SITINDUSTRIE VALVO VALVES

BOLTED BONNET VALVES
TECHNICAL CATALOGUE

Ed. 01/NOV-2004

SITINDUSTRIE VALVE DIVISION

We are pleased to introduce you to the ball valves manufactured by Valvometal, branch of Sitindustrie Equipment, under the VALVO® trademark.

Sitindustrie started manufacturing valves for the industry in 1955, at its plant in Valduggia, Italy.

Today, it is regarded as a reputed supplier of cast steel gate, globe and check valves, in both bolted and pressure seal bonnet.

Ball valves and through conduit gate valves have been added to the product range of the Company, being capable to offer full packages of valves as a total manufacturer. The primary markets served are the oil and gas exploration, production, petrochemical, refining, pipelines and power generation.

The Company adheres to a Quality Program in accordance with ISO 9001:2000 and also has accreditations for API 6D, API Q1, European Directive 97/23/CE (PED), UDT, Stoomwezen and other Third Party Agencies (Bureau Veritas, TUV, RINA, Lloyd's Register, and other).

Design and manufacturing are carried out in accordance with the main international standards, i.e. ISO, API, ASME, ANSI, ASTM, NACE, BS, AFNOR, DIN and other.

Materials offered includes carbon steel, alloy and stainless steel, and non ferrous alloys.

A wide selection of materials is available for internal components.

A lengthy reference list, containing the most respected names in the industries in which we serve, guarantees the strength of the Company in developing the capabilities in the areas of projects and specialities.

The strength of the new solutions for projects and special valves is within our technical capabilities linked with full customer satisfaction.

Furthermore, Sitindustrie has launched a "zero-emission" design range of gate and globe valves, called ECO-VALVO, in response to industry requirement, to satisfy the most stringent and demanding applications of our customers worldwide.

BOLTED BONNET VALVES – GENERAL INFORMATION

APPLICATIONS

The cast steel gate, globe and check valves in bolted bonnet execution are primarily used in refineries, onshore terminals, offshore platforms, power generations plants and cryogenic services.

MEDIA

Cast steel gate, globe and check valves in bolted bonnet execution are used in a wide range of flow media; they can be designed for use of corrosive fluids, cryogenic liquids, viscous fluids and slurries, in addition to normal liquids and oil.

ADVANTAGES

Cast steel gate, globe and check valves in bolted bonnet execution are well known for their easy way of operating. Such characteristics make them more efficient where easy maintenance is required.

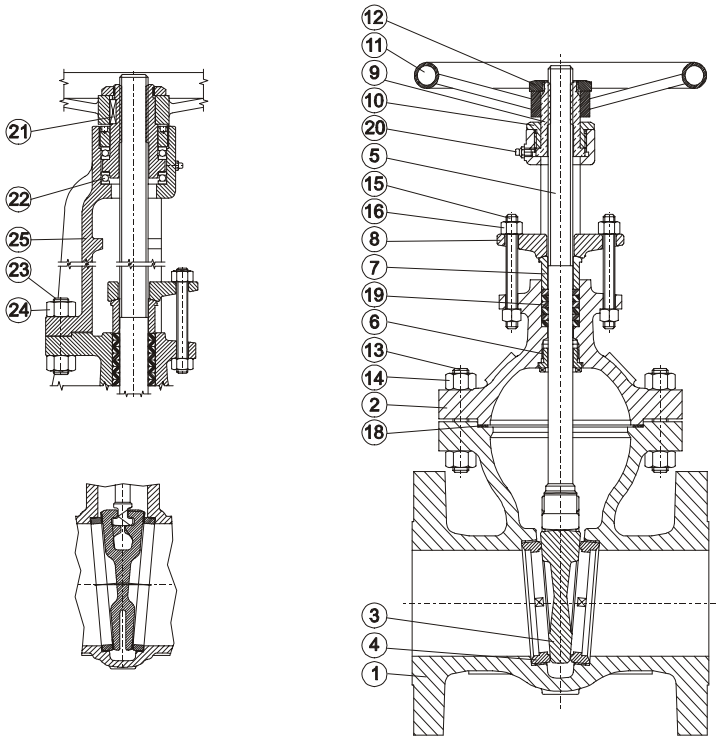
PRODUCT RANGE

Bolted bonnet valves (gate, globe & check valves) are supplied in a wide range of diameters, pressure classes, materials.

ASME B 16.34 / API 600

	GATE						GLOBE						CHECK					
	150	300	600	900	1500	2500	150	300	600	900	1500	2500	150	300	600	900	1500	2500
2″																		
2 ½″																		
3″																		
4″																		
6″																		
8″																		
10″																		
12″																		
14″																		
16″																		
18″																		
20″																		
24″																		
30″																		
36″																		
42″																		
48″																		
56″																		

BOLTED BONNET GATE VALVES – PART LIST AND STANDARD BILL OF MATERIALS (ASTM SPEC.)

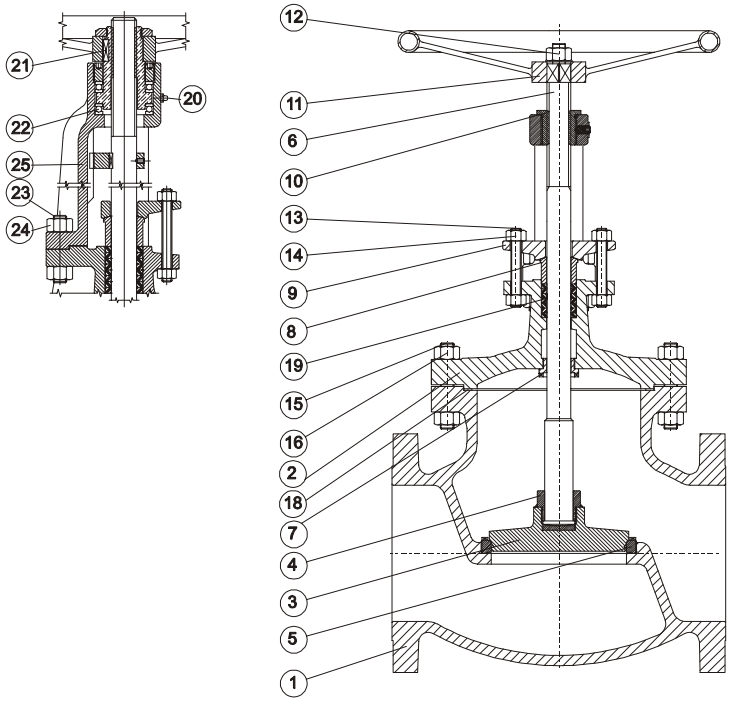


Part. N°	Part name	Material	Material	Material	Material
1	**Body**	A 216 WCB	A 352 LCB	A 217 WC6	A 351 CF8M
2	**Bonnet**	A 216 WCB	A 352 LCB	A 217 WC6	A 351 CF8M
3	**Wedge ***	A 216 WCB A 105 - A 182 F6	A 352 LCB A 182 F304	A 217 WC6 A 182 F6	A 351 CF8M A 182 F316
4	**Seat Ring ***	A 105 - A 182 F6	A 182 F304	A 182 F6	A 182 F316
5	**Stem**	A 182 F6	A 182 F 304	A 182 F6	A 182 F316
6	**Back seat**	A 182 F6	A 182 F 304	A 182 F6	Integral
7	**Gland**	A 182 F6	A 182 F 304	A 182 F6	A 182 F316
8	**Gland flange**	A 105	A 105	A 105	A1
9	**Yoke sleeve**	Ni-resist	Ni-resist	Ni-resist	Ni-resist
10	**Yoke nut retainer**	A 105	A 105	A 105	A 182 F316
11	**Handwheel**	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel
12	**Handwheel nut**	A 105	A 105	A 105	A 182 F316
13	**Bolt**	A 193 B7	A 320 L7	A 193 B16	A 193 B8
14	**Nut**	A 194 Gr. 2H	A 194 Gr. 4	A 194 Gr.4	A 194 Gr. 8
15	**Bolt**	A 193 B7	A 193 B8	A 193 B8	A 193 B8
16	**Nut**	A 194 Gr. 2H	A 194 Gr. 8	A 194 Gr.8	A 194 Gr. 8
18	**Gasket**	AISI 316 + Graphite	AISI 316 + Graphite	AISI 316 + Graphite	AISI 316 + Graphite
19	**Packing**	Graphoil	Graphoil	Graphoil	Graphoil
20	**Grease fitting**	Galvanized steel	Galvanized steel	Galvanized steel	Galvanized steel
21	**Key**	Carbon steel	Carbon steel	Carbon steel	Carbon steel
22	**Ball Bearing**	Steel	Steel	Steel	Steel
23	**Bolt**	A 193 B7	A 320 L7	A 193 B16	A 193 B8
24	**Nut**	A 194 Gr. 2H	A 194 Gr. 4	A 194 Gr.4	A 194 Gr. 8
25	**Yoke**	A 216 WCB	A 352 LCB	A 217 WC6	A 351 CF8M

* Base material. Hardfacing or other seating surface as per API Std. 600 trim material

