



Application:

Globe valves are used as a shut-off valve for non-aggressive liquids, saturated steam, oil, air, crude oil and its products.

Characteristics of working conditions :

Pressure-temperature ratings as per ANSI B 16.34

Technical description:

Design of MSA cast steel globe valves complies with API 600, BS 18 73.

Stem has outside screw and is either rising, rotary or rising, non-rotary. Standard stem screw is ANSI B 1.5, ACME type. Stem and stuffing box area meet requirements of API 600. Stem nut is firmly seated in yoke bonnet head or on antifriction bearings.

Bonnet joint is done by bonnet bolts and nuts. Globe valves have cast disc, which is moving perpendicularly to a sealing seat.

Seats are screwed and secured by a sealing weld around port circumference. Minimum thickness of seat and disc sealing surfaces overlay is 1,6 mm, hardness depends on type of overlay material.

Globe valves are controlled by hammer-blow handwheel or in combination with bevel gear box.

Stem sealing is done by braided and die-formed graphite rings. Qualities of MSA globe valves packings meet requirements of 1990 Clean Air Act, Amendment.

Face-to-face dimensions:

Main and connecting dimensions of standard design are evident from the table below.

Materials:

Standard globe valves are supplied of material ASTM A 216 WCB, TRIM Nr. 8 according to API 600.

Other material variants : A 352 LCC, A 217 WC6, A 217C5, A 217 C 12 with corresponding Trim according to API 600.

Testing:

Globe valves are pressure tested according to API 598: shell test, backseat test, closure low pressure test (if specified in an order), closure high pressure test.

Installation:

Globe valves can be installed into pipeline in any position, however position with vertical stem axis is recommended.

Order specification:

Type number, nominal size, pressure class, connection, actuation type, trim, tests required, accompanying documentation.

CLASS 300

NPS	D	D ₁	D ₂	D ₃	L=L ₁	a	f	n	d	H _{CLOSED}	H _{OPEN}	z	s	Dk	d ₁	kg
2"	51	165	127	92	267	23	2	8	19	385	425	40	10	200	3/4"	30
3"	77	210	150	127	318	29	2	8	22	455	505	50	12	250	1"	57
4"	102	254	200	157	356	32	2	8	22	520	570	50	13	400	1 1/8"	84
6"	152	318	270	216	445	37	2	12	22	580	640	60	16	450	1 3/8"	162
8"	203	381	330,2	270	559	42	2	12	25	790	848	58	18	500	1 5/8"	280
10"	254	444	387,4	324	622	47,8	2	16	28,5	1080	1080	70	19	500	1 3/4"	415
12"	305	521	450,9	381	711	51	2	16	32	1245	1245	82	21	710	2"	480

Basic standards for design

Basic design	BS 18 73, API 600
Face-to-face dimensions	ASME B 16.10
Flanges dimensions	ASME B 16.5
Butt-weld ends dimensions	ASME B 16.25
Testing	API 598
Pressure-temperature rating	ASME B 16.34

Sealing - material variants (x)

Pos.	Name	Class	Body material			
			WC6	LCC	WC6	C5
10	Bonnet gasket	150,300	Spiral wound graphite			
41	Packing	600	Braided graphite cord			
42			Die formed graphite rings			

{ X } or according to customer's requirements

TRIM - materials according to API 600

Poz.	Name	TRIM Nr.				
		1	5	8	11	12
4a	Disc sealing surface	13 Cr overlay	Stellite 6	13 Cr overlay	Monel overlay	316 overlay
5a	Seat sealing surface	13 Cr overlay		Stellite 6		
6	Stem		A 276 410 T			
7	Backseat insert		A 182 F 6a Cl.4, A 217 CA-15			
11	Cap nut		A 182 F 6a			
36	Stuffing box bushing		A 182 F 6a, A 217 CA-15		Monel	A 182 F 316
37	Lantern ring		A 182 F 6a, A 217 CA-15			
49	Washer		A 182 F 6a			
50	Pin		A 182 F 6a			

Standard material specification (*)

Pos.	Name	WC6	LCC	WC6	C5	C12
	TRIM Nr.	1, 5, 8, 11, 12	12	5, 8	5	5
1	Body	A 216 WCB	A 352 LCC	A 217 WC6	A 217 C5	A 217 C12
2	Bonnet	A 216 WCB	A 352 LCC	A 217 WC6	A 217 C5	A 217 C12
4	Disc-variants	A 182 F6a	A 182 F 316	A 182 F6a	A 182 F9+overlay	A 182 P9+overlay
		A 216 WCB + overlay	A 352 LCC+overlay	A 182 F9+ overlay	A 217 C5+overlay	A 217 C12+ overlay
		A 105 + overlay	A 217 WC6+overlay			
5	Seat	A 106 B + overlay	A 350 LF2mod.+overlay	A 182 F5 + overlay	A 182 F5 + overlay	A 182 F321+overlay
8	Bolt	A 193 B7	A 320 L7M	A 193 B7	A 193 B7	A 193 B7
9	Nut	A 194 2H	A 194 7M	A 194 2H	A 194 2H	A 194 2H
12	Name plate			AISI 304		
31	Handwheel			ASTM A47, A536		
32	Gland flange			A 105, [ČSN 41 1523]		
33	Stem nut			A 439 D2 (Ni - Resist)		
34	Handwheel nut			ASTM A 47		
35	Bonnet			A 216 WCB		
38	Eyebolt			A 193 B7, A 307 Gr B		
39	Pin			carbon steel [ČSN 41 1523]		
40	Nut			A 194 2H		
43	Bearing			Commercial		
44	Grease fitting			Commercial		
45	Bolt			A 193 B7		
46	Nut			A 194 2H		
47	Guide			carbon steel [ČSN 41 1523]		
48	Bolt			A 193 B 7		
53	Set screw			Commercial		

(*) - body materials also according to customer's requirements

Change of technical data
and drawings reserved