



Type GLC

**Globe Valve  
Cast Steel, Pressure seal Bonnet  
Butt weld ends**

**2" - 8" (50-200 mm)  
Class 900, 1500, 2500**

**Design in accordance with ASME B16.34**

## Applications

- Power stations, general industry, process engineering
- For water, steam, gas, oil & other non-aggressive media
- Further applications on request

## Operating Data

- Pressure up to 431 bar ( 6250 psi )
- Temperature up to +650°C / 1200°F
- Minimum temperature is 0°C (less than 0°C on request)
- Pressure-temperature ratings as per ASME B 16.34, Standard class

## Materials

- ASTM A 216 WCB from 0°C to 425°C
- ASTM A 217 WC6/WC9 from 0°C to 593°C
- ASTM A 217 C12A from 0°C to 650°C

## Design

- As per ASME B 16.34
- Pressure Seal Bonnet Design
- Stellite hard-faced Seats & Disc surface
- Graphite gaskets & packings with Braided wiping rings
- Direct retrofitting of Actuator

## Variants on Request

- Bypass Arrangement
- Gear / Electrical Actuator
- Position indicator
- Locking Arrangement
- Stem Protector
- Special class execution
- Other Material of construction

## Remarks :

(Type Series Booklet References)

SICCA 800-2500 GTF / GLF / PCF	: 7240.1/12-11
SICCA 900-2500 GTC	: 7241.2/12-11
SICCA 900-2500 SCC	: 7243.2/12-11
SICCA 150-600 GTC	: 7244.2/12-11
SICCA 150-600 GLC	: 7245.2/12-11
SICCA 150-600 SCC	: 7246.2/12-11
Operating instructions no.	: 0500.80/05-18 G3

## On all enquiries / orders please specify :

1. Type
2. ASME 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. Type Series Booklet no.
15. Valve data sheet (if applicable)

When ordering spares, indicate valve serial number.



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**Product features to our customer benefit**

- Graphite packing rings with top & bottom rings of braided graphite.
- Graphite gasket
- Knock-out holes
- Bonnet
- Disc seats ST-6 (HF)
- Seal welded seat ring ST6 (HF)
- Stem nut with thrust bearing enables retrofitting of Actuators at site.
- Burnished & smooth finished stem
- Retaining plate
- 2" TO 6"
- Body

- Valves meets ASME 16.34 requirements
- Compact yoke design ensures low valve weight
- Designed to retrofit valve with Actuator at site without disassembly of pressure retaining parts
- Stem lock arrangement ensures non-rotation of stem
- 'Y' Pattern body minimizes pressure drop

Body Guided Disc

Disc Seat ST6 (HF)

Body Seat ST6 (HF)

**Flow Seal**

- Fully stellite body seat & disc seat
- Seat rings - Seal welded to body
- Valves will be with flow over disc to ensure leak tightness under high / full differential pressures.

**Disc Design**

- Disc - Body guided, which stands unbalanced forces at high differential pressure
- Stellite-6 hard faced seating surface enhances sealing life

**Stem Disc Connection**

- Stem-disc joint capable of withstanding vibration during valve opening

Self aligning gland

Gland bush

Braided Graphite wiping rings at top & bottom

Die moulded Graphite rings

Stem

Integral Stellite-6 (HF) Backseat

**Gland Seal**

- Die moulded graphite rings ensures effective sealing to atmosphere
- Top & bottom rings are braided graphite and inconel reinforced
- Braided rings offer smooth wiping action thereby arresting graphite depletion
- Smooth finished & polished stem and smooth stuffing box surfaces improve gland sealing life
- Two piece self aligning gland arrangement
- Integral hard faced back seat for maximum service life

Thrust ring

Spacer ring

Graphite gasket

Body

Bonnet

**Pressure Seal Bonnet**

- Die moulded graphite gasket
- Segmental ring arrangement with knock-out hole ensures easy disassembly

