



## 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 104 bar (1480 PSI)
- Temperature range up to +593°C/1100°F
- Minimum temperature is 0°C (less than 0°C on request)
- Pressure-temperature ratings as per ASME B 16.34 Standard class

## 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 - A 351 CF8 from 0°C to 537°C
- ASME Special class on request.

## Design

- As per API 600
- Pressure, Temperature rating as per ASME B 16.34
- Stellite hard-faced Seats
- Graphite gaskets and graphite packings with Braided wiping rings

## Variants on Request

- Bypass execution
- Actuator execution
- 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
- Position indicator
- Locking arrangement

## Remarks

Forged Valves leaflet no. : 0500.10/01 - 18 G3  
Pressure Seal Gate Valve leaflet no. : 0501.10/01 - 18 G3  
Pressure Seal Globe Valve leaflet no. : 0502.10/01 - 18 G3  
Pressure Seal Check Valve leaflet no. : 0503.10/01 - 18 G3  
Cast Steel Globe Valve leaflet no. : 0502.11/01 - 18 G3  
Cast Steel Check Valve leaflet no. : 0503.11/01 - 18 G3

Operating instructions no. : 0500.80/01 - 18 G3

When ordering spares indicate valve serial no.

## On all enquiries/orders please specify

1. Type
2. ANSI Pressure class
3. Size
4. Design pressure
5. Operating pressure
7. Material of construction
8. Flow Medium
9. Type of end connection
10. Pipe schedule
11. Variants

6"-12" thrust bearing housing

Hardened Stainless steel back seat bush

For #150 (Flat gasket)

Encapsulated Gasket

Stem wedge connection meets API 600 pull test requirements

Burnished stem 13% Cr. Steel (Hardened)

Two piece gland self aligning

2"-4" #150  
2"-3" #300

Graphite packing rings top & bottom rings of braided graphite

Seat ring seal welded to body

Flexible solid wedge body guided

Seal weld

- Valves meet API 600 design requirements
- Body full bore to API 600 ensures streamlined flow hence no pressure drop.
- Body guided wedge ensures positive seating and eliminates side thrust
- Stem wedge connection meets API 600 pull test requirements.
- Harder seats (ST6 HF) minimises on line erosion (KSB recommends harder seats)
- Differential hardness between seat & wedge maintained to eliminate galling

**Flow Seal**

- Stellite body seats (KSB recommends harder seats)
- Seat rings - seal welded to body
- Lapped seat and wedge faces for leak tightness
- Streamlined flow path hence no pressure drop

**Wedge Design**

- Solid flexible wedge ensures perfect seating
- Wedging action ensures leak tightness
- Leak tightness at low and high differential pressure

