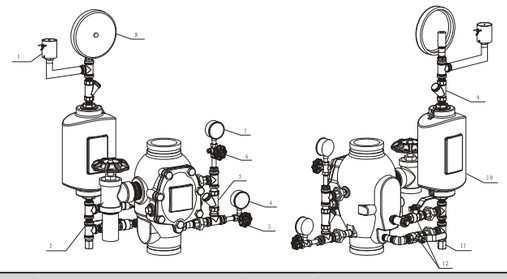


MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Bonnet	EN-GJS-450-10	
3	Pin	SS304	SS316
4	Hex Bolt	Carbon Steel Zinc Plated	
5	Gasket	NBR	EPDM
6	Hex Bolt	SS304	SS316
7	Gland	Brass H62	
8	Seat	Bronze ZQSn5-5-5	
9	O-Ring	NBR	EPDM
10	Gasket	EPDM	
11	Disc	Brass H62	
12	Plug	SS304	SS316
13	Spring	SS321	

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		Dimensions(mm)					
Inch	mm	OD	A	B	℄ d	℄ D	F
3"	80	88.9	15.88	7.93	84.94	88.9	320.3
4"	100	114.3	15.88	9.53	110.08	114.3	382
6"	150	165.1	15.88	9.53	160.9	165.1	406.4
6"	150	168.3	15.88	9.53	163.96	168.3	406.4
8"	200	219.1	19.05	11.1	214.4	219.1	446



External accessories			
Part No.	Part	Part No.	Part
1	Pressure Switch	7	Pressure Gauge
2	Indoor Fire Hydrant	8	Alarm
3	Ball Valve	9	Strainer
4	Pressure Gauge	10	Decelerator
5	Check Valve	11	Water Valve
6	Ball Valve	12	Ball Valve

Hydraulic Control Valve, PN10/16/25

• Statement

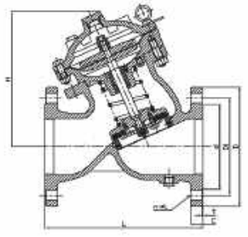
The hydraulic control valve was initially originated in Holand, Israel and Denmark, used for agricultural irrigation. Later the product was introduced into the United Sates, Canada and Asian countries. It was from the 1990s when the product first entered China, and ever since its entrance it gets rapidly developped and widely applied in different industrie aside from irrigation.

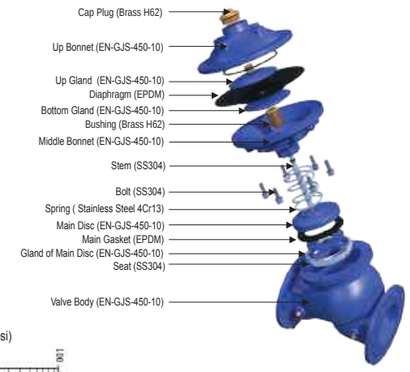
The hydraulic control valve produced by Imdosa is new style that absorbed the essence of other well-known brands which makes it better in energy saving, consumption reducing and accurate adjusting achieving. The hydraulic control valves have been widely used in China, Europe and South East Asian countries in pipe system of irrigation, water supplying, fire protection and air conditioning which has medium of water under 80℃ or other medium with similar physical and chemical property as water.

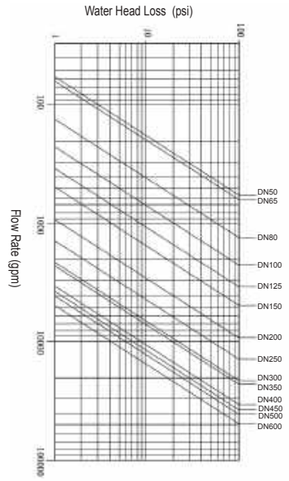
• Specifications

Basic Valve: Y-Type Direct-flow
Connection Ends: Flange to BS EN 1092-2:1997
Temperature Range: 0℃- 80℃(0℃- 180°F)
Working Pressure: PN10/16/25
Testing Standard: API 598

• Flow Diagram of Basic Valve



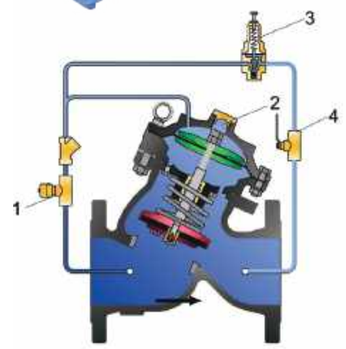


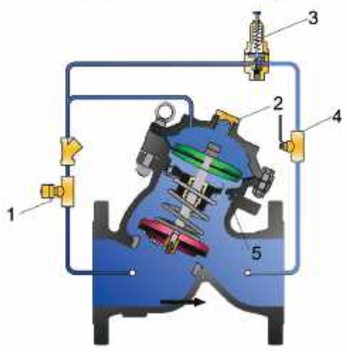


DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Kv	41	53	105	175	285	402	730	1160	1400	1770	3010	3225	3395	4272

DN		PN	Dimensions(mm)							
Inch	mm		L	H	D	D1	d	C	T	n-ΦL
2"	50	10/16	203	170	165	125	99	19	3	4-Φ19
2.5"	65	10/16	216	195	185	145	118	19	3	4-Φ19
3"	80	10/16	241	215	200	160	132	19	3	8-Φ19
4"	100	10/16	292	255	220	180	156	19	3	8-Φ19
5"	125	10/16	330	290	250	210	184	19	3	8-Φ19
6"	150	10/16	356	360	285	240	211	19	3	8-Φ23
8"	200	10	495	450	340	295	266	20	3	8-Φ23
		16	495		340	295	266	20	3	12-Φ23
10"	250	10	622	550	405	350	319	22	3	12-Φ23
		16	622		405	355	319	22	3	12-Φ28
12"	300	10	698	645	460	400	370	24.5	4	12-Φ23
		16	698		460	410	370	24.5	4	12-Φ28
14"	350	10	787	700	505	460	429	24.5	4	16-Φ23
		16	787		520	470	429	26.5	4	16-Φ28
16"	400	10	914	790	565	515	480	24.5	4	16-Φ28
		16	914		580	525	480	28	4	16-Φ31
18"	450	10	978	850	615	565	530	25.5	4	20-Φ28
		16	978		640	580	548	30	4	20-Φ31
20"	500	10	978	900	670	620	582	26.5	4	20-Φ28
		16	978		715	625	609	31.5	4	20-Φ34
24"	600	10	1295	1030	780	725	682	30	5	20-Φ31
		16	1295		840	770	720	36	5	20-Φ37

SK720X Pressure Reducing Valve





1.Statement

SK720X Pressure Reducing Valve is a diaphragm type of hydraulic control valve driven by the hydraulic pressure within the piping system. The function of the valve is to reduce the high pressure to the pre-set low pressure, and despite the fluctuation of medium flow or pressure before the valve the pressure after the valve will always remain stable and maintain the set pressure range.

2.Operational principle

SK720X Pressure Reducing Valve is controlled by pressure reducing pilot valve and equipped with pressure reducing pilot valve, needle valve, mini strainer and ball valve, etc.

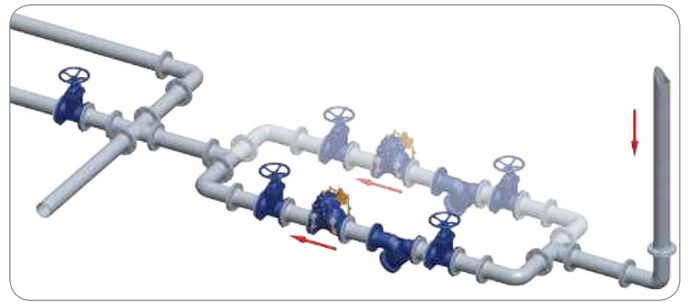
Under normal conditions, water flow comes continuously from the inlet opening to the upper cavity room (2) of the basic valve through the needle valve (1); When the pressure before the pilot valve (3) is lower than its pre-set value, the pilot valve will remain at full open position and the upper cavity room of the basic valve is not able to get accumulating pressure. Under this condition, the disc of the basic valve will be open at the water pressure from the inlet opening to allow water flow. The pressure reducing pilot valve closes gradually when the pressure after pilot valve exceeds its pre-set value. Pressure gets accumulated within the upper cavity room and membrane drives the disc down to close the valve till the pressure after the pilot valve gradually reduces to its pre-set value. The pilot valve opens again when the pressure after the valve becomes lower than the pre-set value, and the basic valve will then open with the release of the accumulated pressure in the upper cavity room.

The throttle orifice (5) that connects the lower cavity to the outlet serves to keep the reaction of the valve gentle and stable. The ball valve (4) controls the outlet water flow rate from the upper cavity room and thus to stabilize the action of the basic valve. The ball valve can be adjusted with different working conditions. In case of emergency, the ball valve can also be closed manually for cutting off of the basic valve.

3.Property and advantages

- Driven by pressure of pipe system, work automatically with energy of pipe system to achieve energy conservation and environment protection.
- Controlled by the pilot valve, lower energy consumption, achieve accurate pressure reducing results, have function of stabilizing pressure after the valve.
- Dual cavity design, with functions of fully opening and fully closing. Slow shut causes no pressure fluctuation, and the diaphragm with support is well protected.
- Have internal orifice, connect bottom cavity and outlet of the basic valve, make sure stability of reaction to keep stability of pressure after the valve, avoid any vibration and noise.
- Channel with straight-flow, slight friction loss, no eddy flow and turbulent flow, cut down the damage of cavitation.
- Long pitch orientation design for stem move, stable and no gap resistance.
- Balanced automatically, big gap design on connection of disc and stem, disc is free on the vertical flat against stem, it can balance the tolerance from machining and sealing surface. Good connection without leakage. Achieve functions of both reducing dynamic pressure and reducing static pressure.
- Ductile iron castings with nodularity higher than 90%, foundry in house with advanced melting technology and strict quality control system, testing reports and testing bars can be supplied with order. Records and testing bars maintained for one year in the factory.
- Good corrosion resistance, with stainless steel, copper alloy, rubber made from DuPont and other rust-resisting material, fusion bonded epoxy coating both for interior and exterior surface of the basic valve. All the characteristics in accordance with ANSI/AWWA C550 and other international specifications like WRAS, NSF61.

4.Typical installation illustration



5.Basic Parameters

Pressure	Symbol	Unit	Nominal Pressure		
			PN10	PN16	PN25
Max. Inlet pressure	P1max	MPa	1.0	1.6	2.5
Min. Inlet pressure	P1min		P2max + 0.2		
Max. Outlet pressure	P2max		0.8	1.0	1.6
Min. Outlet pressure	P2min		0.05		
Characteristics of flow deviation	ΔP2Q		≤10%		
Pressure characteristic deviation	ΔP2p		≤5%		
Min. pressure deviation	ΔPmin		0.2		

6.Notes for installation and debugging

All the Pressure Reducing Valves have been finished initial debugging tests before delivery. Further dubugging test is also suggested during using according to different working conditions.

After the pipe system becomes stable, please loose the adjusting screw on the top of pilot valve to the top-most position.

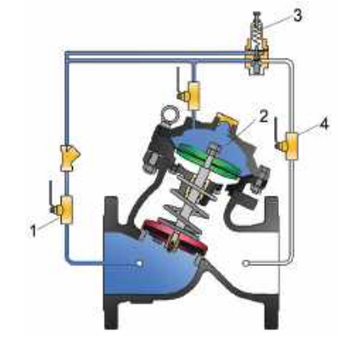
Tighten adjusting screw of pilot valve in clockwise slowly. When outlet pressure increase to the set pressure please fasten the locknut under the adjusting screw.

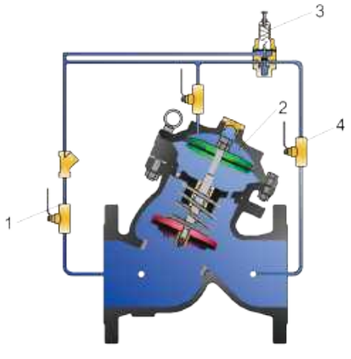
If go beyond the set pressure during adjusting, please repeat the above steps. Remember, pressure can be only adjusting from low level to high level and pay attention to make the adjusting slowly.

7.Common problems and proposed solutions

Common Problems	Proposed Solutions
Outlet pressure is similar with inlet pressure, no pressure reduction.	a.Check if any sundries on the sealing surface of basic valve or pilot valve. b.Check if any damage on the sealing surface of basic valve or pilot valve. c.Check if any damage or fatigue on spring of basic valve or pilot valve. d.Check if any damage or fatigue on diaphragm of basic valve or pilot valve. e.Check if any corrosion or blocking on stem of basic valve or pilot valve.
Strong vibration and noise.	a.Close the needle valve before the basic valve and open 1/4 turns slowly. Open the big hex screw on the top of bonnet, release air. Adjust the needle valve on inlet conduit slowly until no vibration. b.Calculate the flow again and collect proper size of valve or add throttling set.
Pressure after the valve is not stable.	a.Check if pressure is fluctuating strongly at inlet. Try to keep it within small range. b.Check if required flow is too different than actual flow, recalculate flow and choose new valve with proper size.

SK730X Pressure Relief & Sustaining Valve





1.Statement

SK730X Pressure Relief & Sustaining Valve is a diaphragm type of hydraulic control valve driven by the hydraulic pressure within the piping system. One prominent feature of the valve is, it can serve as pressure relief valve and sustaining valve at the same time. As pressure relief valve, it releases the high pressure before the valve out of the piping system for protection of the pipes and the equipments when the pressure exceeds its pre-set value; As pressure sustaining valve, it maintains the water pressure above certain set value for guarantee of water supply to upstream area

2.Operational principle

SK730X Pressure Relief & Sustaining Valve is controlled by pressure relief/sustaining pilot valve and equipped with pressure relief/sustaining pilot valve, needle valve, mini strainer and ball valve, etc.

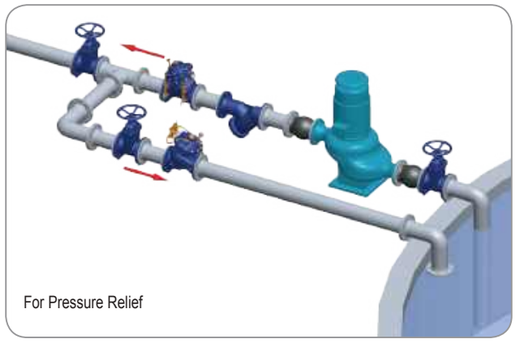
As Pressure relief valve, the valve is connected with branch pipe and directed to lower pressure area or drainage ditch. In normal working conditions, water flow enters the upper cavity room (2) through needle valve (1). When the pressure before the pilot valve (3) is lower than its pre-set value A, the pilot valve will remain closed and the water that enters the upper cavity room drives the membrane down and closes the disc and the basic valve. The pilot valve opens when the pressure before the valve exceeds its pre-set value and the pressure accumulated in the upper cavity room gets released. Under the pressure from the inlet opening, the disc of the basic valve opens. In this way the pressure within the piping system will be maintained under the pre-set value A.

As pressure sustaining valve, the valve is connected in series with the main pipe and serves to maintain the pressure before valve above the set value B. Under normal conditions, water flow comes continuously from the inlet opening to the upper cavity room (2) of the basic valve through the needle valve (1); When the pressure before the pilot valve (3) is lower than its pre-set value, the pilot valve will remain closed and the water that enters the upper cavity room drives the membrane down and closes the disc and the basic valve for accumulation of pressure till equals to the set value B. The pilot valve opens when the pressure before the valve exceeds its pre-set value and the pressure accumulated in the upper cavity room gets released. Under the pressure from the inlet opening, the disc of the basic valve opens to allow water flow. In this way the pressure within the piping system will be maintained under the pre-set value B.

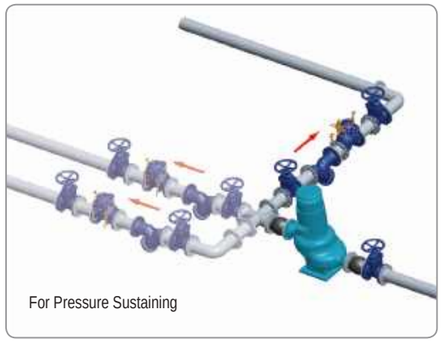
3.Property and advantages

- Driven by pressure of pipe system, work automatically with energy of pipe system to achieve energy conservation and environment protection.
- Controlled by pilot valve, lower energy consumption, achieve accurate pressure relief and pressure holding results, reliable and safe.
- Dual cavity design, with functions of fully opening and fully closing. Slow shut causes no pressure fluctuation, and the diaphragm with support is well protected.
- Have internal orifice, connect bottom cavity and outlet of the basic valve, make sure stability of reaction to keep stability of pressure after the valve, avoid any vibration and noise.
- Channel with straight-flow, slight friction loss, no eddy flow and turbulent flow, cut down the damage of cavitation.
- Long pitch orientation design for stem move, stable and no gap resistance.
- Balanced automatically, big gap design on connection of disc and stem, disc is free on the vertical flat against stem, it can balance the tolerance from machining and sealing surface. Good connection without leakage.
- Ductile iron castings with nodularity higher than 90%, foundry in house with advanced melting technology and strict quality control system, testing reports and testing bars can be supplied with order. Records and testing bars maintained for one year in the factory.
- Good corrosion resistance, with stainless steel, copper alloy, rubber made from DuPont and other rust-resisting material, fusion bonded epoxy coating both for interior and exterior surface of the basic valve. All the characteristics in accordance with ANSI/AWWA C550 and other international specifications like WRAS, NSF61.

