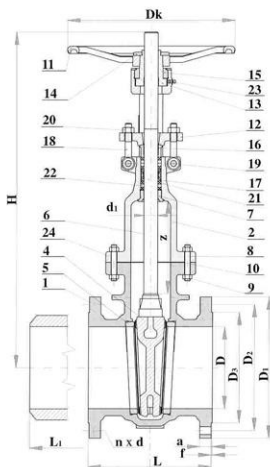


Gate valve

C 09.2 [S 09]

CLASS 150



Application:

As a shut-off valve for: non-corrosive liquids, water, saturated steam, oil, air, crude oil and crude oil products. Operation parameters are in accordance with ASME/ANSI B 16.34 standard. Application for other working media or higher temperatures must be consulted with the manufacturer. Standard ambient temperature: from -13 F to + 122 F (-25°C to +50°C). Application for different working conditions must be discussed with the manufacturer.

Characteristics of working conditions for materials:

Pressure-temperature ratings per ANSI B16.34.

Technical description:

Steel gate valve design complies to API 600 and BS 1414.

Gate valves are yoke, flanged or with butt-weld ends, with full bore, flexible wedge. Bodies, bonnets and yokes are cast. Wedges may be cast or forged. All wedges are guided. Sealing seats are screwed or welded into a body. Seats have hard-metal overlay.

The valves have rising, non-rotary stem bolted body-bonnet joint. Standard stem threads are Acme 2G-LH.

Gate valves are controlled by handwheel. After agreement they can be supplied with bevel gear box or electric servomotor. Larger sizes 8" of gate valves provided with bearings for easier operation.

Packing material - die formed rings of expanded graphite and braided graphite rings. Gate valve packing meet requirements of Clean Air Amendment Act of 1990.

Upon special customer's requirement, gate valves may be equipped with: drainage, deaeration, - bypassing from interspace, bypasses.

Connection:

Main and connecting dimensions are evident from table Below.

Materials:

Gate valves are made of the following materials: ASTM A 216 WCB, A 352 LCC, A 352 LCB, A 217 WC6, A 217 C5, A 217 C12. Standard gate valve trims are TRIM 1, 5, 8, 10, 11 and 12 according to API 600.

Testing:

Gate valves are pressure tested according to API 598: shell test, backseat tightness test, closure tightness by low pressure, closure tightness by high pressure (if requested in an order).

CLASS 150

NPS	D	D ₁	D ₂	D ₃	L	L ₁	a	f	n	d	H	z	Dk	d ₁	kg
2"	51	152	121	92	178	216	16	2	4	19	325	72	200	3/4"	20,5
2 1/2"	64	178	139,7	105	190	242	18	2	4	19	405	90	250	1"	26
3"	76	190	152,4	127	203	286	19	2	4	19	430	92	250	1"	30
4"	102	229	190,5	157	229	305	24	2	8	19	485	117	250	1"	46,5
6"	152	279	241,3	216	267	403	26	2	8	22	658	170	300	1 1/8"	74
8"	203	343	298,5	270	292	419	29	2	8	22	786	222	400	1 1/4"	124
10"	254	406	362	324	330	457	31	2	12	25	957	278	450	1 3/8"	196
12"	305	483	432	381	356	502	32	2	12	25	1110	330	500	1 5/8"	253
14"	337	533	476,3	413	381	572	35	2	12	28,5	1214	363	500	1 5/8"	390
16"	387	597	539,8	470	406	610	37	2	16	28,5	1387	420	560	1 3/4"	560
18"	438	635	577,8	533	432	660	40	2	16	32	1550	470	630	2"	660
20"	489	698	635	584	457	711	43	2	20	32	1678	520	630	2"	790
24"	591	813	749,3	692	508	813	48	2	20	35	1987	625	710	2 3/8"	1160
30"	737	985	914	857	610	914	75	2	28	35	2380	770	800	2 3/4"	2120
36"	876	1168	1086	1022	711	-	91	2	32	41	2989	946	900	3"	3214

Installation

Yoke gate valves can be installed into pipeline in any position.

