Type Leaflet
7246.2/5-10

SICCA® Cast Steel Check Valve

Type SCC

Swing Check Valve
Cast Steel
Bolted Cover
Flanged end /
Buttweld end
Class 150, 300 & 600
50 - 600 mm
(2" - 24")

Applications

- Refineries, Power stations, Process & General Industry
- For water, steam, gas, oil and other non-aggressive media
- Further applications on request

Operating data

- Pressure range up to 103.4 bar (1480 psi)
- Temperature range up to +593°C/1100°F
- Pressure-temperature ratings as per ASME B 16.34

Materials

ANSI Standard Class (as per ASME B 16.34)

- #150/300/600 - A 216 WCB from 0°C to 425°C
- #600 - A 217 WC6 from 0°C to 593°C
- #150/300 - 351 CF8 from 0°C to 537°C
- ASME Special class on request.

Design

- As per BS 1868
- Pressure, Temperature rating as per ASME B 16.34
- Stellite hard-faced Seats

Variants on Request

- Trim 8, Trim 5 for #150 / 300 valves
- Trim 5 for #600 WCB valves
- Trim 8 for #600 WC6 valves
- Other material of construction on request
- Drain Plug
- By pass
- Dash-Pot for Sizes >= DN 350

Remarks

Forged Valves leaflet no.	:	7240.1/5-10
Pressure Seal Gate Valve leaflet no.	:	7241.2/7-10
Pressure Seal Globe Valve leaflet no.	:	7242.2/6-10
Pressure Seal Check Valve leaflet no.	:	7243.2/6-10
Cast Steel Gate Valve leaflet no.	:	7244.2/5-10
Cast Steel Globe Valve leaflet no.	:	7245.2/5-10
Operating instructions no.	:	0500.80/03-18 G3

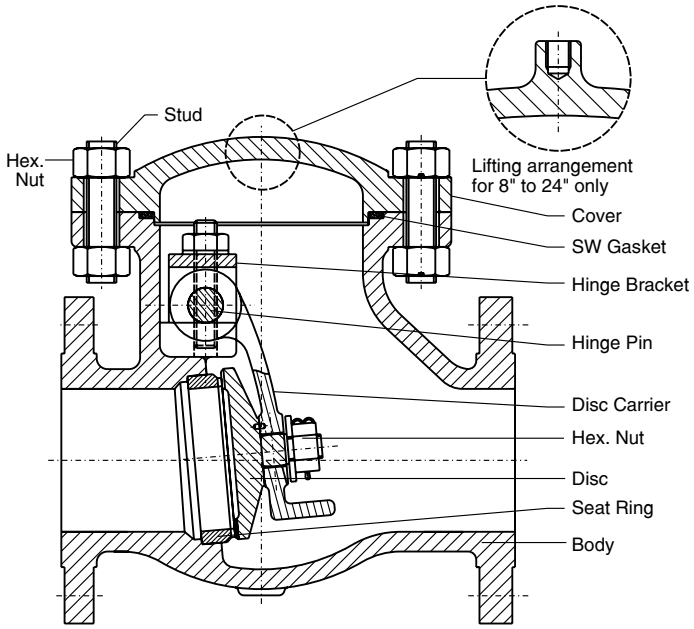
On all enquiries/orders please specify

1. Type
2. ANSI Pressure class
3. Size
4. Design pressure/temperature
5. Operating pressure
6. Operating temperature
7. Differential pressure
8. Material of construction
9. Flow Medium
10. Flow rate Min. / Max.
11. Type of end connection
12. Pipe schedule ID / OD
13. Variants
14. Leaflet number
15. Valve data sheet (if applicable)

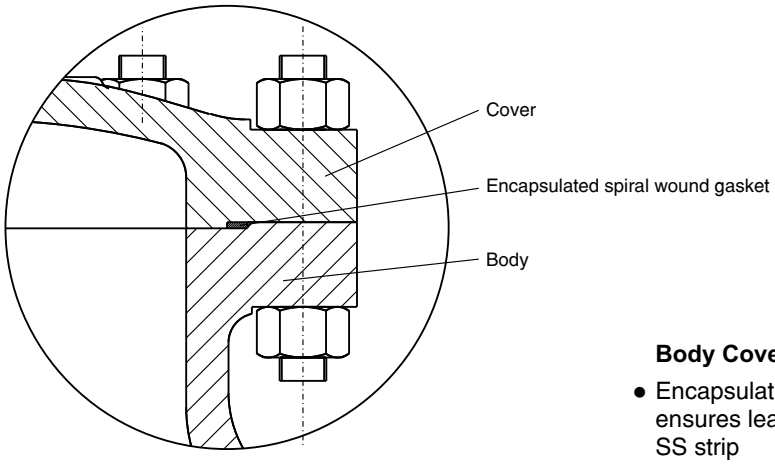
When ordering spares, indicate valve serial number.

