

NIBCO®

AHEAD OF THE FLOW®



International Bronze & Iron
Metric Standards

Business-to-Business Solutions

Look to NIBCO for technology leadership.

The velocity with which e-business evolves demands that new products and services be continuously developed and introduced to keep our customers at the center of our business efforts. NIBCO provides an entire suite of business-to-business solutions that is changing the way we interact with customers.



NIBCOpartner.comSM is an exclusive set of secure web applications that allow quick access to customer-specific information and online order processing. This self-service approach gives you 24/7 access to your order status putting you in total control of your business.



Real time information includes:

- Online order entry
- Viewable invoices & reports
- Inventory availability
- Current price checks
- Order status
- Online library of price sheets, catalogs & submittals

Electronic Data Interchange (EDI) makes it possible to trade business documents at the speed of light. This technology cuts the cost of each transaction by eliminating the manual labor and paperwork involved in traditional order taking. This amounts to cost-savings, increased accuracy and better use of resources.

With EDI, you can trade:

- Purchase orders
- PO Acknowledgements
- Invoices
- Product activity data
- Advanced ship notices
- Remittance advice



Vendor Managed Inventory (VMI), a sophisticated service for automated inventory management, reduces your overhead by transferring inventory management, order entry and forecasting to NIBCO. This is an on-going, interactive partnership with NIBCO.

Through automation, VMI brings results:








- Improves customer service
- Optimum inventory efficiencies
- Better forecasting
- Cuts transaction costs
- Peace of mind
- Relief from day-to-day management



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Bronze Ball Valve (PN40)

Chrome Plated Ball • Adjustable Packing Gland



40 Bar from -10°C to 100° C
18 Bar at 140°C

THREAD ENDS CONFORM TO BS 21 TAPER THREAD (ISO 7)

MATERIAL LIST

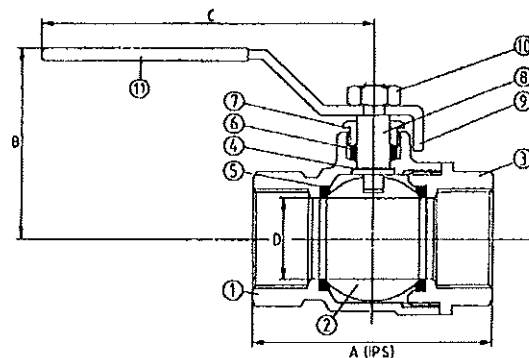
PART	SPECIFICATION
1. Body	Bronze ASTM B 584 C84400
2. Ball	Brass ASTM B 16 C36000 Chrome Plated
3. End Cap	Bronze ASTM B 584 C84400
4. Thrust Washer	PTFE
5. Ball Seals	PTFE
6. Stem Packing	PTFE
7. Packing Gland	Brass ASTM B 16 C36000
8. Stem	Brass ASTM B 16 C36000
9. Handle	Steel
10. Handle Nut	Steel
11. Sleeve	Vinyl



NP 601F
Threaded

Pressure Testing

Shell	60 Bar
Seat	44 Bar



NP 601F

DIMENSIONS—WEIGHTS

SIZE	Dimensions					Weight
	A	B	C	D		
In. mm.	mm.	mm.	mm.	mm.	mm.	Kg.
1/2 15	54.5	46.0	82.0	12.7	0.21	
3/4 20	62.0	55.0	103.0	19.0	0.34	
1 25	73.1	62.0	105.0	25.0	0.57	
1¼ 32	82.5	70.0	106.0	31.0	0.73	
1½ 40	91.7	75.0	150.0	38.0	1.11	
2 50	106.5	82.0	160.0	50.0	1.88	

NOTES: 1/2" to 1" Solid Ball; 1-1/4" to 2-1/3" Hollow Ball

Bronze Gate Valve (PN20)

Non-Rising Stem • Screw-in Bonnet



20 Bar from -10°C to 65° C
7 Bar at 230°C

THREAD ENDS CONFORM TO BS 21 TAPER THREAD (ISO 7)
CONFORMS TO BS 5154 OR BSEN 12288

MATERIAL LIST

PART	SPECIFICATION
1. Body	Cast Bronze ASTM B 584 C84400
2. Disc	Cast Bronze ASTM B 584 C84400
3. Bonnet	Cast Bronze ASTM B 584 C84400
4. Lock Nut	Brass ASTM B 16 C36000
5. Stem Packing	PTFE
6. Gland	Bronze ASTM B16 C36000
7. Packing Nut	Bronze ASTM B16 C36000
8. Stem	Brass ASTM B 16 C36000
9. Handwheel	Cast Iron ASTM A 126 Class B
10. Wheel Nut	Steel
11. Name Plate	Aluminum



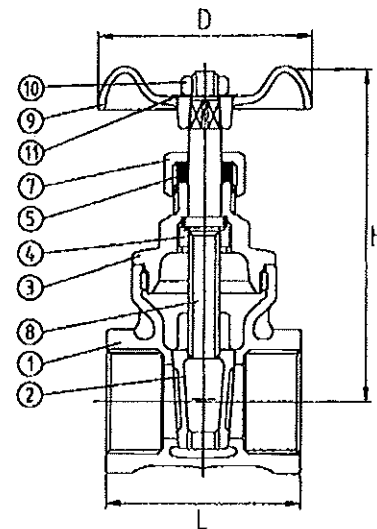
NP 450
Threaded

Pressure Testing

Shell (Water)	30 Bar
Seal (Air)	5.4 Bar

DIMENSIONS—WEIGHTS

SIZE	Dimensions				Weight Kg.
	D	H	L		
In. mm.	mm.	mm.	mm.	mm.	
1/2	15	61.0	78.0	43.0	0.27
3/4	20	68.0	94.0	48.5	0.36
1	25	68.0	109.0	56.0	0.58
1¼	32	77.0	120.0	60.0	0.72
1½	40	92.6	142.0	62.5	0.98
2	50	105.0	163.0	71.0	1.55
2½	65	104.0	207.0	96.0	3.00
3	80	118.0	235.0	100.0	4.06
4	100	150.0	281.0	116.5	6.47



NP 450

FREEZING WEATHER CAUTION: Subsequent to testing a piping system, valves should be left in an open position to allow complete drainage. Failure to follow these instructions may result in property damage.

Bronze Gate Valve (PN20)

Rising Stem • Screw-in Bonnet

20 Bar from -10°C to 65° C
7 Bar at 230°C

THREAD ENDS CONFORM TO BS 21 TAPER THREAD (ISO 7)

MATERIAL LIST

PART	SPECIFICATION
1. Body	Cast Bronze ASTM B 584 C84400
2. Disc	Cast Bronze ASTM B 584 C84400
3. Bonnet	Cast Bronze ASTM B 584 C84400
5. Stem Packing	PTFE
6. Gland	Brass ASTM B 16 C36000
7. Packing Nut	Brass ASTM B 16 C36000
8. Stem	Brass ASTM B 16 C36000
9. Handwheel	Cast Iron ASTM A 126 Class B
10. Wheel Nut	Steel
11. Name Plate	Aluminum

Pressure Testing

Shell (Water)	30 Bar
Seat (Air)	5.4 Bar

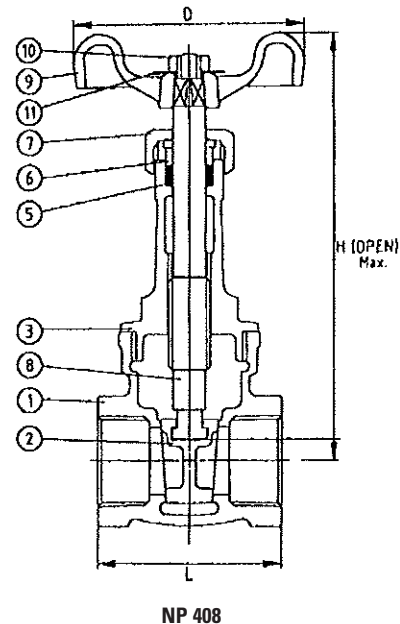
DIMENSIONS—WEIGHTS

SIZE	Dimensions				Weight
	D	H	L		
In. mm.	mm.	mm.	mm.	mm.	Kg.
1/2	15	53.0	117.0	48.0	0.37
3/4	20	64.0	140.0	52.0	0.55
1	25	70.0	167.0	59.0	0.80
1¼	32	80.0	195.0	64.0	1.10
1½	40	90.0	222.0	68.0	1.43
2	50	102.0	264.0	74.5	2.39

FREEZING WEATHER CAUTION: Subsequent to testing a piping system, valves should be left in an open position to allow complete drainage. Failure to follow these instructions may result in property damage.



NP 408
Threaded



NP 408

Bronze Globe Valve (PN20)

Screw-in Bonnet with Metal Disc



20 Bar from -10°C to 65° C
7 Bar at 230°C

THREAD ENDS CONFORM TO BS 21 TAPER THREAD (ISO 7)

MATERIAL LIST

PART	SPECIFICATION
1. Body	Cast Bronze ASTM B 584 C84400
2. Disc	1/2" - 1" - Brass ASTM B 16 C36000 1-1/4" - 2" - Cast Bronze ASTM B 584 C84400
3. Bonnet	Cast Bronze ASTM B 584 C84400
4. Lock Nut	Brass ASTM B 16 C36000
5. Stem Packing	PTFE
6. Gland	Brass ASTM B 16 C36000
7. Packing Nut	Brass ASTM B 16 C36000
8. Stem	Brass ASTM B 16 C36000
9. Handwheel	Cast Iron ASTM A 126 Class B
10. Wheel Nut	Steel
11. Name Plate	Aluminum

Pressure Testing

Shell (Water)	30 Bar
Seat (Air)	5.4 Bar

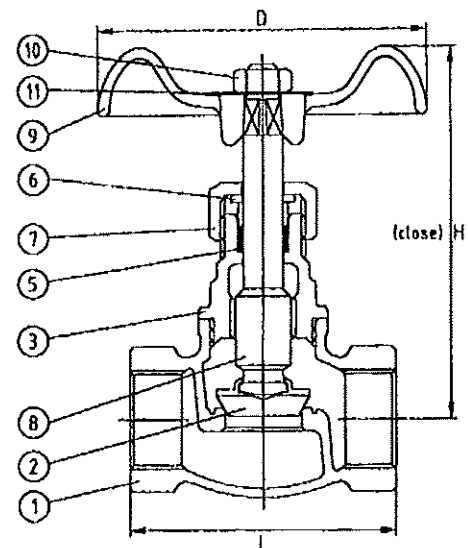
DIMENSIONS—WEIGHTS

SIZE	Dimensions				Weight Kg.
	D	H	L		
In. mm.	mm.	mm.	mm.	mm.	
1/2 15	61.0	70.0	49.0		0.27
3/4 20	68.0	70.0	55.0		0.36
1 25	77.0	87.0	64.0		0.54
1¼ 32	74.0	94.0	74.0		0.82
1½ 40	74.0	104.0	84.0		1.13
2 50	122.0	124.0	98.0		1.75

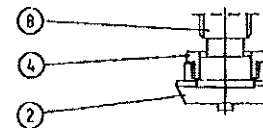
FREEZING WEATHER CAUTION: Subsequent to testing a piping system, valves should be left in an open position to allow complete drainage. Failure to follow these instructions may result in property damage.



NP 303
Threaded



NP 303



For Sizes 1-1/4" - 2"

Double Regulating Balancing Valve (PN20)

Fixed Orifice • Threaded Ends to ISO 7-1 (BS21) • w/Test Points

20 Bar from -10°C to 100° C

17.2 Bar at 120°C

CONFORMS TO BS 7350

MATERIAL LIST

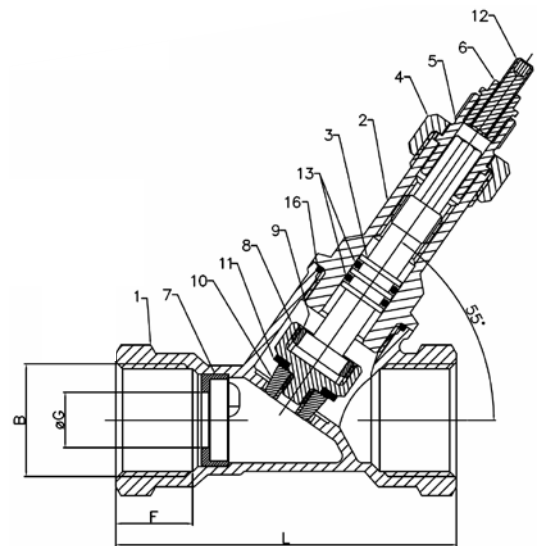
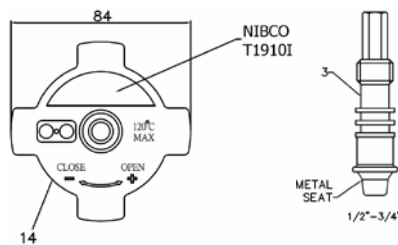
PART	SPECIFICATION
1. Body	Bronze B62 C83600 1982 CC491K
2. Bonnet	Bronze B62 C83600 1982 CC491K
3. Stem	DZR Brass C35330 12164 CW602N
4. Gland	Nut Brass C36000 12164 CW614N
5. Stem Holder	Brass C36000 12164 CW614N
6. Handle Nut	Brass C36000 12164 CW614N
7. Orifice Insert	DZR Brass C35330 12164 CW602N
8. Disc 1"- 2"	DZR Brass C35330 12164 CW602N
9. Disc Nut	1"-2" DZR Brass C35330 12164 CW602N
10. Seat Nut	1"-2" DZR Brass C35330 12164 CW602N
11. Seat 1"- 2"	PTFE
12. Adjustable Screw	Steel
13. O-Ring	EPDM D2000
14. Handwheel	Nylon 6 + 30% Fibers
15. Test Point	DZR Brass C35330 12164 CW602N
16. O-Ring	EPDM D2000



T1910I
Threaded

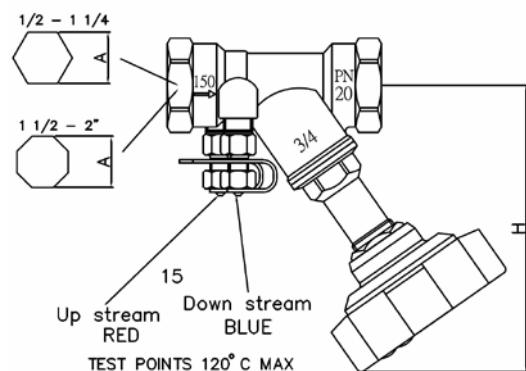
Pressure Testing

Shell	30 Bar
Seat	22 Bar



DIMENSIONS—WEIGHTS

SIZE	Dimensions						Kvs	Weight Kg.
	H	L	G	F	A			
1/2	15	110	87	8.3	18.5	26	1.99	0.60
3/4	20	110	96	12.3	20.0	32	4.27	0.69
1	25	133	100	16.3	22.0	39	7.28	0.93
1¼	32	135	114	23.4	25.0	49	15.13	1.14
1½	40	149	125	28.2	25.0	54	21.73	1.46
2	50	150	146	39.8	28.0	67	38.76	1.95



T1910I

Bronze Check Valve (PN20)

T-Pattern with Metal Disc

20 Bar from -10°C to 65° C

7 Bar at 230°C

THREAD ENDS CONFORM TO BS 21 TAPER THREAD (ISO 7)

MATERIAL LIST

PART	SPECIFICATION
1. Body	Cast Bronze ASTM B 584 C84400
2. Disc	Cast Bronze ASTM B 584 C84400
3. Cap	Cast Bronze ASTM B 584 C84400
4. Hanger Pin	Brass ASTM B 16 C36000
5. Plug	Brass ASTM B 16 C36000

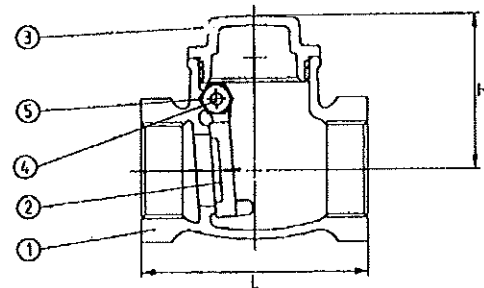


NP 326

Threaded

Pressure Testing

Shell (Water)	30 Bar
Seat (Air)	5.4 Bar



NP 326

DIMENSIONS—WEIGHTS

SIZE	Dimensions			Weight Kg.
	L mm.	H mm.	Weight Kg.	
1/2	15	57	39.5	0.24
3/4	20	61	42.5	0.30
1	25	70	50.0	0.41
1¼	32	82	55.0	0.60
1½	40	92	60.0	0.84
2	50	110	69.5	1.31
2½	65	139	90.0	2.53
3	80	151	100.0	3.18
4	100	183	114.0	5.90

NOTES: Check Valves may be installed in horizontal and vertical line with upward flow or in any intermediate position. They will operate satisfactory in a decline plane (no more than 15°).