4.Typical installation illustration



For Pressure Relief



For Pressure Sustaining

5.Basic Parameters

Pressure	Symbol	Unit	Norminal Pressure		
			PN10	PN16	PN25
Set Pressure	Ps	MPa	≤0.83	≤1.33	≤1.7
Set Pressure Difference			Ps＜0.5: ±0.014 MPa; Ps≥0.5: ±3%Ps		
Open/Close Pressure Difference	ΔPb		Ps＜0.3: 0.06MPa; Ps≥0.3: 20%Ps		
Discharge pressure	Pd		≤1.2Ps		

6.Notes for installation and debugging

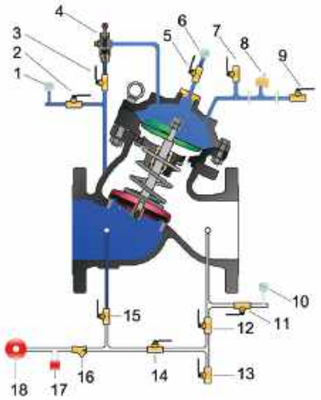
All the Pressure Relief & Sustaining Valves have been finished initial debugging tests before delivery and the set-pressure is 0.6MPa. Further debugging test is also suggested during using according to different working conditions.

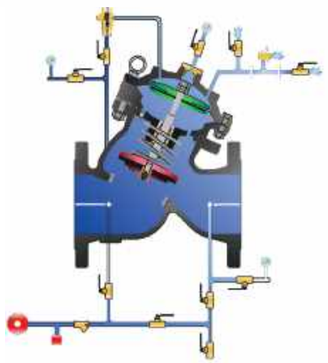
After the pipe system becomes stable, please loose the lock nut under adjusting screw, open the ball valve or needle valve (1) slightly, when pressurize, adjust the adjust screw on pressure relief pilot valve and fasten the lock nut when it achieves pressure required. Pay attention that when adjust pressure relief pilot valve, clockwise is for increasing pressure and anti-clockwise is for reducing pressure.

7.Common problems and proposed solutions

Common Problems	Proposed Solutions
The pressure of pipe system is lower than set-pressure, the valve dose not close.	a.Check if any sundries on the sealing surface of basic valve or pilot valve. b.Check if any damage on the sealing surface of basic valve or pilot valve. c.Check if any damage or fatigue on spring of basic valve or pilot valve. d.Check if any damage or fatigue on diaphragm of basic valve or pilot valve.
The pressure of pipe system is higher than set-pressure, the valve dose not open.	a.Check if ball valve (4) is closed, if yes, please open it. b.Check if any blocks in basic valve or on stem of pilot valve, if yes, please remove the block or change new stem. c.Check if lock nut and adjust screw were adjusted wrongly, please try to repeat all the actions.

SK790X Deluge Alarm Valve





1.Statement

SK790X Deluge Alarm Valve is a diaphragm type of hydraulic control valve driven by the hydraulic pressure within the piping system, functioning as flow control and alarming device in the sprinkler and pre-action system, i.e. to start the sprinkler system for quenching of the fire and send out fire alarm through the fire bell when there is fire detected.

2.Operational principle

SK790X Deluge Alarm Valve is equipped with solenoid, anti-reset controller, mini strainer, ball valve and pressure gauge, etc..

For deluge valve there is set condition and work condition. When the valve is under set condition, ball valve (3) is open, ball valve (7), solenoid (8) and remote ball valve (9) are closed, the anti-reset controller is connected, and pressure gauge (1) and pressure gauge (6) shows the same value. When ball valve (11) is open, pressure gauge (10) shows 0. When ball valve (12) and (14) are open, (13) & (15) closed, there is no hydraulic pressure for pressure switch (17) , and alarm (18) does not work. Under set condition, you can operate as following if you want to test the pressure switch alarm device (17) and water motor alarm (18): close ball valve (14) and open (15), and then close (15) and open (14) after testing.

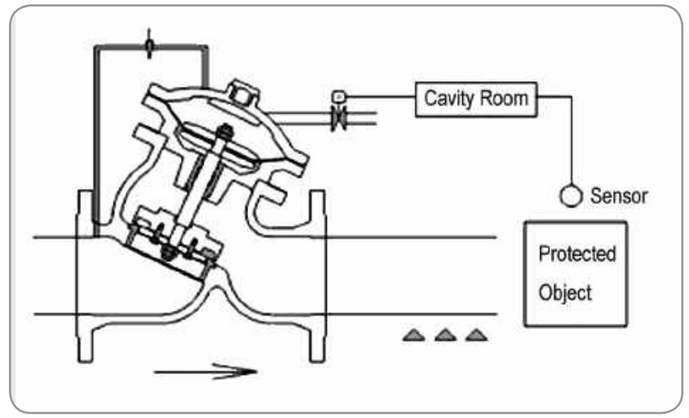
In case there is fire detected, the following 3 methods will set the deluge valve into work condition immediately, A: Opening solenoid valve (8) B: Opening ball valve (7) C: Opening remote ball valve (9). Any of the above 3 methods can get the pressure within the control room of the basic valve released rapidly to open the valve and set it into working condition. At this time the sealing ball of anti-reset controller makes controller in a shutdown state, water will pass through the main valve, ball valve (12), (4), pressure switch (17), fire bell (18), the pressure switch bell sends out signal alarms. After fire fighting, close ball valve (7), solenoid valve (8), remote valve (9), press the anti-reset controller handle till the pressure gauge (6) and pressure gauge (1) shows the same value. The deluge alarm valves returns to set condition.

Ball valve (2), (5) & (11) are normally open unless need to change the pressure gauge.

3.Property and advantages

- Driven by pressure of pipe system, work automatically with energy of pipe system to achieve energy conservation and environment protection.
- Dual cavity design, with functions of fully opening and fully closing. Slow shut causes no pressure fluctuation, and the diaphragm with support is well protected.
- Triple insurance, there're three opening types used for different situation of firing. Anyone can make the valve into working condition.
- Anti-reset controller, hydraulic pressure type, compact design, tight sealing, operating by hand to make sure all the parts including basic valve, ball valves and conduits are all in good condition after out-fire.
- Channel with straight-flow, slight friction loss, no eddy flow and turbulent flow, cut down the damage of cavitation.
- Long pitch orientation design for stem move, stable and no gap resistance.
- Balanced automatically, big gap design on connection of disc and stem, disc is free on the vertical flat against stem, it can balance the tolerance from machining and sealing surface. Good connection without leakage. Achieve functions of both reducing dynamic pressure and reducing static pressure.
- Ductile iron castings with nodularity higher than 90%, foundry in house with advanced melting technology and strict quality control system, testing reports and testing bars can be supplied with order. Records and testing bars maintained for one year in the factory.
- Good corrosion resistance, with stainless steel, copper alloy, rubber made from DuPont and other rust-resisting material, fusion bonded epoxy coating both for interior and exterior surface of the basic valve. All the characteristics in accordance with ANSI/AWWA C550 and other international specifications like WRAS, NSF61.

4.Typical installation illustration



5.Notes for installation and debugging

Please check if pressure switch and alarm bell are in good condition before installation. Make sure water can not leak to system from water supplying system or there's equipment to discharge the leaked water.

Please adjust all the ball valves to make sure the basic valve be in set condition.

Make sure anti-reset controller is in good condition and seal well before installation. If there's water with pressure in front of the valve, please closed ball valve (7), (9) and electromagnetic valve when it's in empty state behind the basic valve, press the anti-reset controller, when up cavity of basic valve is full of water please check if there's any leakage behind the valve. If no leakage, it said anti-reset controller is in good condition.

6.Common problems and proposed solutions

Common Problems	Proposed Solutions
Press anti-reset controller after fire-out, there's still water coming out behind the valve.	a.Check if any sundries or damage on the sealing surface of basic valve or anti-reset controller. b.Check if any damage on diaphragm. c.Check if controlling valve (7), (8) and (9) were closed completely. Close them or replace with new ones.
When open controlling valve (7), (8) and (9) no water comes out from the basic valve.	a.Check if controlling valve (7), (8) and (9) were opened. Close them or replace with new ones. b.Check if there's block on stem of basic valve, repair it.

BS 5163 Resilient Wedge Gate Valve

- Statement:

Gate valves serve to cut the medium flow in the piping system, widely used in the field of potable water, water supply and drainage, sewage disposal, irrigation, air conditioning, fire protection as well as chemical and energy industry.

- Features:

1. Material: Ductile Iron EN-GJS-450-10
Body, bonnet, wedge, handwheel and operating nut are all produced in ductile iron material which provides guarantee for high strength and good corrosion resistance.

2. Triple O-ring Stem Seals
The lower O-ring isolates the stem thrust collar bearing area from the waterway. The upper two O-rings can easily be replaced in the line while the valve is under pressure in the open position.

3. Stainless Steel Stem, Brass Thrust Collar and Bronze Wedge Nut
This life-tested design has repeatedly proven its superior strength and abrasive resistance.

4. Fusion Bonded Epoxy Coating
Fusion bonded epoxy coating in accordance with ANSI/AWWA C550 for both interior and exterior surface which provides reliable corrosion resistance.

5. Long Service Life with Resilient Seat Cycling Test 1,000 times
The Valve has been subjected to 1,000 cycles of operation at a maximum rate of 6 cycles of operation per minute from fully closed to fully open and from fully open to fully closed positions under cycled hydrostatic pressure.

- Body, Bonnet, Wedge & Operating Nut in Ductile Iron
- Triple O-ring Stem Seals
- Stainless Steel Stem and Brass Thrust Collar
- Bronze Alloy Wedge Nut
- Fusion Bonded Epoxy Coating

Z45X
Flanged Resilient NRS
Gate Valve, Type A
Page 45

Z45XB
Flanged Resilient NRS
Gate Valve, Type B
Page 46

XZ41X
Flanged Resilient OS&Y
Gate Valve, Type A
Page 47

XZ41XB
Flanged Resilient OS&Y
Gate Valve, Type B
Page 48

Z45XL
Flanged Resilient NRS
Gate Valve with Bypass
Page 49

FZ45X
Built-in Lock Anti-theft
Gate Valve

T Key

XZA SMC
Details for electric drive available upon request.

BS 5163 Flanged Resilient NRS Gate Valve, Type A (Z45X), PN10/16

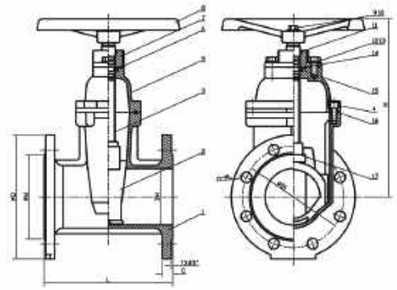
Z45X

NSF/ANSI 61 NSF/ANSI 372

- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550

Z45X-1

Z45XC



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Resilient Wedge Disc	EN-GJS-450-10+EPDM	
3	Stem	SS420	SS304, SS316, SS431, Al-bronze
4	Nut	Carbon Steel Zinc Plated	SS304, SS316
5	Bonnet	EN-GJS-450-10	
6	O-Ring	NBR	EPDM
7	Gland	EN-GJS-450-10	
8	Handwheel	EN-GJS-450-10	Pressed Steel
9	Bolt	Carbon Steel Zinc Plated	SS304, SS316
10	Flat Washer	Carbon Steel Zinc Plated	SS304, SS316
11	Ring Wiper	EPDM	NBR
12	Bolt	Carbon Steel Zinc Plated	SS304, SS316
13	Flat Washer	Carbon Steel Zinc Plated	SS304, SS316
14	O-Ring	NBR	EPDM
15	Thrust Washer	Brass HPb59-1	
16	Bonnet Gasket	EPDM	NBR
17	Wedge Nut	Brass HPb59-1	Bronze ZQSn5-5-5

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

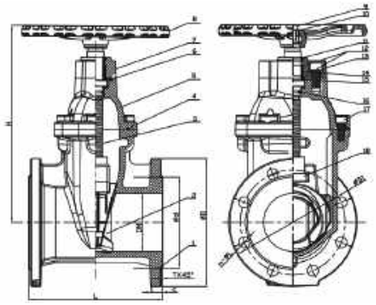
DN		PN	Dimensions(mm)							
Inch	mm		L	H	D	D1	d	C	T	n-d
2"	50	10/16	178	218	165	125	99	19	3	4-Φ19
2.5"	65	10/16	190	232	185	145	118	19	3	4-Φ19
3"	80	10/16	203	281	200	160	132	19	3	8-Φ19
4"	100	10/16	229	316	220	180	156	19	3	8-Φ19
5"	125	10/16	254	393	250	210	184	19	3	8-Φ19
6"	150	10/16	267	420	285	240	211	19	3	8-Φ23
8"	200	10	292	490	340	295	266	20	3	8-Φ23
		16								12-Φ23
10"	250	10	330	626	405	350	319	22	3	12-Φ23
		16				355				12-Φ28
12"	300	10	356	722	460	400	370	24.5	4	12-Φ23
		16				410				12-Φ28
14"	350	10	381	800	520	460	428	26.5	4	16-Φ23
		16				470				16-Φ28
16"	400	10	406	870	580	515	480	28	4	16-Φ28
		16				525				16-Φ31
18"	450	10	432	1108	640	565	530	30	4	20-Φ28
		16				585	548			20-Φ31
20"	500	10	457	1130	715	620	582	31.5	4	20-Φ28
		16				650	609			20-Φ34
24"	600	10	508	1311	840	725	682	36	5	20-Φ31
		16				770	720			20-Φ37
28"	700	10	610	1311	895	840	794	32.5	5	24-Φ31
32"	800	10	660	1750	1015	950	901	35	5	24-Φ34

BS 5163 Flanged Resilient NRS Gate Valve, Type B (Z45XB), PN10/16

Z45XB

NSF/ANSI 61 NSF/ANSI 372

- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Resilient Wedge disc	EN-GJS-450-10+EPDM	
3	Stem	SS431	SS304, SS316, SS420, Al-bronze
4	Bonnet Gasket	EPDM	NBR
5	Bonnet	EN-GJS-450-10	
6	O-Ring	NBR	EPDM
7	Gland	EN-GJS-450-10	
8	Handwheel	EN-GJS-450-10	Pressed Steel
9	Bolt	Carbon Steel Zinc Plated	SS304, SS316
10	Flat Washer	Carbon Steel Zinc Plated	SS304, SS316
11	Ring Wiper	EPDM	NBR
12	O-Ring	NBR	EPDM
13	Nut	Carbon Steel Zinc Plated	SS304, SS316
14	Axis guide	Brass Hpb59-1	
15	Washer	Brass Hpb59-1	
16	O-Ring	NBR	EPDM
17	Nut	Carbon Steel Zinc Plated	SS304, SS316
18	Wedge nut	Brass Hpb59-1	Bronze ZQSn5-5-5

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

Z45XB-1

Z45XBC

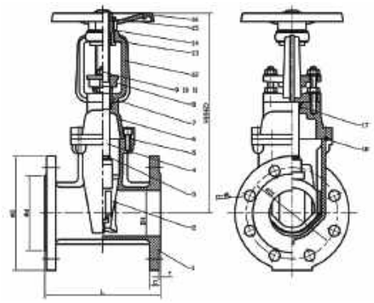
DN		PN	Dimensions(mm)							
Inch	mm		L	H	D	D1	d	C	T	n-ΦL
2"	50	10	178	254	165	125	99	19	3	4-Φ19
		16								
2.5"	65	10	190	275	185	145	118	19	3	4-Φ19
		16								
3"	80	10	203	301	200	160	132	19	3	8-Φ19
		16								
4"	100	10	229	355	220	180	156	19	3	8-Φ19
		16								
5"	125	10	254	393	250	210	184	19	3	8-Φ19
		16								
6"	150	10	267	448	285	240	211	19	3	8-Φ23
		16								
8"	200	10	292	548	340	295	266	20	3	8-Φ23
		16								12-Φ23
10"	250	10	330	626	405	350	319	22	3	12-Φ23
		16				355				12-Φ28
12"	300	10	356	722	460	400	370	24.5	4	12-Φ23
		16				410				12-Φ28
14"	350	10	381	800	520	460	428	26.5	4	16-Φ23
		16				470				16-Φ28
16"	400	10	406	870	580	515	480	28	4	16-Φ28
		16				525				16-Φ31
18"	450	10	432	1108	640	565	530	30	4	20-Φ28
		16				585	548			20-Φ31
20"	500	10	457	1130	715	620	582	31.5	4	20-Φ28
		16				650	609			20-Φ34
24"	600	10	508	1311	840	725	682	36	5	20-Φ31
		16				770	720			20-Φ37
28"	700	10	610	1311	895	840	794	32.5	5	24-Φ31
32"	800	10	660	1750	1015	950	901	35	5	24-Φ34

BS 5163 Flanged Resilient OS&Y Gate Valve, Type A (XZ41X), PN10/16

XZ41X

NSF/ANSI 61 NSF/ANSI 372

- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Resilient Wedge Disc	EN-GJS-450-10+EPDM	
3	O-ring	NBR	EPDM
4	Stem	SS420	SS304, SS316, SS431, Al-bronze
5	Nut	Carbon Steel Zinc Plated	SS304, SS316
6	Bonnet	EN-GJS-450-10	
7	Stem Bushing	Brass Hpb59-1	
8	Gland	EN-GJS-450-10	
9	Flat Washer	Carbon Steel Zinc Plated	SS304, SS316
10	Stud	Carbon Steel Zinc Plated	SS304, SS316
11	Nut	Carbon Steel Zinc Plated	SS304, SS316
12	Yoke	EN-GJS-450-10	
13	Nut	Brass Hpb59-1	
14	Washer	Brass Hpb59-1	
15	Locknut	Carbon Steel Zinc Plated	
16	Handwheel	EN-GJS-450-10	Pressed Steel
17	Stem Packing	NBR	EPDM
18	Bonnet Gasket	EPDM	NBR