BOLTED BONNET GLOBE & STOP CHECK VALVES – PART LIST AND STANDARD BILL OF MATERIALS

ASTM SPECIFICATIONS

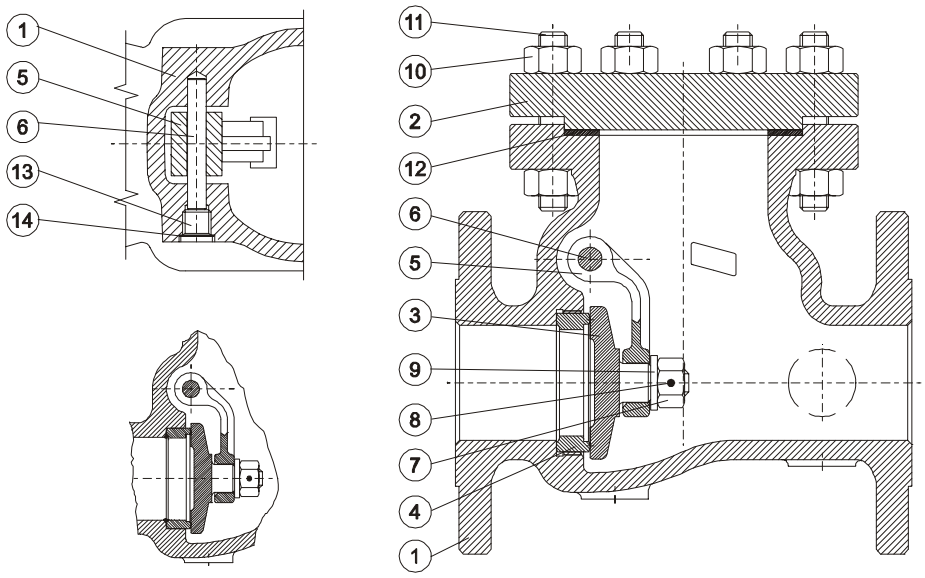


PART. N°	PART NAME	MATERIAL	MATERIAL	MATERIA	MATERIAL
1	**Body**	A 216 WCB	A 352 LCB	A 217 WC6	A 351 CF8M
2	**Bon**	A 21	A 35	A 21	A 35
3	**Disc ***	A 216 WCB A 182 F6	A 352 LCB A 182 F 304	A 217 WC6 A 182 F6	A 182 F316
4	**Disc nut**	A 182 F6	A 182 F 304	A 182 F6	A 182 F316
5	**Seat ring ***	A 182 F6	A 182 F 304	A 182 F6	A 182 F316
6	**Stem**	A 182 F6	A 182 F 304	A 182 F6	A 182 F316
7	**Back seat**	A 182 F6	A 182 F 304	A 182 F6	Integral
8	**Gland**	A 182 F6	A 182 F 304	A 182 F6	A 182 F316
9	**Gland flange**	A 105	A105	A 105	A182 F304
10	**Yoke sleeve**	Ni-resist	Ni-resist	Ni-resist	Ni-resist
11	**Handwheel**	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel
12	**Handwheel nut**	A 105	A 105	A 105	A 182 F316
13	**Bolt**	A 193 B7	A 320 L7	A 193 B8	A 193 B8
14	**Nut**	A 194 Gr. 2H	A 194 Gr. 4	A 194 Gr.8	A 194 Gr. 8
15	**Bolt**	A 193 B7	A 193 B8	A 193 B16	A 193 B8
16	**Nut**	A 194 Gr. 2H	A 194 Gr. 8	A 194 Gr.4	A 194 Gr. 8
18	**Gasket**	AISI 316 + Graphite	AISI 316 + Graphite	AISI 316 + Graphite	AISI 316 + Graphite
19	**Packing**	Graphoil	Graphoil	Graphoil	Graphoil
20	**Grease fitting**	Galvanized steel	Galvanized steel	Galvanized steel	Galvanized steel
21	**Key**	Carbon steel	Carbon steel	Carbon steel	Carbon steel
22	**Ball Bearing**	Steel	Steel	Steel	Steel
23	**Bolt**	A 193 B7	A 320 L7	A 193 B16	A 193 B8
24	**Nut**	A 194 Gr. 2H	A 194 Gr. 4	A 194 Gr.4	A 194 Gr. 8
25	**Yoke**	A 216 WCB	A 352 LCB	A 217 WC6	A 351 CF8M
26	**Stem guide**	A 105	A 105	A105	A 182 F316
27	**Key**	Carbon steel	Carbon steel	Carbon steel	Carbon steel

* Base material. Hardfacing or other seating surface as per API Std. 600 trim material

BOLTED BONNET SWING CHECK VALVES – PART LIST AND STANDARD BILL OF MATERIALS

ASTM SPECIFICATIONS



PART. N°	PART NAME	MATERIAL	MATERIAL	MATERIAL	MATERIAL
1	**Body**	A 216 WCB	A 352 LCB	A 217 WC6	A 351 CF8M
2	**Bonnet cap**	A 216 WCB A 105 - A 516 Gr.70	A 352 LCB	A 217 WC6	A 351 CF8M A 240 Type 316
3	**Disc ***	A 216 WCB A 105 - A 182 F6	A 352 LCB A 182 F304	A 217 WC6 A 182 F6	A 351 CF8M A 182 F316
4	**Seat ring ***	A 182 F6	A 182 F304	A 182 F6	A 182 F316
5	**Hinge**	A 216 WCB A 105 - A 182 F6	A 352 LCB A 182 F304	A 217 WC6 A 182 F6	A 351 CF8M A 182 F316
6	**Hinge pin**	A 182 F6	A 182 F 304	A 182 F6	A 182 F316
7	**Nut**	A 105	AISI 304	A 105	AISI 316
8	**Split Pin**	AISI 316	AISI 304	AISI 304	AISI 316
9	**Washer**	A 105	AISI 304	A 182 F6	AISI 316
10	**Bolt**	A 193 B7	A 320 L7	A 193 B16	A 193 B8
11	**Nut**	A 194 Gr. 2H	A 194 Gr. 4	A 194 Gr.4	A 194 Gr. 8
12	**Gasket**	AISI 316 + Graphite	AISI 316 + Graphite	AISI 316 + Graphite	AISI 316 + Graphite
13	**Plug**	A 105	AISI 304	A 105	A 182 F316
14	**Plate**	A 182 F316	A 182 F316	A 182 F316	A 182 F316

* Base material. Hardfacing or other seating surface as per API Std. 600 trim material

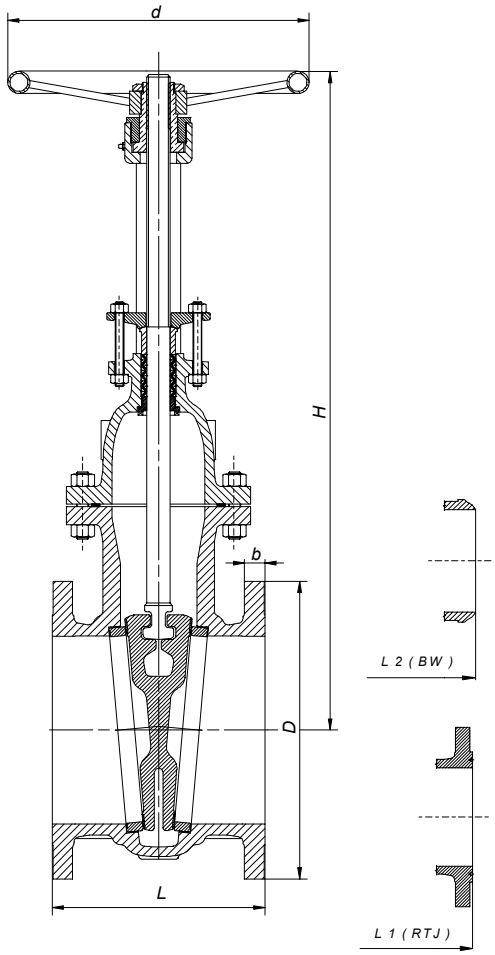
GATE VALVE DIMENSIONS

ASME Class 150 Lbs (PN20)

Gate Valves are straight-through flow valves which provide positive shutoff with minimal drop and flow turbulence. Gate Valves may be installed without consideration for the direction of flow.
They are not recommended for use in a partially open, throttling position as erosion, noise and excessive wear can occur.
*Sizes: **2" to 56"***

DESCRIPTION AND FEATURES:

- *Bolted Bonnet, Outside Screw and Yoke*
- *Wedge*
  Solid or flexible wedge disc
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Steel Valves API 600,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10, ARAMCO (26" & larger)*
  - *End Flanges ASME B 16.5, ASME B 16.47A (26" & larger),*
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																	
DN	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**14**	**16"**	**18"**	**20"**	**24"**	**30"**	**36"**	**48"**	**56"**
L	178	190	203	229	254	267	292	330	356	381	406	432	457	508	610	711	864	1016
L1	191	203	216	241	267	279	305	343	368	394	419	444	470	521	*	*	*	*
L2	216	241	283	305	381	403	419	457	502	572	610	660	711	813	915	1016	1270	*
D	152	178	190	229	254	279	343	406	483	533	597	635	698	813	984	1168	1511	1746
H	400	450	480	550	620	640	800	860	110	128	1340	1560	1830	2120	2635	3300	4063	4577
b	15.9	17.5	19.1	24	24	25.5	29	30	32	35	36.5	39.5	43	47.5	74.5	90.5	108	124
d	225	250	250	300	350	350	400	500	500	500	600	700	700	Gearbox				
WEIGHT (Kg)																		
RF	17	27	30	48	71	78	122	187.5	282	380	490	910	780	1030	2045	2685	*	*
BW	14.5	26.5	24	40	66	70	110	178	230	330	445	570	758	1015	1840	2420	*	*

** Available on request*

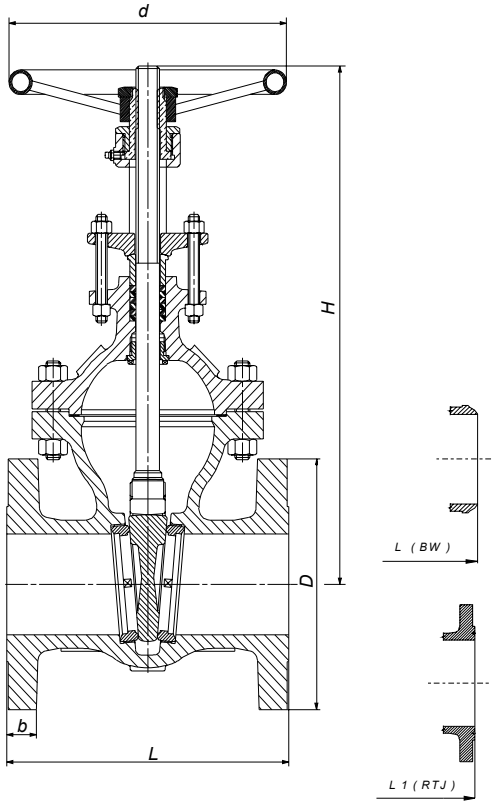
GATE VALVE DIMENSIONS

ASME Class 300 Lbs (PN50)

Gate Valves are straight-through flow valves which provide positive shutoff with minimal drop and flow turbulence. Gate Valves may be installed without consideration for the direction of flow.
They are not recommended for use in a partially open, throttling position as erosion, noise and excessive wear can occur. Sizes ***2" to 48"***

DESCRIPTION AND FEATURES:

