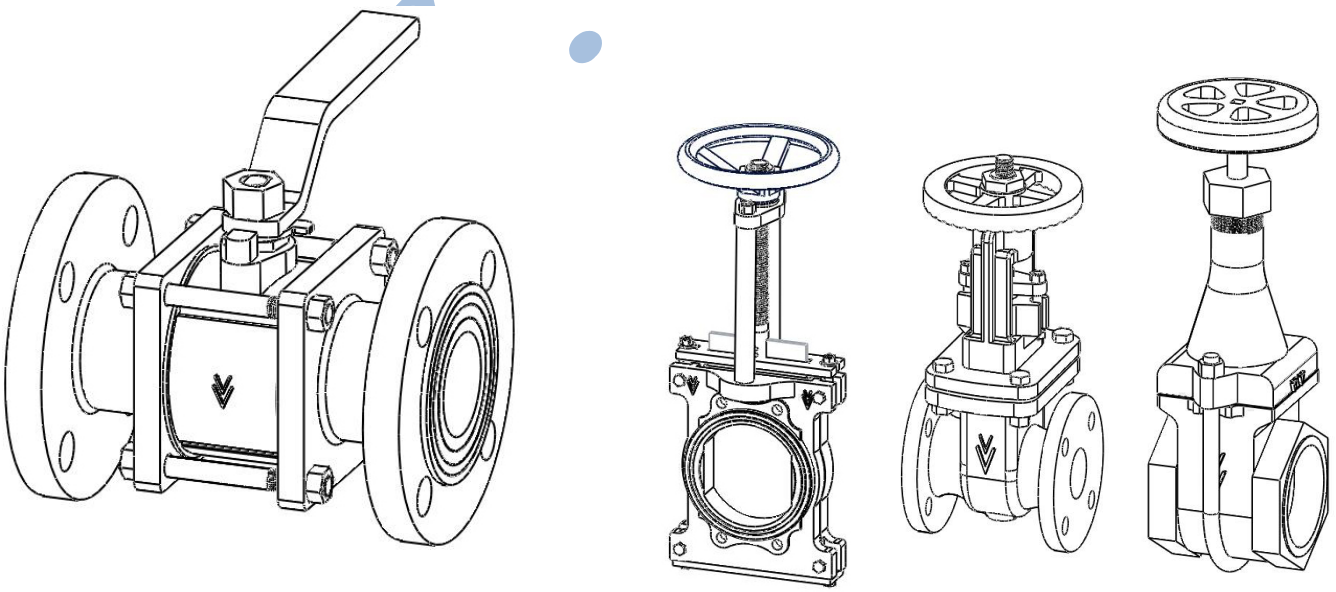
Cast Iron & Cast Carbon Steel CATALOGUE cum LITERATURE.

V V Quality Products.

“Quality is the name of the Game”



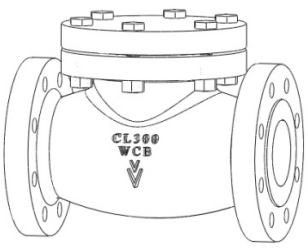
FIRM PROFILE

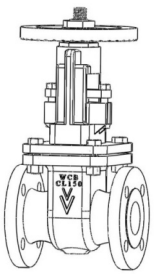
In the year 1982, partnership firm under the name and style "VALVES & VALVES INDUSTRIAL CORPORATION" was established. The Managing Partner KAMAL SINGH RANA, prior to the establishment of the partnership firm, had worked for M/s LEADER VALVES Ltd. Formerly M/s LEADER ENGINEERING WORKS, Jalandhar as Quality Control Engineer and Production Engineer from the year 1967-1980.

From 1982 to 1987 our Firm did work for reputed company pioneer in valve industry in India. We have been manufacturing GATE VALVE(S) BOTH RISING & NON-RISING STEM, NRV HORIZONTAL & SWING TYPE only.

In the end of 1987, we started manufacturing valves and marketing the same under our trade mark **V V®**. Since then, we have been manufacturing and marketing our products in various markets in India. We have reputed customers in the market throughout India. Our high quality products are well received and we are supplying our products to well known dealers in Andhra Pradesh, Delhi, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Punjab, Rajasthan, Tamil Nadu and our Endeavour has been to manufacture and market best quality products to the complete satisfaction of our customers.

From 1998 the work of the firm was carried on by Kamal Singh Rana as sole proprietor under the name and style "V.V. VALVES INDUSTRIAL CORPORATION, HOSHIARPUR with the same brand name and trade mark **V V®**. Apart from manufacturing GATE VALVE(S) & NRV, We also manufacture BALL VALVE(S), PULP VALVE(S), STRAINER, GLOBE VALVE, FOOT VALVE(S), ALPHA VALVE(S), AIR VALVE(S) etc in **C.I & C.S Material** and quality of the products is not sacrificed at any cost**.** The firm is also being managed and looked after by an efficient team led by a promising and enthusiastic engineer Arjun Rana and progressing and expanding its business day by day to the satisfaction of its customers.





INDEX

V.V® C.I Valves

Clip Pattern Gate Valve

V V Gate Valves offer the ultimate independable service wherever minimum pressure drop is important. They serve as efficient stop valves with fluid flow in either direction.

The straight through design offers little resistance to flow and reduces pressure drop to a minimum. Seat actuated by a stem and hand wheel that moves up and down at right angles to the path of flow, and fits against two seat face to shut off flow.

Gate valves are best for services that require infrequent valve operation, and where seat/disc is kept either fully opend or closed. They are not recommended for throttling. With the usual type of gate valve, close flow regulation is impossible.

Gate Valve Rising Stem

Velocity of flow against a partly opened disc may cause vibration and chattering and result in damage to the seating surfaces. Also, when throttled, the disc is subjected to severe wire-drawing erosive effects.

Bronze/G.M- trimmed valves are recommended for steam, water, air and non corrosive oil or gas. All have bronze screwed-in seat rings and the discs are solid bronze in sizes 3" (80 mm) and smaller. In larger sizes, bronze rings are forged into cast iron discs. Handwheels are furnished on all valves.