Key

Stem nut

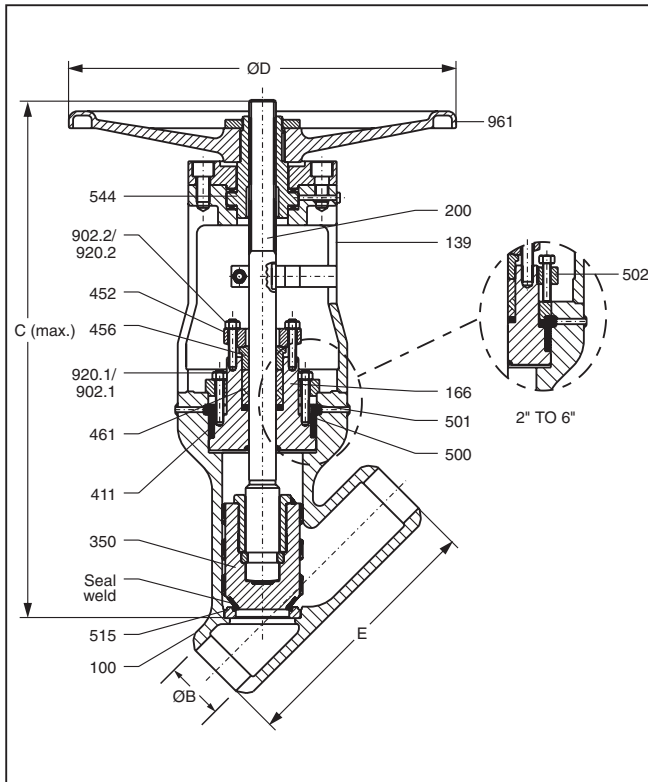
Stem

By-Pass Valve

X1

X2

Mount Actuator with non-thrust base. Type 'E' or 'B' after removing handwheel.



### Design Specifications

General valve design & pressure, temperature rating : ASME B 16.34  
 Butt weld end design : ASME B 16.25  
 End to end dimension : ASME B 16.10  
 Testing : API 598

### Dimensions in mm

#### Class 900

	2"	3"	4"	6"	8"
<b>E</b>	368.3	304.8	355.6	508.0	660.4
<b>ØB*</b>	49.2	73.5	92.0	140.0	182.5
<b>C<sub>(max)</sub></b>	530.0	685.0	750.0	950.0	1055
<b>ØD</b>	356.0	457.0	508.0	508.0	508.0

\* Schedule 80 up to 3". Schedule 120 for 4" and above.  
 Alternate schedule on request.

#### Class 1500

	2"	3"	4"	6"
<b>E</b>	368.3	469.9	406.4	706.4
<b>ØB*</b>	43.0	66.5	87.5	132.0
<b>C<sub>(max)</sub></b>	730.0	760.0	1010	1180
<b>ØD</b>	356.0	508.0	508.0	508.0

\* Schedule 160. Alternate schedule on request.

#### Class 2500

	2"	3"	4"	6"
<b>E</b>	451.0	368.3	673.1	914.4
<b>ØB*</b>	38.0	58.5	80.0	124.5
<b>C<sub>(max)</sub></b>	730.0	780.0	880.0	1200
<b>ØD</b>	356.0	508.0	508.0	610.0

\* Schedule XXS. Alternate schedule on request.

### Materials

Part No.	Description	Material			
100	Body	A 216-WCB	A 217-WC9	A 217-WC6	A217-C12A
139	Yoke	A 216-WCB	A 216-WCB	A 216-WCB	A216-WCB / A217 WC9
166	Bonnet *	A 216-WCB+ST6	A 217-WC9+ST6	A 217-WC6+ST6	A217-C12A+ST6
200	Stem	A 479-410-2	A 479-410-2	A 479-410-2	ASTM A 638-660
350	Disc	A 216-WCB-ST6	A 217-WC9+ST6	A 217-WC9+ST6	A182-F91+ST6 / A217-C12A+ST6
411	Gasket	Graphite	Graphite	Graphite	Graphite
452	Gland Flange	A 216-WCB	A 216-WCB	A 216-WCB	IS 2002-2(A 516-60)
456	Gland Bush	A 276-410	A 276-410	A 276-410	A 182-F22
461	Gland Packing	Graphite	Graphite	Graphite	Graphite
500	Spacer Ring	A 217-CA15 / A 182-F22	A 217-CA15 / A 182-F22	A 217-CA15 / A 182-F22	A217-CA15 / A182-F22
501	Thrust Ring	A 182-F22	A 182-F22	A 182-F22	A182-F22
502	Retaining Plate	IS 2062	IS 2062	IS 2062	IS 2062
515	Seat Ring	A 105+ST6	A 182-F22+ST6	A 182-F22+ST6	A217-C12A / A182-F91+ST6
544	Stem Nut	Al. Bronze	Al. Bronze	Al. Bronze	Al. Bronze
902.1/902.2	Stud	A 193-B7	A 193-B16	A 193-B16	A193-B16
920.1/920.2	Hex. Nut	A 194-2H	A 194-4 / 7	A 194-4 / 7	A194-4/7
961	Handwheel	SG IRON / CS	SG IRON / CS	SG IRON / CS	SG IRON / CS

