

Globe Valve

SICCA 800-2500 GLF

Class 800-2500
NPS ½"-2"
Forged Steel
Bolted Bonnet or
Welded Bonnet
Socket Weld Ends

Type Series Booklet



Legal information/Copyright

Type Series Booklet SICCA 800-2500 GLF

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Globe Valves

Globe Valves with Gland Packing to ANSI/ASME

SICCA 800-2500 GLF



Main applications

- Boiler feed applications
- Fossil-fuelled power stations
- Petrochemical industry
- Pipelines and tank farms
- Refineries
- Process engineering

Fluids handled

- Service water
- Steam
- Fluids containing gas
- Gas
- Hot water
- Heating water
- Condensate
- Cooling water
- Fire-fighting water
- Fluids containing mineral oils
- Oil
- Lubricants
- Grey water
- Feed water
- Thermal oil
- Wash water

Operating data

Operating properties

Characteristic	Value
Nominal pressure	Class 800 - 2500
Nominal size	NPS ½" - 2"
Max. permissible pressure	431 bar / 6250 PSI
Max. permissible temperature	650 °C / 1200 °F

Selection as per pressure/temperature ratings (⇒ Page 5)

Body materials

Overview of available materials

Material	Temperature limit
ASTM A 105	Up to 425 °C / 800 °F
ASTM A 182 316L	Up to 450 °C / 850 °F
ASTM A 182 F22	Up to 593 °C / 1100 °F
ASTM A 182 F91	Up to 650 °C / 1200 °F

Design details

Design

- Globe valve to API 602 (Class 800 / 1500)
- Globe valve to ASME B16.34 (Class 2500)
- Tested to API 598
- Body made of forged steel
- Straight-way pattern (Class 800 / 1500)
- Straight-way Y-pattern (Class 2500)
- Bolted bonnet (Class 800)
- Welded bonnet (Class 1500 / 2500)
- Hard-faced seat/disc interface (13 % chrome steel / Stellite)
- Fully confined bonnet gasket (Class 800)
- Two-piece self-aligning gland follower
- Graphite gland packing, packing end rings made of braided graphite
- Solid valve disc
- Stem with burnished shank
- Rotating stem
- Rising stem
- Rising handwheel
- Outside screw
- Outside yoke
- Integral seat - ST6 (HF)
- The valves satisfy the safety requirements of Annex I of the European Pressure Equipment Directive 97/23/EC (PED) for fluids in Groups 1 and 2.

Variants

- Electric actuators (Class 1500 / 2500)
- Locking device
- Position indicator
- Other material variants
- Model with flanged ends (Class 150, 300, 600)
- Threaded ends
- Butt weld ends

Product benefits

Shut-off

- Seats hard-faced (13% chrome steel / Stellite 6) to minimise erosion (recommended by KSB)
- Perfect contact at seat/disc interface ensures tight shut-off.

Body seal

- Fully confined gasket with controlled compression ensures leak-proof joint and prevents unwinding of stainless steel strip.
- Welded body/bonnet joint provides added safety at high operating pressures and temperatures.

Stem seal

- Die-moulded endless graphite packing rings reliably seal the stem passage.
- Inconel-reinforced braided packing end rings offer smooth wiping action and prevent extrusion of graphite.
- Burnished stem (0.2 Ra) and smooth stuffing box surfaces extend the service life of the gland packing.

Gland follower

- Two-piece self-aligning gland follower ensures even compression.
- Additional safety and blow-out protection by standard back seat.

Related documents

- Operating manual 0570.87

On all enquiries/orders please specify

1. Type
2. Class
3. Nominal size
4. Design pressure/temperature
5. Operating pressure
6. Operating temperature
7. Differential pressure
8. Material
9. Fluid handled
10. Flow rate
11. Pipe connection
12. Pipe schedule
13. Variants
14. Number of type series booklet

Pressure/temperature ratings

Permissible operating pressures in bar at temperatures in °C (to ASME B 16.34 Standard Class)