KSB

Product features to our customer benefit

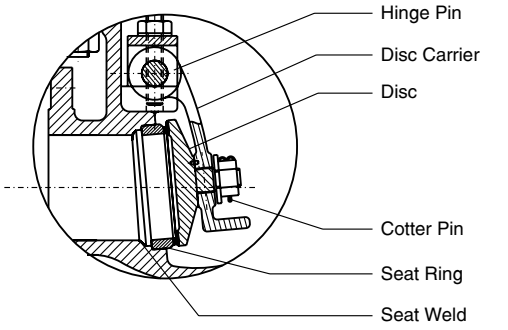


- Inside hinge pin mounted design eliminates leakage path to atmosphere
- Self aligning free floating and non rotating disc
- Designed to open at low differential pressures



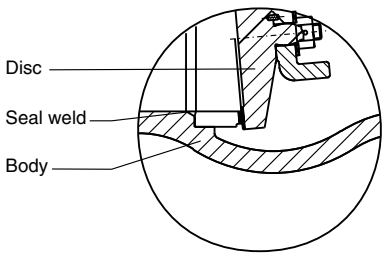
Body Cover joint

- Encapsulated Gasket with Controlled Compression ensures leak-proof joint and prevents unwinding of SS strip



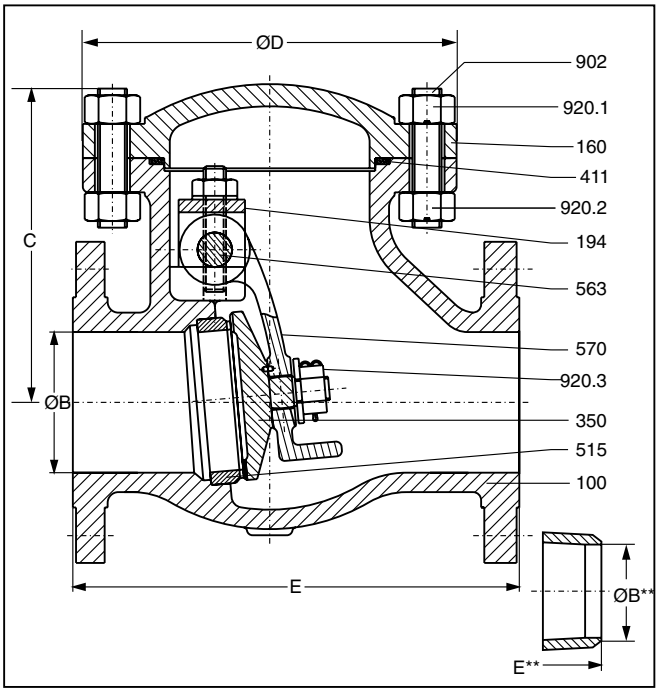
Disc Design

- Self aligning disc ensures perfect seating
- Designed to open at low differential pressure



Flow Seal

- Stellited seat
- Seat rings - seal welded to body
- Lapped Seat & Disc faces for leak tightness
- Streamlined flow path ensures minimum pressure drop



Design Specifications

General valve design	:	BS 1868
Pressure, temperature rating	:	ASME B 16.34 Standard class
Flanged end design	:	ASME B 16.5
Buttweld end design	:	ASME B 16.25
End to end dimension/ face to face	:	ASME B 16.10
Testing standard	:	API 598

Dimensions in mm

Class 150

	50	80	100	150	200	250	300	350	400	450	500	600
E	203.2	241.3	292.1	355.6	495.3	622.3	698.5	787.4	863.6	977.9	977.9	1295.4
ØB	51.0	76.0	102.0	152.0	203.0	254.0	305.0	336.0	387.0	438.0	489.0	591.0
$C_{(max)}$	160.0	200.0	230.0	250.0	310.0	380.0	420.0	500.0	555.0	610.0	655.0	740.0
ØD	205.0	210.0	235.0	305.0	350.0	460.0	474.0	536.0	605.0	680.0	750.0	870.0
E**	203.2	241.3	292.1	355.6	495.3	622.3	698.5	787.4	863.6	977.9	977.9	1295.4
ØB**	52.5	78.0	102.0	154.0	203.0	254.5	303.0	333.5	381.0	428.5	478.0	574.5

