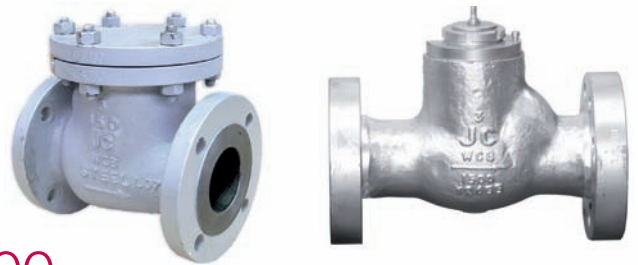


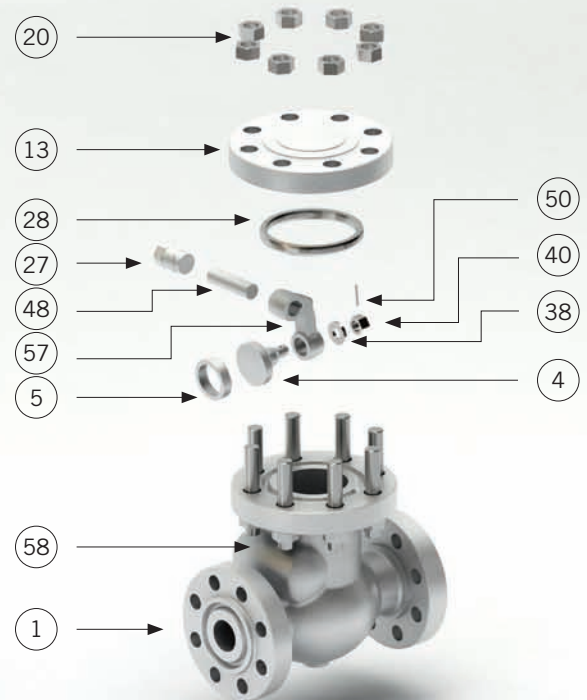
| GATE, GLOBE & CHECK VALVES |

CHECK VALVES

2" - 36" | Class 150 - Class 2500



While not a valve in the traditional sense, check valves serve an important application—namely to prevent flow in one direction while allowing it in the other. A check valve is self-actuated and designed to prevent fluid from flowing back into the system (prevent reverse flow). Real-life applications include preventing backflow into an injection line or into a pump. The fluid flow opens the valve by forcing a disk or ball in one direction. When the flow stops, the disk or ball is seated and closes the valve. They can be installed in horizontal or vertical upward flow piping.



BILL OF MATERIALS		TRIM 8	TRIM 2	TRIM 8	TRIM 10
Item	Description	Carbon Steel	Carbon Steel (Low Temp.)	Alloy Steel	Stainless Steel
1	Body	A 216 Gr. WCB	A 352 Gr. LCB	A 217 Gr. C5	A 351 Gr. CF8M
4	Disc	A105 + ER 410	A 182 Gr. F304	A 182 Gr. F6a	A 182 Gr.F316
5	Seat Ring	A105 + Stellite	A 182 Gr. F304	A 182 Gr. F6a + Stellite	----
13	Cover	A 216 Gr.WCB / A 515 Gr.70	A 352 Gr.LCB / A 182 Gr.F304	A 217 Gr. C5	A 351 Gr. CF8M
20	Cover Bolt & Nut	A 193 Gr.B7 / A 194 Gr.2H	A 320 Gr.L7 / A 194 Gr.7	A 193 Gr.B7 / A 194 Gr.2H	A 193 Gr.B7 / A 194 Gr.2H ⁽¹⁾
27	Bracket Stud & Nut	A 193 Gr.B8 / A 194 Gr.8	A 193 Gr.B8 / A 194 Gr.8	A 193 Gr.B8 / A 194 Gr.8	A 193 Gr.B8M / A 194 Gr.8M
28	Gasket	SPW S.S. 304 / Graphite	SPW S.S. 304 / Graphite	SPW S.S. 304 / Graphite	SPW S.S. 316 / Graphite
38	Washer	AISI 410	AISI 304	AISI 410	AISI 316
40	Disc Nut	AISI 304	AISI 304	AISI 304	AISI 316
48	Hinge Pin *	A182 Gr. F6a	A182 Gr. F304	A182 Gr. F6a	A 182 Gr. F316
50	Split Pin	AISI 304	AISI 304	AISI 304	AISI 316
57	Hinge	A 216 Gr.WCB / A 515 Gr.70	A 352 Gr. LCB	A 217 Gr. C5	A 351 Gr. CF8M
58	Hinge Bracket	A 216 Gr.WCB / A 515 Gr.70	A 352 Gr. LCB	A 217 Gr. C5	A 351 Gr. CF8M

(1) Zinc coating.