**'T' head stem wedge connection**

- Low centre stem to wedge contact reduces the operating torque

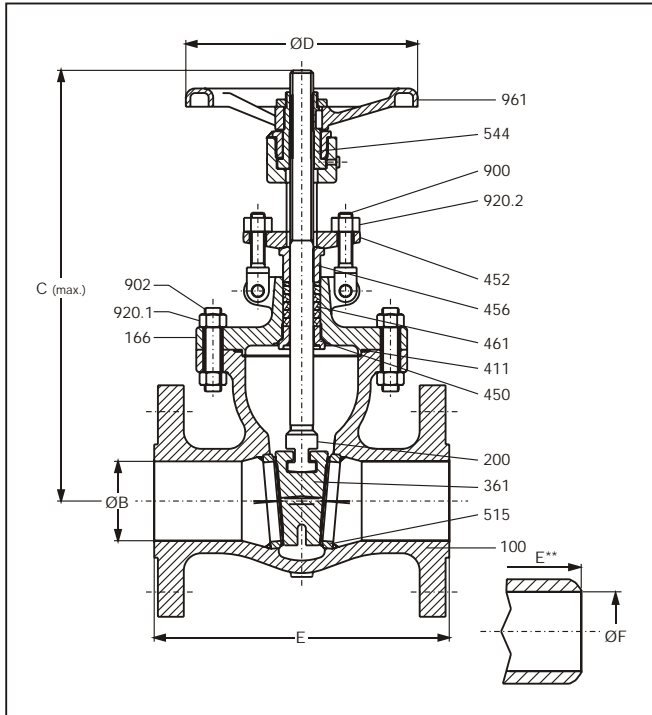
**Body seal**

**Bolted Bonnet**

- Encapsulated Gasket ensures leak proof joint and prevents unwinding of SS strips
- #150 valve with oval/rectangular bonnet has flat gasket

**Gland Seal**

- Die moulded graphite (Gr.ASB+INC optional) rings ensures effective sealing to atmosphere
- Top & bottom rings are braided graphite offer smooth wiping action & prevents Graphite depletion
- Burnished stem and smooth stuffing box surfaces improve gland sealing life
- Two piece self aligning gland bolting arrangement
- Hardened [A276-410 (H)] back seat for maximum service life



**Design Specifications**

General valve design : API 600  
 Pressure, temperature rating : ASME B 16.34  
 Standard class  
 Flanged end design : ASME B 16.5  
 End to end dimension : ASME B 16.10  
 Testing standard : API 598

**Dimensions**

Class 150		2"	3"	4"	6"	8"	10"	12"
E	Inch	7.0	8.0	9.0	10.5	11.5	13.0	14.0
	mm	178.0	203.0	229.0	266.7	292.1	330.0	356.0
ØB	Inch	2.0	3.0	4.0	6.0	8.0	10.0	12.0
	mm	51.0	76.0	102.0	152.0	203.0	254.0	305.0
C(max.)	Inch	14.8	17.2	22.7	28.0	38.3	45.5	54.9
	mm	377.0	437.0	577.0	710.0	972.0	1155.0	1395.0
ØD	Inch	8.0	10.0	10.0	14.0	18.0	18.0	20.0
	mm	203.0	254.0	254.0	356.0	457.0	457.0	508.0
E**	Inch	8.5	11.1	12.0	15.9	16.5	18.0	19.8
	mm	216.0	282.0	305.0	403.0	419.0	457.0	502.0
ØF	Inch	2.0	3.1	4.0	6.1	8.0	10.0	11.9
	mm	52.5	78.0	102.0	154.0	203.0	254.0	303.0

\* Schedule 40 for class 150. Alternate schedule on request.

Class 300		2"	3"	4"	6"	8"	10"	12"
E	Inch	8.5	11.1	12.0	15.9	16.5	18.0	19.8
	mm	216.0	282.0	305.0	403.0	419.0	457.0	502.0
ØB	Inch	2.0	3.0	4.0	6.0	8.0	10.0	12.0
	mm	51.0	76.0	102.0	152.0	203.0	254.0	305.0
C(max.)	Inch	15.7	19.5	24.0	32.8	40.2	48.8	56.3
	mm	400.0	495.0	610.0	833.0	1020.0	1240.0	1430.0
ØD	Inch	8.0	10.0	10.0	14.0	18.0	20.0	20.0
	mm	203.0	254.0	254.0	356.0	457.0	508.0	508.0
E**	Inch	8.5	11.1	12.0	15.9	16.5	18.0	19.8
	mm	216.0	282.0	305.0	403.0	419.0	457.0	502.0
ØF	Inch	2.0	3.1	4.0	6.1	8.0	10.0	11.9
	mm	52.5	78.0	102.0	154.0	203.0	254.5	303.0

\* Schedule 40 for class 300. Alternate schedule on request.  
 E\*\* - End to End of BW end valves.