- *Bolted Bonnet, Outside Screw and Yoke*
- *Wedge*
  Solid or flexible wedge disc.
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Steel Valves API 600,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10, ARAMCO (26" & larger),*
  - *End Flanges ASME B 16.5, ASME B 16.47A (26" & larger),*
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																		
DN	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**14"**	**16"**	**18"**	**20"**	**24"**	**30"**	**36"**	**48"**	**---**
L	216	241	283	305	381	403	419	457	502	762	838	914	991	1143	1397	1727	2235	---
L1	232	257	298	321	397	419	435	473	518	778	854	930	1010	1165	*	*	*	---
D	165	190.5	210	254	279	318	381	444	521	584	648	711	775	914	1092	1270	1467	---
H	410	460	480	550	660	720	860	1100	1280	1340	1560	1685	1830	2120	3040	3500	4200	---
b	22	24.5	28.5	32	35	36.5	41.5	48	51	54	57	60	64	70	92	105	133.5	---
d	225	250	250	300	350	400	500	500	500	Gearbox								---
WEIGHT (Kg)																		
RF	23	25.4	43	70	113	135	213	330.5	460	645	850	1170	1450	2630	4345	*	*	---
BW	20	23	32	60	100	104	176	254	372	535	715	1020	1300	2280	3910	*	*	---

** Available on request*

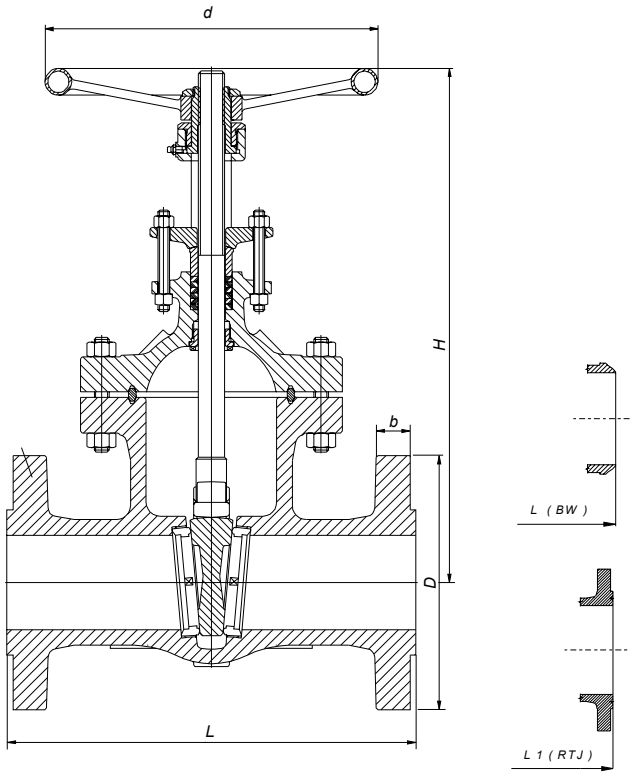
GATE VALVE DIMENSIONS

ASME Class 600 Lbs (PN 100)

Gate Valves are straight-through flow valves which provide positive shutoff with minimal drop and flow turbulence. Gate Valves may be installed without consideration for the direction of flow.
They are not recommended for use in a partially open, throttling position as erosion, noise and excessive wear can occur. ***Sizes 2" to 36"***

DESCRIPTION AND FEATURES:

- *Bolted Bonnet, Outside Screw and Yoke*
- *Wedge*
  Solid or flexible wedge disc.
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Steel Valves API 600,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10, ARAMCO (26" & larger),*
  - *End Flanges ASME B 16.5, ASME B 16.47A (26" & larger),*
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																	
DN	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**14"**	**16"**	**18"**	**20"**	**24"**	**30"**	**36"**	**---**
L	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	1651	2083	---
L1	295	333	359	435	511	562	664	790	841	892	994	1095	1200	1406	*	*	---
D	165	190.5	210	273	330	356	419	508	559	603	686	743	813	940	1130	1314	---
H	390	470	490	560	680	890	1050	1200	1410	1580	1750	1890	2050	2500	3000	3500	---
b	25.4	28.5	32	38.1	44.5	48	56	63.5	66.5	70	76	82.5	89	102	114.5	124	---
d	225	250	300	400	400	500	600	Gearbox									---
WEIGHT (Kg)																	
RF	28	55	57	110	210	224	460	630	840	1392	1785	2346	2710	4240	*	*	---
BW	26	43	45	80	170	175	390	568	972	1222	1555	2046	2330	3750	*	*	---

** Available on request*

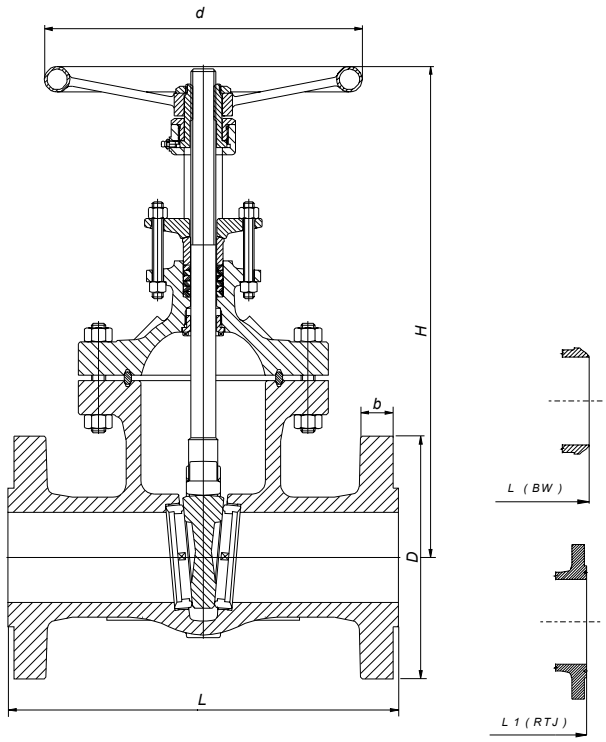
GATE VALVE DIMENSIONS

ASME Class 900 Lbs (PN150)

Gate Valves are straight-through flow valves which provide positive shutoff with minimal drop and flow turbulence. Gate Valves may be installed without consideration for the direction of flow.
They are not recommended for use in a partially open, throttling position as erosion, noise and excessive wear can occur. Sizes 2" to 24"

DESCRIPTION AND FEATURES:

- *Bolted Bonnet, Outside Screw and Yoke*
- *Wedge*
  Solid or flexible wedge disc.
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Steel Valves API 600,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10,*
  - *End Flanges ASME B 16.5,*
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																
DN	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**14"**	**16"**	**18"**	**20"**	**24"**	**---**	**---**
L	368	419	381	457	559	610	737	838	965	1029	1130	1219	1321	1549	---	---
L1	371	422	384	460	562	613	740	841	968	1038	1140	1232	1334	1568	---	---
D	216	244	241	292	349	381	470	546	610	641	705	787	857	1041	---	---
H	580	640	650	770	885	980	1110	1290	1490	1720	1950	1650	1790	2096	---	---
b	38	41,5	38	44.5	51	56	63.5	70	79	86	89	102	108	140	---	---
d	275	325	400	400	400	500	Gearbox								---	---
WEIGHT (Kg)																
RF	71	83	98	160	210	346	535	840	1300	1800	1940	4980	5680	6675	---	---
BW	70	76	80	136	190	255	420	719	800	1230	1780	4480	5115	6010	---	---

** Available on request*

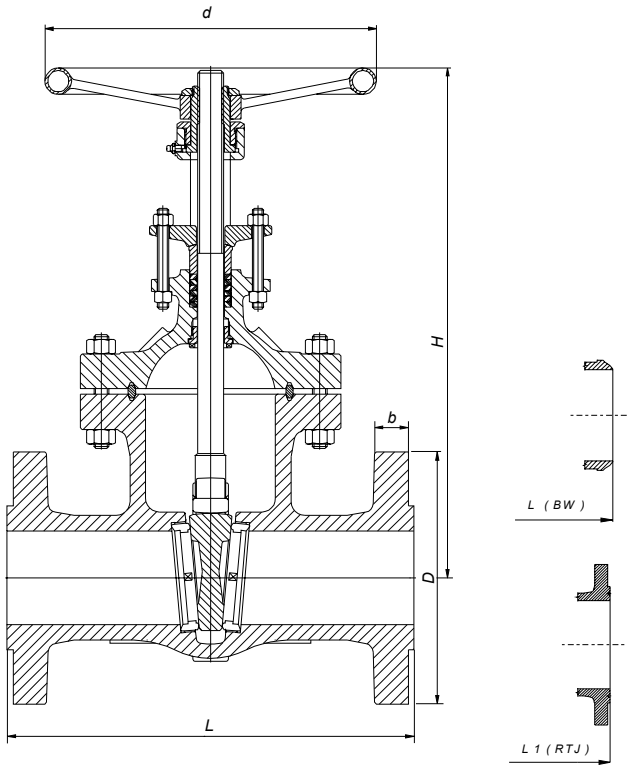
GATE VALVE DIMENSIONS

ASME Class 1500 Lbs (PN250)

Gate Valves are straight-through flow valves which provide positive shutoff with minimal drop and flow turbulence. Gate Valves may be installed without consideration for the direction of flow.
They are not recommended for use in a partially open, throttling position as erosion, noise and excessive wear can occur. ***Sizes 2" to 24"***

DESCRIPTION AND FEATURES:

- *Bolted Bonnet, Outside Screw and Yoke*
- *Wedge*
  Solid or flexible wedge disc.
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Steel Valves API 600,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10,*
  - *End Flanges ASME B 16.5,*
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																		
DN	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**14"**	**16"**	**18"**	**20"**	**24"**	**---**	**---**	**---**	**---**
L	368	419	470	546	673	705	832	991	1130	1257	1384	1537	1664	1943	---	----	---	---
L1	371	422	473	549	676	711	841	1000	1146	1276	1407	1559	1686	1971.5	---	---	**---**	---
D	216	244	267	311	375	394	483	584	673	749	825	914	984	1168	---	---	---	---
H	580	640	720	820	980	1070	1165	1200	1590	1850	1710	1820	2080	2320	---	---	---	---
b	38	41	48	54	73	83	92	108	124	133	146	162	178	203	---	---	---	---
d	300	325	400	500	500	Gearbox									---	---	---	---
WEIGHT (Kg)																		
RF	75	110	145	245	460	520	905	1733	2420	3580	4055	5760	7800	10829	---	---	---	---
BW	55	80	108	205	389	495	874	1496	2070	3100	3650	5185	7020	9750	---	---	---	---

