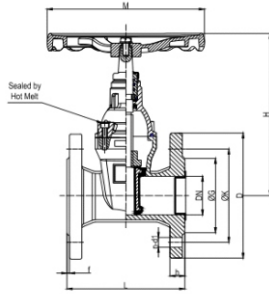
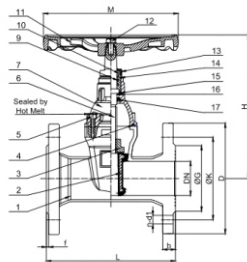


DIN3352-F4**Non-rising Stem Resilient Seated Gate Valve (brass Nut Type)****Material****Body:** DI**Disc:** DI+EPDM**Bonnet:** DI**Stem:** ss**O-ring:** NBR Or EPDM**Pusher Nut:** brass**Operated:** handwheel, cap, gearbox or electrical actuator**Main Technical Parameters****Working Pressure:** 10 bar, 16bar**Shell Pressure:** 15bar, 24bar**Seated Pressure:** 11bar, 17.6bar

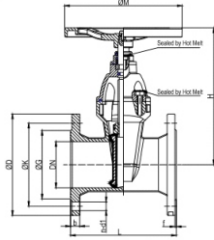
DIMENSION										
DN	OUTLINE mm				END FLANGE PN10-16					
	L	H	M	h1	D	K	G	n-d1	b	f
40	140	190	200	280	150	110	84	4-φ19	19	3
50	150	215	200	285	165	125	99	4-φ19	19	3
65	170	235	200	300	185	145	118	4-φ19	19	3
80	180	265	254	320	200	160	132	8-φ19	19	3
100	190	315	254	390	220	180	156	8-φ19	19	3
125	200	350	315	430	250	210	184	8-φ19	19	3
150	210	385	315	470	285	240	211	8-φ19	19	3
200	230	485	315	560	340	295	266	8-φ23 12-φ23	20	3
250	250	600	406	680	405	350 355	319	12-φ23 12-φ28	22	3
300	270	680	406	770	460	400 410	370	12-φ23 12-φ28	24.5	4

DIN3352-F5**Non-rising Stem Resilient Seated Gate Valve (brass Nut Type)****Material****Body:** DI**Disc:** DI+EPDM**Bonnet:** DI**Stem:** ss**O-ring:** NBR Or EPDM**Pusher Nut:** brass**Operated:** handwheel, cap, gearbox or electrical actuator**Main Technical Parameters****Working Pressure:** 10 bar, 16bar**Shell Pressure:** 15bar, 24bar**Seated Pressure:** 11bar, 17.6bar

DIMENSION										
DN	OUTLINE mm				END FLANGE PN10-16					
	L	H	M	D	K	G	n-d1	b	f	
40	240	190	200	150	110	84	4-φ19	19	3	
50	250	215	200	165	125	99	4-φ19	19	3	
65	270	235	200	185	145	118	4-φ19	19	3	
80	280	265	254	200	160	132	8-φ19	19	3	
100	300	315	254	220	180	156	8-φ19	19	3	
125	325	350	315	250	210	184	8-φ19	19	3	
150	350	385	315	285	240	211	8-φ19	19	3	
200	400	485	315	340	295	266	8-φ23 12-φ23	20	3	
250	450	600	406	405	350 355	319	12-φ23 12-φ28	22	3	
300	500	680	406	460	400 410	370	12-φ23 12-φ28	24.5	4	

BS5163

Type "a" Non-rising Stem Resilient Seated Gate Valve



Material

Body: DI
Disc: DI+EPDM
Bonnet: DI
Stem: ss
O-ring: NBR Or EPDM
Pusher Nut: brass
Operated: handwheel, cap, gearbox or electrical actuator

Main Technical Parameters

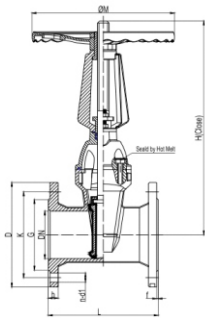
Working Pressure: 10 bar, 16bar
Shell Pressure: 15bar, 24bar
Seated Pressure: 11bar, 17.6bar

DIMENSION

DN	OUTLINE mm				END FLANGE PN10-16					
	L	H	M	h1	D	K	G	n-d1	b	f
40	165	190	200	260	150	110	84	4-φ19	19	3
50	178	215	200	285	165	125	99	4-φ19	19	3
65	190	235	200	300	185	145	118	4-φ19	19	3
80	203	265	254	320	200	160	132	8-φ19	19	3
100	229	315	254	390	220	180	156	8-φ19	19	3
125	254	350	315	430	250	210	184	8-φ19	19	3
150	267	385	315	470	285	240	211	8-φ19	19	3
200	292	485	315	560	340	295	266	8-φ23 12-φ23	20	3
250	330	600	406	680	405	350 355	319	12-φ23 12-φ28	22	3
300	356	680	406	770	460	400 410	370	12-φ23 12-φ28	24.5	4
350	381	810	500	900	520	460 470	429	16-φ23 16-φ28	26.5	4
400	406	890	500	1000	580	515 525	480	16-φ28 16-φ31	28	4
450	432	1050	500	1150	640	565 585	530 548	20-φ28 20-φ31	30	4
500	457	1230	650	1330	715	620 650	582 609	20-φ28 20-φ34	31.5	4
600	508	1260	650		840	725 770	682 720	20-φ31 20-φ37	36	5

BS5163

Rising Stem Resilient Seated Gate Valve



Material

Body: DI
Disc: DI+EPDM
Bonnet: DI
Stem: ss
O-ring: NBR Or EPDM
Pusher Nut: brass
Operated: handwheel, cap, gearbox or electrical actuator

Main Technical Parameters

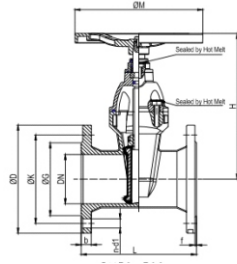
Working Pressure: 10 bar, 16bar
Shell Pressure: 15bar, 24bar
Seated Pressure: 11bar, 17.6bar

DIMENSION

DN	OUTLINE mm				END FLANGE PN10-16					
	L	H	M	D	K	G	n-d1	b	f	
40	165	285	200	150	110	84	4-φ19	19	3	
50	178	290	200	165	125	99	4-φ19	19	3	
65	190	330	200	185	145	118	4-φ19	19	3	
80	203	345	254	200	160	132	8-φ19	19	3	
100	229	410	254	220	180	156	8-φ19	19	3	
125	254	490	315	250	210	184	8-φ19	19	3	
150	267	555	315	285	240	211	8-φ19	19	3	
200	292	710	315	340	295	266	8-φ23 12-φ23	20	3	
250	330	960	406	405	350 355	319	12-φ23 12-φ28	22	3	
300	356	1040	406	460	400 410	370	12-φ23 12-φ28	24.5	4	

AS2638.2

Non-rising Stem Resilient Seated Gate Valve



Material

Body: DI
Disc: DI+EPDM
Bonnet: DI
Stem: ss
O-ring: NBR Or EPDM
Gland: DI
Operated: handwheel, cap, gearbox or electrical actuator

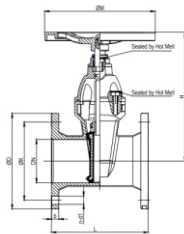
Main Technical Parameters

Working Pressure: 10 bar, 16bar
Shell Pressure: 15bar, 24bar
Seated Pressure: 11bar, 17.6bar

DIMENSION												
DN	OUTLINE mm				END FLANGE PN10-16							Torque
	L	H	M	h1	D	K	G	n-d1	b	f	N.m	
50	178	215	200	285	150	114	90	4-φ18	17	3	60	
65	190	235	200	300	165	127	103	4-φ18	17	3	75	
80	203	265	254	320	185	146	122	4-φ18	18	3	75	
100	229	315	254	390	215	178	154	4-φ18	20	3	100	
125	254	350	315	430	225	210	186	8-φ18	21	3	125	
150	267	385	315	470	280	235	211	8-φ18	23	3	150	
200	292	485	315	560	335	292	268	8-φ18	23	3	200	
250	330	600	406	680	405	356	328	8-φ22	24	3	250	
300	356	680	406	770	455	406	378	12-φ22	30	4	300	
350	381	810	500	900	525	470	438	12-φ26	33	4	325	
400	406	890	500	1000	580	521	489	12-φ26	33	4	350	
450	432	1050	500	1150	640	584	532	12-φ26	33	4	425	
500	457	1230	650	1330	705	641	609	16-φ26	35	4	525	
600	508	1260	650	1570	825	756	720	16-φ30	42	5	800	

AWWA C515 CLASS125

Non-rising Stem Resilient Seated Gate Valve



Material

Body: DI
Disc: DI+EPDM
Bonnet: DI
Stem: ss
O-ring: NBR Or EPDM
Gland: DI
Operated: handwheel, cap, gearbox or electrical actuator

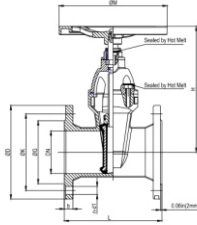
Main Technical Parameters

Working Pressure: 10 bar, 16bar
Shell Pressure: 15bar, 24bar
Seated Pressure: 11bar, 17.6bar

DN		OUTLINE mm		END FLANGE ANSI CLASS125 (in)						
		H	M	D	K	n-d1	b	L		
2	50	215	200	6 152	4¾ 120.7	4-3/4	15.9	7(178)		
2½	65	235	200	7 178	5½ 139.7	4-3/4	17.5	7.5(190)		
3	80	265	254	7½ 191	6 152.4	4-3/4	19.1	8(203)		
4	100	315	254	9 229	7½ 190.5	8-3/4	23.8	9(229)		
5	125	350	315	10 254	8½ 215.9	8-3/4	23.8	10(254)		
6	150	385	315	11 279	9½ 241.3	8-7/8	25.4	10.5(267)		
8	200	485	315	13½ 343	11¾ 298.5	8-7/8	28.6	11.5(292)		
10	250	600	406	16 406	14½ 362	12-1	30.2	13(330)		
12	300	680	406	19 483	17 431.8	12-1	31.8	14(356)		
14	350	810	500	21 533	18¾ 476.3	12-11/8	35	15(381)		
16	400	890	500	23½ 597	21½ 539.8	16-11/8	36.4	16(406)		
18	450	1050	500	25 635	22¾ 577.9	16-11/4	39.7	17(432)		
20	500	1230	650	27½ 669	25 635	20-11/4	42.9	18(457)		
24	600	1260	650	32 813	29½ 749.3	20-13/8	47.6	20(508)		

AWWA C509 CLASS150

Non-rising Stem Resilient Seated Gate Valve



Material

Body: DI
Disc: DI+EPDM
Bonnet: DI
Stem: ss
O-ring: NBR Or EPDM
Pusher Nut: brass
Operated: handwheel, cap, gearbox or electrical actuator

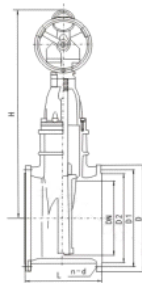
Main Technical Parameters

Working Pressure: 10 bar, 16bar
Shell Pressure: 15bar, 24bar
Seated Pressure: 11bar, 17.6bar

