

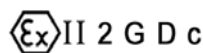


Swing Check Valves Type Pressure Seal
Class 900 DN 50-400 (2" – 16")
 Carbon, Alloy and Stainless Steel



Fig. VR900PS

Design:
ASME B16.34

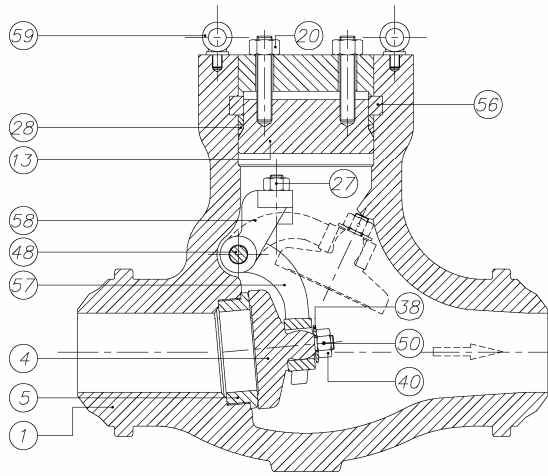




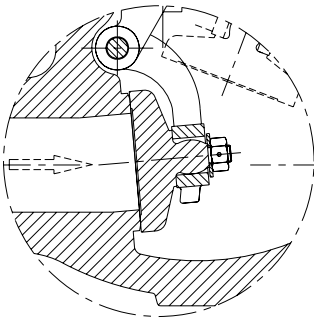
Swing Check Valves Class 900

Type Pressure Seal

Parts and materials



Stainless Steel Construction



Trim Material

API 600 Trim No.	Nominal Trim	Stem / Backseat (1)	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 (2)
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 (2)
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 (2)
16	Hardfaced	18Cr-8Ni-Mo	Co-Cr A (2)
17	Hardfaced	18Cr-10Ni-Cb	Co-Cr A (2)
18	Hardfaced	19Cr-29Ni	Co-Cr A (2)

(1) ...and small internal parts that normally contact the service fluid

(2) Trademark material Stellite 6

Item	Description	Material of construction**			
		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	A 105 + Stellite	A 352 Gr.LCB + Stellite	A 182 Gr.F6a + Stellite	A 182 Gr.F316 + Stellite
5	Seat Ring	A 105 + Stellite	A 182 Gr.F304 + Stellite	A 182 Gr.F6a + Stellite	A 182 Gr.F316 + Stellite
13	Cover	A 216 Gr.WCB / A 515 Gr.70	A 352 Gr.LCB	A 217 Gr.C5	A 351 Gr.CF8M
20	Cover Bolt & Nut	A 193 Gr.B7 / A 194 Gr.2H	A 193 Gr.B7 / A 194 Gr.2H	A 193 Gr.B7 / A 194 Gr.2H	A 193 Gr.B7 / A 194 Gr.2H(3)
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	Graphite	Graphite	Graphite	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 *	A 182 Gr.F6a	A 182 Gr.F304	A 182 Gr.F6a	A 182 Gr.F316
50	Split Pin	AISI 304	AISI 304	AISI 304	AISI 316
56	Segmental Ring	A 105	A 182 Gr.F304	A 182 Gr.F6a	A 182 Gr.F316
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
59	Lifting Hook	A 105	A 105	A 105	A 105