WARNING: Do NOT use for reciprocating air compressor service. Failure to follow this warning could result in personal injury or property damage.

Bronze Y-Strainer (PN20)



20 Bar from -10°C to 65° C
7 Bar at 230°C

THREAD ENDS CONFORM TO BS 21 TAPER THREAD (ISO 7)

MATERIAL LIST

PART	SPECIFICATION
1. Body	Cast Bronze ASTM B 584 C84400
2. Screen	Stainless Steel 304 Stainless Steel 20 MESH Netted Screen
3. Cap	Cast Bronze ASTM B 584 C84400
4. Gasket	NBR Blue Guard #3000



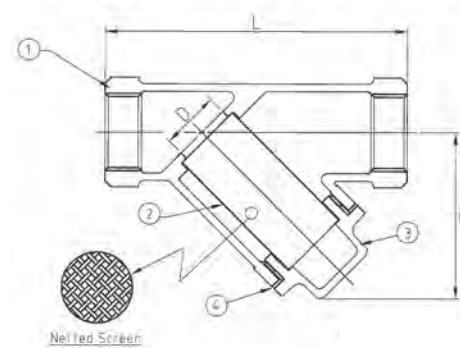
NP 240
Threaded

Pressure Testing

Shell	30 Bar
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DIMENSIONS—WEIGHTS











SIZE	Dimensions				Weight Kg.
	In.	mm.	mm.	mm.	
1/2	15	14.0	48.5	80.0	0.32
3/4	20	19.5	58.0	100.0	0.50
1	25	25.0	70.0	115.6	0.72
1¼	32	31.8	80.0	135.0	1.08
1½	40	38.1	93.0	160.0	1.52
2	50	50.0	112.0	190.0	2.55
2½	65	63.5	135.0	220.0	3.50
3	80	76.2	141.0	264.0	6.12



NP 240








Iron Valves

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<p>Cast Iron Gate Valve (PN25) OS & Y, Rising Stem, Solid Wedge</p>  <p>NPF 630P Sizes 2" - 12" Page 18</p>	<p>Ductile Iron Butterfly Valve (PN20) Grooved Style Switched Gear Operator</p>  <p>GD 20 Sizes 2" - 12" Page 19</p>	<p>Ductile Iron Butterfly Valve (PN16) Extended Neck Wafer Style</p>  <p>NPF WDB-1000 / NE200-136 Sizes 2" - 24" Pages 20 - 21</p>	<p>Ductile Iron Globe Valve (PN16) OS & Y, Rising Stem Bolted Bonnet</p>  <p>NPF 719EP Sizes 2" - 12" Page 22</p>
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Iron Valves

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<p>Ductile Iron Check Valve Double Door Wafer Style</p>  <p>NPW 930EP Sizes 2" - 36" Page 25-26</p>	<p>Ductile Iron Swing Check Valve (PN16) Bolted Bonnet Horizontal Swing</p>  <p>NPF 938EP Sizes 2" - 24" Page 27-28</p>	<p>Cast Iron Swing Check Valve (PN25)</p>  <p>NPF 940P Sizes 2" - 12" Page 29</p>	<p>Ductile Iron Silent Check Valve Flanged (DN65 - DN600) PN16</p>  <p>NPF 980EP Sizes 2" - 24" Page 30</p>
<p>Ductile Iron Silent Check Valve Wafer, Dual Rating (DN200 - DN300)</p>  <p>NPW 980EP Sizes 2" - 10" Page 31</p>	<p>Ductile iron Strainer (PN16) Y-Pattern Stainless Steel Screen Bolted Cover Drain Plug</p>  <p>NPF 1000EP Sizes 2" - 24" Page 32</p>	<p>Ductile Iron Strainer Y-Pattern (PN25) Stainless Steel Screen, Bolted Cover, Drain Plug</p>  <p>NPF 1025EP Sizes 2" - 24" Page 33</p>	

Ductile Iron Gate Valve (PN16)

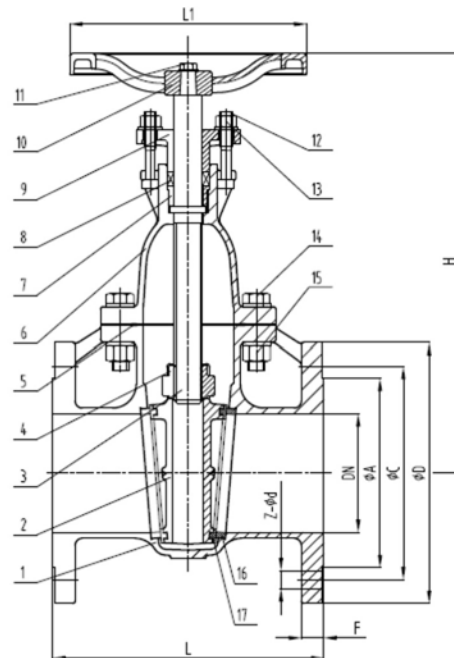
Inside Screw • Non Rising Stem • Solid Wedge • Bronze Trim • Epoxy Coated
16 Bar from -10°C to 120°C
12.8 Bar at 200°C

Standards	Valve	Face to Face	Flanges	Testing
BS EN	1171	558-1 Series 3	1092-2 PN16	12266-1
BS	5150, 5151	2080	4504-3.2 PN16	6755-1

MATERIAL LIST

PART	MATERIAL	SPECIFICATION(BSEN)
1. Body	Ductile Iron	1563 EN-GJS-400-15
2. Wedge	Ductile Iron	1563 EN-GJS-400-15
3. Stem	Stainless Steel	10088-1 X20Cr13
4. Nut	Brass	--
5. Bonnet Gasket	Graphite	--
6. Bonnet	Ductile Iron	1563 EN-GJS-400-15
7. Bushing	Stainless Steel	10088-1 X5CrNi18-10
8. Packing	Graphite	--
9. Gland	Ductile Iron	1563 EN-GJS-400-15
10. Handwheel	Ductile Iron	1563 EN-GJS-400-15
11. Bolt	Stainless Steel	10088-1 X5CrNi18-10
12. Bolt	Stainless Steel	10088-1 X5CrNi18-10
13. Nut	Stainless Steel	10088-1 X5CrNi18-10
14. Bolt	Stainless Steel	10088-1 X5CrNi18-10
15. Nut	Stainless Steel	10088-1 X5CrNi18-10
16. Seat Ring	Bronze	1982 CC491K
17. Wedge Ring	Bronze	1982 CC491K
18. Stem Collar	Stainless Steel	10088-1 X20Cr13
19. O-Ring	EPDM	--
20. Support	Ductile Iron	1563 EN-GJS-400-15
21. Drain Plug	Stainless Steel	10088-1 X5CrNi18-10

NPF613EP



2"~12"

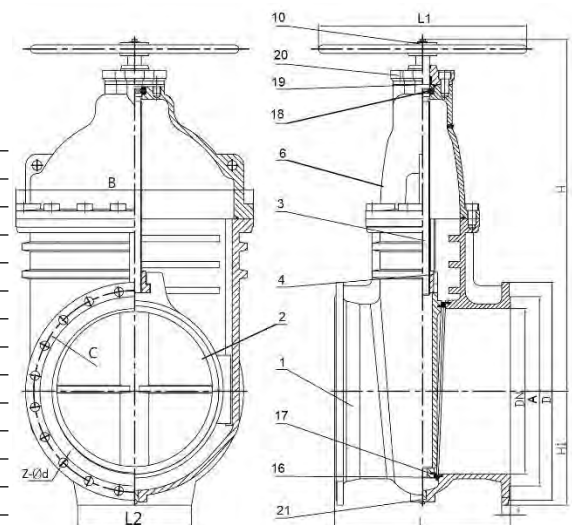
Pressure Testing

Shell	24 Bar
Seat	17.6 Bar

DIMENSIONS-WEIGHT

Size		Dimensions (mm)									Weight
In.	mm.	DN	A	C	D	L	L1	H	Z-Ød	F	Kg.
2"	50	50	99	125	165	178	160	253	4-Ø19	19	12.5
2½"	65	65	118	145	185	190	160	295	4-Ø19	19	15.3
3"	80	80	132	160	200	203	200	356	8-Ø19	19	17.9
4"	100	100	156	180	220	229	200	411	8-Ø19	19	22.3
5"	125	125	184	210	250	254	250	489	8-Ø19	19	30.8
6"	150	150	211	240	285	267	250	563	8-Ø23	19	35
8"	200	200	266	295	340	292	280	704	12-Ø23	20	55
10"	250	250	319	355	405	330	370	865	12-Ø28	22	95
12"	300	300	370	410	460	356	370	995	12-Ø28	24.5	130
14"	350	350	429	470	520	381	460	850	16-Ø28	26.5	265
16"	400	400	480	525	580	406	460	940	16-Ø31	28	300
18"	450	450	548	585	640	432	460	1039	20-Ø31	30	396
20"	500	500	609	650	715	457	640	1134	20-Ø34	31.5	485
24"	600	600	720	770	840	508	900	1280	20-Ø37	36	713

Size		Dimensions (mm)		
In.	mm.	L2	H1	B
14"	350	270	270	546
16"	400	300	300	606
18"	450	330	330	680
20"	500	370	370	730
24"	600	430	430	850



14"~24"

Cast Iron Gate Valve (PN25)

Inside Screw • Non Rising Stem • Solid Wedge • Bronze Trim
25 Bar from -10°C to 120°C
18.5 Bar at 230°C

Standards	Valve	Face to Face	Flanges	Testing
BS EN	1171	558-1 Series 4	1092-2 PN25	12266-1
BS	5150	2080	4504-3.2 PN25	6755-1

MATERIAL LIST

PART	MATERIAL	SPECIFICATION
1. Body	Cast Iron	BSEN 1561 EN-GJL-250
2. Seat Ring	Bronze	BSEN 1982 CC491K
3. Wedge Ring	Bronze	BSEN 1982 CC491K
4. Wedge	Cast Iron	BSEN 1561 EN-GJL-250
5. Wedge Nut	Brass	GB1176 ZCuZn38Mn2Pb2
6. Stem	Brass	BSEN 12164 CW617N
7. Gasket	Graphite	--
8. Bolt	Steel	BSEN 10025-2 1.0038
9. Nut	Steel	BSEN 10025-2 1.0038
10. Bonnet	Cast Iron	BSEN 1561 EN-GJL-250
11. Bolt	Steel	BSEN 10025-2 1.0038
12. Nut	Steel	BSEN 10025-2 1.0038
13. Gasket	Graphite	--
14. Stuffing Box	Cast Iron	BSEN 1561 EN-GJL-250
15. Packing	Graphite	--
16. Packing Gland	Ductile Iron	BSEN 1563 EN-GJS-450-10
17. Handwheel	Cast Iron	BSEN 1561 EN-GJL-250
18. I.D. Plate	Aluminum	--
19. Washer	Steel	BSEN 10025-2 1.0038
20. Nut	Steel	BSEN 10025-2 1.0038

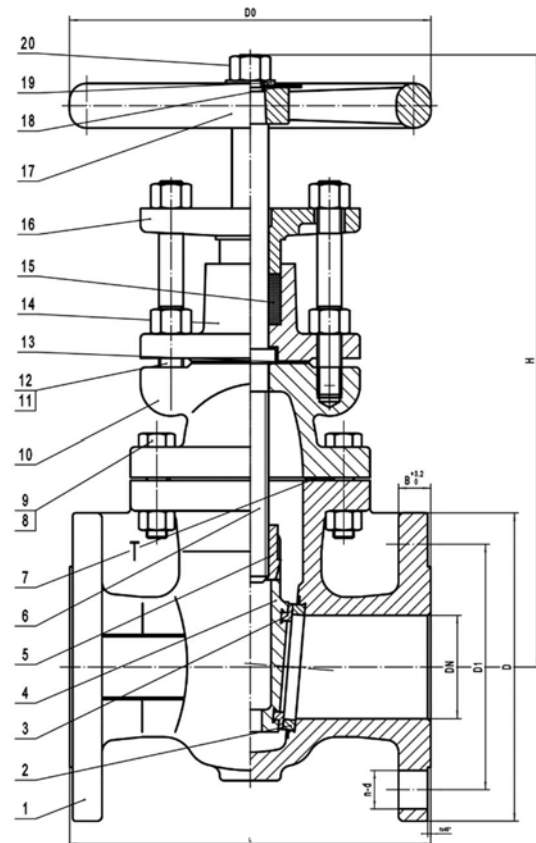
Pressure Testing

Shell	37.5 Bar
Seat	27.5 Bar

DIMENSIONS-WEIGHT

Size		Dimensions (mm)								Weight	
In.	mm.	L	D	D1	D2	f	B	n-d	D0	H	Kg.
2"	50	215.9	165	125	99	3	22.2	4-19	175	303	21.8
2½"	65	241.3	191	145	118	3	25.4	8-19	200	338	30.3
3"	80	282.5	210	160	132	3	28.6	8-19	254	375	44.3
4"	100	304.8	254	190	156	3	31.8	8-23	300	424	67.8
5"	125	381	279	220	184	3	34.9	8-28	300	499	94.7
6"	150	403.2	318	250	211	3	36.5	8-28	348	561	126.2
8"	200	419.1	381	310	274	3	41.3	12-28	400	665	184.7

NPF625P



Ductile Iron Gate Valve (PN16)

Inside Screw • Non-Rising Stem • Resilient Wedge •
Flanged Ends • with Supervisory Switch & Indicator Plate

16 Bar from 0°C to 71° C

Standards	Valve	Face-to-Face	Flanges	Testings
BS EN	1074	558-1	1092-2	12266-1
BS	5163	5163/2080	4504-3.2	5163

MATERIAL LIST

PART	SPECIFICATION
1. Body	Ductile Iron ASTM A536 Gr. 65-45-12
2. Resilient Wedge	Ductile Iron ASTM A536 Gr. 65-45-12/ ASTM D2000
3. Stem Nut	Bronze ASTM B584
4. Stem	Bronze ASTM B150 C61400
5. Bonnet	Ductile Iron ASTM A536 Gr. 65-45-12
6. Bonnet Gasket	EPDM ASTM D2000
7. O-Ring	EPDM ASTM D2000
8. Gasket	Bronze ASTM B548 (Lower) Stainless Steel ASTM A276 (Upper)
9. Handwheel	Ductile Iron ASTM A536 Gr. 65-45-12
10. Washer	Carbon Steel
11. Screw	Steel ASTM A574M
12. Indicator	Brass
13. Ring Wiper	EPDM ASTM D2000
14. Gland	Ductile Iron ASTM A536 Gr. 65-45-12
15. Stem Collar	Brass/PTFE
16. O-ring	EPDM ASTM D2000
17. O-ring	EPDM ASTM D2000
18. Socket Hex. Bolt	Carbon Steel ASTM A574
19. Indicator Plate	Stainless Steel 304 ASTM A276
20. Supervisory Switch	Bernstein 188-SUIZW (0.06 kg)
21. Socket Hex. Bolt	Carbon Steel ASTM A574
22. Switch Adjustable Bracket	Aluminum
23. Slotted Pan Head Screw	Carbon Steel ASTM A574
24. Switch Mounting Plate	Aluminum
25. Screw	Carbon Steel ASTM A574