 # Schedule 40 for class 150. Alternate schedule on request.

Class 300

	50	80	100	150	200	250	300	350	400
E	266.7	317.5	355.6	444.5	533.4	622.3	711.2	838.2	863.6
ØB	51.0	76.0	102.0	152.0	203.0	254.0	305.0	337.0	387.0
$C_{(max)}$	155.0	210.0	240.0	280.0	330.0	385.0	445.0	560.0	640.0
ØD	205.0	202.0	245.0	305.0	370.0	435.0	474.0	580.0	650.0
E**	266.7	317.5	355.6	444.5	533.4	622.3	711.2	838.2	863.6
ØB**	52.5	78.0	102.0	154.0	203.0	254.5	303.0	333.5	381.0

 # Schedule 40 for class 300. Alternate schedule on request.

Class 600

	50	80	100	150	200	250	300
E	292.1	355.6	431.8	558.8	660.4	787.4	838.2
ØB	51.0	76.0	102.0	152.0	200.0	248.0	298.0
$C_{(max)}$	190.0	230.0	260.0	300.0	395.0	460.0	560.0
ØD	187.0	224.0	280.0	320.0	410.0	480.0	525.0
E**	292.1	355.6	431.8	558.8	660.4	787.4	838.2
ØB**	49.2	73.5	97.0	146.5	193.5	243.0	289.0

 # Schedule 80 for class 600.
Alternate schedule on request.

Materials

Part No.	Description	Material			
100	Body	A 216-WCB	A 217-WC6	A 351 - CF8	A 351-CF8M
160	Cover	A 216 - WCB	A 217 - WC6	A 351 - CF8	A 351 - CF8M
194	Hinge Bracket	A 216 - WCB / IS 2002 (A516-60)	A 217 - WC6/ IS 2002 (A516-60)	A 351 - CF8	A 351 - CF8M
350	Disc	A 105 + 13% Cr	A 217 - WC6 + ST6	A 351 - CF8	A 351 - CF8M
		A 216 - WCB+13%Cr			
411	SW Gasket	SS 316 + GRPH	SS 316 + GRPH	SS 316 + GRPH	SS 316 + GRPH
515	Seat Ring	A 105 + ST6	A 182 - F11 + ST6	A 351 - CF8	A 351 - CF8M
563	Hinge Pin	A 276 - 410 (H)	A 276 - 410 (H)	A 276 - 304	A 276 - 316
570	Disc Carrier	A 216 - WCB	A 217 - WC6	A 351 - CF8	A 351- CF8M
902	Stud	A 193 - B7	A 193 - B16	A 193 - B8	A 193 - B8M
920.1/2	Hex. Nut	A 194 - 2H	A 194 - 4/7	A 194 - B8	A 194 - 8M
920.3	Hex. Nut	SS (18-8) / A 194 - 2H	SS (18-8) / A194-4/7	SS (18-8)	A 194 - 8M

Test Specifications

Test / Test pressure	#150		#300		#600		Testing medium
	kg/cm²	psi	kg/cm²	psi	kg/cm²	psi	
Shell	30	455	77	1138	157	2233	Water
Seat	22	327	57	825	115	1636	

Rating for Group 1.1 Material : A 216 Gr. WCB (1)
Standard Class

Temperature		# 150		# 300		# 600	
°F	°C	psi	kg/cm²	psi	kg/cm²	psi	kg/cm²
-20 to 100	-17 to 38	285	20.0	740	52.0	1480	104.0
200	93.3	260	18.3	680	47.8	1360	95.6
300	148.9	230	16.2	655	46.0	1310	92.1
400	204.4	200	14.1	635	44.6	1265	88.9
500	260.0	170	11.9	605	42.5	1205	84.7
600	315.6	140	9.8	570	40.1	1135	79.8
650	343.3	125	8.8	550	38.7	1100	77.3
700	371.1	110	7.7	530	37.2	1060	74.5
750	398.9	95	6.7	505	35.5	1015	71.3
800	426.7	80	5.6	410	28.8	825	58.0
850	454.4	65	4.6	320	22.5	640	45.0
900	482.2	50	3.5	230	16.2	460	32.3
950	510.0	35	2.5	135	9.5	275	19.3
1000	537.8	20	1.4	85	6.0	170	11.9

1) Permissible, but not recommended for prolonged use above 800°F

Rating for Group 1.9 Material : A 217 Gr. WC6 (1) (2)
Standard Class

Temperature		# 150		# 300		# 600	
°F	°C	psi	kg/cm²	psi	kg/cm²	psi	kg/cm²
-20 to 100	-17 to 38	290	20.4	750	52.7	1500	105.4
200	93.3	260	18.3	750	52.7	1500	105.4
300	148.9	230	16.2	720	50.6	1445	101.5
400	204.4	200	14.1	695	48.8	1385	97.3
500	260.0	170	11.9	665	46.7	1330	93.5
600	315.6	140	9.8	605	42.5	1210	85.0
650	343.3	125	8.8	590	41.5	1175	82.6
700	371.1	110	7.7	570	40.1	1135	79.8
750	398.9	95	6.7	530	37.2	1065	74.8
800	426.7	80	5.6	510	35.8	1015	71.3
850	454.4	65	4.6	485	34.1	975	68.5
900	482.2	50	3.5	450	31.6	900	63.2
950	510.0	35	2.5	320	22.5	640	45.0
1000	537.8	20	1.4	215	15.1	430	30.2
1050	565.6	20	1.4	145	10.2	290	20.4
1100	593.3	20	1.4	95	6.7	190	13.4
1150	621.1	20	1.4	65	4.6	130	9.1
1200	648.9	15	1.1	40	2.8	80	5.6