** Available on request*

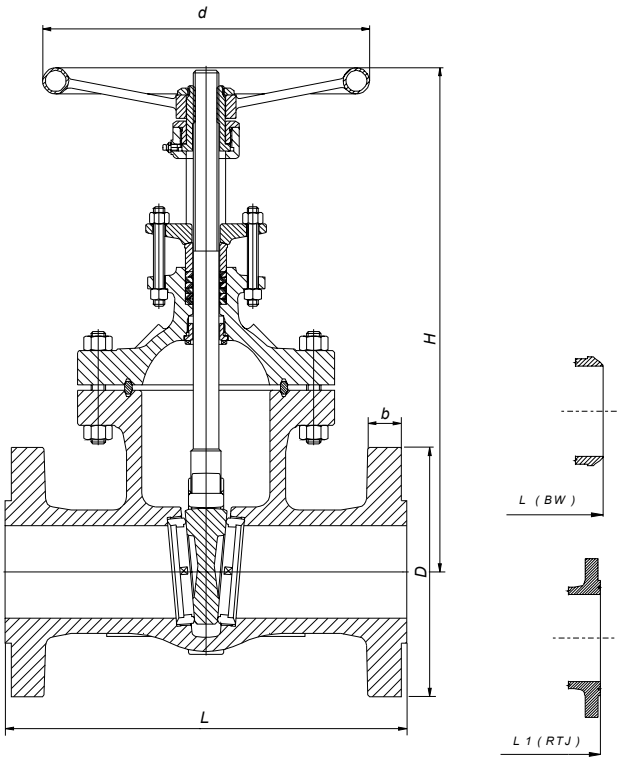
GATE VALVE DIMENSIONS

ASME Class 2500 Lbs (PN420)

Gate Valves are straight-through flow valves which provide positive shutoff with minimal drop and flow turbulence.
Gate Valves may be installed without consideration for the direction of flow.
They are not recommended for use in a partially open, throttling position as erosion, noise and excessive wear can occur. Sizes 2" to 12"

DESCRIPTION AND FEATURES:

- Bolted Bonnet, Outside Screw and Yoke
- Wedge
  Solid or flexible wedge disc.
- Body Seat Rings
  Threaded-In or welded-in design on all sizes
- Design and Test Specifications
  - Steel Valves API 600,
  - Testing API 598,
  - Steel Valves ASME B 16.34,
  - Face-to-Face, End-to-End ASME B 16.10,
  - End Flanges ASME B 16.5,
  - Weld-Ends ASME B 16.25



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																			
DN	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
L	451	508	578	673	794	914	1022	1270	1422	---	---	---	---	---	---	---	---	---
L1	454	514	584	683	806	927	1038	1292	1444	---	---	---	---	---	---	---	---	---
D	235	267	305	356	419	483	552	673	762	---	---	---	---	---	---	---	---	---
H	670	720	790	900	1080	1180	1260	1600	1750	---	---	---	---	---	---	---	---	---
b	51	57	67	76	92	108	127	165	184	---	---	---	---	---	---	---	---	---
d	325	325	400	600	600	Gearbox				---	---	---	---	---	---	---	---	---
WEIGHT (Kg)																		
RF	149	*	285	272	*	985	1797	3130	3670	---	---	---	---	---	---	---	---	---
BW	135	*	257	245	*	886	1620	2817	3303	---	---	---	---	---	---	---	---	---

** Available on request*

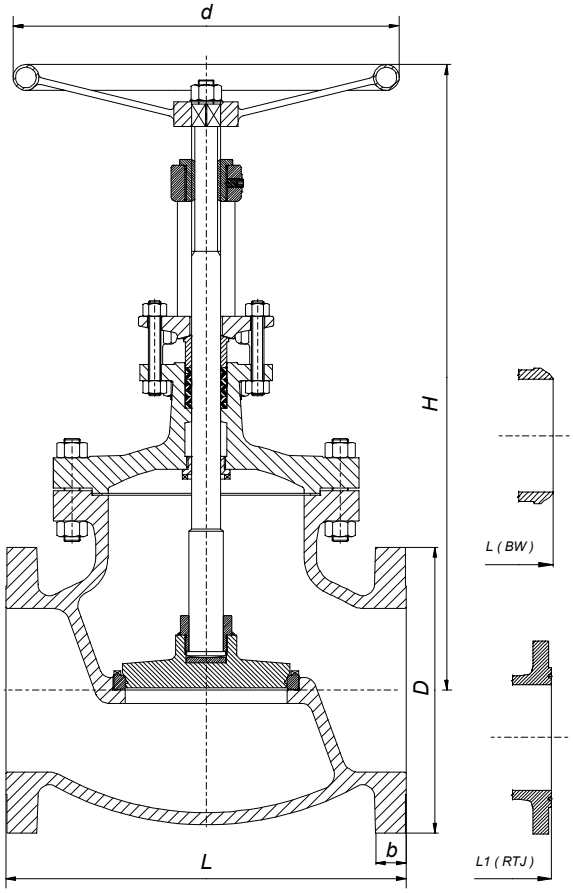
GLOBE VALVE DIMENSIONS

ASME Class 150 Lbs (PN20)

Globe Valves are single-direction closing-down valves in which the closure member is moved squarely on and off the seat. Globe valves are primarily used in applications where a moderate control or regulation of flow is required.
*Sizes **2" to 56"***

DESCRIPTION AND FEATURES:

- *Bolted Bonnet, Outside Screw and Yoke*
- *Angle & Stop Check Designs*
  Available with data supplied upon request
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Design BS 1873,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10,*
  - *End Flanges ASME B 16.5,*
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																
DN	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**14"**	**16"**	**18"**	**20"**	**24"**	**---**	**---**
L	203	216	241	292	356	406	495	622	699	787	914	978	978	1295	**---**	**---**
L1	216	229	254	305	368	419	508	635	711	*	*	*	*	*	---	---
D	152.5	178	190.5	229	254	279	343	406	483	533	597	635	698	813	---	---
H	350	390	420	490	555	600	685	740	830	1100	1150	1300	1400	1650	---	---
b	16	17.5	19.1	24	24	25.4	28.5	30	32	35	36.5	39.5	43	47.5	---	---
d	225	250	250	300	325	350	400	Gearbox							---	---
WEIGHT (Kg)																
RF	21	32	37.3	50	86	98	160	272	400	*	*	*	*	*	---	---
BW	18.8	27		44	74	96	141	250	340	*	*	*	*	*	---	---

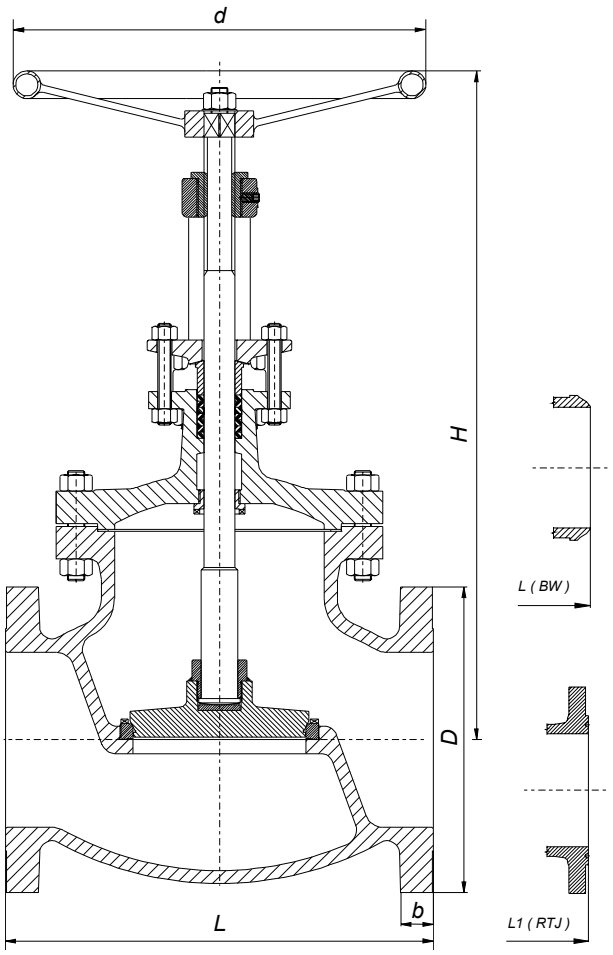
* Available on request

GLOBE VALVE DIMENSIONS

ASME Class 300 Lbs (PN50)

Globe Valves are single-direction closing-down valves in which the closure member is moved squarely on and off the seat. Globe valves are primarily used in applications where a moderate control or regulation of flow is required.

