



Enriching Lives

CAST STEEL GATE VALVES

AS PER API : 600



KIRLOSKAR BROTHERS LIMITED
A Kirloskar Group Company

CAST STEEL GATE VALVES

Widely accepted by Water supply authorities, National Thermal Power Corporation, Nuclear Power Corporation and Industrial users. Designed as per latest edition of API : 600 specifications.

Application

- Widely used for handling Naphtha and Naphtha derivatives in Oil Refineries, Petroleum and Chemical Industries.
- Also these valves can be used for handling water, steam, air, gas or liquid with high pressure / temperature applications.
- Intended to be used either fully open or fully closed condition.

Salient Constructional features:

- **Body:**
 - Valve body is designed to provide maximum stream line flow to minimize pressure drop as well as corrosive and erosive effects.
 - Adequate wall thickness and sturdiness to avoid distortion caused by fluid pressure under operating conditions and also to withstand undue stresses on any working parts.
 - Body is strong enough to withstand specified conditions of pressure and temperature.
- **Bonnet**
 - Bonnet is designed in the form of circular or rectangular sections as per the requirements of API 600 standard.
 - The valve body and bonnet flanged joint is fastened by adequate number of studs and nuts. Bonnets are equipped with gasket which ensures a perfect sealing.
 - Bonnets are designed to withstand same pressure as that of body.
- **Stem**
 - Stem is outside screw, rising type with trapezoidal threads for smoother operation.
 - The stem collar is formed by forging from wrought material to ensure trouble free operation.
 - Stem is machined to high finish, with accurately cut threads, minimizing packing friction and operating torque.
 - Stem is provided with conical back seat surface to seat against bonnet back seat surface for re-packing of valve with the valve full open position.
- **Back Seat Bush**
 - Bush is screwed on the bonnet. It has conical seating surface to meet corresponding seating surface of stem.
- **Wedge**
 - Gate valves are provided with flexi gate wedge tapered on both sides, provided with deep groove inside lugs
 - All the wedges are furnished with proper guides, reducing unnecessary wear on seating surfaces due to the movement of wedge.
 - The seating surfaces of the wedge are precisely machined to achieve mirror finish.
- **Body Seat Ring**
 - Body seat rings are screwed / welded to the body. The faces of rings are precisely machined to achieve mirror finish.
- **Gasket**
 - Gasket is selected to match its suitability for handling particular fluid under specified conditions.
- **Handwheel**
 - Sturdy, specially designed for firm grip.

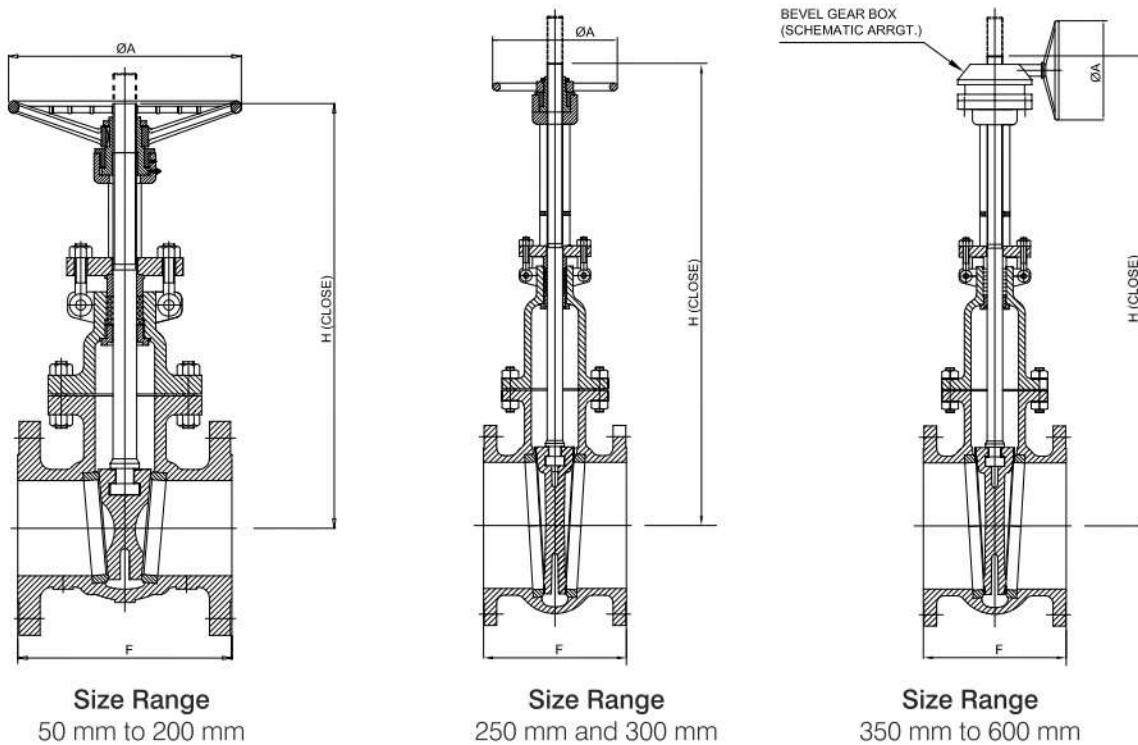
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Material Of Construction