STRENGTH

Body and Cover

Bodies and covers are high quality cast and afterwards precisely machined, directing the attention to prevent stress concentration.

The design characteristic of check valves is the unobstructed passageway, with a full-opening when required.

Body and Cover Gasket

The design of the body/cover gasket varies depending on the class of the valve.

Class 150 to 600 check valves consist of a male-female connection with a graphite or spiral wound gasket.

Class 900 and above check valves consist of a ring type joint.

In pressure seal designs the sealing is achieved through a gasket that takes advantage of the internal pressure of the line. The material most commonly used is high purity graphite being located between the body and the body retainer ring.

DESIGN STANDARDS

Bolted Bonnet Swing Check Valve	BS1868 & ASME B16.34 & API 6D
Pressure Seal Swing Check Valve (Long & Short pattern)	ASME B16.34
Face to Face / End to End Dimensions	ASME B16.10 / ISO 5752
End Flanged dimensions	ASME B16.5 / ISO 7005-1, ASME B16.47-A&B MSS SP- 44 & API 605
Butt-weld End dimensions	ASME B16.25
Valve inspection & testing	BS1868 & ISO 5208 & BS6755
Pressure - Temperature rating	ASME B16.34

TEST / INSPECTION METHODS & ACCEPTANCE CRITERIA

TEST / INSPECTION	METHOD	ACCEPTANCE CRITERIA
Visual Inspection		MSS SP-55
Marking		MSS SP-25 & ISO5208
Dimensional Inspection		Aplicable valve
Chemical Analysis	ASTM E350	Aplicable Standard
Mechanical Properties	ASTM A370	Aplicable Standard
Liquid Penetrant Inspection	ASTM A165	ASME B16.34
Magnetic Particle Inspection	ASTM E709	ASME B16.34
Radiographic Inspection	ASME B16.34	ASME B16.34
Ultrasonic Inspection	ASTM A388	ASME B16.34
Pressure Testing	API 598 / ISO 5208	API 598 / ISO 5208

API 6D / BS 1868 BOLTED COVER

Class 150

VR150BC

Sizes 2" to 36"