DIMENSION

DN	OUTLINE mm		END FLANGE ANSI CLASS 150(IN)					
	H	M	L	D	K	G	n-d1	b
50	215	200	178	152	120.7	92	4-3/4	19.1
65	235	200	190	178	139.7	105	4-3/4	22.3
80	265	254	203	191	152.4	127	4-3/4	23.8
100	315	254	229	229	190.5	157	8-3/4	23.8
125	350	315	254	254	215.9	186	8-7/8	23.8
150	385	315	267	279	241.3	216	8-7/8	25.4
200	485	315	292	343	298.5	270	8-7/8	28.6
250	600	406	330	406	362	324	12-1	30.2
300	680	406	356	483	431.8	381	12-1	31.8
350	810	500	381	533	476.3	413	12-11/8	35
400	890	500	406	597	539.8	470	16-11/8	36.6
450	1050	500	432	635	577.9	533	16-11/4	39.7
500	1230	650	457	699	635	584	20-11/4	42.9
600	1260	650	508	813	749.3	692	20-13/8	47.6

Resilient Seated Gate Valve Operated With Bevel Gearbox



Material

Body: DI
Bonnet: DI
Wedge: DI +EPDM
Stem: SS
Stem Nut: BRASS
The handwheel: DI

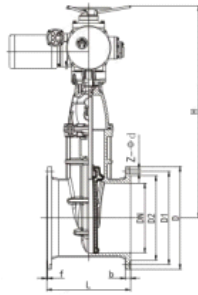
Main Technical Parameters

Model	Nominal pressure	Test pressure		Suitable temperature	Applicable medium
		Shell	Seat		
Z545X	PN10	1.5	1.1	1-80°C	water
	PN16	2.4	1.76		

DIMENSION

MODEL	DN	L	H	D	D1	D2	b	f	n	d	Transmission ratio
Z545X-10	400	406	1150	565	515	480	24.5	4	16	28	2.5:1
	450	432	1230	615	565	530	25.5	4	20	28	2.5:1
	500	457	1230	670	620	582	26.5	4	20	28	3:1
	600	508	1260	780	725	682	30	5	20	31	3:1
	700	610	2130	895	840	794	32.5	5	24	31	4:1
	800	660	2130	1015	950	901	35	5	24	34	4:1
	900	711	2350	1115	1050	1001	37.5	5	28	34	6:1
1000	811	2550	1230	1160	1112	40	5	28	37	6:1	
Z545X-16	400	406	1150	580	525	489	28	4	16	31	2.5:1
	450	432	1230	640	585	548	30	4	20	31	2.5:1
	500	457	1230	715	650	609	31.5	4	20	34	3:1
	600	508	1260	840	770	729	36	5	20	37	3:1
	700	610	2130	910	840	794	39.5	5	24	37	4.1: 1
	800	660	2130	1025	950	901	43	5	24	40	4.1: 1
1000	811	2550	1255	1170	1112	50	5	28	43	5.2: 1	

Electric Soft Seated Gate Valve



Material

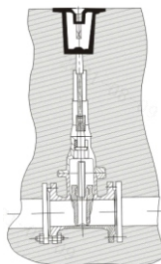
Body: DI GGG50
Bonnet: DI GGG50
Gate: GGG50+EPDM
Stem: SS
Stem Nut: COPPER ALLOY

Main Technical Parameters

Model	Nominal pressure	Test pressure		Suitable temperature	Applicable medium
		Sheet	Seat		
Z945X	PN10	1.5	1.1	1-80°C	water
	PN16	2.4	1.76		

DIMENSION														
MODEL	DN	L	H	D2		D1		D		b		f	Z-φd	
				PN10	PN16	PN10	PN16	PN10	PN16	PN10	PN16		PN10	PN16
Z945X-10/16	80	203	560	132		160		200		19		3	8-19	
	100	229	585	156		180		220		19		3	8-19	
	125	254	638	184		210		250		19		3	8-19	
	150	267	686	211		240		285		19		3	8-23	
	200	292	775	266		295		340		20		3	8-23	12-23
	250	330	856	319		350	355	395	405	22		3	12-23	12-28
	300	356	963	370		400	410	445	460	24.5		4	12-23	12-28
	350	384	1064	429		460	470	505	520	24.5	26.5	4	16-23	16-28
	400	406	1166	480		515	525	565	580	24.5	28	4	16-28	16-31
	450	432	1256	530	548	565	585	615	640	25.5	30	4	20-28	20-31
	500	457	1380	582	609	620	650	670	715	26.5	31.5	4	20-28	20-34
	600	508	1558	682	720	725	770	780	840	30	36	5	20-31	20-37

Directly Buried Soft Seated Gate Valve



Material

Body: DI
Wedge: DI+EPDM
Stem: SS
Bonnet: DI
Extended Spindle: CARBON STEEL 45#
Protective Jacket: PVC
Bushing: STEEL Q235
Guide Sleeve: CARBON STEEL
Square Shaft: CARBON STEEL
Swivel Head: CARBON STEEL
Cap: DI

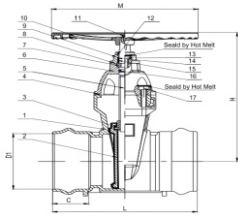
Main Technical Parameters

nominal size of valves ≤ DN100					
A	B	C	D	E	F
114	235	130.5	224	112	112

nominal size of valves ≥ DN125					
L	B	H	D	D	d
190	190	273	270	270	176

DIMENSION				
MODEL	DN	L	H1	H2
MZ45X	50	178	H1 < 300	185
	65	190	H1 < 300	235
	80	203	H1 < 300	275
	100	229	H1 < 300	305
	125	245	300 ≤ H1 < 400	355
	150	267	400 ≤ H1 < 600	415
	200	292	600 ≤ H1 < 600	500
	250	330	900 ≤ H1 < 1200	570
	300	356	1200 ≤ H1 < 500	645
	350	381	1500 ≤ H1 < 1800	980
	400	406	1800 ≤ H1 < 2100	1010
	450	432	2100 ≤ H1 < 2400	1150
	500	457	2400 ≤ H1 < 700	1200
	600	508	2700 ≤ H1 < 3000	1350

Socket End Non-rising Stem Resilient Seated Gate Valve For Pvc Pipe



Material

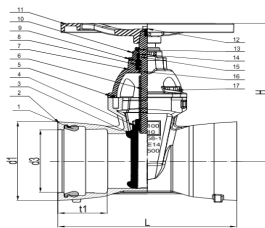
Body: DI
Disc: DI+EPDM
Bonnet: DI
Stem: SS
O-ring: NBR OR EPDM
Pusher Nut: BRASS
Operated: HANDWHEEL,CAP

Main Technical Parameters

Working Pressure: 10 bar, 16bar
Shell Pressure: 15bar, 24bar
Seated Pressure: 11bar, 17.6bar

DIMENSION					
DN	OUTLINE mm		END FLANGE		
	L	H	ϕM	D1	C
50/63	250	216	200	65.5	77
65/75	270	237	200	77.5	80
80/90	280	275	254	92.7	84
100/110	300	311	254	112.9	88
125/140	325	350	315	144	91
150/160	350	382	315	163.3	94
200/200	400	488	315	203.5	100
200/225	400	488	315	229.1	100
250/250	450	566	406	253.8	128
300/315	500	650	406	319.2	140

Socket End Non-rising Stem Resilient Seated Gate Valve For Ductile Iron Pipe



Material

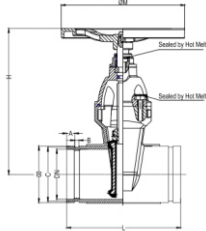
Body: DI
Disc: DI+EPDM
Bonnet: DI
Stem: SS
O-ring: NBR OR EPDM
Pusher Nut: BRASS
Operated: HANDWHEEL,CAP

Main Technical Parameters

Working Pressure: 10 bar, 16bar
Shell Pressure: 15bar, 24bar
Seated Pressure: 11bar, 17.6bar

DIMENSION					
DN	L	H	d1	d3	t1
80	284	250	140	100.5±1	85
100	306	300	163	120.5±1	88
150	337	378	217	172.5±1	94
200	355	470	278	224.5±1.5 -1	100
250	390	568	336	276.5±1.5 -1	105
300	440	650	393	328.5±1.5 -1	110

Groove End Non-rising Stem Resilient Seated Gate Valve



Material

Body: DI
Disc: DI+EPDM
Bonnet: DI
Stem: SS
O-ring: NBR OR EPDM
Operated: HANDWHEEL,CAP

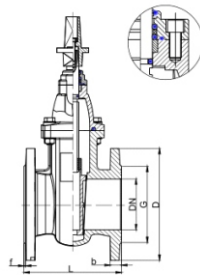
Main Technical Parameters

Working Pressure: 10 bar, 16bar
Shell Pressure: 15bar, 24bar
Seated Pressure: 11bar, 17.6bar

DIMENSION									
DN	OUTLINE mm				END FLANGE				
	L	H	M	h1	OD	A	B	C	D
50	178	215	200	285	$\phi 60.3 \pm 0.61$	$\phi 15.88 \pm 0.76$	$\phi 8.74 \pm 0.76$	$+0.00$ $\phi 57.15 -0.38$	1.6
65	190	235	200	300	$\phi 76.1 \pm 0.76$	$\phi 15.88 \pm 0.76$	$\phi 8.74 \pm 0.76$	$+0.00$ $\phi 72.26 -0.46$	1.98
80	203	265	254	320	$\phi 88.9 \pm 0.61$ -0.79	$\phi 15.88 \pm 0.76$	$\phi 8.74 \pm 0.76$	$+0.00$ $\phi 84.94 -0.48$	1.98
100	229	315	254	390	$\phi 114.3 \pm 1.14$ -0.79	$\phi 15.88 \pm 0.76$	$\phi 8.74 \pm 0.76$	$+0.00$ $\phi 110.08 -0.51$	2.11
125	254	350	315	430	$\phi 139.7 \pm 1.42$ -0.79	$\phi 15.88 \pm 0.76$	$\phi 8.74 \pm 0.76$	$+0.00$ $\phi 135.48 -0.51$	2.11
150	267	385	315	470	$\phi 165.1 \pm 0.61$ -0.79	$\phi 15.88 \pm 0.76$	$\phi 8.74 \pm 0.76$	$+0.00$ $\phi 160.78 -0.56$	2.16
200	292	485	315	560	$\phi 219.1 \pm 1.60$ -0.79	$\phi 19.05 \pm 0.76$	$\phi 11.91 \pm 0.76$	$+0.00$ $\phi 214.4 -0.84$	2.34

BS5163

Non-rising Stem Metal Seated Gate Valve



Material

Body: DI
Disc: DI + BRASS
Bonnet: DI
Stem: SS
O-ring: NBR OR EPDM
Operated: HANDWHEEL,CAP,
 GEARBOX OR ELECTRICAL ACTUATOR

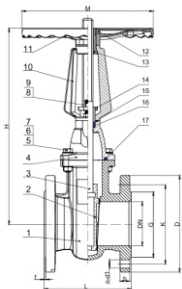
Main Technical Parameters

Working Pressure: 10 bar, 16bar
Shell Pressure: 15bar, 24bar
Seated Pressure: 11bar, 17.6bar

DIMENSION										
DN	OUTLINE mm			END FLANGE PN10-16						
	L	H	M	D	K	G	n-d1	b	f	N m
50	178	220	200	165	125	99	4- $\phi 19$	19	3	50
65	190	250	200	185	145	118	4- $\phi 19$	19	3	50
80	203	280	254	200	160	132	8- $\phi 19$	19	3	80
100	229	315	254	220	180	156	8- $\phi 19$	19	3	200
125	254	370	315	250	210	184	8- $\phi 19$	19	3	300
150	267	410	315	285	240	211	8- $\phi 23$	19	3	300
200	292	495	315	340	295	266	12- $\phi 23$	20	3	300
250	330	605	406	405	355	319	12- $\phi 28$	22	3	450
300	356	655	406	460	410	370	12- $\phi 28$	24.5	4	500