Order specification

API 600 Standard applies for ordering. It is necessary to specify in an order: type number, nominal diameter, pressure class, design (connection), wedge type, type of control, body and bonnet material, trim material, operating parameters, acceptance tests, accompanying documentation

Class	Design 1	Design 2	Design 3	Design 4	Design 5	Design 6	Design 7
150	Slide bearing	Antifriction bearing	Antifriction bearing	Flooded seal	Nonflooded seal	Yoke bonnet	Bonnet - yoke
300	2" - 12"	14" and larger	36"	**	basic design	2" - 12"	14" and larger
600	2" 10"	12" and larger	30"	basic design	**	2" 10"	12" and larger
900	2" 6"	8" 12"	6", 14" and larger	basic design	**	2" 6"	8" and larger
1500	2" - 6"	6", 8" and larger	6", 8" and larger	basic design	**	2" - 6"	8" and larger

Sealing materials (X)

Position	Name	Class	Body material	WC6	C5	C12
10	Cover sealing	150	Flat graphite gasket			
		300	Spiral wound graphite			
		600, 900	RTJ rings			
		1500	soft lowcarbon steel	AISI 321		
21	Gland packing	150 - 1500	Braided graphite cord			
22		150 - 1500	Die formed graphite rings			

** After consultation with the manufacturer

(X) or according to customer's requirement

Basic design standards

Basic design	API 600
Face-to-face dimensions	ASME B16.10
Flanges	ASME B 16.5
	30" - 36" MSS SP44 (API 605)
Butt-weld ends dimensions	ASME B 16.25
Testing	API 598
Pressure-temperature ratings	ASME B 16.34

TRIM - materials according to API 600

Pos.	Name	TRIM				
		1	5	8	11	12
4a	Wedge sealing surface	13 Cr overlay	Stellite 6	13 Cr overlay	Monel overlay	316 overlay
5a	Seat sealing surface	13 Cr overlay	Stellite 6	Stellite 6	Stellite 6	Stellite 6
6	Stem	A 276 410 T	A 276 410 T	A 276 410 T	Monel	A 182 F 316
7	Backseat insert - variants	A 182 F 6a Cl.4	A 182 F 6a Cl.4	A 182 F 6a Cl.4	Monel	A 182 F 316
		A 217 CA 15 *	A 217 CA 15 *	A 217 CA 15 *		A 351 CF8 M
16	Stuffing box bushing - variants	A 182 F 6a	A 182 F 6a	A 182 F 6a	Monel	A 182 F 316
		A 217 CA 15	A 217 CA 15	A 217 CA 15		A 351 CF8 M
17	Lantern - variants	A 182 F 6a	A 182 F 6a	A 182 F 6a	Monel	A 182 F 316
		A 217 CA 15	A 217 CA 15	A 217 CA 15		A 351 CF8 M

* min. hardness 250 HB

Standard material specification (*)

Pos.	Name	WC6	LCC	WC6	C5	C12
		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 F316	A 182 F 316	A 182 F6a	A 182 F9 + weld deposit	A 182 F9 + weld deposit
		A 216 WCB + weld deposit	A 352 LCC + weld deposit	A 182 F9 + weld deposit	A 217 C5 + weld deposit	A 217 C12 + weld deposit
5	Seat	A 106 B + weld deposit	A 350 LF2 mod. + weld deposit	A 182 F5 + weld deposit	A 182 F5 + weld deposit	A 182 F321 + weld deposit
8	Bolt - variants	A 193 B7	A 320 L7M	A 193 B7	A 193 B7	A 193 B7
		A 193 B7M				
9	Nut - variants	A 194 2H	A 194 7M	A 194 2H	A 194 2H	A 194 2H
		A 194 2H M				
11	Handwheel			ASTM A 47, A 536		
12	Gland flange			A 105 [ČSN 41 1523]		
13	Stem nut			A 439 D2 (Ni - Resist)		
14	Handwheel nut			ASTM A 47		
15	Yoke nut			carbon steel [ČSN 41 1523]		
18	Eyebolt			A 307 Gr B		
19	Pin			carbon steel [ČSN 41 1523]		
20	Nut			A 194 2H		
23	Grease fitting			standart		
24	Name plate			AISI 304		
31	Yoke			A 216 WCB		

*. flanged type only