Class	Material	-29 to +38	93	149	204	260	316	343	371	399	427	454	482	510	538	566	593	621	649
150	A 105 ¹⁾	20	18	16	14	12	10	9	8	7	6	5	3	2	1	-	-	-	-
300		51	47	45	44	42	39	38	37	35	28	22	186	9	6	-	-	-	-
600		102	94	90	87	83	78	76	73	70	57	44	32	19	12	-	-	-	-
800 ²⁾		136	125	120	117	111	105	101	98	93	76	59	42	25	16	-	-	-	-
1500		256	234	226	219	208	196	189	184	175	142	110	79	47	30	-	-	-	-
2500		425	390	376	364	347	326	315	305	292	237	183	132	79	49	-	-	-	-
150	A 182 F22 ³⁾	20	18	16	14	12	10	9	8	7	6	5	3	2	1	1	1	1	1
300		52	52	50	49	46	42	41	39	37	35	33	31	27	18	12	8	5	3
600		103	103	100	97	92	83	81	78	73	70	67	62	52	37	24	15	9	6
800 ²⁾		138	138	134	130	122	111	108	105	98	93	90	83	71	49	32	20	12	8
1500		259	259	251	243	229	209	203	196	183	175	168	155	133	92	60	38	24	14
2500		431	431	419	405	382	348	338	326	305	292	280	258	222	154	100	63	39	24

Permissible operating pressures in PSI at temperatures in °F (to ASME B 16.34 Standard Class)

Class	Material	-20 to +100	200	300	400	500	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
150	A 105 ¹⁾	285	260	230	200	170	140	125	110	95	80	65	50	35	20	-	-	-	-
300		740	680	655	635	605	570	550	530	505	410	320	230	135	85	-	-	-	-
600		1480	1360	1310	1265	1205	1135	1100	1060	1015	825	640	460	275	170	-	-	-	-
800 ²⁾		1975	1810	1745	1690	1610	1515	1465	1415	1350	1100	850	615	365	225	-	-	-	-
1500		3705	3395	3270	3170	3015	2840	2745	2665	2535	2055	1595	1150	685	430	-	-	-	-
2500		6170	5655	5450	5280	5025	4730	4575	4425	4230	3430	2655	1915	1145	715	-	-	-	-
150	A 182 F22 ³⁾	290	260	230	200	170	140	125	110	95	80	65	50	35	20	20	20	20	15
300		750	750	730	705	665	605	590	570	530	510	485	450	385	265	175	110	70	40
600		1500	1500	1455	1410	1330	1210	1175	1135	1065	1015	975	900	755	535	350	220	135	80
800 ²⁾		2000	2000	1940	1880	1775	1615	1570	1515	1420	1355	1300	1200	1025	710	465	295	180	110
1500		3750	3750	3640	3530	3325	3025	2940	2840	2660	2540	2435	2245	1930	1335	875	550	345	205
2500		6250	6250	6070	5880	5540	5040	4905	4730	4430	4230	4060	3745	3220	2230	1455	915	570	345

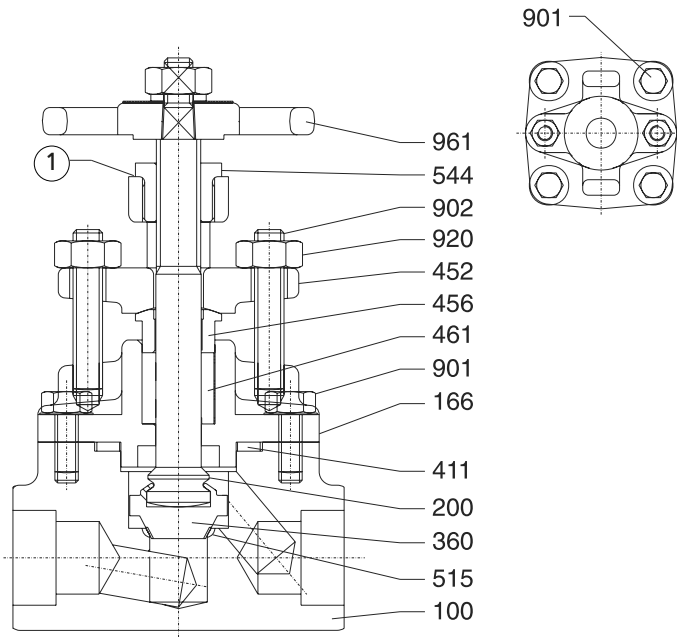
Test pressures

Test	Test medium	Class 800 ⁴⁾		Class 1500 ⁴⁾		Class 2500 ⁵⁾	
		bar	psi	bar	psi	bar	psi
Shell ⁶⁾	Water	208	2975	388	5625	647	9375
Leak test (back seat)		152	2175	285	4125	474	6875
Leak test (seat) ⁷⁾		152	2175	285	4125	474	6875