BS5163

Rising Stem Metal Seated Gate Valve



Material

Body: DI
Disc: DI+BRASS
Bonnet: DI
Stem: SS
O-ring: NBR OR EPDM
Gland: DI
OSY: DI
Operated: HANDWHEEL,CAP,
 GEARBOX OR ELECTRICAL ACTUATOR

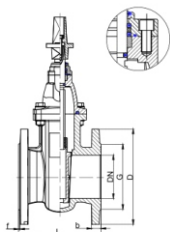
Main Technical Parameters

Working Pressure: 10 bar, 16bar
Shell Pressure: 15bar, 24bar
Seated Pressure: 11bar, 17.6bar

DIMENSION									
DN	OUTLINE mm			END FLANGE PN10-16					
	L	H	M	D	K	G	n-d1	b	f
40	165	210	200	150	110	84	4-φ19	19	3
50	178	220	200	165	125	99	4-φ19	19	3
65	190	250	200	185	145	118	4-φ19	19	3
80	203	280	254	200	160	132	8-φ19	19	3
100	229	345	254	220	180	156	8-φ19	19	3
125	254	370	315	250	210	184	8-φ19	19	3
150	267	410	315	285	240	244	8-φ23	19	3
200	292	495	315	340	295	266	8-φ23 12-φ23	20	3
250	330	605	406	405	350 355	319	12-φ23 12-φ28	22	3
300	356	655	406	460	400 410	370	12-φ23 12-φ28	24.5	4

DIN3352-F4

Non-rising Stem Metal Seated Gate Valve



Material

Body: DI
Disc: DI+BRASS
Bonnet: DI
Stem: SS
O-ring: NBR OR EPDM
Gland: DI
Operated: HANDWHEEL,CAP,
 GEARBOX OR ELECTRICAL ACTUATOR

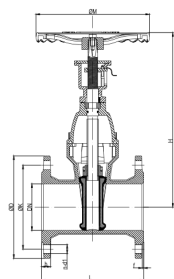
Main Technical Parameters

Working Pressure: 10 bar, 16bar
Shell Pressure: 15bar, 24bar
Seated Pressure: 11bar, 17.6bar

DIMENSION								
DN	OUTLINE mm		END FLANGE PN10-16					
	L	H	D	K	G	n-d1	b	f
40	140	240	150	110	84	4-φ19	19	3
50	150	260	165	125	99	4-φ19	19	3
65	170	280	185	145	118	4-φ19	19	3
80	180	310	200	160	132	8-φ19	19	3
100	190	345	220	180	156	8-φ19	19	3
125	200	400	250	210	184	8-φ19	19	3
150	210	440	285	240	211	8-φ19	19	3
200	230	525	340	295	266	12-φ23	20	3
250	250	635	405	355	319	12-φ28	22	3
300	270	685	460	410	370	12-φ28	24.5	4
350	290	770	520	470	429	16-φ28	26.5	4
400	310	870	580	525	480	16-φ31	28	4
450	330	1000	640	585	548	20-φ31	30	4
500	350	1080	715	650	609	20-φ34	31.5	4
600	390	1210	840	770	720	20-φ37	36	5

BS5163

Non-rising Stem Resilient Seated Gate Valve With Signal



Material

Body: DI
 Disc: DI+EPDM
 Bonnet: DI
 Stem: SS
 O-ring: NBR OR EPDM
 Operated: HANDWHEEL,CAP

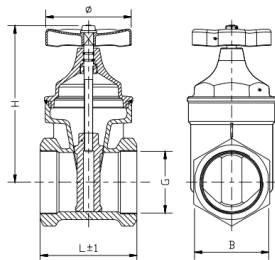
Main Technical Parameters

Working Pressure: 10 bar, 16bar
 Shell Pressure: 15bar, 24bar
 Seated Pressure: 11bar, 17.6bar

DIMENSION									
DN	OUTLINE mm			END FLANGE PN10-16					
	L	H	M	D	K	G	n-d1	b	f
50	178	270	200	165	125	99	4-φ19	19	3
65	190	300	200	185	145	118	4-φ19	19	3
80	203	325	200	200	160	132	8-φ19	19	3
100	229	375	254	220	180	156	8-φ19	19	3
125	254	420	254	250	210	184	8-φ19	19	3
150	267	465	254	285	240	211	8-φ23	19	3
200	292	600	315	340	295	266	8-φ23 12-φ23	20	3
250	330	720	315	405	350 355	319	12-φ23 12-φ28	22	3
300	356	800	315	460	400 410	370	12-φ23 12-φ28	24.5	4

BS5163

Screw Type Resilient Seated Gate Valve



Material

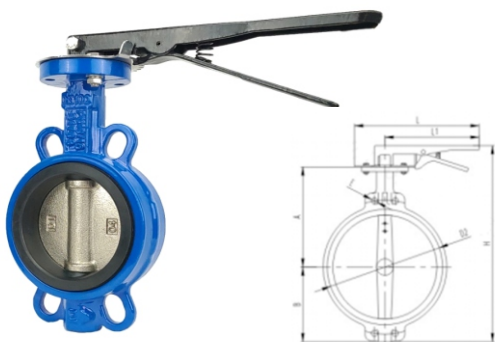
Body: DI
 Disc: DI + EPDM
 Bonnet: DI
 Stem: SS
 O-ring: NBR OR EPDM
 Operated: HANDWHEEL,CAP

Main Technical Parameters

Working Pressure: 10 bar, 16bar
 Shell Pressure: 15bar, 24bar
 Seated Pressure: 11bar, 17.6bar

DIMENSION					
DN	G	L	H	Φ	B
15	1/2	65	87	60	30
20	3/4	70	87	60	39
25	1	80	106	70	42
32	1 1/4	93	124	75	52
40	1 1/2	98	160	88	57
50	2	110	170	88	72
65	2 1/2	130	203	125	88
80	3	142	232	135	105
100	4	167	272	148	128

Wafer Type Butterfly Valve



Material

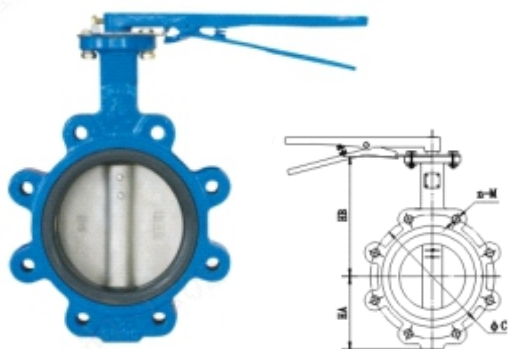
Body: CI, DI
Disc: CI, SS
Seat: NBR/EPDM
Stem: SS
Taper Pin: CS
Bolts and Nuts: CS

Main Technical Parameters

DN(mm)	PN(Mpa)	Testing Pressure		
		Pneumatic	Seats	Shell
50-1200	0.6	0.6	0.66	0.9
	1.0	0.6	1.1	1.5
	1.6	0.6	1.76	2.4

SIZE		HA	HB	HC	L	ΦA	DIN PN10		DIN PN16	
DN	Inch						ΦC	n-φ	ΦC	n-φ
40	1.5"	65	115	30	35	12.7	110	110	4-18	
50	2"	66	130	30	45	12.7	125	125		
65	2.5"	75	140	30	48	12.7	145	145		
80	3"	952	150	30	49	12.7	160	160	4-18	
100	4"	107	170	30	55	15.8	180	180	8-18	
125	5"	122	185	30	58	19.05	210	210		
150	6"	134	205	30	59	19.05	240	240	8-23	
200	8"	168	235	36	64	22.2	295	295	12-23	
250	10"	200	270	36	70	28.6	350	355	12-27	
300	12"	237	305	36	80	31.8	400	410		

LUG Type Butterfly Valve



Material

Body: CI, DI
Disc: CI, SS
Seat: NBR/EPDM
Stem: SS
Taper Pin: CS
Bolts and Nuts: CS

Main Technical Parameters

DN(mm)	PN(Mpa)	Testing Pressure		
		Pneumatic	Seats	Shell
40-300	0.6	0.6	0.66	0.9
	1.0	0.6	1.1	1.5
	1.6	0.6	1.76	2.4

SIZE		HA	HB	HC	L	ΦA	ΦC	n-φ
DN	Inch							
40	1.5"	65	115	30	35	12.7	98.5	4-1/2"-11
50	2"	66	130	30	45	12.7	120.5	
65	2.5"	75	140	30	48	12.7	139.5	
80	3"	95	150	30	49	12.7	152.5	8-5/8"-11
100	4"	107	170	30	55	15.8	190.5	
125	5"	122	185	30	58	19.05	216	
150	6"	134	205	30	59	19.05	241.5	8-3/4"-10
200	8"	168	235	36	64	22.2	298.5	
250	10"	200	270	36	70	28.6	362	
300	12"	237	305	36	80	31.8	476	12-7/8"-9

Flanged Concentric Butterfly Valves



Material

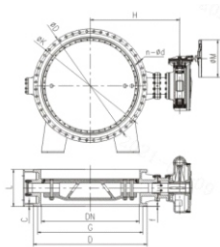
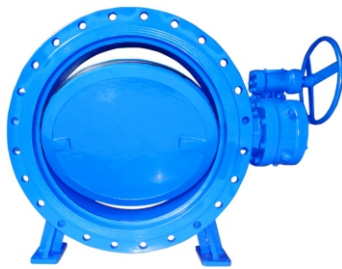
Body: CI, DI
 Disc: CI, SS
 Seat: NBR/EPDM
 Stem: SS
 Taper Pin: CS
 Bolts and Nuts: CS

Main Technical Parameters

DN(mm)	PN(Mpa)	Testing Pressure		
		Pneumatic	Seats	Shell
50-1200	0.6	0.6	0.66	0.9
	1.0	0.6	1.1	1.5
	1.6	0.6	1.76	2.4

