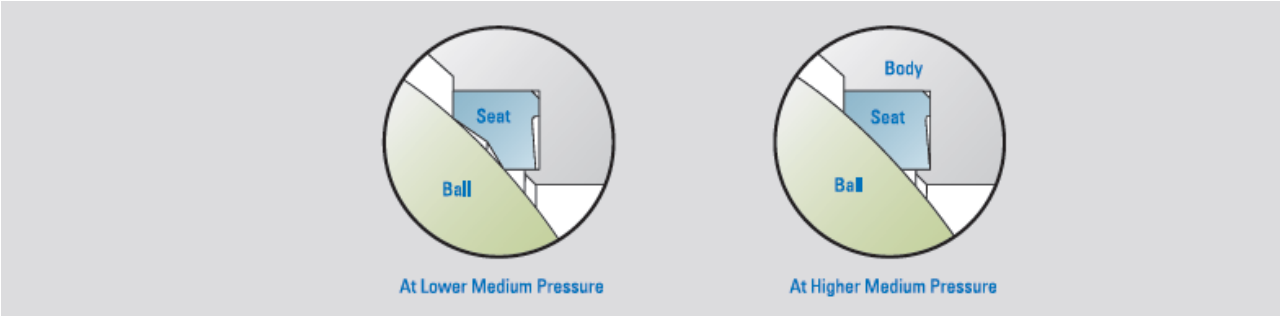
FLOATING BALL Valves
Structure Properties

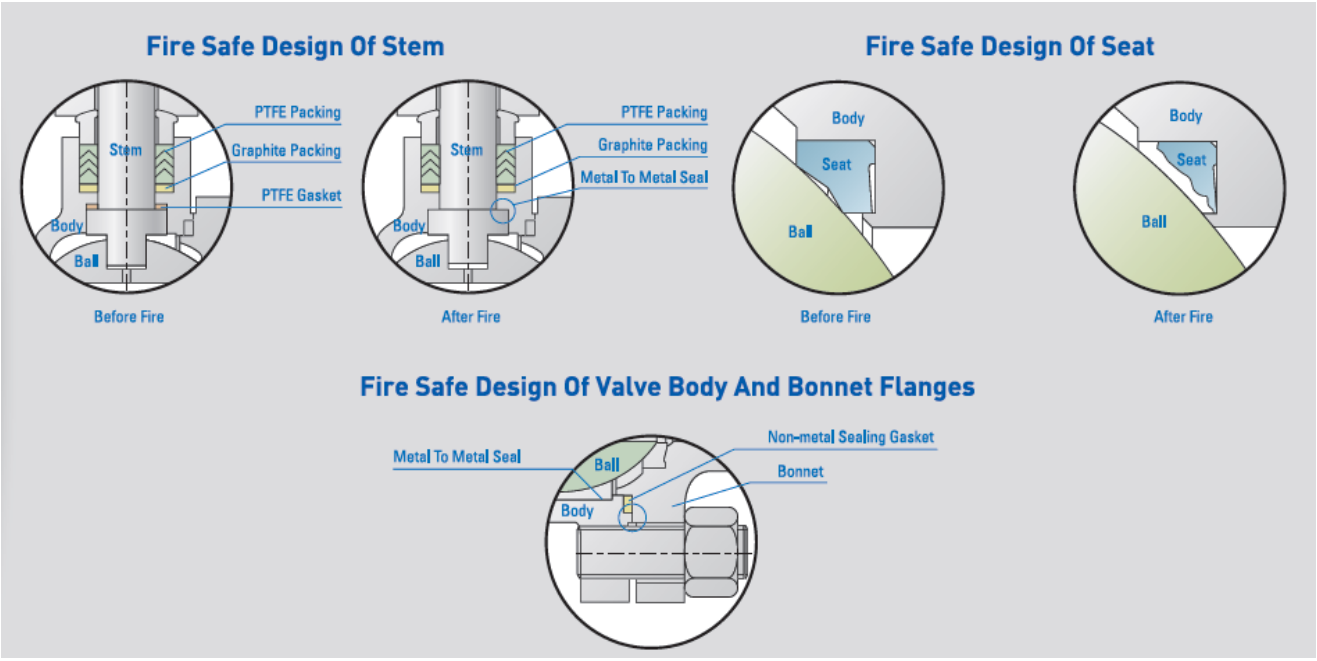
Reliable Seat Seal

Design features reliable Seat Seal
The structure design of double- beveled sealing ring has been adopted to reduce the friction between the ball and the sealing ring to achieve lower operation torque.
When the medium pressure is low, the ball has smaller contacting surface with sealing ring, which introduces higher sealing pressure to ensure the sealing reliability.
When the medium pressure gets higher, the contacting area between ball and sealing ring increases accordingly. Larger contact area reduces the sealing pressure to avoid the deformation of sealing ring