Solid wedge Gate Valve Discs - The strong, simple, single piece design with long disc guides is a proven performer for all service conditions, particularly suitable for conditions of severe turbulence and stem vibration. Seat and disc surfaces are accurately machined and tapered for shut- off without undue strain.

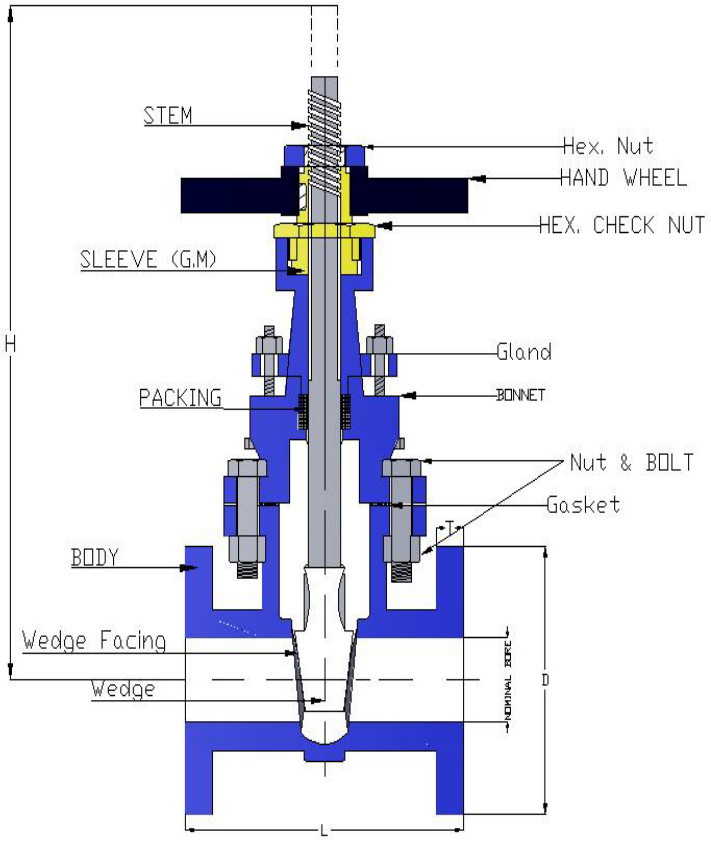
Gate Valve Non Rising Stem

Threaded End Valves have precision cut threads in accordance with ASME BSP Parallel

Figure No. 1008-I All Iron

V V®

Class 125 • Outside Screw & Yoke • Rising Stem • BS: 5150



Features

- Tapered Solid Wedge Disc.
- Body Guide Ribs
- 2"-10" Integeral Seats
- Stem Provided with ACME Double Start
- Packing Graphited Asbestos
- Gaskets Compressed Asbestos Fibre
- Flanges as per ANSI B 16.5
- Bolted Bonnet
- Size Range : 1 ½”- 10"
- Seating Iron
- Stem : M.S

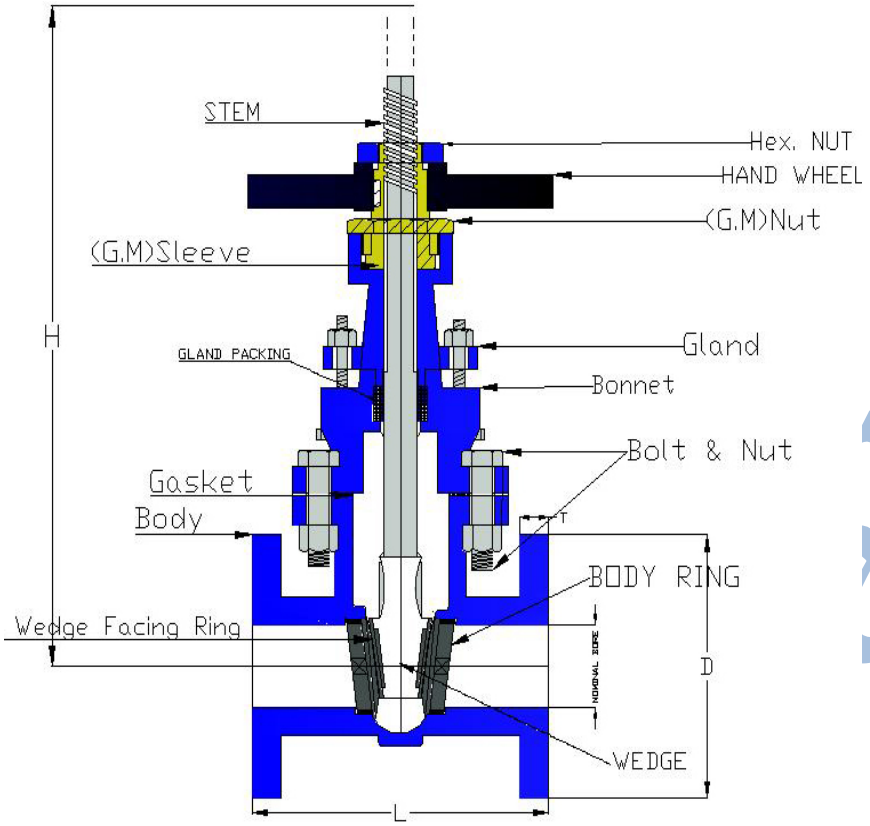
Dimensions :

Nominal Size		L		D (Dia.)		H (Open) Appx.	T (Thickness)	
inch.	**mm**	**inch.**	**mm**	**inch.**	**mm**	**mm**	**inch**	**mm**
1 ½	40	6 ½	165	5	127	330	9/16	14.3
2	50	7	178	6	152	370	5/8	15.9
2 ½”	65	7 ½	190	7	178	425	11/16	17.5
3	80	8	203	7 ½	190	455	¾	19.0
4	100	9	229	9	229	620	15/16	23.8
5	125	10	254	10	254	725	15/16	23.8
6	150	10 ½	267	11	279	770	1	25.4
8	200	11 ½	292	13 ½	343	965	1 1/8	28.6
10	250	13	330	16	406	1164	1 3/16	30.2