DN	A	B	L	L5	fx45	D	D1	D2	n-φ	b	L1	L2	L3	L4	L5
50	126	83	108	111	3	185/185	125/125	102/102	4-φ19/4-φ19	19/19	172	45	172	226	150
65	132	93	112	115	3	185/185	145/145	122/122	4-φ19/4-φ19	19/19	172	45	173	226	150
80	146	100	114	117	3	200/200	160/160	133/133	8-φ19/8-φ19	19/19	172	45	173	226	150
100	155	115	127	130	3	220/220	180/180	158/158	8-φ19/8-φ19	19/19	172	45	173	226	150
125	170	125	140	143	3	250/250	210/210	184/184	8-φ19/8-φ19	19/19	172	45	173	226	150
150	192	143	140	143	3	285/285	240/240	212/212	8-φ23/8-φ23	19/19	172	45	173	226	150
200	226	170	152	155	3	340/340	295/295	268/268	8-φ23/8-φ23	20/20	289	636	237	313	300
250	265	198	165	168	3	395/395	350/355	320/320	12-φ23/12-φ23	22/22	289	63	237	313	300
300	297	223	178	182	4	445/460	400/410	370/370	12-φ23/12-φ28	24.5/24.5	310	78	225	307	300
350	338	270	190	194	4	505/520	460/470	430/430	16-φ23/16-φ28	24.5/28.5	310	78	225	307	300
400	350	300	216	221	4	565/580	15/520	482/482	16-φ28/20-φ31	24.5/28	434	181	94	357	300
450	375	340	222	227	4	615/640	565/585	532/548	20-φ28/20-φ31	25.5/30	434	181	94	357	300
500	418	355	229	234	4	670/715	620/650	585/609	20-φ28/20-φ34	26.5/31.5	434	181	94	357	300
600	490	410	267	272	5	780/840	725/770	685/720	20-φ31/20-φ37	30/36	531	200	125	432	400
700	550	478	292	299	5	895/910	840/840	700/74	24-φ31/24-φ37	32.5/39.5	574	228	140	501	400
800	610	529	318	325	5	1015/1025	950/950	905/901	24-φ34/24-φ40	35/43	576	28	140	501	400
900	660	584	330	337	5	1115/1125	1050/1050	1005/1001	28-φ34/28-φ40	37.5/46.5	638	243	162	547	450
1000	718	657	410	417	5	1230/1255	1160/1170	1110/1112	28-φ37/28-φ43	40/50	638	243	162	547	450
1200	860	799	470	478	5	1455/1485	1380/1390	1330/1328	32-φ40/32-φ49	45/57	777	302	236	656	450

Flanged Double Eccentric Butterfly Valve



Material

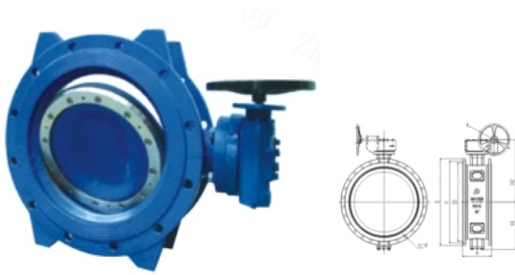
Body: CI
 Disc: CI
 Seat: SS
 Stem: SS
 Bushing: Albronz
 Disc sealing ring: EPDM

Main Technical Parameters

DN(mm)	PN(Mpa)	Testing Pressure		
		Pneumatic	Seats	Shell
300-2000	0.6	0.6	0.66	0.9
	1.0	0.6	1.1	1.5
	1.6	0.6	1.76	2.4

DN	L	H	M	PN10						PN16					
				D	K	G	n-d	b	f	D	K	G	n-d	b	f
300	178	280	285	445	400	370	12-23	24.5	4	460	410	370	12-28	24.5	4
350	190	300	285	505	460	429	16-23	24.5	4	520	470	429	16-28	26.5	4
400	216	335	400	565	515	480	16-28	24.5	4	580	525	480	16-31	28	4
450	222	350	400	615	565	530	20-28	25.5	4	640	585	548	20-31	30	4
500	229	390	400	670	620	582	20-28	26.5	4	715	650	609	20-34	31.5	4
600	267	460	400	780	725	682	20-31	30	5	840	770	720	20-37	36	5
700	292	510	400	895	840	794	24-31	32.5	5	1001	901	794	24-37	39.5	5
800	318	590	400	1015	950	901	24-34	35	5	1025	950	901	24-40	43	5
900	330	650	450	1115	1050	1001	28-34	37.5	5	1125	1050	1001	28-40	46.5	5
1000	410	710	450	1230	1160	1112	28-37	40	5	1255	1170	1112	28-43	50	5
1200	470	850	450	1455	1380	1328	32-40	45	5	1485	1390	1328	32-49	57	5
1400	530	970	500	1675	1590	1530	38-43	46	5	1685	1590	1530	36-49	60	5
1600	600	1090	500	1915	1820	1750	40-49	49	5	1930	1820	1750	40-56	65	5
1800	670	1300	600	2115	2020	1950	44-49	52	5	2130	2020	1950	44-56	70	5
2000	760	1700	600	2325	2230	2150	48-49	55	5	2345	2230	2150	48-62	75	5

Flanged Double Eccentric Butterfly Valve



Material

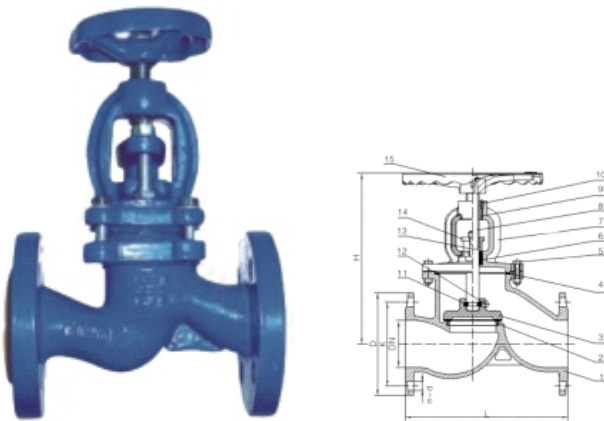
Body: CI, DI
 Disc: CI, SS
 Seat: NBR/EPDM
 Stem: SS
 Taper Pin: CS
 Bolts and Nuts: CS

Main Technical Parameters

DN(mm)	PN(Mpa)	Testing Pressure		
		Pneumatic	Seats	Shell
300-2000	0.6	0.6	0.66	0.9
	1.0	0.6	1.1	1.5
	1.6	0.6	1.76	2.4

DN	L	H	M	PN10						PN16					
				D	K	G	n-d	b	f	D	K	G	n-d	b	f
300	270	260	280	445	400	370	12-23	24.5	4	460	410	370	12-28	24.5	4
350	290	290	300	505	460	429	16-23	24.5	4	520	470	429	16-28	26.5	4
400	310	315	336	565	515	480	16-28	24.5	4	580	525	480	16-31	28	4
450	330	335	350	615	565	530	20-28	25.5	4	640	585	548	20-31	30	4
500	350	370	390	670	620	582	20-28	26.5	4	715	650	609	20-34	31.5	4
600	390	430	460	780	725	682	20-31	30	5	840	770	720	20-37	36	5
700	430	480	510	895	840	794	24-31	32.5	5	1001	901	794	24-37	39.5	5
800	470	550	590	1015	950	901	24-34	35	5	1025	950	901	24-40	43	5
900	510	605	650	1115	1050	1001	28-34	37.5	5	1125	1050	1001	28-40	46.5	5
1000	550	675	710	1230	1160	1112	28-37	40	5	1255	1170	1112	28-43	50	5
1200	630	780	850	1455	1380	1328	32-40	45	5	1485	1390	1328	32-49	57	5
1400	710	910	970	1675	1590	1530	38-43	46	5	1685	1590	1530	36-49	60	5
1600	790	1050	1090	1915	1820	1750	40-49	49	5	1930	1820	1750	40-56	65	5
1800	870	1250	1300	2115	2020	1950	44-49	52	5	2130	2020	1950	44-56	70	5
2000	950	1690	1700	2325	2230	2150	48-49	55	5	2345	2230	2150	48-62	75	5

Globe Valve



Material

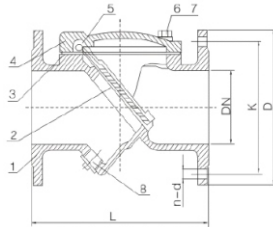
Body: CI
 Bonnet: DI
 Stem: SS
 Disc: DI
 Seat: Brass

Main Technical Parameters

PN(Mpa)		1.0/1.6
Test pressure(Mpa)	Body	1.5/2.4
	Sealing	1.1/1.76
Working pressure		1.0/1.6

DN	L	H	M	D	K	n-d(10)	n-d(16)	G	b	f
50	230	270	200	165	125	4-φ19		99	19	3
65	290	280	200	185	145	4-φ19		118	19	3
80	310	330	254	200	160	8-φ19		132	19	3
100	350	365	254	220	180	8-φ19		156	19	3
125	400	405	315	250	210	8-φ19		184	19	3
150	480	435	315	285	240	8-φ23		211	19	3
200	600	520	406	340	295	8-φ23	12-φ23	266	20	3
300	850	680	500	445/460	400/410	12-φ23	12-φ28	370	24.5	4

Swing Type Check Valve Rubber Disc



Material

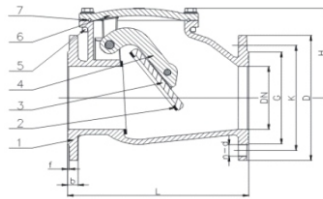
Body: DI
 Disc: WCB+EPDM
 Bonnet: DI
 Pin: SS304

Main Technical Parameters

Working pressure: 10 bar, 16bar
 Shell pressure: 15bar, 24bar
 Seated pressure: 11bar, 17.6bar

DIMENSION							
DN	OUTLINE mm		END FLANGE PN16				
	L	D	K	G	n-d1	b	f
50	203	165	125	99	4-φ19	19	3
65	216	185	145	118	4-φ19	19	3
80	241	200	160	132	8-φ19	19	3
100	292	220	180	156	8-φ19	19	3
125	330	250	210	184	8-φ19	19	3
150	356	285	240	211	8-φ19	19	3
200	496	340	295	266	12-φ23	20	3
250	622	405	355	319	12-φ28	22	3
300	698	460	410	370	12-φ28	24.5	4
350	787	520	470	429	16-φ28	26.5	4
400	914	580	525	480	16-φ31	28	4
450	978	640	585	548	20-φ31	30	4
500	978	715	650	609	20-φ34	31.5	4
600	1295	840	770	720	20-φ37	36	5
700	1448	910	840	794	24-φ37	39.5	5
800	1295	1025	950	901	24-φ40	43	5

Swing Type Check Valve Metal seated



Material

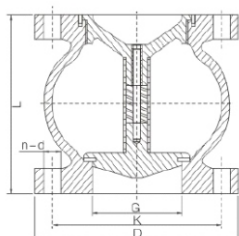
Body: DI
 Disc: DI+brass
 Bonnet: DI
 Pin: SS304

Main Technical Parameters

Working pressure: 10 bar, 16bar
 Shell pressure: 15bar, 24bar
 Seated pressure: 11bar, 17.6bar

DIMENSION								
DN	OUTLINE mm		END FLANGE PN16					
	L	H	D	K	G	n-d1	b	f
50	200	97.5	PN10 165	PN10 125	99	PN16 4-φ19	19	3
65	240	112	185	145	118	4-φ19	19	3
80	260	127	200	160	132	8-φ19	19	3
100	300	134	220	180	156	8-φ19	19	3
125	350	178	250	210	184	8-φ19	19	3
150	400	182	285	240	211	8-φ19	19	3
200	500	230	340	295	266	8-φ23 12-φ23	20	3
250	600	290	395 405	350 355	319	12-φ23 12-φ28	22	3
300	700	325	445 460	400 410	370	12-φ23 12-φ28	24.5	4

Slit check valve



Material

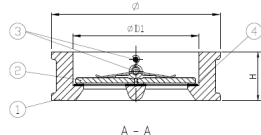
Body: DI
 Disc: DI
 Stem: SS420
 Spring: SS304

Main Technical Parameters

Working pressure: 10 bar, 16bar
 Shell pressure: 15bar, 24bar
 Seated pressure: 11bar, 17.6bar

DN	DIMENSION						
	OUTLINE mm		END FLANGE PN16				
	L	D	K	G	n-d1	b	f
50	120	165	125	99	4-φ19	19	3
65	150	185	145	118	4-φ19	19	3
80	180	200	160	132	8-φ19	19	3
100	240	220	180	156	8-φ19	19	3
125	300	250	210	184	8-φ19	19	3
150	350	285	240	211	8-φ23	19	3
200	450	340	295	266	12-φ23	20	3
250	500	405	355	319	12-φ28	22	3
300	550	460	410	370	12-φ28	24.5	4