Sizes 2" to 48"



DESCRIPTION AND FEATURES:

- *Bolted Bonnet, Outside Screw and Yoke*
- *Angle & Stop Check Designs*
  Available with data supplied upon request
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Design BS 1873,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10,*
  - *End Flanges ASME B 16.5,*
  - *Weld-Ends ASME B 16.25*

MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																	
DN	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
L	267	292	318	356	400	445	559	622	711	---	---	---	---	---	---	---	---
L1	283	308	333	371	416	460	575	638	727	---	---	---	---	---	---	---	---
D	165	190.5	210	254	279	318	381	444	521	---	---	---	---	---	---	---	---
H	390	430	470	505	580	655	815	880	930	---	---	---	---	---	---	---	---
b	22	25.4	28.5	32	35	36.5	41.5	48	51	---	---	---	---	---	---	---	---
d	225	250	300	325	350	400	Gearbox			---	---	---	---	---	---	---	---
WEIGHT (Kg)																	
RF	28.5	44	48	77	130	140	262	400	670	---	---	---	---	---	---	---	---
BW	31	35	38	72	106	127	243	380	570	---	---	---	---	---	---	---	---

* Available on request

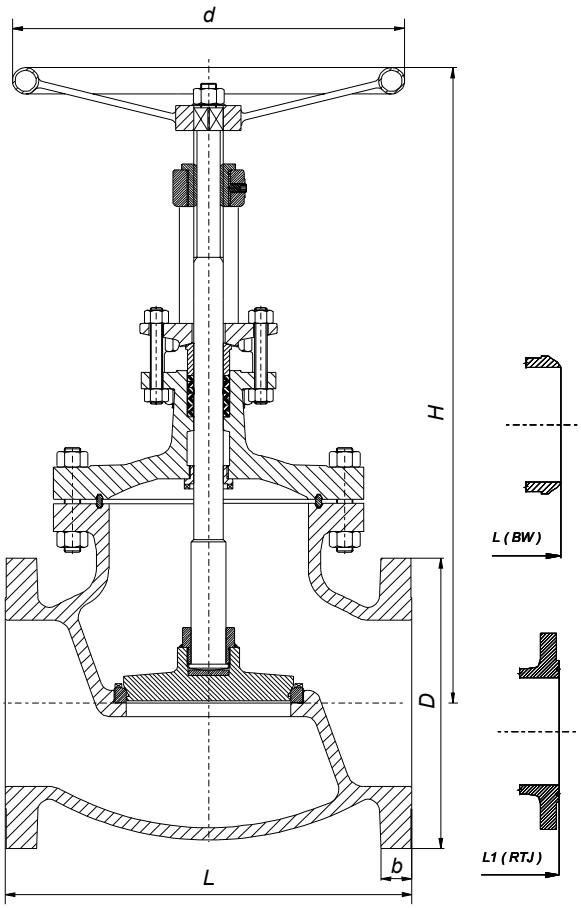
GLOBE VALVE DIMENSIONS

ASME Class 600 Lbs (PN 100)

Globe Valves are single-direction closing-down valves in *which the closure member is moved squarely on and off the seat. Globe valves are primarily used in applications where a moderate control or regulation of flow is required.*
Sizes ***2" to 36"***

DESCRIPTION AND FEATURES:

- *Bolted Bonnet, Outside Screw and Yoke*
- *Angle & Stop Check Designs*
  Available with data supplied upon request
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Design BS 1873,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10,*
  - *End Flanges ASME B 16.5,*
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																	
DN	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**14"**	---	---	---	---	---	---	---
L	292	330	356	432	508	559	660	787	838	889	---	---	---	---	---	---	---
L1	295	333	359	435	511	562	664	790	841	892	---	---	---	---	---	---	---
D	165	190.5	210	273	330	356	419	508	559	603	---	---	---	---	---	---	---
H	435	505	535	625	715	785	895	990	1060	1280	---	---	---	---	---	---	---
b	25.4	28.5	32	38	44.5	48	56	63.5	66.5	70	---	---	---	---	---	---	---
d	250	300	350	400	400	Gearbox					---	---	---	---	---	---	---
WEIGHT (Kg)																	
RF	34	52	70	130	230	247	470	806	970	*	---	---	---	---	---	---	---
BW	29	43	55	100	190	201	410	674	850	*	---	---	---	---	---	---	---

* Available on request

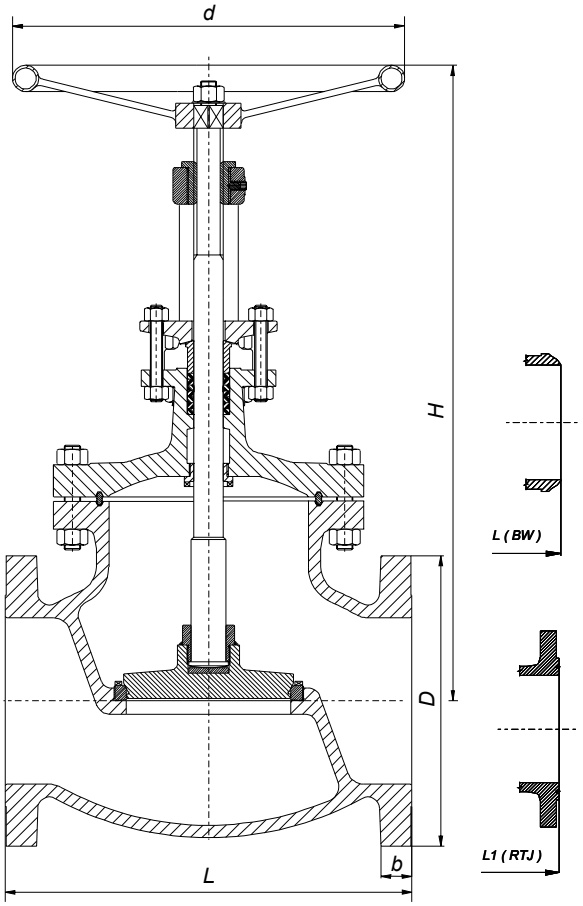
GLOBE VALVE DIMENSIONS

ASME Class 900 Lbs (PN150)

Globe Valves are single-direction closing-down valves in which the closure member is moved squarely on and off the seat. Globe valves are primarily used in applications where a moderate control or regulation of flow is required.
*Sizes **2" to 24"***

DESCRIPTION AND FEATURES:

- *Bolted Bonnet, Outside Screw and Yoke*
- *Angle & Stop Check Designs*
  Available with data supplied upon request
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Design BS 1873,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10,*
  - *End Flanges ASME B 16.05,*
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																		
DN	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**14"**	---	---	---	---	---	---	---	---
L	368	419	381	457	559	610	737	838	965	1029	---	---	---	---	---	---	---	---
L1	371	422	384	460	562	613	740	841	968	1038	---	---	---	---	---	---	---	---
D	216	244	241	292	349	381	470	546	610	641	---	---	---	---	---	---	---	---
H	605	665	650	730	790	845	1050	1250	1500	1700	---	---	---	---	---	---	---	---
b	38	41.5	38	44.5	51	56	63.5	70	79	86	---	---	---	---	---	---	---	---
d	275	325	350	600	500	Gearbox					---	---	---	---	---	---	---	---
WEIGHT (Kg)																		
RF	84	128	100	210	*	340	615	1118	1750	1998	---	---	---	---	---	---	---	---
BW	76	115	92	189	*	307	565	1006	1574	1798	---	---	---	---	---	---	---	---

* Available on request

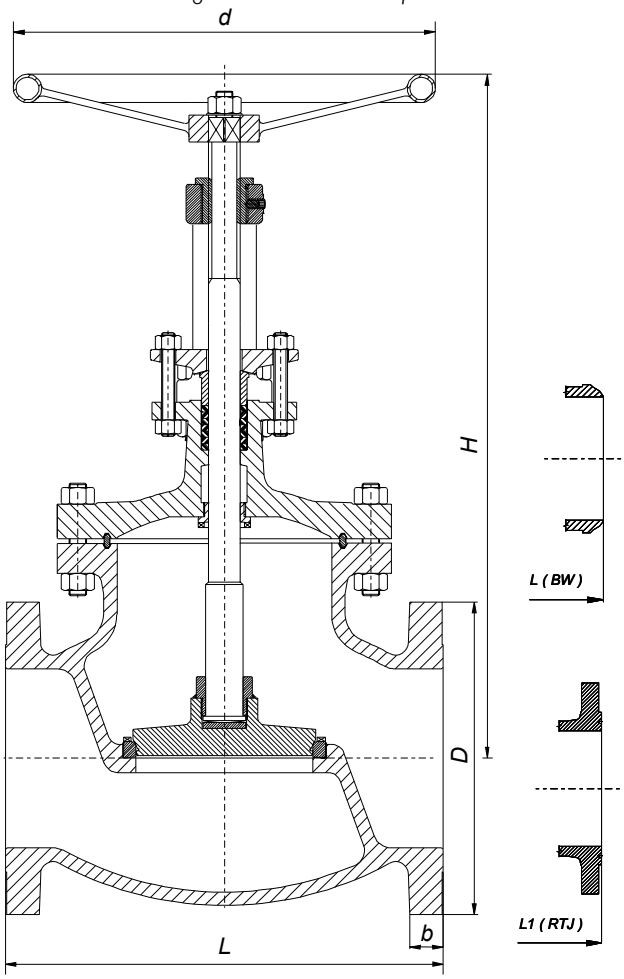
GLOBE VALVE DIMENSIONS

ASME Class 1500 Lbs (PN250)

Globe Valves are single-direction closing-down valves in which the closure member is moved squarely on and off the seat. Globe valves are primarily used in applications where a moderate control or regulation of flow is required.
*Sizes **2" to 24"***

DESCRIPTION AND FEATURES:

- *Bolted Bonnet, Outside Screw and Yoke*
- *Angle & Stop Check Designs*
  Available with data supplied upon request.
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Design BS 1873,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10,*
  - *End Flanges ASME B 16.5,*
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																			
DN	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
L	368	419	470	546	673	705	832	991	1130	---	---	---	---	---	---	---	---	---
L1	371	422	473	549	676	711	841	1000	1146	---	---	---	---	---	---	---	---	---
D	216	244	267	311	375	394	483	584	673	---	---	---	---	---	---	---	---	---
H	605	665	805	875	960	1075	1150	1400	1620	---	---	---	---	---	---	---	---	---
b	38	41,5	48	54	73	83	92	108	124	---	---	---	---	---	---	---	---	---
d	300	325	500	Gearbox						---	---	---	---	---	---	---	---	---
WEIGHT (Kg)																		
RF	85	129	247	430	*	536	978	1515	2196	---	---	---	---	---	---	---	---	---
BW	76	115	223	387	*	485	880	1363	1976	---	---	---	---	---	---	---	---	---

* Available on request

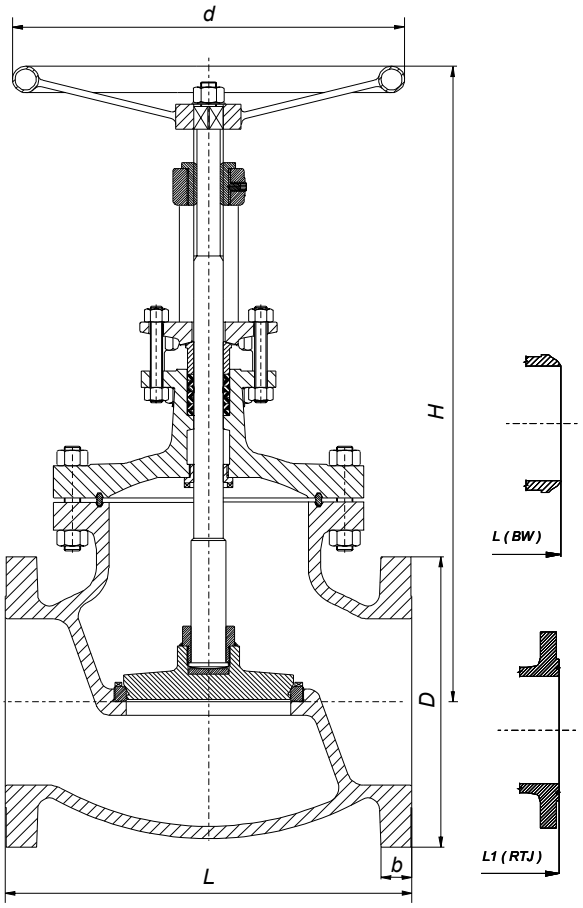
GLOBE VALVE DIMENSIONS

ASME Class 2500 Lbs (PN420)