- 1) Although Standard Class A 105 can be used for temperatures exceeding approx. 427 °C (800 °F) prolonged use at such temperatures is not recommended.
- 2) To API 602
- 3) A 182 F22 normalised and tempered
- 4) To API 598
- 5) To ASME B 16.34
- 6) F316L: 166 bar / 2400 PSI
- 7) F316L: 122 bar / 1775 PSI

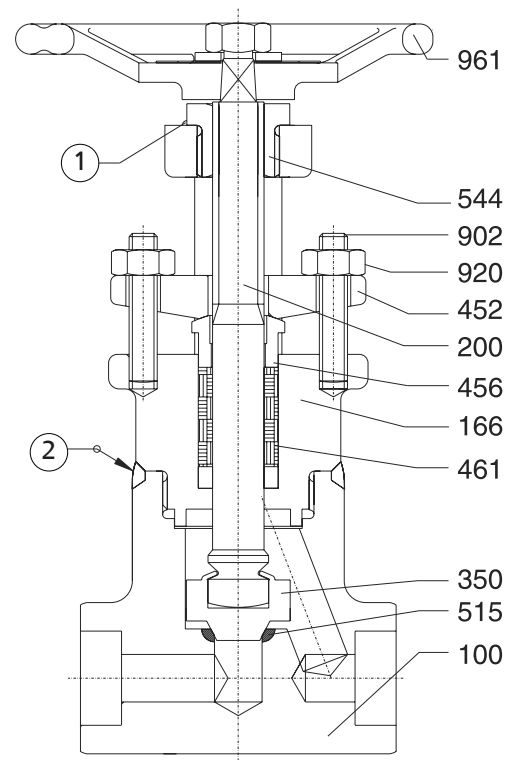
Materials

SICCA 800 GLF



① Tack-welded

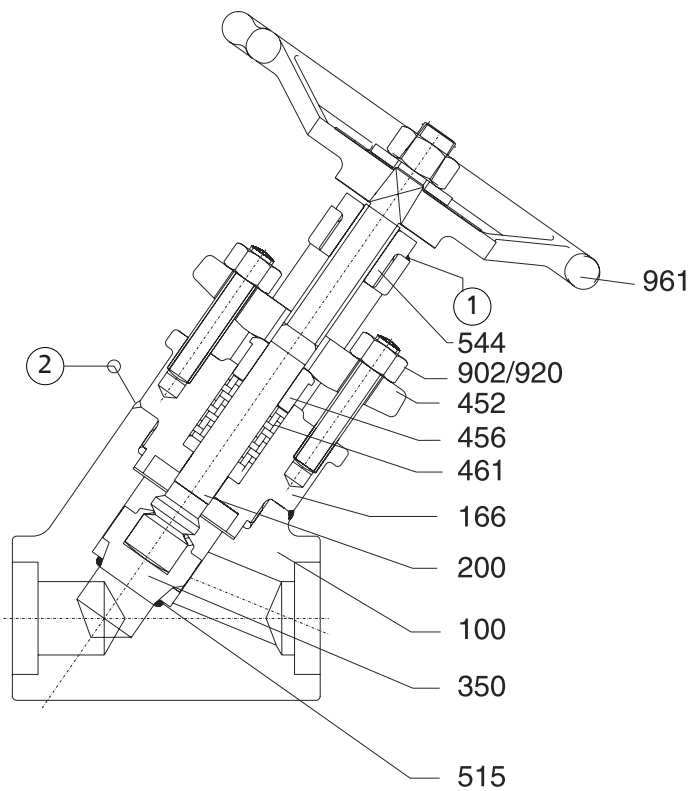
SICCA 1500 GLF



① Tack-welded

② Seal-welded

SICCA 2500 GLF



① Tack-welded

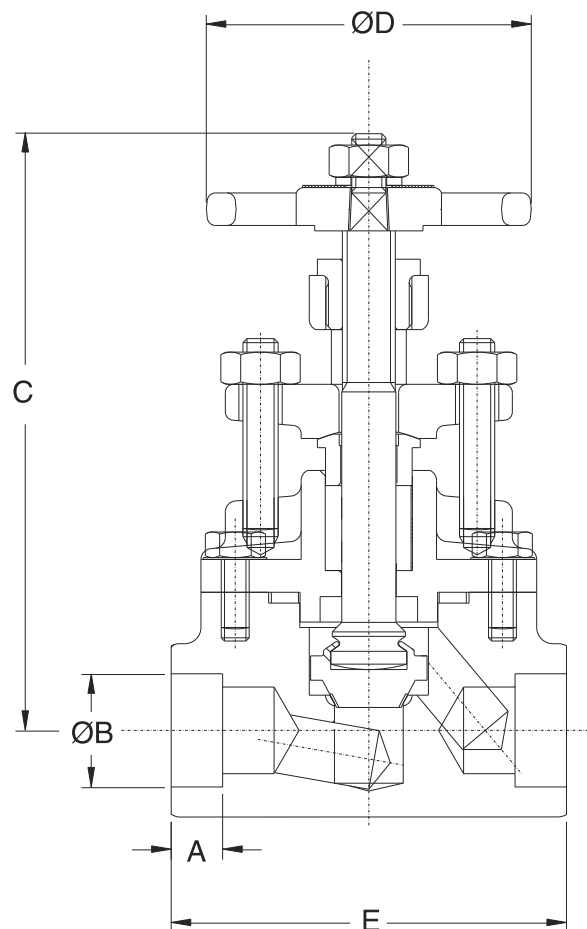
② Seal-welded

Overview of available materials

Part No.	Description	Class	Material	Note
100	Body	800	A 105	
			A 182-F316L	
		1500 / 2500	A 105	
			A 182 F22	
166	Yoke	800	A 182 F91	
			A105	
		1500 / 2500	A 182-F316L	
			A 105	
200	Stem	800	A 182 F22	
			A 182 F91	
		1500 / 2500	A 479-410-2	
			A 276-316L	
350	Valve disc	800	A 479 XM19	
			A 276-410 (H)	
		1500	A 276-316L	
			A 276-410 (H)	
