

Globe Valve

ECOLINE GLV 150-300

Class 150-300
NPS 2"-12"
Stainless Steel
Bolted Bonnet
Flanged Ends

Type Series Booklet



Legal information/Copyright

Type Series Booklet ECOLINE GLV 150-300

All rights reserved. The contents provided herein must neither be distributed, copied, reproduced, edited or processed for any other purpose, nor otherwise transmitted, published or made available to a third party without the manufacturer's express written consent.

Subject to technical modification without prior notice.

© 17.05.2013

Globe Valves

Globe Valves with Gland Packing

ECOLINE GLV 150-300



Main applications

- Chemical industry
- Petrochemical industry
- Pipelines and tank farms
- Refineries
- Process engineering

Fluids handled

- Steam
- Gas
- Fluids containing gas
- High-temperature hot water
- Fluids containing mineral oils
- Oil
- Feed water

Operating data

Operating properties

Characteristic	Value
Nominal pressure	Class 150 - 300
Nominal size	NPS 2" - 12"
Max. permissible pressure	50 bar / 720 PSI
Max. permissible temperature	816 °C / 1500 °F

Selection as per pressure/temperature ratings (⇒ Page 4)

Body materials

Overview of available materials

Material	Temperature limit
ASTM A 351 CF8	Up to 816 °C / 1500 °F
ASTM A 351 CF8M	Up to 816 °C / 1500 °F

Other materials on request.

Design details

Design

- Globe valve to ASME B16.34
- Tested to API 598
- Compact design to API 603
- Valve made of corrosion-resistant materials
- Body made of stainless steel
- Bolted bonnet
- Outside screw
- Rotating stem
- Stem with burnished shank
- Stem nut made of nickel steel
- Rising handwheel
- Outside yoke
- Yoke head suitable for mounting electric and pneumatic actuators (DIN ISO 5210)
- Fully confined bonnet gasket
- Stem sealed by gland packing
- Two-piece self-aligning gland follower
- Die-moulded graphite gland packing, packing end rings made of braided graphite
- Stainless steel/graphite gaskets
- Back seat
- Integrated seat ring
- Minimum wall thickness as per ASME B16.34
- 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.
- The valves do not have a potential internal source of ignition and can be used in potentially explosive atmospheres, Group II, category 2 (zones 1+21) and category 3 (zones 2+22) to ATEX 94/9/EC.

Variants

- Hard-faced back seat
- Hard-faced sealing surface (single or double)
- PTFE packing
- PTFE gasket
- Drain plug
- Locking device
- Position indicator
- Limit switches
- Grease-free version
- Outside screw design with top flange to ISO 5210
- Gearboxes
- Electric actuators

- Non-destructive testing, e.g. radiographic testing
- NACE standard
- Other flange designs
- Larger nominal sizes and other variants on request

- Stem nut made of nickel steel is suitable for numerous applications, particularly fluids which must not come into contact with component materials containing copper.

Extended maintenance-free service life

- Integral seating surface is highly resistant to wear and easy to repair after long-term operation.

Product benefits

Long gland life and high functional reliability

- Stem with shank burnished to a surface finish of 0.2 µm for reduced friction, lower actuating torque and improved sealing to atmosphere.
- Packing end rings enable higher compressive force by gland follower and prevent extrusion of middle graphite packing rings.
- Two-piece self-aligning gland follower prevents distortion on stem surface caused by improper assembly.

Reliable sealing and longer service life

- Male/female joint between body and bonnet prevents excessive compression of fully confined gasket, resulting in longer gasket life and improved sealing performance.
- Potential internal and external leakage points eliminated by integral back seat and body seat.

Additional safety and blow-out protection

- Standard metal back seat prevents blow-out of stem and other internal components from the valve body and bonnet as a result of fluid pressure inside the valve body.

