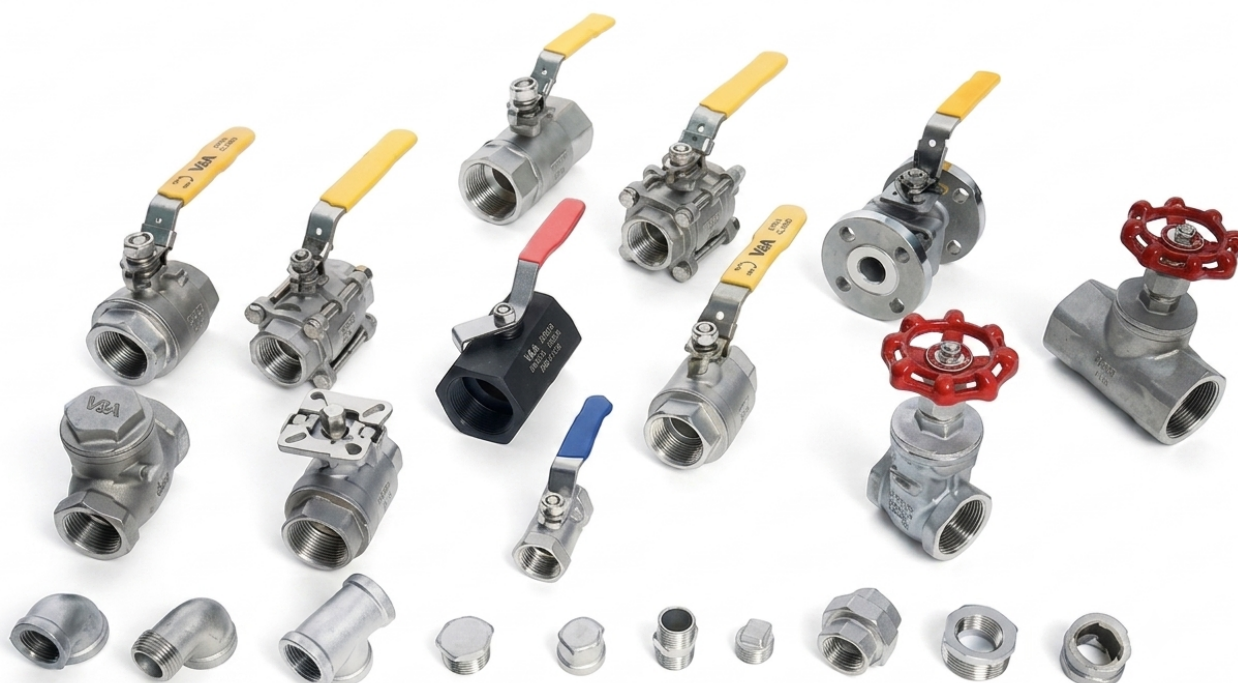


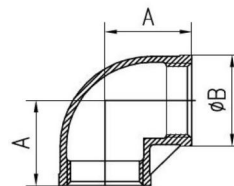
CAST FITTING & VALVES



MSS - SP114 NPT Fittings

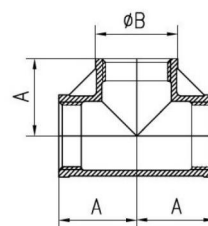


90° Elbow (LB)



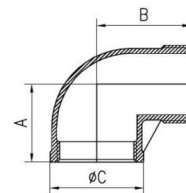
Size (inch)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
A (mm)	19.4	19.3	22.4	26.9	31.8	36.3	42.6	47.5	55.2	65.5	76.0	94.0
B (mm)	18.5	21.1	25.1	30.1	36.1	44.3	53.5	60.3	73.5	84.3	101.1	126.0

Tee (TB)



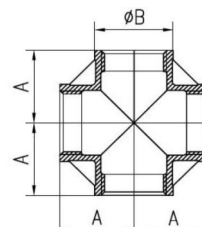
Size (inch)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
A (mm)	19.4	19.3	22.4	26.9	31.8	36.3	42.6	47.2	55.1	65.5	75.1	94.0
B (mm)	18.5	21.0	25.1	30.0	36.0	44.0	53.6	60.2	73.2	84.5	101.1	127.6

90° Street Elbow (SLB)



Size (inch)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
A (mm)	19.3	19.8	22.7	27.3	31.8	36.4	43.0	47.2	55.1	65.7	75.2	94.6
B (mm)	25.65	29.1	35.4	39.8	46.3	52.0	61.8	67.8	80.7	95.5	111.5	141.2
C (mm)	18.5	21.1	25.0	30.0	36.0	44.0	53.6	60.0	73.3	84.2	101.1	127.5

Cross (+B)

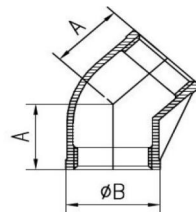


Size (inch)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
A (mm)	19.3	19.4	22.3	26.9	31.9	36.4	42.8	47.2	55.1	65.6	75.5	94.1
B (mm)	18.5	21.1	25.0	30.1	36.0	44.2	53.5	60.5	73.2	84.6	100.9	127.9

MSS - SP114 NPT Fittings

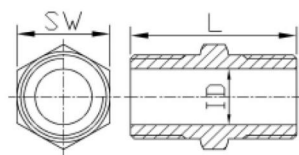


45° Elbow (45°LB)



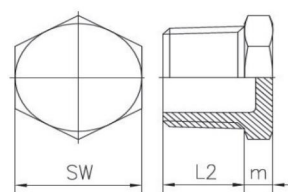
Size (inch)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
A (mm)	16.0	16.1	19.1	20.5	23.8	26.7	31.4	34.3	40.7	46.5	52.8	63.7
B (mm)	18.5	21.1	25.2	30.1	36.2	44.2	53.7	60.1	73.1	84.3	101.1	127.7

Hexagon Nipple (HN)



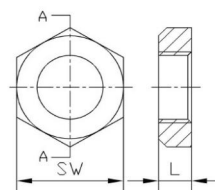
Size (inch)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
SW (mm)	11.2	15.0	18.2	22.2	27.8	34.6	44.0	50.0	62.1	74.9	91.0	116.3
L (mm)	24.7	32.9	34.9	42.6	44.75	52.9	59.1	61.1	64.1	87.0	92.1	102.0
ID (mm)	6.8	9.0	12.3	15.5	20.6	26.7	34.9	40.8	52.1	62.7	77.8	102.0
Square	6	6	6	6	6	6	8	8	8	10	10	10

Hexagon Plug (HP)



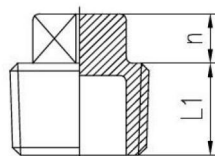
Size (inch)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
SW (mm)	11.2	15.0	18.1	22.15	27.6	34.6	44.0	50.0	61.8	74.1	90.3	115.5
M (mm)	3.9	3.9	4.5	5.0	5.5	6.3	7.0	7.8	8.5	9.0	10.0	12.5
L2 (mm)	9.4	10.9	11.5	14.0	15.9	18.7	20.0	20.8	22.0	27.1	28.3	30.4
Square	6	6	6	6	6	6	8	8	8	10	10	10
Note	Solid	Solid	Solid	Cored	Cored	Cored	Cored	Cored	Cored	Cored	Cored	Cored

MSS - SP114 NPT Fittings



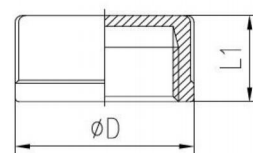
Hexagon Nut (HN)

Size (inch)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
SW (mm)	17.46	21.35	25.3	29.9	36.2	44.1	52.9	59.2	72.75	88.3	108.2	135.7
L (mm)	4.9	6.5	7.2	8.1	8.8	9.5	11.1	11.8	13.8	15.2	17.3	20.5



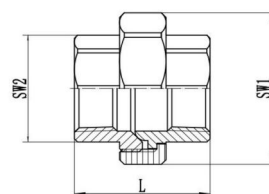
Square Plug (SQ)

Size (inch)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
n (mm)	6.0	7.0	7.7	9.5	11.0	12.5	14.0	15.5	17.0	18.3	20.0	25.1
L1 (mm)	9.3	11.0	11.5	14.1	15.9	18.8	20.0	20.8	22.0	27.0	28.3	30.5
Note	Solid	Solid	Solid	Cored	Cored	Cored	Cored	Cored	Cored	Cored	Cored	Cored



Round Cap (CB)

Size (inch)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
D (mm)	18.5	20.9	25.0	30.0	36.1	44.2	53.6	60.1	73.1	84.1	100.7	127.3
L1 (mm)	17.1	17.0	20.4	23.5	26.8	33.1	41.0	41.0	44.1	50.5	56.8	63.0



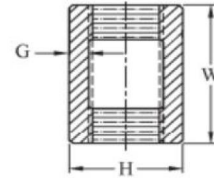
Union F/F

Size (inch)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
SW1(mm)	24.7	28.0	33.0	38.0	46.3	54.3	66.2	74.2	88.5	104.9	123.6	152.6
SW2(mm)	14.1	17.2	21.1	25.2	31.4	38.2	47.6	54.1	67.1	80.8	97.8	124.7
L (mm)	31.2	35.6	37.1	42.4	47.9	49.4	55.5	56.0	67.8	79.2	86.3	95.1
Square	8	8	8	8	8	8	10	10	10	10	10	10