Globe Valves are single-direction closing-down valves in which the closure member is moved squarely on and off the seat. Globe valves are primarily used in applications where a moderate control or regulation of flow is required.
*Sizes **2" to 12"***

DESCRIPTION AND FEATURES:

- *Bolted Bonnet, Outside Screw and Yoke*
- *Angle & Stop Check Designs*
  Available with data supplied upon request.
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Design BS 1873,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10,*
  - *End Flanges ASME B 16.5,*
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																			
DN	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
L	451	508	578	673	794	914	1022	1270	1422	---	---	---	---	---	---	---	---	---
L1	454	514	584	682	806	927	1038	1292	1444	---	---	---	---	---	---	---	---	---
D	235	267	305	356	419	483	552	673	762	---	---	---	---	---	---	---	---	---
H	690	760	910	990	1060	1180	1250	1600	1760	---	---	---	---	---	---	---	---	---
b	51	57	67	76	92	108	127	165	184	---	---	---	---	---	---	---	---	---
d	500	400	500	Gearbox						---	---	---	---	---	---	---	---	---
WEIGHT (Kg)																		
RF	197	*	435	588	*	1239	1838	2530	3315	---	---	---	---	---	---	---	---	---
BW	177	*	392	530	*	1115	1654	2278	2984	---	---	---	---	---	---	---	---	---

* Available on request

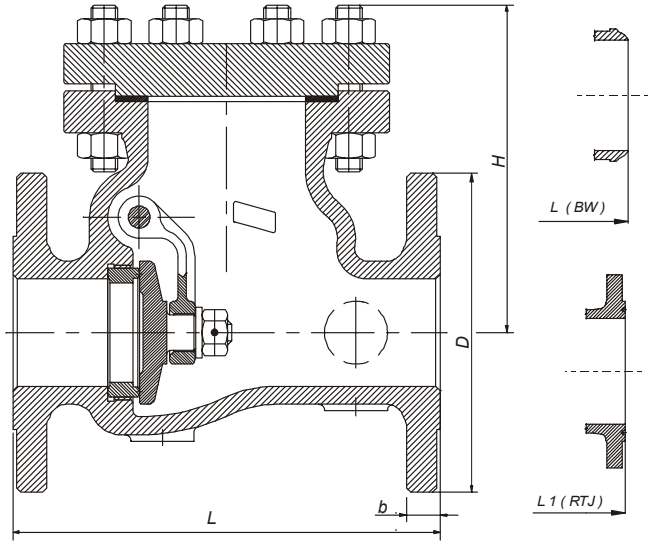
SWING CHECK VALVE DIMENSIONS

ASME Class 150 Lbs (PN20)

Swing Check Valves are single-direction flow valves used to allow unlimited flow in one direction and restrain flow in the opposite direction. Swing check valves are straight-through valves that work automatically. Swing check valves may also be used in vertical lines where the flow is upward under the disc.
Sizes ***2" to 56"***

DESCRIPTION AND FEATURES:

- *Bolted Cap*
  Design- with lifting eye bolt for easy handling.
- *Hinge Pin*
  Design- internal or external for weight and lever modifications to assist in rapid closing.
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Design API 6D – BS 1868,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10,*
  - *End Flanges ASME B 16.5, ASME B16.47A (26" & larger),*
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																		
DN	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**14"**	**16"**	**18"**	**20"**	**24"**	**30"**	**36"**	**---**	**---**
L	203	216	241.5	292	330	356	495	622	698	787	864	978	978	1295	1524	1956	---	---
L1	216	229	254	305	343	368	508	635	711	800	*	*	*	*	*	*	---	---
D	152	178	190	229	254	279	343	406	483	533	597	635	698	813	984	1168	---	---
H	135	145	200	222	225	266	305	385	400	420	480	600	660	740	900	985	---	---
b	15.9	17.5	19.1	24	24	25.5	29	30	32	35	36.5	39.5	43	47.5	74.5	90.5	---	---
WEIGHT (Kg)																		
RF	16	25	30	42	55	73	136	223	330	415	520	625	720	1180	2742	3400	---	---
BW	12	19	25	34	44	70	122	211	285	320	460	520	648	1060	2467	3060	---	---

* Available on request

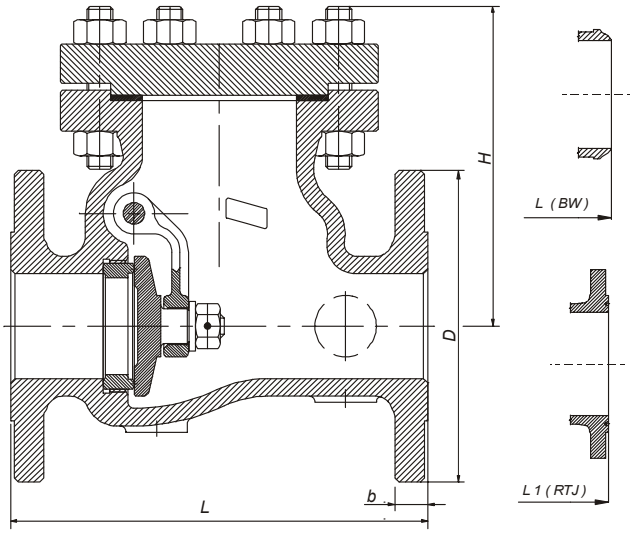
SWING CHECK VALVE DIMENSIONS

ASME Class 300 Lbs (PN50)

Swing Check Valves are single-direction flow valves used to allow unlimited flow in one direction and restrain flow in the opposite direction. Swing check valves are straight-through valves that work automatically. Swing check valves may also be used in vertical lines where the flow is upward under the disc.
Sizes ***2" to 48"***

DESCRIPTION AND FEATURES:

- *Bolted Cap*
  Design- with lifting eye bolt for easy handling.
- *Hinge Pin*
  Design- internal or external for weight and lever modifications to assist in rapid closing.
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Design API 6D – BS 1868,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10,*
  - *End Flanges ASME B 16.5, ASME B16.47A (26" & larger),*
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																		
DN	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**14"**	**16"**	**18"**	**20"**	**24"**	**30"**	**36"**	**---**	**---**
L	267	292	318	356	400	445	533	622	711	838	864	978	1016	1346	1594	2083	---	---
L1	283	308	334	372	416	461	549	638	727	854	880	994	1035	1368	*	*	---	---
D	165	190.5	210	254	279	318	381	444	521	584	648	711	775	914	1092	1270	---	---
H	165	190	205	220	235	265	290	380	445	520	600	670	750	850	950	1100	---	---
b	22	25.4	28.5	32	35	36.5	41.5	48	51	54	57	60	64	70	92	105	---	---
WEIGHT (Kg)																		
RF	21	28	38	62	91	113	190	310	506	590	828	1102	1233	2214	3898	*	---	---
BW	16	24	32	46	67	84	146	214	382	527	598	972	1195	1914	3510	*	---	---

* Available on request

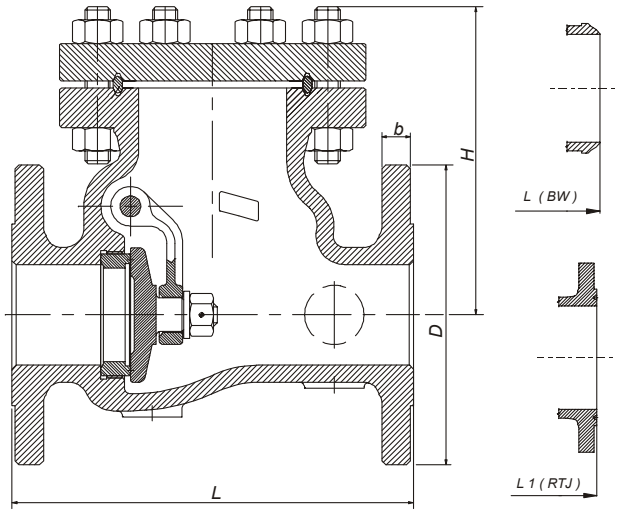
SWING CHECK VALVE DIMENSIONS

ASME Class 600 Lbs (PN 100)

Swing Check Valves are single-direction flow valves used to allow unlimited flow in one direction and restrain flow in the opposite direction. Swing check valves are straight-through valves that work automatically. Swing check valves may also be used in vertical lines where the flow is upward under the disc.
Sizes ***2" to 42"***

DESCRIPTION AND FEATURES:

- *Bolted Cap*
  Design- with lifting eye bolt for easy handling.
- *Hinge Pin*
  Design- internal or external for weight and lever modifications to assist in rapid closing.
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Design API 6D – BS 1868,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10,*
  - *End Flanges ASME B 16.5, ASME B16.47A (26" & larger),*
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																		
DN	**1" ½**	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**14"**	**16"**	**18"**	**20"**	**24"**	**30"**	**36"**	**---**
L	241	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	1651	2083	---
L1	241	295	333	359	435	511	562	663	790	841	892	994	1095	1200	1407	1664	2099	---
D	156	165	190.5	210	273	330	356	419	508	559	603	686	743	813	940	1130	1314	---
H	170	180	205	215	265	325	355	410	460	540	630	700	770	875	1015	1270	1520	---
b	22	25.4	28.5	32	38	44.5	48	56	63.5	66	70	76	82	89	102	115	124	---
WEIGHT (Kg)																		
RF	*	24	38	48	90	163	180	308	525	750	985	1354	1800	2015	3422	*	*	---
BW	*	18		42	77	123	150	224	378	612	850	1090	1750	1812	2886	*	*	---