Pressure Testing

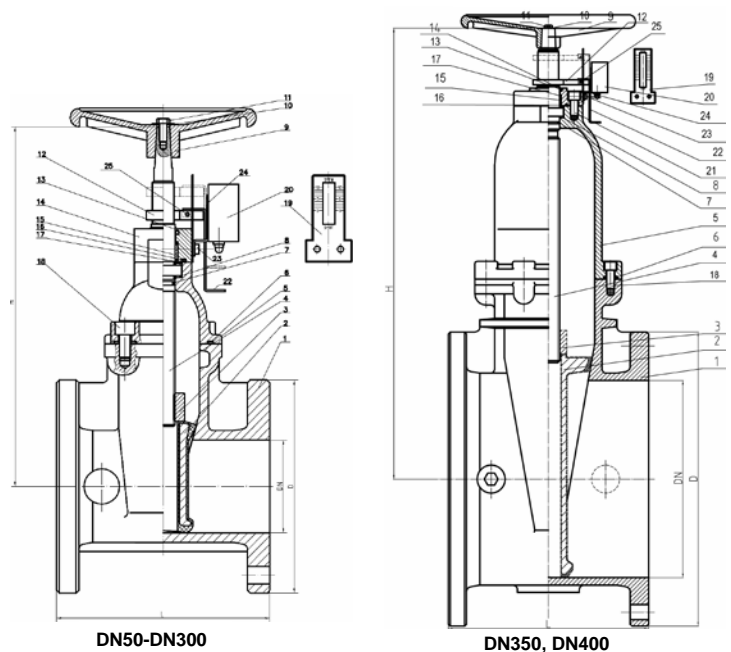
Shell	24 Bar
Seat	17.6 Bar

DIMENSIONS—WEIGHTS

SIZE		Dimensions (mm)			Weight
In.	mm.	L	D	H	Kg.
2	50	178	165	315	15.64
2½	65	190	185	343	17.91
3	80	203	200	377	22.45
4	100	229	220	400	34.27
6	150	267	285	495	57.95
8	200	292	340	586	91.56
10	250	330	405	670	136.64
12	300	356	460	750	196.64
14	350	381	520	866	276.23
16	400	406	580	945	371.68



NPF 619RW-ES
Flanged



NPF 619RW-ES
FLNG x FLNG

Ductile Iron Gate Valve (PN16)

OS&Y • Solid Wedge • Bronze Trim • Flanged Ends • Epoxy Coated
16 Bar from -10°C to 120°C
12.8 Bar at 200°C

Standards	Valve	Face to Face	Flanges	Testing
BS EN	1171	558-1 Series 3	1092-2 PN16	12266-1
BS	5150, 5151	2080	4504-3.2 PN16	6755-1

MATERIAL LIST

PART	MATERIAL	SPECIFICATION(BSEN)
1. Body	Ductile Iron	1563 EN-GJS-400-15
2. Seat Ring	Bronze	1982 CC491K
3. Wedge Ring	Bronze	1982 CC491K
4. Wedge	Ductile Iron	1563 EN-GJS-400-15
5. Stem	Stainless Steel	10088-1 X20Cr13
6. Bonnet Gasket	Graphite + Steel	--
7. Bonnet	Ductile Iron	1563 EN-GJS-400-15
8. Packing	Graphite	--
9. Gland Flange	Ductile Iron	1563 EN-GJS-400-15
10. Stem Nut	Brass	--
11. Washer	Bronze	1982 CC491K
12. Handwheel	Ductile Iron	1563 EN-GJS-400-15
13. Handwheel Nut	Bronze	1982 CC491K
14. Screw	Stainless Steel	10088-1 X5CrNi18-10
15. Nut	Stainless Steel	10088-1 X12CrMnNiN17-7-5
16. Washer	Stainless Steel	10088-1 X5CrNi18-10
17. Bolt	Stainless Steel	10088-1 X5CrNi18-10
18. Bolt	Stainless Steel	10088-1 X5CrNi18-10
19. Washer	Stainless Steel	10088-1 X5CrNi18-10
20. Nut	Stainless Steel	10088-1 X12CrMnNiN17-7-5
21. Stem Nut	Bronze	1982 CC491K
22. Support	Ductile Iron	1563 EN-GJS-400-15
23. Drain Plug	Stainless Steel	10088-1 X5CrNi18-10

Pressure Testing

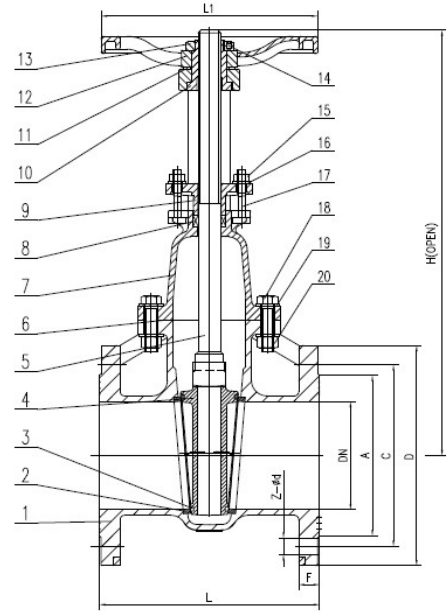
Shell	24 Bar
Seat	17.6 Bar

DIMENSIONS (mm)

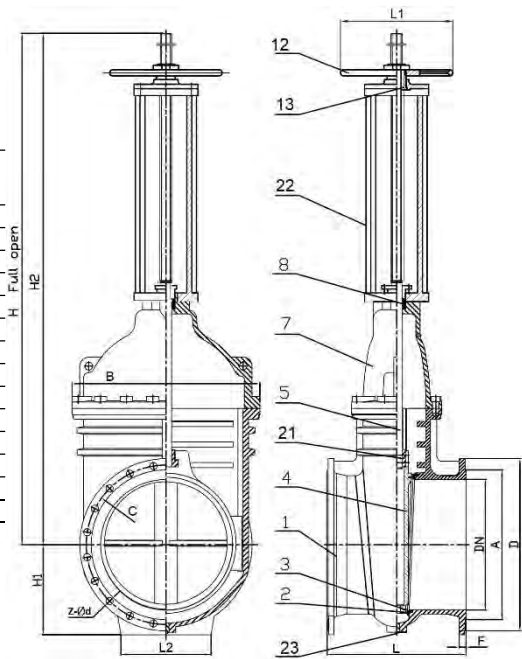
Nominal Size Inch (mm)	DN	A	C	D	L	L1	H	Z-Ød	F	W.t (kg)
2" (50)	50	99	125	165	178	160	253	4-Ø19	19	11.8
2 1/2" (65)	65	118	145	185	190	160	295	4-Ø19	19	14.8
3" (80)	80	132	160	200	203	200	356	8-Ø19	19	18.9
4" (100)	100	156	180	220	229	200	411	8-Ø19	19	27.8
5" (125)	125	184	210	250	254	250	489	8-Ø19	19	36.2
6" (150)	150	211	240	285	267	250	563	8-Ø23	19	49.0
8" (200)	200	266	295	340	292	280	704	12-Ø23	20	62.5
10" (250)	250	319	355	405	330	370	865	12-Ø28	22	97.0
12" (300)	300	370	410	460	356	370	995	12-Ø28	24.5	123.0
14" (350)	350	429	470	520	381	640	1717	16-Ø28	26.5	310
16" (400)	400	480	525	580	406	640	1888	16-Ø31	28	360
18" (450)	450	548	585	640	432	720	1981	20-Ø31	30	464
20" (500)	500	609	650	715	457	720	2235	20-Ø34	31.5	550
24" (600)	600	720	770	840	508	720	2610	20-Ø37	36	790

Nominal Size Inch (mm)	B	L2	H1	H2
14" (350)	546	270	270	1286
16" (400)	606	300	300	1387
18" (450)	680	330	330	1505
20" (500)	730	370	370	1644
24" (600)	850	430	430	1930

NPF620EP



2"~12"



14"~24"

Cast Iron Gate Valve (PN25)

OS&Y • Solid Wedge • Bronze Trim • Flanged Ends
25 Bar from -10°C to 120°C
18.5 Bar at 230°C

Standards	Valve	Face to Face	Flanges	Testing
BS EN	1171	558-1 Series 4	1092-2 PN25	12266-1
BS	5150	2080	4504-3.2 PN25	6755-1

MATERIAL LIST

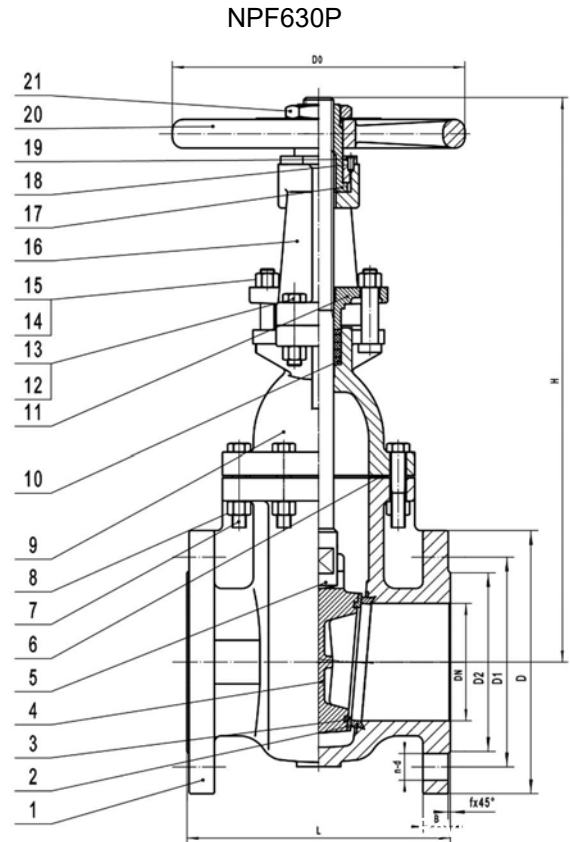
PART	MATERIAL	SPECIFICATION
1. Body	Cast Iron	BSEN 1561 EN-GJL-250
2. Seat Ring	Bronze	BSEN 1982 CC491K
3. Wedge Ring	Bronze	BSEN 1982 CC491K
4. Wedge	Cast Iron	BSEN 1561 EN-GJL-250
5. Stem	Brass	BSEN 12164 CW617N
6. Gasket	Non-asbestos	--
7. Bolt	Steel	BSEN 10227-2 C45
8. Nut	Steel	BSEN 10227-2 C45
9. Bonnet	Cast Iron	BSEN 1561 EN-GJL-250
10. Packing	Graphite	--
11. Packing Gland	Ductile Iron	BSEN 1563 EN-GJS-450-10
12. Bolt	Steel	BSEN 10025-2 1.0038
13. Nut	Steel	BSEN 10025-2 1.0038
14. Bolt	Steel	BSEN 10025-2 1.0038
15. Nut	Steel	BSEN 10025-2 1.0038
16. Yoke	Cast Iron	BSEN 1561 EN-GJL-250
17. Yoke Bushing	Brass	GB1176 ZCuZn38Mn2Pb2
18. Screw	Steel	BSEN 10025-2 1.0038
19. Nut	Cast Iron	BSEN 1561 EN-GJL-250
20. Handwheel	Cast Iron	BSEN 1561 EN-GJL-250
21. Nut	Steel	BSEN 10025-2 1.0038

Pressure Testing

Shell	37.5 Bar
Seat	27.5 Bar

DIMENSIONS (mm)

Nominal Size Inch (mm)	L	D	D1	D2	f	B	n-d	D0	H	Weight Kg.
2" (50)	215.9	165	125	99	3	22.2	4-19	175	385	28
2½" (65)	241.3	191	145	118	3	25.4	8-19	200	437	34
3" (80)	282.5	210	160	132	3	28.6	8-19	254	493	45.6
4" (100)	304.8	254	190	156	3	31.8	8-23	300	611	76
5" (125)	381	279	220	184	3	34.9	8-28	300	716	101
6" (150)	403.2	318	250	211	3	36.5	8-28	348	813	132
8" (200)	419.1	381	310	274	3	41.3	12-28	400	1023.5	198
10" (250)	457	445	370	330	3	47.6	12-31	457	1211	281
12" (300)	502	521	430	389	4	50.8	16-31	457	1386	390



Ductile Iron Butterfly Valves, PN20 (290PSI)

20 Bar from -30°C to 110°C

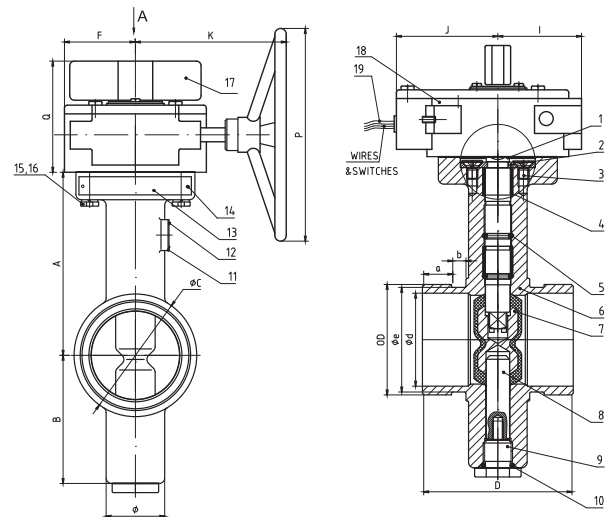
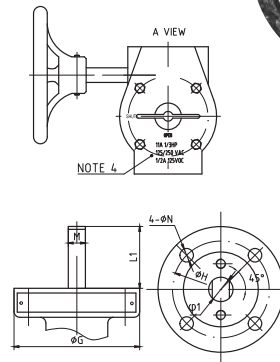
END-TO-END CONFORMS TO MSS SP-67 • TOPWORK TO ISO 5211 •
DIMENSIONS FOR GROOVED ENDS CONFORM TO ANSI AWWA C606
• WITH SWITCHED GEAR OPERATOR



GD20

MATERIAL LIST

PART SPECIFICATION		
1. Upper Stem	Stainless Steel ASTM A582 Grade 416	
2. Stop Cover	Steel	
3. Bolts	Steel	
4. Bushing	PTFE	
5. O-Ring	Buna-N ASTM D2000	
6. Body	Ductile Iron ASTM A536 65-45-12	
7. Disc	Ductile Iron ASTM A536 65-45-12, coated with EPDM	
8. Lower Stem	Stainless Steel ASTM A582 Grade 416	
9. Screw End	Carbon Steel	
10. O-Ring	Buna-N ASTM D2000	
11. Name Plate	Aluminum	
12. Rivet	Aluminum	
13. Name Plate	Aluminum	
14. Rivet	Aluminum	
15. Bolts	Steel	
16. Spring Spacer	Carbon Steel AISI 1566	
17. Indicator Flag	Cast Iron ASTM A126-B	
18. Gear Operator	Cast Iron Housing & Ductile Iron Gear	
19. Wire & Switches	--	



Pressure Testing

Shell	30 Bar
Seat	22 Bar

DIMENSIONS—WEIGHTS

SIZE		Dimensions (mm)																
Inch	mm	OD	a	b	Øe	Ød	ØC	ØG	ØH	ØN	Ø1	A	B	D	L1	Ø	M	
2	50	60.3	16	7.93	57.15	50.8	67	65	50	7	12.6	100	70	82.4	32	30	8.86	
2½	65	73.0	16	7.93	69.09	63.5	80	65	50	7	12.6	106	75	96.8	32	32	8.86	
	76.1	76.1	16	7.93	72.3	63.5	80	65	50	7	12.6	106	75	96.8	32	32	8.86	
3	80	88.9	16	7.93	84.9	76.2	97	65	50	7	12.6	112.5	82	96.8	32	32	8.86	
4	100	114.3	16	9.53	110.08	99.5	123	90	70	10	15.77	135	100	115.85	32	38	11.1	
5	125	141.3	16	9.53	137	128.0	151	90	70	10	18.92	148.7	119	147.6	32	44	12.7	
6	150	168.3	16	9.53	163.96	149.0	180	90	70	10	18.92	176	130	147.6	32	47	12.7	
	165.1	165.0	16	9.53	161	149.0	180	90	70	10	18.92	176	130	147.6	32	47	12.7	
8	200	219.1	19	11.1	214.40	203.2	231	125	102	12	22.1	204	162	133.4	45	53	15.9	
10	250	273.05	19	12.7	268.27	253.0	284	125	102	12	28.45	228.09	200.31	158.75	45	60	20.6	
12	300	323.85	19	12.7	318.3	303.0	335	140	102	12	31.6	226.19	223.88	163.58	45	64	22.1	

Gear Operator Data (mm)

Valve Size	Ratio	P	F	K	I	J	Q
2"~6"	24:1	150	54	151	74	89	113
8", 10"	30:1	300	77	238	87	90	123
12"	50:1	300	83	227	82	116	124

Note: 11A 1/3HP
125/250 VAC
1/2A 125VOC

WARNING: NOT RATED FOR STEAM SERVICE. Failure to follow this warning could result in personal injury or property damage.