Wafer Type Check Valve



Material

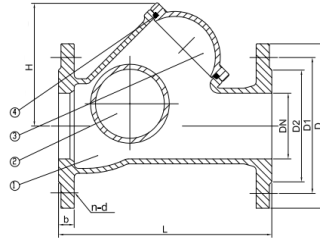
Body: DI
 Disc: DI/CF8
 Seat: EPDM
 Stem: SS420
 Spring: SS304

Main Technical Parameters

Working pressure: 10 bar, 16bar
 Shell pressure: 15bar, 24bar
 Seated pressure: 11bar, 17.6bar

DN	DIMENSION			
	φ 0 -2		φD1±2	H±2
PN10	PN16			
50	106	107	65	43
65	127	127	80	46
80	142	142	94	64
100	162	162	117	64
125	192	192	145	70
150	218	218	170	76
200	273	273	224	89
250	328	328	267	114
300	378	378	310	114
350	438	442	360	127
400	489	495	410	140
450	539	555	450	152
500	594	617	505	152
600	695	734	624	178

Ball Check Valve



Material

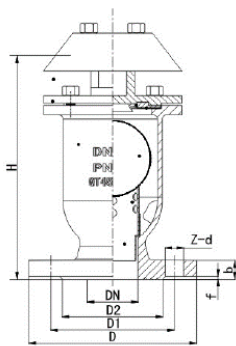
Body: DI
 Bonnet: DI
 Ball: NBR OR EPDM

Main Technical Parameters

Working pressure: 10 bar, 16bar
 Shell pressure: 15bar, 24bar
 Seated pressure: 11bar, 17.6bar

DIMENSION							
DN	OUTLINE mm			END FLANGE PN16			
	L	D	D1	D2	n-d1	b	f
40	180	110	84	84	4-φ19	19	3
50	200	125	99	99	4-φ19	19	3
65	240	145	118	118	4-φ19	19	3
80	260	160	132	132	8-φ19	19	3
100	300	180	156	156	8-φ19	19	3
125	350	210	184	184	8-φ19	19	3
150	400	240	211	211	8-φ23	19	3
200	500	295	266	266	12-φ23	20	3
250	600	355	319	319	12-φ28	22	3
300	700	410	370	370	12-φ28	24.5	4

Quick Exhaust Valve



Material

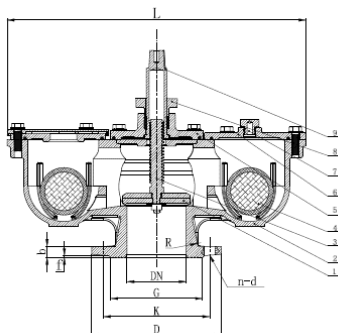
Body: DI
 Ball: SS
 Bonnet: DI
 Sealing Gasket: EPDM

Main Technical Parameters

Working pressure: 10 bar, 16bar
 Shell pressure: 15bar, 24bar
 Seated pressure: 11bar, 17.6bar

DIMENSION							
DN	END FLANGE PN10/16						
	D	D1	D2	b	f	H	Z-d
50	165	125	99	19	3	250	4-φ19
80	200	160	132	19	3	500	8-φ19
100	220	180	156	19	3	549	8-φ19
150	285	240	211	19	3	615	8-φ23
200	340	295	266	20	3	729	8-φ23

Double Ball Exhaust Valve



Material

Body: DI
Ball: Wooden with EPDM
Bonnet: DI
Stem: SS420

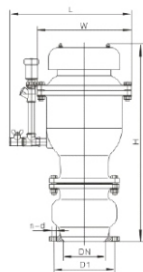
Main Technical Parameters

Working pressure: 10 bar, 16bar
Shell pressure: 15bar, 24bar
Seated pressure: 11bar, 17.6bar

DIMENSION

DN	END FLANGE PN10/16							
	L	D	K	G	n-d	f	b	H
50	431	165	125	99	4-19	3	19	286
80	467	200	160	132	8-19	3	19	306
100	507	220	180	156	8-19	3	19	333
150	655	285	240	211	8-23	3	19	446
200	784	340	295	266	12-23	3	20	503

Buffering Type Air Valve



Material

Body: DI
Ball: Wooden with EPDM
Seat: DI
Sealing Ring: EPDM
Spring: SS
Micro Exhaust Valve: SS

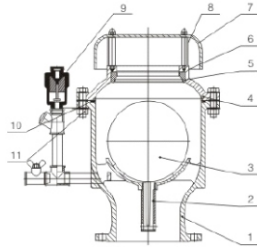
Main Technical Parameters

Working pressure: 10 bar, 16bar
Shell pressure: 15bar, 24bar
Seated pressure: 11bar, 17.6bar

DIMENSION

DN	END FLANGE PN10/16					
	L	W	D1	n-d	H	
50	290	130	125	4-18	340	
65	320	150	145	4-18	360	
80	340	210	160	8-18	400	
100	410	270	180	8-18	470	
150	490	340	240	8-22	580	
200	620	460	295	8-22 12-22	770 780	
250	710 720	520 530	350 355	12-22 12-26	910 920	
300	820	670 690	400 410	12-22 12-26	1150 1170	

Ball Check Valve



Material

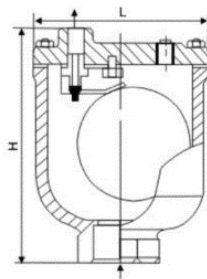
Body: DI
 Bonnet: DI
 Ball: SS
 Lever: SS
 Piston: SS

Main Technical Parameters

Working pressure: 10 bar, 16bar
 Shell pressure: 15bar, 24bar
 Seated pressure: 11bar, 17.6bar

DIMENSION			
DN	END FLANGE PN10/16		
	L	L1	H
25	280	176	330
32	280	176	330
50	360	208	475
65	360	208	475
80	400	244	552
100	465	275	623
150	537	332	686
200	537	332	686

ARVX Type Trace Exhaust Valve



Material

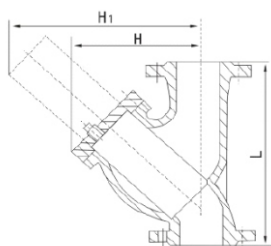
Body: DI
 Bonnet: DI
 Ball : SS
 Lever: SS
 Bolts & Nuts: SS

Main Technical Parameters

Working pressure: 10 bar, 16bar
 Shell pressure: 15bar, 24bar
 Seated pressure: 11bar, 17.6bar

DIMENSION					
DN	END FLANGE PN10/16				
	Thread G	Outlet size	Exhaust outlet size	Φ	H
15	1/2	176	1.6	125	127
20	1/2	176	1.6	125	127
25	1	208	1.6	125	127

Y-strainer



Material

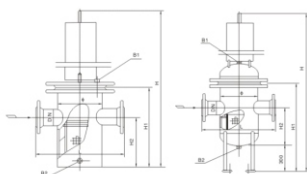
Body: DI
 Filter Screen: SS
 Total area of mesh: 3-4DN

Main Technical Parameters

Working pressure: 10 bar, 16bar
 Shell pressure: 15bar, 24bar
 Seated pressure: 11bar, 17.6bar

DIMENSION			
DN	END FLANGE PN10/16		
	L	H	H1
40	200	115	168
50	220	155	195
65	290	198	270
70	310	210	295
100	350	250	344
125	400	305	422
150	480	358	485
200	550	450	602
250	660	503	710
300	720	578	815

Basket Strainer



Material

Body: DI
 Ball: Wooden with EPDM
 Seat: DI
 Sealing Ring: EPDM
 Spring: SS
 Micro Exhaust Valve: SS

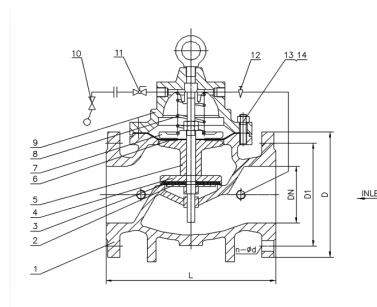


Main Technical Parameters

Working pressure: 10 bar, 16bar
 Shell pressure: 15bar, 24bar
 Seated pressure: 11bar, 17.6bar

DIMENSION									
DN	END FLANGE PN10/16					B2 discharge outlet		Effective filtration area(m ³)	
	L	H	H1	H2	φ				
25	220	520	110	70	76	R1/2"	DN20 (Plate face) RF	DN20 (Raised face) M	0.003619
32	220	525	110	70	76				0.003619
40	280	630	120	100	114				0.005718
50	280	630	120	100	114				0.005718
65	330	750	160	110	140				0.009613
80	340	860	180	140	168	R3/4"	DN20 (Plate face) RF	DN20 (Raised face) M	0.001539
100	420	1040	220	170	219				0.02464
150	500	1375	310	220	273				0.004866
200	560	1560	390	280	325				0.07858
250	660	1770	480	320	426				0.12005
300	750	2000	640	400	478				0.16537

100X Solenoid Distance Control Ball Float Valve



Material

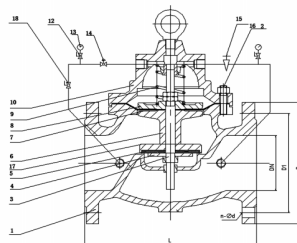
Body, Bonnet: DI
Disc: CARBON STEEL
BALL: SS
Sealing gasket: NBR
Diaphragm: Reinforced nylon rubber
Sping: SS

Main Technical Parameters

Working pressure: 10 bar
Shell pressure: 15bar
Seated pressure: 11bar

DN	DIMENSION			
	OUTLINE mm	END FLANGE PN10-16		
	L	D	D1	n-d1
50	203	165	125	4-φ18
65	215	185	145	4-φ18
80	241	200	160	8-φ18
100	260	220	180	8-φ18
125	300	250	210	8-φ18
150	330	285	240	8-φ22
200	400	340	295	8-φ22 12-φ22
250	480	395 405	350 355	12-φ22 12-φ26
300	550	445 460	400 410	12-φ22 12-φ26
350	622	505 520	460 470	16-φ22 16-φ26
400	685	565 580	515 525	16-φ26 16-φ30

200X Pressure Reducing Valve



Material

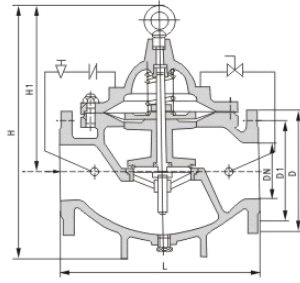
Body: DI
STEM: SS420
Sealing gasket: NBR
Diaphragm: Reinforced nylon rubber
Sping: SS

Main Technical Parameters

Working pressure: 10 bar
Shell pressure: 15bar
Seated pressure: 11bar

DN	DIMENSION			
	OUTLINE mm	END FLANGE PN10-16		
	L	D	D1	n-d1
50	203	165	125	4-φ18
65	215	185	145	4-φ18
80	241	200	160	8-φ18
100	260	220	180	8-φ18
125	300	250	210	8-φ18
150	330	285	240	8-φ22
200	400	340	295	8-φ22 12-φ22
250	480	395 405	350 355	12-φ22 12-φ26
300	550	445 460	400 410	12-φ22 12-φ26
350	622	505 520	460 470	16-φ22 16-φ26
400	685	565 580	515 525	16-φ26 16-φ30