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

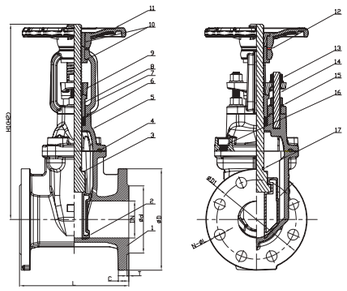
DN		PN	Dimensions(mm)								
Inch	mm		L	H1(Close)	H2(Open)	D	D1	d	C	T	n-ΦL
2"	50	10/16	178	323	373	165	125	99	19	3	4-Φ19
2.5"	65	10/16	190	343	408	185	145	118	19	3	4-Φ19
3"	80	10/16	203	370	450	200	160	132	19	3	8-Φ19
4"	100	10/16	229	442	542	220	180	156	19	3	8-Φ19
5"	125	10/16	254	540	665	250	210	184	19	3	8-Φ19
6"	150	10/16	267	608	758	285	240	211	19	3	8-Φ23
8"	200	10	292	720	920	340	295	266	19	3	8-Φ23
		16									12-Φ23
10"	250	10	330	940	1190	405	350	319	22	3	12-Φ23
		16					355				12-Φ28
12"	300	10	356	1065	1365	460	400	370	24.5	4	12-Φ23
		16					410				12-Φ28
14"	350	10	381	1210	1560	520	460	429	26.5	4	16-Φ23
		16					470				16-Φ28
16"	400	10	406	1280	1680	580	515	480	28	4	16-Φ28
		16					525				16-Φ31
18"	450	10	432	1760	2210	640	565	530	30	4	20-Φ28
		16					585	548			20-Φ31
20"	500	10	457	1780	2280	715	620	582	31.5	4	20-Φ28
		16					650	609			20-Φ34
24"	600	10	508	1950	2550	840	725	682	36	5	20-Φ31
		16					770	720			20-Φ37

BS 5163 Flanged Resilient OS&Y Gate Valve, Type B (XZ41XB), PN10/16

XZ41XB

NSF/ANSI 61 NSF/ANSI 372

- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Resilient Wedge Disc	EN-GJS-450-10+EPDM	
3	Stem	SS420	SS304, SS316, SS431, Al-bronze
4	Bonnet Gasket	EPDM	NBR
5	Bonnet	EN-GJS-450-10	
6	Washer	Brass HPb59-1	
7	Yoke	EN-GJS-450-10	
8	Stem nut	Brass HPb59-1	
9	Gland flange	EN-GJS-450-10	
10	Wedge nut	Brass HPb59-1	
11	Handwheel	EN-GJS-450-10	Pressed Steel
12	Washer	Brass HPb59-1	
13	Nut	Carbon Steel Zinc Plated	SS304,SS16
14	Stud	Carbon Steel Zinc Plated	SS304,SS16
15	Flat Washer	Carbon Steel Zinc Plated	SS304,SS16
16	Nut	Carbon Steel Zinc Plated	SS304,SS16
17	O-Ring	NBR	EPDM

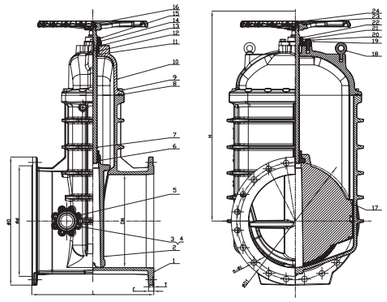
Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		PN	Dimensions(mm)								
Inch	mm		L	H1(Close)	H2(Open)	D	D1	d	C	T	n-ΦL
2"	50	10/16	178	348	400	165	125	99	19	3	4-Φ19
2.5"	65	10/16	190	373	440	185	145	118	19	3	4-Φ19
3"	80	10/16	203	408	490	200	160	132	19	3	8-Φ19
4"	100	10/16	229	471	573	220	180	156	19	3	8-Φ19
5"	125	10/16	254	541	665	250	210	184	19	3	8-Φ19
6"	150	10/16	267	593	743	285	240	211	19	3	8-Φ23
8"	200	10	292	774	975	340	295	266	20	3	8-Φ23
		16									12-Φ23
10"	250	10	330	1029	1283	405	350	319	22	3	12-Φ23
		16					355				12-Φ28
12"	300	10	356	1065	1370	460	400	370	24.5	4	12-Φ23
		16					410				12-Φ28
14"	350	10	381	1210	1560	520	460	429	26.5	4	16-Φ23
		16					470				16-Φ28
16"	400	10	406	1280	1680	580	515	480	28	4	16-Φ28
		16					525				16-Φ31
18"	450	10	432	1760	2210	640	565	530	30	4	20-Φ28
		16					585	548			20-Φ31
20"	500	10	457	1780	2280	715	620	582	31.5	4	20-Φ28
		16					650	609			20-Φ34
24"	600	10	508	1950	2550	840	725	682	36	5	20-Φ31
		16					770	720			20-Φ37

BS 5163 Flanged Resilient NRS Gate Valve with Bypass (Z45XL), PN10/16

Z45XL

- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Resilient Wedge Disc	EN-GJS-450-10+EPDM	
3	Bolt	Carbon Steel Zinc Plated	SS304, SS316
4	Flat Washer	Carbon Steel Zinc Plated	SS304, SS316
5	By-pass Valve Cover	EN-GJS-450-10	
6	Wedge Nut	Brass HPb59-1	
7	Stem	SS431	SS304, SS316, SS420, Al-bronze
8	Bonnet Gasket	EPDM	NBR
9	Bolt	Carbon Steel Zinc Plated	SS304, SS316
10	Bonnet	EN-GJS-450-10	
11	O-Ring	NBR	EPDM
12	Thrust Washer	Carbon Steel Zinc Plated	SS304, SS316
13	O-Ring	NBR	EPDM
14	Axis Guide	Brass HPb59-1	
15	Gland	EN-GJS-450-10	
16	Handwheel	EN-GJS-450-10	Pressed Steel
17	Guide Sleeve	EPDM	
18	Eye Bolt	Carbon Steel Zinc Plated	
19	Flat Washer	Carbon Steel Zinc Plated	SS304, SS316
20	Bolt	Carbon Steel Zinc Plated	SS304, SS316
21	O-Ring	NBR	EPDM
22	Ring Wiper	EPDM	NBR
23	Flat Washer	Carbon Steel Zinc Plated	SS304, SS316
24	Bolt	Carbon Steel Zinc Plated	SS304, SS316

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		PN	Dimensions(mm)							
Inch	mm		L	H	D	D1	d	C	T	n-ΦL
18"	450	10	650	1108	640	565	530	30	4	20-Φ28
		16				585	548			20-Φ31
20"	500	10	700	1130	715	620	582	31.5	4	20-Φ28
		16				650	609			20-Φ34
24"	600	10	800	1311	840	725	682	36	5	20-Φ31
		16				770	720			20-Φ37

BS EN 593 Resilient Centerline Butterfly Valve

• Statement:

Resilient centerline butterfly valves usually serve to cut off medium flow in the piping system, widely applied in the field of potable water, water supply and drainage, sewage disposal, irrigation, air conditioning, fire protection as well as chemical and energy industry. The design of the butterfly valves, however, makes it also suitable to serve as adjusting valve.

• Features:

1. Material:

Body and lever are all produced in ductile iron material (EN-GJS-450-10) which provides guarantee for high strength and good corrosion resistance.

Different options of the disc and seat, e.g. disc of DI nickel or nylon 11 coated, different series of stainless steel, Al-bronze, seat in EPDM, NBR or Fluororubber, makes it suitable to be applied under different working conditions.

2. Design:

Universal flange connection to BS EN 1092 PN6/10/16, ASME B16.1 CL 125, ASME B16.5 CL 150, GB9113, JIS B2112 10K, AS 2129 Table E, BS 10 Table D/E.

Different options of operation including lever handle, gear box, gear box with tamper switch, electric drive, and pneumatic drive, etc.

Different options of rubber seat including insert rubber seat, rubber vulcanized on valve body and boot rubber seat.

3. Coating

Fusion bonded epoxy coating of valve body and lever provides reliable corrosion resistance.

To achieve higher corrosion resistance, factory is also able to supply Nylon 11 coated disc. Nylon 11 coating is thermoplastic plant coating approved by USDA with high corrosion resistance and antisepsis which can be applied where there is strict requirement for anti-corrosion.

• Ductile Iron Lever and Body
• Stainless Steel Stem
• Fusion Bonded Epoxy Coating
• Disc: DI, Stainless Steel or Al-bronze
• Seat: EPDM/NBR/Fluororubber with backing

D71X4
Wafer Butterfly Valve
Page 51

D71XL4
Lugged Wafer Butterfly Valve
Page 52

D41X4
Flanged Butterfly Valve
Page 53

D81X700
Grooved Butterfly Valve
Page 54

PQ340X
Eccentric Semi-ball Valve
Page 55

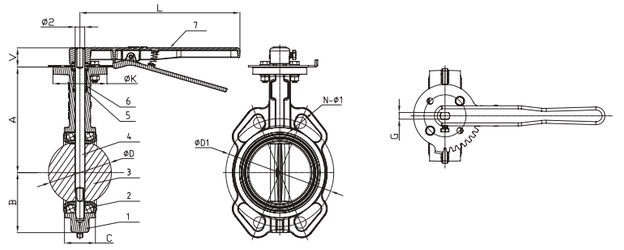
One-Piece Stem Pinless Butterfly Valves Kv Value

DN		10°	20°	30°	40°	50°	60°	70°	80°	90°
Inch	mm									
2"	50	0.05	3	6	13	23	38	61	91	99
2.5"	65	0.09	5	10	22	39	65	103	154	170
3"	80	0.17	8	16	34	61	100	158	238	261
4"	100	0.26	15	31	67	120	199	315	472	519
5"	125	0.43	25	53	115	205	339	536	804	884
6"	150	0.69	29	82	132	222	365	611	998	1366
8"	200	2	48	133	217	365	599	1002	1637	1873
10"	250	3	75	206	333	566	928	1552	2535	2901
12"	300	3	132	361	589	990	1625	2718	4439	5041
14"	350	5	158	433	706	1187	1948	3257	5320	6087
16"	400	7	234	640	1045	1757	2883	4821	7875	9010
18"	450	10	275	750	1226	2061	3381	5653	9235	10567
20"	500	12	359	980	1601	2692	4418	7386	12066	13805
24"	600	19	468	1282	2094	3520	5777	9658	15779	18053
28"	700	31	1568	3148	5740	8651	16824	19696	30189	42820
30"	750	32	1799	3811	7557	11927	17831	27158	41624	33088

BS EN 593 Wafer Butterfly Valve (D71X4, D371X4), PN10/16

D71X4
Rubber Seat with Backing
Cartridge Style

• Design Standard: BS EN 593
• Connection Ends: BS EN 1092 PN10/PN16, AS 2129 TABLE E, JIS B2212 10K, BS 10 TABLE D/E
• Top Flange Standard: ISO 5211
Stem drive by keys, parallel or diagonal square or flat head
• Working Pressure: PN10/16
• Temperature Range: 0℃- 80℃
• Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550



MATERIAL SPECIFICATION

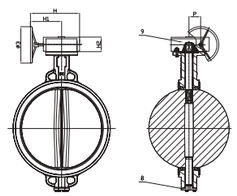
Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Seat	DN40~400: EPDM & Backing DN450~800: EPDM Vulcanized on Valve Body	NBR/Fluororubber&Backing EPDM/NBR Vulcanized on Valve Body Soft Seat in EPDM/NBR
3	Disc	EN-GJS-450-10	SS304, SS316, AL-Bronze C95400
4	Stem	DN50~350: SS420, One-Piece Stem Design DN400~800: SS431, Two-Piece Stem Design	SS304, SS316, SS416, SS431
5	O-Ring	NBR	EPDM
6	Bushing	DN40~350: Nylon 1010 DN400~800: Lubricating Bronze	PTFE
7	Lever	EN-GJS-450-10	Aluminum
8	Shaft Cover (DN400~800)	EN-GJS-450-10	
9	Gear Box	EN-GJS-450-10	

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

D71XV4
Vulcanized Seat
Boot Style

D71XS4
Independent Rubber Seat
Dove-tail Style

D371X4
Rubber Seat with Backing
Cartridge Style



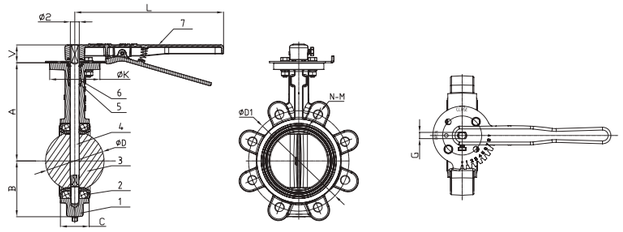
DN		Dimensions(mm)																
Inch	mm	A	B	V	C	ØD	Ø2	ØK	G	L	ØD1	N-Ø1	ISO 5211	Ø3	H	H1	H2	P
											PN16							
1.5"	40	138	64.5	32	33	43.9	14	90	9.45	267	110	4-Ø19	F07	150	206	158	52	43.5
2"	50	140.5	64.5	32	43	53.9	14	90	9.53	267	125	4-Ø19	F07	150	206	158	52	43.5
2.5"	65	153	72	32	46	65.2	14	90	9.53	267	145	4-Ø19	F07	150	206	158	52	43.5
3"	80	157.5	86	32	46	79.7	14	90	9.53	267	160	8-Ø19	F07	150	206	158	52	43.5
4"	100	176	100	32	52	105	16	90	11.14	267	180	8-Ø19	F07	150	206	158	52	43.5
5"	125	191	112	32	56	130	16	90	11.14	267	210	8-Ø19	F07	150	206	158	52	43.5
6"	150	202.5	128	32	56	156	20	90	12.7	267	240	8-Ø23	F07	150	206	158	52	43.5
8"	200	243.5	162	45	60	206.7	26	125	20.6	356	295	12-Ø23	F10	300	310	239	69	62.5
10"	250	273	194	45	68	253.3	26	125	20.6	490	355	12-Ø28	F10	300	310	239	69	62.5
12"	300	311	223	45	78	301.9	28	125	22.1	490	410	12-Ø28	F10	300	307	229	73	77.5
14"	350	340	267	48	78	333.9	31.6	150	22.1	-	470	16-Ø28	F12	300	307	229	73	77.5
16"	400	400	319.5	48	102	389.6	33.2	175	27	-	525	16-Ø31	F14	380	418	288	110	120
18"	450	422	345.4	48	114	441	38.1	175	27	-	585	20-Ø31	F14	380	418	288	110	120
20"	500	480	380	70.2	127	492.4	41.2	210	-	-	650	20-Ø34	F16	380	465	215	123	185
24"	600	562	441	70.2	154	592.8	50.6	210	-	-	770	20-Ø37	F16	380	500	215	129	185
Inch	mm	A	B	V	C	ØD	Ø2	ØK	G	L	ØD1	N-Ø1	ISO 5211	Ø3	H	H1	H2	P
											PN10							
28"	700	575	505	70.2	165	695	63.4	300	-	-	840	24-Ø31	F25	380	543	213	132	218
30"	750	660	550	70.2	165	744	63.4	300	-	-	900	24-Ø34	F25	380	543	213	132	218
32"	800	667	577	70.2	190	795.7	63.4	300	-	-	950	24-Ø34	F25	380	543	213	132	218

Note: Not designed for dead end service

BS EN 593 Lugged Wafer Butterfly Valve (D71XL4, D371XL4), PN10/16

D71XL4

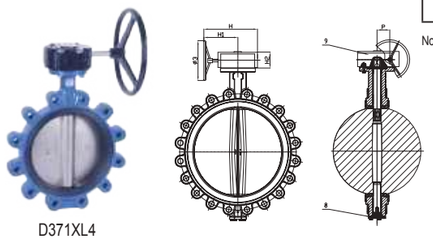
- Design Standard: BS EN 593
- Connection Ends: BS EN 1092 PN10/PN16
- Top Flange Standard: ISO 5211
  Stem drive by keys, parallel or diagonal square or flat head
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Seat	DN40~400: EPDM & Backing DN450~800: EPDM Vulcanized on Valve Body	NBR/Fluororubber&Backing EPDM/NBR Vulcanized on Valve Body Soft Seat in EPDM/NBR
3	Disc	EN-GJS-450-10	SS304, SS316, AL-Bronze C95400
4	Stem	DN50~350: SS420, One-Piece Stem Design DN400~800: SS431, Two-Piece Stem Design	SS304, SS316, SS416, SS431
5	O-Ring	NBR	EPDM
6	Bushing	DN40~350: Nylon 1010 DN400~800: Lubricating Bronze	PTFE
7	Lever	EN-GJS-450-10	Aluminum
8	Shaft Cover (DN400~800)	EN-GJS-450-10	
9	Gear Box	EN-GJS-450-10	

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.