\* Integral Bonnet back seat ST6 (HF)

**Testing**

Test / Test pressure	#900		#1500		#2500		Testing medium
	kg/cm <sup>2</sup>	psi	kg/cm <sup>2</sup>	psi	kg/cm <sup>2</sup>	psi	
Shell	238	3375	395	5625	659	9375	Water
Seat	174	2475	290	4125	484	6875	
Back Seat	174	2475	290	4125	484	6875	

**Pressure Temperature Rating - Standard Class**
**Rating for Group 1.1 Material : A 216 Gr. WCB <sup>(1)</sup>**

Temperature		# 900		# 1500		# 2500	
°F	°C	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>
-20 to 100	-29 to 38	2220.0	156.1	3705.0	260.5	6170.0	433.8
200	93.3	2035.0	143.1	3395.0	238.7	5655.0	397.6
300	148.9	1965.0	138.2	3270.0	229.9	5450.0	383.2
400	204.4	1900.0	133.6	3170.0	222.9	5280.0	371.2
500	260.0	1810.0	127.3	3015.0	212.0	5025.0	353.3
600	315.6	1705.0	119.9	2840.0	199.7	4730.0	332.6
650	343.3	1650.0	116.0	2745.0	193.0	4575.0	321.7
700	371.1	1590.0	111.8	2665.0	187.4	4425.0	311.1
750	398.9	1520.0	106.9	2535.0	178.2	4230.0	297.4
800	426.7	1235.0	86.8	2055.0	144.5	3430.0	241.2
850	454.4	955.0	67.1	1595.0	112.1	2655.0	186.7
900	482.2	690.0	48.5	1150.0	80.9	1915.0	134.6
950	510.0	410.0	28.8	685.0	48.2	1145.0	80.5
1000	537.8	255.0	17.9	430.0	30.2	715.0	50.3

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

**Rating for Group 1.9 Material : A 217 Gr. WC6 <sup>(1)(2)</sup>**

Temperature		# 900		# 1500		# 2500	
°F	°C	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>
-20 to 100	-29 to 38	2250.0	158.2	3750.0	263.7	6250.0	439.4
200	93.3	2250.0	158.2	3750.0	263.7	6250.0	439.4
300	148.9	2165.0	152.2	3610.0	253.8	6015.0	422.9
400	204.4	2080.0	146.2	3465.0	243.6	5775.0	406.0
500	260.0	1995.0	140.3	3325.0	233.8	5540.0	389.5
600	315.6	1815.0	127.6	3025.0	212.7	5040.0	354.3
650	343.3	1765.0	124.1	2940.0	206.7	4905.0	344.9
700	371.1	1705.0	119.9	2840.0	199.7	4730.0	332.6
750	398.9	1595.0	112.1	2660.0	187.0	4430.0	311.5
800	426.7	1525.0	107.2	2540.0	178.6	4230.0	297.4
850	454.4	1460.0	102.6	2435.0	171.2	4060.0	285.4
900	482.2	1350.0	94.9	2245.0	157.8	3745.0	263.3
950	510.0	955.0	67.1	1595.0	112.1	2655.0	186.7
1000	537.8	650.0	45.7	1080.0	75.9	1800.0	126.6
1050	565.6	430.0	30.2	720.0	50.6	1200.0	84.4
1100	593.3	290.0	20.4	480.0	33.7	800.0	56.2
1150	621.1	195.0	13.7	325.0	22.8	545.0	38.3
1200	648.9	125.0	8.8	205.0	14.4	345.0	24.3

1) Use Normalised and tempered material only.

2) Not to be used over 1100°F

**Rating for Group 1.10 Material : A 217 Gr. WC9 <sup>(1)(2)</sup>**

Temperature		# 900		# 1500		# 2500	
°F	°C	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>
-20 to 100	-29 to 38	2250.0	158.2	3750.0	263.7	6250.0	439.4
200	93.3	2250.0	158.2	3750.0	263.7	6250.0	439.4
300	148.9	2185.0	153.6	3640.0	255.9	6070.0	426.8
400	204.4	2115.0	148.7	3530.0	248.2	5880.0	413.4
500	260.0	1995.0	140.3	3325.0	233.8	5540.0	389.5
600	315.6	1815.0	127.6	3025.0	212.7	5040.0	354.3
650	343.3	1765.0	124.1	2940.0	206.7	4905.0	344.9
700	371.1	1705.0	119.9	2840.0	199.7	4730.0	332.6
750	398.9	1595.0	112.1	2660.0	187.0	4430.0	311.5
800	426.7	1525.0	107.2	2540.0	178.6	4230.0	297.4
850	454.4	1460.0	102.6	2435.0	171.2	4060.0	285.4
900	482.2	1350.0	94.9	2245.0	157.8	3745.0	263.3
950	510.0	1160.0	81.6	1930.0	135.7	3220.0	226.4
1000	537.8	800.0	56.2	1335.0	93.9	2230.0	156.8
1050	565.6	525.0	36.9	875.0	61.5	1454.0	102.2
1100	593.3	330.0	23.2	550.0	38.7	915.0	64.3
1150	621.1	205.0	14.4	345.0	24.3	570.0	40.1
1200	648.9	125.0	8.8	205.0	14.4	345.0	24.3