MSS - SP114 NPT Fittings



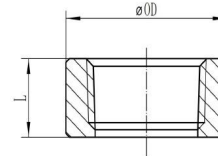
Coupling



Size (inch)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
G (mm)	2.3	2.3	2.5	2.5	3.1	3.3	3.6	3.8	4.3	5.3	5.8	6.6
H (mm)	19.1	21.3	25.7	30.5	37.1	45.0	54.6	61.7	75.2	84.1	101.6	128.5
W (mm)	25.4	25.4	28.5	35.1	38.1	41.2	50.8	53.9	63.5	72.9	80.8	93.5

Surface: Pipe Surface; Polished; Machined

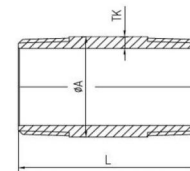
Half Coupling



Size (inch)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
OD (mm)	19.1	21.3	25.7	30.5	37.1	45.0	54.6	61.7	75.2	84.1	101.6	128.5
L (mm)	12.7	12.7	14.2	17.5	19.1	20.6	25.4	26.9	31.8	36.5	40.4	46.7

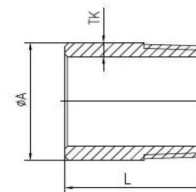
Surface: Pipe Surface; Polished; Machined

Barrel Nipple (BN)



Size (inch)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
L (mm)	40	40	40	60	60	60	80	80	100	100	120	120
A (mm)	10	13.72	17.15	21.34	26.67	33.4	42.16	48.26	60.33	76.3	88.9	114.3
Tk-Sch40S	2	2.24	2.31	2.77	2.87	3.38	3.56	3.68	3.91	5.2	5.49	6.02

Welding Nipple (WN)

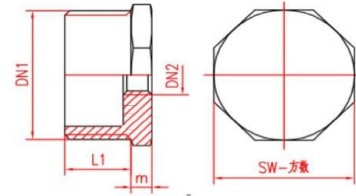


Size (inch)	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
L (mm)	30	30	30	35	40	40	50	50	50	60	70	80
A (mm)	10	13.72	17.15	21.34	26.67	33.4	42.16	48.26	60.33	76.3	88.9	114.3
Tk-Sch40S	2	2.24	2.31	2.77	2.87	3.38	3.56	3.68	3.91	5.2	5.49	6.02

MSS - SP114 NPT Fittings



Hex. Bushing (HB)



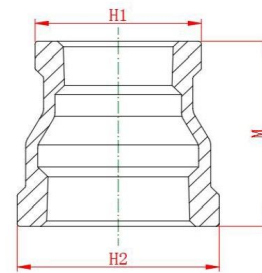
OD Size (inch)	ID Size (inch)	M (mm)	L1 (mm)	SW (mm)
1/4"	1/8"	5.5	11.2	15.0
3/8"	1/8"	5.5	12.7	18.2
3/8"	1/4"	5.5	12.7	18.2
1/2"	1/8"	6.0	14.3	22.3
1/2"	1/4"	6.0	14.3	22.3
1/2"	3/8"	6.0	14.3	22.3
3/4"	1/8"	6.0	15.8	27.7
3/4"	1/4"	6.0	15.8	27.7
3/4"	3/8"	6.0	15.8	27.7
3/4"	1/2"	6.0	15.8	27.7
1"	1/8"	6.5	19.0	34.5
1"	1/4"	6.5	19.0	34.5
1"	3/8"	6.5	19.0	34.5
1"	1/2"	6.5	19.0	34.5
1"	3/4"	6.5	19.0	34.5
1-1/4"	1/4"	7.3	20.6	44.0
1-1/4"	3/8"	7.3	20.6	44.0
1-1/4"	1/2"	7.3	20.6	44.0
1-1/4"	3/4"	7.3	20.6	44.0
1-1/4"	1"	7.3	20.6	44.0
1-1/2"	1/4"	8.0	20.6	50.0
1-1/2"	3/8"	8.0	20.6	50.0
1-1/2"	1/2"	8.0	20.6	50.0
1-1/2"	3/4"	8.0	20.6	50.0
1-1/2"	1"	8.0	20.6	50.0
1-1/2"	1-1/4"	8.0	20.6	50.0

OD Size (inch)	ID Size (inch)	M (mm)	L1 (mm)	SW (mm)
2"	1/4"	9.0	22.5	62.0
2"	3/8"	9.0	22.5	62.0
2"	1/2"	9.0	22.5	62.0
2"	3/4"	9.0	22.5	62.0
2"	1"	9.0	22.5	62.0
2"	1-1/4"	9.0	22.5	62.0
2"	1-1/2"	9.0	22.5	62.0
2-1/2"	1/2"	10.0	27.0	75.0
2-1/2"	3/4"	10.0	27.0	75.0
2-1/2"	1"	10.0	27.0	75.0
2-1/2"	1-1/4"	10.0	27.0	75.0
2-1/2"	1-1/2"	10.0	27.0	75.0
2-1/2"	2"	10.0	27.0	75.0
3"	1/2"	10.5	28.5	91.0
3"	3/4"	10.5	28.5	91.0
3"	1"	10.5	28.5	91.0
3"	1-1/4"	10.5	28.5	91.0
3"	1-1/2"	10.5	28.5	91.0
3"	2"	10.5	28.5	91.0
3"	2-1/2"	10.5	28.5	91.0
4"	1"	12.7	31.8	116.3
4"	1-1/4"	12.7	31.8	116.3
4"	1-1/2"	12.7	31.8	116.3
4"	2"	12.7	31.8	116.3
4"	2-1/2"	12.7	31.8	116.3
4"	3"	12.7	31.8	116.3

MSS - SP114 NPT Fittings



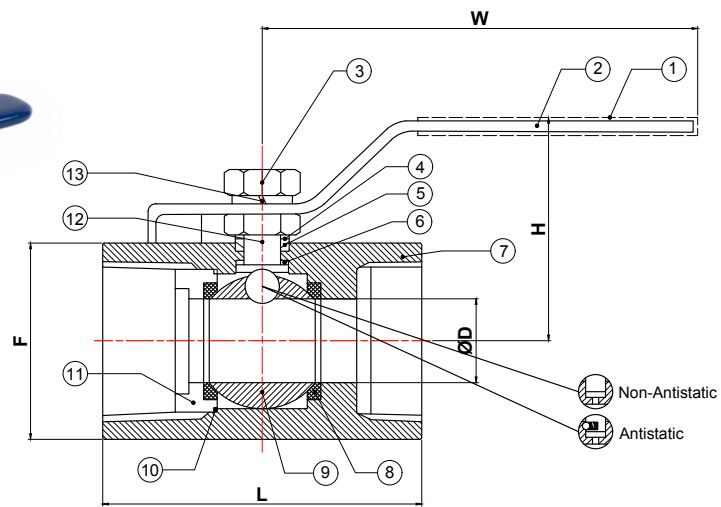
Reduced Socket Banded (RSB)



OD Size (inch)	ID Size (inch)	M (mm)	H2 (mm)	M (mm)
1/4"	1/8"	18.5	21.0	24.4
3/8"	1/8"	18.5	25.0	27.5
3/8"	1/4"	21.0	25.0	27.5
1/2"	1/4"	21.0	30.0	33.6
1/2"	3/8"	25.0	30.0	33.6
3/4"	1/4"	21.0	36.0	36.6
3/4"	3/8"	25.0	36.0	36.6
3/4"	1/2"	30.0	36.0	36.6
1"	3/8"	25.0	44.0	39.7
1"	1/2"	30.0	44.0	39.7
1"	3/4"	36.0	44.0	39.7
1-1/4"	1/2"	30.0	53.5	48.8
1-1/4"	3/4"	36.0	53.5	48.8
1-1/4"	1"	44.0	53.5	48.8

OD Size (inch)	ID Size (inch)	M (mm)	H2 (mm)	M (mm)
1-1/2"	3/4"	36.0	60.0	51.9
1-1/2"	1"	44.0	60.0	51.9
1-1/2"	1-1/4"	53.5	60.0	51.9
2"	3/4"	36.0	73.0	61.5
2"	1"	44.0	73.0	61.5
2"	1-1/4"	53.5	73.0	61.5
2"	1-1/2"	60.0	73.0	61.5
2-1/2"	1-1/4"	53.5	84.0	80.1
2-1/2"	1-1/2"	60.0	84.0	80.1
2-1/2"	2"	73.0	84.0	80.1
3"	2"	73.0	100.5	91.0
3"	2-1/2"	84.0	100.5	91.0
4"	2-1/2"	84.0	127.0	108.3
4"	3"	100.5	127.0	108.3

VN100: 1PC Antistatic/None-Antistatic, Forged Reduced Port 2000PSI Ball Valve



Parts and Materials

No.	Part Name	Materials	
1	Plastic Cover	PVC	
2	Handle	SS201	SS304
3	Stem Nut	SS304	
4	Gland	SS304	
5	Stem Packing	RTFE	
6	Thrust Washer	RTFE	
7	Body	A105	
8	Seat	RTFE	
9	Ball	SS304	SS316
10	Body Seal	RTFE	
11	Cap	A105	
12	Stem	SS304	SS316
13	Spring Washer	SS304	