* Available on request

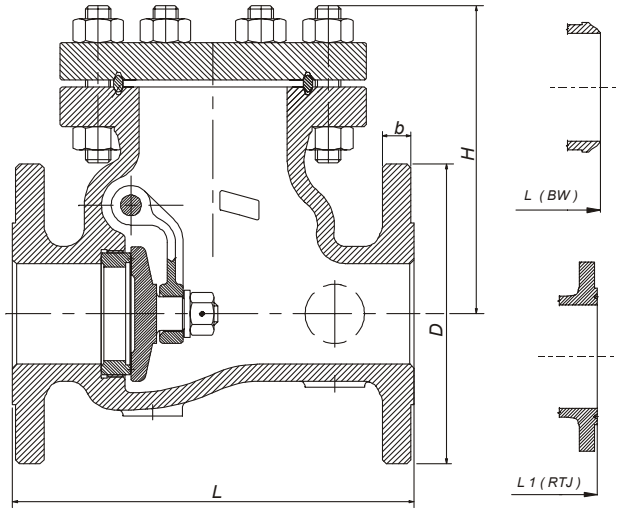
SWING CHECK VALVE DIMENSIONS

ASME Class 900 Lbs (PN150)

Swing Check Valves are single-direction flow valves used to allow unlimited flow in one direction and restrain flow in the opposite direction. Swing check valves are straight-through valves that work automatically. Swing check valves may also be used in vertical lines where the flow is upward under the disc.
*Sizes **2" to 24"***

DESCRIPTION AND FEATURES:

- *Bolted Cap*
  Design- with lifting eye bolt for easy handling.
- *Hinge Pin*
  Design- internal or external for weight and lever modifications to assist in rapid closing.
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Design API 6D – BS 1868,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10,*
  - *End Flanges ASME B 16.5,*
    ASME B16.47A (26" & larger),
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																		
DN	**1" ½**	**2"**	**2" ½**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**14"**	**16"**	**18"**	**20"**	**24"**	**---**	**---**	**---**
L	305	368	419	381	457	559	610	737	838	965	1029	1130	1219	1321	1549	---	---	---
L1	305	371	422	384	460	562	613	740	841	968	1038	1140	1232	1334	1568	---	---	---
D	178	216	244	241	292	349	381	470	546	610	641	705	787	857	1041	---	---	---
H	205	215	245	250	300	340	385	445	530	565	620	676	760	845	1015	---	---	---
b	32	38	41.5	38	44.5	51	56	63.5	70	79	86	89	102	108	140	---	---	---
WEIGHT (Kg)																		
RF	*	70	95	86.5	146	*	306	431	780	1110	1382	1808	2435	3505	4698	---	---	---
BW	*	63	86	78	103	*	222	387.6	702	1000	1245	1628	2190	3154	4230	---	---	---

* Available on request

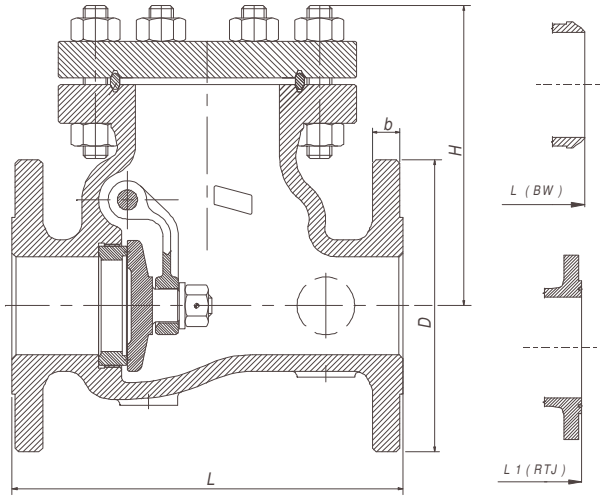
SWING CHECK VALVE DIMENSIONS

ASME Class 1500 Lbs (PN250)

Swing Check Valves are single-direction flow valves used to allow unlimited flow in one direction and restrain flow in the opposite direction. Swing check valves are straight-through valves that work automatically. Swing check valves may also be used in vertical lines where the flow is upward under the disc.
*Sizes **2" to 24"***

DESCRIPTION AND FEATURES:

- *Bolted Cap*
  Design- with lifting eye bolt for easy handling.
- *Hinge Pin*
  Design- internal or external for weight and lever modifications to assist in rapid closing.
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Design API 6D – BS 1868,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10,*
  - *End Flanges ASME B 16.5, ASME B16.47A (26" & larger),*
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																		
DN	**2"**	**2"1/2**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**14"**	**16"**	**18"**	**20"**	**24"**	**---**	**---**	**---**	**---**
L	368	419	470	546	673	705	832	991	1130	1257	1384	1537	1664	1943	---	---	---	---
L1	371	422	473	549	676	711	841	1000	1146	1276	1406	1559	1686	1971	---	---	---	---
D	216	244	267	311	375	394	483	584	673	749	825.5	914	984	1168	---	---	---	---
H	215	245	280	330	370	400	465	550	570	670	813	870	965	1160	---	---	---	---
b	38	41	48	54	73	83	92	108	124	133	146	162	178	203	---	---	---	---
WEIGHT (Kg)																		
RF	92	110	125	210	410	460	820	1174	1600	2250	*	*	*	*	---	---	---	---
BW	75	92	92	166	339	407	714	1080	1250	1770	*	*	*	*	---	---	---	---

* Available on request

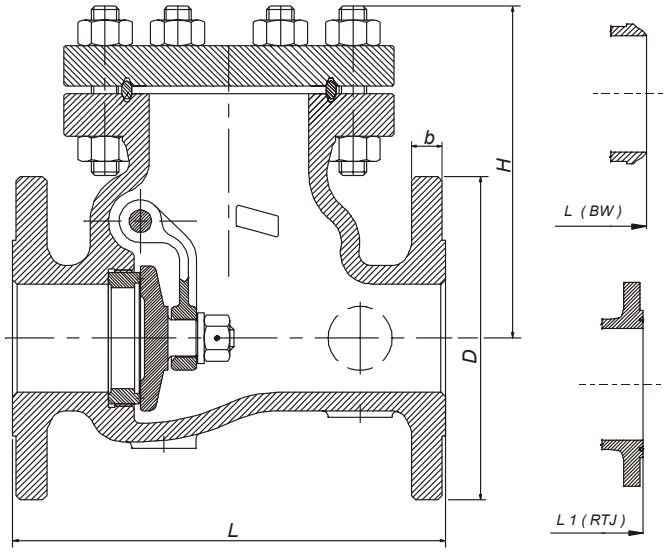
SWING CHECK VALVE DIMENSIONS

ASME Class 2500 Lbs (PN420)

Swing Check Valves are single-direction flow valves used to allow unlimited flow in one direction and restrain flow in the opposite direction. Swing check valves are straight-through valves that work automatically. Swing check valves may also be used in vertical lines where the flow is upward under the disc.
Sizes 2" to 12"

DESCRIPTION AND FEATURES:

- *Bolted Cap*
  Design- with lifting eye bolt for easy handling.
- *Hinge Pin*
  Design- internal or external for weight and lever modifications to assist in rapid closing.
- *Body Seat Rings*
  Threaded-In or welded-in design on all sizes
- *Design and Test Specifications*
  - *Design API 6D – BS 1868,*
  - *Testing API 598,*
  - *Steel Valves ASME B 16.34,*
  - *Face-to-Face, End-to-End ASME B 16.10,*
  - *End Flanges ASME B 16.5, ASME B16.47A (26" & larger),*
  - *Weld-Ends ASME B 16.25*



MAIN DIMENSIONS (mm) (Data of bigger sizes are available on request)																			
DN	**2"**	**2"1/2**	**3"**	**4"**	**5"**	**6"**	**8"**	**10"**	**12"**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
L	451	508	578	673	794	914	1022	1270	1422	---	---	---	---	---	---	---	---	---
L1	454	514	584	683	807	927	1038	1292	1444	---	---	---	---	---	---	---	---	---
D	235	267	305	356	419	483	552	673	762	---	---	---	---	---	---	---	---	---
H	230	270	320	370	410	440	510	600	690	---	---	---	---	---	---	---	---	---
b	51	57	67	76	92	108	127	165	184	---	---	---	---	---	---	---	---	---
WEIGHT (Kg)																		
RF	128	*	160	343	*	1008	1789	2791	3943	---	---	---	---	---	---	---	---	---
BW	115	*	144	310	*	907	1615	2512	3546	---	---	---	---	---	---	---	---	---

* Available on request

ACCESSORIES FOR BOLTED BONNET VALVES

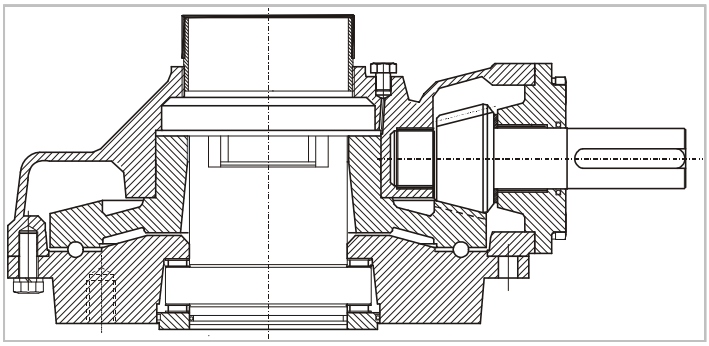
SYSTEM OF LOCAL OR REMOTE CONTROL

Larger size valves are available with a totally enclosed **bevel operator**.