1) Use Normalised and tempered material only.

2) Not to be used over 1100°F

**Rating for Group 1.15 Material : A 217 Gr. C12A**

Temperature		# 900		# 1500		# 2500	
°F	°C	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>
-20 to 100	-29 to 38	2250.0	158.2	3750.0	263.7	6250.0	439.4
200	93.3	2250.0	158.2	3750.0	263.7	6250.0	439.4
300	148.9	2185.0	153.6	3640.0	255.9	6070.0	426.8
400	204.4	2115.0	148.7	3530.0	248.2	5880.0	413.4
500	260.0	1995.0	140.3	3325.0	233.8	5540.0	389.5
600	315.6	1815.0	127.6	3025.0	212.7	5040.0	354.3
650	343.3	1765.0	124.1	2940.0	206.7	4905.0	344.9
700	371.1	1705.0	119.9	2840.0	199.7	4730.0	332.6
750	398.9	1595.0	112.1	2660.0	187.0	4430.0	311.5
800	426.7	1525.0	107.2	2540.0	178.6	4230.0	297.4
850	454.4	1460.0	102.6	2435.0	171.2	4060.0	285.4
900	482.2	1350.0	94.9	2245.0	157.8	3745.0	263.3
950	510.0	1160.0	81.6	1930.0	135.7	3220.0	226.4
1000	537.8	1090.0	76.6	1820.0	128.0	3030.0	213.0
1050	565.6	1080.0	75.9	1800.0	126.6	3000.0	210.9
1100	593.3	905.0	63.6	1510.0	106.2	2515.0	176.8
1150	621.1	670.0	47.1	1115.0	78.4	1855.0	130.4
1200	648.9	430.0	30.2	720.0	50.6	1200.0	84.4

## Pressure Temperature Rating - Special Class

**Rating for Group 1.1 Material : A 216 Gr. WCB <sup>(1)</sup>**

Temperature		# 900		# 1500		# 2500	
°F	°C	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>
-20 to 100	-29 to 38	2250.0	158.2	3750.0	263.7	6250.0	439.4
200	93.3	2250.0	158.2	3750.0	263.7	6250.0	439.4
300	148.9	2220.0	156.1	3700.0	260.1	6170.0	439.4
400	204.4	2200.0	154.7	3665.0	257.7	6105.0	429.2
500	260.0	2200.0	154.7	3665.0	257.7	6105.0	429.2
600	315.6	2200.0	154.7	3665.0	257.7	6105.0	429.2
650	343.3	2145.0	150.8	3575.0	251.3	5960.0	419.0
700	371.1	2075.0	145.9	3455.0	242.9	5760.0	405.0
750	398.9	1905.0	133.9	3170.0	222.9	5285.0	371.6
800	426.7	1545.0	108.6	2570.0	180.7	4285.0	301.3
850	454.4	1195.0	84.0	1995.0	140.3	3320.0	233.4
900	482.2	860.0	60.5	1435.0	100.9	2395.0	168.4
950	510.0	515.0	36.2	855.0	60.1	1430.0	100.5
1000	537.8	320.0	22.5	535.0	37.6	895.0	62.9