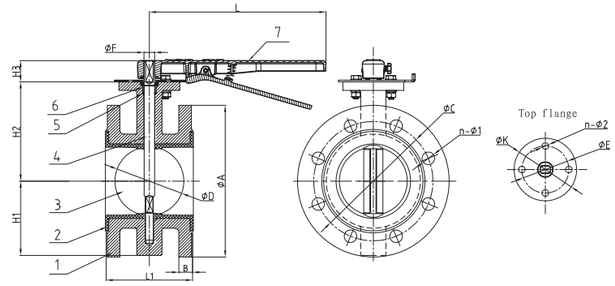
D371XL4

DN		Dimensions(mm)																
Inch	mm	A	B	V	C	ØD	Ø2	ØK	G	L	ØD1	N-M	ISO 5211	Ø3	H	H1	H2	P
											PN16							
1.5"	40	138	64.5	32	33	43.9	14	90	9.45	267	110	4-M16	F07	150	206	158	52	43.5
2"	50	140.5	64.5	32	43	53.9	14	90	9.53	267	125	4-M16	F07	150	206	158	52	43.5
2.5"	65	153	72	32	46	65.2	14	90	9.53	267	145	4-M16	F07	150	206	158	52	43.5
3"	80	157.5	86	32	46	79.7	14	90	9.53	267	160	8-M16	F07	150	206	158	52	43.5
4"	100	176	100	32	52	105	16	90	11.14	267	180	8-M16	F07	150	206	158	52	43.5
5"	125	191	112	32	56	130	16	90	11.14	267	210	8-M16	F07	150	206	158	52	43.5
6"	150	202.5	128	32	56	156	20	90	12.7	267	240	8-M20	F07	150	206	158	52	43.5
8"	200	243.5	162	45	60	206.7	26	125	20.6	356	295	12-M20	F10	300	310	239	69	62.5
10"	250	273	194	45	68	253.3	26	125	20.6	490	355	12-M24	F10	300	310	239	69	62.5
12"	300	311	223	45	78	301.9	28	125	22.1	490	410	12-M24	F10	300	307	229	73	77.5
14"	350	340	267	48	78	333.9	31.6	150	22.1	-	470	16-M24	F12	300	307	229	73	77.5
16"	400	400	319.5	48	102	389.6	33.2	175	27	-	525	16-M27	F14	380	418	288	110	120
18"	450	422	345.4	48	114	441	38.1	175	27	-	585	20-M27	F14	380	418	288	110	120
20"	500	480	380	70.2	127	492.4	41.2	210	-	-	650	20-M30	F16	380	465	215	123	185
24"	600	562	441	70.2	154	592.8	50.6	210	-	-	770	20-M33	F16	380	500	215	129	185
Inch	mm	A	B	V	C	ØD	Ø2	ØK	G	L	ØD1	N-M	ISO 5211	Ø3	H	H1	H2	P
											PN10							
28"	700	575	505	70.2	165	695	63.4	300	-	-	840	24-M27	F25	380	543	213	132	218
30"	750	660	550	70.2	165	744	63.4	300	-	-	900	24-M30	F25	380	543	213	132	218
32"	800	667	577	70.2	190	795.7	63.4	300	-	-	950	24-M30	F25	380	543	213	132	218

BS EN 593 Flanged Butterfly Valve (D41X4, D341X4), PN10/16

D41X4

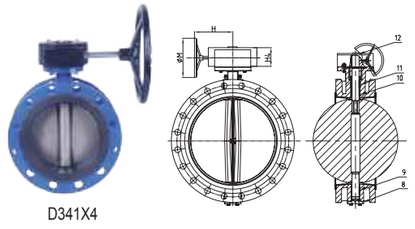
- Design Standard: BS EN 593
- Face to Face: BS EN 558 Series 13
- Connection Ends: BS EN 1092 PN10/PN16
- Top Flange standard: ISO 5211
  Stem drive by keys, parallel or diagonal square or flat head
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Seat	EPDM	NBR
3	Disc	EN-GJS-450-10	SS304, SS316, AL-Bronze C95400
4	Stem	DN50~350: SS420, One-Piece Stem Design DN400~800: SS431, Two-Piece Stem Design	SS304, SS316, SS416, SS431
5	O-Ring	NBR	EPDM
6	Bushing	Nylon 1010	PTFE
7	Lever	EN-GJS-450-10	Aluminum
8	Shaft Cover (DN400~800)	EN-GJS-450-10	
9	Bushing (DN400~800)	Lubricating Bronze	
10	Bushing (DN400~800)	Lubricating Bronze	
11	Packing (DN400~800)	PTFE	
12	Gear Box	EN-GJS-450-10	

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.



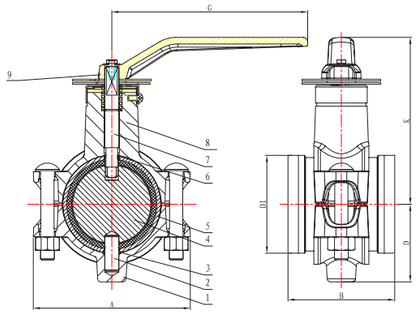
D341X4

DN		Dimensions(mm)																
Inch	mm	L1	H1	H2	H3	H4	ΦA	B	ΦC	N-Φ1	ΦD	ΦE	ΦK	n-Φ2	ISO 5211	ΦF	L
							PN16											
2"	50	108	63	110	32	52	165	19	125	4-Φ19	53.9	70	90	4-Φ10	F07	14	267
2.5"	65	112	71	135	32	52	185	19	145	4-Φ19	65.2	70	90	4-Φ10	F07	14	267
3"	80	114	80	145	32	52	200	19	160	8-Φ19	79.7	70	90	4-Φ10	F07	14	267
4"	100	127	90	150	32	52	220	19	180	8-Φ19	105	70	90	4-Φ10	F07	16	267
5"	125	140	107	170	32	52	250	19	210	8-Φ19	130	70	90	4-Φ10	F07	16	267
6"	150	140	123	180	32	52	285	19	240	8-Φ23	156	70	90	4-Φ10	F07	20	267
8"	200	152	153	210	45	69	340	20	295	12-Φ23	206.7	102	125	4-Φ12	F10	26	356
10"	250	165	185	245	45	69	400	22	355	12-Φ28	253.3	102	125	4-Φ12	F10	26	356
12"	300	178	213	275	45	73	455	24.5	410	12-Φ28	301.9	102	125	4-Φ12	F10	28	490
14"	350	190	254	310	45	73	520	26.5	470	16-Φ28	333.9	125	150	4-Φ14	F12	31.6	-
16"	400	216	280	340	48	110	580	28	525	16-Φ31	389.6	140	175	4-Φ18	F14	33.2	-
18"	450	222	320	375	48	110	615	30	585	20-Φ31	441	140	175	4-Φ18	F14	38	-
20"	500	229	350	430	70.3	123	715	31.5	650	20-Φ34	492.4	165	210	4-Φ22	F16	41.2	-
Inch	mm	L1	H1	H2	H3	H4	ΦA	B	ΦC	N-Φ1	ΦD	ΦE	ΦK	n-Φ2	ISO 5211	ΦF	L
							PN10											
24"	600	267	418	500	70.3	129	780	30	725	20-Φ31	592.8	165	210	4-Φ22	F16	50.6	-
28"	700	292	450	575	73	132	910	32.5	840	24-Φ31	695	254	300	8-Φ18	F25	63.4	-
32"	800	318	501	620	73	132	1025	35	950	24-Φ34	795.7	254	300	8-Φ18	F25	63.4	-

BS EN 593 Grooved Butterfly Valve (D81X700), PN10/16

D81X700

- Design Standard: BS EN 593
- Connection Ends: Groove to ISO 6182
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550 or painting upon request



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Lower Housing	EN-GJS-450-10	
2	Lower Stem	SS416	SS304, SS316, SS420, SS431
3	O-Ring	NBR	EPDM, PTFE
4	Disc	SS316	DI, SS304, AL-Bronze C95400
5	Valve Body	Carbon Steel+NBR	Carbon Steel+EPDM
6	O-Ring	NBR	EPDM, PTFE
7	Upper Stem	SS416	SS304, SS316, SS420, SS431
8	Upper Housing	EN-GJS-450-10	
9	Lever	EN-GJS-450-10	Aluminum

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

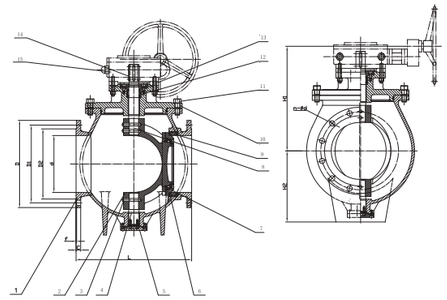
DN		Dimensions(mm)					
Inch	mm	A	B	D	D1	K	G
2"	50	103.1	81	47.5	60.3	119.6	139.7
3"	80	142.7	96.8	69.9	88.9	151.5	177.8
4"	100	177.8	115.8	88.9	114.3	179.9	228.6
6"	150	241.3	147.6	114.3	165.1	230	304.8
6"	150	241.3	147.6	114.3	168.3	230	304.8

Note: Valve must not be installed with disc in full open position. Disc must be partly closed so that no part is protruding beyond end of valve body.

Eccentric Semi-ball Valve (PQ340X), PN10/16

PQ340X

- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16
- Temperature Range: 0℃ - 80℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550
- Eccentric Semi-ball Valve serves to cut medium flow in the piping system, same as gate valve, butterfly valve, globe valve and ball valve yet with the combined advantages of these four types of valves, featuring efficient medium flow, easy in-line maintenance, good resistance to vibration and high pressure.



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Disc	EN-GJS-450-10	
3	Locating Pin	Carbon Steel Zinc Plated	
4	Lower Stem	SS420	SS304, SS316, SS416, SS431
5	Bottom Cap	EN-GJS-450-10	
6	Sealing Ring	NBR	EPDM
7	Compressed Ring	EN-GJS-450-10	
8	Upper Stem	SS420	SS304, SS316, SS416, SS431
9	Bonnet	EN-GJS-450-10	
10	Seat Ring	SS304	SS316
11	Bolt	Q235-A	
12	Packing	2CnZn38Mn2Pb2	
13	Actuator Adaptor	EN-GJS-450-10	
14	Key	45# Steel	
15	Gear Box	EN-GJS-450-10	

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		PN	Dimensions(mm)									
Inch	mm		L	D	D1	D2	d	C	f	H1	H2	n-Φd
12"	300	16	610	455	410	370	300	24.5	4	552	375	12-Φ28
14"	350	16	686	520	470	429	350	26.5	4	569	400	16-Φ28
16"	400	16	762	580	525	480	400	28	4	589	425	16-Φ31
18"	450	16	864	615	585	548	450	30	4	610	450	20-Φ31
20"	500	16	914	670	650	609	500	31.5	4	635	480	20-Φ34
24"	600	16	1067	840	770	720	600	36	5	660	510	20-Φ37

BS Standard Check Valve

• Statement:

Check valves serve to prevent the backflow of medium in the piping system for protection of important equipments, widely used in the field of potable water, water supply and drainage, sewage disposal, irrigation, air conditioning, fire protection as well as chemical and energy industry.

• Features:

1. Material: Ductile Iron EN-GJS-450-10
Valve body, bonnet, disc are all produced in ductile iron material which provides guarantee for high strength and good corrosion resistance.

2. Fusion bonded epoxy coating
Fusion bonded epoxy coating in accordance with ANSI/AWWA C550 for both interior and exterior surface which provides reliable corrosion resistance.

3. Small hydraulic friction loss with reasonable structure design

• Body & Bonnet: Ductile Iron
• Disc: D.I.+EPDM or D.I. + Bronze or Stainless Steel Sealing
• Bronze or Stainless Steel Seat
• Fusion Bonded Epoxy Coating

H44X
Swing Check Valve
Page 57

H44XW
Swing Check Valve with Weight & Lever
Page 58

HQ41XN
Ball Check Valve
Page 59

H44J
Rubber Disc Swing Check Valve
Page 60

H84X712
Grooved Check Valve
Page 61

DH77X
Double Door Wafer Check Valve
Page 62

DH774X
Single Door Wafer Check Valve
Page 63

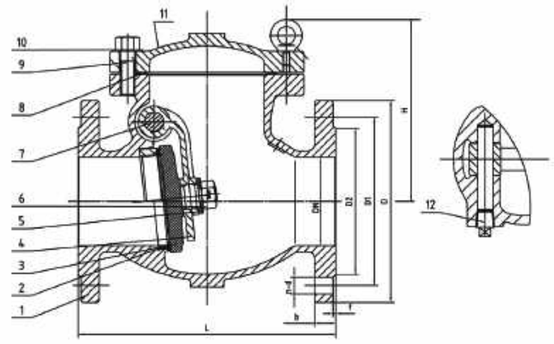
HC41X
Silent Check Valve
Page 64

BS EN 12334 Swing Check Valve (H44X, H44T), PN10/16

H44X

NSF/ANSI 61 NSF/ANSI 372

• Connection Ends: Flange to BS EN 1092-2:1997
• Working Pressure: PN10/16
• Temperature Range: Rubber Seal: 0℃- 80℃,
Metal Seal: -10℃- 350℃
• Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550 or painting upon request



MATERIAL SPECIFICATION

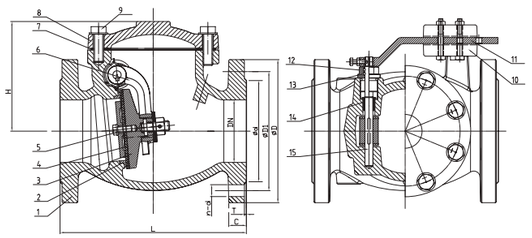
Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Seat Ring	Bronze ASTM B62 C83600/ZQSn5-5-5 (Pressed Fit)	AISI 304, AISI 316 Pressed Fit or Threaded
3	Disc	EN-GJS-450-10+EPDM	
4	Clapper Arm	EN-GJS-450-10	
5	Washer	SS420	
6	Nut	Carbon Steel Zinc Plated	SS304, SS316
7	Hinge Pin	SS420	
8	Bonnet Gasket	EPDM	Graphite+Steel
9	Bolt	Carbon Steel Zinc Plated	SS304, SS316
10	Washer	Carbon Steel Zinc Plated	SS304, SS316
11	Bonnet	EN-GJS-450-10	
12	Plug	Malleable Iron Galvanized	

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		PN	Dimensions(mm)							
Inch	mm		L	D	D1	D2	b	n-Φd	f	H
2"	50	10/16	203	165	125	99	19	4-19	3	146
2.5"	65	10/16	216	185	145	118	19	4-19	3	155
3"	80	10/16	241	200	160	132	19	8-19	3	173
4"	100	10/16	292	220	180	156	19	8-19	3	180
5"	125	10/16	330	250	210	184	19	8-19	3	212
6"	150	10/16	356	285	240	211	19	8-23	3	260
8"	200	10	495	340	295	266	20	8-23	3	290
		16	495	340	295	266	20	12-23	3	290
10"	250	10	622	405	350	319	22	12-23	3	339
		16	622	405	355	319	22	12-28	3	339
12"	300	10	698	460	400	370	24.5	12-23	4	376
		16	698	460	410	370	24.5	12-28	4	376

BS EN 12334 Swing Check Valve with Weight & Lever (H44XW)

H44XW



- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550

MATERIAL SPECIFICATION

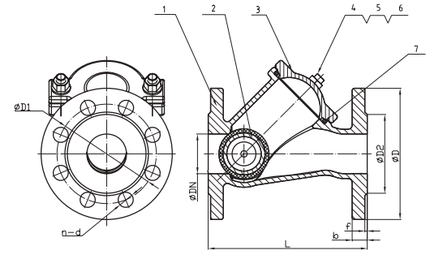
Part No.	Part	Standard Specification	Options
1	Valve Body	Cast Iron EN-GJL-200	EN-GJS-450-10
2	Seat	Bronze ZQSn5-5-5	SS304, SS316 Pressed Fit or Threaded
3	Disc	EN-GJS-450-10	
4	Disc Seat Ring	EPDM	SS304, SS316, Bronze ZQSn5-5-5
5	Bolt	SS 304	SS316
6	Clapper Arm	EN-GJS-450-10	
7	Bonnet Gasket	EPDM	
8	Bonnet	Cast Iron EN-GJL-200	EN-GJS-450-10
9	Bolt	Carbon Steel Zinc Plated	SS316
10	Weight	Cast Iron EN-GJL-200	EN-GJS-450-10
11	Lever	Carbon Steel Zinc Plated	
12	Seat Nut	Brass CW603N	
13	O-Ring	NBR	EPDM
14	Hinge Bushing	Brass CW603N	
15	Hinge Pin	SS304	SS316

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		PN	Dimensions(mm)							
Inch	mm		L	D	D1	d	C	T	n-d	H
2"	50	10/16	203	165	125	99	19	3	4-Ø19	145
21/2"	65	10/16	216	185	145	118	19	3	4-Ø19	157
3"	80	10/16	241	200	160	132	19	3	8-Ø19	173
4"	100	10/16	292	220	180	156	19	3	8-Ø19	176
6"	150	10/16	356	250	210	184	19	3	8-Ø19	238
8"	200	10	495	340	295	266	20	3	8-Ø23	273
		16							12-Ø23	
10"	250	10	622	405	350	319	22	3	12-Ø23	329
		16			355				12-Ø28	
12"	300	10	698	460	400	370	24.5	4	12-Ø23	358
		16			410				12-Ø28	
14"	350	10	787	520	460	429	26.5	4	16-Ø23	470
		16			470			4	16-Ø28	
16"	400	10	914	580	515	480	28	4	16-Ø28	535
		16			525			4	16-Ø31	

Ball Check Valve (HQ41XN)

HQ41XN



- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550

MATERIAL SPECIFICATION

Part No.	Part	Standard Specification
1	Body	EN-GJS-450-10
2	Ball	Aluminum ball + EPDM
3	Cover	EN-GJS-450-10
4	Bolt	Carbon Steel Zinc Plated
5	Nut	Carbon Steel Zinc Plated
6	Flat Washer	Carbon Steel Zinc Plated
7	O-Ring	NBR

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

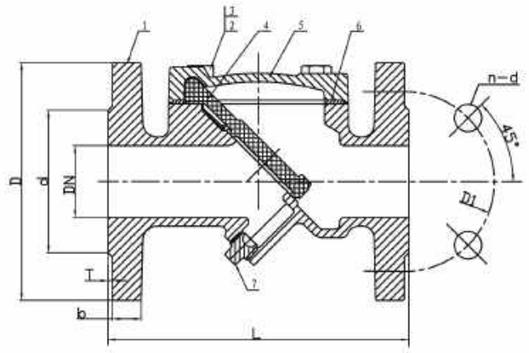
DN		PN	Dimensions(mm)						
Inch	mm		L	øD	øD1	øD2	n-d	b	f
2"	50	10/16	200	165	125	99	4-ø19	19	3
21/2"	65	10/16	240	185	145	118	4-ø19	19	3
3"	80	10/16	260	200	160	132	8-ø19	19	3
4"	100	10/16	300	220	180	156	8-ø19	19	3
5"	125	10/16	350	250	210	184	8-ø19	19	3
6"	150	10/16	400	285	240	211	8-ø23	19	3
8"	200	10	500	340	295	266	8-ø23	20	3
		16					12-ø23		
10"	250	10	600	405	350	319	12-ø23	22	3
		16			355		12-ø28		
12"	300	10	700	460	400	370	12-ø2	24.5	4
		16			410		12-ø28		