NOTE:

1.End-to-End dimensions according to MSS SP-67-2002.
2.Dimensions for Grooved according to ANSI/AWWA C606-97.
3.Dimensions for topwork according to ISO5211.

4. 11A 1/3HP
125/250 VAC
1/2A 125VOC.

Ductile Iron Butterfly Valve (PN16)

Extended Neck • Wafer Style • Lever Handle or Gear Operator

Sizes 2" - 12"

16 Bar EPDM from -30°C to 110° C

BSEN 593 • WAFER FLANGE TO BS 4504 •
BSEN 1092-2 • FACE-TO-FACE BSEN 558-1 • ISO 5752 • BS 2080



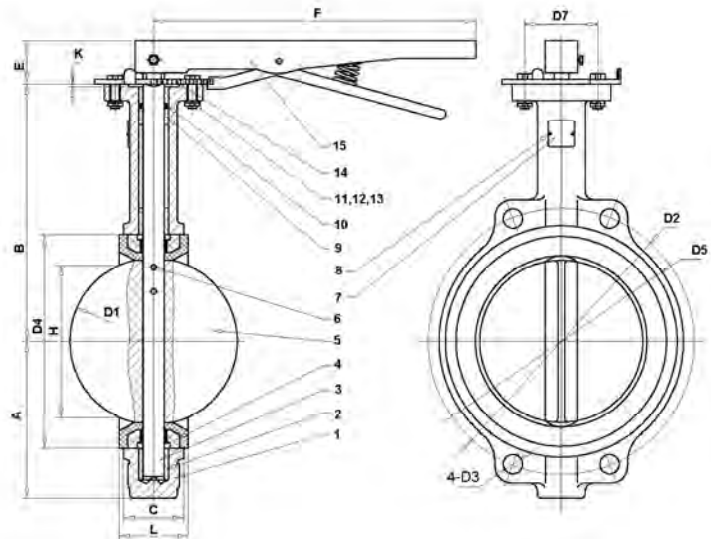
**WDB-1000 /
NE200-136**
Wafer

MATERIAL LIST

PART	SPECIFICATION
1. Body	Ductile Iron BSEN 1563 GJS-400-15
2. Long Bushing	Bronze BSEN 1982 CC491K
3. Stem	Stainless Steel 416 BSEN 10088-1
4. Seat	Rubber EPDM
5. Disc	Ductile Iron BSEN 1563 GJS-400-15
6. Taper Pin	Stainless Steel 416 BSEN 10088-1
7. Name Plate	Aluminum
8. Plate Rivet	Aluminum
9. Short Bushing	Bronze BSEN 1982 CC491K
10. O-Ring	Rubber NBR
11. Bolts	Steel
12. Spring Spacer	
13. Nut	Steel
14. Latch Plate	Steel
15. Lever Handle	Ductile Iron BSEN 1563 GJS-400-15

Pressure Testing

Shell	24 Bar
Seat	17.6 Bar



WDB-1000/NE200-136
Wafer

DIMENSIONS—WEIGHTS

SIZE		Dimensions (mm)																	Weight		
In.	mm.	D1	D2	D3	D4	D5	D6	D7	D8	K	D9	d0*	h	A	B	C	E	F	H	L	Kg.
2	50	52.88	125	19	76.30	100	77	50	35	4	7	12.60	9	80	161	42.0	32	267	32.30	45.00	3.50
2½	65	64.49	145	19	89.00	120	77	50	35	4	7	12.60	9	89	175	44.7	32	267	46.10	47.60	4.30
3	80	78.84	160	19	103.90	127	77	50	35	4	7	12.60	9	95	181	45.2	32	267	64.40	49.00	4.70
4	100	104.04	180	19	135.00	156	92	70	55	4	10	15.77	11	114	200	52.1	32	267	86.30	54.70	6.50
5	125	123.32	210	19	159.00	190	92	70	55	4	10	18.92	14	127	213	54.4	32	267	110.60	58.00	8.70
6	150	155.58	240	23	188.40	212	92	70	55	4	10	18.92	14	139	226	55.8	32	267	134.80	58.60	9.80
8	200	202.46	295	23	238.12	268	125	102	70	4	12	22.10	19	175	260	60.6	45	323	192.40	63.40	15.50
10	250	250.47	355	28	292.35	325	125	102	70	4	12	28.45	22	203	292	65.6	45	499	241.70	70.00	20.00
12	300	311.55	410	28	344.09	402	150	125	85	4	14	31.60	27	242	337	76.9	45	499	291.80	80.10	29.00

* d0 = Stem diameter not shown in drawings
h = Mounting flange hole diameter

WARNING: NOT RATED FOR STEAM SERVICE. Failure to follow this warning could result in personal injury or property damage.

Ductile Iron Butterfly Valve (PN16)

Extended Neck • Wafer Style • Gear Operated

Sizes 14" - 24"

16 Bar EPDM from -30°C to 110° C

BSEN 593 • WAFER FLANGE TO BS 4504 •
BSEN 1092-2 • FACE-TO-FACE BSEN 558-1 • ISO 5752 • BS 2080

MATERIAL LIST

PART	SPECIFICATION
1. Screw	Steel
2. O-Ring	Rubber NBR
3. Cap Plate	Ductile Iron 1563 GJS-400-15
4. Body	Ductile Iron 1563 GJS-400-15
5. Middle Bushing	Bronze 1982 CC491K
6. Seat	Rubber EPDM
7. Disc	Ductile Iron 1563 GJS-400-15
8. Stem	Stainless Steel 416 10088-1
9. Tapper Pin	Stainless Steel 416 10088-1
10. Long Bushing	Bronze 1982 CC491K
11. Plate Rivet	Aluminum
12. Name Plate	Aluminum
13. Short Bushing	Bronze 1982 CC491K
14. O-Ring	Rubber NBR
15. Bolt	Steel
16. Washer	Steel
17. Key	Steel
18. Gear Box	

Pressure Testing

Shell	24 Bar
Seat	17.6 Bar

DIMENSIONS—WEIGHTS

SIZE		Dimensions (mm)													
In.	mm.	D1	D2	D3	D4	D5	D6	D7	D8	D9	d0	A	B	K	B1.
14	350	333.32	470	28	375.20	436	140	102	12	70	31.60	635	368	34.60	8
16	400	389.61	525	31	439.52	488	197	140	18	100	37.95	709	400	40.95	10
18	450	440.51	585	31	490.50	539	197	140	18	100	42.86	750	422	45.86	12
20	500	491.64	650	34	535.43	593	197	140	18	100	45.72	841	480	48.72	12
24	600	592.50	770	37	654.02	816	276	165	22	130	53.98	1021	562	57.98	16

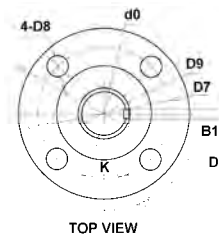
DIMENSIONS—WEIGHTS

SIZE		Dimensions (mm)											Weight		
In.	mm.	C	E	H	H1	h	L	M	KEY	Gear Box Type	a	b	Ø	f	Kg.
14	350	75.17	45.00	322	425	4	79.5	34.60	8 x Ø28	3D-120	309	294	300	189	61.3
16	400	85.70	72.00	380	459	5	90.0	40.95	8 x Ø28	3D-250	400	379	300	210	100.5
18	450	104.60	72.00	428	481	5	109.0	45.86	8 x Ø28	3D-30/250	426	361	300	274	118.5
20	500	130.28	82.00	473	551	5	135.0	48.72	8 x Ø28	3D-30/400	479	417	300	279	155.5
24	600	151.36	82.00	528	633	6	156.0	57.98	8 x Ø28	3D-30/400	479	417	300	279	268.9

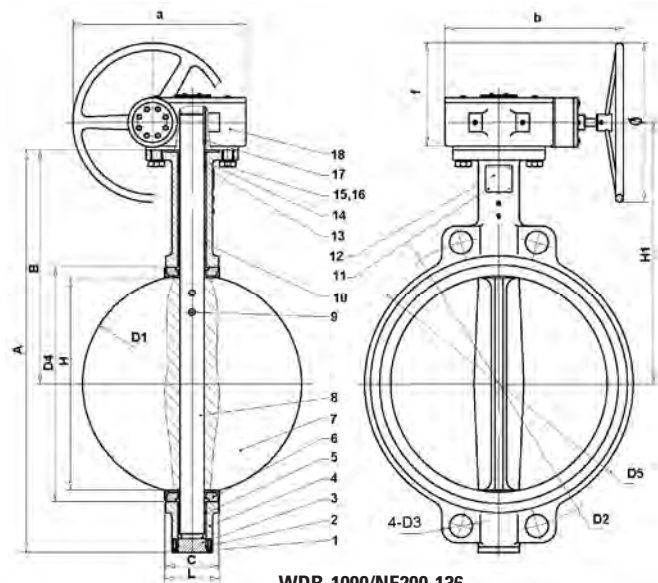
WARNING: NOT RATED FOR STEAM SERVICE. Failure to follow this warning could result in personal injury or property damage.



**WDB-1000 /
NE200-136**
Wafer



TOP VIEW



WDB-1000/NE200-136
Wafer

Ductile Iron Globe Valve (PN16)

OS&Y • Rising Stem • Bronze Trim • Bolted Bonnet • Epoxy Coated

16 Bar from -10°C to 120°C

12.8 Bar at 200°C

Standards	Valve	Face to Face	Flanges	Testing
BS EN	13789	558-1 Series 10	1092-2 PN16	12266-1
BS	5152	2080 Series 10	4504-3.2 PN16	6755-1

MATERIAL LIST

PART	MATERIAL	SPECIFICATION(BS)
1. Body	Ductile Iron	1563 EN-GJS-400-15
2. Seat	Bronze	1982 CC491K
3. Disc Ring	Bronze	1982 CC491K
4. Disc	Ductile Iron	1563 EN-GJS-400-15
5. Disc Cover	Stainless Steel	10088-1 X5CrNi18-10
6. Stem	Stainless Steel	10088-1 X20Cr13
7. Gasket	Graphite + Steel	--
8. Bonnet	Ductile Iron	1563 EN-GJS-400-15
9. Packing	Graphite	--
10. Gland	Ductile Iron	1563 EN-GJS-400-15
11. Washer	Stainless Steel	10088-1 X5CrNi18-10
12. Nut	Stainless Steel	10088-1 X5CrNi18-10
13. Square Bolt	Stainless Steel	10088-1 X5CrNi18-10
14. Stem Nut	Brass	--
15. Handwheel	Ductile Iron	1563 EN-GJS-400-15
16. Bolt	Stainless Steel	10088-1 X5CrNi18-10
17. Washer	Stainless Steel	10088-1 X5CrNi18-10
18. Screw	Carbon Steel	--
19. Bolt	Carbon Steel	--
20. Washer	Stainless Steel	10088-1 X5CrNi18-10

Pressure Testing

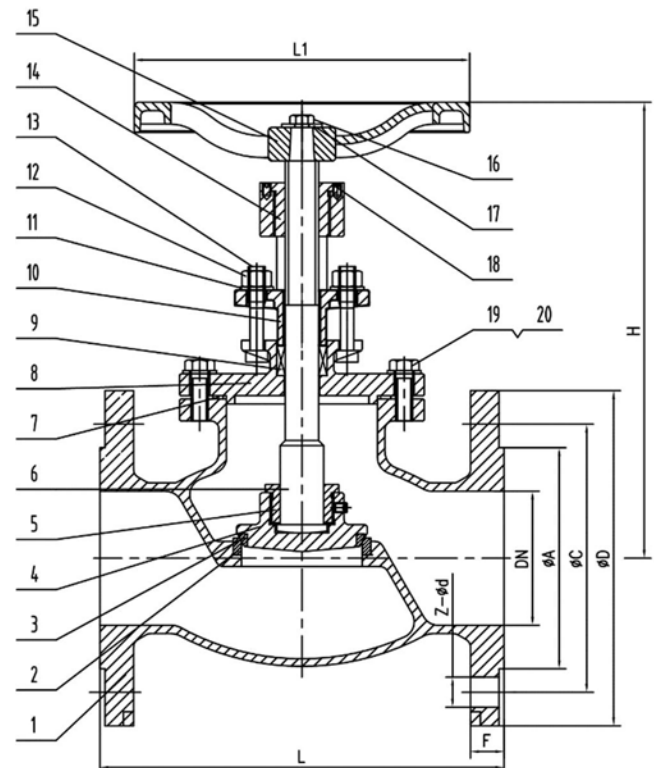
Shell	24 Bar
Seat	17.6 Bar

DIMENSIONS (mm)

Size Inch (mm)	DN	L	D	C	A	F	Z-Ød	H	L1
2" (50)	50	203	165	125	99	19	4-Ø19	236	160
2½" (65)	65	216	185	145	118	19	4-Ø19	246	160
3" (80)	80	241	200	160	132	19	8-Ø19	287	200
4" (100)	100	292	220	180	156	19	8-Ø19	299	200
5" (125)	125	330	250	210	184	19	8-Ø19	333	250
6" (150)	150	356	285	240	211	19	8-Ø23	356	250
8" (200)	200	495	340	295	266	20	12-Ø23	385	280
10" (250)	250	622	405	355	319	22	12-Ø28	405	370
12" (300)	300	698.5	460	410	370	25	12-Ø28	437	370

Note: New disc ring design per BS EN 13789:2010 "SEC.4.2.2.3 Globe valves may be used as regulating valves in which case they shall be supplied with a profiled obturator, e.g. parabolic or conical."