Fire safety design

Fire safe sealing
In case PTFE seats are decomposed due to prolonged exposure to extremely high temperatures in fire accident, the edge of the floating seal retainer come into metal to metal contact with the ball to shut off the fluid and minimize internal fluid leakage through the valve bore to stop the flow of hazardous on flammable fluids until a new seal is installed

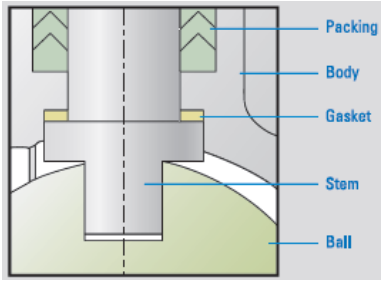


Subject to alternation
We reserve the right to make any technical modification. We are not responsible for any error in printing.

FLOATING BALL Valves

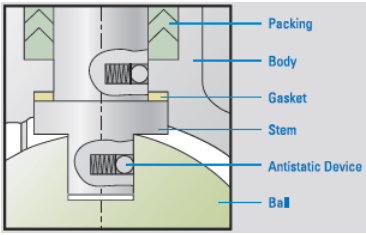
Blow – out Proof Stem

An internal entry anti-blow out stem maintains maximum operating safety at high operating pressure.
The internal flange also functions as the back seat to ensure stem sealing.
Self-adjusting stem packing assembly compensates for temperature fluctuations and is secured by a lock washer



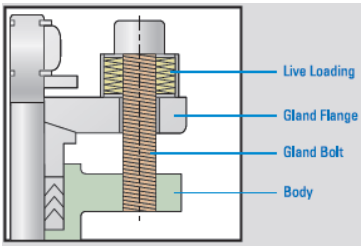
Anti- Static Design

An integral Anti-Static Design provided by mean of spring-loaded devices, which maintain contact between ball and stem, and stem and body to ensure electrical continuity, assuring stem sealing and tested to BS 5351 and BS 5146.



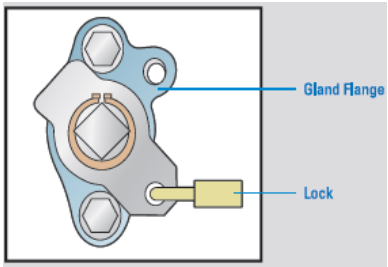
Live Loaded Gland Flange

Live loading is designed to provide gland load retention, compensating for expected in-service consolidation of the packing.
A set of Belleville-spring washers are used on each gland stud to help exert a continuous compressive force on the gland flange and therefore fugitive emissions from the stem packing.



Locking device

Facility for mounting device for prevention of accidental valves operation is provided upon customer request.
Stop limiting device is standard.



Subject to alternation
We reserve the right to make any technical modification. We are not responsible for any error in printing.

FLOATING BALL Valves

Model: NVFS1
Side entry Design, one-piece Body

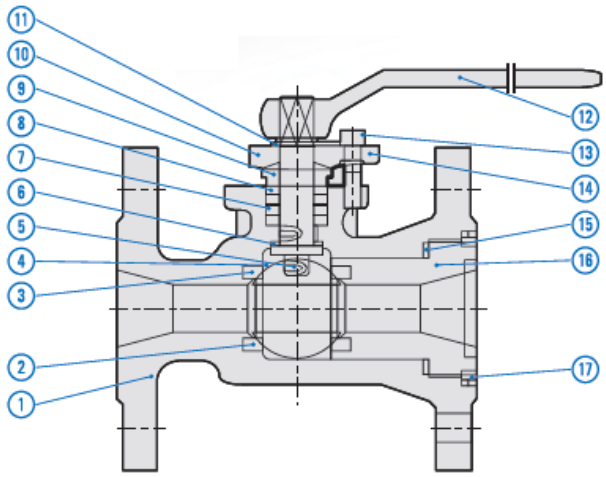
Features

- Uni-body construction
- Stem bearings reduce side thrust
- Blow-out proof stem
- Fully enclosed spiral wound graphite filled stainless body gasket available
- Locking devices available
- Live- Loading available