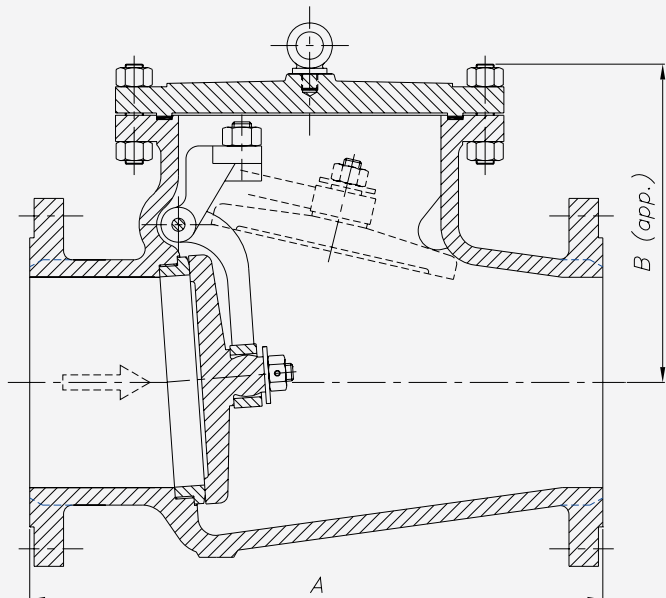
TRIM

API 600 TRIM N°	Nominal TRIM	Stem / Backseat	Seating Surface Body / Wedge
1	F6	13Cr	13Cr
2	304	18Cr-8Ni	18Cr-8Ni
3	F310	25Cr-20Ni	25Cr-20Ni
4	Hard F6	13Cr	Hard 13Cr
5	Hardfaced	13Cr	Co-Cr A
5A	Hardfaced	13Cr	Ni-Cr
6	F6 and Cu-Ni	13Cr	13Cr and Cu-Ni
7	F6 and Hard F6	13Cr	13Cr and Hard 13Cr
8	F6 and Hardfaced	13Cr	13Cr and Co-Cr A
8A	F6 and Hardfaced	13Cr	13Cr and Ni-Cr
9	Monel	Ni-Cu Alloy	Ni-Cu Alloy
10	316	18Cr-8Ni-Mo	18Cr-8Ni-Mo
11	Monel and Hardfaced	Ni-Cu Alloy	Ni-Cu Alloy and Trim 5 or 5A
12	316 and Hardfaced	18Cr-8Ni-Mo	18Cr-8Ni-Mo and Trim 5 or 5A
13	Alloy 20	19Cr-29Ni	19Cr-29Ni
14	Alloy 20 and Hardfaced	19Cr-29Ni	19Cr-29Ni and Trim 5 or 5A
15	Hardfaced	18Cr-8Ni	Co-CRr A
16	Hardfaced	18Cr-8Ni-Mo	Co-CRr A
17	Hardfaced	18Cr-10Ni-Cb	Co-CRr A
18	Hardfaced	19Cr-29Ni	Co-CRr A

HF: Hard Facing using CoCr welding alloy (Stellite)

Materials

ACC. / ASME B16.34
 DI, WCB, WCC, WC1, WC6, WC9, C5, C12, LCB, LCC, CF8, CF8C, CF8M, CF3, CF3M,
 DUPLEX, SUPERDUPLEX, EXOTIC MATERIALS.



General dimensions

DN	A (RF / BW)	B	WEIGHT (App.)
50 (2")	203	135	17
65 (2½")	216	155	21
80 (3")	241	168	29
100 (4")	292	235	42
125 (5")	330	249	59
150 (6")	356	277	68
200 (8")	495	339	118
250 (10")	622	398	197
300 (12")	698	525	302
350 (14")	787	553	372
400 (16")	914	584	570
450 (18")	978	668	665
500 (20")	978	712	900
550 (22")	1067	725	1100
600 (24")	1295	740	1359
650 (26")	1295	780	1850
700 (28")	1448	810	2000
750 (30")	1524	1050	2400
900 (36")	1956	1390	3380

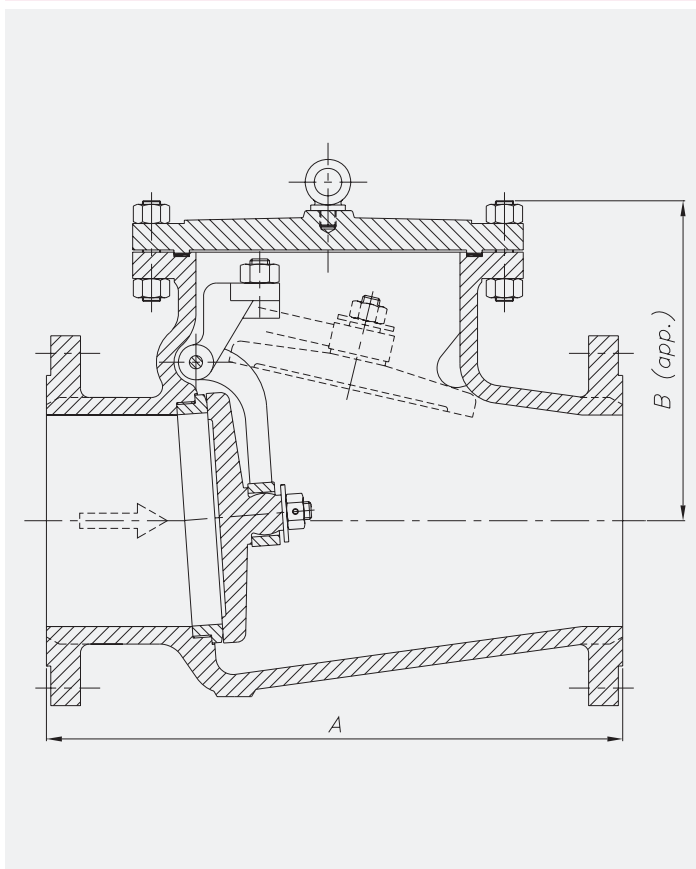
Dimensions in mm and weight in kg.
 Weights and dimensions can be changed without notice.
 Bigger sizes available under customer request.