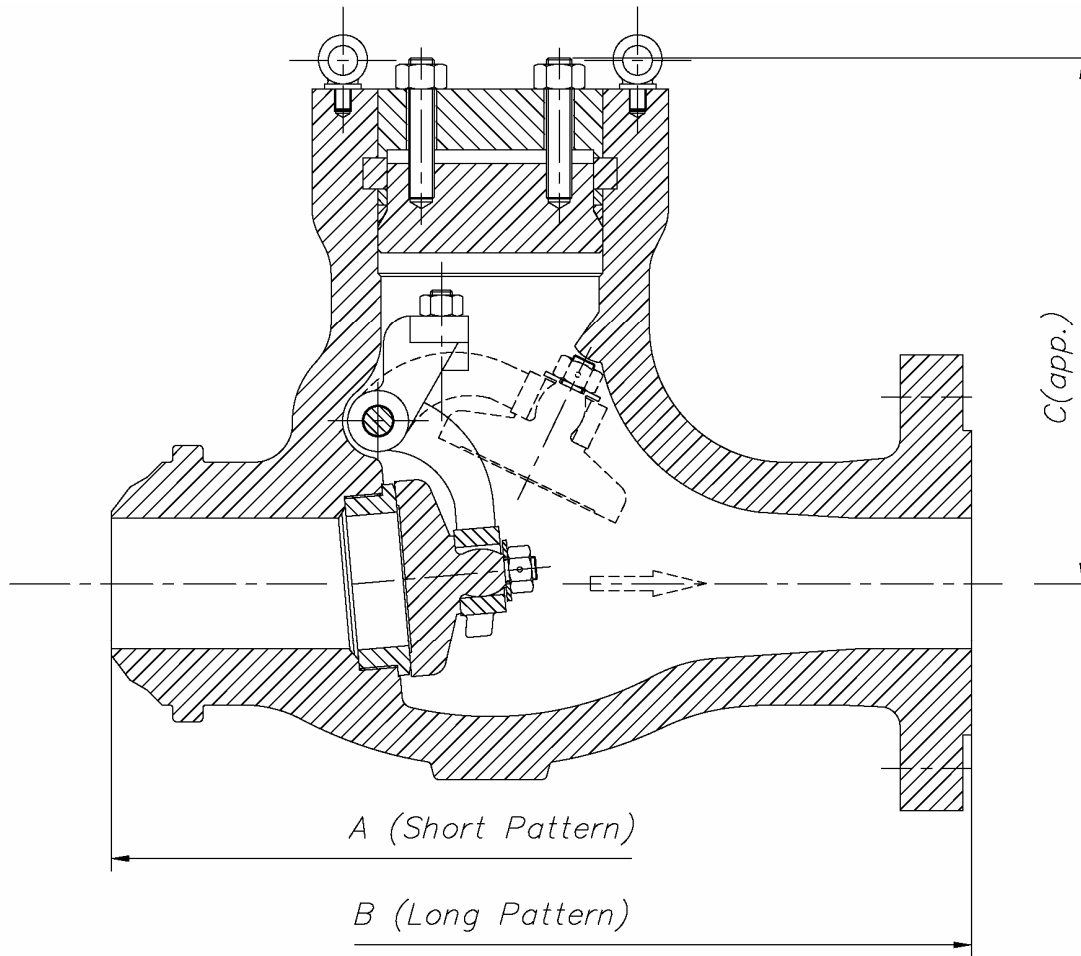
* It's also manufactured with Hinge Pin passing through Body with Plug

(3) Zinc coating

* Standard constructions with Trim 5, other options are available



Swing Check Valves Class 900 Type Pressure Seal Dimensions



DN	A	B	C	WEIGHT
50 (2")	216	368	255	40
65 (2½")	254	419	245	55
80 (3")	305	381	295	70
100 (4")	356	457	335	95
125 (5")	432	559	395	125
150 (6")	508	610	435	195
200 (8")	660	737	530	290
250 (10")	787	838	605	425
300 (12")	914	965	700	680
350 (14")	991	1029	805	975
400 (16")	1092	1130	925	1405

(* Dimensions in mm and weight in kg
For other sizes consult to the technical department.



Swing Check Valves Class 900

Type Pressure Seal

General Characteristics, Cv, P&T Rating

GENERAL CHARACTERISTICS	Fig. VR900PS			
DESIGN STANDARDS				
Valves design	ASME B16.34			
End to End Dimensions	ASME B16.10 & ISO 5752			
Flanged Dimensions	ASME B16.5 & ISO 7005-1 Part. 1	BS 3293	MSS SP-44	
Buttweld Dimensions	ASME B16.25			
Visual Inspection	MSS SP- 55			
Marking	MSS SP-25 & ISO 5209			
TESTS AND CERTIFICATES				
Pressure testing	API 598 & ISO 5208	EN 12266-1	MSS SP-61	
Other	ATEX, CE			

Cv Values in U.S. Gallons/min.