300X Show-closure Check Valve



Material

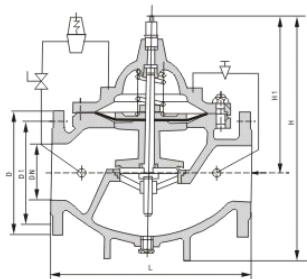
Body: DI
 STEM: SS420
 Sealing gasket: NBR
 Diaphragm: Reinforced nylon rubber
 Sping: SS

Main Technical Parameters

Working pressure: 10 bar
 Shell pressure: 15bar
 Seated pressure: 11bar

DN	DIMENSION			
	OUTLINE mm	END FLANGE PN10-16		
	L	D	D1	n-d1
50	203	165	125	4-φ18
65	216	185	145	4-φ18
80	241	200	160	8-φ18
100	292	220	180	8-φ18
125	330	250	210	8-φ18
150	356	285	240	8-φ22
200	495	340	295	8-φ22 12-φ22
250	622	395 405	350 355	12-φ22 12-φ26
300	692	445 460	400 410	12-φ22 12-φ26
350	787	505 520	460 470	16-φ22 16-φ26
400	914	565 580	515 525	16-φ26 16-φ30

400X Flow Control Valve



Material

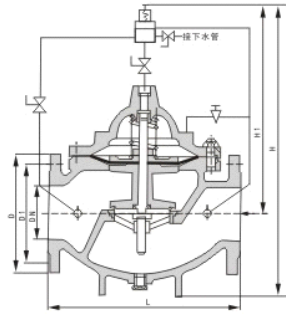
Body: DI
 STEM: SS420
 Sealing gasket: NBR
 Diaphragm: Reinforced nylon rubber
 Sping: SS

Main Technical Parameters

Working pressure: 10 bar
 Shell pressure: 15bar
 Seated pressure: 11bar

DN	DIMENSION			
	OUTLINE mm	END FLANGE PN10-16		
	L	D	D1	n-d1
50	203	165	125	4-φ18
65	216	185	145	4-φ18
80	241	200	160	8-φ18
100	292	220	180	8-φ18
125	330	250	210	8-φ18
150	356	285	240	8-φ22
200	495	340	295	8-φ22 12-φ22
250	622	395 405	350 355	12-φ22 12-φ26
300	692	445 460	400 410	12-φ22 12-φ26
350	787	505 520	460 470	16-φ22 16-φ26
400	914	565 580	515 525	16-φ26 16-φ30

500X Relief Valve



Material

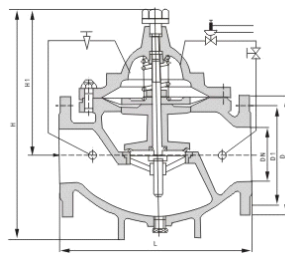
Body: DI
 STEM: SS420
 Sealing gasket: NBR
 Diaphragm: Reinforced nylon rubber
 Sping: SS

Main Technical Parameters

Working pressure: 10 bar
 Shell pressure: 15bar
 Seated pressure: 11bar

DN	DIMENSION			
	OUTLINE mm	END FLANGE PN10-16		
	L	D	D1	n-d1
50	203	165	125	4-φ18
65	216	185	145	4-φ18
80	241	200	160	8-φ18
100	292	220	180	8-φ18
125	330	250	210	8-φ18
150	356	285	240	8-φ22
200	495	340	295	8-φ22 12-φ22
250	622	395 405	350 355	12-φ22 12-φ26
300	692	445 460	400 410	12-φ22 12-φ26
350	787	505 520	460 470	16-φ22 16-φ26
400	914	565 580	515 525	16-φ26 16-φ30

800X Differential Bypass Balance Valves



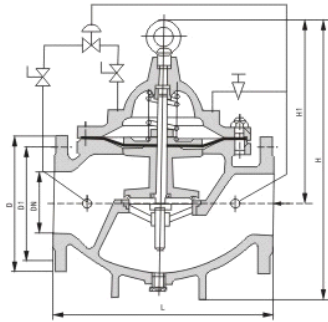
Note: Sixe and A800 connection type
 The grade of pressure: PN10/16/25
 Diaphragm type: DN25 ~ 450
 Piston type: DN500 ~ 750
 Medium temperature: 0-80°C

Function and use

It is used to support the air conditioning system / return water / differential pressure not supported by the machine, and the return water system of the machine room. The use of radio prepaid differential pressure causes damage to the equipment.

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

900X Emergency Shut Off Valves



Note: Sixe and A800 connection type
The grade of pressure: PN10/16/25
Diaphragm type: DN25 ~ 450
Piston type: DN500 ~ 750
Medium temperature: 0-80°C

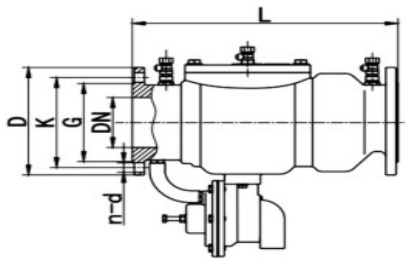
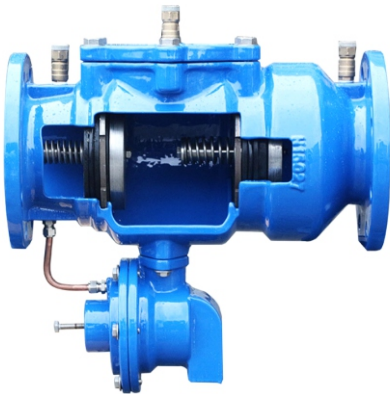
Function and use

The valve is used in the parallel water system of fire water and domestic water. As fire water, it automatically cuts off the valve in an emergency to cut off domestic water and ensure fire water. When the fire fighting is over, the valve automatically opens to restore domestic water, which is more cost-effective than traditional fire

DIMENSION

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L	203	216	241	292	330	256	457	533	610	686	762	864	914	1067
H	293	328	364	418	481	543	673	729	927	957	1118	1218	1256	1600

Backflow Preventer Reduce-pressure Type



Material

Body: DI
Seat: SS
Bonnet: DI
Clack: SS
Sealing ring: NBR OR EPDM
Mebrane: NBR OR EPDM
Spring: SS
Screw: SS

Main Technical Parameters

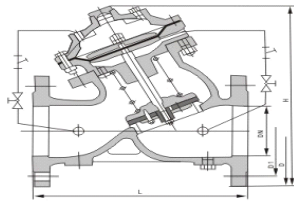
Working pressure: 6 bar, 10bar
Shell pressure: 12bar, 20bar
Seated pressure: 11bar, 17.6bar

DIMENSION

DN	OUTLINE mm				END FLANGE PN6				END FLANGE PN10			
	L	H1	H1	H3	D	K	G	n-d1	D	K	G	n-d1
50	223	110	205	> 300	140	110	88	4-φ14	165	125	99	4-φ19
65	179	120	215		160	130	108	4-φ14	185	145	118	4-φ19
80	331	130	221		190	150	124	4-φ19	200	160	132	8-φ19
100	415	15	261		210	170	144	4-φ19	220	180	156	8-φ19
150	530	192	303		265	225	199	8-φ19	285	240	211	8-φ23
200	645	220	320		320	280	254	12-φ19	340	295	266	12-φ23
250	750	253	353		375	335	309	12-φ19	405	355	319	12-φ28
300	860	280	380		440	395	363	12-φ23	460	410	370	12-φ28

JD745X

Multi Functional Pump Control Valves



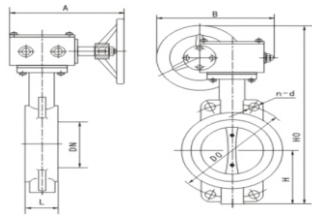
Function and use

In the water supply system of high-rise buildings and other water supply systems, a diaphragm multifunctional control valve is installed at the outlet of the pump to prevent countercurrent, water hammer, etc. The valve has the functions of electric valve, check valve and water hammer eliminator, which can improve the safety of the system. The valve has the functions of slow opening, fast closing and slow closing to prevent water hammer when starting and closing the pump. Just press the button to close or open the pump, and the valve can operate according to the operating procedures of the pump, with large flow and small pressure loss. JD745X diaphragm multi-function pump control valve is applicable to valves of DN600 or below.

DIMENSION														
DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L	203	216	241	292	330	256	457	533	610	686	762	864	914	1067
H	293	328	364	418	481	543	673	729	927	957	1118	1218	1256	1600

D2001

Wafer Type Butterfly Valve With Gear Actuator



Material

Valve Body: QT450-10
Packing: Flexible Graphite
Rubber Lining : EPDM
Valve Disc: QT450-10
Valve Rod: 20Cr13

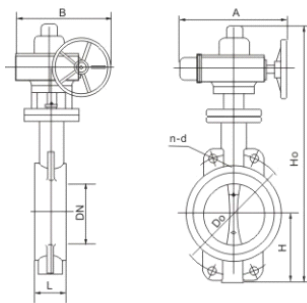
Main Technical Parameters

Medium: Water
Medium Temperature (°C) : 1-80°C
Max Pressure (Mpa) : 1.6Mpa
Open-Close Torque: ≤200N.m

SIZE	L	H	H0	A	B	D0	n-d
DN50	43	63	306	180	200	125	4-φ18
DN65	46	70	321	180	200	145	4-φ18
DN80	46	83	346	180	200	160	4-φ18
DN100	52	105	387	180	200	180	4-φ18
DN125	56	115	411	180	200	210	4-φ18
DN150	56	137	447	270	280	240	4-φ22
DN200	60	164	572	270	280	295	4-φ22
DN250	68	206	646	270	280	355	4-φ26
DN300	78	230	738	380	420	410	4-φ26
DN350	78	248	761	380	420	470	4-φ26
DN400	102	289	877	450	470	525	4-φ30

D2002

Electric Wafer Type Butterfly Valve



Material

Valve Body: QT450-10
Packing: Flexible Graphite
Rubber Lining : EPDM
Valve Disc: QT450-10
Valve Rod: 20Cr13

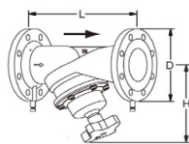
Main Technical Parameters

Medium: Water
Medium Temperature (°C) : 1-80°C
Max Pressure (Mpa) : 1.6Mpa
Open-Close Torque: ≤200N.m

SIZE	L	H	H0	A	B	D0	n-d
DN50	43	63	438	125	125	φ125	4-φ18
DN65	46	70	453	125	125	φ145	4-φ18
DN80	46	83	478	125	125	φ160	8-φ18
DN100	52	105	519	125	125	φ180	8-φ18
DN125	56	115	713	325	245	φ210	8-φ18
DN150	56	137	749	325	245	φ240	8-φ22
DN200	60	164	843	325	245	φ295	12-φ22
DN250	68	206	947	363	313	φ355	12-φ26
DN300	78	230	1013	363	313	φ410	12-φ26
DN350	78	248	1046	363	313	φ470	16-φ26
DN400	102	289	1135	363	313	φ525	16-φ30

DLF07

Flange Static Balance Valve



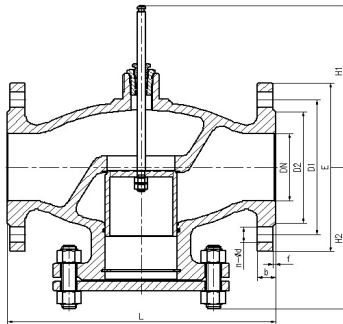
Material

Valve body: QT450-10
Valve Rod: Stainless steel
Valve Clack: Q235A
Connector : HPb59-1
Seal ring: PTFE
Hand Wheel: Engineering Plastics