NPF719EP



Ductile Iron Double Regulating Balancing Valves (PN16)

Fixed Orifice • Two Test Ports • Flanged Ends • Size DN 65-450

16 Bar/ -10 to 100°C

12.8 Bar / 120°C

Standards	Valve	Face-to-Face	Flanges	Testings
BS EN		BS EN 558 SER.1	BS EN 1092-2	
BS	7350	BS 2080 SER.1	BS 4504-3.2	6755-1

MATERIAL LIST

PART	SPECIFICATION
1. Body	Ductile Iron 1563 EN-JS1040
2. Seal Gasket	EPDM
3. Disc	Ductile Iron w/EPDM coated 1563 EN-JS1040
4. Stem Nut	Brass 12165 CW617N
5. Stem	S.S. 304 BS970 410S21
6. Bonnet	Ductile Iron 1563 EN-JS1040
7. Stem Lock Bushing	Brass 12165 CW617N
8. Limit Set of Indicator	S.S. 304 BS970 304S15
9. Oriented Set of Indicator	Brass 12165 CW617N
10. Directed Circle	ABS
11. Indicator	ABS
12. Packing	EPDM
13. Handwheel	Ductile Iron 1563 EN-JS1040
14. Plug	Steel
15. Orifice Insert	Stainless Steel 304 BS970 304S15
16. Bolt	S.S. 304 BS970 304S15
17. Gasket	S.S. 304 BS970 304S15
18. Hex. Socket Screw	S.S. 304 BS970 304S15
19. Bolt	S.S. 304 BS970 304S15
20. Spring Gasket	S.S. 304 BS970 304S15
21. Indicator Dust Cover	ABS
22. Packing Gland	Brass (DN65-DN150) 12165 CW617N or Ductile Iron (DN200-450) EN-JS1040
23. Packing	PTFE
24. Spring Washer	S.S. 304 BS970 304S15

Pressure Testing

Shell	24 Bar
Seat	17.6 Bar

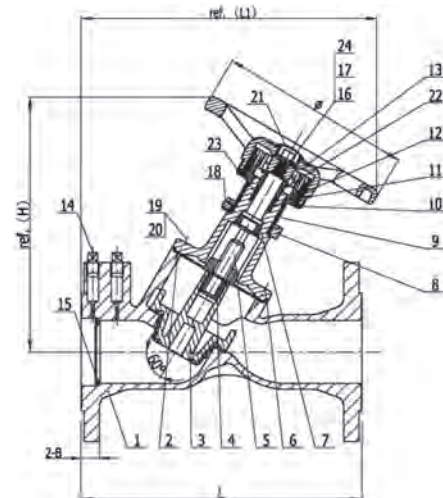
DIMENSIONS—WEIGHTS

SIZE			Dimensions mm							
In.	DN.	In.	H	L	L1	B	Ø	Kvs	Handwheel No. of Turns	Wt.
2½	65	2½	265	290	310	19	200	104	8	17
3	80	3	270	310	320	19	200	112	8	20
4	100	4	310	350	360	19	240	162	8	29
5	125	5	340	400	415	19	290	254	8	40
6	150	6	340	480	445	19	290	335	8	52
8	200	8	537	600	620	20	350	535	12	113
10	250	10	570	730	720	22	420	1099	12	185
12	300	12	690	850	875	24.5	420	1588	18	248
14	350	14	685	980	930	26.5	420	1885	18	410
16	400	16	970	1100	1220	28	640	2334	24	550
18	450	18	975	1200	1280	30	640	2981	24	690



NPF 738

Flanged



NPF 738
FLNG x FLNG

Note: In accordance with BS7350, the accuracy of flow measurement is $\pm 5\%$ at all open positions of the double regulating valves.

Ductile Iron Balancing Valve Double Regulating Valves (PN20)

Fixed Orifice • Two Test Ports • PN25 Flanged Ends • Size DN 65-600

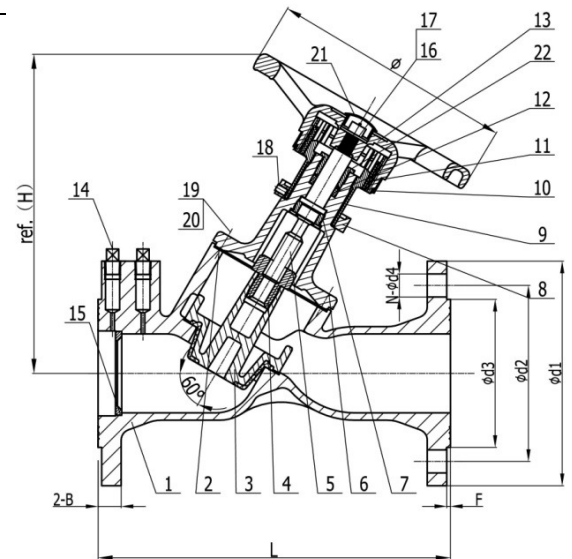
20 Bar/-10°C to 120°C

Standards	Design	Face to Face	Flanges	Testing
BS EN		558 SER.1	1092-2 PN25	
BS	7350	2080 SER.1	4504-3.2	6755-1

MATERIAL LIST

PART	MATERIAL	SPECIFICATION(BS)
1. Body	Ductile Iron	EN 1563 EN-JS1040
2. Seal Gasket	EPDM	
3. Disc	Ductile Iron w/EPDM coated	EN 1563 EN-JS1040
4. Stem Nut	Brass	EN 12165 CW617N
5. Stem	S.S. 410 (DN65-DN150) S.S. 431 (DN200-DN600)	BS970 410S21 BS970 431S21
6. Bonnet	Ductile Iron	EN 1563 EN-JS1040
7. Stem Lock Bushing	Brass	EN 12165 CW617N
8. Limit Set of Indicator	Brass (DN65-DN350) S.S. 304 (DN400-DN600)	EN 12165 CW617N BS970 304S15
9. Oriented Set of Indicator	Brass	EN 12165 CW617N
10. Directed Circle	ABS	
11. Indicator	ABS	
12. Packing	PTFE+EPDM	
13. Handwheel	Ductile Iron	EN 1563 EN-JS1040
14. Plug	Steel	
15. Orifice Insert	Brass (DN65-DN300) S.S. 304 (DN350-DN600)	EN 12165 CW617N BS970 304S15
16. Bolt	S.S. 304	BS970 304S15
17. Gasket	S.S. 304	BS970 304S15
18. Hex. Socket Screw	S.S. 304	BS970 304S15
19. Bolt	S.S. 304	BS970 304S15
20. Spring Gasket	S.S. 304	BS970 304S15
21. Indicator Dust Cover	ABS	
22. Packing Gland	Brass (DN65-DN150) Ductile Iron (DN200-DN600)	EN 12165 CW617N EN 1563 EN-JS1040

NPF745



Pressure Testing

Shell	30 Bar
Seat	22 Bar

DIMENSIONS-WEIGHT

Size		Dimensions (mm)									Weight	Flow Kv	Handwheel Setting No. of Turns
In.	mm.	H	L	B	Ø	Ød1	Ød2	Ød3	N- Ød4	F			
2 1/2"	65	265	290	19	200	185	145	118	8-Ø19	3	20	104	8
3"	80	270	310	19	200	200	160	132	8-Ø19	3	24	112	8
4"	100	310	350	19	240	235	190	156	8-Ø23	3	35	162	8
5"	125	340	400	19	290	270	220	184	8-Ø28	3	48	254	8
6"	150	340	480	20	290	300	250	211	8-Ø28	3	62	335	8
8"	200	537	600	22	350	360	310	274	12-Ø28	3	136	535	12
10"	250	570	730	24.5	420	425	370	330	12-Ø31	3	222	1099	12
12"	300	690	850	27.5	420	485	430	389	16-Ø31	4	298	1588	18
14"	350	685	980	30	420	555	490	448	16-Ø34	4	490	1635	18
16"	400	965	1100	32	640	620	550	503	16-Ø37	4	710	2125	24
18"	450	1020	1200	34.5	640	670	600	548	20-Ø37	4	821	2698	24
20"	500	1065	1250	36.5	640	730	660	609	20-Ø37	4	1003	3371	24
24"	600	1180	1450	42	640	845	770	720	20-Ø41	5	1204	4091	24

Note: In accordance with BS7350, the accuracy of flow measurement is ±5% at all open position of the double regulating valves.

Ductile Iron Check Valve

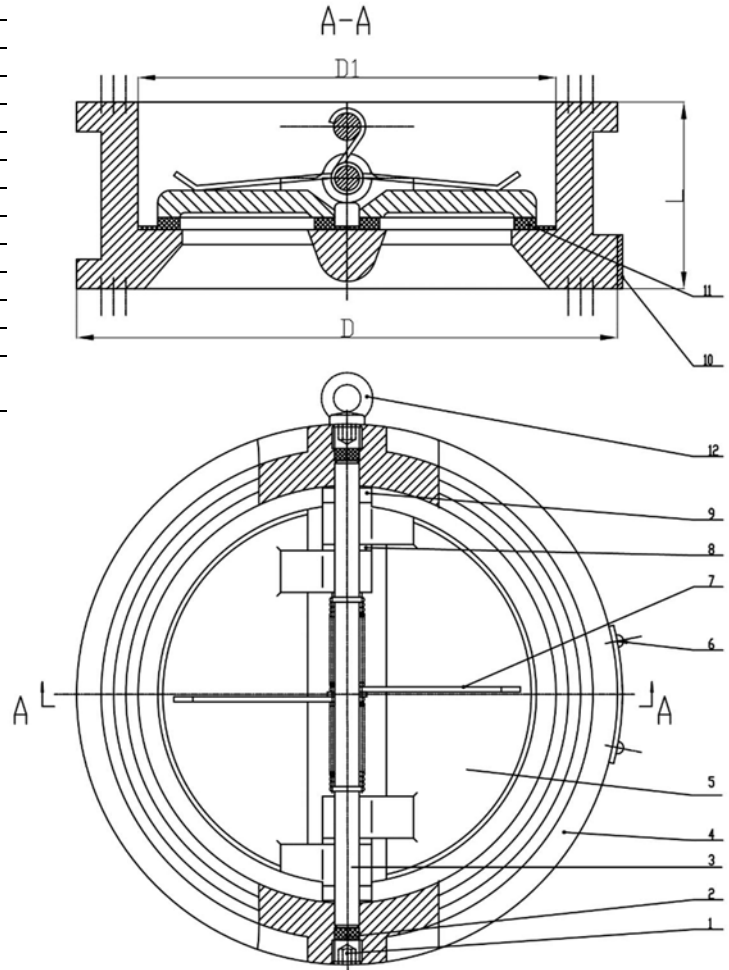
Double-Door • Wafer Style • Rubber Seat • Spring Actuated • Epoxy Coated
232 PSI/16 bar non-shock cold working pressure
Maximum temperature to 230°F/110°C

MATERIAL LIST

PART	MATERIAL	SPECIFICATION(ASTM)
1. Screw	Carbon Steel	A29 Grade 1035
2. Sealing Ring	NBR	--
3. Hinge Pin	Stainless Steel	A276 UNS S31600
4. Body	Ductile Iron	A536 Grade 65-45-12
5. Disc	Stainless Steel	A351 Grade CF8M
6. Rivet	Aluminum	--
7. Torsion Spring	Stainless Steel	A313 UNS S31600
8. Gasket	PTFE	--
9. Gasket	PTFE	--
10. Name Plate	Steel	--
11. Seat	EPDM	--
12. Eyebolt	Carbon Steel	--

(for 8" and above only)

NPW930EP



Pressure Testing

Shell	348 PSI/24 Bar
Seat	256 PSI/17.6 Bar

DIMENSIONS-WEIGHTS

Size		Dimensions(mm)			Weight
In.	mm.	L	D	D1	Kg.
2"	(50)	43	103	65	1.4
2 1/2"	(65)	46	123	80	2.3
3"	(80)	64	129	94	3.7
4"	(100)	64	167	117	4.2
5"	(125)	70	192	145	6.3
6"	(150)	76	218	170	9.3
8"	(200)	89	279	224	14.8
10"	(250)	114	334	265	25.5
12"	(300)	114	409	310	40.7
14"	(350)	127	448	360	55
16"	(400)	140	512	410	76.5
18"	(450)	152	547	450	107
20"	(500)	152	604	505	114
24"	(600)	178	724	624	166

Installed with full face gasket between ASME B16.1 Class 125 flanges.

Warning:

1. Seal end of valve must be mated to a standard flat faced metal flange, Rubber flanges not acceptable.
2. These are not be used as steam valve.
3. Valves are not be used near a reciprocating air compressor.
4. Install 5 pipe diameter minimum downstream from pump discharge or elbows to avoid flow turbulence. Flow straightener may be required in extreme cases.

Note: Conforms to BS EN 12334

Ductile Iron Check Valve

Double-Door • Wafer Style • Rubber Seat • Spring Actuated • Epoxy Coated
232 PSI/16 bar non-shock cold working pressure
Maximum temperature to 230°F/110°C

MATERIAL LIST

PART	MATERIAL	SPECIFICATION(ASTM)
1. Body+Seat	Ductile Iron+EPDM	A536 Gr.65-45-12 + EPDM
2. Disc	Stainless Steel	A351 Gr. CF8M
3. Disc Hinge Pin	Stainless Steel	A276 UNS S31600
4. Spring	Stainless Steel	A313 UNS S31600
5. Gasket	PTFE	--
6. Gasket	PTFE	--
7. Seal Gasket	NBR	--
8. Screw	Carbon Steel	A29 Gr. 1035
9. Nameplate	Steel	--
10. Rivet	Aluminum	--
11. Eyebolt	Carbon Steel	--

Pressure Testing

Shell	348 PSI/24 Bar
Seat	256 PSI/17.6 Bar

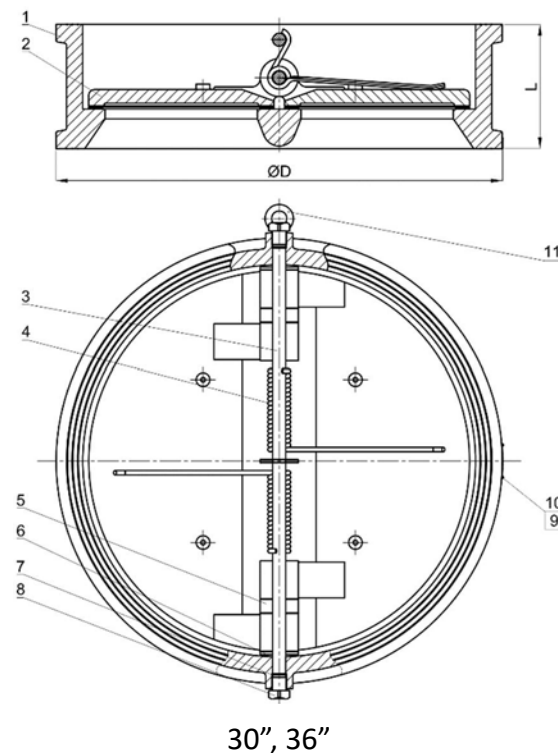
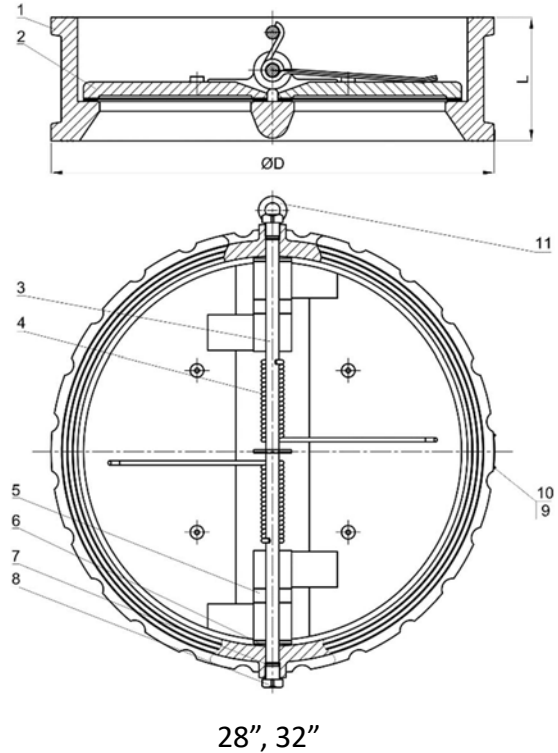
DIMENSIONS-WEIGHTS

Size	Dimensions(mm)		Weight	
In.	mm.	L	D	Kg.
28"	(700)	229	829	286
30"	(750)	305	879	351
32"	(800)	241	937	390
36"	(900)	368	1045	445

Installed with full face gasket between ASME B16.1 Class 125 flanges.

Warning:

1. Seal end of valve must be mated to a standard flat faced metal flange, Rubber flanges not acceptable.
2. These are not be used as steam valve.
3. Valves are not be used near a reciprocating air compressor.
4. Install 5 pipe diameter minimum downstream from pump discharge or elbows to avoid flow turbulence. Flow straightener may be required in extreme cases.



Cast Iron Swing Check Valve (PN16)

Bolted Bonnet • Horizontal Swing • Bronze Trim • Flanged Ends

16 Bar from -10°C to 120°C

12.8 Bar at 200°C

Standards	Valve	Face to Face*	Flanges	Testing
BS EN	12334	558-1 Ser.10	1092-2 PN16	12266-1
BS	5153	2080 Ser. 10/5153	4504-3.2 PN16	6755-1,5153

*For 14" and 16" only.