Specifications:

- Inspection Test: API598
- Material: NACE MR1075
- Pressure: 2000 PSI

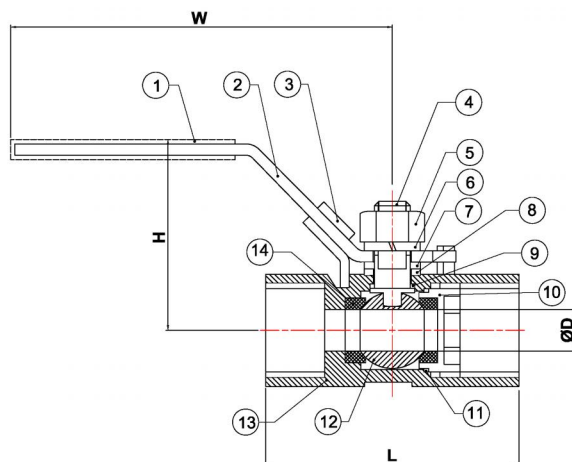
Features:

- 1 Piece Threaded Ball Valve
- Antistatic/Non-Antistatic
- Locking Handle
- Blow-out Proof Stem

Dimensions

Size (inch)	D (mm)	L (mm)	H (mm)	W (mm)	F (mm)
1/4"	5.0	43.0	32.0	66.5	21.0
3/8"	7.0	47.0	34.0	66.5	25.2
1/2"	9.0	62.5	55.5	118.0	30.0
3/4"	12.5	70.0	61.5	118.0	36.0
1"	16.0	86.0	65.5	120.0	46.0
1-1/4"	20.0	93.5	73.5	146.0	55.0
1-1/2"	24.5	101.5	78.5	146.0	61.0
2"	32.0	114.5	90.0	152.5	75.0

VN102: 1PC Threaded Reduced Port Ball Valve



Specifications:

- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: 1000 PSI (1/4" – 2")

Features:

- 1 Piece Reduced Port Ball Valve
- Locking Handle
- Blow-out Proof Stem
- Vacuum Service to 29" Hg

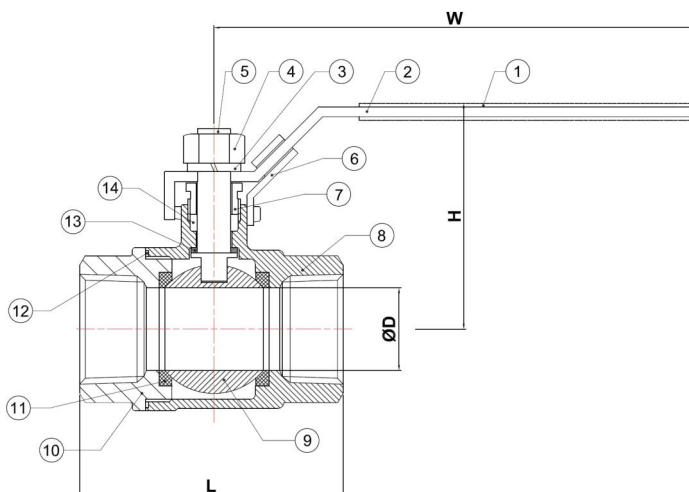
Parts and Materials

No.	Part Name	Materials	
1	Plastic Cover	PVC	
2	Handle	SS304	
3	Locking Device	SS304	
4	Stem	SS304	SS316
5	Stem Nut	SS304	
6	Spring Washer	SS304	
7	Stem Washer	SS304	
8	Stem Packing	RTFE	
9	Thrust Washer	PTFE	
10	Cap	SS304/ CF8	SS316/ CF8M
11	Body Seal	PTFE	
12	Ball	SS304	SS316
13	Body	CF8	CF8M
14	Seat	RTFE	

Dimensions

Size (inch)	D (mm)	L (mm)	H (mm)	W (mm)
1/4"	5.0	39.0	29.0	63.0
3/8"	7.0	43.5	32.0	90.0
1/2"	9.0	55.0	39.0	93.0
3/4"	12.5	59.5	43.0	93.0
1"	15.0	69.5	50.0	110.0
1-1/4"	20.0	76.5	55.0	110.0
1-1/2"	25.0	81.0	63.0	140.0
2"	32.0	95.0	70.0	140.0

VN200: 2PC Full Port Ball Valve



Parts and Materials

No.	Part Name	Materials	
1	Plastic Cover	PVC	
2	Handle	SS304	
3	Spring Washer	SS304	
4	Stem Nut	SS304	
5	Stem	SS304	SS316
6	Locking Device	SS304	
7	Gland	SS304	
8	Body	CF8	CF8M
9	Ball	SS304	SS316
10	Cap	CF8	CF8M
11	Seat	RTFE	
12	Body Seal	PTFE	
13	Thrust Washer	RTFE	
14	Stem Packing	PTFE	

Specifications:

- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: 1000 PSI

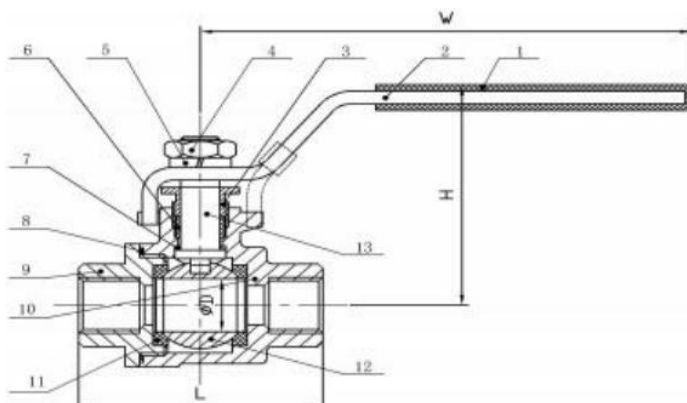
Features:

- 2 Piece Full Port Ball Valve
- Locking Handle
- Blow-out Proof Stem
- Vacuum Service to 29" Hg

Dimensions

Size (inch)	D (mm)	L (mm)	H (mm)	W (mm)
1/4"	12.5	54.0	48.0	103.0
3/8"	12.5	55.0	48.0	103.0
1/2"	15.0	57.0	48.0	110.0
3/4"	20.0	68.0	53.0	125.0
1"	25.0	80.0	68.5	147.0
1-1/4"	32.0	92.0	72.0	162.0
1-1/2"	38.0	102.0	87.0	182.0
2"	50.0	124.5	95.5	182.0
2-1/2"	64.0	154.0	118.5	231.5
3"	76.0	178.0	129.0	231.5

VN201: 2PC Full Port Ball Valve Normal Type II



Parts and Materials

No.	Part Name	Materials
1	Plastic Cover	PLASTIC
2	Handle	304
3	Gland	304
4	Stem Nut	304
5	Spring Washer	304
6	Stem Packing	PTFE
7	Thrust Washer	PTFE
8	Body Seal	PTFE
9	Cap	CF8/CF8M
10	Body	CF8/CF8M
11	Seat	RPTFE
12	Ball	304/316
13	Stem	304/316

Specifications:

- Inspection Test: API 598
- Pressure: 1000 PSI

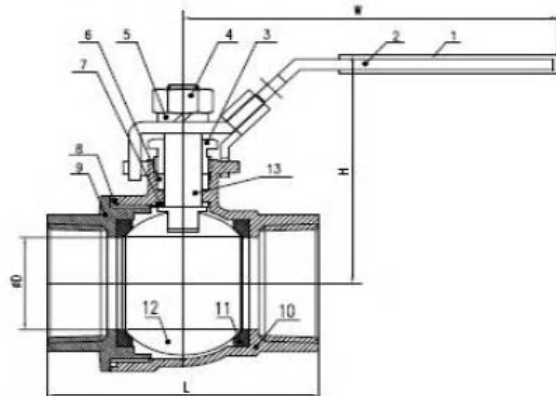
Features:

- 2 Piece Full Port Ball Valve
- Locking Handle
- Blow-out Proof Stem

Dimensions

Size (inch)	D (mm)	L (mm)	H (mm)	W (mm)
1/4"	9.0	48.0	46.0	100.0
3/8"	12.5	48.0	47.0	100.0
1/2"	15.0	56.0	48.0	100.0
3/4"	20.0	64.0	57.5	112.0
1"	25.0	76.0	61.0	112.0
1 1/4"	32.0	86.5	77.5	145.0
1 1/2"	38.0	97.5	82.0	145.0
2"	50.0	117.5	98.0	165.0
2 1/2"	65.0	144.0	118.0	230.0
3"	76.0	165.0	127.5	230.0
4"	94.0	206.0	170.0	300.0

VN201: 2PC Full Port Ball Valve Light Type II



Parts and Materials

No.	Part Name	Materials
1	Plastic Cover	PLASTIC
2	Handle	304
3	Gland	304
4	Stem Nut	304
5	Spring Washer	304
6	Stem Packing	PTFE
7	Thrust Washer	PTFE
8	Body Seal	PTFE
9	Cap	CF8/CF8M
10	Body	CF8/CF8M
11	Seat	RPTFE
12	Ball	304/316
13	Stem	304/316