| Scope | Body, Bonnet | Body (Seat) Ring | Spindle/ Back seat Bush | Wedge | Hand Wheel | Body / Bonnet Fasteners | Gasket |
|----------|-------------------------------|--------------------------------------------|---------------------------|-----------------------------------|------------------------------------|-------------------------------|--------------------------------|
| Standard | CS ASTM A 216 Gr.WCB | CS ASTM A515 Gr.70 +13%Cr. H.F. | SS AISI 410 | CS ASTM A 216 Gr.WCB +13%Cr. H.F. | SG IRON | ASTM A 193 Gr.B7 / A194 Gr.2H | Spiral wound SS 304 + Graphoil |
| Optional | SS ASTM A 351 Gr.CF8/ Gr.CF8M | SS ASTM A 351 Gr.CF8 / Gr.CF8M (Intergral) | SS AISI 304 / SS AISI 316 | SS ASTM A351 Gr. CF8 / CF8M | CS ASTM A 216 Gr.WCB/ CARBON STEEL | | Spiral wound SS 316 + Graphoil |

Note : 1. For special material of construction ,Contact Design Office
 2. H.F. : Hard Face.

General Outline Drawing Class 150



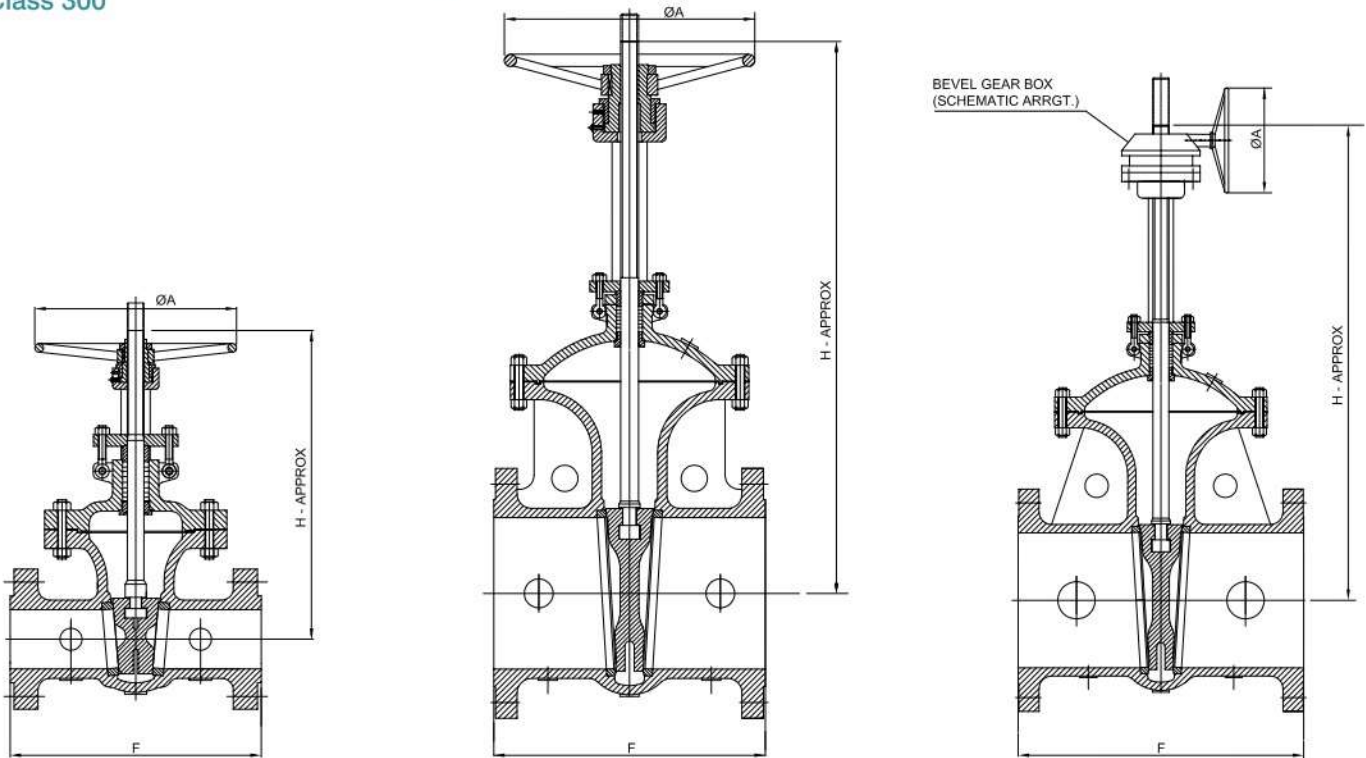
General Outline Dimensions Class 150