API 6D / BS 1868 BOLTED COVER

Class 300

VR300BC

Sizes 2" to 20"



TRIM

API 600 TRIM N°	Nominal TRIM	Stem / Backseat	Seating Surface Body / Wedge
1	F6	13Cr	13Cr
2	304	18Cr-8Ni	18Cr-8Ni
3	F310	25Cr-20Ni	25Cr-20Ni
4	Hard F6	13Cr	Hard 13Cr
5	Hardfaced	13Cr	Co-Cr A
5A	Hardfaced	13Cr	Ni-Cr
6	F6 and Cu-Ni	13Cr	13Cr and Cu-Ni
7	F6 and Hard F6	13Cr	13Cr and Hard 13Cr
8	F6 and Hardfaced	13Cr	13Cr and Co-Cr A
8A	F6 and Hardfaced	13Cr	13Cr and Ni-Cr
9	Monel	Ni-Cu Alloy	Ni-Cu Alloy
10	316	18Cr-8Ni-Mo	18Cr-8Ni-Mo
11	Monel and Hardfaced	Ni-Cu Alloy	Ni-Cu Alloy and Trim 5 or 5A
12	316 and Hardfaced	18Cr-8Ni-Mo	18Cr-8Ni-Mo and Trim 5 or 5A
13	Alloy 20	19Cr-29Ni	19Cr-29Ni
14	Alloy 20 and Hardfaced	19Cr-29Ni	19Cr-29Ni and Trim 5 or 5A
15	Hardfaced	18Cr-8Ni	Co-Cr A
16	Hardfaced	18Cr-8Ni-Mo	Co-Cr A
17	Hardfaced	18Cr-10Ni-Cb	Co-Cr A
18	Hardfaced	19Cr-29Ni	Co-Cr A

HF: Hard Facing using CoCr welding alloy (Stellite)

Materials

ACC. / ASME B16.34
 DI, WCB, WCC, WC1, WC6, WC9, C5, C12, LCB, LCC, CF8, CF8C, CF8M, CF3, CF3M,
 DUPLEX, SUPERDUPLEX, EXOTIC MATERIALS.

General dimensions

DN	A (RF / BW)	B	WEIGHT (App.)
50 (2")	267	158	21
65 (2½")	292	167	35
80 (3")	318	188	43
100 (4")	356	259	60
125 (5")	400	281	85
150 (6")	444	319	131
200 (8")	533	401	213
250 (10")	622	483	384
300 (12")	711	555	449
350 (14")	838	585	680
400 (16")	864	615	840
450 (18")	978	643	1025
500 (20")	1016	681	1180

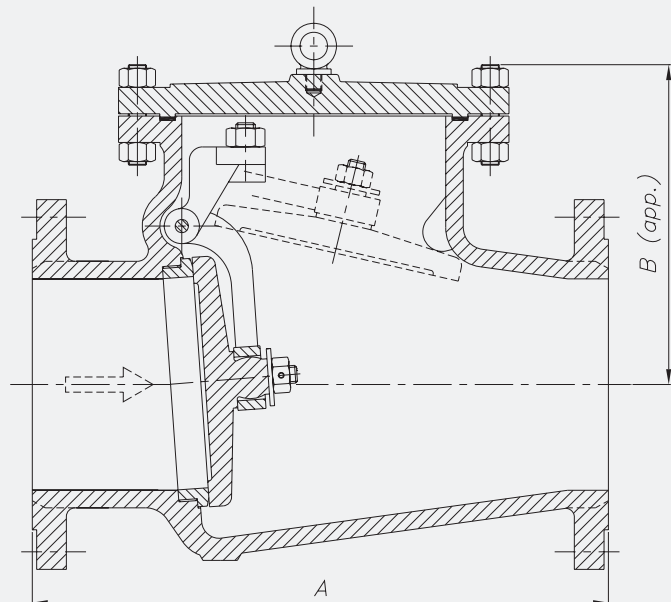
Dimensions in mm and weight in kg.
 Weights and dimensions can be changed without notice.
 Bigger sizes available under customer request.