BS EN 12334 Rubber Disc Swing Check Valve (H44J), PN10/16

H44J

CE 1128 PG

- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Bolt	Carbon Steel Zinc Plated	SS304, SS316
3	Washer	Carbon Steel Zinc Plated	SS304, SS316
4	Disc	Carbon Steel + EPDM	Carbon Steel+NBR
5	Bonnet	EN-GJS-450-10	
6	Bonnet Gasket	EPDM	
7	Plug	Malleable Iron Galvanized	Bronze ASTM B584

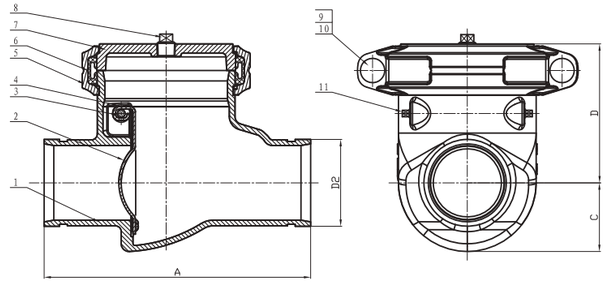
Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		PN	Dimensions(mm)						
Inch	mm		L	D	D1	d	C	T	n-ΦL
2"	50	10/16	203	165	125	99	19	3	4-Φ19
2.5"	65	10/16	216	185	145	118	19	3	4-Φ19
3"	80	10/16	241	200	160	132	19	3	8-Φ19
4"	100	10/16	292	220	180	156	19	3	8-Φ19
6"	150	10/16	356	285	240	211	19	3	8-Φ23
8"	200	10	495	340	295	266	20	3	8-Φ23
		16	495	340	295	266	20	3	12-Φ23
10"	250	10	622	405	350	319	22	3	12-Φ23
		16	622	405	355	319	22	3	12-Φ28
12"	300	10	698	460	405	370	24.5	4	12-Φ23
		16	698	460	410	370	24.5	4	12-Φ28

Grooved Check Valve (H84X712)

H84X712

- Connection Ends: Groove to ISO 6182
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃
- Coating: Painting



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification
1	Valve Body	EN-GJS-450-10
2	Disc	SS316+NBR
3	Pin	SS316
4	Gasket	PTFE
5	Rigid Coupling	EN-GJS-450-10
6	Sealing Ring	NBR
7	Cap	EN-GJS-450-10
8	Plug	Malleable Iron Galvanized
9	Bolt	Carbon Steel Zinc Plated
10	Nut	Carbon Steel Zinc Plated
11	Plug	Malleable Iron Galvanized

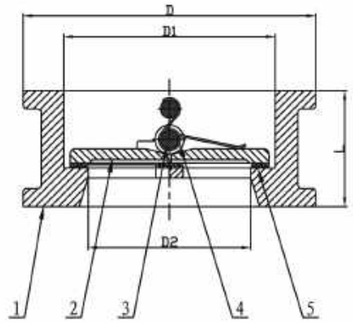
Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		Dimensions(mm)				
Inch	mm	OD	A	C	D	D2
2"	50	60.3	229	47	130	60.3
3"	80	88.9	273	70	145	88.9
4"	100	114.3	305	84	163	114.3

Double Door Wafer Check Valve (DH77X), PN10/16

DH77X

- Connection Ends: BS EN 1092 PN10/PN16, AS 2129 TABLE E, JIS B2212 10K, BS 10 TABLE D/E
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Disc	EN-GJS-450-10	SS304, SS316, AL-Bronze UNC 95400
3	Stem	SS420	SS304, SS316, SS416
4	Spring	SS304	SS316
5	Rubber Seat	EPDM	NBR

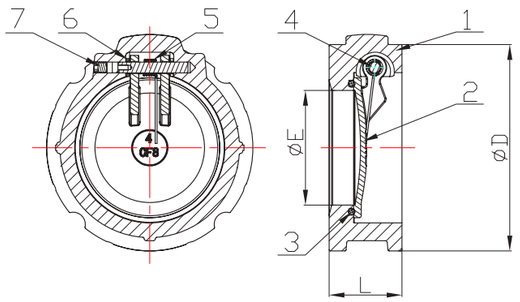
Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		Dimensions(mm)			
Inch	mm	L	D	D1	D2
2"	50	54	107	64	46
2.5"	65	54	127	78	60
3"	80	57	142	94	70
4"	100	64	162	117	84
5"	125	70	192	145	115
6"	150	76	218	170	134
8"	200	95	273	224	184
10"	250	108	328	265	220
12"	300	143	378	310	260
14"	350	184	438	360	302
16"	400	191	489	410	350

Single Door Wafer Check Valve (DH774X), PN10/16

DH774X

- Connection Ends: BS EN 1092 PN10/PN16, AS 2129 TABLE E, JIS B2212 10K, BS 10 TABLE D/E
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Disc	EN-GJS-450-10	SS304, SS316, AL-Bronze UNC 95400
3	O-Ring	NBR	EPDM
4	Stem	SS420	SS304, SS316, SS416
5	Spring	SS304	SS316
6	Gasket	PTFE	
7	Screw	Carbon Steel	

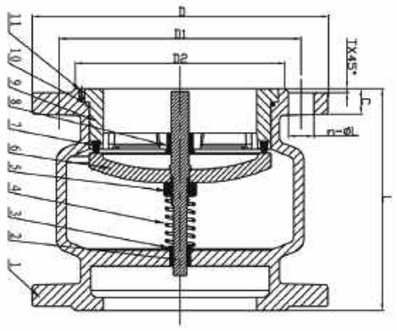
Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		Dimensions(mm)			
Inch	mm	L	D		E
			PN10/16	AS2129 T/D,T/E	
2"	50	44.5	107	98	33
2.5"	65	48	127	111	47
3"	80	51	142	130	52.5
4"	100	57	162	162	90
5"	125	63.5	192	192	95
6"	150	70	218	218	121
8"	200	73	273	273	168
10"	250	79	328	328	194
12"	300	86	378	378	241

Silent Check Valve (HC41X), PN10/16/25

HC41X

- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16/25
- Temperature Range: 0℃- 80℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Stem	SS420	SS304, SS316, SS431
3	Hinge Bushing	Brass Hpb59-1	
4	Spring	SS304	SS316
5	Nut	SS304	SS316
6	Disc	EN-GJS-450-10	
7	O-Ring	EPDM	NBR
8	Hinge bushing	Brass Hpb59-1	
9	Seat	EN-GJS-450-10	
10	O-Ring	NBR	EPDM
11	Screw	Carbon Steel Zinc Plated	SS304, SS316

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		Dimensions(mm)						
Inch	mm	L	D	D1	D2	C	T	n-ΦL
2"	50	120	165	125	99	19	3	4-Ø19
2.5"	65	135	185	145	118	19	3	4-Ø19
3"	80	155	200	160	132	19	3	8-Ø19
4"	100	165	220	180	156	19	3	8-Ø19
5"	125	190	250	210	184	19	3	8-Ø19
6"	150	210	285	240	211	19	3	8-Ø23
8"	200	260	340	295	266	20	3	12-Ø23
10"	250	285	405	355	319	22	3	12-Ø28
12"	300	315	460	410	370	24.5	4	12-Ø28

BS Standard Y-Type Strainer

• Statement:

Installed before relief valves, atmospheric valves, hydraulic control valves as well as other equipments, strainers serve to filter out the impurities in the flow medium for protection of valves and equipments in the piping system.

• Features:

1. Material: Ductile Iron EN-GJS-450-10
Valve body and cover are produced in ductile iron material which provides guarantee for high strength and good corrosion resistance.

2. Different Options of Screen Mesh Specification
Different options of screen mesh specification available as per different service conditions.

3. Fusion Bonded Epoxy Coating
Fusion bonded epoxy coating in accordance with ANSI/AWWA C550 for both interior and exterior surface which provides reliable corrosion resistance.

- Ductile Iron Body & Bonnet
- Stainless Steel Screen
- Fusion Bonded Epoxy Coating
- Gasket: EPDM or Graphite + Acanthopore Plate

V4
Flanged Y-Type Strainer
Page 66

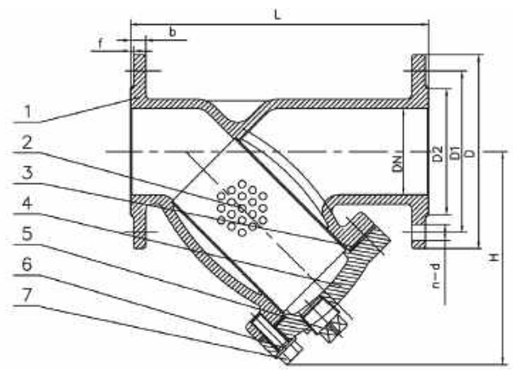
V1
Threaded Y-Type Strainer
Page 67

Flanged Y-Type Strainer (V4), PN10/16

V4

CE 1128 PG

- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16
- Temperature Range: 0℃- 80℃ rubber gasket,
  -10℃- 350℃ graphite gasket
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Screen	SS304 (Perforated)	SS304, SS316 (Perforated, Knitted, Double Screen)
3	Gasket	EPDM	Graphite+Acanthopore Plate
4	Bonnet	EN-GJS-450-10	
5	Plug	Malleable Iron Galvanized	Bronze ASTM B584
6	Bolt	Carbon Steel Zinc Plated	SS304, SS316
7	Flat Washer	Carbon Steel Zinc Plated	SS304, SS316

STANDARD SCREEN

DN		Sieve No.	Hole Dia.	Free Flow Area(%)
Inch	mm		mm	%
11/2"~6"	40~150	120	1.5	33
8"~12"	200~300	47	2	23
14"~16"	350~400	61	2	30

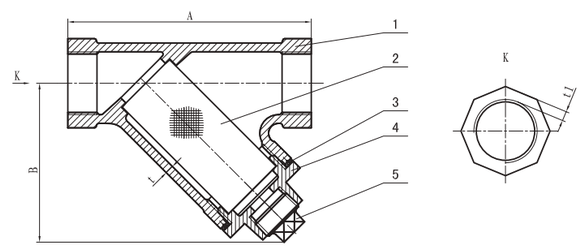
Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		PN	Dimensions(mm)							
Inch	mm		L	D	D1	D2	b	n-Φd	f	H
1/2"	15	10/16	130	95	65	45	14	4-Φ14	2	59
3/4"	20	10/16	150	105	75	56	16	4-Φ14	2	68
1"	25	10/16	160	115	85	65	16	4-Φ14	3	70
11/4"	32	10/16	180	140	100	76	18	4-Φ19	3	86
1.5"	40	10/16	200	150	110	90	19	4-Φ19	3	140
2"	50	10/16	230	165	125	99	19	4-Φ19	3	140
2.5"	65	10/16	290	185	145	118	19	4-Φ19	3	175
3"	80	10/16	310	200	160	132	19	8-Φ19	3	198
4"	100	10/16	350	220	180	156	19	8-Φ19	3	229
5"	125	10/16	400	250	210	184	19	8-Φ19	3	287
6"	150	10/16	480	285	240	211	19	8-Φ23	3	304
8"	200	10	600	340	295	266	20	8-Φ23	3	370.5
		16						12-Φ23		
10"	250	10	730	405	350	319	22	12-Φ23	3	469
		16			355			12-Φ28		
12"	300	10	850	460	400	370	24.5	12-Φ23	4	540
		16			410			12-Φ28		
14"	350	10	838	520	460	429	26.5	16-Φ23	4	625
		16			470			16-Φ28		
16"	400	10	864	580	515	480	28	16-Φ28	4	715
		16			525			16-Φ31		

Threaded Y-Type Strainer (V1), PN10/16

V1

- Connection Ends: Thread to ISO 7-1
- Working Pressure: 2.5Mpa @-29℃to 66℃
  1.6Mpa@208℃
- Coating: Painting



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Screen	SS304	SS316
3	Sealing Washer	Graphite + Acanthopore Plate	PTFE
4	Cover	EN-GJS-450-10	
5	Plug	Malleable Iron Galvanized	

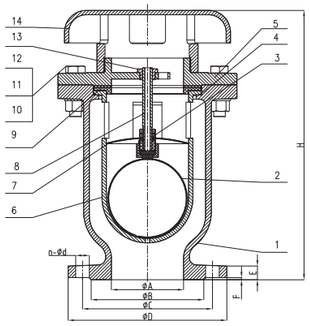
Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		Dimensions(mm)				
Inch	mm	A	B(max)	Plug	t	t1
1/4"	8	81	55	1/4"	2.4	2.4
3/8"	10	81	57	1/4"	2.5	2.5
1/2"	15	81	70	3/8"	2.54	2.54
3/4"	20	95	72	3/8"	3	3
1"	25	102	78	1/2"	4.06	4.06
11/4"	32	127	92	1/2"	4.83	4.83
11/2"	40	146	118	1/2"	4.83	4.83
2"	50	177	120	1/2"	5.59	5.59
21/2"	65	234	136	3/4"	5.59	5.59
3"	80	254	150	3/4"	5.59	5.59

Compound High Speed Air Bleeding Valve(ZFGP4X), PN10/16

ZFGP4X

- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16
- Temperature Range: 0℃ - 40℃
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	EN-GJS-450-10	
2	Floating Ball	SS304	
3	Nut	SS304	
4	O-Ring	NBR	
5	Bonnet	EN-GJS-450-10	
6	Floating Ball Cap	EN-GJS-450-10	
7	Lift Cover	SS304	
8	Stem	SS304	
9	Gasket	EPDM	
10	Hex Nut	Carbon Steel Zinc Plated	SS304
11	Flat Washer	Carbon Steel Zinc Plated	SS304
12	Hex Bolt	Carbon Steel Zinc Plated	SS304
13	Guide Sleeve	H62	
14	Draft Hood	EN-GJS-450-10	

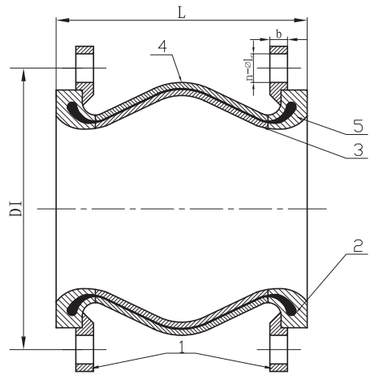
Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		Dimensions(mm)							
Inch	mm	A	B	C	D	n-Φd	E	F	H
2"	50	50	99	125	165	4-Φ19	19	3	278
2.5"	65	65	118	145	185	4-Φ19	19	3	278
3"	80	80	132	160	200	8-Φ19	19	3	302
4"	100	100	156	180	220	8-Φ19	19	3	373
6"	150	150	211	240	285	8-Φ23	19	3	410
8"	200	200	266	295	340	12-Φ23	20	3	504

Flexible Rubber Joint Single Sphere Galvanized Carbon Steel Flange Connection (SSG), PN10/16

SSG

- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16
- Temperature Range: -10℃ - 115℃
- Vacuum Capacity: 700MM/HG



MATERIAL SPECIFICATION

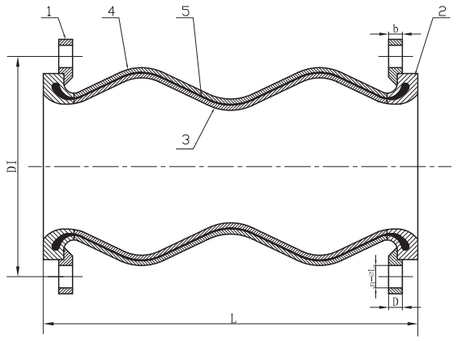
Part No.	Part	Standard Specification
1	Flange	Galvanized Carbon Steel
2	Reinforcing Ring	Carbon Steel
3	Rubber (Inner)	EPDM
4	Rubber (Outer)	EPDM
5	Reinforcing Fabric	Nylon Fabric

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		Neutral Length(mm)				Axial(mm)		Transverse Movement(mm)	Angular Deflection Deg.
Inch	mm	①	②	③	④	Elongation	Compression		
1 1/4"	32	95	130	150	95	6	10	10	25
1 1/2"	40	95	130	150	95	6	10	10	25
2"	50	105	130	150	105	6	10	10	25
2 1/2"	65	115	130	150	115	8	15	12	25
3"	80	130	130	150	130	8	15	12	25
4"	100	135	130	150	150	12	20	16	15
5"	125	165	130	150	165	12	20	16	15
6"	150	180	130	150	180	12	20	16	15
8"	200	205	130	150	190	12	20	16	15
10"	250	240	130	200	230	14	30	25	8
12"	300	260	130	200	245	14	30	25	8
14"	350	265	200	255	265	14	30	25	8
16"	400	265	200	255	265	14	30	25	8
18"	450	265	200	255	265	14	30	25	8
20"	500	265	200	255	265	14	30	25	8
24"	600	265	200	260	265	14	30	25	8

Flexible Rubber Joint Twin Sphere Galvanized Carbon Steel Flange Connection (TSGF), PN10/16

TSGF



- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16
- Temperature Range: -10℃ - 115℃
- Vacuum Capacity: 650MM/HG

MATERIAL SPECIFICATION

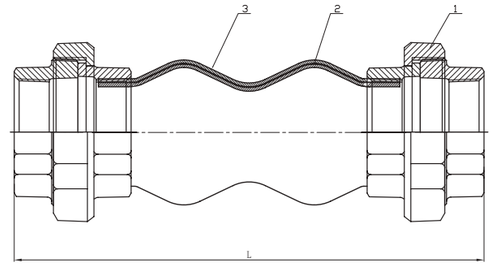
Part No.	Part	Standard Specification
1	Flange	Galvanized Carbon Steel
2	Reinforcing Ring	Carbon Steel
3	Rubber (Inner)	EPDM
4	Rubber (Outer)	EPDM
5	Reinforcing Fabric	Nylon Fabric

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

DN		Neutral Length(mm)	Axial(mm)		Transverse Movement(mm)	Angular Deflection Deg.
Inch	mm		Elongation	Compression		
1 1/4"	32	175	30	45	45	45
1 1/2"	40	175	30	45	45	45
2"	50	175	30	45	45	45
2 1/2"	65	175	30	45	45	45
3"	80	175	35	50	40	30
4"	100	225	35	50	40	30
5"	125	225	35	50	40	30
6"	150	225	35	60	35	15
8"	200	325	35	60	35	15
10"	250	325	35	60	35	15
12"	300	325	35	60	35	15
14"	350	350	35	60	35	15

Flexible Rubber Joint Twin Sphere Union-Screw End Connection(TSU), PN10/16

TSU



- Thread: ISO 7-1
- Working Pressure: PN10/16
- Temperature Range: -10℃ -115℃
- Vacuum Capacity: 500MM/HG

MATERIAL SPECIFICATION

Part No.	Part	Standard Specification
1	Union	Malleable Iron
2	Reinforcing Fabric	Nylon Fabric
3	Rubber (Inner & Outer)	EPDM

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

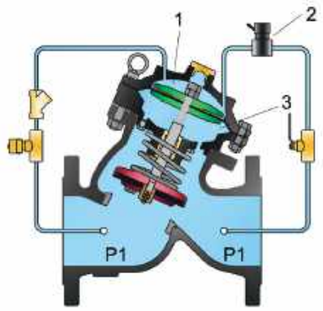
DN		Neutral Length(mm)	Axial(mm)		Transverse Movement(mm)	Angular Deflection Deg.
Inch	mm		Elongation	Compression		
1/2"	15	200	6	22	22	20
3/4"	20	200	6	22	22	20
1"	25	200	6	22	22	20
1 1/4"	32	200	6	22	22	20
1 1/2"	40	200	6	22	22	20
2"	50	200	6	22	22	20
2 1/2"	65	240	6	22	22	20
3"	80	240	6	22	22	20

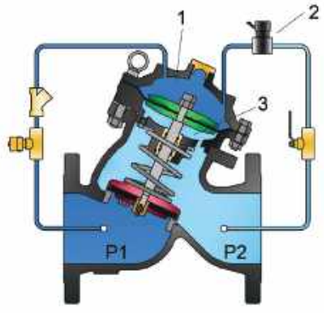
Important notes:

1.The products listed in this catalogue are intended to be assembled only in pipelines of same or lower pressure ratings and properly installed. In case of special request, please contact with factory for support and confirm.