Figure No. 1008-S, 1008-G S.S Trim/ G.M Trim

V V®

Class 125 • Outside Screw & Yoke • Rising Stem • BS: 5150



Features

- Tapered Solid Wedge Disc.
- Body Guide Ribs
- 13% Cr. S.S Body Ring & Seat Ring or G.M Trim.
- Stem Provided with ACME Double Start
- Packing Graphited Asbestos
- Gaskets Compressed Asbestos Fibre
- Flanges as per ANSI B 16.5
- Bolted Bonnet
- Size Range : 1 ½”- 10"
- Seating: S.S / G.M
- Stem : S.S AISI 410

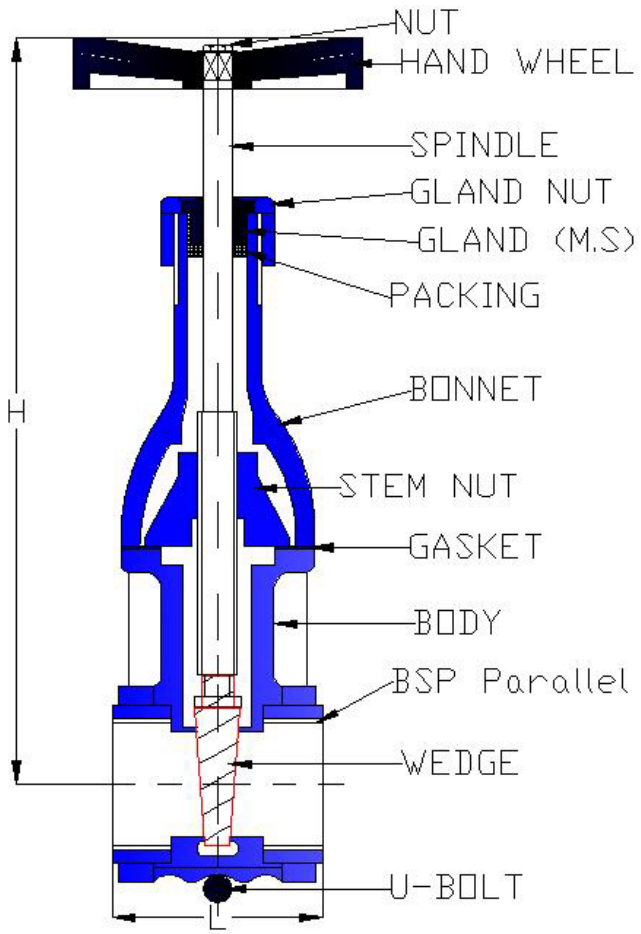
Dimensions :

Nominal Size		L		D (Dia.)		H (Open) Appx.	T (Thickness)	
inch.	**mm**	**inch.**	**mm**	**inch.**	**mm**	**mm**	**inch**	**mm**
1 ½	40	6 ½	165	5	127	330	9/16	14.3
2	50	7	178	6	152	370	5/8	15.9
2 ½”	65	7 ½	190	7	178	425	11/16	17.5
3	80	8	203	7 ½	190	455	¾	19.0
4	100	9	229	9	229	620	15/16	23.8
5	125	10	254	10	254	725	15/16	23.8
6	150	10 ½	267	11	279	770	1	25.4
8	200	11 ½	292	13 ½	343	965	1 1/8	28.6
10	250	13	330	16	406	1164	1 3/16	30.2

Figure No. 1011 All Iron

V V®

Class 125 • Inside Screw • Rising Stem • Clip Pattern



Features

- Compact Design
- Easy Maintenance
- M.S U-Bolt Clamp
- **Anti Clogging Bonnet**
- Integral Seats
- Stem Provided with ACME Double Start
- Packing Graphited Asbestos
- Gaskets Compressed Asbestos Fibre
- Size Range 1 ½" - 4"
- Seating : Iron
- Stem : M.S/ S.S AISI 410
- Every Valve is individually tested
- Screwed Female Ends BSP Parallel
- **Long Pipe Threads at ends extending deep into the body to assure a pressure tight connection without damage to the valve seats.**

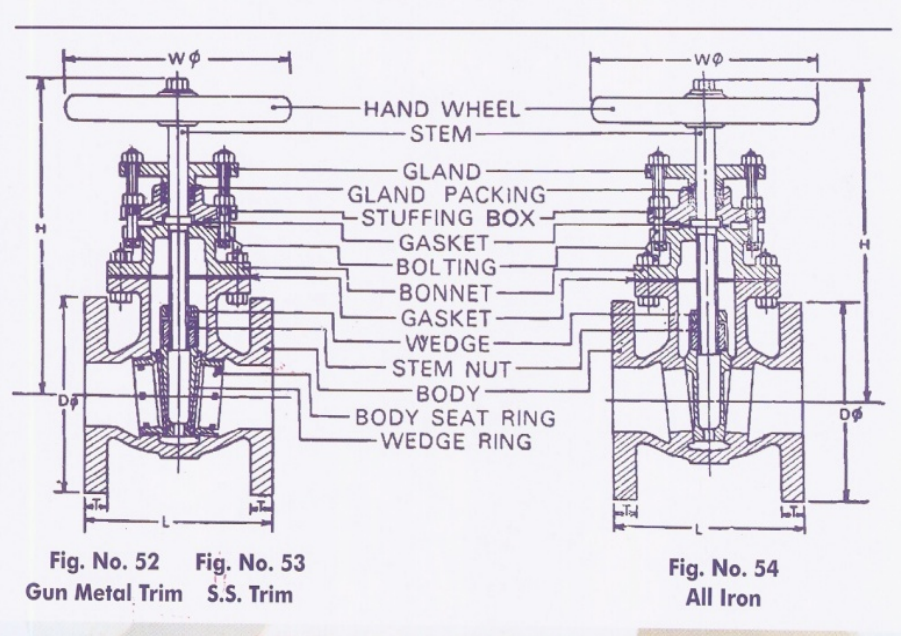
Dimensions :