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

**Rating for Group 1.9 Material : A 217 Gr. WC6 <sup>(1)(2)</sup>**

Temperature		# 900		# 1500		# 2500	
°F	°C	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>
-20 to 100	-29 to 38	2250.0	158.2	3750.0	263.7	6250.0	439.4
200	93.3	2250.0	158.2	3750.0	263.7	6250.0	439.4
300	148.9	2250.0	158.2	3750.0	263.7	6250.0	439.4
400	204.4	2250.0	158.2	3750.0	263.7	6250.0	439.4
500	260.0	2250.0	158.2	3750.0	263.7	6250.0	439.4
600	315.6	2250.0	158.2	3750.0	263.7	6250.0	439.4
650	343.3	2250.0	158.2	3750.0	263.7	6250.0	439.4
700	371.1	2200.0	154.7	3665.0	257.7	6110.0	429.6
750	398.9	2185.0	153.6	3645.0	256.3	6070.0	426.8
800	426.7	2160.0	151.9	3600.0	253.1	6000.0	421.8
850	454.4	2030.0	142.7	3385.0	238.0	5645.0	396.9
900	482.2	1760.0	123.7	2935.0	206.4	4895.0	344.2
950	510.0	1195.0	84.0	1995.0	140.3	3320.0	233.4
1000	537.8	810.0	56.9	1350.0	94.9	2250.0	158.2
1050	565.6	540.0	38.0	900.0	63.3	1500.0	105.5
1100	593.3	360.0	25.3	600.0	42.2	1000.0	70.3
1150	621.1	245.0	17.2	405.0	28.5	680.0	47.8
1200	648.9	155.0	10.9	255.0	17.9	430.0	30.2

1) Use Normalised and tempered material only.

2) Not to be used over 1100°F

**Rating for Group 1.10 Material : A 217 Gr. WC9 <sup>(1)(2)</sup>**

Temperature		# 900		# 1500		# 2500	
°F	°C	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>
-20 to 100	-29 to 38	2250.0	158.2	3750.0	263.7	6250.0	439.4
200	93.3	2250.0	158.2	3750.0	263.7	6250.0	439.4
300	148.9	2220.0	156.1	3695.0	259.8	6160.0	433.1
400	204.4	2185.0	153.6	3640.0	255.9	6065.0	426.4
500	260.0	2175.0	152.9	3620.0	254.5	6035.0	424.3
600	315.6	2165.0	152.2	3605.0	253.5	6010.0	422.5
650	343.3	2145.0	150.8	3580.0	251.7	5965.0	419.4
700	371.1	2120.0	149.1	3535.0	248.5	5895.0	414.5
750	398.9	2120.0	149.1	3535.0	248.5	5895.0	414.5
800	426.7	2120.0	149.1	3535.0	248.5	5895.0	414.5
850	454.4	2030.0	142.7	3385.0	238.0	5645.0	396.9
900	482.2	1800.0	126.6	3000.0	210.9	5000.0	351.5
950	510.0	1415.0	99.5	2360.0	165.9	3930.0	276.3
1000	537.8	1005.0	70.7	1670.0	117.4	2785.0	195.8
1050	565.6	655.0	46.1	1095.0	77.0	1820.0	128.0
1100	593.3	410.0	28.8	685.0	48.2	1145.0	80.5
1150	621.1	255.0	17.9	430.0	30.2	715.0	50.3
1200	648.9	155.0	10.9	255.0	17.9	430.0	30.2

1) Use Normalised and tempered material only.

2) Not to be used over 1100°F

**Rating for Group 1.15 Material : A 217 Gr. C12A**

Temperature		# 900		# 1500		# 2500	
°F	°C	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>	PSI	Kg/cm <sup>2</sup>
-20 to 100	-29 to 38	2250.0	158.2	3750.0	263.7	6250.0	439.4
200	93.3	2250.0	158.2	3750.0	263.7	6250.0	439.4
300	148.9	2250.0	158.2	3750.0	263.7	6250.0	439.4
400	204.4	2250.0	158.2	3750.0	263.7	6250.0	439.4
500	260.0	2250.0	158.2	3750.0	263.7	6250.0	439.4
600	315.6	2250.0	158.2	3750.0	263.7	6250.0	439.4
650	343.3	2250.0	158.2	3750.0	263.7	6250.0	439.4
700	371.1	2200.0	154.7	3665.0	257.7	6110.0	429.6
750	398.9	2185.0	153.6	3645.0	256.3	6070.0	426.8
800	426.7	2160.0	151.9	3600.0	253.1	6000.0	421.8
850	454.4	2030.0	142.7	3385.0	238.0	5645.0	396.9
900	482.2	1800.0	126.6	3000.0	210.9	5000.0	351.5
950	510.0	1415.0	99.5	2360.0	165.9	3930.0	276.3
1000	537.8	1260.0	88.6	2105.0	148.0	3505.0	246.4
1050	565.6	1260.0	88.6	2105.0	148.0	3505.0	246.4
1100	593.3	1130.0	79.4	1885.0	132.5	3145.0	221.1
1150	621.1	835.0	58.7	1395.0	98.1	2320.0	163.1
1200	648.9	540.0	38.0	900.0	63.3	1500.0	105.5