

# API 600 CAST STEEL VALVES 1

## SERVICE FEATURES

- Several trim combinations available for various services.
- Straight-through port design offering a good flow with minimum frictional loss and turbulence.
- Cast steel valves suitable for works demanding strength, shock resistance, elongation and heat resistance.
- Bottom seating of seat rings ground accurately for maximum strength and tightness(globe).
- Bypass mounting to equalize pressures.
- Normal yoke bushing furnished with ductility resistant to high melting point of above 2200°F.
- Level and weight available to accelerate/decelerate disc closing (swing check).
- Designed for maximum flow with minimum pressure drop if possible.
- Precision-ground seating surfaces and revolving disc providing a long life.

In the refineries, power plants, utilities and petrochemical/chemical process industries, PK cast steel valves have been regarded as of great importance about their excellent performance and reliability.

By discriminatory blending of carefully selected materials combined with sound design and precision machining/assembly under strict quality controls, PK steel valves have gained general and wide acceptance. The products are manufactured in accordance with ASTM, ANSI, or other international standards.

## CAST STEEL VALVES PRODUCTION RANGE

UNIT : NPS

Type \ Class	150	300	600	900	1500
GATE	2-96	2-80	2-48	2-48	2-24
GLOBE	2-24	2-24	2-24	2-24	2-24
SWING CHECK	2-56	2-48	2-48	2-36	2-24
TILTING CHECK	2-48	2-48	2-48	2-36	2-24
Y-GLOBE	2-24	2-24	2-24	2-24	2-24
ANGLE GLOBE	2-24	2-24	2-24	2-24	2-24

## PRODUCTION MATERIALS

- Carbon Steel : ASTM A216-WCB or Equivalent
- Alloy Steel : ASTM A217-WC6, WC9, C5, C12, C12A or Equivalent
- Stainless Steel : ASTM A351-CF8, CF8M, CF3, CF3M, CN7M, or Equivalent
- Duplex Stainless Steel : ASTM A995-1A, 2A, 4A, 5A or Equivalent
- Special Alloy Steel : Inconel 625, Incoloy 825, Hastelloy C, Monel, AL-BRONZE
- ASME SA designation material(e.g ASME SA217-WC6)

# API 600 CAST STEEL VALVES 2

Parallel slide gate valves are ideal for high temperature and pressure line to prevent thermal binding.

## Features and benefits

Parallel slide construction can be furnished for high differential pressure services or where thermal expansion may cause sticking of a wedge type.

The parallel slide gate assembly consists of two interchangeable spring loaded discs, a fully guided disc holder, and retaining pins.

Springs are fitted between discs to provide initial sealing force only, and do not maintain the sealing force.

Discs are interchangeable which simplifies in-line maintenance and eliminates the need to custom fit the seats to the discs.

Position seating eliminates stress and potential binding due to thermal expansion of the stem.

No additional torque required to achieve a positive seal once disc are in position.

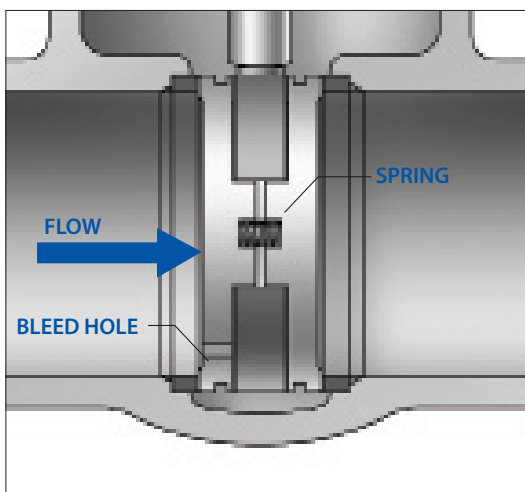
Lower seating torque to reduce actuator size and cost