2.It can happen that the catalogue might not be updated while product design improved. In this case, design of the product should be as confirmed when order placed.

SK710X Electromagnetic Control Valve





1. Statement

SK710X Electromagnetic Control Valve is a diaphragm type of hydraulic control valve driven by the hydraulic pressure within the piping system. This type of valve is widely applied in the field of piping system optimization, pressure division, water reservoir (tank) backup, change of industrial valves, etc., with its closing and opening remotely controlled by electric signal.

2. Operational principle

SK710X Electromagnetic Control Valve is controlled by solenoid valve and equipped with normally open (or normally closed) two positions two ways or two positions three ways solenoid pilot valve, needle valve, mini strainer and ball valve, etc.

When the normally open solenoid valve is applied, the main valve in most cases will be in open position. When there is pressure coming from the flow direction, Pressure P1 enters the upper cavity room of the valve through the guide tube and then comes to the low pressure area through the normally open solenoid valve. In this way the upper cavity room is not able to form confined space and the disc of the main valve will be opened at the pressure of P1. When the normally open solenoid valve is closed, pressure P1 will be accumulated inside the upper cavity which will gradually push the membrane to close the disc and the valve.

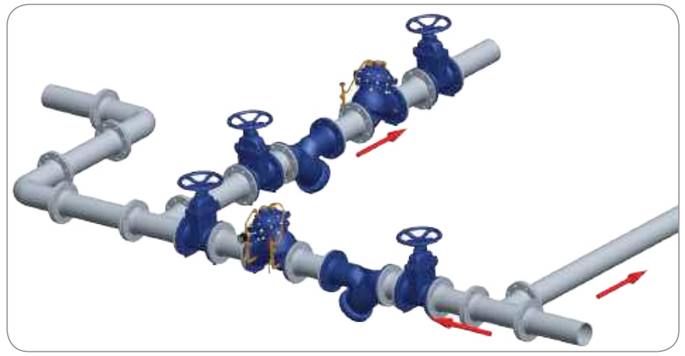
For normally closed solenoid valve, the main valve will be in most cases closed and operation principle same as stated above. The application of the solenoid valve depends on the working environment.

In case the water inside the piping system are highly corrosive or with high deposits, user can choose also to control the valve with medium from outside. It's up to the option of the client, depending on different working conditions.

3.Property and advantages

- Driven by pressure of pipe system, work automatically without any power-generating. It saves installation and repairing space.
- Controlled by solenoid valve, save energy and wiring costs, can be used for large range of pressure and voltage.
- Series of mode of execution can be changed to hand control, normally closed solenoid valve control or normally open solenoid valve control, etc.
- Dual cavity design, with functions of fully opening and fully closing. Slow shut causes no pressure fluctuation, and the diaphragm with support is well protected.
- Channel with straight-flow, slight friction loss, no eddy flow and turbulent flow.
- Long pitch orientation design for stem move, stable and no gap resistance.
- Balanced automatically, big gap design on connection of disc and stem, disc is free on the vertical flat against stem, it can balance the tolerance from machining and sealing surface. Good connection without leakage.
- Ductile iron castings with nodularity higher than 90%, foundry in house with advanced melting technology and strict quality control system, testing reports and testing bars can be supplied with order. Records and testing bars maintained for one year in the factory.
- Good corrosion resistance, with stainless steel, copper alloy, rubber made from DuPont and other rust-resisting material, fusion bonded epoxy coating both for interior and exterior surface of the basic valve. All the characteristics in accordance with ANSI/AWWA C550 and other international specifications like WRAS, NSF61.

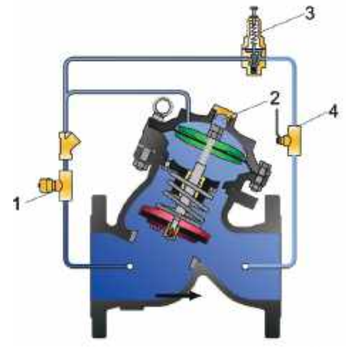
4. Typical installation illustration

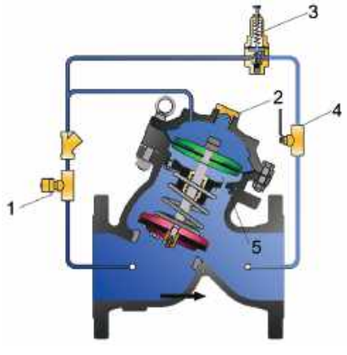


5. Common problems and proposed solutions

Common Problems	Proposed Solutions
Pressurize in front of the valve but valve can't be opened when choose condition of normally open and no power.	Check if needle valve or ball valve in front of the basic valve is opened. If not, please open it.
The basic valve can't be closed when choose normally open and shut down the power.	Check condition of wiring, make sure action in place and for the solenoid valve and sealing is good condition for the solenoid valve. Check if there's sundries blocked inside the basic valve. Wash the mini strainer before basic valve and make sure it's unblocked.
Pressure in front and the valve can't close complete with leakage when choose condition of normally close and no power.	Check if any damage or blocks on the sealing surface of basic valve.
No water after valve, valve is not open when choose condition of normally close and electrified.	Check if solenoid valve is in good working condition. Check if needle valve or ball valve is open in front of the valve.

SK720X Pressure Reducing Valve





1.Statement

SK720X Pressure Reducing Valve is a diaphragm type of hydraulic control valve driven by the hydraulic pressure within the piping system. The function of the valve is to reduce the high pressure to the pre-set low pressure, and despite the fluctuation of medium flow or pressure before the valve the pressure after the valve will always remain stable and maintain the set pressure range.

2.Operational principle

SK720X Pressure Reducing Valve is controlled by pressure reducing pilot valve and equipped with pressure reducing pilot valve, needle valve, mini strainer and ball valve, etc.

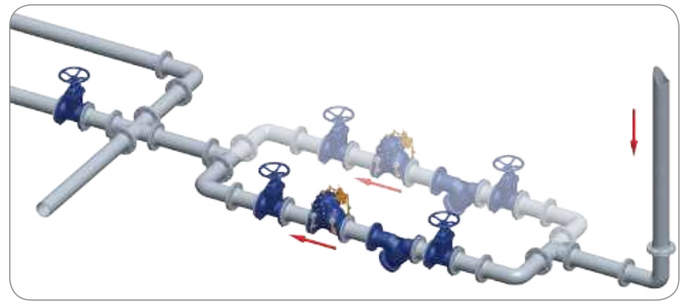
Under normal conditions, water flow comes continuously from the inlet opening to the upper cavity room (2) of the basic valve through the needle valve (1); When the pressure before the pilot valve (3) is lower than its pre-set value, the pilot valve will remain at full open position and the upper cavity room of the basic valve is not able to get accumulating pressure. Under this condition, the disc of the basic valve will be open at the water pressure from the inlet opening to allow water flow. The pressure reducing pilot valve closes gradually when the pressure after pilot valve exceeds its pre-set value. Pressure gets accumulated within the upper cavity room and membrane drives the disc down to close the valve till the pressure after the pilot valve gradually reduces to its pre-set value. The pilot valve opens again when the pressure after the valve becomes lower than the pre-set value, and the basic valve will then open with the release of the accumulated pressure in the upper cavity room.

The throttle orifice (5) that connects the lower cavity to the outlet serves to keep the reaction of the valve gentle and stable. The ball valve (4) controls the outlet water flow rate from the upper cavity room and thus to stabilize the action of the basic valve. The ball valve can be adjusted with different working conditions. In case of emergency, the ball valve can also be closed manually for cutting off of the basic valve.

3.Property and advantages

- Driven by pressure of pipe system, work automatically with energy of pipe system to achieve energy conservation and environment protection.
- Controlled by the pilot valve, lower energy consumption, achieve accurate pressure reducing results, have function of stabilizing pressure after the valve.
- Dual cavity design, with functions of fully opening and fully closing. Slow shut causes no pressure fluctuation, and the diaphragm with support is well protected.
- Have internal orifice, connect bottom cavity and outlet of the basic valve, make sure stability of reaction to keep stability of pressure after the valve, avoid any vibration and noise.
- Channel with straight-flow, slight friction loss, no eddy flow and turbulent flow, cut down the damage of cavitation.
- Long pitch orientation design for stem move, stable and no gap resistance.
- Balanced automatically, big gap design on connection of disc and stem, disc is free on the vertical flat against stem, it can balance the tolerance from machining and sealing surface. Good connection without leakage. Achieve functions of both reducing dynamic pressure and reducing static pressure.
- Ductile iron castings with nodularity higher than 90%, foundry in house with advanced melting technology and strict quality control system, testing reports and testing bars can be supplied with order. Records and testing bars maintained for one year in the factory.
- Good corrosion resistance, with stainless steel, copper alloy, rubber made from DuPont and other rust-resisting material, fusion bonded epoxy coating both for interior and exterior surface of the basic valve. All the characteristics in accordance with ANSI/AWWA C550 and other international specifications like WRAS, NSF61.

4.Typical installation illustration



5.Basic Parameters

Pressure	Symbol	Unit	Nominal Pressure		
			PN10	PN16	PN25
Max. Inlet pressure	P1max	MPa	1.0	1.6	2.5
Min. Inlet pressure	P1min		P2max + 0.2		
Max. Outlet pressure	P2max		0.8	1.0	1.6
Min. Outlet pressure	P2min		0.05		
Characteristics of flow deviation	ΔP2Q		≤10%		
Pressure characteristic deviation	ΔP2p		≤5%		
Min. pressure deviation	ΔPmin		0.2		

6.Notes for installation and debugging

All the Pressure Reducing Valves have been finished initial debugging tests before delivery. Further dubugging test is also suggested during using according to different working conditions.

After the pipe system becomes stable, please loose the adjusting screw on the top of pilot valve to the top-most position.

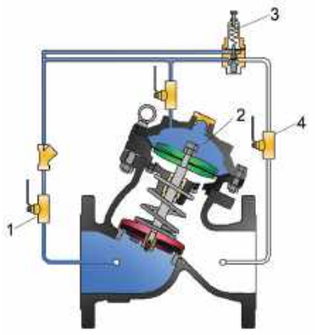
Tighten adjusting screw of pilot valve in clockwise slowly. When outlet pressure increase to the set pressure please fasten the locknut under the adjusting screw.

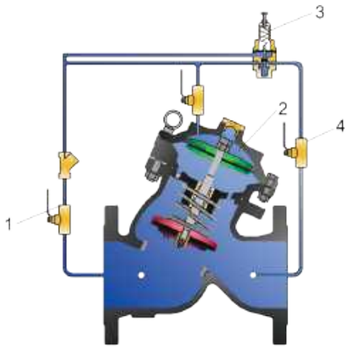
If go beyond the set pressure during adjusting, please repeat the above steps. Remember, pressure can be only adjusting from low level to high level and pay attention to make the adjusting slowly.

7.Common problems and proposed solutions

Common Problems	Proposed Solutions
Outlet pressure is similar with inlet pressure, no pressure reduction.	a.Check if any sundries on the sealing surface of basic valve or pilot valve. b.Check if any damage on the sealing surface of basic valve or pilot valve. c.Check if any damage or fatigue on spring of basic valve or pilot valve. d.Check if any damage or fatigue on diaphragm of basic valve or pilot valve. e.Check if any corrosion or blocking on stem of basic valve or pilot valve.
Strong vibration and noise.	a.Close the needle valve before the basic valve and open 1/4 turns slowly. Open the big hex screw on the top of bonnet, release air. Adjust the needle valve on inlet conduit slowly until no vibration. b.Calculate the flow again and collect proper size of valve or add throttling set.
Pressure after the valve is not stable.	a.Check if pressure is fluctuating strongly at inlet. Try to keep it within small range. b.Check if required flow is too different than actual flow, recalculate flow and choose new valve with proper size.

SK730X Pressure Relief & Sustaining Valve





1.Statement

SK730X Pressure Relief & Sustaining Valve is a diaphragm type of hydraulic control valve driven by the hydraulic pressure within the piping system. One prominent feature of the valve is, it can serve as pressure relief valve and sustaining valve at the same time. As pressure relief valve, it releases the high pressure before the valve out of the piping system for protection of the pipes and the equipments when the pressure exceeds its pre-set value; As pressure sustaining valve, it maintains the water pressure above certain set value for guarantee of water supply to upstream area

2.Operational principle

SK730X Pressure Relief & Sustaining Valve is controlled by pressure relief/sustaining pilot valve and equipped with pressure relief/sustaining pilot valve, needle valve, mini strainer and ball valve, etc.

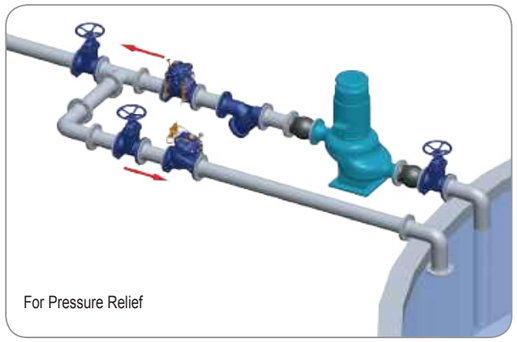
As Pressure relief valve, the valve is connected with branch pipe and directed to lower pressure area or drainage ditch. In normal working conditions, water flow enters the upper cavity room (2) through needle valve (1). When the pressure before the pilot valve (3) is lower than its pre-set value A, the pilot valve will remain closed and the water that enters the upper cavity room drives the membrane down and closes the disc and the basic valve. The pilot valve opens when the pressure before the valve exceeds its pre-set value and the pressure accumulated in the upper cavity room gets released. Under the pressure from the inlet opening, the disc of the basic valve opens. In this way the pressure within the piping system will be maintained under the pre-set value A.

As pressure sustaining valve, the valve is connected in series with the main pipe and serves to maintain the pressure before valve above the set value B. Under normal conditions, water flow comes continuously from the inlet opening to the upper cavity room (2) of the basic valve through the needle valve (1); When the pressure before the pilot valve (3) is lower than its pre-set value, the pilot valve will remain closed and the water that enters the upper cavity room drives the membrane down and closes the disc and the basic valve for accumulation of pressure till equals to the set value B. The pilot valve opens when the pressure before the valve exceeds its pre-set value and the pressure accumulated in the upper cavity room gets released. Under the pressure from the inlet opening, the disc of the basic valve opens to allow water flow. In this way the pressure within the piping system will be maintained under the pre-set value B.