DN	Cv	DN	Cv
50 (2")	100	200 (8")	1500
65 (2½")	170	250 (10")	2200
80 (3")	240	300 (12")	2900
100 (4")	490	350 (14")	3700
125 (5")	670	400 (16")	6950
150 (6")	850		

Pressure-Temperature (STANDARD CLASS ACCORDING TO ASME B16.34)

Temp °C	MATERIAL			
	A216 WCB Bar	A352 LCB Bar	A217 C5 Bar	A351 CF8M (**) Bar
-29 to 38	153,0	143,7	155,0	148,8
95	139,5	135,7	154,0	128,2
150	135,7	131,9	148,1	115,8
205	130,9	127,5	145,7	106,1
260	123,7	120,2	137,5	98,9
315	113,0	110,2	125,1	93,4
345	110,9	108,2	121,6	91,6
375	110,2		117,5	89,9
400	104,0		109,2	88,2
425	85,1		105,1	87,2
450	55,5		99,9	86,5
485	35,5		76,5	85,8
510	21,4		56,8	79,9
540	10,7		41,0	72,3
565			29,6 *	71,0 *
595			20,7 *	63,0 *
620			12,7 *	48,9 *
650			7,2 *	38,2 *
675				30,3 *
705				24,1 *
735				20,0 *
760				15,5 *
790				12,1 *
815				8,6 *

* FOR WELD END VALVES ONLY. FLANGED END RATINGS TERMINATE AT 540°C

** A351 CF8M at temperatures over 538°C (1000°F) to be used only if Carbon contents is 0,04% or higher.



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Swing Check Valves Type Pressure Seal

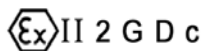
Class 1500 DN 50-400 (2" – 16")

Carbon, Alloy and Stainless Steel



Fig. VR1500PS

Design:
ASME B16.34

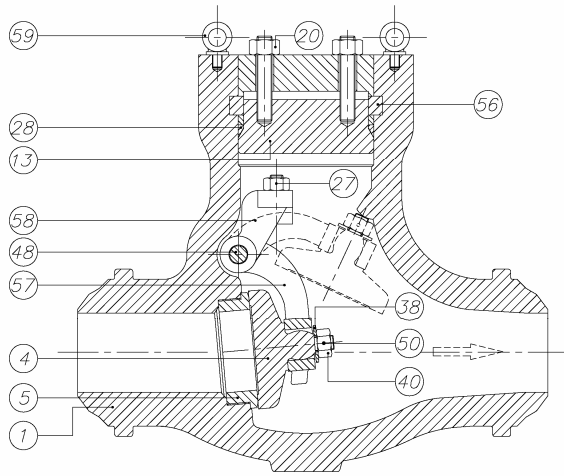




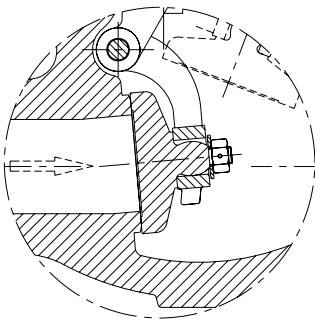
Swing Check Valves Class 1500

Type Pressure Seal

Parts and materials



Stainless Steel Construction



Trim Material

API 600 Trim No.	Nominal Trim	Stem / Backseat (1)	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 (2)
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 (2)
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 (2)
16	Hardfaced	18Cr-8Ni-Mo	Co-Cr A (2)
17	Hardfaced	18Cr-10Ni-Cb	Co-Cr A (2)
18	Hardfaced	19Cr-29Ni	Co-Cr A (2)

(1) ...and small internal parts that normally contact the service fluid

(2) Trademark material Stellite 6

Item	Description	Material of construction**			
		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	A 105 + Stellite	A 352 Gr.LCB + Stellite	A 182 Gr.F6a + Stellite	A 182 Gr.F316 + Stellite
5	Seat Ring	A 105 + Stellite	A 182 Gr.F304 + Stellite	A 182 Gr.F6a + Stellite	A 182 Gr.F316 + Stellite
13	Cover	A 216 Gr.WCB / A 515 Gr.70	A 352 Gr.LCB	A 217 Gr.C5	A 351 Gr.CF8M
20	Cover Bolt & Nut	A 193 Gr.B7 / A 194 Gr.2H	A 193 Gr.B7 / A 194 Gr.2H	A 193 Gr.B7 / A 194 Gr.2H	A 193 Gr.B7 / A 194 Gr.2H(3)
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	Graphite	Graphite	Graphite	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 *	A 182 Gr.F6a	A 182 Gr.F304	A 182 Gr.F6a	A 182 Gr.F316
50	Split Pin	AISI 304	AISI 304	AISI 304	AISI 316
56	Segmental Ring	A 105	A 182 Gr.F304	A 182 Gr.F6a	A 182 Gr.F316
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
59	Lifting Hook	A 105	A 105	A 105	A 105

