FLO-TITE valves & controls

HI-TEK SuperAlloy

Gate Valves Series SuperAlloy Valves

Gate Valves **Overview**

Application & Function

Gate valves are used in straight-flow fluid systems where a minimum amount of friction is required. Unlike other valves, gate valves are constructed to be used either completely open or closed. If partially open, the fluid velocity can damage the gate valve's seal and cause leakage.

Gate valves are characterized by a traveling wedge, which is moved with the operation of the stem nut. The Wedge travels perpendicular to the direction of the flow.

Gate valves usually have a minimum pressure drop when fully open, provide tight shut-off when fully closed, and remain relatively free of contamination buildup.

Design Features

ASME Flanged Gate Valve

Design	ASME B16.34, API 6D, API 600, API 602
Testing	API 598, API 6D
Face to face	ASME B16.10
Flanged end	ASME B16.5, ASME B16.47
Pressure temperature rating	ASME B16.34
Visual inspection of casting	MSS-SP-55
Standard markings	MSS-SP-25
Pressure-equipment CE-PED	Directive 97/23/EC & 2014/68/EU
NACE	MR 0175 2003

Size/Pressure Produce Range

Pressure	Flange	BW/SW	NPT
150LB	1/2" up to 60"	1/2" up to 60"	1/2" up to 4"
300LB	1/2" up to 60"	1/2" up to 60"	1/2" up to 4"
600LB	1/2" up to 60"	1/2" up to 60"	1/2" up to 2"
900LB	1/2" up to 40"	1/2" up to 40"	1/2" up to 2"
1500LB	1/2" up to 24"	1/2" up to 24"	1/2" up to 2"

Notes:
1. Other unspecified standards and sizes are available upon request
2. Other end criterion

Threaded NPT: ASME B1.20.1
Socket weld: ASME 16.11
Butt Weld: ASME 16.25

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API 600 Gate Valves — General Highlights

Max-Seal 2" and above gate valves are manufactured to API 600, ASTM B16.34 and tested to API 598.

Body & Bonnet
The design of the body & bonnet connection varies depending on the class of the valve. Class 150LB~600LB gate valves with bolted bonnet design, class 900LB and above gate valves with pressure seal bonnet design. Bodies and bonnets are high quality cast and afterwards precisely machined, directing the attention to prevent stress concentration.
The bodies of gate valves consist of a straight through port that guarantees minimal turbulence and resistance to flow. In both designs, bolted bonnet and pressure seal, the bodies consist of guide slots to accommodate the wedge during opening or closing of the valve.
Bonnets are made either of one piece only—the yoke then being an integral part of it—or have two pieces, depending on the size of the valve. This ensures the perfect alignment with the body what leads to an accurate opening and closing.

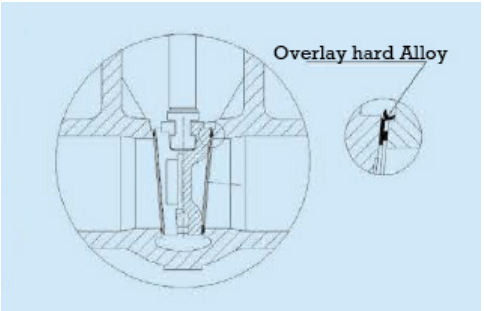
Wedge
3" and above gate valves are with flexible wedge unless otherwise specified by the customer. The flexible wedge shifts along the body of the valve during opening and closing, being held in position by a guide slot that minimizes the friction between body seat and wedge.

Stem
The stem of Max-Seal gate valves are forged from one piece and TR threaded, then mechanized and finally provided with a smooth finishing in order to minimize friction. In gate valves, the union of stem and wedge shall be in T form, it is designed to prevent the stem from disengaging itself from the wedge while being in service.

Packing
The packing is designed and arranged to ensure a maximum seal along the stem, and the standard packing is a non-asbestos type. We can supply any kinds of packing as required by customer.

Body & Bonnet Gasket
The design of the body-bonnet gaskets varies depending on the class of the valve.
Class 150 gate valves consist of a square type gasket, class 300 and higher class valves consist of a circular type gasket.

Gland
The gland is made of two pieces. Packing box is in contact with the packing which is connected to gland flange. Particular design permits a correct pressure of the packing without any damage to stem due to friction or corrosion. This feature is only for special alloy material valves.



Seat
Max-Seal API 600 gate valves are with integral seat design. The sealing surface with hard facing design is upon request. High-quality deposit of hard facing materials including CoCr alloy, 13Cr etc.

Operation
Handwheels are designed for easy operation. With bevel gearing, electric actuator or pneumatic actuator are available for more difficult services.

Others
*Full bore *Outside screw and yoke (OS&Y) *Bolted bonnet *Non-rising handwheel *Ends: Flange, BW, SW, NPT