Specifications:

- Inspection Test: API 598
- Pressure: 1000 PSI

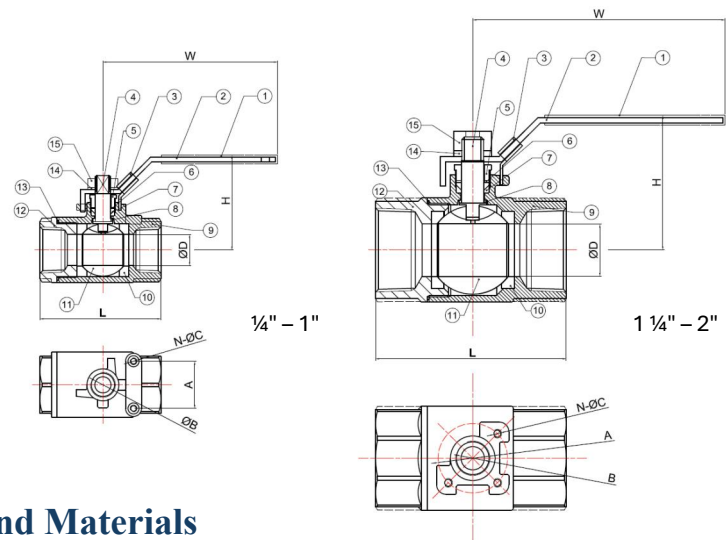
Features:

- 2 Piece Full Port Ball Valve
- Locking Handle
- Blow-out Proof Stem

Dimensions

Size (inch)	D (mm)	L (mm)	H (mm)	W (mm)
1/4"	9.0	40.0	42.0	75.0
3/8"	12.5	42.5	42.0	75.0
1/2"	15.0	50.0	48.0	85.0
3/4"	20.0	56.0	51.0	100.0
1"	25.0	68.0	61.0	105.0
1 1/4"	32.0	83.0	78.0	120.0
1 1/2"	38.0	90.0	82.0	120.0
2"	50.0	111.0	95.0	160.0
2 1/2"	65.0	138.0	115.0	200.0
3"	76.0	156.5	123.0	200.0
4"	94.0	197.0	157.0	260.0

VN204: 2PC Reduced Port Ball Valve



Parts and Materials

No.	Part Name	Materials	
1	Plastic Cover	PVC	
2	Handle	SS304	
3	Locking Device	SS304	
4	Stem	SS316	
5	Gland	SS304	
6	Stem Washer	SS304	
7	Stem Packing	PTFE	Graphite
8	Thrust Washer	RTFE	
9	Body	WCB	CF8M
10	Cap	WCB	CF8M
11	Seat	RTFE	
12	Ball	SS316	
13	Body Seal	PTFE	Graphite
14	Spring Washer	SS304	
15	Stem Nut	SS304	

Specifications:

- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: 2000 PSI (1/4" – 1")
1500 PSI (1 1/4" – 2")

Features:

- 2 Piece Reduced Port Ball Valve
- Locking Handle
- Blow-out Proof Stem
- Vacuum Service to 29" Hg

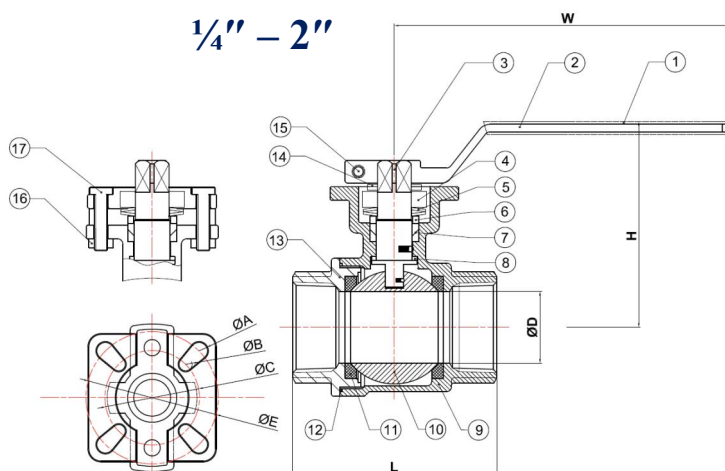
Dimensions

Size (inch)	D (mm)	L (mm)	H (mm)	W (mm)	A (mm)	B (mm)	N-ΦC (mm)
1/4"	13.0	57.0	55.0	104.0	28.0	9.5	2-4.0
3/8"	13.0	57.0	55.0	104.0	28.0	9.5	2-4.0
1/2"	13.0	58.5	55.0	104.0	28.0	9.5	2-4.0
3/4"	17.5	79.0	65.5	125.5	34.0	11.5	2-4.0
1"	22.5	87.0	68.0	125.5	34.0	11.5	2-4.0
1-1/4"	25.0	104.0	88.0	147.5	50.0	16.8	3-5.0
1-1/2"	32.0	110.0	93.0	147.5	50.0	16.8	3-5.0
2"	38.0	137.0	97.0	181.5	50.0	16.8	3-5.0

VN205: 2PC Direct Mounted Full Port Ball Valve



1/4" – 2"



Parts and Materials

No.	Part Name	Materials	
1	Handle Cover	PVC	
2	Handle	SS304	
3	Stem	SS316	
4	Gland Flange	WCB	CF8M
5	Bellville Washer	SS304	
6	Packing Gland	SS304	
7	Stem Packing	PTFE	
8	Thrust Washer	RTFE	
9	Body	WCB	CF8M
10	Ball	SS316	
11	Seat	RTFE	
12	Body Seal	PTFE	
13	Cap	WCB	CF8M
14	Travel Stopper	SS304	
15	Handle Bolt	SS304	
16	Nut	SS304	
17	Gland Bolt	SS304	

Specifications:

- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: 1000PSI

Features:

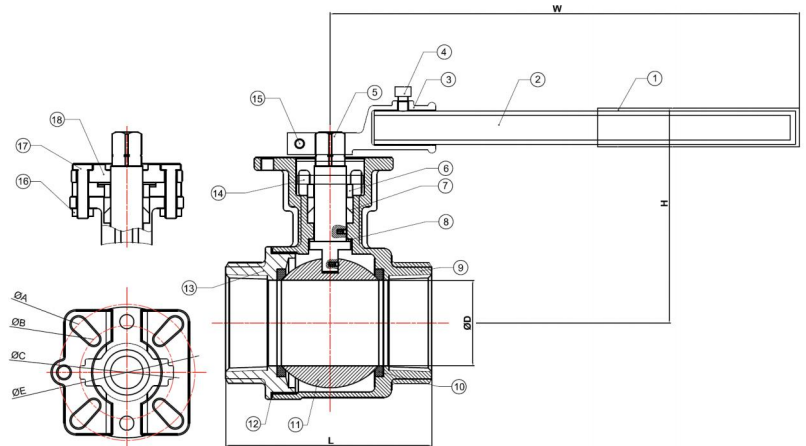
- 2 Piece Threaded Ball Valve
- Mounting Pad
- Anti-Static Design
- Blow-out Proof Design
- Vacuum Service to 29" Hg

Dimensions

Size (inch)	D (mm)	L (mm)	H (mm)	W (mm)	A (mm)	B (mm)	C (mm)	E (mm)
1/4"	15.0	62.5	72.5	123.5	7.0	6.0	36.0	50.0
3/8"	15.0	62.5	72.5	123.5	7.0	6.0	36.0	50.0
1/2"	15.0	62.5	72.5	123.5	7.0	6.0	36.0	50.0
3/4"	20.0	69.5	80.5	123.5	7.0	6.0	36.0	50.0
1"	25.0	80.5	91.5	150.0	7.0	6.0	42.0	50.0
1-1/4"	32.0	97.0	95.0	150.0	7.0	6.0	42.0	50.0
1-1/2"	38.0	108.0	109.0	179.5	10.0	8.0	50.0	70.0
2"	50.0	118.5	115.0	179.5	10.0	8.0	50.0	70.0

VN205: 2PC Direct Mounted Full Port Ball Valve

2-1/2" - 3#



Specifications:

- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: 800 PSI

Features:

- 2 Piece Threaded Ball Valve
- Mounting Pad
- Anti-Static Design
- Blow-out Proof Design
- Vacuum Service to 29" Hg

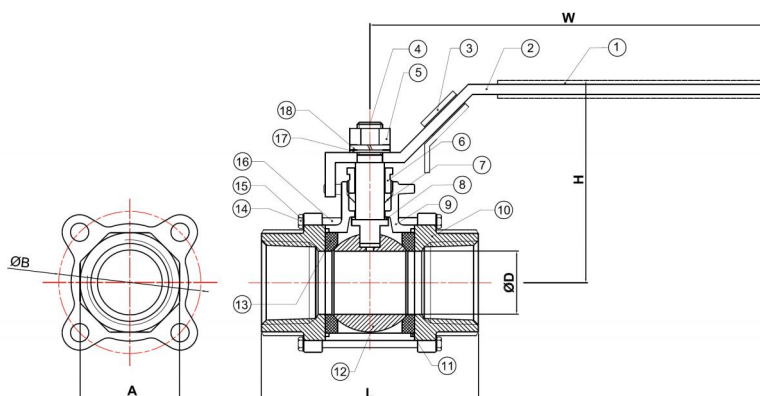
Parts and Materials

No.	Part Name	Materials	
1	Handle Cover	PVC	
2	Handle Stick	SS304	
3	Handle	SS304	
4	Handle Bolt A	SS304	
5	Stem	SS316	
6	Packing Gland	SS304	
7	Stem Packing	PTFE	
8	Thrust Washer	RTFE	
9	Body	WCB	CF8M
10	Seat	RTFE	
11	Ball	SS316	
12	Body Seal	PTFE	
13	Cap	WCB	CF8M
14	Bellville Washer	SS304	
15	Handle Bolt B	SS304	
16	Nut	SS304	
17	Gland Bolt	SS304	
18	Gland Flange	WCB	CF8M