* It's also manufactured with Hinge Pin passing through Body with Plug

** Standard constructions with Trim 5, other options are available

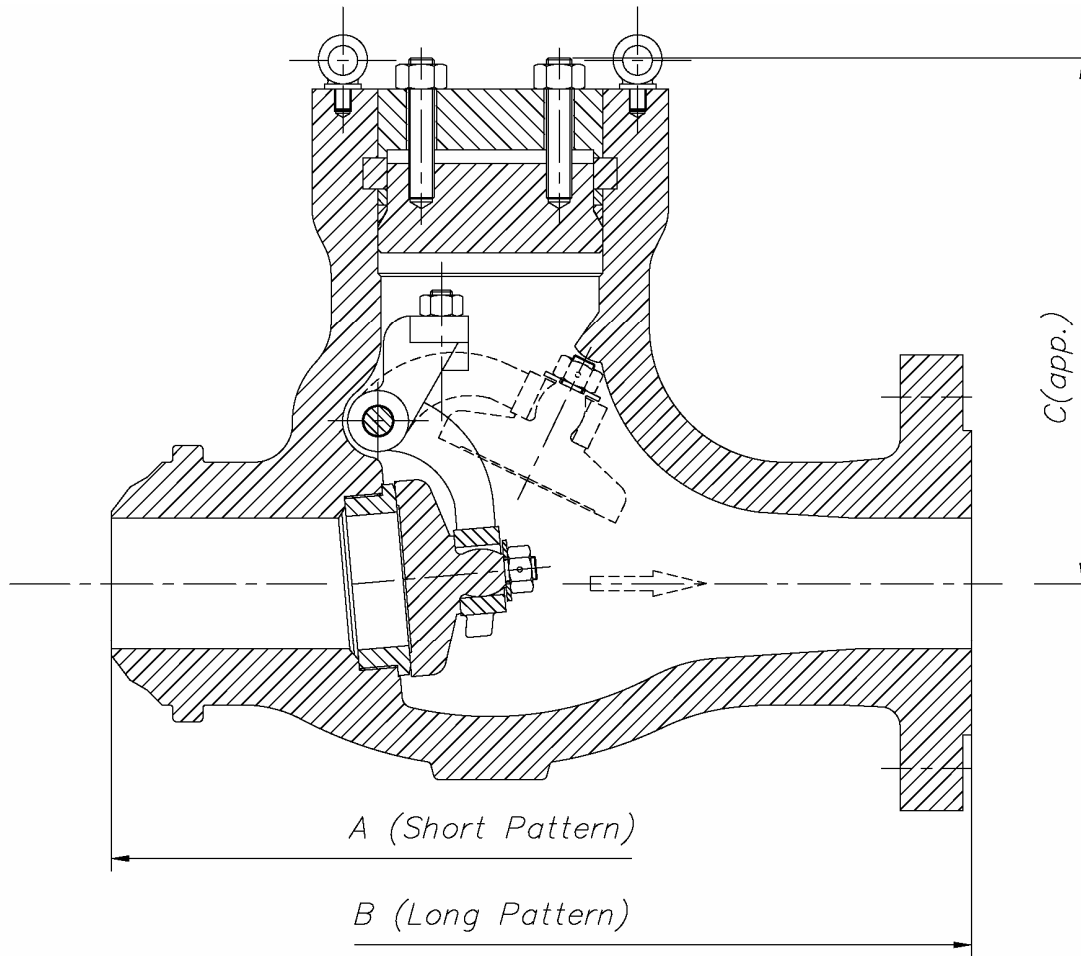
(3) Zinc coating



Swing Check Valves Class 1500

Type Pressure Seal

Dimensions



DN	A	B	C	WEIGHT
50 (2")	216	368	310	45
65 (2½")	254	419	310	65
80 (3")	305	470	330	80
100 (4")	406	546	355	140
125 (5")	483	673	380	205
150 (6")	559	705	400	407
200 (8")	711	832	530	605
250 (10")	864	991	560	1091
300 (12")	991	1130	650	1369
350 (14")	1067	1257	770	2015
400 (16")	1194	1384	915	2520

(*) Dimensions in mm and weight in kg
For other sizes consult to the technical department.