API 6D / BS 1868 BOLTED COVER

Class 600

VR600BC

Sizes 2" to 16"



TRIM

API 600 TRIM N°	Nominal TRIM	Stem / Backseat	Seating Surface Body / Wedge
1	F6	13Cr	13Cr
2	304	18Cr-8Ni	18Cr-8Ni
3	F310	25Cr-20Ni	25Cr-20Ni
4	Hard F6	13Cr	Hard 13Cr
5	Hardfaced	13Cr	Co-Cr A
5A	Hardfaced	13Cr	Ni-Cr
6	F6 and Cu-Ni	13Cr	13Cr and Cu-Ni
7	F6 and Hard F6	13Cr	13Cr and Hard 13Cr
8	F6 and Hardfaced	13Cr	13Cr and Co-Cr A
8A	F6 and Hardfaced	13Cr	13Cr and Ni-Cr
9	Monel	Ni-Cu Alloy	Ni-Cu Alloy
10	316	18Cr-8Ni-Mo	18Cr-8Ni-Mo
11	Monel and Hardfaced	Ni-Cu Alloy	Ni-Cu Alloy and Trim 5 or 5A
12	316 and Hardfaced	18Cr-8Ni-Mo	18Cr-8Ni-Mo and Trim 5 or 5A
13	Alloy 20	19Cr-29Ni	19Cr-29Ni
14	Alloy 20 and Hardfaced	19Cr-29Ni	19Cr-29Ni and Trim 5 or 5A
15	Hardfaced	18Cr-8Ni	Co-CrR A
16	Hardfaced	18Cr-8Ni-Mo	Co-CrR A
17	Hardfaced	18Cr-10Ni-Cb	Co-CrR A
18	Hardfaced	19Cr-29Ni	Co-CrR A

HF: Hard Facing using CoCr welding alloy (Stellite)

Materials

ACC. / ASME B16.34
 DI, WCB, WCC, WC1, WC6, WC9, C5, C12, LCB, LCC, CF8, CF8C, CF8M, CF3, CF3M,
 DUPLEX, SUPERDUPLEX, EXOTIC MATERIALS.

General dimensions

DN	A (RF / BW)	B	WEIGHT (App.)
50 (2")	292	197	26
65 (2½")	330	207	45
80 (3")	356	231	68
100 (4")	432	281	90
125 (5")	508	319	140
150 (6")	559	362	200
200 (8")	660	437	360
250 (10")	787	490	673
300 (12")	838	528	875
350 (14")	889	572	944
400 (16")	991	660	1220

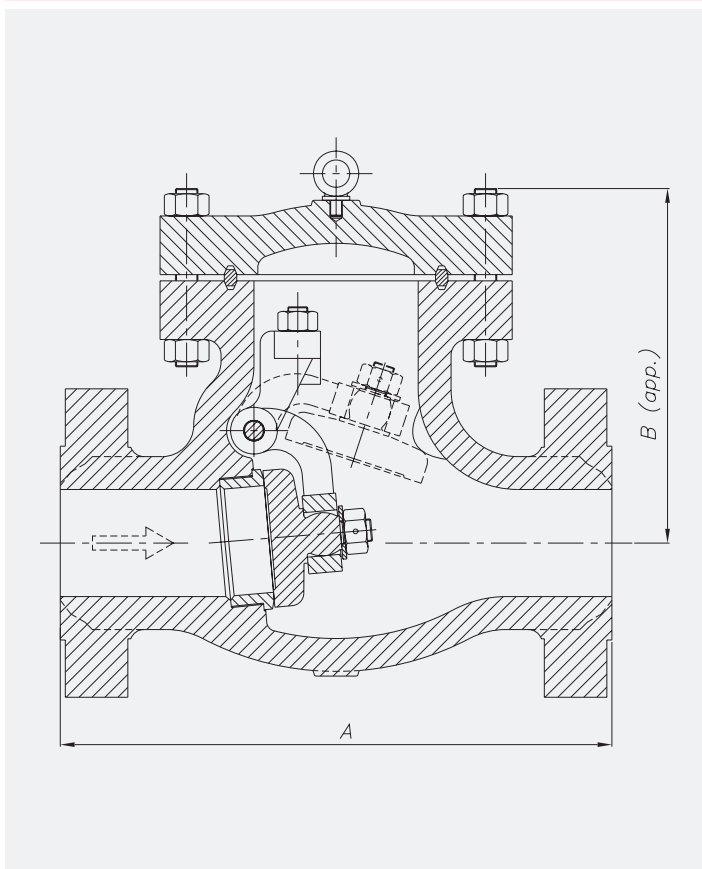
Dimensions in mm and weight in kg.
 Weights and dimensions can be changed without notice.
 Bigger sizes available under customer request.