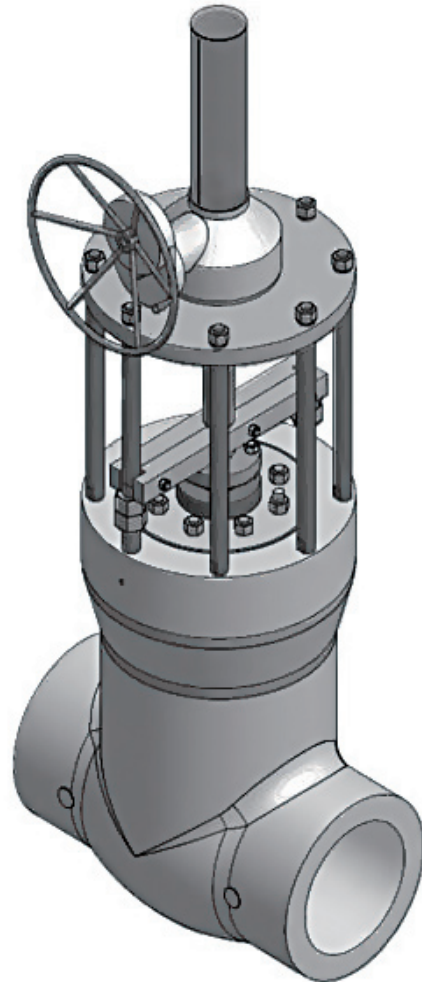
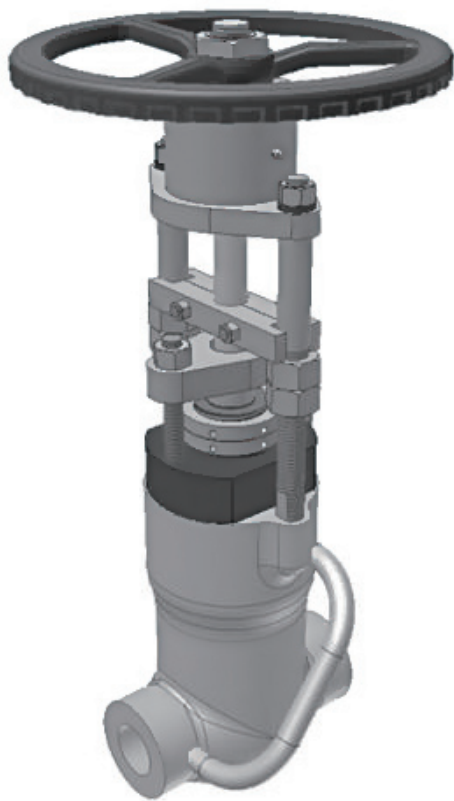
Hardfaced seating surfaces provide high cycle capability in very high differential pressure services

By-pass valves are used to reduce the traversing differential pressure across the valve seat.

It reduces the size of the operating gear and also provide a convenient means for the initial warming through of pipe lines

Equalizing devices are used to relieve the fluid trapped between the seat forces, and to provide an outlet for the fluid displaced by the valve stem traversing to the shut position.





4" & SMALLER

6" & LARGER

# API 600 CAST STEEL VALVES 3

## OPERATIONAL SERVICE FEATURES

In a maintenance aspect, it is true that this type of valve is accounted less than any other type, but the valve have some important advantages as follows:

1. Useful life is ensured.

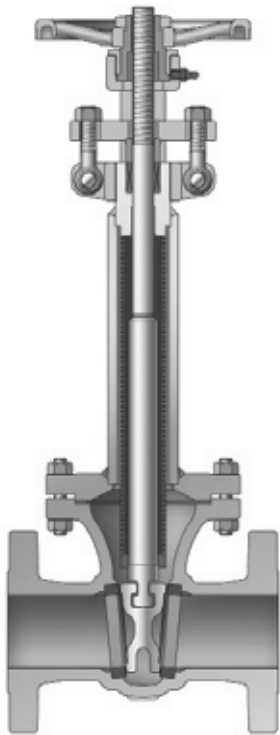
2. There is a grease nipple on all bellows seal gate valves under current production to ensure correct lubrication over yoke bush.