Nominal Size		Face To Face L		Height H (Closed) Appx.
inch	mm	inch	mm	mm
1 ½"	40	3" 1/8	81	287
2"	50	3" 5/8	92	330
2 ½"	65	5" 1/8	130	345
3"	80	5" 5/16	136	400
4"	100	6" 5/16	159	435

Figure No. F-54,53, 52 All Iron/ S.S Trim/ G.M Trim

V. V®

Inside Screw • Non Rising Stem



These Flanges can be drilled to ASA CL-150 except 2 ½" & 4"

Features

- Tapered Solid Wedge Disc
- Integral Seats
- Stem Provided with ACME Double Start
- Packing Graphited Asbestos
- Gaskets Compressed Asbestos Fibre
- Size Range 1 ½" - 10"
- Seating : Iron/Renewable G.M Seat Rings/ Renewable S.S Seat Rings
- Stem : M.S/ S.S AISI 410/ Extruded Brass Rod
- Every Valve is individually tested
- Flanges as per B.S 10 Table 'D' / Table 'E'

Dimensions

Nominal Size		L		D (Dia.)		H (Open) Appx.	T (Thickness)	
inch.	**mm**	**inch.**	**mm**	**inch.**	**mm**	**mm**	**inch**	**mm**
1 ¼	32	5 5/8	143	5 ¼	133	215	5/8	16
1 ½	40	5 5/8	143	5 ¼	133	215	5/8	16
2	50	6	152	6	152	245	11/16	17.5
2 ½"	65	6 ¼	159	6 ½	165	270	11/16	17.5
3	80	6 ¾	172	7 ¼	184	300	¾	19
4	100	7 ¼	184	8 ½	216	375	¾	19
5	125	7 ¾	197	10	254	420	¾	20.5
6	150	8	203	11	279	480	¾	20.5
7	175	8 ¾	222	10	305	575	7/8	22
8	200	9 ¼	235	13 ½	337	635	7/8	22
10	250	13	330	16	406	725	1	25.5

CAST Iron Globe and Angle Valve Features V V®

V V globe and angle valves are highly efficient for throttling service because disc and seat designs provide flow characteristics with proportionate relationships between valve lift and flow rate. This assures accurate regulated flow control. The additional advantage of an angle valve is that it provides a 90° turn in piping so fewer joints are required and make-up time and labour are reduced.

Bolted Bonnet is the most common design because there is practically no limitation on size. Multiple bolting permits equalized sealing pressure on the gasket against high pressure encountered in iron globe and angle valve applications.

There are two types of discs supplied in V V globe and angle valves:

Metal Disc in most valves is fully guided throughout its travel, minimizing vibration of internal parts and assuring true seating. The disc stem connection is designed to securely hold the disc yet permit swivel action. Disc materials are iron faced with 13% Cr. S.S & iron faced with G.M

Metal Plug Disc/ Needle Type is conically shaped. This design is universally accepted for rigorous service. Because of the wide seating surfaces, it is not easily harmed by foreign matter or wiredrawing. V V uses S.S in this design.

Seats are screwed in and can be reground or replaced whenever necessary.

Stem material is matched to service recommendations for improved operating dependability and life.

Packing Graphited asbestos

Backseating: Rising stem valves are equipped with backseats. It is recommended that the back seat be used as a means for determining the full open valve postion.
For normal operation in the open postion, the stem should backed off so that the back seat is not in contact. This permits the stem packing to assume its intended sealing function and not conceal unsatisfactory stem packing.

In the event of stem packing leakage, the back seat can be used to stop stem leakage until circumstances permit a system shut down and time for packing replacement.

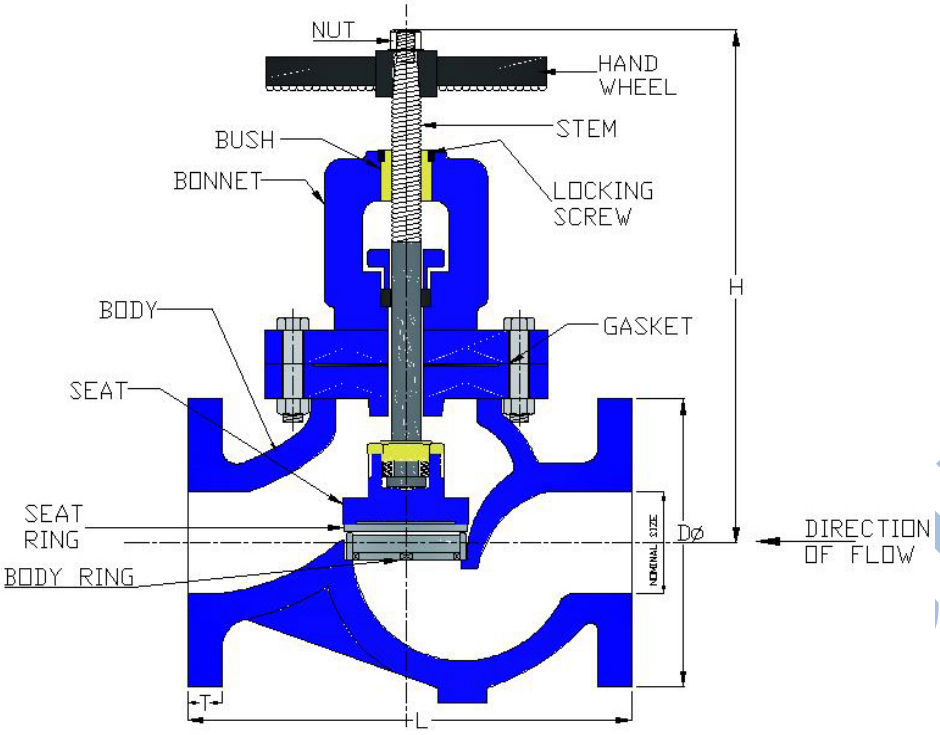
Stem packing replacement with the valve under pressure and backseated represents a hazard and should not be undertaken. The hazard is magnified as fluid pressure or temperature increases or when the fluid is toxic.

