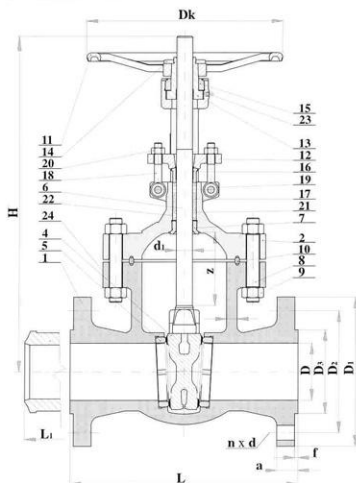


# Gate valve

## C 09.2 [S 09] CLASS 900



### 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 900

NPS	D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	L=L <sub>1</sub>	a	f	n	d	H	z	Dk	d <sub>1</sub>	kg
3"	73	241	190,5	27	381	39	7	8	25	519	101	300	1 1/8"	107
4"	98	292	235	157	457	45	7	8	32	607	126	400	1 1/4"	172
6"	146	381	317,5	215,9	610	56	7	12	32	810	180	500	1 5/8"	382
8"	190	470	393,7	270	737	64	7	12	38	975	230	630	2"	665
10"	238	546	469,9	324	838*	70	7	16	38	1100	260	710	2 3/8"	895
12"	283	610	533,4	381	965*	79,3	7	20	38	1254	330	710	2 3/8"	1305

\* - flanged type only

## 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 Slide bearing	Design 2 Antifriction bearing	Design 3 Antifriction bearing	Design 4 Flooded seal	Design 5 Nonflooded seal	Design 6 Yoke bonnet	Design 7 Bonnet - yoke
150	2" - 12"	14" and larger	36"	**	basic design	2" - 12"	14" and larger
300	2" - 10"	12" and larger	30"	basic design	**	2" - 10"	12" and larger
600	2" - 6"	8" - 12"	6", 14" and larger	basic design	**	2" - 6"	8" and larger
900							
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	WCB LCC			
		300	Flat graphite gasket			
		600, 900	Spiral wound graphite			
		1500	RTJ rings			
21	Gland packing	150 - 1500	soft lowcarbon steel	AISI 321		
22		150 - 1500	Braided graphite cord			
		150 - 1500	Die formed graphite rings			

\*\* After consultation with the manufacturer

## Basic design standards

Basic design	API 600
Face-to-face dimensions	ASME B 16.10
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
	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 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
		A 105 + weld deposit		A 217 WC6 + 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
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 [CSN 41 1523]		
13	Stem nut			A 439 D2 (Ni - Resist)		
14	Handwheel nut			ASTM A 47		
15	Yoke nut			carbon steel [CSN 41 1523]		
18	Eyebolt			A 307 Gr B		
19	Pin			carbon steel [CSN 41 1523]		
20	Nut			A 194 2H		
23	Grease fitting			standart		
24	Name plate			AISI 304		
31	Yoke			A 216 WCB		

\* - flanged type only