MATERIAL LIST

PART	MATERIAL	SPECIFICATION
1.	Body	Cast Iron BSEN 1561 EN-GJL-250
2.	Seat Ring	Bronze BSEN 1982 CC491
3.	Disc Ring	Bronze BSEN 1982 CC491
4.	Disc	Cast Iron BSEN 1561 EN-GJL-250
5.	Hinge	Ductile Iron BSEN 1563 EN-GJS-450-10
6.	Washer	Steel BSEN 10025-2 1.0038
7.	Nut	Steel BSEN 10025-2 1.0038
8.	Split Pin	Stainless Steel BSEN 10088-2 X2CrNi18-9
9.	Disc Screw	Steel BSEN 10025-2 1.0038
10.	Side Pin	Brass BSEN 12164 CW617N
11.	Gasket	Soft steel cardboard
12.	Hinge Pin	Stainless Steel BSEN 10088-2 X2CrNi18-9
13.	Bonnet	Cast Iron BSEN 1561 EN-GJL-250
14.	Gasket	Graphite --
15.	Bolt	Steel BSEN 10025-2 1.0038
16.	Nut	Steel BSEN 10025-2 1.0038
17.	I.D. Plate	Aluminum --
18.	Pin	Stainless Steel BSEN 10088-2 X2CrNi18-9

Pressure Testing

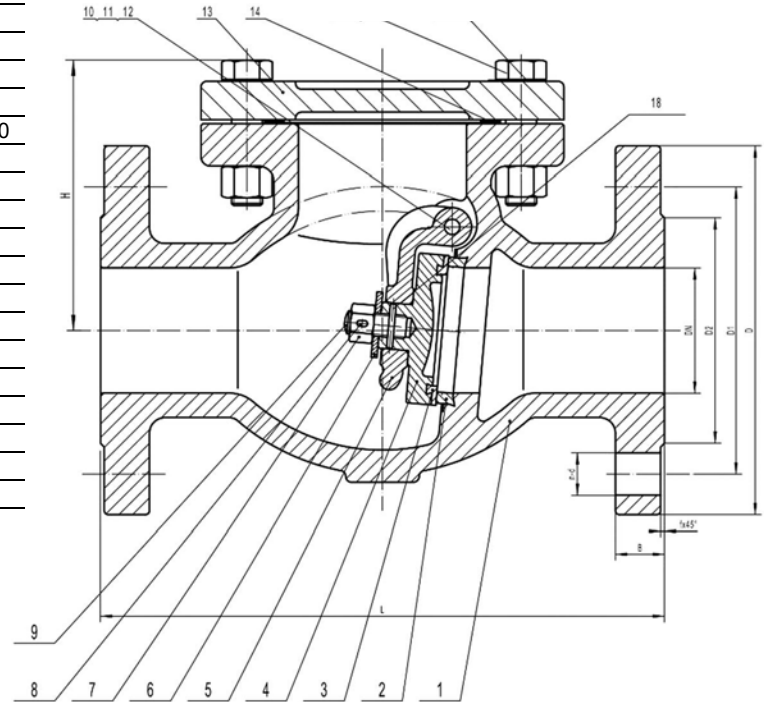
Shell	24 Bar
Seat	17.6 Bar

DIMENSIONS (mm)

Size	DN		L	D	D1	D2	B	n-d	f	H	Weight Kg.
	Inch	mm									
14"	350	350	787.4	520	470	429	36	16-28	4	560	418.5
16"	400	400	914	580	525	480	38	16-31	4	589	542
18"	450	450	914	640	585	548	40	20-31	4	645	656
20"	500	500	1016	715	650	609	42	20-34	4	702	832
24"	600	600	1219	840	770	720	48	20-37	5	812	1260

NPF938P

Size 14"~24"



- On pump discharge, install the check valve a minimum of 5 times the pipe diameter.
- Do not use for reciprocating air compressor service.
- Iron body check valves may be installed in horizontal and vertical lines with upward flow or in any intermediate position.
- This valve complies with BSEN 12334:01 SEC.4.2.4 Anti-blow out design. The valve designs shall ensure that the hinge pin mechanism cannot be fully blown out of the body when the valve is under pressure.

Ductile Iron Swing Check Valve (PN16)

Bolted Bonnet • Horizontal Swing • Bronze Trim • Flanged Ends • Epoxy Coated

16 Bar from -10°C to 120° C

12.8 Bar at 200°C

Standards	Valve	Face to Face	Flanges	Testing
BS EN	12334	558-1 Ser.10	1092-2 PN16	12266-1
BS	5153	2080 Ser. 10/5153	4504-3.2 PN16	6755-1,5153

MATERIAL LIST

PART	MATERIAL	SPECIFICATION(BSEN)
1. Body	Ductile Iron	1563 EN-GJS-400-15
2. Seat	Bronze	1982 CC491K
3. Disc	Ductile Iron	1563 EN-GJS-400-15
4. Disc Ring	Bronze	1982 CC491K
5. Hinge	Ductile Iron	1563 EN-GJS-400-15
6. Bushing	Aluminum Bronze	12163 CW307G
7. Washer	Stainless Steel	10088-1 X5CrNi18-10
8. Nut	Stainless Steel	10088-1 X5CrNi18-10
9. Split Pin	Stainless Steel	10088-1 X5CrNi18-10
10. Gasket	Graphite +Steel	--
11. Bonnet	Ductile Iron	1563 EN-GJS-400-15
12. Bolt	Carbon Steel	--
13. Washer	Carbon Steel	--
14. Hinge Pin	Stainless Steel	10088-1 X30Cr13
15. Plug	Stainless Steel	10088-1 X5CrNi18-10
16. Screw	Stainless Steel	10088-3 X5CrNi18-10
17. Bushing	Aluminum Bronze	12163 CW307G
18. O-ring (2"-5")	EPDM	--
Gasket (6"-12")	EPDM	--
19. Eyebolt (6"-12")	Carbon Steel	--

Pressure Testing

Shell	24 Bar
Seat	17.6 Bar

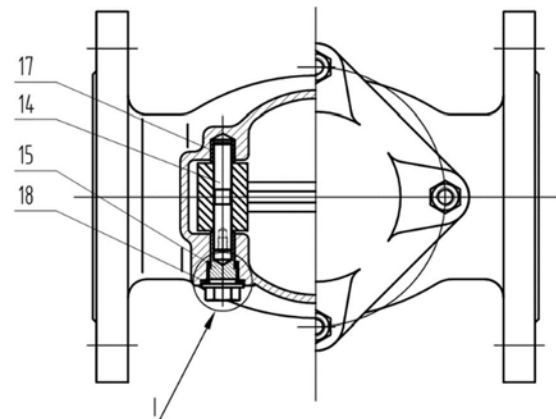
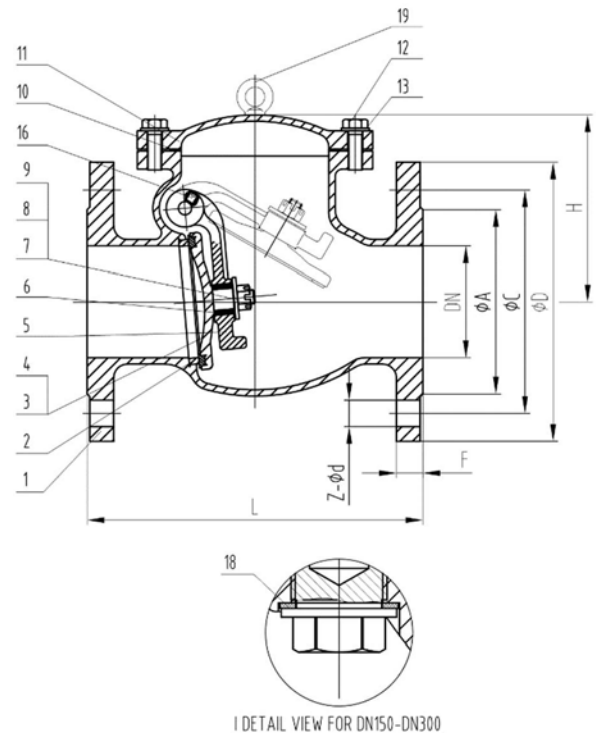
DIMENSIONS (mm)

Size	Size		DN	L	A	C	D	Z-Ød	F	H	Weight Kg.
	Inch	mm									
2"	50	50	50	203	99	125	165	4-Ø19	19	123	11.6
2½"	65	65	65	216	118	145	185	4-Ø19	19	133	17.5
3"	80	80	80	241	132	160	200	8-Ø19	19	134	21.4
4"	100	100	100	292	156	180	220	8-Ø19	19	162	37
5"	125	125	125	330	184	210	250	8-Ø19	19	188	56
6"	150	150	150	356	211	240	285	8-Ø23	19	264	72
8"	200	200	200	495	266	295	340	12-Ø23	20	304	123
10"	250	250	250	622	319	355	405	12-Ø28	22	360	198
12"	300	300	300	698	370	410	460	12-Ø28	24.5	392	292

- On pump discharge, install the check valve a minimum of 5 times the pipe diameter.
- Do not use for reciprocating air compressor service.
- Iron body check valves may be installed in horizontal and vertical lines with upward flow or in any intermediate position.
- This valve complies with BSEN 12334:01 SEC.4.2.4 Anti-blow out design. The valve designs shall ensure that the hinge pin mechanism cannot be fully blown out of the body when the valve is under pressure.

NPF938EP

2"~12"



Cast Iron Swing Check Valve (PN25)

Bolted Bonnet • Horizontal Swing • Bronze Trim • Flanged Ends

25 Bar from -10°C to 120°C

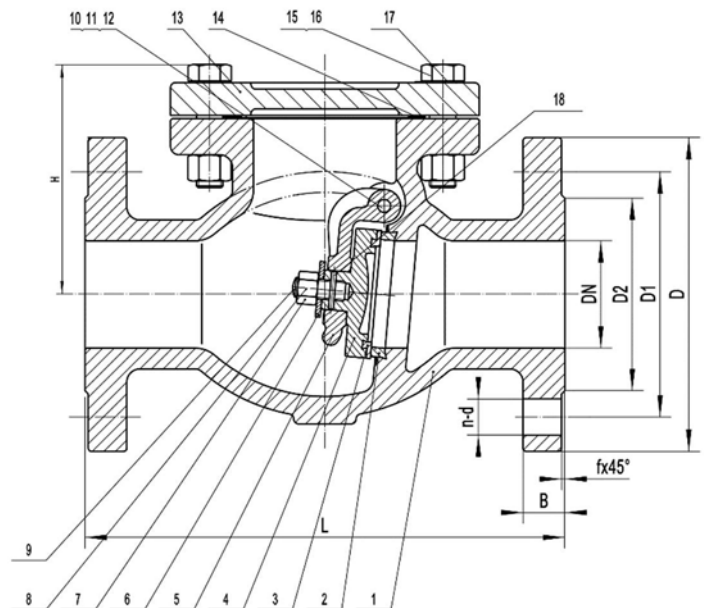
15 Bar at 300°C

Standards	Valve	Face to Face	Flanges drilled	Testing
BS EN	12334	558-1 Ser.21	1092-2 PN25	12266-1
BS	5153	2080 Ser.21	4504-3.2 PN25	6755-1

MATERIAL LIST

PART	MATERIAL	SPECIFICATION
1. Body	Cast Iron	BSEN 1561 EN-GJL-250
2. Seat Ring	Bronze	BSEN 1982 CC491K
3. Disc Ring	Bronze	BSEN 1982 CC491K
4. Disc	Cast Iron	BSEN 1561 EN-GJL-250
5. Hinge	Ductile Iron	BSEN EN-GJS-450-10
6. Washer	Steel	BSEN 10025-2 1.0038
7. Nut	Steel	BSEN 10025-2 1.0038
8. Split Pin	Stainless Steel	BSEN 10088-2 X5CrNi18-10
9. Disc Screw	Steel	BSEN 10025-2 1.0038
10. Side Pin	Brass	BSEN 12164 CW617N
11. Gasket	Steel Cardboard	
12. Hinge Pin	Stainless Steel	BSEN 10088-2 X5CrNi18-10
13. Bonnet	Cast Iron	BSEN 1561 EN-GJL-250
14. Gasket	Graphite	--
15. Bolt	Steel	BSEN 10025-2 1.0038
16. Nut	Steel	BSEN 10025-2 1.0038
17. I.D. Plate	Aluminum	--
18. Pin	Stainless Steel	BSEN 10088-2 X5CrNi18-10

NPF940P



Pressure Testing

Shell	37.5 Bar
Seat	27.5 Bar

DIMENSIONS (mm)

Size		L	D	D1	D2	B	n-d	f	H	Weight Kg.
Inch	mm									
2"	50	267	165	125	99	22.2	4-19	3	135	17.6
2 1/2"	65	292	191	145	118	25.4	8-19	3	150	31
3"	80	318	210	160	132	28.6	8-19	3	166	35.8
4"	100	356	254	190	156	31.8	8-23	3	190	55.7
5"	125	400	279	220	184	34.9	8-28	3	206	80.4
6"	150	444	318	250	211	36.5	8-28	3	244	110.9
8"	200	533	381	310	274	41.3	12-28	3	291	178
10"	250	622	445	370	330	47.6	12-31	3	337	277
12"	300	711	521	430	389	50.8	16-31	4	383	408.5

- On pump discharge, install the check valve a minimum of 5 times the pipe diameter.
- Do not use for reciprocating air compressor service.
- Iron body check valves may be installed in horizontal and vertical lines with upward flow or in any intermediate position.
- This valve complies with BSEN 12334:01 SEC.4.2.4 Anti-blow out design. The valve designs shall ensure that the hinge pin mechanism cannot be fully blown out of the body when the valve is under pressure.

Ductile Iron Silent Check Valve (PN16)

Globe Style • Spring Actuated • Epoxy Coated

16 bar from -20°C to 110°C

Standards	Valve	Flanges	Testing
BS EN	12334	1092-2 PN16	12266-1
BS	5153	4504-3.2 PN16	6755-1

MATERIAL LIST

PART	MATERIAL	SPECIFICATION(BSEN)
1. Body	Ductile Iron	1563 EN-GJS-400-15
2. Seat	Stainless Steel+EPDM	10213 GX5CrNi19-10
3. Disc	Stainless Steel	10213 GX5CrNi19-10
4. Stem	Stainless Steel	10088-3 X12Cr13
5. Spring	Stainless Steel	10270-3 X5CrNi18-10
6. Bushing	Bronze	1982 CC491K
7. Steel Ball	Bearing Steel	--
8. Screw	Stainless Steel	10088-1 X5CrNi18-10
9. O-Ring	EPDM	--

Pressure Testing

Shell	24 Bar
Seat	17.6 Bar

DIMENSIONS—WEIGHT

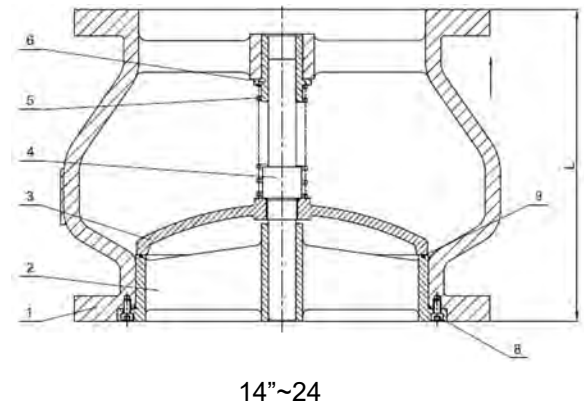
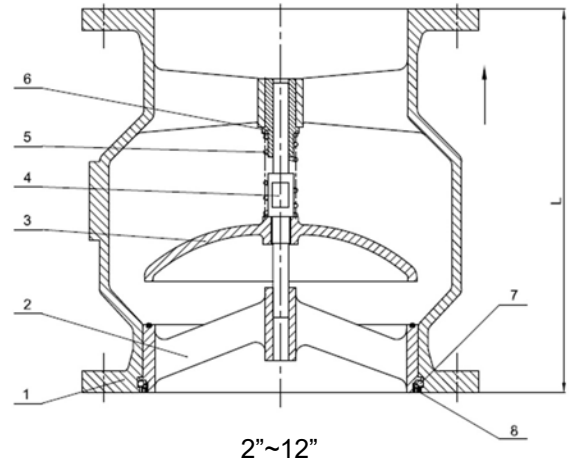
Size	L	Weight
In.	DN (mm)	(Kg.)
2"	50	7.3
2½"	65	9
3"	80	12
4"	100	16
5"	125	21
6"	150	29
8"	200	58
10"	250	79
12"	300	113
14"	350	188
16"	400	226
18"	450	285
20"	500	336
24"	600	548

Remark: Use these valves only with flat face flange and full face gasket.