Main Technical Parameters

Medium: Water,
 Ethylene Glycol Solution(concentration≤30%)
Medium Temperature (°C) : 1-120°C
Flow Rate error: ±5%
Max Pressure (Mpa) : 1.6MPa

Nominal DN	Structure Size			Flange Size GB/T 17241.6 (PN16)							Kv
	D	L	H	E	D1	D2	n-φd	Bolt	b	f	
40	150	165	238	150	110	84	4-φ19	M16	19	3	20.2
50	165	203	258	165	125	99	4-φ19	M16	19	3	45.3
65	185	216	285	185	145	118	4-φ19	M16	19	3	68.7
80	200	250	324	200	160	132	8-φ19	M16	19	3	83.8
100	220	292	355	220	180	156	8-φ19	M16	19	3	119.5
125	250	330	410	250	210	184	8-φ19	M16	19	3	178.7
150	285	356	477	285	240	211	8-φ23	M20	19	3	272.7
200	340	495	613	340	295	266	12-φ23	M20	20	3	380
250	405	622	740	405	355	319	12-φ28	M24	22	3	608
300	460	698	828	460	410	370	12-φ28	M24	24.5	4	1292
350	520	787	930	520	470	429	16-φ28	M24	26.5	4	1791

DLF09**Electric Two-way Regulating Valve****Material**

Valve Body: HT250

Valve Rod: Stainless Steel

Valve Element: Stainless Steel

Seal Ring: PTFE

Main Technical Parameters

Medium: Water,

Ethylene Glycol Solution(concentration≤30%)

Medium Temperature (°C) : 1-120°C

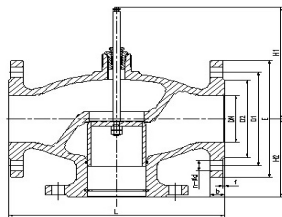
Adjustable Rate: ≥50:1

Leakage: ≤Kv0.05%

Flow Characteristic: Equal Percent

Max Pressure (Mpa) : 1.6MPa

Nominal DN	Structure Size			Flange Size GB/T 17241.6 (PN16)							mm
	L	H1	H2	E	D1	D2	n-φd	Bolt	b	f	
32	170	141	125	140	100	76	4-φ19	M16	19	3	42
40	170	141	125	150	110	84	4-φ19	M16	19	3	42
50	205	145	130	165	125	99	4-φ19	M16	19	3	42
65	246	154	140	185	145	118	4-φ19	M16	19	3	42
80	297	192	168	200	160	132	8-φ19	M16	19	3	42
100	320	202	170	220	180	156	8-φ19	M16	19	3	42
125	340	205	174	250	210	184	8-φ19	M16	19	3	42
150	355	207	190	285	240	211	8-φ23	M20	19	3	42
200	400	257	213	340	295	266	12-φ23	M20	20	3	42

DLF10**Electric Three-way Control Valve****Material**

Body: HT250

Stem: Stainless Steel

Spool: Stainless Steel

O ring: PTFE

Main Technical Parameters

Medium: Water and not more than 30% glycol solution

Medium temperature: 1-120°C

Valve type: 3-way mixed flow

Adjustable ratio: ≥50:1

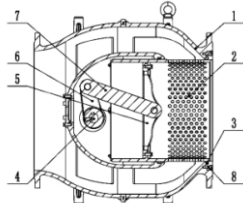
Leakage : A-AB channel≤Kv value 0.5%; B-AB channel≤Kv value 1%

Flow characteristics: A-AB channel, equal percentage; B-AB channel, linear

Nominal pressure (MPa): 1.6MPa

DN	Size			Flange							mm
	L	H1	H2	E	D1	D2	n-φd	Screw	b	f	
32	170	141	95	140	100	76	4-φ19	M16	19	3	42
40	170	141	95	150	110	84	4-φ19	M16	19	3	42
50	205	145	100	165	125	99	4-φ19	M16	19	3	42
65	246	154	110	185	145	118	4-φ19	M16	19	3	42
80	297	192	138	200	160	132	8-φ19	M16	19	3	42
100	320	202	140	220	180	156	8-φ19	M16	19	3	42
125	340	205	144	250	210	184	8-φ19	M16	19	3	42
150	355	207	160	285	240	211	8-φ23	M20	19	3	42
200	400	257	183	340	295	266	12-φ23	M20	20	3	42

Needle Valve



Material

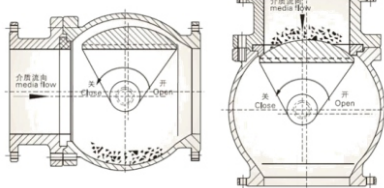
- Body: Ductile iron
- Plunger: Stainless steel
- Sealing ring: EPDM
- Valve stem: Stainless steel
- Connect seat: Ductile iron
- Swing arm: Ductile iron
- Connect rod: Stainless steel
- Screw: Stainless steel

Main Technical Parameters

- Working pressure: 10 bar、16 bar、25 bar
- Shell pressure: 15bar、24bar、37.5bar
- Seated pressure: 11bar、17.6bar、27.5bar

DIMENSION															
DN	L	B	Hmax	PN1.0MPa				PN1.6MPa				PN2.5MPa			
				D	D1	n-φd	b	D	D1	n-φd	b	D	D1	n-φd	b
100	325	210	160	220	180	8-18	22	220	180	8-19	22	235	190	8-22	24
125	325	240	190	250	210	8-18	22	250	210	8-18	22	270	220	8-26	26
150	350	290	220	285	240	8-22	24	285	240	8-22	24	300	250	8-26	28
200	400	330	310	340	295	8-22	24	340	295	12-22	24	360	310	12-26	30
250	500	330	395	395	350	12-22	26	405	355	12-22	26	425	370	12-30	32
300	600	420	460	445	400	12-22	26	460	410	12-26	28	485	430	16-30	34
350	700	510	490	505	460	16-22	26	520	470	16-26	30	555	490	16-22	38
400	800	655	520	565	515	16-26	26	580	525	16-30	32	620	550	16-36	40
450	900	750	580	615	565	20-26	28	640	585	20-30	40	670	600	20-36	46
500	1050	820	640	670	620	20-26	28	715	650	20-33	44	750	660	20-36	48
600	1175	970	730	780	725	20-30	34	840	770	20-36	54	845	770	20-39	58
700	1320	1050	850	895	840	24-30	34	910	740	22-36	40	980	875	24-42	50
800	1480	1215	1020	1015	950	24-33	38	1025	950	24-39	42	1085	990	24-48	54
900	1700	1350	1270	1115	1050	28-33	8	1125	1050	28-39	44	1185	1090	28-48	56
1000	1900	1560	1390	1230	1160	28-33	38	1255	1170	28-42	46	1320	1210	28-55	62
1200	2100	1750	1510	1455	1380	32-39	44	1485	1390	32-48	52	1580	1420	32-55	70
1400	2420	2100	1625	1675	1590	36-42	46	1685	1590	36-48	58	1765	1640	36-60	76
1600	2700	2435	1920	1915	1820	40-48	52	1930	1820	40-55	64	1975	1860	40-60	84
1800	3070	2670	2110	2115	2020	44-48	56	2130	2020	40-55	68				
2000	3250	1980	2310	2325	2230	48-48	60	2345	2250	48-50	70				

Ball Valve



Material

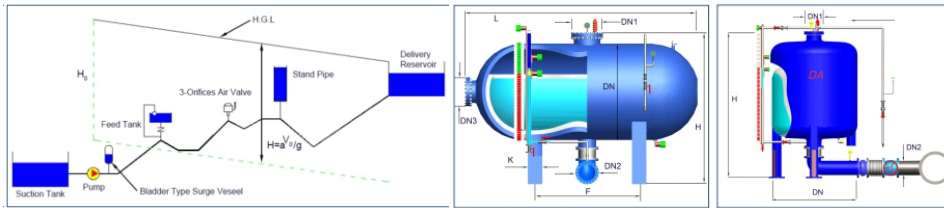
- VALVE BODY & BONNET: Ductile iron
- Valve seat: Stainless steel
- Valve stem: Stainless steel
- Sealing ring: EPDM
- O-ring : NBR
- Screw: SS / Carbon steel

Main Technical Parameters

Nominal Pressure	Test Pressure PN(Mpa)		Suitable temperature (°C)	Suitable medium	
	Shell	High pressure seal			
0.6	0.9	0.66	PTFEs150	Water, steam, oil, Natural gas etc.	
	1.5	1.1			
1.6	2.4	1.76	Para polystyrenes250		
2.5	3.75	2.75			
4	6	4.4	Carbides400		Solution, pulp, alumina powder, coal dust, coal ash, waste residue, dust gas, etc

DIMENSION															
DN	A	B1	B2	h	H	FLANGE PN10/16									
						D		K		d	n-L		BOLT		
						PN10	PN16	PN10	PN16			PN10	PN16	PN10	PN16
200	457	513	198	160	330	340	340	295	295	266	8-23	12-23	M20	M20	
250	533	548	228	160	374	395	405	350	355	319	12-23	12-28	M20	M24	
300	610	648	255	176	419	445	460	400	410	370	12-23	12-28	M21	M24	
350	686	686	288	176	465	505	520	460	470	429	16-23	16-28	M22	M24	
400	762	760	323	215	454	565	580	515	525	480	16-28	16-31	M24	M27	
450	864	800	353	215	479	615	640	565	585	530	20-28	20-31	M24	M27	
500	914	865	380	215	532	670	715	620	650	582	20-28	20-37	M27	M30	
600	1067	935	440	215	632	780	840	725	770	682	20-31	24-37	M27	M33	
700	1245	1054	505	215	732	895	910	840	-	794	24-31	24-40	M30	M33	
800	1372	1129	570	240	832	1015	1025	-	950	901	24-34	28-40	M30	M36	
900	1524	1305	628	240	798	1115	1125	-	1050	1001	28-34	28-43	M33	M36	
1000	1700	1392	695	255	945	1230	1255	-	1160	1112	28-37	32-49	M36	M39	
1200	1750	1601	818	255	1178	1455	1485	-	1380	1328	32-40	32-40	M39	M45	
1400	1880	1758	938	255	1228	1675	1685	-	1590	1530	36-43	36-49	M45	M45	
1600	2000	2015	1068	330	1408	1915	1930	-	1820	1750	40-49	40-56	M45	M52	
1800	2337	2145	1178	330	1578	2115	2130	-	2020	1950	44-49	44-56	M45	M52	
2000	2650	1463	1163	360	1723	2325	2345	-	2230	2150	48-49	48-62	M45	M56	
2200	2800	2463	1405	360	1835	2550	-	-	2440	2335	52-56	-	M52	-	

Surge Vessels and Air Chamber



Bladder Type Surge Vessels

Volume Classification: 1m³-100m³

Rated Pressure: 1.0MPa-10.0MPa

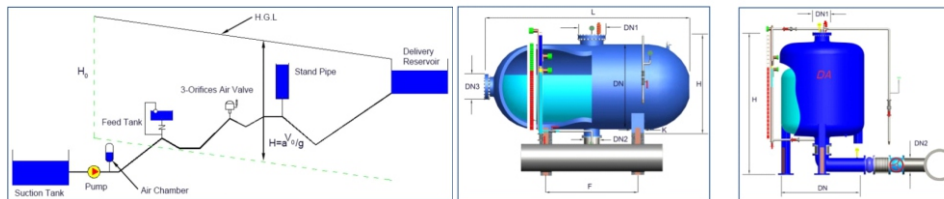
Type: Water Bladder Type & Gas Bladder Type