Class 600		2"	3"	4"	6"	8"	10"	12"
E	Inch	11.5	14.0	17.0	22.0	26.0	31.0	33.0
	mm	292.0	356.0	432.0	559.0	660.0	787.0	838.0
ØB	Inch	2.0	3.0	4.0	6.0	8.0	9.8	11.7
	mm	51.0	76.0	102.0	152.0	200.0	248.0	298.0
C(max.)	Inch	16.7	20.7	25.2	34.1	41.7	49.2	60.6
	mm	425.0	525.0	640.0	865.0	1060.0	1250.0	1540.0
ØD	Inch	8.0	10.0	14.0	20.0	20.0	20.0	24.0
	mm	203.0	254.0	356.0	508.0	508.0	508.0	610.0
E**	Inch	11.5	14.0	17.0	22.0	26.0	31.0	33.0
	mm	292.0	356.0	432.0	559.0	660.0	787.0	838.0
ØF	Inch	1.9	2.9	3.8	5.8	7.6	9.6	11.4
	mm	49.0	73.5	97.0	146.5	193.5	243.0	289.0

\* Schedule 80 for class 600. Alternate schedule on request.  
 E\*\* - End to End of BW end valves.

**Materials**

Part No.	Description	Material			
100	Body	A 216-WCB	A 217-WC6	A 351-CF8	A 351-CF8M
166	Bonnet	A 216-WCB	A 217-WC6	A 351-CF8	A 351-CF8M
200	Stem	A 479-410-2	A 479-410-2	A 276-304	A 276-316
361	Wedge	A 217-CA15	A 217-WC6+ST6	A 351-CF8	A 351-CF8M
		A 216-WCB+13%Cr			
* 411	Gasket	SS 316 + GRPH	SS 316 + GRPH	SS 316 + GRPH	SS 316 + GRPH
450	Back Seat	A 276-410 (H)	A 276-410 (H)	A 276-304	A 276-316
452	Gland Flange	A 105	A 105	A 351-CF8	A 351-CF8M
456	Gland Bush	A 276-410	A 276-410	A 276-304	A 276-316
461	Gland Packing	Graphite	Graphite	Graphite	Graphite
515	Seat Ring	A 216-WCB+13%Cr	A 217-WC6+ST6	A 351-CF8	A 351-CF8M
544	Stem Nut	A 439-D2	A 439-D2	A 439-D2	A 439-D2
900	Gland Bolt	A 307-B	A 307-B	A 182-F304	A 182-F304
902	Stud	A 193-B7	A 193-B16	A 193-B8	A 193-B8M
920.1	Hex. Nut	A 194-2H	A 194-2H	A 194-8	A 194-8M
920.2	Hex. Nut		A 194-4	A 194-8	A 194-8M
961	Handwheel	SG 400/12	SG 400/12	SG 400/12	SG 400/12

\* Flat graphite with SS reinforcement for # 150 only. Spiral wound gasket for # 300 and # 600.

Note : Subject to change without notice on account of continuous improvement.

## Test Specifications

Test / Test pressure	#150		#300		#600		Testing medium
	kg/cm <sup>2</sup>	PSI	kg/cm <sup>2</sup>	PSI	kg/cm <sup>2</sup>	PSI	
Shell	30	455	77	1138	157	2233	Kerosene / Water
Back seat	22	327	57	825	115	1636	
Seat leak	6	85	6	85	6	85	Air

Material : A 216 WCB Table A : Standard Class

Temperature		#150		#300		#600	
°F	°C	PSI	kg/cm <sup>2</sup>	PSI	kg/cm <sup>2</sup>	PSI	kg/cm <sup>2</sup>
-20 to100	-17 to 38	285	20.0	740	52.0	1480	104.1
200	93.3	260	18.3	675	47.5	1350	94.9
300	148.9	230	16.2	655	46.1	1315	92.5
400	204.4	200	14.1	635	44.6	1270	89.3
500	260.0	170	12.0	600	42.2	1200	84.4
600	315.6	140	9.8	550	38.7	1095	77.0
650	343.3	125	8.8	535	37.6	1075	75.6
700	371.1	110	7.7	535	37.6	1065	74.9
750	398.9	95	6.7	505	35.5	1010	71.0
800	426.7	80	5.6	410	28.8	825	58.0
850	454.4	65	4.6	270	19.0	535	37.6
900	482.2	50	3.5	170	12.0	345	24.3
950	510.0	35	2.5	105	7.4	205	14.4
1000	537.8	20	1.4	50	3.5	105	7.4