Handwheels are furnished on all valves

Face-To-Face Dimensions of flanged end valves conform to DIN 2533 PN 16

Figure No. 812 **C.I Globe Valve**

PN 16 • Outside Screw & Yoke • Rising Stem • DIN: 2533



Max. Working Pressure : 10 Kg/cm^2.
Max. Working Temp. : 200°C / 400 F

Features

- Integral yoke bonnet
- Valves are provided with a Back Seat
- 13% Cr. S.S Body Ring & Seat Ring or G.M Trim.
- Stem Provided with ACME Threads
- Packing Graphited Asbestos
- Gaskets Compressed Asbestos Fibre
- Flanges as per DIN 2533
- Bolted Bonnet
- Size Range : 15 mm-150 mm
- Seating : S.S / G.M
- Stem : S.S AISI 410

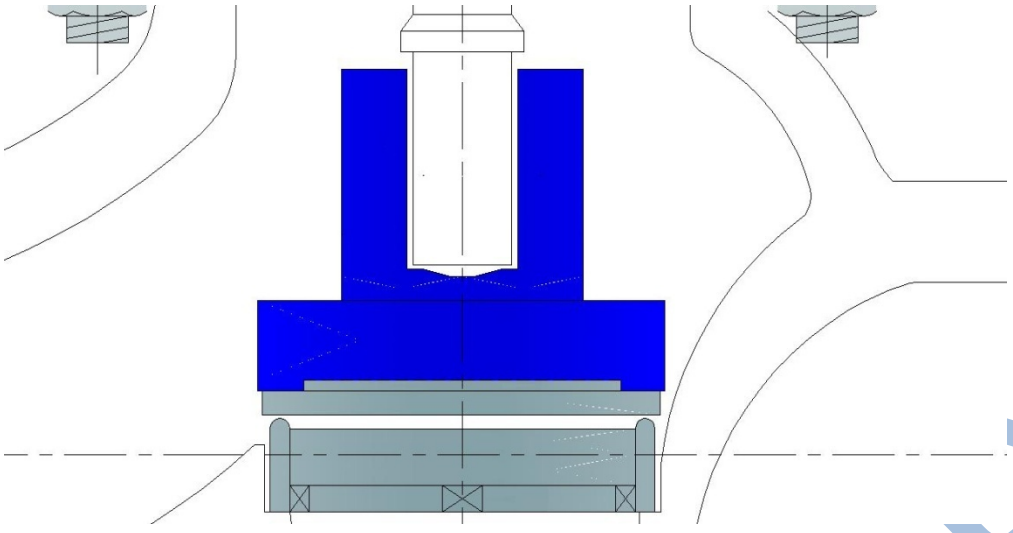
Dimensions

Nominal Size	L	D (Dia.)	H (Appx.)	T (Thickness)
mm	**mm**	**mm**	**mm**	**mm**
15	130	95	180	14
20	150	105	180	16
25	160	115	185	16
32	180	140	200	18
40	200	150	250	18
50	230	165	270	20
65	290	185	340	20
80	310	200	380	22
100	350	220	450	24
125	400	250	530	26
150	480	285	600	26

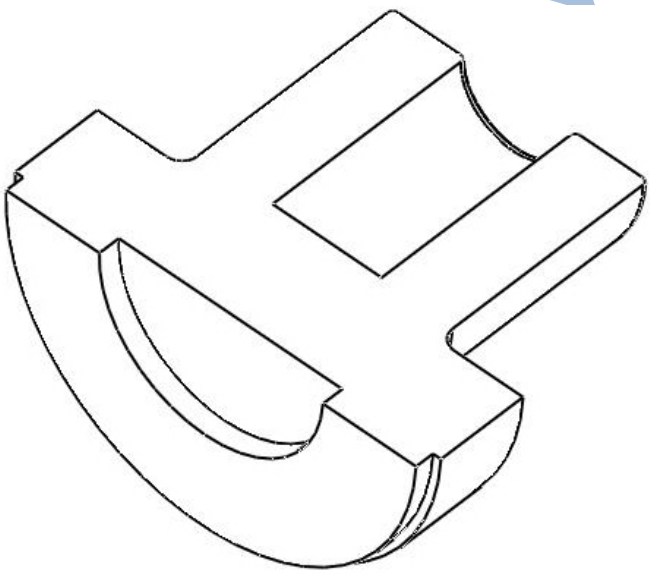
Figure No. 812-S **C.I Globe Stop Cum Non Return Valve**