API 6D / BS 1868 BOLTED COVER

Class 900

VR900BC

Sizes 2" to 8"



TRIM

API 600 TRIM N°	Nominal TRIM	Stem / Backseat	Seating Surface Body / Wedge
1	F6	13Cr	13Cr
2	304	18Cr-8Ni	18Cr-8Ni
3	F310	25Cr-20Ni	25Cr-20Ni
4	Hard F6	13Cr	Hard 13Cr
5	Hardfaced	13Cr	Co-Cr A
5A	Hardfaced	13Cr	Ni-Cr
6	F6 and Cu-Ni	13Cr	13Cr and Cu-Ni
7	F6 and Hard F6	13Cr	13Cr and Hard 13Cr
8	F6 and Hardfaced	13Cr	13Cr and Co-Cr A
8A	F6 and Hardfaced	13Cr	13Cr and Ni-Cr
9	Monel	Ni-Cu Alloy	Ni-Cu Alloy
10	316	18Cr-8Ni-Mo	18Cr-8Ni-Mo
11	Monel and Hardfaced	Ni-Cu Alloy	Ni-Cu Alloy and Trim 5 or 5A
12	316 and Hardfaced	18Cr-8Ni-Mo	18Cr-8Ni-Mo and Trim 5 or 5A
13	Alloy 20	19Cr-29Ni	19Cr-29Ni
14	Alloy 20 and Hardfaced	19Cr-29Ni	19Cr-29Ni and Trim 5 or 5A
15	Hardfaced	18Cr-8Ni	Co-Cr A
16	Hardfaced	18Cr-8Ni-Mo	Co-Cr A
17	Hardfaced	18Cr-10Ni-Cb	Co-Cr A
18	Hardfaced	19Cr-29Ni	Co-Cr A

HF: Hard Facing using CoCr welding alloy (Stellite)

Materials

ACC. / ASME B16.34
 DI, WCB, WCC, WC1, WC6, WC9, C5, C12, LCB, LCC, CF8, CF8C, CF8M, CF3, CF3M,
 DUPLEX, SUPERDUPLEX, EXOTIC MATERIALS.

General dimensions

DN	A (RF / BW)	B	WEIGHT (App.)
50 (2")	368	240	76
65 (2½")	419	250	86
80 (3")	381	260	98
100 (4")	457	320	145
125 (5")	559	350	175
150 (6")	610	382	259
200 (8")	737	530	565