Material : A 217 WC6 Table B : Standard Class

Temperature		#150		#300		#600	
°F	°C	PSI	kg/cm <sup>2</sup>	PSI	kg/cm <sup>2</sup>	PSI	kg/cm <sup>2</sup>
-20 to100	-17 to 38	290	20.4	750	52.7	1500	105.5
200	93.3	260	18.3	750	52.7	1500	105.5
300	148.9	230	16.2	720	50.6	1445	101.6
400	204.4	200	14.1	695	48.9	1385	97.4
500	260.0	170	12.0	665	46.8	1330	93.5
600	315.6	140	9.8	605	42.5	1210	85.1
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	37.3	1065	74.9
800	426.7	80	5.6	510	35.9	1015	71.4
850	454.4	65	4.6	485	34.1	975	68.6
900	482.2	50	3.5	450	31.6	900	63.3
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	60	4.2	125	8.8
1200	648.9	10	1.1	40	2.8	75	5.3

Material : A 351 CF8 Table C : Standard Class

Temperature		#150		#300		#600	
°F	°C	PSI	kg/cm <sup>2</sup>	PSI	kg/cm <sup>2</sup>	PSI	kg/cm <sup>2</sup>
-20 to100	-17 to 38	275	19.3	720	50.6	1440	101.2
200	93.3	235	16.5	600	42.2	1200	84.4
300	148.9	205	14.4	540	38.0	1080	75.9
400	204.4	190	13.4	495	34.8	995	70.0
500	260.0	170	12.0	465	32.7	930	65.4
600	315.6	140	9.8	435	30.6	875	61.5
650	343.3	125	8.8	430	30.2	860	60.5
700	371.1	110	7.7	425	29.9	850	59.8
750	398.9	95	6.7	415	29.2	830	58.4
800	426.7	80	5.6	405	28.5	805	56.6
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	320	22.5	640	45.0
1050	565.6	20	1.4			615	43.2
1100	593.3	20	1.4	255	17.9	515	36.2
1150	621.1	20	1.4	200	14.1	400	28.1
1200	648.9	20	1.4	155	10.9	310	21.1
1250	676.7	20	1.4	115	8.1	225	15.8
1300	704.4	20	1.4	85	6.0	170	12.0
1350	732.2	20	1.4	60	4.2	125	8.8
1400	760.0	20	1.4	50	3.5	95	6.7
1450	787.8	15	1.1	35	2.5	70	4.9
1500	815.6	10	0.7	25	1.8	55	3.9

Material : A 351 CF8M Table D : Standard Class

Temperature		#150		#300		#600	
°F	°C	PSI	kg/cm <sup>2</sup>	PSI	kg/cm <sup>2</sup>	PSI	kg/cm <sup>2</sup>
-20 to100	-17 to 38	275	19.3	720	50.6	1440	101.2
200	93.3	235	16.5	620	43.6	1240	87.2
300	148.9	215	15.1	560	39.4	1120	78.7
400	204.4	190	13.4	515	36.2	1025	72.1
500	260.0	170	12.0	480	33.7	955	67.1
600	315.6	140	9.8	450	31.6	900	63.3
650	343.3	125	8.8	445	31.3	890	62.6
700	371.1	110	7.7	430	30.2	870	61.2
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	58.4
950	510.0	35	2.5	385	27.1	775	54.4
1000	537.8	20	1.4	350	24.6	700	49.2
1050	565.6	20	1.4	345	24.3	685	48.2
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	20	1.4	40	2.8	85	6.0