Warning:

1. Seal end of valve must be mated to a standard flat faced metal flange, Rubber flanges not acceptable.
2. These are not be used as steam valve.
3. Valves are not be used near a reciprocating air compressor.
4. Install 5 pipe diameter minimum downstream from pump discharge or elbows to avoid flow turbulence.
Flow straightener may be required in extreme cases.

NPF980EP



Ductile Iron Silent Check Valve (PN16)

Renewable Seats and Disc • Rubber Style • Spring Actuated
16 bar from -20°C to 110°C

Standards	Valve	Flanges	Testing
BS EN	12334	1092-2 PN16	12266-1
BS	5153	4504-3.2 PN16	6755-1

MATERIAL LIST

PART	MATERIAL	SPECIFICATION(BSEN)
1. Body	Ductile Iron	1563 EN-GJS-400-15
2. Seat	Stainless Steel	10213 GX5CrNi19-10
3. Disc	Stainless Steel	10213 GX5CrNi19-10
4. Spring	Stainless Steel	10270-3 X5CrNi18-10
5. Bushing	Bronze	1982 CC491K
6. O-Ring	EPDM	--

Pressure Testing

Shell	24 Bar
Seat	17.6 Bar

DIMENSIONS-WEIGHTS

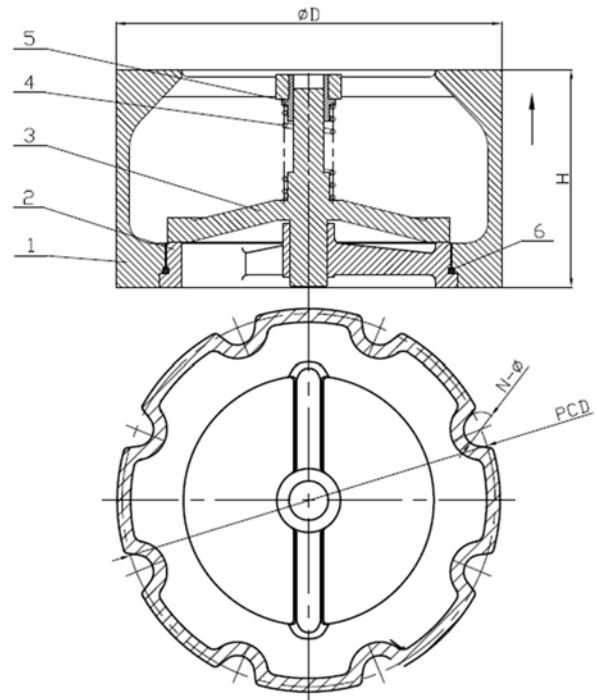
Size		Dimensions(mm)				Weight
In.	mm.	H	ØD	PCD	N-Ø	Kg.
2"	(50)	66.7	110	125	4-Ø19	2.05
2½"	(65)	73.0	136	145	4-Ø19	3.10
3"	(80)	79.4	152	160	8-Ø19	7.0
4"	(100)	101.6	177.8	180	8-Ø19	8.05
5"	(125)	117.5	220.7	210	8-Ø19	12.7
6"	(150)	139.7	247	240	8-Ø23	17.35
8"	(200)	165.1	339.7	295	12-Ø23	35.05
10"	(250)	210.0	403.6	355	12-Ø28	60.0

Use these valves only with flat face flange and full face gasket.

Warning:

1. Seal end of valve must be mated to a standard flat faced metal flange, Rubber flanges not acceptable.
2. These are not be used as steam valve.
3. Valves are not be used near a reciprocating air compressor.
4. Install 5 pipe diameter minimum downstream from pump discharge or elbows to avoid flow turbulence. Flow straightener may be required in extreme cases.

NPW980EP



Ductile Iron Strainer (PN16)

Y-Pattern • Stainless Steel 304 Screen • Bolted Cover • Drain Plug • Epoxy Coated

16 Bar from -10°C to 120°C

Standards	Strainer	Face to Face	Flanges	Testing
BS EN	Nil	558-1 Ser.1	1092-2 PN16	12266-1
BS	Nil	2080 Ser.1	4504-3.2 PN16	6755-1

MATERIAL

PART	MATERIAL	SPECIFICATION(BSEN)
1. Body	Ductile Iron	1563 EN-GJS-400-15
2. Cover	Ductile Iron	1563 EN-GJS-400-15
3. Screen	Stainless Steel	10088-2 X5CrNi18-10,304SS
4. Packing	EPDM	--
5. Drain Plug	Stainless Steel	10088-1 X5CrNi18-10
6. Bolt	Carbon Steel Galvanized	10083-2 C45
7. Spring Washer	Carbon Steel Galvanized	10132-4 C67S
8. Washer	Carbon Steel Galvanized	10083-2 C45
9. Test Point Plug R 1/4 (Optional to request)	Stainless Steel	10088-1 X5CrNi18-10
10. Plug	Carbon Steel	--
11. Gasket	Steel+EPDM	--

Pressure Testing

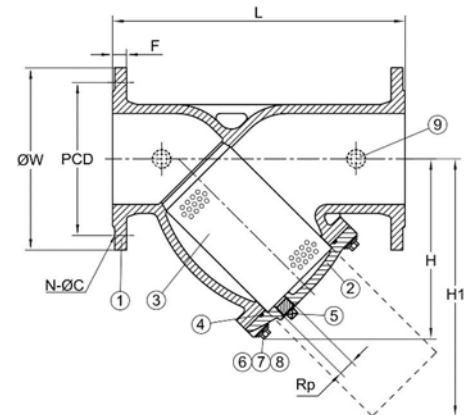
Shell 24 Bar

DIMENSIONS-WEIGHT

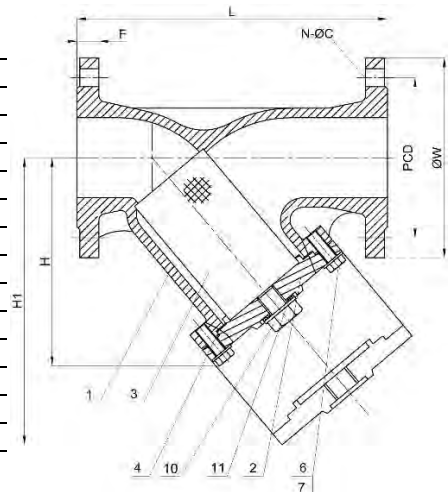
Nominal Size	Dimensions (mm)										Weight
	inch	DN	L	H	H1	Drain Plug Thread*	Mesh Dia.	F	ØW	PCD	
2"	50	230	124	183	R 3/8	1.5	18	165	Ø125	4-Ø19	7.85
2 1/2"	65	290	137	205	R 3/8	1.5	18	185	Ø145	4-Ø19	10.0
3"	80	310	152	238	R 3/8	1.5	18	200	Ø160	8-Ø19	12.55
4"	100	350	205	318	R 3/8	1.5	18	220	Ø180	8-Ø19	16.30
5"	125	400	244	358	R 3/8	1.5	18	250	Ø210	8-Ø19	24.0
6"	150	480	269	380	R 3/8	1.5	18	285	Ø240	8-Ø23	33.0
8"	200	600	341	508	R 1/2	2.5	19	340	Ø295	12-Ø23	56.0
10"	250	730	455	700	R 1/2	2.5	22	405	Ø355	12-Ø28	96.0
12"	300	850	476	730	R 1/2	2.5	24.5	460	Ø410	12-Ø28	189.0
14"	350	980	725	1130	R 3/4	2.5	26.5	520	Ø470	16-Ø28	320.0
16"	400	1100	820	1285	R 3/4	3.5	28	580	Ø525	16-Ø31	378.0
18"	450	1200	840	1310	G 2A	3.5	40	640	Ø585	20-Ø31	750.0
20"	500	1250	908	1440	G 2A	3.5	42	715	Ø650	20-Ø34	800.0
24"	600	1450	1078	1740	G 2A	3.5	48	840	Ø770	20-Ø37	1240.0

*R thread in accordance with ISO 7-1. G thread in accordance with ISO 228-1.

NPF1000EP



2"~16"



18"~24"

Ductile Iron Strainer (PN25)

Y-Pattern • Stainless Steel 304 Screen • Bolted Cover • Drain Plug • Epoxy Coated

25 Bar from -10°C to 120°C

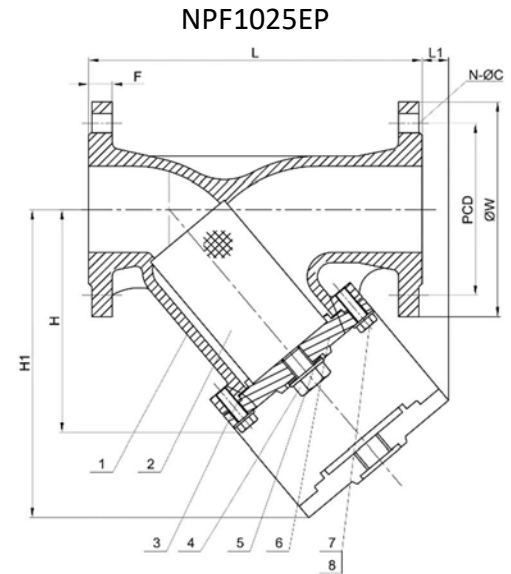
Standards	Strainer	Face to Face	Flanges	Testing
BS EN	Nil	558-1 Ser.1	1092-2 PN25	12266-1
BS	Nil	2080 Ser.1	4504-3.2 PN25	6755-1

MATERIAL

PART	MATERIAL	SPECIFICATION(BSEN)
1. Body	Ductile Iron	1563 EN-GJS-400-15
2. Screen	Stainless Steel	10088-2 X5CrNi18-10,304SS
3. Gasket	EPDM	--
4. Drain Plug	Carbon Steel	--
5. Gasket	Steel+EPDM	--
6. Cover	Ductile Iron	1563 EN-GJS-400-15
7. Bolt	Carbon Steel Galvanized	10083-2 C45
8. Spring Washer	Carbon Steel Galvanized	10132-4 C67S

Pressure Testing

Shell	37.5 Bar
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DIMENSIONS-WEIGHT

Nominal Size		Dimensions (mm)								Weight		
inch	DN	L	H	H1	L1	F	ØW	PCD	N-ØC	Drain Plug Thread*	Mesh Dia.	Kg.
2"	50	230	160	250	45	20	165	Ø125	4-Ø19	G 1A	1.5	7.85
2 1/2"	65	290	180	285	25	20	185	Ø145	8-Ø19	G 1A	1.5	10.0
3"	80	310	215	330	40	22	200	Ø160	8-Ø19	G 1A	1.5	12.55
4"	100	350	235	365	55	24	235	Ø190	8-Ø23	G 1 1/2A	1.5	16.30
5"	125	400	275	425	65	26	270	Ø220	8-Ø28	G 1 1/2A	1.5	24.0
6"	150	480	305	480	50	26	300	Ø250	8-Ø28	G 1 1/2A	1.5	33.0
8"	200	600	390	610	80	30	360	Ø310	12-Ø28	G 2A	2.5	56.0
10"	250	730	540	915	230	32	425	Ø370	12-Ø31	G 2A	2.5	96.0
12"	300	850	680	1110	350	32	485	Ø430	16-Ø31	G 2A	2.5	189.0
14"	350	980	740	1210	355	36	555	Ø490	16-Ø34	G 2A	2.5	320.0
16"	400	1100	845	1380	415	38	620	Ø550	16-Ø37	G 2A	3.5	378.0
18"	450	1200	840	1310	425	40	670	Ø600	20-Ø37	G 2A	3.5	750.0
20"	500	1250	908	1440	520	42	730	Ø660	20-Ø37	G 2A	3.5	800.0
24"	600	1450	1078	1740	665	48	845	Ø770	20-Ø41	G 2A	3.5	1240.0

*Thread in accordance with ISO 228-1.

Cv Flow Data for WDB-1000 Butterfly Valves

Valve Size		Cv Value when valve in different opening angle								
Inch	mm	10°	20°	30°	40°	50°	60°	70°	80°	90°
1 ½	40	0.06	3	7	14	25	36	51	70	76
2	50	0.1	5	12	24	45	64	90	125	135
2 ½	65	0.2	8	20	37	65	98	144	204	220
3	80	0.3	12	22	39	70	116	183	275	302
4	100	0.5	17	36	78	139	230	364	546	600
5	125	0.8	29	61	133	237	392	620	930	1022
6	150	2	45	95	205	366	605	958	1437	1579
8	200	3	89	188	408	727	1202	1903	2854	3136
10	250	4	151	320	694	1237	2047	3240	4859	5340
12	300	5	234	495	1072	1911	3162	5005	7507	8250
14	350	6	338	715	1549	2761	4568	7230	10844	11917
16	400	8	464	983	2130	3797	6282	9942	14913	16388
18	450	11	615	1302	2822	5028	8320	13168	19752	21705
20	500	14	791	1674	3628	6465	10698	16931	25396	27908
22	550	17	965	2042	4426	7887	13052	20655	30983	34048
24	600	22	1222	2587	5605	9989	16528	26157	39236	43116
26	650	26	1434	3036	6578	11723	19397	29263	46047	50600
28	700	30	1663	3522	7630	12599	20036	30482	46899	58696
30	750	35	1912	4050	8142	13152	20411	31226	47562	63328
32	800	45	2387	4791	8736	13788	20613	31395	48117	68250
34	850	51	2697	5414	9872	15580	23293	35476	54372	77123
36	900	60	3021	6063	11055	17449	26086	39731	60895	86375
40	1000	84	4183	8395	15307	24159	36166	55084	84425	119750
42	1050	93	4601	9235	16838	26575	39783	60592	92868	131725
48	1200	121	5981	12001	21890	34548	51718	78770	120728	171243

WDB-1000 PN16 Butterfly Valves Torque Data

VALVE SIZE		PN16	
inch	mm	In-Lbs	N-M
2"	50	124	14
2½"	65	180	20.3
3"	80	240	27.1
4"	100	440	49.7
5"	125	750	84.7
6"	150	1100	124.2
8"	200	2100	237.1
10"	250	3700	417.7
12"	300	5900	666.1
14"	350	8580	968.7
16"	400	11566	1305.8
18"	450	15819	1786
20"	500	20425	2285.7
24"	600	32840	3707.6

Remark:

The above data is the actual operating torque without any safety factor. If calculating with actuator, it is recommended a 30% safety factor be added to the above values.