| Valve Size | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| F | 178 | 190 | 203 | 229 | 254 | 267 | 292 | 330 | 356 | 381 | 406 | 432 | 457 | 508 | 508 |
| H Approx | 325 | 376 | 395 | 435 | 582 | 612 | 772 | 940 | 1030 | 1335 | 1520 | 1625 | 1780 | 1986 | 2100 |
| ØA | 200 | 200 | 250 | 250 | 300 | 300 | 350 | 400 | 450 | • | • | • | • | • | • |

Note: 1. All Dimensions are in 'mm' otherwise stated.
 2. Depend on Make and Model of Gear Box.
 3. Please contact Design office for higher valve sizes.

General Outline Drawing

Class 300



Size Range

KOS M (W 13 X D 283 X H 3)

Size Range

250 mm

Size Range

300 mm to 600 mm

General Outline Dimensions

Class 300

| Valve Size | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| F | 216 | 241 | 282 | 305 | 381 | 403 | 419 | 457 | 502 | 762 | 838 | 914 | 991 | 1143 |
| H Approx | 373 | 390 | 400 | 485 | 670 | 705 | 880 | 960 | 1150 | 1325 | 1550 | 1685 | 1680 | 2070 |
| ØA | 200 | 250 | 250 | 250 | 300 | 300 | 450 | 500 | • | • | • | • | • | • |

Note: 1. All Dimensions are in 'mm' otherwise stated.

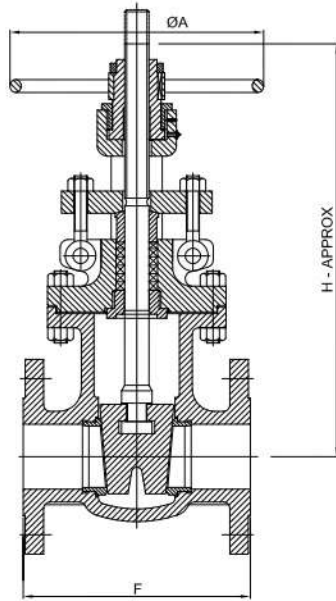
2. Depend on Make and Model of Gear Box.