Swing Check Valves Class 1500

Type Pressure Seal

General Characteristics, Cv, P&T Rating

GENERAL CHARACTERISTICS	Fig. VR1500PS			
DESIGN STANDARDS				
Valves design	ASME B16.34			
End to End Dimensions	ASME B16.10 & ISO 5752			
Flanged Dimensions	ASME B16.5 & ISO 7005-1 Part. 1	BS 3293	MSS SP-44	
Buttweld Dimensions	ASME B16.25			
Visual Inspection	MSS SP- 55			
Marking	MSS SP-25 & ISO 5209			
TESTS AND CERTIFICATES				
Pressure testing	API 598 & ISO 5208	EN 12266	MSS SP-61	
Other	ATEX, CE			

Cv Values in U.S. Gallons/min.

DN	Cv	DN	Cv
50 (2")	100	200 (8")	1200
65 (2½")	160	250 (10")	1900
80 (3")	220	300 (12")	2300
100 (4")	400	350 (14")	3500
125 (5")	610	400 (16")	4700
150 (6")	800	450 (18")	5400

Pressure-Temperature (STANDARD CLASS According to ASME B16.34)

Temp °C	MATERIAL			
	A216 WCB Bar	A352 LCB Bar	A217 C5 Bar	A351 CF8M (**) Bar
-29 to 38	255,3	239,1	258,4	248,0
95	232,5	226,0	256,7	213,2
150	226,0	219,8	246,7	192,6
205	218,4	212,6	243,2	177,1
260	206,4	200,5	229,1	164,7
315	188,4	183,6	208,4	155,4
345	185,0	180,2	202,6	153,0
375	183,6		195,7	149,5
400	173,6		181,9	147,1
425	141,9		175,0	145,4
450	92,3		166,4	144,0
485	59,3		127,5	143,0
510	35,5		94,4	133,0
540	17,9		68,6	120,6
565			49,6 *	118,5 *
595			34,1 *	105,1 *
620			21,4 *	81,6 *
650			11,7 *	63,7 *
675				50,6 *
705				40,3 *
735				33,1 *
760				26,2 *
790				20,0 *
815				14,1 *

* FOR WELD END VALVES ONLY. FLANGED END RATINGS TERMINATE AT 540°C

** A351 CF8M at temperatures over 538°C (1000°F) to be used only if Carbon contents is 0,04% or higher.

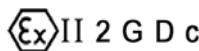


Swing Check Valves Type Pressure Seal
Class 2500 DN 50-300 (2" – 12")
 Carbon, Alloy and Stainless Steel