Versatile application

Related documents

- Operating manual 7255.81

On all enquiries/orders please specify

- Type
- Class
- Nominal size
- Pressure rating
- Temperature rating
- Differential pressure
- Fluid handled
- Material
- Trim material (API trim number)
- Line connection
- Variants
- Number of type series booklet

Pressure/temperature ratings

Permissible operating pressures in bar at a temperature of °C (to ASME B16.34)

Class	Material	-29 to 38	93	149	204	260	316	343	371	399	427	454	482	510	538	566	593	621	649	677	704	732	760	788	816
150	A 351 CF8 ¹⁾	19,0	15,9	14,1	13,1	11,7	9,7	8,6	7,6	6,6	5,5	4,5	3,4	2,4	1,4	1,4 2)	1,4 2)	1,4 2)	1,4 2)	1,4 2)	1,4 2)	1,4 2)	1,4 2)	1,4 2)	1,0 2)
300		49,6	41,4	37,2	34,1	32,1	30,3	29,6	29,0	28,6	27,9	27,2	26,9	26,2	24,5	22,4	17,6	14,1	11,4	9,3	7,9	6,6	5,2	4,1	2,8
150	A 351 CF8M ¹⁾	19,0	16,2	14,8	13,4	11,7	9,7	8,6	7,6	6,6	5,5	4,5	3,4	2,4	1,4	1,4 2)	1,4 2)	1,4 2)	1,4 2)	1,4 2)	1,4 2)	1,4 2)	1,4 2)	1,4 2)	1,0 2)
300		49,6	42,7	38,6	35,5	33,1	31,0	30,3	30,0	29,3	29,0	29,0	28,6	26,5	25,2	24,8	21,0	16,2	12,8	10,0	7,9	6,6	5,2	4,1	2,8

Permissible operating pressures in PSI at a temperature of °F (to ASME B16.34)

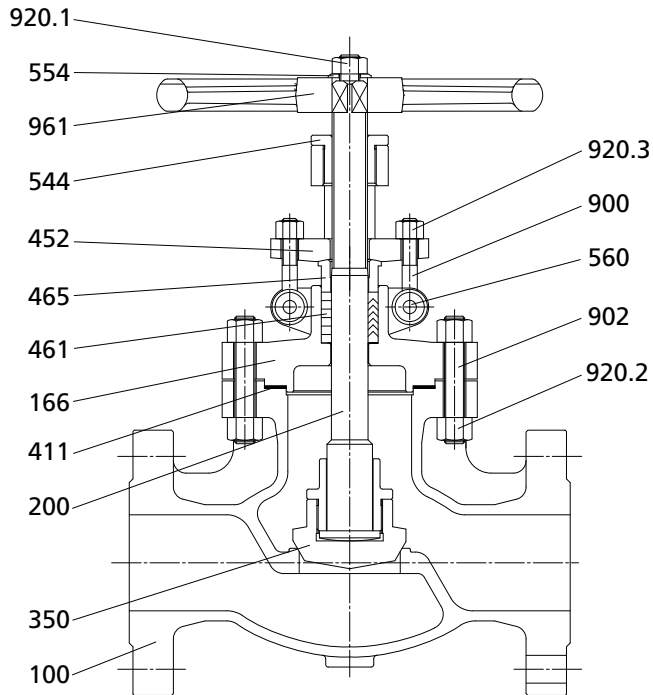
Class	Material	-20 to 100	200	300	400	500	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
150	A 351 CF8 1)	275	230	205	190	170	140	125	110	95	80	65	50	35	20	20 2)	20 2)	20 2)	20 2)	20 2)	20 2)	20 2)	20 2)	20 2)	15 2)
300		720	600	540	495	465	440	430	420	415	405	395	390	380	355	325	255	205	165	135	115	95	75	60	40
150	A 351 CF8M 1)	275	235	215	195	170	140	125	110	95	80	65	50	35	20	20 2)	20 2)	20 2)	20 2)	20 2)	20 2)	20 2)	20 2)	20 2)	15 2)
300		720	620	560	515	480	450	440	435	425	420	415	385	365	360	305	235	185	145	115	95	75	60	40	

Test pressures

Test	Test medium	Class 150		Class 300	
		bar	psi	bar	psi
Shell	Water	32	450	78	1125
Leak test (seat)		23	315	56	815
Leak test (back seat)		23	315	56	815
Leak test (seat)	Air	4 to 7	60 to 100	4 to 7	60 to 100

¹⁾ At temperatures over 538 °C (1000 °F), use only when carbon content is 0.04% or higher.
²⁾ For butt weld end valves only. Flanged end ratings terminate at 538 °C (1000 °F).