Standards

- Basic design: API 608, BS 5351
- Flanged ends: ASME B16.5
- Face to Face: ASME B16.10
- Inspection and test: API 598

Material Specification



Pos.	Parts	Standard	Stainless steel	Sour Service	Low Temp. Service
1.	Body	ASTM A216 WCB	ASTM 351 CF8M	A216WCB-NACE MR0175	ASTM A352 LCB
2.	Seat ring	R-PTFE	R-PTFE	R-PTFE	R-PTFE
3.	Ball	ASTM A105/ENP	ASTM A182 F316	ASTM A105/ENP	ASTM A182 F316
4.	Plug	Stainless steel	Stainless steel	Stainless steel	Stainless steel
5.	Spring	Stainless steel	Stainless steel	Stainless steel	Stainless steel
6.	Washer	PTFE	PTFE	PTFE	PTFE
7.	Packing	PTFE/Graphite	PTFE/Graphite	PTFE/Graphite	PTFE/Graphite
8.	Stem	A105/ENP/F6a	ASTM A182 F316	ASTM A105/ENP/F6a	ASTM A182 F316
9.	Gland	ASTM A276 420	ASTM A276 316	ASTM A276 420	ASTM A276 316
10.	Gland flung	ASTM A216 WCB	ASTM 351 CF8M	ASTM A216 WCB	ASTM A352 LCB
11.	Gauge block	Cast Steel	Stainless steel	Cast Steel	Stainless steel
12.	Lever	Ductile iron	Ductile iron	Ductile iron	Ductile iron
13.	Bolt	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M	ASTM A320 L7M
14.	Retaining ring	Cast steel	Stainless steel	Cast steel	Stainless steel
15.	Gasket	PTFE	316+ Graphite	PTFE	PTFE
16.	Closure	ASTM A216 WCB	ASTM 351 CF8M	A216WCB	ASTM A352 LCB
17.	Gasket	Graphite	Graphite	Graphite	Graphite

Subject to alternation
We reserve the right to make any technical modification. We are not responsible for any error in printing.

FLOATING BALL Valves

Available Body Material

Material	Specification		Material	Specification
Carbon steel	A216 WCB		Alloy 825	UNS N00825
Low temperature Carbon	A352 LCB		Alloy 625	A494 CW6MC
Low temperature Carbon	A352 LCC		Hastelloy C276	A494 CW12MW
5% Cr Steel	A217 C5		Monel 400	A494 M351
9% Cr. Steel	A217 C12		Nickle AL-Bz	B148 C95800
Low temperature 13Cr 4n	A352 CA6NM		Inconel 625	A494 CW6MC
410 stainless steel	A217 CA15		Duplex SS Gr.1	A351 CD4MCu
304 stainless steel	A351 CF8		Duplex SS Gr.2	A890 CE8MN
316 stainless steel	A351 CF8M		Duplex SS Gr.3	A890 CD6MN
317 Stainless steel	A352 CG8M		Duplex SS Gr.5	A890 CE3MN
Alloy 20	A351 CN7M		254SMO	A351 CK3MCuN
Gray iron	A125CLB		940L SS	A351 CN2MCuN
Ductile Iron	A395		Titanium Gr.2	B381 F2

Available Trim Material

Nominal Trim	Material Type		Nominal Trim	Material Type
F6	13Cr		F6 and Hard faced	13Cr Ni-Cr
304	18Cr-8Ni		Monel	Ni-Cu alloy
F310	25Cr-20Ni		316	18Cr-88Ni
Hard F6	Hard 13Cr		Monel and hard faced	Ni-Cu alloy; Trim 5 or 5A
Hard faced	Cu-Cr A		316 and hard faced	18Cr-8Ni; Trim 6 or 5A
Hard faced	Ni- Cr		Alloy 20	19Cr-29Ni
F6 and Hard F6	13 Cr Hard 13Cr		Alloy 20 and Hard faced	19Cr-29Ni; trim 5 or 5A
F6 and hard faced	Cu- CrA			

Rating

ASME class 125 up to ASME class 2500

End connection

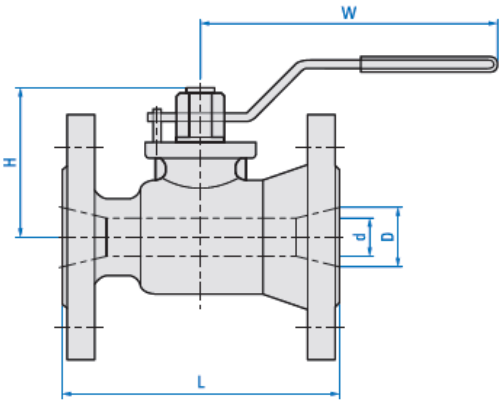
RF: raised face flange
FF: Flat face flange
RTJ: ring joint type flange
BW: Butt weld end