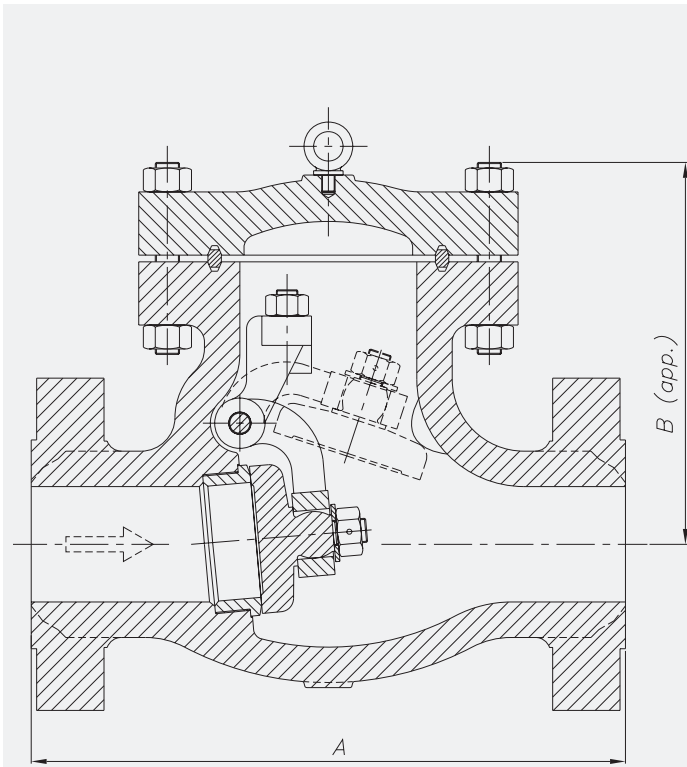
Dimensions in mm and weight in kg.
 Weights and dimensions can be changed without notice.
 Bigger sizes available under customer request.

API 6D / BS 1868 BOLTED COVER

Class 1500

VR1500BC

Sizes 2" to 8"



TRIM

API 600 TRIM N°	Nominal TRIM	Stem / Backseat	Seating Surface Body / Wedge
1	F6	13Cr	13Cr
2	304	18Cr-8Ni	18Cr-8Ni
3	F310	25Cr-20Ni	25Cr-20Ni
4	Hard F6	13Cr	Hard 13Cr
5	Hardfaced	13Cr	Co-Cr A
5A	Hardfaced	13Cr	Ni-Cr
6	F6 and Cu-Ni	13Cr	13Cr and Cu-Ni
7	F6 and Hard F6	13Cr	13Cr and Hard 13Cr
8	F6 and Hardfaced	13Cr	13Cr and Co-Cr A
8A	F6 and Hardfaced	13Cr	13Cr and Ni-Cr
9	Monel	Ni-Cu Alloy	Ni-Cu Alloy
10	316	18Cr-8Ni-Mo	18Cr-8Ni-Mo
11	Monel and Hardfaced	Ni-Cu Alloy	Ni-Cu Alloy and Trim 5 or 5A
12	316 and Hardfaced	18Cr-8Ni-Mo	18Cr-8Ni-Mo and Trim 5 or 5A
13	Alloy 20	19Cr-29Ni	19Cr-29Ni
14	Alloy 20 and Hardfaced	19Cr-29Ni	19Cr-29Ni and Trim 5 or 5A
15	Hardfaced	18Cr-8Ni	Co-CRr A
16	Hardfaced	18Cr-8Ni-Mo	Co-CRr A
17	Hardfaced	18Cr-10Ni-Cb	Co-CRr A
18	Hardfaced	19Cr-29Ni	Co-CRr A

HF: Hard Facing using CoCr welding alloy (Stellite)

Materials

ACC. / ASME B16.34
 DI, WCB, WCC, WC1, WC6, WC9, C5, C12, LCB, LCC, CF8, CF8C, CF8M, CF3, CF3M,
 DUPLEX, SUPERDUPLEX, EXOTIC MATERIALS.

General dimensions

DN	A (RF / BW)	B	WEIGHT (App.)
50 (2")	368	265	76
65 (2½")	419	275	93
80 (3")	470	290	140
100 (4")	546	385	232
125 (5")	673	430	362
150 (6")	705	470	490
200 (8")	832	625	990