V V®

PN 16 • Outside Screw & Yoke • Rising Stem • DIN: 2533



Max. Working Pressure : 10 Kg/cm^2.
Max. Working Temp. : 200°C / 400 F



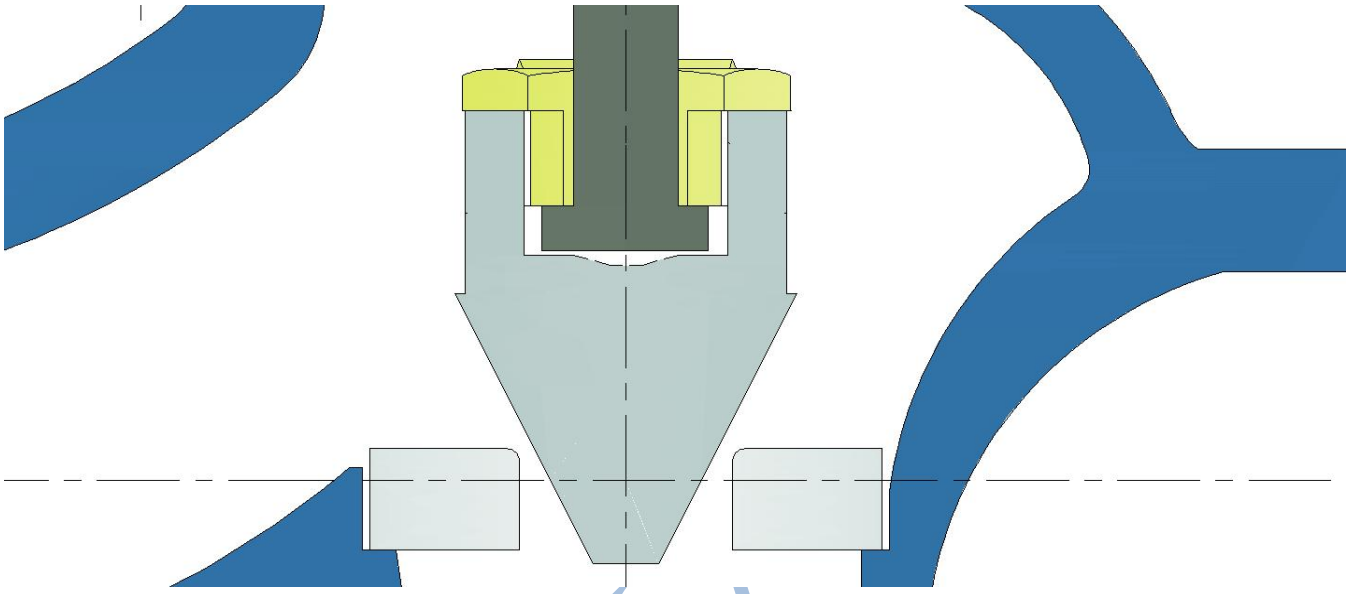
Spindle & Seat Un- assembly

Renewable Seat (PTFE/RUBBER Disc can also made on demand)

Figure No. 812-N **C.I Needle Valve/ Fine Regulating Valve**

V V®

PN 16 • Outside Screw & Yoke • Rising Stem • DIN: 2533



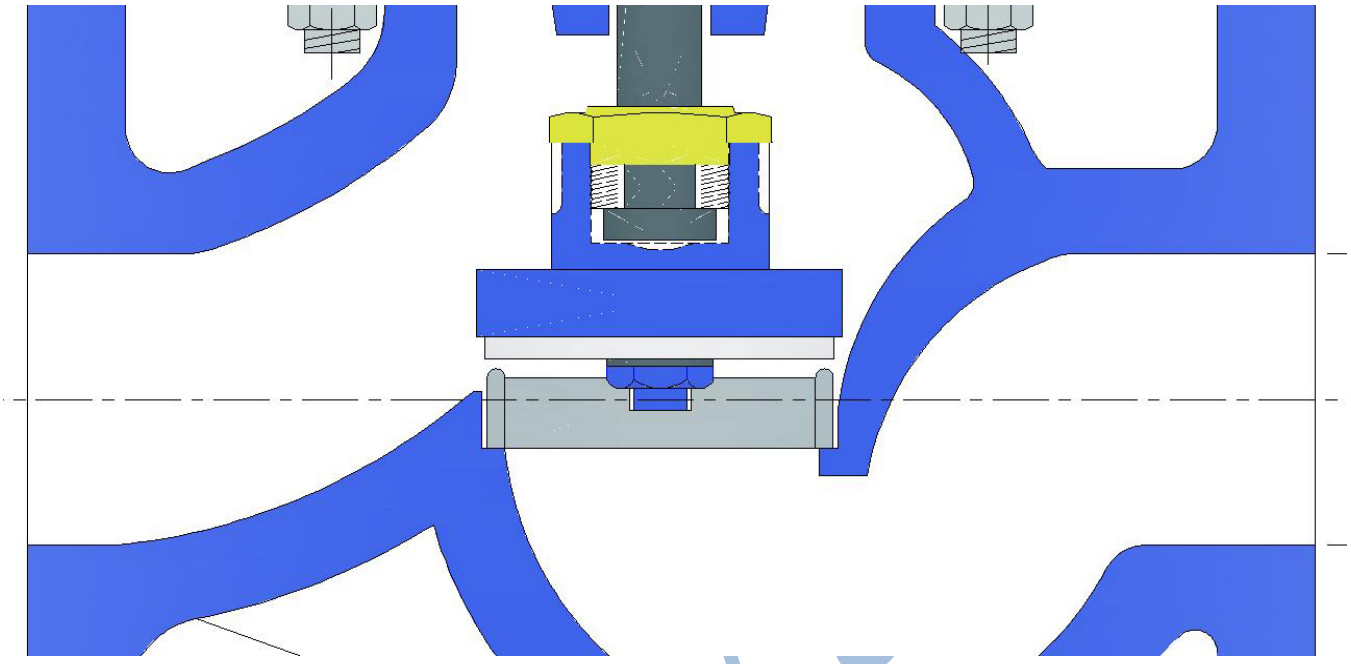
Features

- Renewable Seat (S.S/G.M)
- Size Range : 15 mm- 150 mm
- Seating : S.S / G.M
- Stem : S.S AISI 410

Figure No. 812-P **C.I Globe Valve with PTFE Disc**

V V®

PN 16 • Outside Screw & Yoke • Rising Stem • DIN: 2533



Max. Working Pressure : 10 Kg/cm^2.