Dimensions

Size (inch)	D (mm)	L (mm)	H (mm)	W (mm)	A (mm)	B (mm)	C (mm)	E (mm)
2-1/2"	64.0	154.0	160.5	351.0	13.0	11.0	70.0	102.0
3"	76.0	174.5	168.0	351.0	13.0	11.0	70.0	102.0

VN303: 3PC Full Port Ball Valve



Specifications:

- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: 1000 PSI
- Ends: Threaded, Socket Weld

Features:

- 3 Piece Full Port Ball Valve
- Locking Handle
- Blow-out Proof Stem
- Vacuum Service to 29" Hg

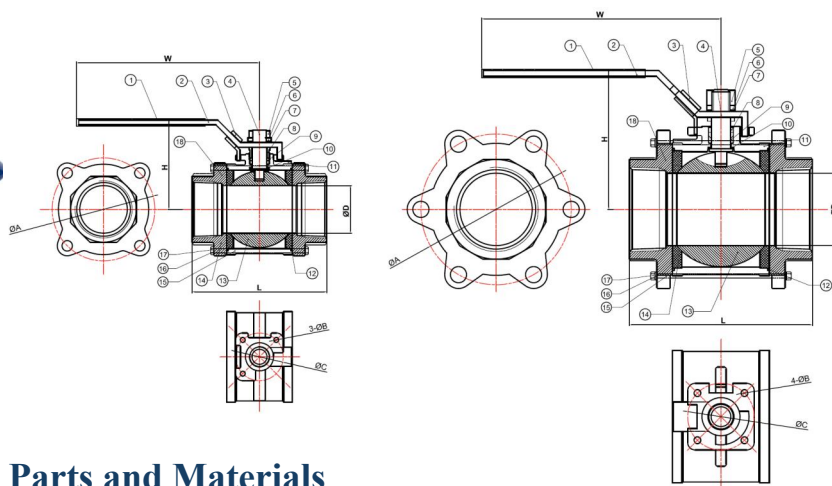
Parts and Materials

No.	Part Name	Materials	
1	Plastic Cover	PVC	
2	Handle	SS304	
3	Locking Device	SS304	
4	Stem	SS316	
5	Stem Nut	SS304	
6	Gland	SS304	
7	Stem Packing	PTFE	
8	Thrust Washer	RTFE	
9	Body	WCB	CF8M
10	Cap	WCB	CF8M
11	Body Seal	PTFE	
12	Ball	SS316	
13	Seat	RTFE	
14	Nut	SS304	
15	Spring Washer-B	SS304	
16	Body Bolt	SS304	
17	Stem Washer	SS304	
18	Spring Washer-A	SS304	

Dimensions

Size (inch)	D (mm)	L (mm)	H (mm)	W (mm)	A (mm)	B (mm)
1/4"	12.5	56.5	53.5	109.5	20.0	37.5
3/8"	12.5	56.5	53.5	109.5	20.0	37.5
1/2"	15.0	63.5	60.0	129.5	27.5	43.5
3/4"	20.0	73.5	63.0	129.5	33.0	52.0
1"	25.0	86.0	80.0	157.5	39.0	56.0
1-1/4"	32.0	97.5	86.0	157.5	49.0	70.0
1-1/2"	38.0	114.5	92.0	189.5	56.0	80.5
2"	50.0	132.0	99.0	189.5	70.0	101.0

VN304: 3PC Full Port Ball Valve



Specifications:

- Inspection Test: API 598
- Material: NACE MR0175
- End: Threaded, Socket Weld
- Pressure: 1000 PSI (1/4" – 2")
800 PSI (2 1/2" – 3")
600 PSI (4")

Features:

- 3 Piece Full Port Ball Valve
- Low Mounting Pad
- Locking Handle
- Blow-out Proof Stem
- Vacuum Service to 29" Hg

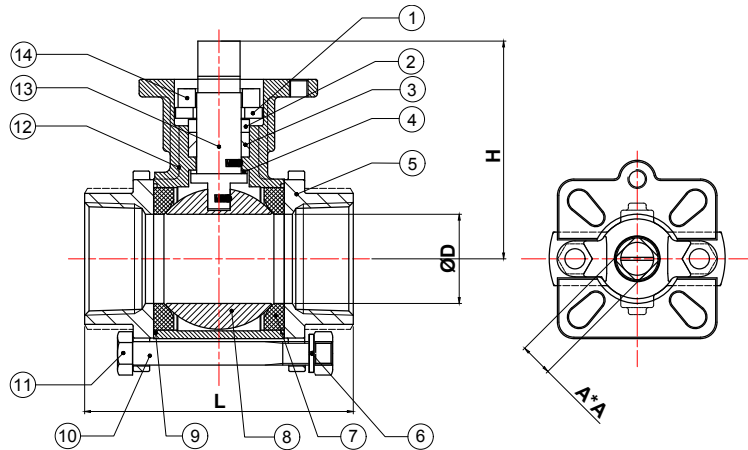
Dimensions

Size (inch)	D (mm)	L (mm)	H (mm)	W (mm)	A (mm)	N- ØB (mm)	N- ØC (mm)	A (mm)
1/4"	12.5	65.0	50.5	106.5	38.5	4-6.5	3-4.5	36.0
3/8"	12.5	65.0	50.5	106.5	38.5	4-6.5	3-4.5	36.0
1/2"	15.0	71.5	53.5	106.5	44.5	4-9.0	3-4.5	36.0
3/4"	20.0	85.0	61.5	131.5	55.0	4-9.0	3-4.5	42.0
1"	25.0	92.5	72.0	141.5	62.0	4-9.0	3-4.5	42.0
1-1/4"	32.0	109.5	78.5	141.5	76.0	4-10.5	3-4.5	42.0
1-1/2"	38.0	122.0	87.0	192.5	88.0	4-11.0	3-5.0	50.0
2"	50.0	141.5	95.0	192.5	108.0	4-11.0	3-5.0	50.0
2-1/2"	65.0	173.0	137.0	251.5	133.5	4-13.0	4-7.0	70.0
3"	76.0	192.5	147.0	251.5	158.0	6-17.0	4-7.0	70.0
4"	100.0	273.0	168.0	290.5	194.0	6-17.0	4-8.5	102.0

Parts and Materials

No.	Part Name	Materials	
1	Plastic Cover	PVC	
2	Handle	SS304	
3	Locking Device	SS304	
4	Stem	SS316	
5	Stem Nut	SS304	
6	Spring Washer-A	SS304	
7	Stem Washer	SS304	
8	Gland	SS304	
9	Stem Packing	RTFE	
10	Thrust Washer	PTFE	
11	Body	WCB	CF8M
12	Body Seal	PTFE	
13	Ball	SS316	
14	Ball Seat	RTFE	
15	Body Bolt	SS304	
16	Spring Washer-B	SS304	
17	Nut	SS304	
18	Cap	WCB	CF8M

VN305: 3PC Ball Valve with Mounting Pad



Specifications:

- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: 1000 PSI (1/2" - 2")
800 PSI (2-1/2" - 3")
600 PSI (4")
- Ends: Threaded

Features:

- 3 Piece Full Port Ball Valve
- High Mounting Pad
- Anti-Static Design
- Locking Handle
- Blow-out Proof Stem
- Vacuum Service to 29" Hg

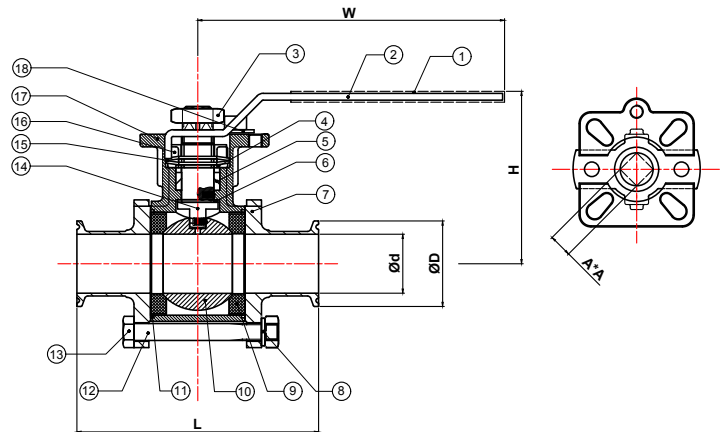
Parts and Materials

No.	Part Name	Materials
1	Bellville Washer	SS304
2	Packing Gland	SS304
3	Stem Packing	PTFE
4	Thrust Washer	PTFE
5	Cap	CF8M
6	Spring Washer	SS304
7	Seat	RTFE
8	Ball	SS316
9	Body Seal	PTFE
10	Hex Bolt	SS304
11	Nut	SS304
12	Body	CF8M
13	Stem	SS316
14	Gland Flange	SS304

