



# ANSI 150# CAST STEEL GATE VALVES

## Literature





Figure 1 ANSI 150# Cast Steel Gate Valve

### Introduction:

Gate valve is a valve that is installed on hydraulic systems to allow or cut off the fluids flow through the valve passage. The wedge can be lifted up or lifted down by rotating the wheel handle according to the direction of "open" and "close" which mark on the handle. It is designed and manufactured according to various standards such as ASME B16.10, API 600, and API 602. It will be inspected and tested according to API 598.

### Material and Design:

ANSI 150# flange end gate valve is available in several materials such as forged steel A105, stainless steel SS316, cast iron A126B, and cast steel WCB. The materials can be selected accordingly by referring to the system requirement. For ANSI 150# gate valve, the cover is designed in bolted bonnet type where bolts and nuts are used to tighten the cover with the valve body.

The stem, which is one component part of the gate valve, is available in rising stem design and non-rising stem design. For rising stem design, it means that the stem will rise when the handle is rotated to open position and descend when the handle is rotated to close position. This design tells us if the valve is in an open position or closed position by looking at the amount of stem exposed. Alternatively for non-rising stem design, the valve is fully open when the handle is rotated to open position as far as possible and fully closed when the handle is rotated to close position as far as possible. Non-rising stem design gate valves are suitable to install on tight places where there is not enough space for the stem to raise, for example, underground pipe systems.

### Size and Pressure Rating:

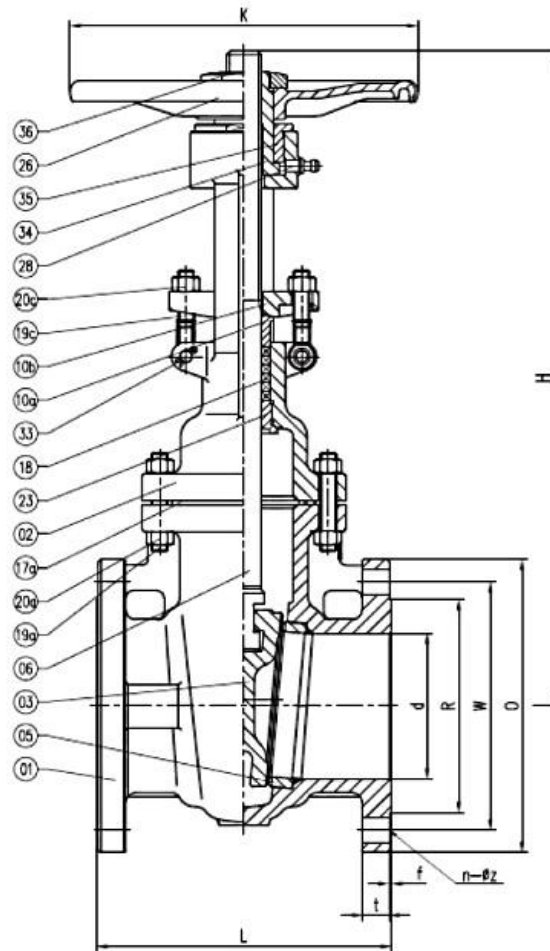
The available size for ANSI 150# gate valve is ranged from 1" to 6", subject to type of material. ANSI 150# gate valve can withstand up to 150 PSI working pressure.



Figure 2 ANSI 150# Cast Steel Gate Valve

### Connection Type:

For ANSI 150# series flange end gate valve, the another connection end need to be in ANSI 150# flange connection as well. The number of bolt holes is dependent on the valve size. For example, for valve sizes that are below 4", there are only 4 bolt holes on the flange. While for valves that are above 4", there are 8 bolt holes on the flange. Bolts, nuts, and gaskets are required whenever there are any flange to flange connections.

**ANSI 150# Cast Steel Gate Valve Drawing:**


No	Part Name	Material
1	Body	ASTM A216 WCB
2	Bonnet	ASTM A216 WCB
3	Wedge	ASTM A216 WCB + 13%Cr
5	Seat	ASTM A105 + 13%Cr
6	Stem	ASTM A182 F6a
10a	Packing Gland	ASTM A276 410
10b	Gland Flange	ASTM A216 WCB
17a	Gasket	SS304 + Graphite
18	Packing	Flexible Graphite
19a	Bolts	ASTM A193 B7

19c	Eye Bolts	ASTM A193 B7
20a	Nuts	ASTM A194 2H
20c	Nuts	ASTM A194 2H
23	Back Seat	ASTM A276 410
26	Handwheel	ASTM A47 32510
28	Stem Nut	ASTM B148 C95800
33	Pin	ASTM A29 1045
34	Stem Nut	ASTM B148 C95800
35	Cover	ASTM A29 1025
36	Nut	ASTM A29 1025

**Main Technical Parameter:**

<b>Normal Pressure</b>	150 PSI
<b>Hydraulic Body Test</b>	3.1 MPa
<b>Back Seal Test</b>	2.2 MPa
<b>Seat Test</b>	2.2 MPa
<b>Hermetical Seal Test</b>	0.6 MPa
<b>Max Working Temperature</b>	-29°C to 425°C

**Technical Specifications:**

1. Basic design and manufacture according to API 600
2. Face to face dimension: ASME B16.10
3. Flange End: ASME B16.5
4. Inspection and test: API 598

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Catalogue Version: 1020

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Catalogue Version: 2021