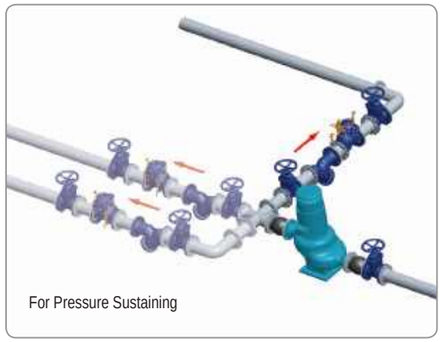
3.Property and advantages

- Driven by pressure of pipe system, work automatically with energy of pipe system to achieve energy conservation and environment protection.
- Controlled by pilot valve, lower energy consumption, achieve accurate pressure relief and pressure holding results, reliable and safe.
- Dual cavity design, with functions of fully opening and fully closing. Slow shut causes no pressure fluctuation, and the diaphragm with support is well protected.
- Have internal orifice, connect bottom cavity and outlet of the basic valve, make sure stability of reaction to keep stability of pressure after the valve, avoid any vibration and noise.
- Channel with straight-flow, slight friction loss, no eddy flow and turbulent flow, cut down the damage of cavitation.
- Long pitch orientation design for stem move, stable and no gap resistance.
- Balanced automatically, big gap design on connection of disc and stem, disc is free on the vertical flat against stem, it can balance the tolerance from machining and sealing surface. Good connection without leakage.
- Ductile iron castings with nodularity higher than 90%, foundry in house with advanced melting technology and strict quality control system, testing reports and testing bars can be supplied with order. Records and testing bars maintained for one year in the factory.
- Good corrosion resistance, with stainless steel, copper alloy, rubber made from DuPont and other rust-resisting material, fusion bonded epoxy coating both for interior and exterior surface of the basic valve. All the characteristics in accordance with ANSI/AWWA C550 and other international specifications like WRAS, NSF61.

4.Typical installation illustration



For Pressure Relief



For Pressure Sustaining

5.Basic Parameters

Pressure	Symbol	Unit	Norminal Pressure		
			PN10	PN16	PN25
Set Pressure	Ps	MPa	≤0.83	≤1.33	≤1.7
Set Pressure Difference			Ps＜0.5: ±0.014 MPa; Ps≥0.5: ±3%Ps		
Open/Close Pressure Difference	ΔPb		Ps＜0.3: 0.06MPa; Ps≥0.3: 20%Ps		
Discharge pressure	Pd		≤1.2Ps		

6.Notes for installation and debugging

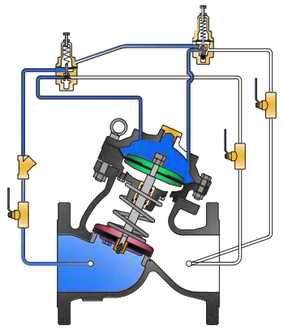
All the Pressure Relief & Sustaining Valves have been finished initial debugging tests before delivery and the set-pressure is 0.6MPa. Further debugging test is also suggested during using according to different working conditions.

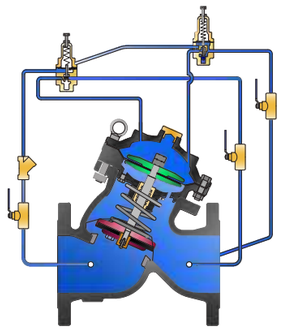
After the pipe system becomes stable, please loose the lock nut under adjusting screw, open the ball valve or needle valve (1) slightly, when pressurize, adjust the adjust screw on pressure relief pilot valve and fasten the lock nut when it achieves pressure required. Pay attention that when adjust pressure relief pilot valve, clockwise is for increasing pressure and anti-clockwise is for reducing pressure.

7.Common problems and proposed solutions

Common Problems	Proposed Solutions
The pressure of pipe system is lower than set-pressure, the valve dose not close.	a.Check if any sundries on the sealing surface of basic valve or pilot valve. b.Check if any damage on the sealing surface of basic valve or pilot valve. c.Check if any damage or fatigue on spring of basic valve or pilot valve. d.Check if any damage or fatigue on diaphragm of basic valve or pilot valve.
The pressure of pipe system is higher than set-pressure, the valve dose not open.	a.Check if ball valve (4) is closed, if yes, please open it. b.Check if any blocks in basic valve or on stem of pilot valve, if yes, please remove the block or change new stem. c.Check if lock nut and adjust screw were adjusted wrongly, please try to repeat all the actions.

SK735X Surge Anticipating Valve





1.Statement

SK735X Surge Anticipating Valve is a diaphragm type of hydraulic control valve driven by the hydraulic pressure within the piping system. The valve dissipates surges caused by power failure to pumps. The valve anticipates the surge by opening on low line pressure associated with sudden stopping of pumps. This assures that the valve is open when the return high pressure surge arrives.

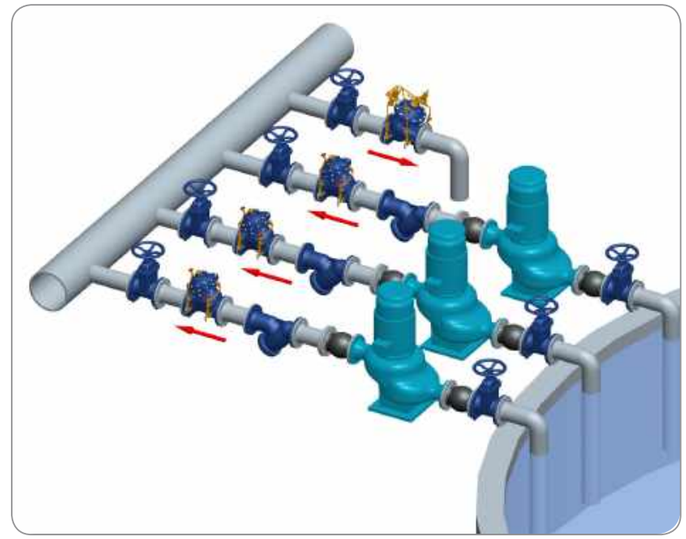
2.Operational principle

The valve is closed when the line pressure is between the set points of the two pilots. The valve opens when the line pressure drops below the setting of Low Surge Pilot. The valve also opens when the line pressure exceeds the setting of High Surge Pilot.
Main Valve is normally open when pressure is applied to the valve inlet. When this same pressure is applied to the bonnet, the Main Valve closes tight because the area of the diaphragm is greater than the area of the seat. Pressure above the diaphragm determines the position of the Main Valve.
Bonnet pressure is controlled with a pilot circuit consisting primarily of the following items:
1. A pilot line from the header to the bonnet including parts composed of Strainer etc.
2. Two pilot lines from the Main Valve bonnet through the outlet of the Main Valve.
Pressure from the header is directed to the bonnet of the Closing Speed Control, keeping the main valve closed if there is no flow through the two pilot valves. When one of the pilot valves opens and there is more flow out of the bonnet than is coming in, the main valve opens.
Pressure from the header is directed to the bonnet of the Closing Speed Control, keeping the main valve closed if there is no flow through the two pilot valves. When one of the pilot valves opens and there is more flow out of the bonnet than is coming in, the main valve opens.

3.Property and advantages

- Driven by pressure of pipe system, work automatically with energy of pipe system to achieve energy conservation and environment protection.
- Controlled by pressure reducing pilot valve, lower energy consumption, achieve accurate pressure reducing and able to stabilize the pressure after the valve.
- Controlled by pressure relief and sustaining pilot valve, lower energy consumption, achieve accurate pressure relief and pressure holding results, reliable and safe.
- Dual cavity design, with functions of fully opening and fully closing. Slow shut causes no pressure fluctuation, and the diaphragm with support is well protected.
- Channel with straight-flow, slight friction loss, no eddy flow and turbulent flow, cut down the damage of cavitation.
- Long pitch orientation design for stem move, stable and no gap resistance.
- Balanced automatically, big gap design on connection of disc and stem, disc is free on the vertical flat against stem, it can balance the tolerance from machining and sealing surface. Good connection without leakage. Achieve functions of both reducing dynamic pressure and reducing static pressure.
- Ductile iron castings with nodularity higher than 90%, foundry in house with advanced melting technology and strict quality control system, testing reports and testing bars can be supplied with order. Records and testing bars maintained for one year in the factory.
- Good corrosion resistance, with stainless steel, copper alloy, rubber made from DuPont and other rust-resisting material, fusion bonded epoxy coating both for interior and exterior surface of the basic valve. All the characteristics in accordance with GB/T 17219-2001 and other international specifications like WRAS, NSF61.

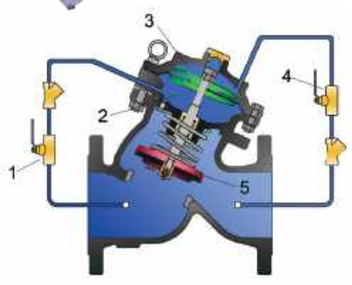
4.Typical installation illustration

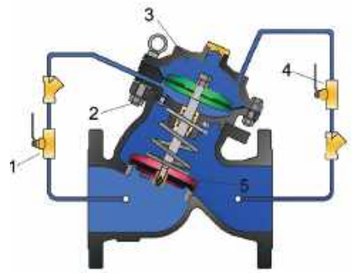


5.Common problems and proposed solutions

Common Problems	Proposed Solutions
Main valve not able to open	a.Not able to open under low pressure condition: flow is not large at the time of power failure and there is no large pressure drop to open the Low Surge Pilot valve. Usually there won't be large pressure fluctuation. b.Not able to open under high pressure condition: check if the setting of the High Surge Pilot valve is higher than the high pressure.
Main valve not able to close	a.Unfasten the fitting that connects the pilot valve and the main valve. If there is no leakage of water, check then if the strainer or the needle valve at the inlet of the valve is blocked. b.If there is leakage and the main valve not able to close, check if there is damage to the valve diaphragm, disc or seat, or if the main valve is blocked.

SK745X Pump Control Valve





1.Statement

SK745X Pump Control Valve is a diaphragm type of hydraulic control valve driven by the hydraulic pressure within the piping system, widely applied in the pump outlet for prevention of medium back-flow, pressure fluctuation and water hammer formation. Under normal working conditions, pressure before the valve is higher than pressure after, and the valve remains fully open. When pressure after valve exceeds pressure before valve, the valve is capable to be closed rapidly to prevent backflow of water and protect the pump and piping system. The design of the valve incorporates the function of slow-opening, quick closing, slow closing and water hammer absorption, no large pressure fluctuation within the system.

2.Operational principle

SK745X Pump Control Valve is composed of mini strainer and ball valve, etc.

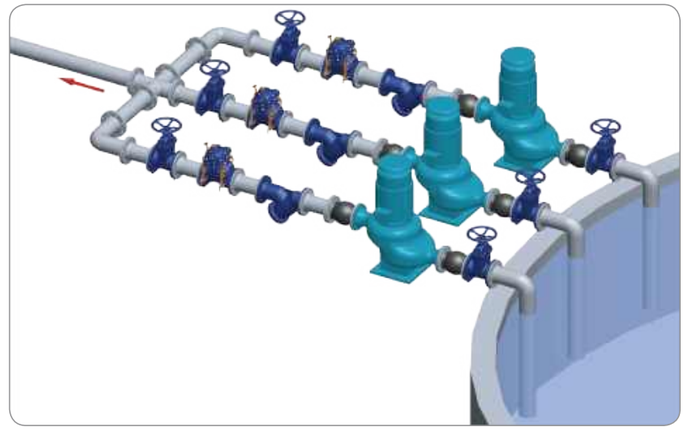
Before the pump starts, there is no pressure before the valve, and disc (5) is closed under the pressure from the spring. With the start of the pump, the pressure before the valve increases gradually. At the same time, the pressure water enters the lower cavity room (2) through the ball valve (1). The two combined force opens the disc of the basic valve rapidly to allow water supply. When the pump stops (as planned or out of accident), pressure before the valve suddenly declines. Pressure after valve exceeds that before the valve. As a result, the higher pressure flows back to the upper cavity room through the ball valve (4) and gets accumulated to drive the membrane down to close the valve disc (5). The pressure within the lower cavity room (2) discharges to the lower pressure area before the basic valve through ball valve (1), which slows down the closing process to prevent formation of water hammer.

The opening and closing speed of the valve can be controlled by adjustment of the ball valve(1) & (4). For this valve, there is also another option with dual disc design, especially good for working in complicated piping system and working conditions where there is tremendous pressure and water back-flow.

3.Property and advantages

- Driven by pressure of pipe system, work automatically with energy of pipe system to achieve energy conservation and environment protection.
- Dual cavity design, with functions of fully opening and fully closing. Slow shut causes no pressure fluctuation, and the diaphragm with support is well protected.
- Stable when open and close, the speed of opening and closing can be adjusted according to working conditions to avoid pressure fluctuation and water hammer. It can achieve real silence.
- Dual disc, customer can choose design of main disc + second disc. Main disc will fall freely with its weight when pump stop working, then 90% of inlet of basic valve will be will closed, the water will not cause pump reversing. The second disc will close the 10% left slowly by the pressure of controlling cavity then huge energy of water hammer will be eliminated.
- Channel with straight-flow, slight friction loss, no eddy flow and turbulent flow, cut down the damage of cavitation.
- Long pitch orientation design for stem move, stable and no gap resistance.
- Balanced automatically, big gap design on connection of disc and stem, disc is free on the vertical flat against stem, it can balance the tolerance from machining and sealing surface. Good connection without leakage. Achieve functions of both reducing dynamic pressure and reducing static pressure.
- Ductile iron castings with nodularity higher than 90%, foundry in house with advanced melting technology and strict quality control system, testing reports and testing bars can be supplied with order. Records and testing bars maintained for one year in the factory.
- Good corrosion resistance, with stainless steel, copper alloy, rubber made from DuPont and other rust-resisting material, fusion bonded epoxy coating both for interior and exterior surface of the basic valve. All the characteristics in accordance with ANSI/AWWA C550 and other international specifications like WRAS, NSF61.

4.Typical installation illustration



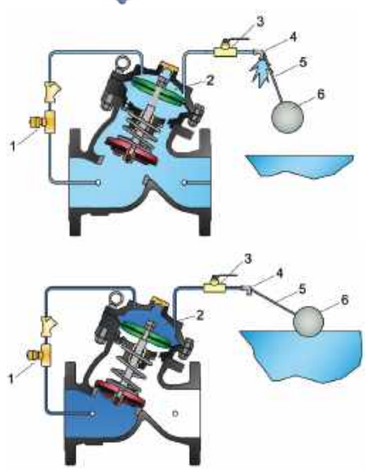
5.Technical Parameter

Pressure	Symbol	Unit	Norminal Pressure		
			PN10	PN16	PN25
Min Closing Pressure	Pg	MPa	≤0.05		
Slow-shut Time	t	s	2～60		
Note: Slow-shut time can be adjusted as per request					

6.Common problems and proposed solutions

Common Problems	Proposed Solutions
Strong vibration and noise when start-up the pump.	a.Check if there's gas in the upper cavity room. Loose the hex brass nut on the top of bonnet to discharge gas. b.Adjust the ball valve (1) at inlet to proper opening speed. c.Recalculate the flow and choose new valve with proper size or add throttling set.
Strong vibration and noise when stop the pump.	a.Adjust ball valve (4) to proper closing speed. b.Consider to choose design of dual discs.
Valve does not work and cause pump's reversing.	a.Check if there's sundries on the sealing surface of main disc or second disc. b.Check if damage on sealing surface of main disc or second disc. c.Check if stem corroded or blocked. d.Check if damage on diaphragm. If any damaged parts found, please change new one.

SK750X Remote Float Control Valve



1.Statement

SK750X Remote Float Control Valve is a diaphragm type of hydraulic control valve driven by the hydraulic pressure within the piping system, designed with adjustable parallel float. The valve is capable to maintain the water surface at set position despite the fluctuation of flow rate and widely applied where there is water reservoir or water box for injection of water.

2.Operational principle

SK750X Remote Float Control Valve is controlled by angle valve, float and ball lever, and equipped with needle valve, mini strainer and ball valve, etc.

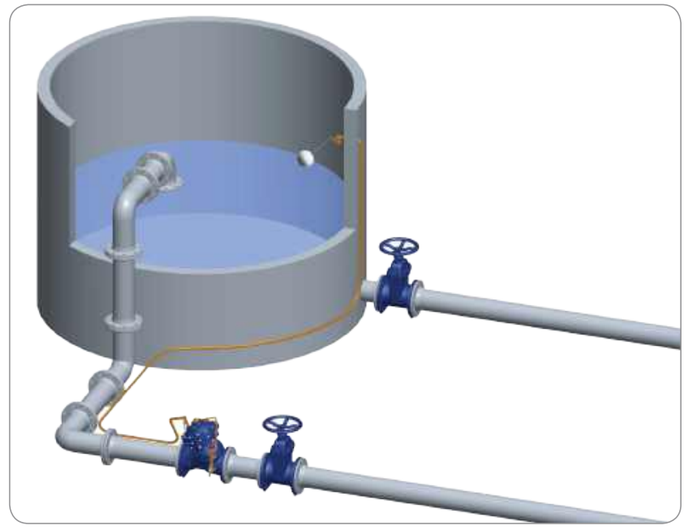
Under normal conditions, water flow comes continuously from the inlet opening to the upper cavity room (2) of the basic valve through the needle valve (1); When the float is not reaching the set position, the angle valve 4 remains open. The water that enters the upper cavity room of the basic valve discharges into the water tank and no accumulation within. Under this condition, the disc of the basic valve remains open at the water pressure from the inlet opening to allow water supply to the water tank. With the raising of the water surface, the float (6) gradually raises and closes the angle valve (4). Pressure gets accumulated within the upper cavity room and drives the membrane down to close disc and the basic valve gradually. When the water surface reaches the set position, the angle valve close completely and so with the basic valve and the water supply stops. When water position declines, the pressure within the upper cavity room gets released through the angle valve and the basic valve opens to continue with water supply.

Needle valve (1) serves to control the closing speed of the valve to prevent formation of water hammer; In case the float is not working, ball valve (3) can close the basic valve for emergency cut-off.