Fig. VR2500PS

Design:
ASME B16.34

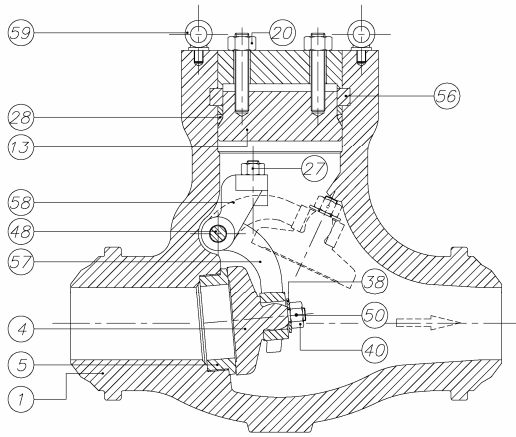




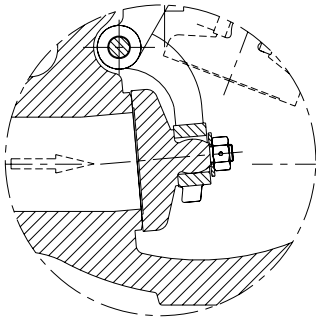
Swing Check Valves Class 2500

Type Pressure Seal

Parts and materials



Stainless Steel Construction



Trim Material

API 600 Trim No.	Nominal Trim	Stem / Backseat (1)	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 (2)
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 (2)
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 (2)
16	Hardfaced	18Cr-8Ni-Mo	Co-Cr A (2)
17	Hardfaced	18Cr-10Ni-Cb	Co-Cr A (2)
18	Hardfaced	19Cr-29Ni	Co-Cr A (2)

(1) „„and small internal parts that normally contact the service fluid

(2) Trademark material Stellite 6

Item	Description	Material of construction**			
		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	A 105 + Stellite	A 352 Gr.LCB + Stellite	A 182 Gr.F6a + Stellite	A 182 Gr.F316 + Stellite
5	Seat Ring	A 105 + Stellite	A 182 Gr.F304 + Stellite	A 182 Gr.F6a + Stellite	A 182 Gr.F316 + Stellite
13	Cover	A 216 Gr.WCB / A 515 Gr.70	A 352 Gr.LCB	A 217 Gr.C5	A 351 Gr.CF8M
20	Cover Bolt & Nut	A 193 Gr.B7 / A 194 Gr.2H	A 193 Gr.B7 / A 194 Gr.2H	A 193 Gr.B7 / A 194 Gr.2H	A 193 Gr.B7 / A 194 Gr.2H(3)
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	Graphite	Graphite	Graphite	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 *	A 182 Gr.F6a	A 182 Gr.F304	A 182 Gr.F6a	A 182 Gr.F316
50	Split Pin	AISI 304	AISI 304	AISI 304	AISI 316
56	Segmental Ring	A 105	A 182 Gr.F304	A 182 Gr.F6a	A 182 Gr.F316
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
59	Lifting Hook	A 105	A 105	A 105	A 105