411	Joint ring	800	SS 304+ST6	
			SS 304+ST6	
		1500	Stainless steel/graphite	
			Stainless steel/graphite	
452	Gland follower	800	A 276-410	
			A 276-316L	
		1500 / 2500	A 276-410	
			A 182 F22	
461	Gland packing	800 / 1500 / 2500	Graphite	
465	Lower gland section	800	A 276-410	
			A 276-316L	
		1500 / 2500	A 276-410	
515	Seat ring	800	ST6	Integral
		1500 / 2500	ST6	Integral
544	Threaded bush	800 / 1500 / 2500	A 582-416	
901	Hexagon head bolt	800	A 193-B7	
			A 193-B8M	
902	Stud	800	A193-B6	
			A 193-B8M	
		1500 / 2500	A 193-B8M Cl.2	
920	Nut	800	A 194-2H	
			A 194-B8	
		1500 / 2500	A 194-2H	
961	Handwheel	800 / 1500 / 2500	IS 2108-BM 340 / nodular cast iron	

Dimensions

Dimensions of SICCA 800 GLF



Dimensions in mm

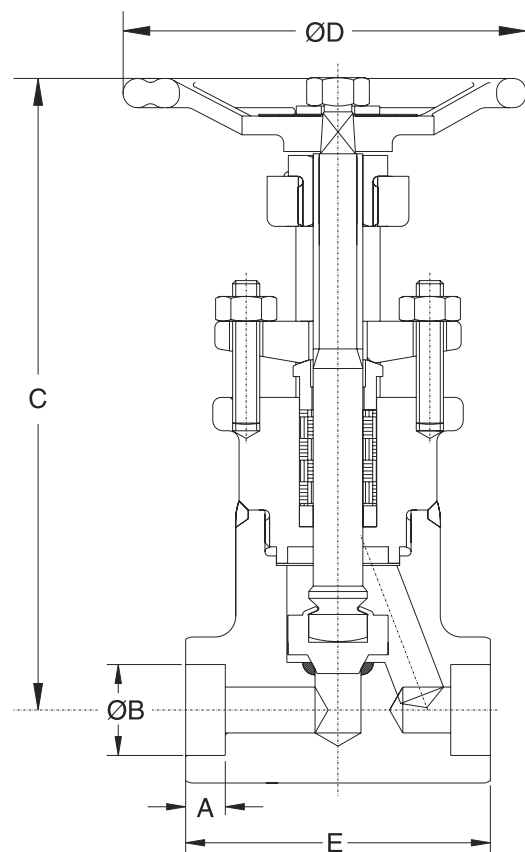
Class	NPS	E	Ø B	C ⁸⁾	Ø D	A	[kg]
800	1/2"	73	21,8	125	75	9,5	1,5
	3/4"	82	27,2	142	75	12,5	2,0
	1"	108	33,9	180	120	12,5	3,0
	1 1/2"	152	48,8	220	144	12,5	6,5
	2"	148	61,2	285	144	16,0	10,5