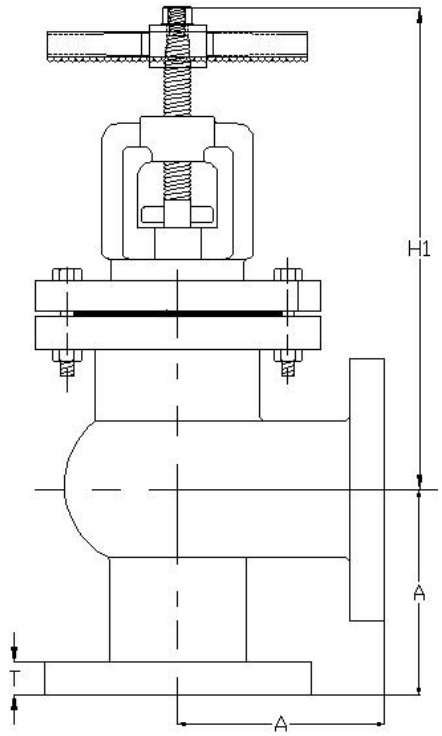
Max. Working Temp. : 170°C

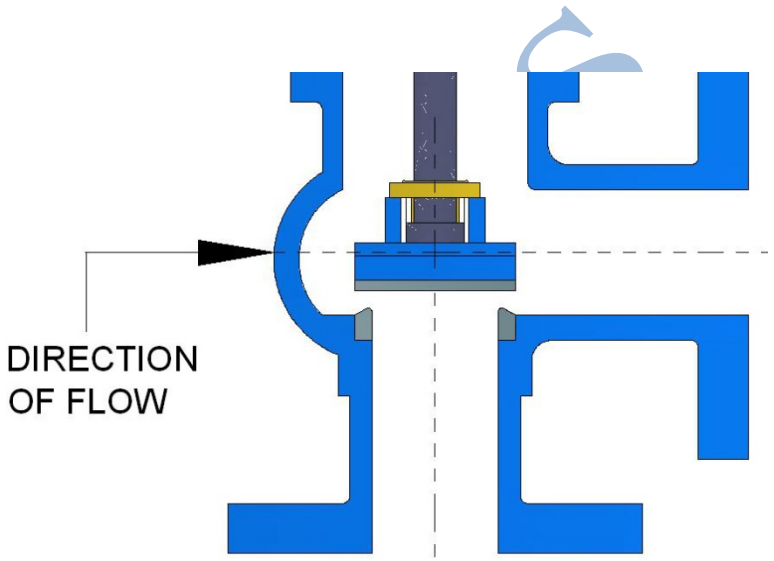
Features

- Renewable PTFE Disc / Rubber Disc can also be provided
- Size Range : 15 mm- 150 mm
- Seating : S.S / G.M
- Stem : S.S AISI 410
- **For hot air/water/gas**

Figure No. 813 **C.I Angle Globe Valve** V V®

PN 16 • Outside Screw & Yoke • Rising Stem • DIN: 2533





Max. Working Pressure : 10 Kg/cm^2.
Max. Working Temp. : 200°C / 400 F

Same can be provided with PTFE Disc or Rubber Disc.
Needle Valve in angle type can also be supplied.

Dimensions

Nominal Size	A	D (Dia.)	H1 (Appx.)	T (Thickness)
mm	**mm**	**mm**	**mm**	**mm**
15	80	95	165	14
20	95	105	165	16
25	100	115	165	16
32	105	140	195	18
40	115	150	210	18
50	125	165	245	20
65	145	185	270	20
80	155	200	300	22
100	175	220	350	24
125	200	250	385	26
150	225	285	435	26

V V®

Cast Iron Check Valve Features

Check Valves permit flow in one direction only and close automatically when flow reverses. They are entirely automatic in action, depending upon pressure and velocity of flow within the line to perform their functions of opening and closing.

Swing Type

The disc and any associated moving parts may be in a constant state of movement if the velocity pressure is not sufficient to hold the disc in a wide open and stable position. Premature wear and noisy operation or vibration can be avoided by selecting the size of the check valve on the basis of flow conditions rather than selecting the check valve according to the size of the pipeline.

Sizing check valves on this basis may often result in the use of valves that are smaller than the pipe in which they are used, necessitating the use of reducers for installation. The pressure drop will be no greater than that of a larger valve that is partially open. Valve life will be greatly extended, and the added bonus, of course, is the lower cost of the smaller valves.

Swing Check Valves with straight through body design and wide hinge support provide turbulence-free flow and accurate seating. There is no tendency for seating surfaces to gall or score because the disc meets the flat seat squarely without rubbing. When faster reaction to flow reversal is necessary, certain valves can be equipped with an outside lever and weight. This will assist the disc to close more rapidly and reduce the possibility of surge and shock.

Flanged Swing Check Valves conform to ANSI B 16.5 Cl-125 in sizes 1” through 10”.

Bronze Trim Valves are for steam, water, non-corrosive oil and gas and other fluids that do not corrode bronze.

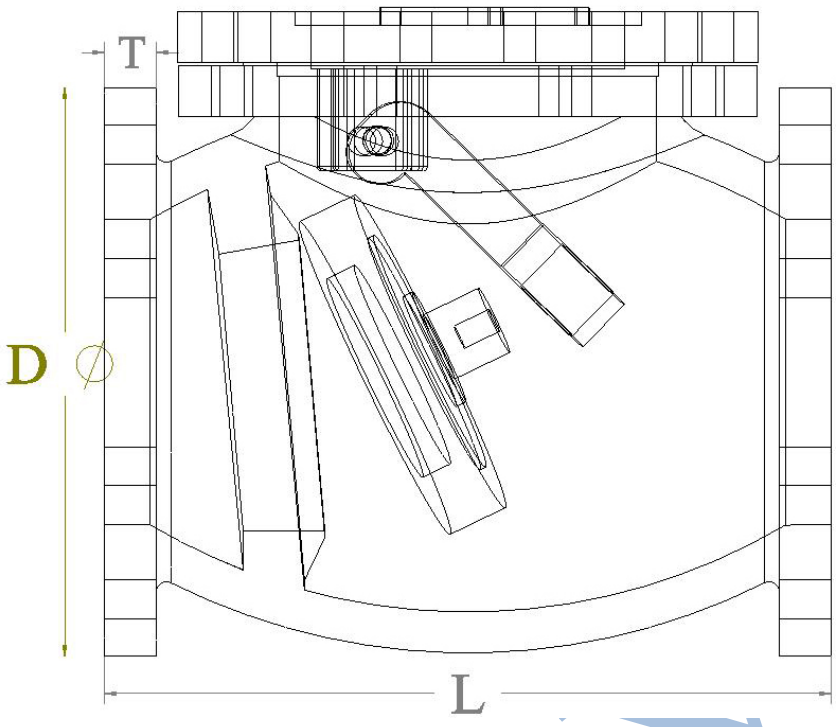
All Iron Valves are for gases, oils and other fluids not corrosive to iron.