Bevel gear operators *are regularly provided as detailed below, unless otherwise ordered.*

Gear operator *are sized to operate against a differential pressure equal to the cold non-shock pressure rating*

Standard bevel gear operator with trust bearings



VALVO valves can be supplied fitted with an **electronic or pneumatic actuator** *if required.*

Orders for **motorized valves** *shall specify the following* **details**:

- *valve operating conditions (pressure, temperature);*
- *design maximum differential pressure;*
- *primary power supply (voltage, phase, cycles);*
- *control voltage;*
- *valve stem position (vertical or horizontal);*
- *required full travel time;*
- *required enclosure (weatherproof or explosion proof);*
- *auxiliary equipment (with or without reversing contactor starter and local open/close/stop pushbuttons) and other features;*
- *preferences for a specific brand, if any*

BY-PASSES

By-passes *are suitable for warming up the line before the main valve is opened on stem line service or for facilitating the operation of the main valve balancing the pressure on both sides of the wedge in gate valves and discs in globe or angle valves. The following is the table dimensions regularly used:*

Main valve size	2" to 4"	5" to 8"	10" & larger
By-pass size	½"	¾"	1"

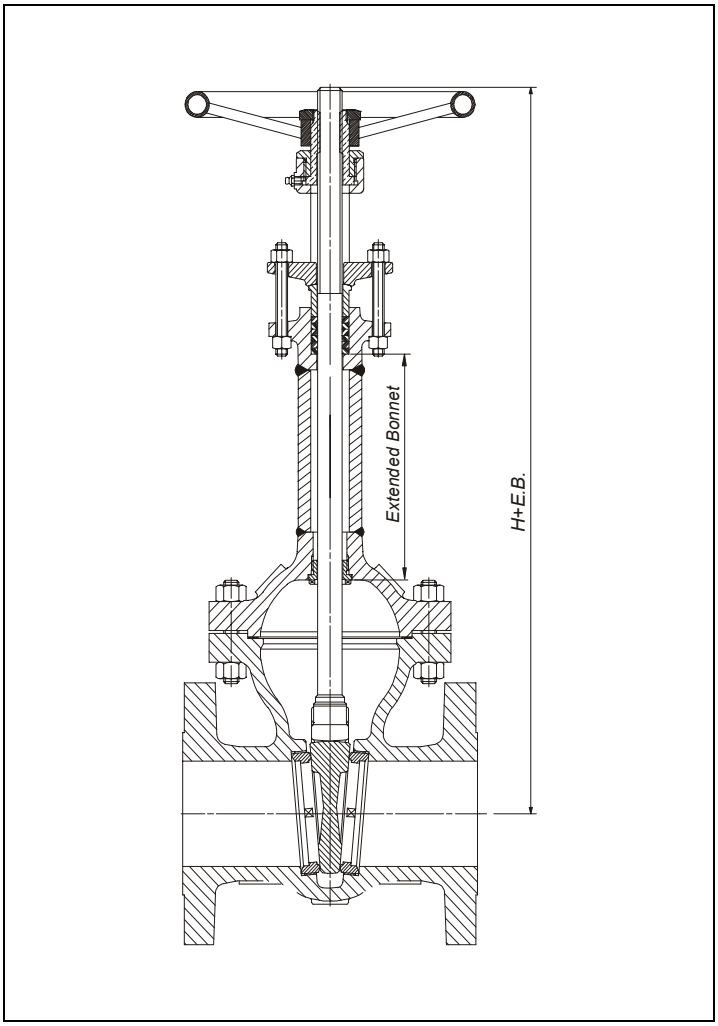
The by-pass valve is a Welded Bonnet OS&Y rising stem socket welding ends globe valve.

All conditions in the by-pass are socket-welded. By-pass are furnished only when ordered.

EXTENDED BONNET

Extended bonnet *extreme temperature, both hot or cold, requires this execution to guard the stuffing box against damages. The dimension E.B (and for special requirements also the dimension H) must be specified when the extended bonnet is required.*

Extended stuffing box; if an additional depth of gland packing is required, extra deep stuffing boxes can be supplied to special order on all types of valves.

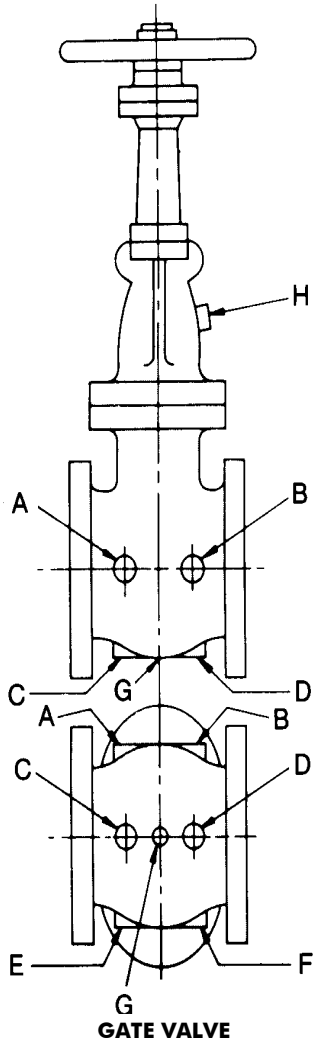


TAPS & DRAINS

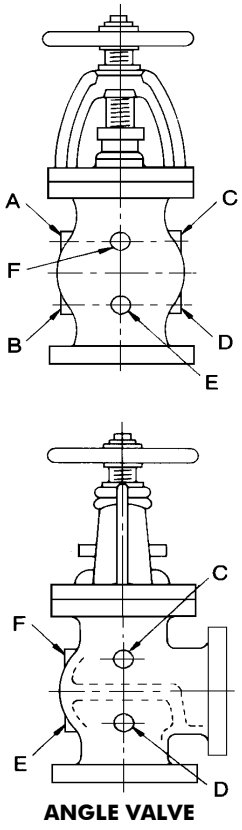
As required and specified by the client, the VALVO valves may be supplied with drain/tap connections at any of the possible locations shown below.

Drain connection are provided as per the standards presented in the adjacent table. All connections conform with ASME B 16.34

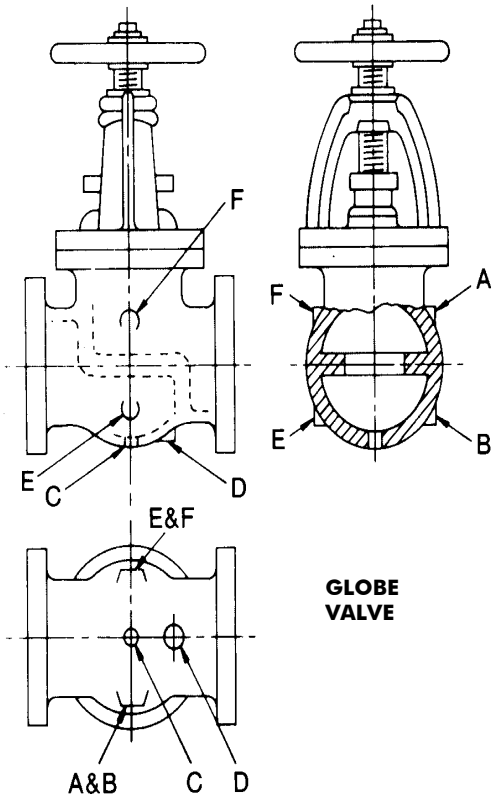
Valve size	2" to 4"	5" to 8"	10" & larger
Drain size	1/2"	3/4"	1"



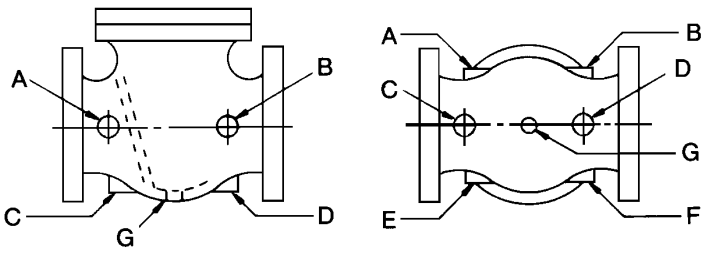
GATE VALVE



ANGLE VALVE



GLOBE VALVE

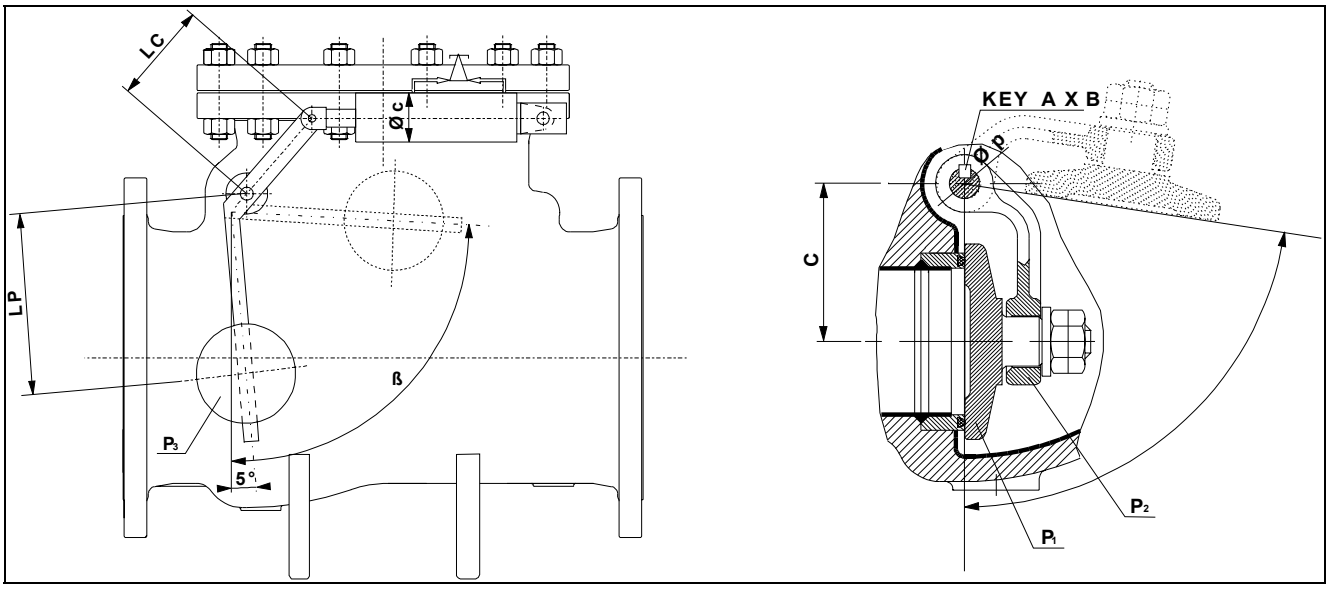


CHECK VALVE

ADDITIONAL FEATURES

- Weight & Lever and/or Damper

Where back-flow is unpredictable or pressure drop is sudden, the use of a weight and lever or damper is recommended as a means to avoid line vibrations due to disc - seat slamming



- For Buried Service

Where conditions require a buried configuration, bonnet-stem extensions are available to address the service