Dimensions

Size (inch)	D (mm)	H (mm)	L (mm)	A* A(mm*mm)	ISO5211
1/2"	15.0	51.7	65.1	9.0*9.0	F03/F05
3/4"	20.0	55.7	73.6	9.0*9.0	F03/F05
1"	25.0	65.9	86.0	11.0*11.0	F04/F05
1-1/4"	32.0	72.5	96.8	11.0*11.0	F04/F05
1-1/2"	38.0	77.8	114.5	14.0*14.0	F05/F07
2"	50.0	86.3	132.7	14.0*14.0	F05/F07
2-1/2"	64.0	111.8	173.0	17.0*17.0	F07/F10
3"	76.0	120.5	192.3	17.0*17.0	F07/F10
4"	100.0	167.5	273.0	22.0*22.0	F10/F12

VN306: 3PC Ball Full Port Ball Valve



Specifications:

- Inspection Test: API 598
- Material: NACE MR0175
- Ends: Tri Clamp
- Pressure: 1000 PSI (1/2" - 2")
800 PSI (2-1/2" - 3")
600 PSI (4")

Features:

- 3 Piece Full Port Ball Valve
- High Mounting Pad
- Silicone Free Available
- Locking Handle
- Blow-out Proof Stem
- Vacuum Service to 29" Hg

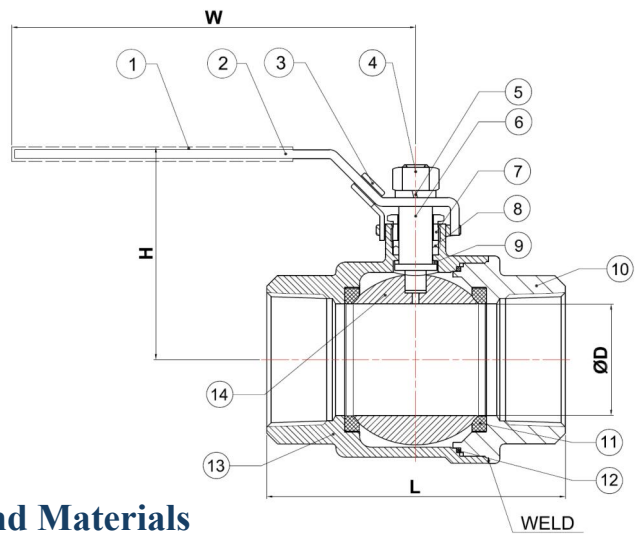
Parts and Materials

No.	Part Name	Materials
1	Plastic Cover	PVC
2	Handle	SS304
3	Stem Nut	SS304
4	Packing Gland	SS304
5	Stem Packing	TFM1600
6	Thrust Washer	RTFE
7	Cap	CF8M
8	Spring Washer	SS304
9	Seat	PTFE/TFM1600
10	Ball	SS316
11	Body Seal	PTFE
12	Hex Bolt	SS304
13	Nut	SS304
14	Stem	SS316
15	Bellville Washer	SS304
16	Gland Flange	SS304
17	Body	CF8M
18	Locking Device	SS304

Dimensions

Size (inch)	d (mm)	D (mm)	H (mm)	W (mm)	L (mm)	A*A (mm*mm)	ISO5211
1/2"	9.4	25.2	74.0	140.0	110.0	9.0*9.0	F03/F05
3/4"	15.5	25.2	77.0	140.0	120.0	9.0*9.0	F03/F05
1"	22.5	50.5	92.0	160.0	127.0	11.0*11.0	F04/F05
1-1/2"	34.8	50.5	112.0	186.0	143.0	14.0*14.0	F05/F07
2"	47.5	64.0	121.0	186.0	163.0	14.0*14.0	F05/F07
2-1/2"	60.3	77.5	157.0	233.0	199.0	17.0*17.0	F07/F10
3"	73.0	91.0	166.0	233.0	229.0	17.0*17.0	F07/F10
4"	97.0	119.0	189.0	330.0	244.0	22.0*22.0	F10/F12

VNW206: 2PC Full Port Seal Welded Ball Valve



Parts and Materials

No.	Part Name	Materials	
1	Plastic Cover	PVC	
2	Handle	SS304	
3	Locking Device	SS304	
4	Stem Nut	SS304	
5	Spring Washer	SS304	
6	Stem	SS316	
7	Gland	SS304	
8	Stem Packing	PTFE	
9	Thrust Washer	RTFE	
10	Cap	WCB	CF8M
11	Seat	RTFE	
12	Body	WCB	CF8M
13	Body Seal	PTFE	
14	Ball	SS316	

Specifications:

- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: 2000 PSI (1/4" – 2")
1500 PSI (2 1/2" – 3")
1000 PSI (4")

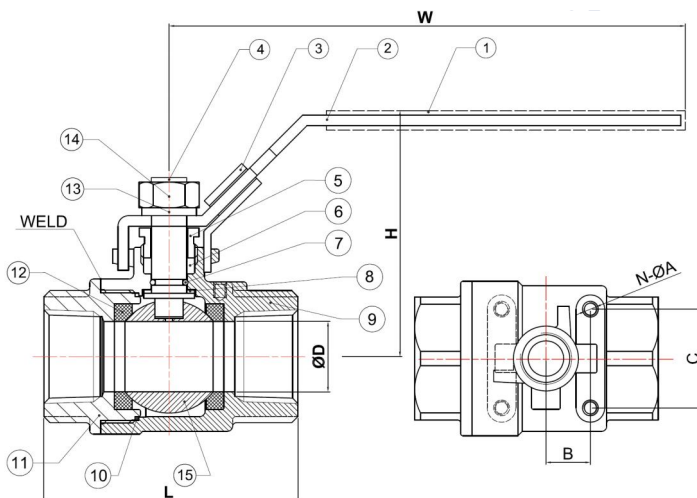
Features:

- 2 Piece Full Port Ball Valve
- Locking Handle
- Blow-out Proof Stem
- Vacuum Service to 29" Hg

Dimensions

Size (inch)	D (mm)	L (mm)	H (mm)	W (mm)
1/4"	12.5	51.0	48.0	101.5
3/8"	12.5	54.0	48.0	101.5
1/2"	15.0	60.0	48.0	109.0
3/4"	20.0	70.5	53.0	125.0
1"	25.0	83.0	69.0	146.0
1-1/4"	32.0	97.5	72.5	161.0
1-1/2"	38.0	110.0	87.0	181.0
2"	50.0	134.0	95.5	181.0
2-1/2"	64.0	167.5	137.5	251.5
3"	76.0	193.0	148.0	251.5
4"	96.0	219.5	174.5	383.5

W1-2000: 2PC Seal Welded Ball Valve Type I



Specifications:

- **Design:** ASME B16.34
(Fully Compliant)
- **Inspection Test:** API598
- **Material:** NACE MR0175
- **Pressure:** 2000 PSI

Features:

- 2 Piece Seal Welded Ball Valve
- Locking Handle
- Blow-out Proof Stem
- Vacuum Service to 29" Hg

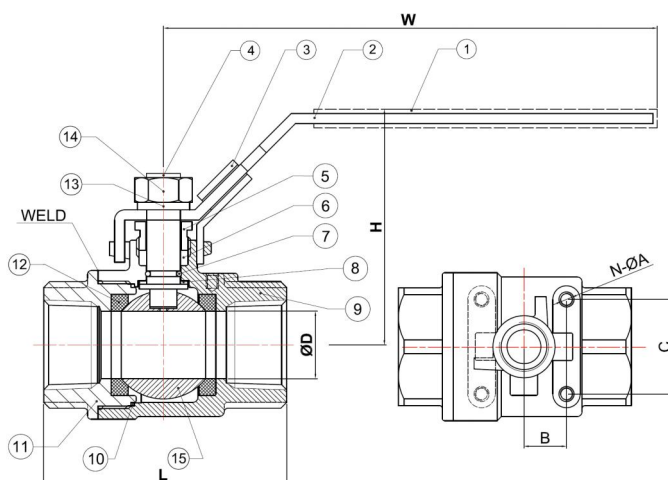
Parts and Materials

No.	Part Name	Materials	
1	Plastic Cover	PVC	
2	Handle	SS304	
3	Locking Device	SS304	
4	Stem	SS316	ASTM A564 17-4PH
5	Gland	SS304	
6	Stem Packing	PTFE	
7	O-ring	Viton 90 Duro	
8	Thrust Washer	PTFE+25%CF	
9	Body	WCB	CF8M
10	Body Seal	PTFE	
11	Cap	WCB	CF8M
12	Seat	PTFE+25%CF	POM
13	Spring Washer	SS304	
14	Stem Nut	SS304	
15	Ball	SS316	