Mating dimensions - Standards

Face-to-face lengths: Manufacturer's standard
 Threaded ends NPT (F): ASME B 1.20.1
 Socket weld ends: ASME B 16.11

8) Open

Dimensions of SICCA 1500 GLF



Dimensions in mm

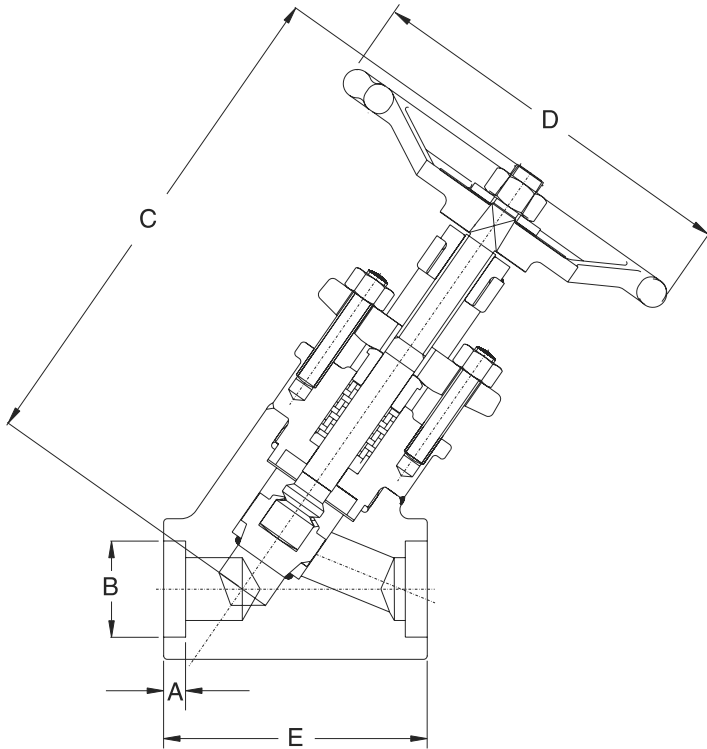
Class	NPS	E	ØB	C ⁹⁾	ØD	A	[kg]
1500	1/2"	73	21,8	180	127	9,5	2,0
	3/4"	94	27,2	230	145	12,5	4,5
	1"	122	33,9	250	145	12,5	6,5
	1 1/2"	160	48,8	315	203	12,5	11,5
	2"	178	61,2	335	203	16,0	13,0

Mating dimensions - Standards

Face-to-face lengths: Manufacturer's standard
Socket weld ends: ASME B 16.11

⁹⁾ Open

Dimensions of SICCA 2500 GLF



Dimensions in mm

Class	NPS	E	ØB	C ¹⁰⁾	ØD	A	[kg]
2500	1/2"	85	21,8	195	127	9,5	2,0
	3/4"	98	27,2	230	145	12,5	4,5
	1"	104	33,9	250	145	12,5	6,5
	1 1/2"	144	48,8	315	203	12,5	11,5
	2"	144	61,2	400	255	16,0	13,0

Mating dimensions - Standards

Face-to-face lengths: Manufacturer's standard
Socket weld ends: ASME B 16.11

Globe valves should always be installed in such a way that the actual flow direction of the fluid matches the arrow on the body, unless otherwise requested by the customer.

Notes on installation

The valve bodies are marked with an arrow indicating the flow direction.

¹⁰⁾ Open



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