Usage: Water Bladder Type is used in drinking water or raw water

Gas Bladder Type is used in waste water

Temperature: -10°C-60°C

Adopted Standard: GB150-2011 & ASME Sec. VIII Div 1



Compressor Type Surge Vessels

Volume Classification: 1m³-100m³

Rated Pressure: 1.0MPa-10.0MPa

Temperature: -10°C-60°C

Effective Volume(L)	DN(mm)	Shell Length(mm)	DIMENSION							F(mm)	K(mm)
			Vertical Type H(mm)	Horizontal Type H(mm)	Horizontal Type L(mm)	DN1	DN2	DN3			
1000	1200	550	2850	-	-	500	DN200-DN50	500	-	-	
2000	1200	1400	3700	-	-	500	DN200-DN50	500	-	-	
3000	1200	2300	4600	1950	3300	500	DN200-DN50	500	1610	170	
5000	1500	2350	4800	2250	3500	500	DN200-DN50	500	1645	200	
6000	1500	2900	5350	2250	4050	500	DN300-DN50	500	2030	200	
8000	1800	2550	5150	2550	3850	500	DN300-DN50	500	1785	220	
10000	2000	2500	5200	2750	3900	500	DN400-DN50	500	1750	220	
12000	2000	3200	5900	2750	4600	500	DN500-DN100	500	2240	220	
15000	2200	3200	6000	2950	4700	500	DN500-DN100	500	2240	240	
20000	2500	3300	6250	3250	4950	500	DN600-DN100	500	2310	300	
25000	2500	4300	7250	3250	5950	500	DN600-DN100	500	3010	300	
30000	3000	3300	6500	3750	5200	500	DN600-DN100	500	2310	360	
35000	3200	3300	6600	3950	5300	500	DN600-DN100	500	2310	360	
40000	3200	3900	7200	3950	5900	500	DN600-DN100	500	2730	360	
45000	3300	4100	7450	4050	6150	500	DN600-DN100	500	2870	360	
50000	3400	4350	7750	4150	6450	500	DN600-DN100	500	3040	380	
60000	3400	5500	8900	4150	7600	500	DN600-DN100	500	3850	380	
70000	3400	6600	10000	4150	8700	500	DN600-DN100	500	4620	380	
80000	3400	7600	11000	4150	9700	500	DN600-DN100	500	5320	380	

Pipe Fittings



(t) Type All Flanged Tee



All Socket Tee



Dismantling Joint



Double Flanged Bend



Double Flanged Duckfoot Bend



Double Flanged Pipe



Double Socket Collar



Double Socket Tee With Flanged Brack



Flange Adaptor



Loose Flange Bend



Loose Flange Pipe



Loose Flange Tee



PVC All Socket Tee



PVC Flanged Spigot



PVC Socket Flanged Spigot



S Type Loose Flange Bend



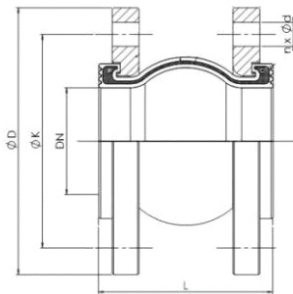
Universal Coupling



Wall Flanged

QT114

Rubber Flexible Connector



Material

Body: Compounded Rubber
Strengthened Layer: Nylon Insulated Cord
Skeleton Layer: Nylon Thread, Soft Steel Wire
Flange: Carbon Steel Q235A(Painting)

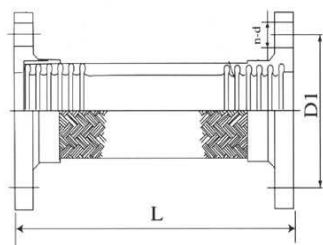
Main Technical Parameters

Medium: Water
Medium Temperature (°C) : 1-80°C
Max Pressure (Mpa) : 1.6Mpa

DN	L	D	K	n-d	Axial Displacement		Lateral Displacement	Deflection Angle A°
					Elongation	Compression		
DN50	105	165	125	4-18	7	10	10	15
DN65	115	185	145	4-18	7	13	11	15
DN80	135	200	160	8-18	8	15	12	15
DN100	150	220	180	8-18	10	19	13	15
DN125	165	250	210	8-18	12	19	13	15
DN150	180	285	240	8-22	12	20	14	15
DN200	210	340	295	12-22	16	25	22	15
DN250	230	405	355	12-26	16	25	22	15
DN300	245	460	410	12-26	16	25	22	15
DN350	255	520	470	16-26	16	25	22	15
DN400	255	580	525	16-30	16	25	22	15

QT116

Stainless Steel Braided Compensator



Material

Bellows: 304
Flange: Carbon Steel Q235A
Metal Mesh(Stainless steel): 304

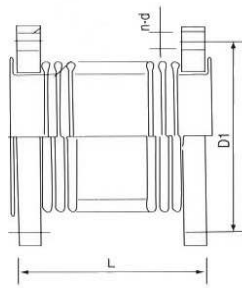
Main Technical Parameters

Medium: Water
Medium Temperature (°C) : 1-90°C
Max Pressure (Mpa) : 1.6Mpa

DN	L	D	D1	n-d	Minimal bending radius	
					Static	Dynamic
DN50	300	165	125	4-18	350	800
DN65	300	185	145	4-18	390	845
DN80	300	200	160	8-18	480	1000
DN100	300	220	180	8-18	600	1200
DN125	300	250	210	8-18	750	1500
DN150	300	285	240	8-22	900	1800
DN200	300	340	295	12-22	1000	2000
DN250	300	405	355	12-26	1250	2500
DN300	300	460	410	12-26	1500	3000
DN350	300	520	470	16-26	1750	3500
DN400	300	580	525	16-30	2000	4000

QT115

Stainless Steel Ripple Compensator



Material

Bellows: 304

Flange: Carbon Steel Q235A

Limit Lever: Carbon Steel Q235A

Main Technical Parameters

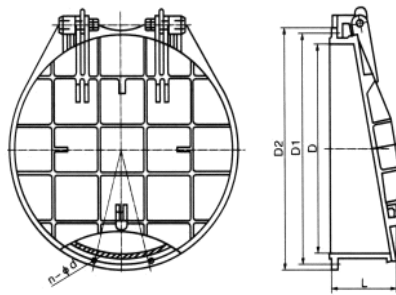
Medium: Water

Medium Temperature (°C) : 1-120°C

Max Pressure (Mpa) : 1.6Mpa

DN	L	D	D1	n-d	Lateral Displacement	
					Elongation	Compression
DN50	150	165	125	4-18	18	18
DN65	170	185	145	4-18	22	22
DN80	200	200	160	8-18	28	28
DN100	220	220	180	8-18	35	35
DN125	240	250	210	8-18	58	58
DN150	260	285	240	8-22	54	54
DN200	340	340	295	12-22	53	53
DN250	400	405	355	12-26	79	79
DN300	420	460	410	12-26	79	79
DN350	430	520	470	16-26	79	79
DN400	480	580	525	16-30	79	79

FLAP VALVE



Material

Body: Cast iron

Disc : Cast iron

Sealing ring: copper

Bolt & Nut: SS A2

Cylindrical pin: SS A2

Main Technical Parameters

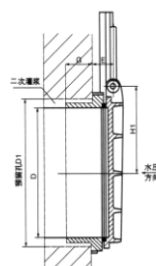
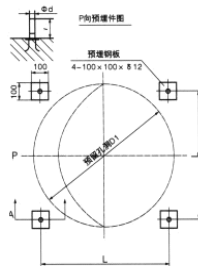
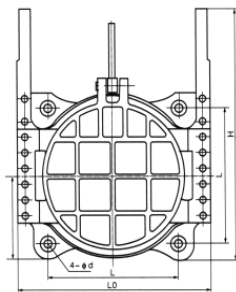
Working pressure: 10 bar

Shell pressure: 15bar

Seated pressure: 11bar

DN	DIMENSION			
	OUTLINE mm	END FLANGE PN10-16		
	D	D1	D2	n-d1
φ300	300	395	435	4-φ18
φ400	400	495	535	4-φ18
φ500	500	600	535	8-φ18
φ600	600	705	645	8-φ18
φ700	700	810	860	8-φ18
φ800	800	920	975	8-φ22
φ900	900	1020	1075	8-φ22 12-φ22
φ1000	1000	1120	1175	12-φ22 12-φ26
φ1200	1200	1320	1375	16-φ22 16-φ26

Circular Penstock



Material

- Body: Cast iron
- Disc : Cast iron
- Sealing ring: copper
- Bolt &Nut: SS A2
- Cylindrical pin: SS A2
- HEADSTOCK: DI
- SPINDLE: SS420

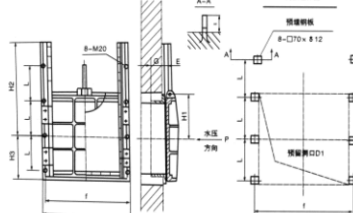
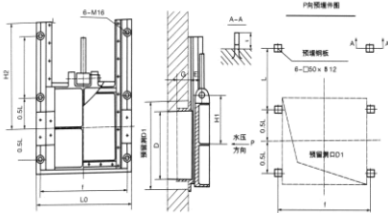
Main Technical Parameters

- Working pressure: 10 bar
- Shell pressure: 15bar
- Seated pressure: 11bar

DIMENSION

DN	D1	E	G	L	L0	H	H1	H2	t	4-Md
φ200	φ270	55	90	220	370	415	160	145	30	4-M12
φ300	φ380	60	100	300	470	560	210	190	35	4-M12
φ400	φ480	70	100	400	590	715	270	245	40	4-M16
φ500	φ580	70	100	500	730	875	320	295	40	4-M16
φ600	φ680	70	120	600	820	1020	380	345	40	4-M16
φ700	φ780	75	120	700	940	1200	430	410	40	4-M16
φ800	φ890	80	120	800	1040	1350	490	460	45	4-M20
φ900	φ990	85	120	900	1156	1505	540	515	45	4-M20
φ1000	φ1090	90	120	1000	1250	1655	590	565	45	4-M20
φ1200	φ1300	95	120	1200	1440	1985	700	670	45	4-M24

Square Penstock



Material

- Body: Cast iron
- Disc : Cast iron
- Sealing ring: copper
- Bolt &Nut: SS A2
- Cylindrical pin: SS A2
- HEADSTOCK: DI
- SPINDLE: SS420

Main Technical Parameters

- Working pressure: 10 bar
- Shell pressure: 15bar
- Seated pressure: 11bar

DIMENSION

D	l	D1	G	E	L0	L	F	H1	H2	H3
φ200	100	φ265	50	60	390	360	350	175	290	140
φ300	100	φ365	50	60	490	240	450	225	359	190
φ400	100	φ465	50	60	610	300	560	290	450	250
φ500	110	φ565	50	65	720	250	660	360	680	300
φ600	125	φ680	70	75	820	300	760	400	750	350
φ700	125	φ780	70	75	930	350	870	450	770	400
φ800	130	φ880	80	83	1010	400	960	500	1000	450
φ900	130	φ980	80	83	1110	450	1060	550	1000	500
φ1000	145	φ1080	73	90	1200	500	1200	590	1100	550