Option

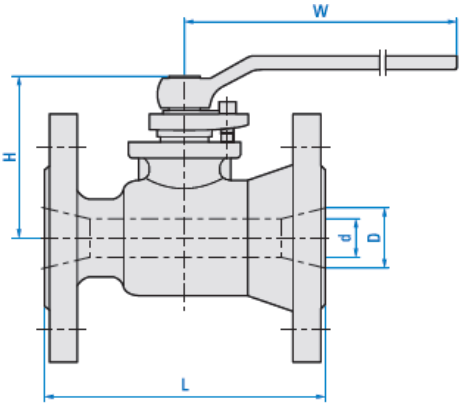
- Cryogenic service
- Fire safety
- Motor, pneumatic operator
- Oxygen service
- Special lining
- Teflon insert

FLOATING BALL Valves

Model: NVFS1
Side entry Design, one-piece Body



NPS 1 /2 up to 2 inch



NPS 3 up to 10 inch

Dimension / Class 150

Size(in.)	1/2	3/4	1	1-1/2	2	2-1/2	3	4	6	8	10
d(mm)	9.5	12.7	19	30	38	51	64	76	114	144	187
D(mm)	12.7	19	25.4	38	51	64	76	102	152	203	254
L(mm)	108	117	127	165	178	191	203	229	267	292	330
H(mm)	54	59	64	90	102	112	121	166	208	246	303
W(mm)	140	140	160	160	260	260	260	320	400	300	400
Weight(kg)	2.1	3	4.1	6.5	9	11.2	15.3	28.6	53	81	150

Dimension / Class 300

Size(in.)	1/2	3/4	1	1-1/2	2	2-1/2	3	4	6	8	10
d(mm)	9.5	12.7	19	30	38	51	64	76	114	144	187
D(mm)	12.7	19	25.4	38	51	64	76	102	152	203	254
L(mm)	140	152	165	190	216	241	283	305	403	419	457
H(mm)	54	59	64	90	102	112	121	166	208	246	303
W(mm)	140	140	160	160	260	260	260	320	300	300	400
Weight(kg)	2.8	3.6	4.9	10.4	10	16.1	23	39.5	82	124	206

Subject to alternation
We reserve the right to make any technical modification. We are not responsible for any error in printing.

FLOATING BALL Valves

Model: NVFS2
Side entry Design, two-piece Body

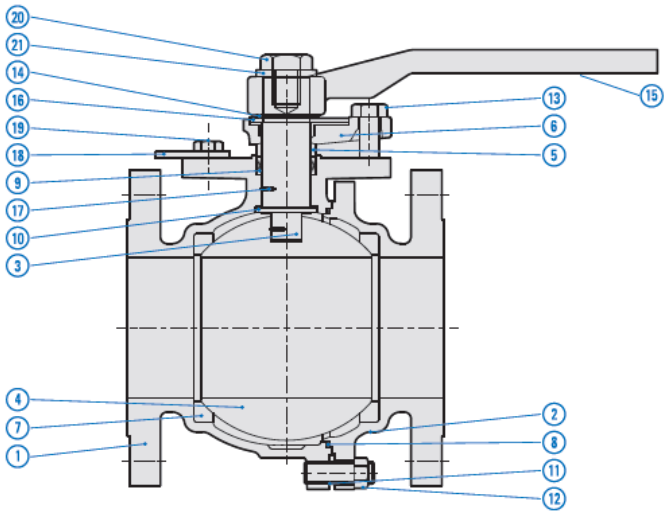
Features

- Split -body construction
- Blow-out proof stem
- Fully enclosed spiral wound graphite filled stainless body gasket available
- Locking devices available
- Live- Loading available

Standards

- Basic design: API 608, BS 5351
- Flanged ends: ASME B16.5
- Face to Face: ASME B16.10
- Inspection and test: API 598