The threads on stem in every kind of bellows seal valves should be kept clean if possible and lubricated periodically with high temperature grease.

It is recommended the preventive maintenance should be carried out at least every three months.

The maintenance has a particular importance when the valve is employed to high temperature application in case it is essential to use a grease of high temperature type.

At this time, it is desirable that the valve is operated from open to shut, and vice versa.



## VALVE SELECTION

As a general guide to valve selection suitable for a specific application, the gate valve should be used mainly for low or medium pressure steam, steam tracing lines, or other services such as heat transfer.

The globe valve should be selected for medium or high pressure steam, where the isolation of vessels may be involved in safety problem. It is also used for toxic or explosive media handling and in every case that a trouble may occur in flow regulation.

It should be noted that we have a specially designed valve of which dry escape to gas or fluid is completely prevented. In the valve, conventional stem packing is replaced with flexible metallic membrane where all possible leaking paths through stem or body/bonnet joint are welded.

The bellows units applied to this valve were tested for life cycle to destruction, resulting in satisfactory test results meeting the life time, temperature, and pressure requirements of ASME B16.34.

## LOW FUGITIVE EMISSION VALVE

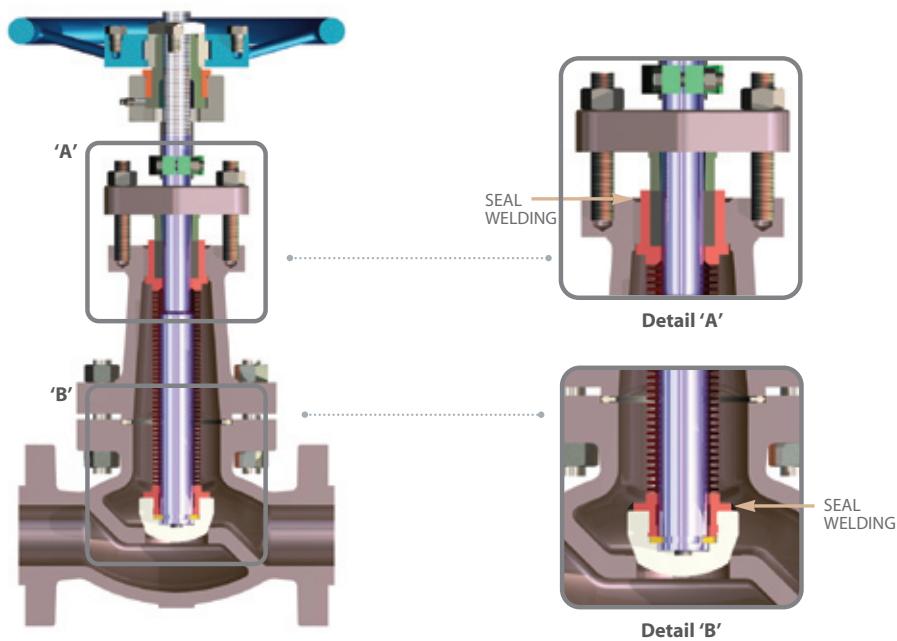
Low Fugitive emission Valve (LFV) is designed and manufactured to ensure leakage of less than 100 ppm of volatile organic compounds. PK Valve has established the test facilities and made its own procedures with Emission Defence Packing (EDP) for fugitive emission test. By using the test facilities and procedures, room temperature cycle and thermal cycle testing have been performed, establishing critical design parameters necessary to achieve low fugitive emissions.

## PRODUCTION MATERIALS

- Bellows Set : 321SS(Bellows) + 316SS(Holder)
- Carbon Steel : ASTM A216-WCB or Equivalent
- Stainless Steel : ASTM A351-CF8, CF8M, CF3, CF3M or Equivalent
- ASME SA designation material(e.g. ASME SA351-CF8M)

UNIT : NPS

TYPE \ CLASS	150	300	600
GATE	2-24	2-24	2-12
GLOBE	1/2-24	1/2-24	2-12



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