1) Use Normalised and tempered material only.
2) Not to be used over 1100°F

Rating for Group 2.1 Material : A 351 Gr. CF8 (1)
Standard Class

Temperature		# 150		# 300		# 600	
°F	°C	psi	kg/cm²	psi	kg/cm²	psi	kg/cm²
-20 to 100	-17 to 38	275	19.3	720	50.6	1440	101.2
200	93.3	230	16.2	600	42.2	1200	84.3
300	148.9	205	14.4	540	37.9	1075	75.5
400	204.4	190	13.4	495	34.8	995	69.9
500	260.0	170	11.9	465	32.7	930	65.4
600	315.6	140	9.8	440	30.9	885	62.2
650	343.3	125	8.8	430	30.2	865	60.8
700	371.1	110	7.7	420	29.5	845	59.4
750	398.9	95	6.7	415	29.2	825	58.0
800	426.7	80	5.6	405	28.5	810	56.9
850	454.4	65	4.6	395	27.8	790	55.5
900	482.2	50	3.5	390	27.4	780	54.8
950	510.0	35	2.5	380	26.7	765	53.8
1000	537.8	20	1.4	355	24.9	710	49.9
1050	565.6	20	1.4	325	22.8	650	45.7
1100	593.3	20	1.4	255	17.9	515	36.2
1150	621.1	20	1.4	205	14.4	410	28.8
1200	648.9	20	1.4	165	11.6	330	23.2
1250	676.7	20	1.4	135	9.5	265	18.6
1300	704.4	20	1.4	115	8.1	225	15.8
1350	732.2	20	1.4	95	6.7	185	13.0
1400	760.0	20	1.4	75	5.3	150	10.5
1450	787.8	20	1.4	60	4.2	115	8.1
1500	815.6	15	1.1	40	2.8	85	6.0

1) At temperatures over 1000°F, use only when the carbon content is 0.04% or higher.

Rating for Group 2.2 Material : A 351 Gr. CF8M (1)
Standard Class

Temperature		# 150		# 300		# 600	
°F	°C	psi	kg/cm²	psi	kg/cm²	psi	kg/cm²
-20 to 100	-17 to 38	275	19.3	720	50.6	1440	101.2
200	93.3	235	16.5	620	43.6	1240	87.1
300	148.9	215	15.1	560	39.4	1120	78.7
400	204.4	195	13.7	515	36.2	1025	72.0
500	260.0	170	11.9	480	33.7	955	67.1
600	315.6	140	9.8	450	31.6	900	63.2
650	343.3	125	8.8	440	30.9	885	62.2
700	371.1	110	7.7	435	30.6	870	61.1
750	398.9	95	6.7	425	29.9	855	60.1
800	426.7	80	5.6	420	29.5	845	59.4
850	454.4	65	4.6	420	29.5	835	58.7
900	482.2	50	3.5	415	29.2	830	58.3
950	510.0	35	2.5	385	27.1	775	54.5
1000	537.8	20	1.4	365	25.7	725	50.9
1050	565.6	20	1.4	360	25.3	720	50.6
1100	593.3	20	1.4	305	21.4	610	42.9
1150	621.1	20	1.4	235	16.5	475	33.4
1200	648.9	20	1.4	185	13.0	370	26.0
1250	676.7	20	1.4	145	10.2	295	20.7
1300	704.4	20	1.4	115	8.1	235	16.5
1350	732.2	20	1.4	95	6.7	190	13.4
1400	760.0	20	1.4	75	5.3	150	10.5
1450	787.8	20	1.4	60	4.2	115	8.1
1500	815.6	15	1.1	40	2.8	85	6.0

1) At temperatures over 1000°F, use only when the carbon content is 0.04% or higher.

KSB

KSB PUMPS LIMITED
151, NSN Palayam Post, Mettupalayam Road, Coimbatore 641 031. INDIA
Tel. : +91 422 2468222 Fax : +91 422 2468232 e-mail : cbepsindustry@ksb.co.in, cbepsenergy@ksb.co.in www.ksbindia.co.in