Dimensions

Size (inch)	D (mm)	L (mm)	H (mm)	W (mm)	N-ØA (mm)	B (mm)	C (mm)
1/2"	15.0	62.0	65.0	121.5	2-4.0	12.5	25.5
3/4"	20.0	71.0	72.0	146.5	2-4.0	17.0	35.0
1"	25.0	85.0	78.0	157.5	2-4.0	15.5	34.5
1-1/4"	32.0	99.0	82.5	157.5	2-5.0	20.0	38.0
1-1/2"	38.0	107.0	95.0	190.0	2-5.0	25.5	38.0
2"	50.0	122.0	103.0	190.0	4-5.0	25.0	38.0

W11-2000: 2PC Seal Welded Ball Valve Type II



Parts and Materials

No.	Part Name	Materials	
1	Plastic Cover	PVC	
2	Handle	SS304	
3	Locking Device	SS304	
4	Stem	SS316	ASTM A564 17-4PH
5	Gland	SS304	
6	Stem Packing	PTFE	
7	O-ring	Viton 90 Duro	
8	Thrust Washer	PTFE+25%CF	
9	Body	WCB	CF8M
10	Body Seal	PTFE	
11	Cap	WCB	CF8M
12	Seat	PTFE+25%CF	POM
13	Spring Washer	SS304	
14	Stem Nut	SS304	
15	Ball	SS316	

Specifications:

- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: 2000 PSI (1/4" - 2")
1000 PSI (2 1/2" - 4")

Features:

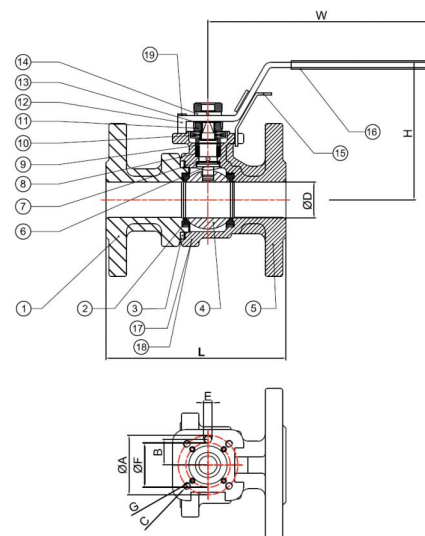
- 2 Piece Seal Welded Ball Valve
- Locking Handle
- Blow-out Proof Stem
- Vacuum Service to 29" Hg

Dimensions

Size (inch)	D (mm)	L (mm)	H (mm)	W (mm)	N- ØA (mm)	B (mm)	C (mm)
1/4"	11.0	52.5	50.0	105.0	2-10-24UNC	12.5	25.5
3/8"	12.5	52.5	50.0	105.0	2-10-24UNC	12.5	25.5
1/2"	15.0	63.0	65.0	121.5	2-10-24UNC	12.5	25.5
3/4"	20.0	72.0	68.5	146.5	2-10-24UNC	17.0	35.0
1"	25.0	85.0	79.5	157.5	2-10-24UNC	15.5	34.5
1-1/4"	32.0	99.0	84.0	157.5	2-1/4-20UNC	20.0	38.0
1-1/2"	38.0	107.5	95.0	190.0	2-1/4-20UNC	25.5	38.0
2"	50.0	123.0	104.5	190.0	4-1/4-20UNC	25.0	38.0
2-1/2"	65.0	156.0	135.0	250.0	4-5/16-18UNC	32.6	54.7
3"	80.0	183.0	144.0	300.0	4-5/16-18UNC	35.5	55.0
4"	98.0	227.0	170.0	360.0	4-5/16-18UNC	35.5	55.5

VN501: 2PC Flanged Full Port Ball Valve

1/2" - 2"



Parts and Materials

Specifications:

- Basic Design: ASME B16.34
- Wall Thickness: ASME B16.34
- Flange Design: ASME B16.34
- Face to Face Dimension: ASME B16.10
- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: ASME Class 150

Features:

- 2 Piece Flanged Full Port Ball Valve
- Locking Handle
- Blow-out Proof Stem
- Anti-static Design
- Integral Mounting Pad
- Choice of Seats

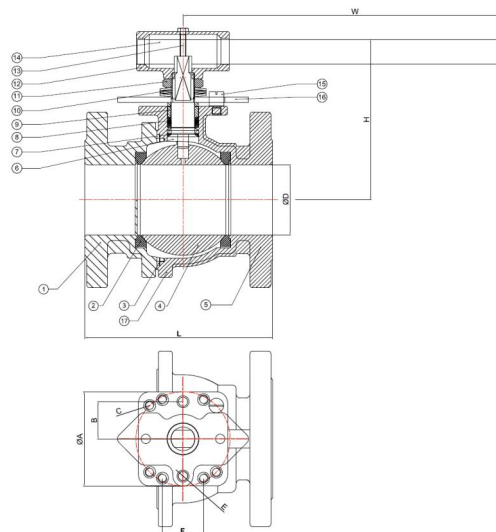
No.	Part Name	Materials	
1	Cap	WCB	CF8M
2	Seat	RTFE	TFM1600
3	Body Seal	PTFE	
4	Ball	SS316	
5	Body	WCB	CF8M
6	Stem with Anti-Static Device	SS316	
7	Stem Packing	PTFE	
8	Thrust Washer	RTFE	
9	Packing Gland	SS304	
10	Bellville Washer	301/17-4PH	
11	Stem Nut	SS304	
12	Handle	SS304	
13	Stop Plate	SS304	
14	Spring Washer	SS304	
15	Handle Lock	SS304	
16	Handle Cover	PVC	
17	Body Nut	SS 304	
18	Body Stud	SS 304	
19	Stop Pin	SS 304	

Dimensions

Size	D	L	H	W	A	B	F	E	C	G
1/2"	15.0	108.0	83.5	132.5	36.0	16.0	N/A	M6*1	-M5*0.8	N/A
3/4"	20.0	117.0	87.0	132.5	50.0	17.2	36.0	M6*1	4M5*0.8	4M5*0.8
1"	25.5	127.0	98.0	159.0	42.0	18.0	N/A	M6*1	4M5*0.8	N/A
1-1/2"	38.0	165.3	114.5	222.0	70.0	23.8	50.0	M6*1	4M8*1.25	4M6*1
2"	51.0	178.0	124.0	223.5	70.0	24.0	50.0	M6*1	4M8*1.25	4M6*1

VN501: 2PC Flanged Full Port Ball Valve

2 - 1/2" - 4"



Specifications:

- Basic Design: ASME B16.34
- Wall Thickness: ASME B16.34
- Flange Design: ASME B16.34
- Face to Face Dimension: ASME B16.10
- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: ASME Class 150

Features:

- 2 Piece Flanged Full Port Ball Valve
- Locking Handle
- Blow-out Proof Stem
- Anti-static Design
- Integral Mounting Pad
- Choice of Seats

Parts and Materials

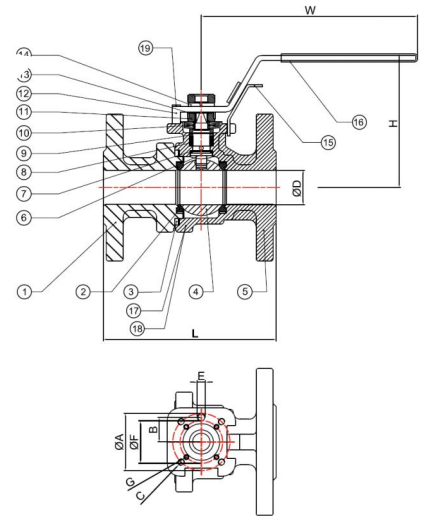
No.	Part Name	Materials	
1	Cap	WCB	CF8M
2	Seat	RTFE	TFM1600
3	Body Seal	PTFE	
4	Ball	SS316	
5	Body	WCB	CF8M
6	Stem with Anti-Static Device	SS316	
7	Stem Packing	PTFE	
8	Thrust Washer	RTFE	
9	Packing Gland	SS304	
10	Bellville Washer	301/17-4PH	
11	Stem Nut	SS304	
12	Handle	SS304	
13	Handle Stud	SS304	
14	Tube	Galvanized Steel	
15	Stop Pin	SS304	
16	Stop Plate	SS304	
17	Body Stud	SS304	

Dimensions

Size	D	L	H	W	A	B	F	E	C
2-1/2"	65.0	190.5	150.7	349.0	102.0	40.5	44.5	10.0	8M10*1.5
3"	76.0	203.0	174.0	349.0	102.0	40.5	44.5	10.0	8M10*1.5
4"	100.0	229.0	190.0	349.0	102.0	40.5	44.5	10.0	8M10*1.5

VN501FS: 2PC Fire Safe, Flanged Full Port Ball Valve

1/2" - 2"



Specifications:

- Fire Safe Design: API 607
- Basic Design: ASME B16.34
- Wall Thickness: ASME B16.34
- Flange Design: ASME B16.34
- Face to Face Dimension: ASME B16.10
- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: ASME Class 150

Features:

- 2 Piece Flanged Full Port Ball Valve
- Locking Handle
- Blow-out Proof Stem
- Anti-static Design
- Integral Mounting Pad
- Choice of Seats