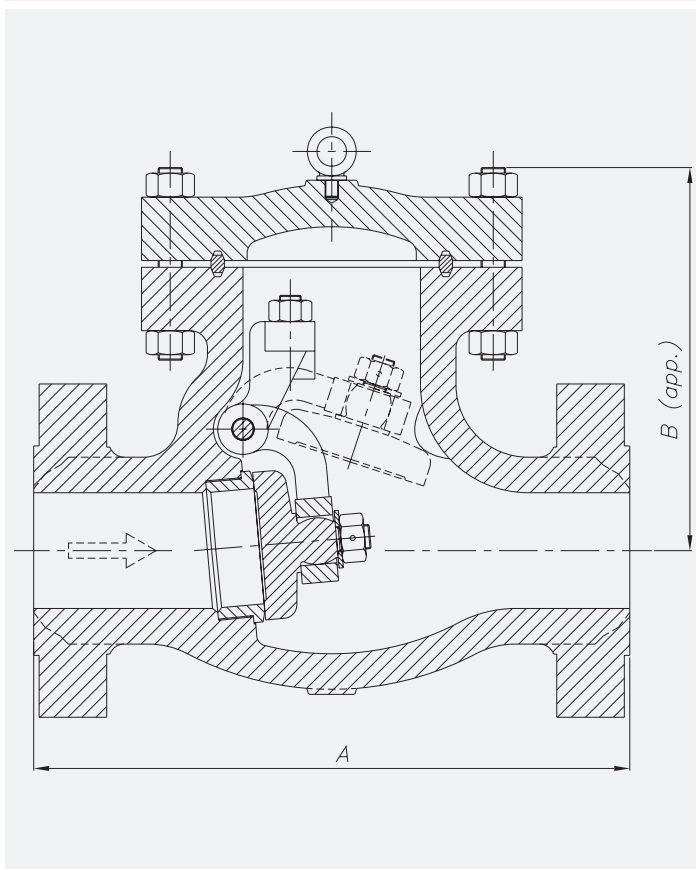
Dimensions in mm and weight in kg.
 Weights and dimensions can be changed without notice.
 Bigger sizes available under customer request.

API 6D / BS 1868 BOLTED COVER

Class 2500

VR2500BC

Sizes 2" to 8"



TRIM

API 600 TRIM N°	Nominal TRIM	Stem / Backseat	Seating Surface Body / Wedge
1	F6	13Cr	13Cr
2	304	18Cr-8Ni	18Cr-8Ni
3	F310	25Cr-20Ni	25Cr-20Ni
4	Hard F6	13Cr	Hard 13Cr
5	Hardfaced	13Cr	Co-Cr A
5A	Hardfaced	13Cr	Ni-Cr
6	F6 and Cu-Ni	13Cr	13Cr and Cu-Ni
7	F6 and Hard F6	13Cr	13Cr and Hard 13Cr
8	F6 and Hardfaced	13Cr	13Cr and Co-Cr A
8A	F6 and Hardfaced	13Cr	13Cr and Ni-Cr
9	Monel	Ni-Cu Alloy	Ni-Cu Alloy
10	316	18Cr-8Ni-Mo	18Cr-8Ni-Mo
11	Monel and Hardfaced	Ni-Cu Alloy	Ni-Cu Alloy and Trim 5 or 5A
12	316 and Hardfaced	18Cr-8Ni-Mo	18Cr-8Ni-Mo and Trim 5 or 5A
13	Alloy 20	19Cr-29Ni	19Cr-29Ni
14	Alloy 20 and Hardfaced	19Cr-29Ni	19Cr-29Ni and Trim 5 or 5A
15	Hardfaced	18Cr-8Ni	Co-Cr A
16	Hardfaced	18Cr-8Ni-Mo	Co-Cr A
17	Hardfaced	18Cr-10Ni-Cb	Co-Cr A
18	Hardfaced	19Cr-29Ni	Co-Cr A

HF: Hard Facing using CoCr welding alloy (Stellite)

Materials

ACC. / ASME B16.34
 DI, WCB, WCC, WC1, WC6, WC9, C5, C12, LCB, LCC, CF8, CF8C, CF8M, CF3, CF3M,
 DUPLEX, SUPERDUPLEX, EXOTIC MATERIALS.

General dimensions

DN	A (RF / BW)	B	WEIGHT (App.)
50 (2")	451	315	100
65 (2½")	508	345	185
80 (3")	578	380	225
100 (4")	673	410	370
125 (5")	794	495	595
150 (6")	914	560	805
200 (8")	1022	695	1320

Dimensions in mm and weight in kg.
 Weights and dimensions can be changed without notice.
 Bigger sizes available under customer request.