3. Please contact Design office for higher valve sizes.

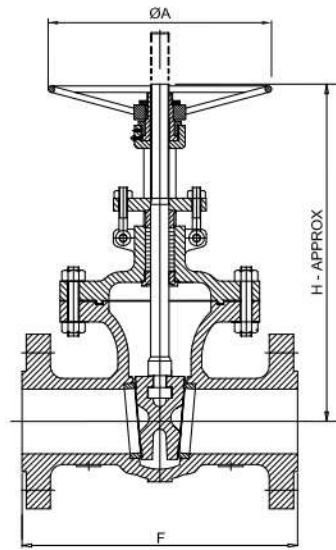
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General Outline Drawing

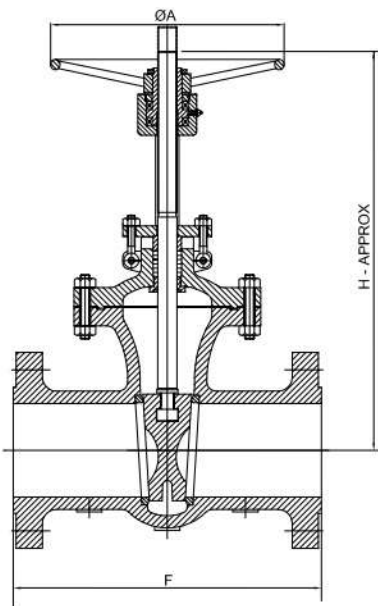
Class 600



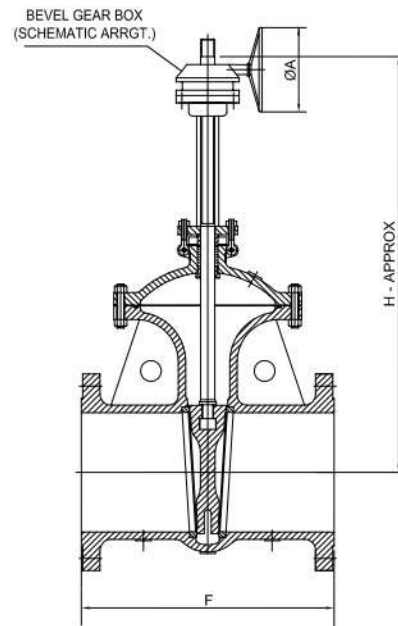
Size Range
50 mm



Size Range
65 mm to 150 mm



Size Range
200 mm



Size Range
250 mm to 600 mm

General Outline Dimensions

Class 600

| Valve Size | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
|------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| F | 292 | 330 | 356 | 432 | 508 | 559 | 660 | 787 | 838 | 889 | 991 | 1092 | 1194 | 1397 |
| H Approx | 370 | 450 | 480 | 530 | 635 | 635 | 870 | 1130 | 1320 | 1390 | 1800 | 1950 | 2055 | 2300 |
| ØA | 250 | 250 | 250 | 350 | 500 | 500 | 500 | • | • | • | • | • | • | • |

Note: 1. All Dimensions are in 'mm' otherwise stated.

2. Depend on Make and Model of Gear Box.

Accessories:

- By Pass Arrangement.
- Electric Actuator.
- Closed Bevel Gear Box.
- Locking Arrangement.
- Chain & Chain Wheel Arrangement.
- Extension Shafting and Head Stock Arrangement.
- Butt Weld End Connection
- Companion Flanges and Fasteners.
- Pneumatic Cylinder Actuation
- Hydraulic Cylinder Actuation
- Position Indicator Arrangement
- Limit switch / Proximity switch arrangement for open / close position

Technical Specification

| | |
|-------------------------------------|---------------------|
| Design and Manufacturing Standard | API 600 |
| Testing Standard | API 598 |
| Size Range | 50mm - 1200mm |
| Pressure Rating | CL-150 / 300 / 600. |
| Pressure temperature Ratings | ASME B16.34 |
| Face-to-Face / End-to-End Dimension | ASME B16.10 |

Note: 1. For Higher Pressure Rating contact Design Office.