3.Property and advantages

- Driven by pressure of pipe system, work automatically with energy of pipe system to achieve energy conservation and environment protection.
- Controlled by angle valve and float, lower energy consumption, achieve accurate level limit, slowly shut and avoid close valve water hammer.
- Separate angle control, including separate angle valve, ball lever and float, can be installed separately with basic valve, suitable for limited installation and repairing space, avoid influence to level measuring by the wave beside inlet water.
- Dual cavity design, with functions of fully opening and fully closing. Slow shut causes no pressure fluctuation, and the diaphragm with support is well protected.
- Have internal orifice, connect bottom cavity and outlet of the basic valve, make sure stability of reaction to keep stability of pressure after the valve, avoid any vibration and noise.
- Channel with straight-flow, slight friction loss, no eddy flow and turbulent flow, cut down the damage of cavitation.
- Long pitch orientation design for stem move, stable and no gap resistance.
- Balanced automatically, big gap design on connection of disc and stem, disc is free on the vertical flat against stem, it can balance the tolerance from machining and sealing surface. Good connection without leakage. Achieve functions of both reducing dynamic pressure and reducing static pressure.
- Ductile iron castings with nodularity higher than 90%, foundry in house with advanced melting technology and strict quality control system, testing reports and testing bars can be supplied with order. Records and testing bars maintained for one year in the factory.
- Good corrosion resistance, with stainless steel, copper alloy, rubber made from DuPont and other rust-resisting material, fusion bonded epoxy coating both for interior and exterior surface of the basic valve. All the characteristics in accordance with ANSI/AWWA C550 and other international specifications like WRAS, NSF61.

4.Typical installation illustration



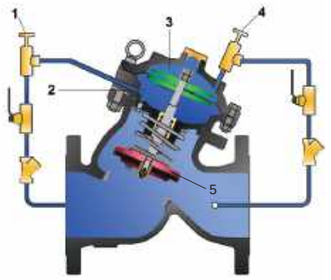
5.Technical Parameter

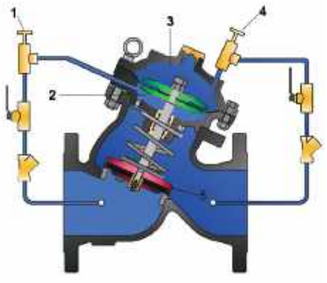
Accuracy of Surface Control: ±25mm

6.Common problems and proposed solutions

Common Problems	Proposed Solutions
Basic valve does not close when water meets specified level and continue to supply water.	a.Check if any sundries on the sealing surface of basic valve or pilot valve. b.Check if any damage on the sealing surface of basic valve or pilot valve. c.Check if block on lever of controlling angle valve. d.Check if ball lever has been corrosive and float missing. e.Check if any damage for diaphragm. During the checking, please close ball valve (3), if the basic valve was closed, please just disregard method of a, b and e and only check sealing surface of angle valve and ball lever. If the basic valve does not close when close ball valve (3), please cut off the water supply and check sealing surface of basic valve, diaphragm and stem. If any damaged parts, please change new one.
Level adjusting is not accurate and float jumps strongly.	a.Check if the float was installed close to water outlet. If yes, please move it to far away from the water outlet. Or you can use barrel to avoid the affection of the wave. b.Check the location of float and make sure the top-most position which float can catch is the set-level of the water box.
Reasonable suggestion	To make sure water won't exceed set-level double insurances is recommended. That's to assemble two position two-way solenoid valve before the controlling angle valve to make sure that the valve can be closed in case of emergency.

SK760X Slow Shut Control Valve





1.Statement

SK760X Slow Shut Control Valve is a diaphragm type of hydraulic control valve driven by the hydraulic pressure within the piping system, widely applied in the pump outlet for prevention of medium back-flow, pressure fluctuation and water hammer formation. Under normal working conditions, pressure before the valve is higher than pressure after, and the valve remains fully open. When pressure after valve exceeds pressure before valve, the valve is capable to be closed rapidly to prevent backflow of water and protect the pump and piping system. The design of the valve incorporates the function of slow-opening, quick closing, slow closing and water hammer absorption, no large pressure fluctuation within the system.

2.Operational principle

SK760X Slow Shut Control Valve is composed of needle valve, mini strainer and ball valve, etc.

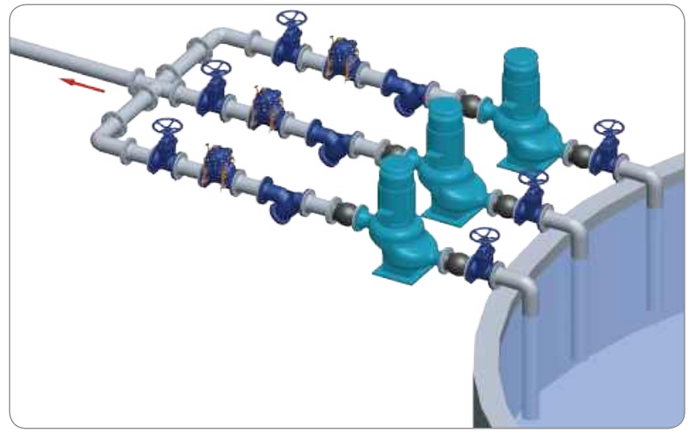
Before the pump starts, there is no pressure before the valve, and disc (5) is closed under the pressure from the spring. With the start of the pump, the pressure before the valve increases gradually. At the same time, the pressure water enters the lower cavity room (2) through the needle valve (1). The two combined force opens the disc of the basic valve rapidly to allow water supply. When the pump stops (as planned or out of accident), pressure before the valve suddenly declines. Pressure after valve exceeds that before the valve. As a result, the higher pressure flows back to the upper cavity room through the needle valve (4) and gets accumulated to drive the membrane down to close the valve disc (5). The pressure within the lower cavity room (2) discharges to the lower pressure area before the basic valve through needle valve (1), which slows down the closing process to prevent formation of water hammer.

The opening and closing speed of the valve can be controlled by adjustment of the needle valve (1) & (4). For this valve, there is also another option with dual disc design, especially good for working in complicated piping system and working conditions where there is tremendous pressure and water back-flow.

3.Property and advantages

- Driven by pressure of pipe system, work automatically with energy of pipe system to achieve energy conservation and environment protection.
- Dual cavity design, with functions of fully opening and fully closing. Slow shut causes no pressure fluctuation, and the diaphragm with support is well protected.
- Stable when open and close, the speed of opening and closing can be adjusted according to working conditions to avoid pressure fluctuation and water hammer. It can achieve real silence.
- Dual disc, customer can choose design of main disc + second disc. Main disc will fall freely with its weight when pump stop working, then 90% of inlet of basic valve will be will closed, the water will not cause pump reversing. The second disc will close the 10% left slowly by the pressure of controlling cavity then huge energy of water hammer will be eliminated.
- Channel with straight-flow, slight friction loss, no eddy flow and turbulent flow, cut down the damage of cavitation.
- Long pitch orientation design for stem move, stable and no gap resistance.
- Balanced automatically, big gap design on connection of disc and stem, disc is free on the vertical flat against stem, it can balance the tolerance from machining and sealing surface. Good connection without leakage. Achieve functions of both reducing dynamic pressure and reducing static pressure.
- Ductile iron castings with nodularity higher than 90%, foundry in house with advanced melting technology and strict quality control system, testing reports and testing bars can be supplied with order. Records and testing bars maintained for one year in the factory.
- Good corrosion resistance, with stainless steel, copper alloy, rubber made from DuPont and other rust-resisting material, fusion bonded epoxy coating both for interior and exterior surface of the basic valve. All the characteristics in accordance with ANSI/AWWA C550 and other international specifications like WRAS, NSF61.

4.Typical installation illustration



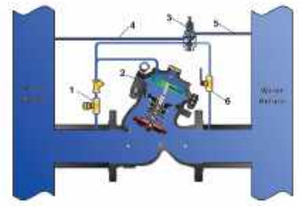
5.Technical Parameter

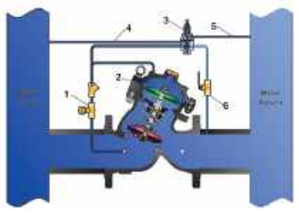
Pressure	Symbol	Unit	Norminal Pressure		
			PN10	PN16	PN25
Min Closing Pressure	Pg	MPa	≤0.05		
Slow-shut Time	t	s	2～60		
Note: Slow-shut time can be adjusted as per request					

6.Common problems and proposed solutions

Common Problems	Proposed Solutions
Strong vibration and noise when start-up the pump.	a.Check if there's gas in the upper cavity room. Loose the hex brass nut on the top of bonnet to discharge gas. b.Adjust the needle valve (1) at inlet to proper opening speed. c.Recalculate the flow and choose new valve with proper size or add throttling set.
Strong vibration and noise when stop the pump.	a.Adjust needle valve (4) to proper closing speed. b.Consider to choose design of dual discs.
Valve does not work and cause pump's reversing.	a.Check if there's sundries on the sealing surface of main disc or second disc. b.Check if damage on sealing surface of main disc or second disc. c.Check if stem corroded or blocked. d.Check if damage on diaphragm. If any damaged parts found, please change new one.

SK780X Pressure Differential By-pass Balancing Valve





1.Statement

SK780X Pressure Differential By-pass Balancing Valve is a diaphragm type of hydraulic control valve driven by the hydraulic pressure within the piping system, widely applied in HVAC system for guarantee of flow stability in the air conditioning, refrigeration and heating system and pump working. The valve prevents the effect on the other pipe branches when there is fluctuation on one branch by balancing of pressure in the radiant and distribution water manifold, thus to protect the efficient and safe working of the refrigeration set or heating set.

2.Operational principle

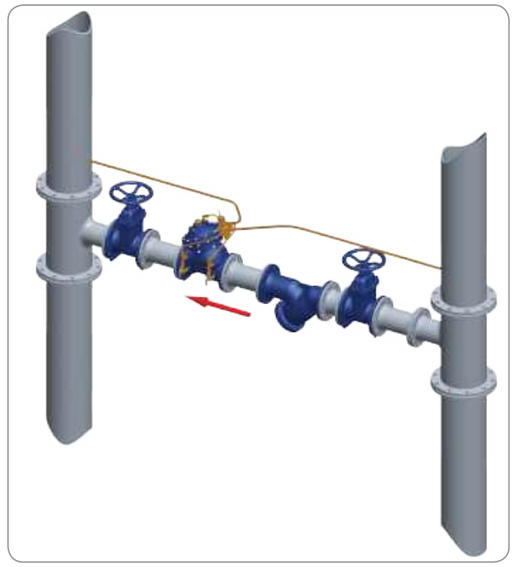
SK780X Pressure Differential By-pass Balancing Valve is composed of pressure balancing pilot valve, needle valve (or ball valve), mini strainer and ball valve, etc.

SK780X Pressure Differential By-pass Balancing Valve is installed between radiant and distribution water manifold (water supply and water return). Water flow enters continuously from water supply duct to the valve inlet and then to the upper cavity room (2) through needle valve (1) (or ball valve). Pilot valve (3) is connected to the water supply duct and return duct by guide tube (4) and (5) to sensing of the pressure difference and adjustment of the opening position of the pilot valve accordingly. When the pressure difference is large, pilot valve opens broadly, the pressure inside upper cavity room (2) declines and the basic valve opens broadly. As result the water flow between the supply and return duct increase and the entire system gets balanced. When the pressure difference is small, pilot valve (3) turns to close at the pressure of the spring, the pressure inside upper cavity room (2) increase and the basic valve turns to close. As result the water flow between the supply and return duct decreases and the entire system also gets balanced.

3.Property and advantages

- Driven by pressure of pipe system, work automatically with energy of pipe system to achieve energy conservation and environment protection.
- Dual cavity design, with functions of fully opening and fully closing. Slow shut causes no pressure fluctuation, and the diaphragm with support is well protected.
- Antenna type of conduit, See No.4 and 5 conduit, connect with water knockout drum and water collector (supplying pipe and return pipe), can achieve accurate and reliable adjusting.
- Have internal orifice, connect bottom cavity and outlet of the basic valve, make sure stability of reaction to keep stability of pressure after the valve, avoid any vibration and noise.
- Channel with straight-flow, slight friction loss, no eddy flow and turbulent flow, cut down the damage of cavitation.
- Long pitch orientation design for stem move, stable and no gap resistance.
- Balanced automatically, big gap design on connection of disc and stem, disc is free on the vertical flat against stem, it can balance the tolerance from machining and sealing surface. Good connection without leakage. Achieve functions of both reducing dynamic pressure and reducing static pressure.
- Ductile iron castings with nodularity higher than 90%, foundry in house with advanced melting technology and strict quality control system, testing reports and testing bars can be supplied with order. Records and testing bars maintained for one year in the factory.
- Good corrosion resistance, with stainless steel, copper alloy, rubber made from DuPont and other rust-resisting material, fusion bonded epoxy coating both for interior and exterior surface of the basic valve. All the characteristics in accordance with ANSI/AWWA C550 and other international specifications like WRAS, NSF61.

4.Typical installation illustration



5.Notes for installation and debugging

The valve has been finished initial debugging tests before delivery. Further debugging test is also suggested during using according to different set-conditions.

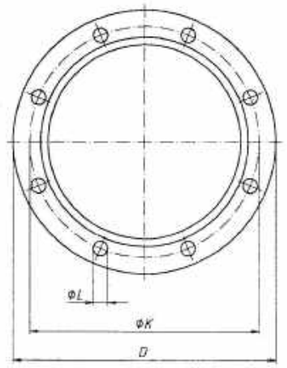
Over review pressure meter of water knockout drum and water collector, adjust pilot valve (3) according to set-difference of pressure. Clockwise is for increasing the pressure difference and anti-clockwise is for reducing pressure difference when set adjusting screw on the top of pilot valve. When adjusting is done, fasten the lock nut. Then you'll got set-difference for the pressure no matter how the pressure of pipe system changes.

Adjust needle valve (ball valve) can achieve different movement speed for the basic valve. Normally, it has been adjusted well before delivery. No further adjusting suggested if no special notice.

6.Common problems and proposed solutions

Common Problems	Proposed Solutions
Pressure difference is smaller than set-value and does not reach the set-difference.	a.Check if any sundries on the sealing surface of basic valve or pilot valve. b.Check if any damage on the sealing surface of basic valve or pilot valve. c.Check if needle valve (ball valve) (1) was closed or almost closed. If yes, please open it.
Pressure difference is bigger than set-value and does not reach the set-difference.	a.Check if ball valve (6) at outlet was closed. If yes, please open it. b.Check if there's any block for pilot valve.

Flange Dimensions

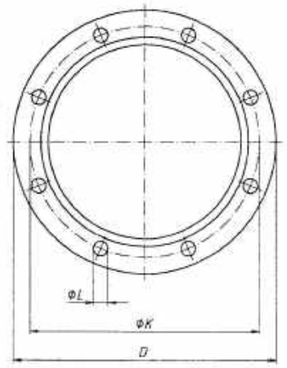


Dimensions of PN10 flanges (BS EN 1092-2:1997)

(mm)

DN (mm)	Mating dimensions					Flange thickness		
	Outside diameter of flange D	Diameter of bolt circle K	Diameter of bolt hole L	Bolts		C		
				Number n	Nominal size	Grey Iron	Ductile Iron	Malleable Iron
10	90	60	14	4	M12	14	14	14
15	95	65	14	4	M12	14	14	14
20	105	75	14	4	M12	16	16	16
25	115	85	14	4	M12	16	16	16
32	140	100	19	4	M16	18	18	18
40	150	110	19	4	M16	18	19	18
50	165	125	19	4	M16	20	19	20
65	185	145	19	4	M16	20	19	20
80	200	160	19	8	M16	22	19	20
100	220	180	19	8	M16	24	19	22
125	250	210	19	8	M16	26	19	22
150	285	240	23	8	M20	26	19	24
200	340	295	23	8	M20	26	20	24
250	395	350	23	12	M20	28	22	26
300	445	400	23	12	M20	28	24.5	26
350	505	460	23	16	M20	30	24.5	-
400	565	515	28	16	M24	32	24.5	-
450	615	565	28	20	M24	32	25.5	-
500	670	620	28	20	M24	34	26.5	-
600	780	725	31	20	M27	36	30	-
700	895	840	31	24	M27	40	32.5	-
800	1015	950	34	24	M30	44	35	-
900	1115	1050	34	28	M30	46	37.5	-
1000	1230	1160	37	28	M33	50	40	-
1200	1455	1380	41	32	M36	56	45	-
1400	1675	1590	44	36	M39	62	46	-
1600	1915	1820	50	40	M45	68	49	-
1800	2115	2020	50	44	M45	70	52	-
2000	2325	2230	50	48	M45	74	55	-

Flange Dimensions



Dimensions of PN16 flanges (BS EN 1092-2:1997)

(mm)

DN (mm)	Mating dimensions					Flange thickness		
	Outside diameter of flange D	Diameter of bolt circle K	Diameter of bolt hole L	Bolts		C		
				Number n	Nominal size	Grey Iron	Ductile Iron	Malleable Iron
10	90	60	14	4	M12	14	14	14
15	95	65	14	4	M12	14	14	14
20	105	75	14	4	M12	16	16	16
25	115	85	14	4	M12	16	16	16
32	140	100	19	4	M16	18	18	18
40	150	110	19	4	M16	18	19	18
50	165	125	19	4	M16	20	19	20
65	185	145	19	4	M16	20	19	20
80	200	160	19	8	M16	22	19	20
100	220	180	19	8	M16	24	19	22
125	250	210	19	8	M16	26	19	22
150	285	240	23	8	M20	26	19	24
200	340	295	23	12	M20	30	20	24
250	405	355	28	12	M24	32	22	26
300	460	410	28	12	M24	32	24.5	28
350	520	470	28	16	M24	36	26.5	-
400	580	525	31	16	M27	38	28	-
450	640	585	31	20	M27	40	30	-
500	715	650	34	20	M30	42	31.5	-
600	840	770	37	20	M33	48	36	-
700	910	840	37	24	M33	54	39.5	-
800	1025	950	41	24	M36	58	43	-
900	1125	1050	41	28	M36	62	46.5	-
1000	1255	1170	44	28	M39	66	50	-
1200	1485	1390	50	32	M45	-	57	-
1400	1685	1590	50	36	M45	-	60	-
1600	1930	1820	57	40	M52	-	65	-
1800	2130	2020	57	44	M52	-	70	-
2000	2345	2230	62	48	M56	-	75	-