Flange Dimensions

Nominal Size 15mm (1/2 in)

BS EN 1092	Diameter of flange	Bolt circle diameter	Number of bolts	Diameter of bolts	Diameter of holes	Diameter of raised face(3) iron	Diameter of raised face(3) steel	Height of raised face(3)	Thickness of flange			
									Grey case iron	Copper alloy	Cast and forged Steel	Ductile cast iron
PN 6	80	55	4	M10	11	38	40	2	12(1)	-	12	-
PN 10	95	65	4	M12	14	46	45	2	14 (1)	-	16	14
PN 16	95	65	4	M12	14	46	45	2	14 (1)	6 (2)	16	14
PN 25	95	65	4	M12	14	46	45	2	16 (1)	8 (2)	16	14
PN 40	95	65	4	M12	14	46	45	2	-	9 (2)	16	16
PN 64	105	75	4	M12	14	-	45	2	-	-	20	-

ANSI

Class 125/150	3½ (89)	2¾ (60)	4	½ (13)	⅝ (16)	-	1⅜ (35)	⅛ (2)	-	5/16 (8)	7/16 (11)	-
Class 300	3¾ (95)	2⅝ (67)	4	½ (13)	⅝ (16)	-	1⅜ (35)	⅛ (2)	-	½ (13)	½ (13)	-
Class 600	3¾ (95)	2⅝ (67)	4	½ (13)	⅝ (16)	-	1⅜ (35)	¼ (6)	-	-	⅝ (14)	-
Class 900	4¾ (121)	3¼ (83)	4	¾ (19)	⅞ (22)	-	1⅜ (35)	¼ (6)	-	-	⅞ (22)	-
Class 1500	4¾ (121)	3¼ (83)	4	¾ (19)	⅞ (22)	-	1⅜ (35)	¼ (6)	-	-	⅞ (22)	-

BS 10

Table A	3¾ (95)	2⅝ (67)	4	½ (13)	⅞ (14)	-	-	-	½ (13)	¼ (6)	-
Table D	3¾ (95)	2⅝ (67)	4	½ (13)	⅞ (14)	-	-	-	½ (13)	¼ (6)	⅜ (10)
Table E	3¾ (95)	2⅝ (67)	4	½ (13)	⅞ (14)	-	-	-	½ (13)	¼ (6)	⅜ (10)
Table F	3¾ (95)	2⅝ (67)	4	½ (13)	⅞ (14)	-	-	-	½ (13)	⅝ (8)	⅜ (10)
Table H	4½ (114)	31/4 (83)	4	⅝ (16)	1⅛ (17)	-	21/4 (57)	⅛ (2)	⅝ (16)	⅜ (10)	½ (13)

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2

(2) Flange thicknesses for copper alloy are from BS4504

(3) Copper alloy flanges are always flat-faced

Cross Reference Table for BS-EN Standards, Metrication in the UK Valve Industry and Imperial Valve Standards

BS-EN STANDARD		METRICATION IN THE UK VALVE INDUSTRY		IMPERIAL VALVE STANDARDS	
New Metric Standard	Title	Superseded Old Metric Standard	Title	Superseded Old Metric Standard	Title
BSEN 1171:0215	Industrial Valves – Cast Iron Gate Valves	BS5150 : (74) 90	Cast Iron Gate Valves	BS1735 : 66	Flanged CI outside-screw-and Yoke Wedge Gate Valve Class 125, Size 1 ½" to 24" for petroleum industry
		BS5151 : (74) 91	Cast Iron Gate (parallel slide) Valves for general purposes	BS3464 : 65	CI Wedge & Double Disk Gate Valve for general purpose
				BS3948 : 65	CI Parallel Slide valve for general Purpose
BSEN 13789-10	Industrial Valves – Cast Iron Globe Valves	BS5152 : (74) 91	Cast Iron Globe and Globe Stop and Check Valves for general purposes	BS3961 : 65	CI Screw-down Stop Valve, Stop and Check valves for Gen. Purposes
BSEN 16767:2020	Industrial Valves – Metallic Check Valves	BS5153 : (74) 91	CI Check Valves for general purpose	BS4090 : 66	CI Check Valve for general purpose
BSEN 12288-10	Industrial valves. Copper alloy gate valves	BS5154 : 91	Copper Alloy Globe, Globe Stop and Check, Check and Gate Valves – (Including Parallel Slide type)	BS1952 : 64	Copper Alloy Gate Valve for general purpose
BSEN 12360 **	Copper Alloy Globe Valves			BS1953 : 64	Copper Alloy check Valve for general purpose
BSEN 12328 **	Copper Alloy Check Valves			BS2060 : 64	Copper Alloy Screw-down Stop valve for general purpose
BSEN 593:2017	Industrial Valves – Metallic Butterfly Valves	BS5155 : (84) 91	Butterfly Valves	BS3952 : 65	CI Butterfly valve for Gen. Purpose
BSEN 13397-02	Industrial valves, Diaphragm Valves made of metallic materials	BS5156 : (85) 90	Diaphragm Valves	*	
BSEN 1984-10	Industrial Valves, Steel Gate Valves	BS5157 : 89	Steel Gate (parallel slide) Valves	BS4133 : 67	Flanged Steel Parallel Slide valves for Gen. Purposes
BSEN 12335 ** BSEN 12304 **	Cast Iron Plug Valves Steel Plug Valves	BS5158 : (74) 89	Cast Iron Plug Valves	*	
BSEN 1983-13 **	Industrial Valves, Steel Ball Valves	BS5159 : (74) 91	CI and CS Ball Valves for Gen. Purpose	*	
BSEN 1074-1:00	Valves for water supply – Fitness for purpose requirements and appropriate verification test – part 1 : General requirements	BS5163 : (74) 86	Predominantly Key-Operated Cast Iron Gate Valve for Waterworks Purposes	BS1218 : 46	Sluice valve for Waterworks Purpose
BSEN 1074-2:00/ A1:04	Valves for water supply – Fitness for purpose requirements and appropriate verification test – part 2 : Isolating valves	NOTE: *There are no existing imperial standards for these valves **These standard are not yet published and still in draft form out for public comment.			
BSEN 1074-3:00	Valves for water supply – Fitness for purpose requirements and appropriate verification test – Check valve				
BSEN 1074-4:00	Valves for water supply – Fitness for purpose requirements and appropriate verification test – Air valve				
BSEN 1074-5:01	Valves for water supply – Fitness for purpose requirements and appropriate verification test – Control valve				
BSEN 1074-6:09	Valves for water supply – Fitness for purpose requirements and appropriate verification test – Hydrants				

Cross Reference Table on Valve Component Materials

Valve Component Material Specifications

MATERIAL	BS	ASTM	DIN	BS EN	COMPONENT NAME
CAST IRON	1452 GR220	A126 CL.B	1691 GG22	1561 EN-JL 1040	BODY, BONNET, COVER GLAND, WEDGE HAND WHEEL DISC, STUFFING BOX
DUCTILE IRON	2789 GR420-12 2789 GR500-7 2789 GR600-3 2789 GR700-2 2789 GR800-2	A536 604018 A536 654512 A536 80-55-06 A536 100-70-03 A536 120-90-02	1693 GGG40 1693 GGG50 1693 GGG60 1693 GGG70 1693 GGG80	1563 ENJS 1020 1563 ENJS 1050 1563 ENJS 1060 1563 ENJS 1070 1563 ENJS 1080	
CAST STEEL	1504-161 GR 480	A216 GR WCB	17245 GSC25	10213-2 GP 240 GH	
BRONZE (GUNMETAL)	1400 LG2 1400 LG1	B62 C83600 B584 C84400	1705 G-CuSn5ZnPb 1705 G-CuSn3Zn8Pb5	1982 CC491K 1982 CC490K	
FORGE BRASS	2872-CZ122	B124 C37700	CuZn40Pb2	12165 CW617N	BODY, END CAP, BALL, COMP. NUT
BRASS	2874-CZ124 2874-CZ121	B16 C36000 B455-C38500	17660 CuZn39Pb3 17660 CuZn39Pb3	12164 CW603N 12164 CW614N	STEM, STEM NUT, END CAP, COMP. NUT
H.T. BRASS	2874-CZ114	B138-C67500	17660 CuZn40A1 17660 C67800 17660 CuZn39AlFeMn	12164 CW614N 12164 CW617N 12164 CW721R	STEM, STEM NUT STEM STEM, STEM NUT
ALUM. BRONZE	2874-CA104 1400 AB2	B150 C63000 B148 C95500, C95300	1714 G-CuAl10Fe5Ni5	1982 cc333G	STEM STEM, DISC, BFV DISC
MANGANESE BRONZE	2874-CZ116		1709 CuZn34A15	12164 CW721R 12163 CW705R	STEM STEM
STAINLESS STEEL	1502 S31600 970-316S31 970-316S11 970-304 S15 970-431S29	A182 F316 A276 SS316 A276 SS316L A276 SS304 A276 SS431 A351 CF8M	17440 X5CrNiMo1812 17440 X5CrNiMo 17-12-2 17440 X2CrNiMo 18-10 17441 X5CrNi18-10 17442 X22CrNi17	10088-1 X5CrNiMo 17-12-2 10088-1 X5CrNiMo 17-12-2 10088-1 X2CrNiMo 17-13-2 10088-1 X5CrNi18-10 10088-1 X5CrNi16-2 10213-4 GX5CrNiMo19-11-2 12073 XCrNiMn23-12-2	STEM STEM STEM STEM DISC, SEAT RING, BFD DISC BODY SEAT
STEEL	970-070 M20	A20 GR1021	17200 C22		
DZR METAL	2874-CZ132 2872-CZ132	C35330		12164 CW602N 12165 CW602N	BODY, END CAP, BALL BODY, END CAP, BALL
13% Cr SS	3100 420C29		17445 G-X12Cr14		STEM
STEEL				10028-2 P265GH	BOTTOM CAP
STEEL	970-220 M07	A151 C1213	1.0715	10087 11SM30	
SCREEN, STAINLESS STEEL	1449-304S15	AISI 304	17440 X2CrNi18-10	10088-1 X10CrNi18-10	STRAINER SCREEN
Chrome-Vanadium Steel	970-735 A50			10088-3 -1 51CrV4	SPRING FOR SAFETY VALVE
BRASS				12164-CW602N 12164-CW602N	COMPRESSION OLIVE COMPRESSION ADAPTOR

Notes

Notes

NIBCO® Pressure Rated Metal Valves Limited Warranty



NIBCO INC. 125% LIMITED WARRANTY

Applicable to NIBCO Pressure Rated Metal Valves

NIBCO INC. warrants each NIBCO pressure rated metal valve (“Valves”) to be free from defects in materials and workmanship under normal use, service, and maintenance in accordance with the product specifications (including, but not limited to installation recommendations) for a period of five (5) years from the Warranty Commencement Date. The Warranty Commencement Date shall be the date upon which a Valve is installed.

NIBCO will repair or replace – at its option and at no charge – Valves that have been determined by NIBCO, or an authorized representative or agent thereof, to have failed solely because of a defect in materials or workmanship under normal use, service, and maintenance during the warranty period. Replacements shall be shipped free of charge to the owner. In the event of the replacement of any Valve, NIBCO shall further pay the owner the greater of twenty-five (25%) percent of the price of the Valve according to the published suggested list price schedule of NIBCO in effect at the time of purchase, or ten (\$10.00) dollars, to apply on the cost of the installation of said replacement Valve.

This limited warranty applies to all Valves installed, tested, applied, and used in accordance with NIBCO’s approved and published recommendations and instructions.

This warranty does not cover any failure or damage for or caused by:

1. any product, parts, or systems which are not manufactured or sold by NIBCO;
2. any Valve which is used for purposes other than a purpose authorized by NIBCO;
3. any Valve not installed, tested, applied, used, or maintained in accordance with NIBCO’s recommended installation guidelines and instructions;
4. any Valve not installed or used in accordance with applicable codes;
5. any damage caused by, contributed in whole or in part by, or resulting from, any of the following:
 - a. abuse, misuse, mishandling, alteration, tampering, neglect, or accidental damage such as, without limitation, vandalism;
 - b. natural disasters, such as, without limitation, flooding, windstorm, and lightning;
 - c. attachments or modifications not authorized by NIBCO;
 - d. external, physical or chemical qualities, or an unsuitable or hostile environment,;
 - e. any defects other than those in material or workmanship; or
 - f. any other cause beyond the control of NIBCO.

NIBCO DISCLAIMS ANY AND ALL LIABILITY FOR ANY OTHER DIRECT OR INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND, INCLUDING BUT NOT LIMITED TO, ECONOMIC LOSS, LOSS OF BUSINESS, LOST PROFITS, PUNITIVE DAMAGES, MOLD INTRUSION, WATER DAMAGE, ETC.

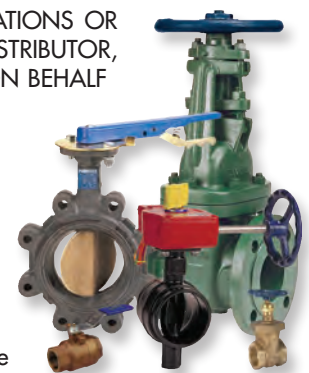
Some states do not allow the exclusion or limitation of damages, so the above limitation or exclusion may not apply to you.

THIS WARRANTY IS THE ONLY WARRANTY FOR THE VALVES PROVIDED BY NIBCO, AND IS AND SHALL BE IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, AN IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND FOR ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF A MANUFACTURER. NO EMPLOYEE OF NIBCO, OR ANY OTHER DISTRIBUTOR, AGENT, OR OTHER PERSON OR BUSINESS, IS AUTHORIZED TO MAKE ANY OTHER WARRANTY ON BEHALF OF NIBCO.

Some states do not allow limitations on implied warranties, so the above limitation may not apply to you.

In the event any defect occurs which is believed to be covered by this warranty, NIBCO Technical Services must immediately be contacted by calling 888.446.4226 or emailing CS-TechnicalServices@nibco.com. NIBCO Technical Services after being contacted will make further arrangements for the product’s return to NIBCO at the customer’s expense for review and evaluation.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



how to order

State quantity, figure number and size for each valve you wish to order. See individual valve catalog pages for specific or special product designations.

HOW MANY TO ORDER

NIBCO® valves are decimal packed for your convenience in handling, shipping and stock-keeping. Number in master carton varies with item.

POLICY ON RETURNS TO FACTORY

NO NIBCO valves are to be returned without prior written agreement. Transportation must be prepaid. A 20% charge will be made to cover cost of rehandling and reinspection.

TECHNICAL ASSISTANCE

Engineers, contractors, wholesalers or manufacturers may obtain special or technical assistance from any factory representative of NIBCO. Write, fax or phone.

NIBCO INC.
World Headquarters
1516 Middlebury Street
Elkhart, IN 46516-4740
USA

Phone: 1.574.295.3000

Fax: 1.574.295.3307

Technical Service Phone: 1.888.446.4226

Fax: 1.888.336.4226

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globally connecting you at all levels

It's a new age of business, and a new way at NIBCO. From Elkhart, Indiana to Lodz, Poland, and points beyond, our company has integrated manufacturing, distribution, and networked communications to provide a seamless source of information and service, 24 hours a day, 7 days a week. But this integration hasn't happened overnight. It's been part of a long-term strategic process that has pushed us to reconsider every aspect of our business. The result? We're a vertically integrated manufacturer with the products and systems in place to deliver low cost and high quality. NIBCO products are manufactured under a Quality Management System conforming to the current revision of ISO-9001 International Standards. We know the flow control industry is only going to get more demanding, and we are more than ready. We will continue to lead. That's what NIBCO is all about.



World Headquarters



Elkhart, Indiana

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VALVES

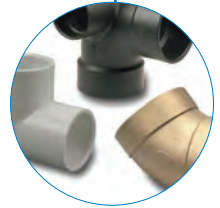


Pressure-rated bronze, iron and alloy-iron gate, globe and check valves • Pressure-rated bronze ball valves • Boiler specialty valves • Commercial and industrial butterfly valves • Lined butterfly valves • Circuit balancing valves and kits • Carbon and stainless steel ball valves • ANSI flanged steel ball valves • Lined ball valves • Pneumatic and electric actuators and controls • Grooved ball and butterfly valves • High performance butterfly valves • UL/FM fire protection valves • MSS specification valves • Bronze specialty valves • Low pressure gate, globe, check and ball valves • Frostproof sillcocks • Quarter-turn supply stops • Quarter-turn low pressure valves • PVC and CPVC plumbing and industrial ball valves • Bronze and iron y-strainers • Sample valves • Sanitary valves • Lead-free valves • Hydronic valves • Labor saving valves • Manifold systems • Water temperature control valves • System quality valves • Press x PEX transition valves

FITTINGS

Wrot and cast copper pressure and drainage fittings • Cast copper alloy flanges • Powder coated steel companion flanges • Wrot and cast press fittings • ABS and PVC DWV fittings • Schedule 40 PVC pressure fittings • CPVC CTS fittings • CPVC CTS-to-metal transition fittings • Schedule 80 PVC and CPVC systems • Lead-free fittings • Press x PEX transition fittings • Cast bronze push fittings

LEAD-FREE: Weighted average lead content $\leq 0.25\%$



INDUSTRIAL PLASTICS

PVC and Corzan® CPVC schedule 80 fittings, true union ball and ball check valves, butterfly valves, and specialty valves • Polypropylene and Kynar® PVDF schedule 80 pipe, fittings, and true union ball and ball check valves • Pneumatic and electric actuation systems

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