Material Specification

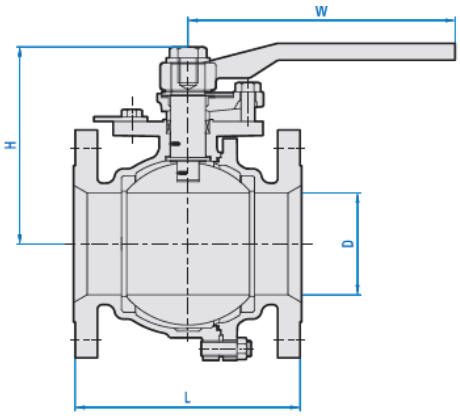


Pos.	Parts	Standard
1.	Body	ASTM A216 WCB
2.	Cap	ASTM A216 WCB
3.	Stem	ASTM A276 T316
4.	Ball	A351 CF8m
5.	Gland	A276 T304
6.	Gland flange	A276 T304
7.	Seat Ring	PTFE
8.	Gasket	PTFE
9.	Gland packing	PTFE
10.	Thrust washer	PTFE
11.	Cap Bolt	A193 B7
12.	Cap Bolt Nut	A194 2H7
13.	Gland bolt	A193 B7
14.	Snap ring	A36
15.	Handle	Steel
16.	Stopper	A36
17.	Anti-static	A276 T316
18.	Locking plate	A36
19.	Locking plate bolt	A36

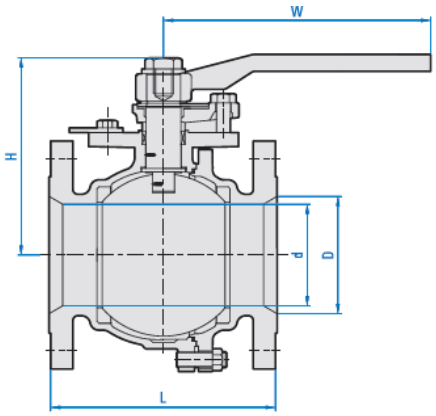
Subject to alternation
We reserve the right to make any technical modification. We are not responsible for any error in printing.

FLOATING BALL Valves

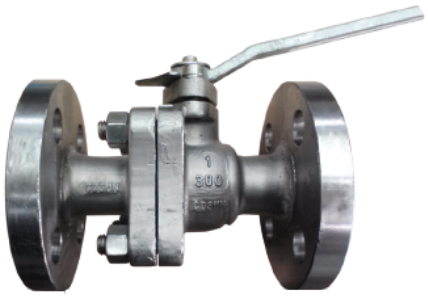
Model: NVFS2
Side entry Design, two-piece Body



Full Bore



Reduce Bore



Dimension / Class 150

	Size(in.)	1/2	3/4	1	1-1/2	2	2-1/2	3	4	6	8	10	12
Full Bore	D(mm)	13	19	25	38	51	64	76	102	152	203	254	305
	L(mm)	108	117	127	165	178	191	203	229	394	457	533	610
	H(mm)	61	66	76	95	110	142	156	181	270	345	350	482
	W(mm)	130	130	160	230	230	400	400	700	300*	300*	400*	600*
	Weight(kg)	2.4	3.3	4.8	8	9.5	15	19.8	32	94	165	199	376

	Size(in.)	3/4* 1/2*3/4	1*3/4*1	1-1/2*1* 1-1/2	2*1-1/ 2*2	2*1/2*2*2* 1/2	3*2* 1/2*3	4*3*4	6*4*6	10*8*10	12*10*12
Reduced Bore	D(mm)	19	25	38	51	64	76	102	152	254	305
	L(mm)	117	127	165	178	191	203	229	394	533	610
	H(mm)	82	85	100	115	120	150	162	191	340	442
	W(mm)	130	130	160	230	230	400	400	460	300*	400*
	d(mm)	13	19	25	38	51	64	76	102	203	254
	Weight(kg)	2.6	4.5	6	9.5	14.6	19	32.5	58	160	229

Dimension / Class 300

	Size(in.)	1/2	3/4	1	1-1/2	2	2-1/2	3	4	6	8	10
Full Bore	D(mm)	13	19	25	38	51	64	76	102	152	203	254
	L(mm)	140	152	165	190	216	241	283	305	403	502	568
	H(mm)	62	68	80	100	110	148	162	188	283	360	422
	W(mm)	150	150	180	250	250	400	400	700*	300*	400*	400*
	Weight(kg)	3	3.5	6.2	11	16	25	40	57.5	128	252	402

	Size(in.)	3/4* 1/2*3/4	1*3/4*1	1-1/2*1* 1-1/2	2*1-1/ 2*2	2*1/2*2*2* 1/2	3*2* 1/2*3	4*3*4	6*4*6	8*6*8	10*8*10
Reduced Bore	D(mm)	19	25	38	51	64	76	102	152	203	254
	L(mm)	152	165	190	216	241	283	305	403	502	568
	H(mm)	82	85	100	115	120	153	162	191	290	340
	W(mm)	130	130	160	230	230	400	400	460	300*	400*
	d(mm)	13	19	25	38	51	64	76	102	152	203
	Weight(kg)	3.5	5.5	10	14.5	23.5	29	55	80	117	199

Subject to alternation
We reserve the right to make any technical modification. We are not responsible for any error in printing.