* It's also manufactured with Hinge Pin passing through Body with Plug

**Standard constructions with Trim 5, other options are available

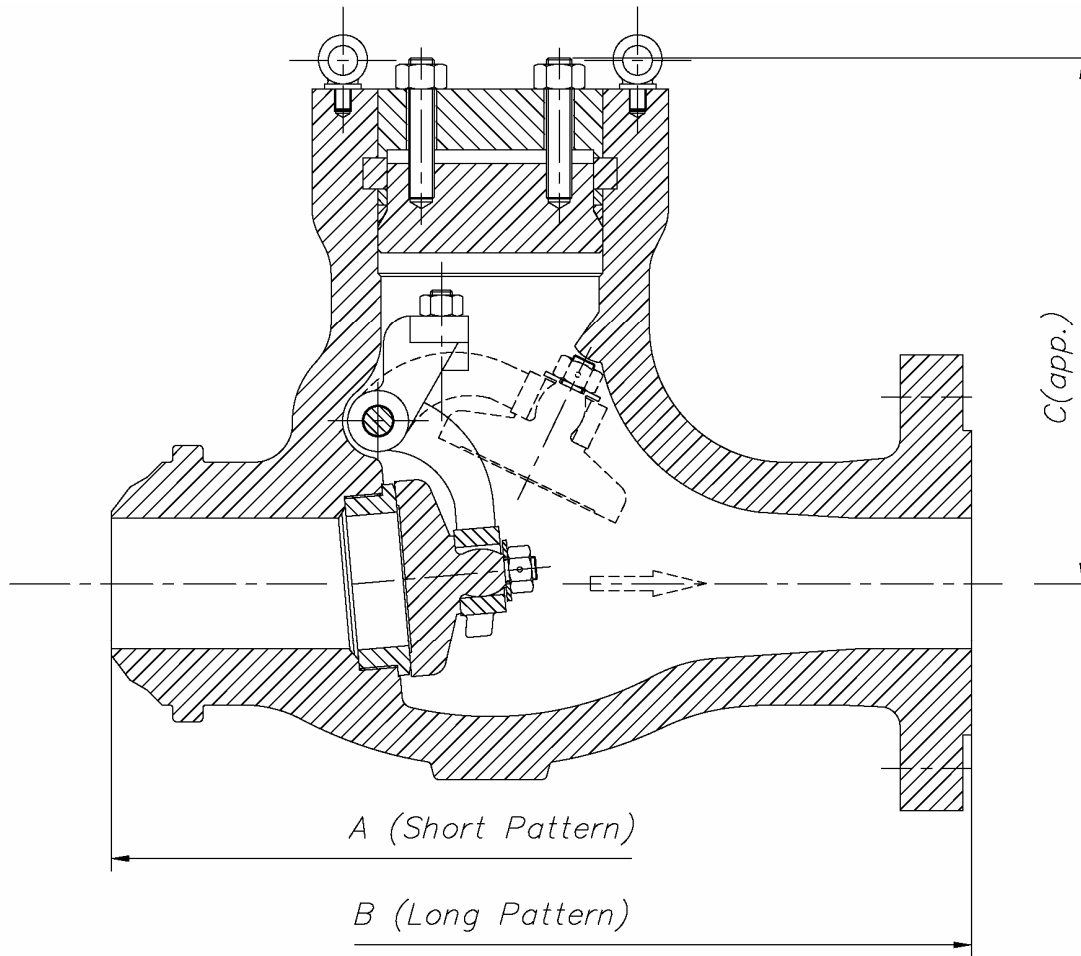
(3) Zinc coating



Swing Check Valves Class 2500

Type Pressure Seal

Dimensions



DN	A	B	C	WEIGHT
50 (2")	279	451	335	75
65 (2½")	330	508	350	95
80 (3")	368	578	390	120
100 (4")	457	673	435	165
125 (5")	533	794	505	245
150 (6")	610	914	570	425
200 (8")	762	1022	855	665
250 (10")	914	1270	945	1190
300 (12")	1041	1422	1015	1555

(*) Dimensions in mm and weight in kg
For other sizes consult to the technical department.



Swing Check Valves Class 2500

Type Pressure Seal

General Characteristics, Cv, P&T Rating

GENERAL CHARACTERISTICS	Fig. VR2500PS			
DESIGN STANDARDS				
Valves design	ASME B16.34			
End to End Dimensions	ASME B16.10 & ISO 5752			
Flanged Dimensions	ASME B16.5 & ISO 7005-1 Part. 1	BS 3293	MSS SP-44	
Buttweld Dimensions	ASME B16.25			
Visual Inspection	MSS SP- 55			
Marking	MSS SP-25 & ISO 5209			
TESTS AND CERTIFICATES				
Pressure testing	API 598 & ISO 5208	EN 12266-1	MSS SP-61	
Other	ATEX, CE			

Cv Values in U.S. Gallons/min.

DN	Cv	DN	Cv
50 (2")	60	200 (8")	850
65 (2½")	110	250 (10")	1600
80 (3")	150	300 (12")	2050
100 (4")	200		
125 (5")	330		
150 (6")	450		

Pressure-Temperature (STANDARD CLASS According to ASME B16.34)

Temp °C	MATERIAL			
	A216 WCB Bar	A352 LCB Bar	A217 C5 Bar	A351 CF8M (**) Bar
-29 to 38	425,1	398,6	430,6	413,4
95	387,6	376,9	427,5	355,5
150	376,9	366,2	411,0	321,1
205	363,8	354,5	405,1	294,9
260	343,8	334,2	381,7	274,2
315	314,2	305,9	347,3	259,1
345	308,3	300,1	338,0	254,9
375	305,9		325,9	249,4
400	289,4		303,2	245,3
425	236,3		291,4	242,5
450	153,6		277,7	239,8
485	98,5		212,6	238,4
510	59,3		157,4	221,9
540	29,6		114,0	200,8
565			82,7 *	197,4 *
595			57,2 *	175,4 *
620			35,5 *	135,7 *
650			19,6 *	106,5 *
675				84,7 *
705				66,8 *
735				55,1 *
760				43,4 *
790				33,4 *
815				23,8 *

* FOR WELD END VALVES ONLY. FLANGED END RATINGS TERMINATE AT 540°C

** A351 CF8M at temperatures over 538°C (1000°F) to be used only if Carbon contents is 0,04% or higher.