Materials



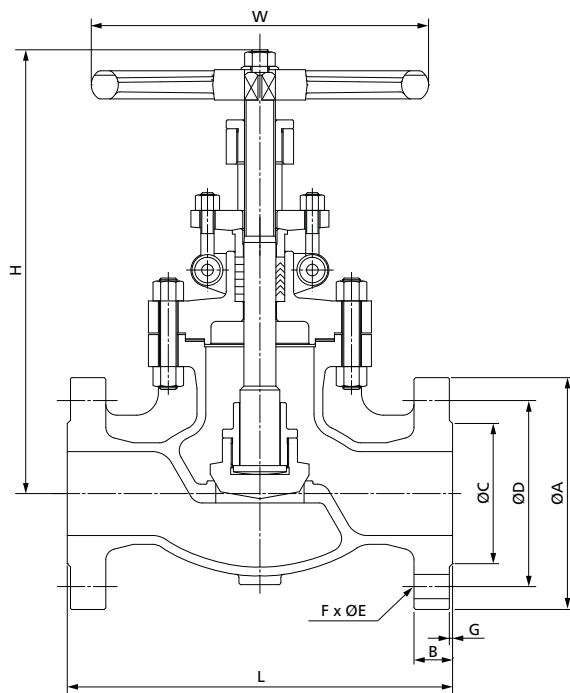
Overview of available materials

Part No.	Description	Material	
		A 351 CF8	A 351 CF8M
100	Body	A 351 CF8	A 351 CF8M
350	Valve disc	A 276 304	A 276 304
200	Stem	A 276 304	A 276 316
411	Joint ring	Stainless steel/graphite	
166	Yoke	A 351 CF8	A 351 CF8M
461	Gland packing	Graphite	
465	Lower gland section	A 276 304	A 276 316
452	Gland follower	A 351 CF8	A 351 CF8
544	Threaded bush	A 439 D2	A 439 D2
961	Handwheel	A 395 65 45 15	A 395 65 45 15
554	Washer	A 276 420	A 276 420
920.1	Handwheel nut	A 194 8	A 194 8
920.2	Nut	A 194 8	A 194 8
902	Stud	A 193 B8	A 193 B8
560	Pin	A 276 304	A 276 304
900	Eyebolt	A 193 B8	A 193 B8
920.3	Nut	A 194 8	A 194 8

Trim materials

Part No.	Description	Trim 2	Trim 10
		304 / 304	316 / 316
100	Body	304 stainless steel	316 stainless steel
350	Valve disc	304 stainless steel	316 stainless steel
200	Stem	304 stainless steel	316 stainless steel

Dimensions



Dimensions in mm

Class	NPS	L	H ³⁾	W	B	G	ØC	ØD	ØA	F x ØE	[kg]
150	2"	203	274,0	160	15,7	1,6	91,9	120,7	152	4 x 19,1	11
	2 ½"	216	379,5	200	17,5	1,6	104,6	139,7	178	4 x 19,1	25
	3"	241	400,0	224	19,1	1,6	127,0	152,4	191	4 x 19,1	34
	4"	292	469,0	280	23,9	1,6	157,2	190,5	229	8 x 19,1	56
	6"	406	649,0	350	25,4	1,6	215,9	241,3	279	8 x 22,4	97
	8"	495	794,0	450	28,4	1,6	269,7	298,5	343	8 x 22,4	165
	10"	622	924,0	600	30,2	1,6	323,9	362,0	406	12 x 25,4	285
	12"	698	1060,5	700	31,8	1,6	381,0	431,8	483	12 x 25,4	450
300	2"	267	276,0	200	22,4	1,6	91,9	127,0	165	8 x 19,1	16
	2 ½"	292	381,0	224	25,4	1,6	104,6	149,4	191	8 x 22,4	31
	3"	318	405,0	280	28,4	1,6	127,0	168,1	210	8 x 22,4	39
	4"	356	469,0	350	31,8	1,6	157,2	200,2	254	8 x 22,4	64
	6"	445	690,0	400	36,6	1,6	215,9	269,7	318	12 x 22,4	138
	8"	559	799,0	500	41,1	1,6	269,7	330,2	381	12 x 25,4	273
	10"	622	924,0	600	47,8	1,6	323,9	387,4	445	16 x 28,4	468
	12"	711	1060,5	700	50,8	1,6	381,0	450,9	521	16 x 31,8	692

Mating dimensions - Standards

Face-to-face lengths: ASME B16.10
Flanges: ASME B16.5

Globe valves should always be installed in such a way that the actual flow direction of the medium 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.

³⁾ Open