End Connection

| | |
|-----------------|--------------------------------|
| Scope | Flange Drilling Standard |
| Standard Supply | ANSI B 16.5 CL-150 / 300 / 600 |

Note: 1. For valves in sizes larger than 24" (600 mm), the flange drilling shall be as per ASME B16.47
2. Other flange drilling standards are available as per requirement.

Hydrostatic test Pressures :

| Pressure Rating | Hydrostatic Body (Kg/Cm ²) | Hydrostatic Seat (Kg/Cm ²) | Air Seat (Kg/Cm ²) |
|-----------------|----------------------------------------|----------------------------------------|--------------------------------|
| Class- 150 | 30 | 22 | 7 |
| Class- 300 | 79 | 58 | 7 |
| Class- 600 | 158 | 116 | 7 |

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OUR GLOBAL PRESENCE



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ABOUT KBL

Kirloskar Brothers Limited (KBL) is a world class pump manufacturing company with expertise in engineering and manufacture of systems for fluid management. Established in 1888 and incorporated in 1920, KBL is the flagship company of the \$ 2.1 billion Kirloskar Group. KBL, a market leader, provides complete fluid management solutions for large infrastructure projects in the areas of water supply, power plants, irrigation, oil & gas and marine & defence. We engineer and manufacture industrial, agriculture and domestic pumps, valves and hydro turbines.

In 2003, KBL acquired SPP Pumps, United Kingdom and established SPP INC, Atlanta, USA, as a wholly owned subsidiary of SPP, UK to expand its international presence. In 2007, Kirloskar Brothers International B.V., The Netherlands and Kirloskar Brothers (Thailand) Ltd., a wholly owned subsidiary in Thailand, were incorporated. In 2008, KBL incorporated Kirloskar Brothers Europe B.V. (Kirloskar Pompen B.V. since June 2014), a joint venture between Kirloskar International B.V. and Industrial Pump Group, The Netherlands. In 2010, KBL further consolidated its global position by acquiring Braybar Pumps, South Africa. SPP MENA was established in Egypt in 2012. In 2014, KBL acquired SyncroFlo Inc., the largest independent fabricator of commercial and municipal domestic water booster pumps.

To further strengthen its global position, in 2015, Kirloskar Pompen B.V. acquired Rodelta Pumps International, The Netherlands.

KBL has joint venture cooperation with Ebara, Japan since 1988 for the manufacture of API 610 standard pumps. Kirloskar Corrocoat Private Limited is a joint venture cooperation with Corrocoat, UK since 2006. KBL acquired The Kolhapur Steel Limited in 2007 and Hematic Motors in 2010.

KBL has eight manufacturing facilities in India at Kirloskarvadi, Dewas, Kondhapuri, Shirwal, Sanand, Kaniyur, Kolhapur and Karad. In addition, KBL has global manufacturing and packaging facilities in Egypt, South Africa, Thailand, The Netherlands, United Arab Emirates, United Kingdom and United States of America. KBL has 12,700 channel partners in India and 80 overseas and is supported by best-in-class network of Authorised Centres and Authorised Refurbishment Centres across the country.

All the manufacturing facilities at KBL are certified for ISO 9001, ISO 14001, ISO 50001, BS OHSAS 18001 and SA8000. In addition, the Kirloskarvadi plant is also certified for N & NPT Stamp. KBL's corporate office in Pune is certified for ISO 9001 & Sa8000.

The factories deploy Total Quality Management tools using European Foundation for Quality Management (EFQM) model. The Kirloskarvadi plant of KBL is a state-of-the-art integrated manufacturing facility having Asia's largest hydraulic research centre with testing facility upto 5000 kW and 50,000 m³/hr.

KBL is the ninth pump manufacturing company in the world to be accredited with the N and NPT certification by American Society of Mechanical Engineers (ASME).

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