FLOATING BALL Valves

Model: NVFS3
Side entry Design, three -piece Body

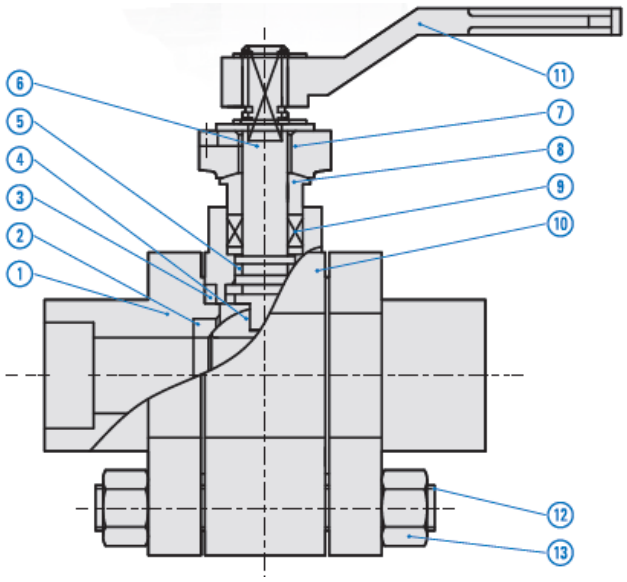
Features

- Three pieces -body construction
- Blow-out proof stem
- Live- Loading available

Standards

- Basic design: API 608, BS 5351
- Socket welding ends / Threaded End: ASME B16.11
- Inspection and test: API 598

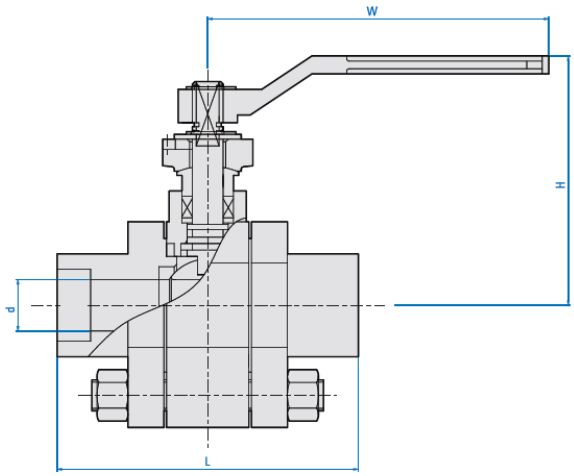
Material Specification



Pos.	Parts	Standard
1.	Bonnet	ASTM A216 WCB
2.	Seal ring	PTFE
3.	Gasket	PTFE
4.	Ball	A351 CF8M
5.	O-Ring	NBR
6.	Stem	A276 T316
7.	Packing plate	A36
8.	Packing cover	A276 T304
9.	Packing	PTFE
10.	Body	A216 WCB
11.	Wrench	A36
12.	Stud	A193 B7
13.	Nut	A194 2H

FLOATING BALL Valves

Model: NVFS3
Side entry Design, three -piece Body



Dimension / Class 1500 & class 2500

Spec(NPS) Specification	Size(F.P)		1/2	3/4	1	1¼	1½	2
Face to face	L	CL 1500	216	229	256	279	305	368
		CL 2500	264	273	308	349	384	451
Center to handle end	W	CL 1500	230	230	350	280	400	400
		CL 2500	280	280	95	350	400	400
Height	H	CL 1500	75	85	85	105	110	130
		CL 2500	75	85	95	105	1 10	130
Inside diameter	d	CL 1500	13	19	25	32	38	49
		CL 2500	13	19	25	32	38	42
Weight(kg)		CL 1500	2.5	5.8	5.8	6.8	11.5	13.7
		CL 2500	2.7	6.3	6.3	6.8	12	15

Subject to alternation
We reserve the right to make any technical modification. We are not responsible for any error in printing.