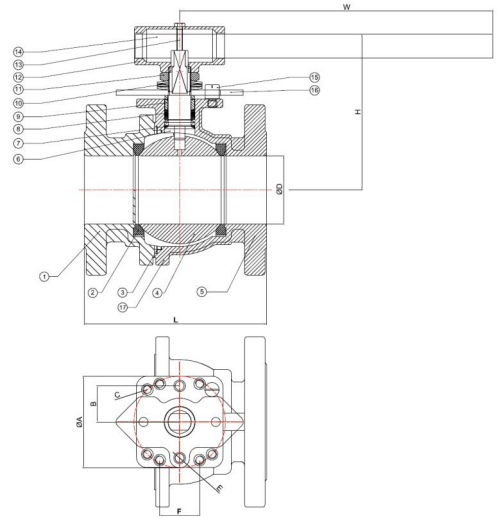
Parts and Materials

No.	Part Name	Materials	
1	Cap	WCB	CF8M
2	Seat	RTFE	TFM1600
3	Body Seal	SS316	Graphite Spiral Wound
4	Ball	SS316	
5	Body	WCB	CF8M
6	Stem with Anti-Static Device	SS316	
7	Stem Packing	Graphite	
8	Thrust Washer	RTFE	
9	Packing Gland	SS304	
10	Bellville Washer	301/17-4PH	
11	Stem Nut	SS304	
12	Handle	SS304	
13	Stop Plate	SS304	
14	Spring Washer	SS304	
15	Handle Lock	SS304	
16	Handle Cover	PVC	
17	Body Nut	SS 304	
18	Body Stud	SS 304	
19	Stop Pin	SS 304	

Dimensions

Size	D	L	H	W	A	B	F	E	C	G
1/2"	15.0	108.0	83.5	132.5	36.0	16.0	N/A	M6*1	-M5*0.8	N/A
3/4"	20.0	117.0	87.0	132.5	50.0	17.2	36.0	M6*1	4M5*0.8	4M5*0.8
1"	25.5	127.0	98.0	159.0	42.0	18.0	N/A	M6*1	4M5*0.8	N/A
1-1/2"	38.0	165.3	114.5	222.0	70.0	23.8	50.0	M6*1	4M8*1.25	4M6*1
2"	51.0	178.0	124.0	223.5	70.0	24.0	50.0	M6*1	4M8*1.25	4M6*1

VN501FS: 2PC Fire Safe, Flanged Full Port Ball Valve 2 - 1/2" - 4"



Parts and Materials

Specifications:

- Fire Safe Design: API 607
- Basic Design: ASME B16.34
- Wall Thickness: ASME B16.34
- Flange Design: ASME B16.34
- Face to Face Dimension: ASME B16.10
- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: ASME Class 150

Features:

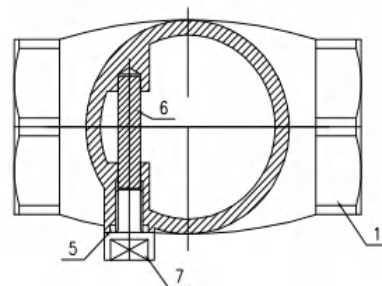
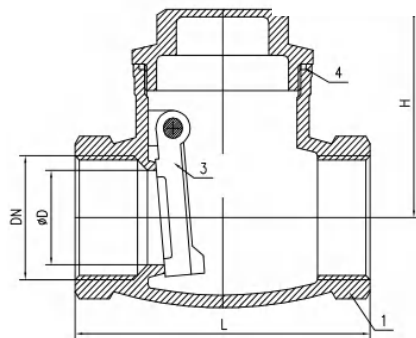
- 2 Piece Flanged Full Port Ball Valve
- Locking Handle
- Blow-out Proof Stem
- Anti-static Design
- Integral Mounting Pad
- Choice of Seats

No.	Part Name	Materials	
1	Cap	WCB	CF8M
2	Seat	RTFE	TFM1600
3	Body Seal	SS316	Graphite Spiral Wound
4	Ball	SS316	
5	Body	WCB	CF8M
6	Stem with Anti-Static Device	SS316	
7	Stem Packing	Graphite	
8	Thrust Washer	RTFE	
9	Packing Gland	SS304	
10	Bellville Washer	301/17-4PH	
11	Stem Nut	SS304	
12	Handle	SS304	
13	Handle Stud	SS304	
14	Tube	Galvanized Steel	
15	Stop Pin	SS304	
16	Stop Plate	SS304	
17	Body Stud	SS304	

Dimensions

Size	D	L	H	W	A	B	F	E	C
2-1/2"	65.0	190.5	150.7	349.0	102.0	40.5	44.5	10.0	8M10*1.5
3"	76.0	203.0	174.0	349.0	102.0	40.5	44.5	10.0	8M10*1.5
4"	100.0	229.0	190.0	349.0	102.0	40.5	44.5	10.0	8M10*1.5

VN601: Swing Check Valve



Parts and Materials

Specifications:

- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: 200PSI

Features:

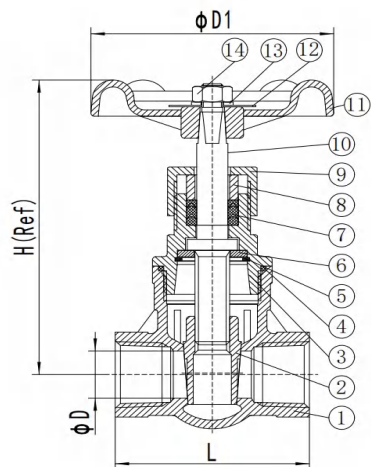
- Screwed Cover
- Socket Weld End
- Threaded End

No.	Part Name	Materials	
1	Body	CF8	CF8M
2	Bonnet	CF8	CF8M
3	Disc	CF8	CF8M
4	Seal	PTFE	
5	Plug Seal	PTFE	
6	Hing Pin	SS304	SS316
7	Screw Plug	SS304	SS316

Dimensions

Size (inch)	D (mm)	H (mm)	L (mm)
1/4"	11.0	46.5	65.0
3/8"	11.5	46.5	65.0
1/2"	15.0	48.0	65.0
3/4"	19.0	53.0	75.0
1"	23.5	57.5	90.0
1-1/4"	31.0	70.0	105.0
1-1/2"	39.5	75.0	120.0
2"	48.0	81.0	139.0
2-1/2"	64.0	90.0	156.0
3"	76.0	100.0	187.0

VN701: Gate Valve



Parts and Materials

Specifications:

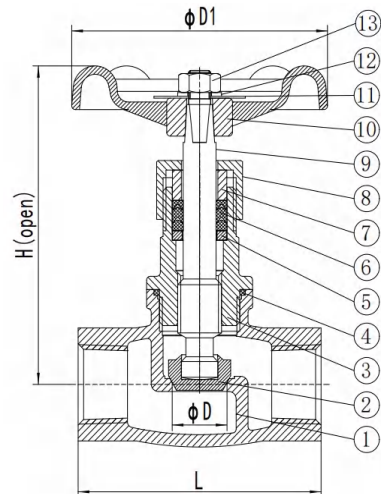
- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: ANSI 200PSI

No.	Part Name	Materials
1	Body	CF8M
2	Disc	CF8M
3	Bonnet	CF8M
4	Gasket	R-PTFE
5	Lock Nut	SS316
6	Stop Ring	SS304
7	Packing	R-PTFE
8	Ring	SS304
9	Packing Nut	SS316
10	Stem	SS316
11	Handwheel	Aluminum
12	Nameplate	Aluminum Alloy
13	Ring	SS304
14	Handwheel Nut	SS304

Dimensions

Size (inch)	D (mm)	L (mm)	H (mm)	D1 (mm)	CV (Factor)
1/2"	15.0	56.0	93.0	71.0	17.6
3/4"	20.0	60.0	100.0	71.0	32.0
1"	25.0	68.0	112.0	75.0	54.0
1-1/4"	32.0	77.0	130.0	75.0	97.0
1-1/2"	40.0	80.0	152.0	95.0	135.0
2"	50.0	93.0	170.0	95.0	230.0
2-1/2"	65.0	117.0	225.0	125.0	337.0
3"	80.0	131.0	244.0	125.0	510.0

VN801: Globe Valve



Parts and Materials

No.	Part Name	Materials	
1	Body	CF8	CF8M
2	Petal	CF8	CF8M
3	Cap	CF8	CF8M
4	Gasket	PTFE	
5	Washer	SS304	SS316
6	Stem Packing	PTFE	
7	Gland Ring	CF8M	
8	Packing Nut	SS316	
9	Stem	SS316	
10	Handwheel	Aluminum Alloy	
11	Nameplate	Aluminum Alloy	
12	Ring	SS304	
13	Nut	SS304	

Specifications:

- Inspection Test: API 598
- Material: NACE MR0175
- Pressure: ANSI 200PSI

Dimensions

Size (inch)	D (mm)	L (mm)	H (mm)	D1 (mm)
1/2"	15.0	67.0	93.0	71.0
3/4"	20.0	77.0	105.0	71.0
1"	25.0	90.0	120.0	75.0
1-1/4"	32.0	105.0	132.0	75.0
1-1/2"	40.0	118.0	143.0	95.0
2"	50.0	138.0	153.0	95.0



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