Swing Check Valve May be Installed in horizontal or vertical pipelines. In vertical lines, or any angle from horizontal, they can be used for upward flow only.

Lift Type

Figure No. 345 **All Iron Swing Check Valve**

Class 125 • Bolted Cover • Flanged Ends



Features

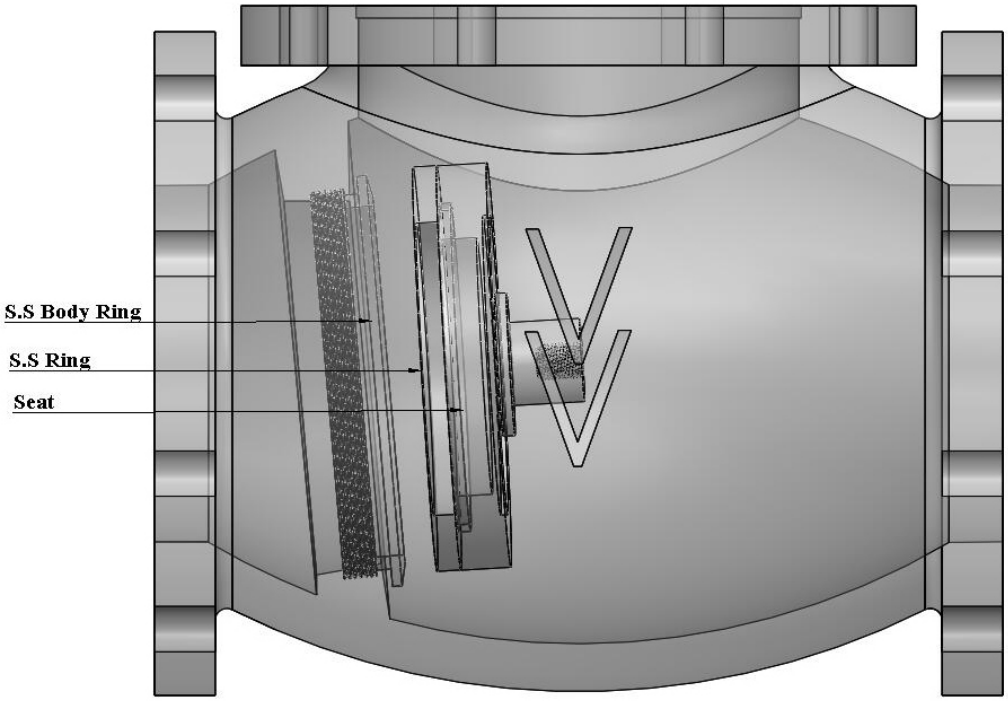
- Design prohibits galling or scoring of seating because the disc meets the flat seat securely on closing with no rubbing action
- M.S Hinges
- Replacable M.S Hinge Pins
- Large Bolted on cover
- Flanges as per ANSI B 16.1 CL-125
- Bolted Bonnet
- Size Range : 1”- 10”
- Packing Graphite Asbestos
- Gaskets Compressed Asbestos Fiber

Dimensions

Nominal Size		L		D (Dia.)		H Appx.	T (Thickness)	
inch.	**mm**	**inch.**	**mm**	**inch.**	**mm**	**mm**	**inch**	**mm**
1	25	5 ¼	135	4 ¼	110	90	7/16	13
1 ¼	32	6 3/8	162	4 5/8	122	100	½	17
1 ½	40	6 ½	165	5	127	100	9/16	14.3
2	50	8	203	6	152	105	5/8	15.9
2 ½	65	8 ½	216	7	178	115	11/16	17.5
3	80	9 ½	241	7 ½	190	130	¾	19.0
4	100	11 ½	292	9	229	150	15/16	23.8
5	125	13	330	10	254	185	15/16	23.8
6	150	14	356	11	279	195	1	25.4
8	200	19 ½	495	13 ½	343	230	1 1/8	28.6
10	250	24 ½	622	16	406	300	1 3/16	30.2

Figure No. 347/346 **S.S Trim/ G.M Trim**

Class 125 • Bolted Cover • Flanged Ends



S.S/ G.M Trim

Renewable PTFE Dsic/
Rubber Disc

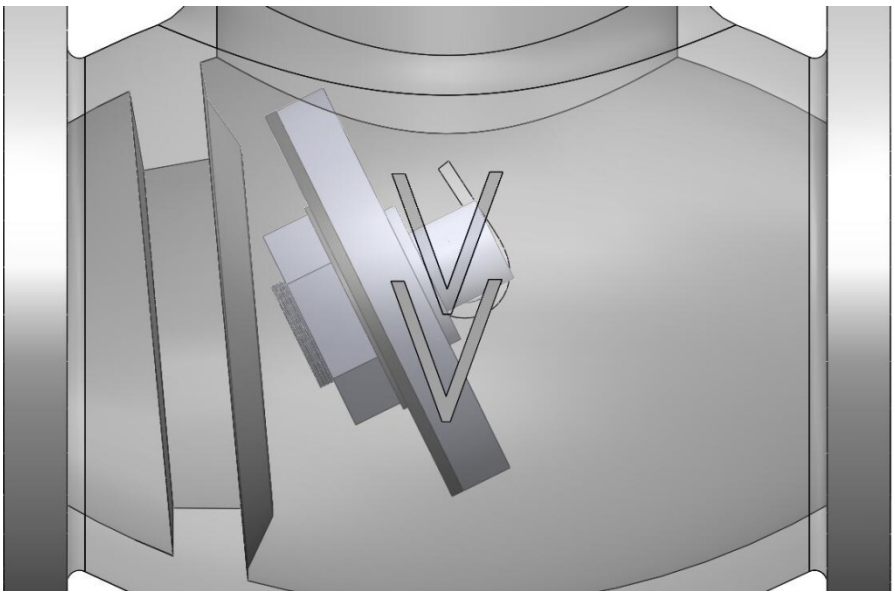
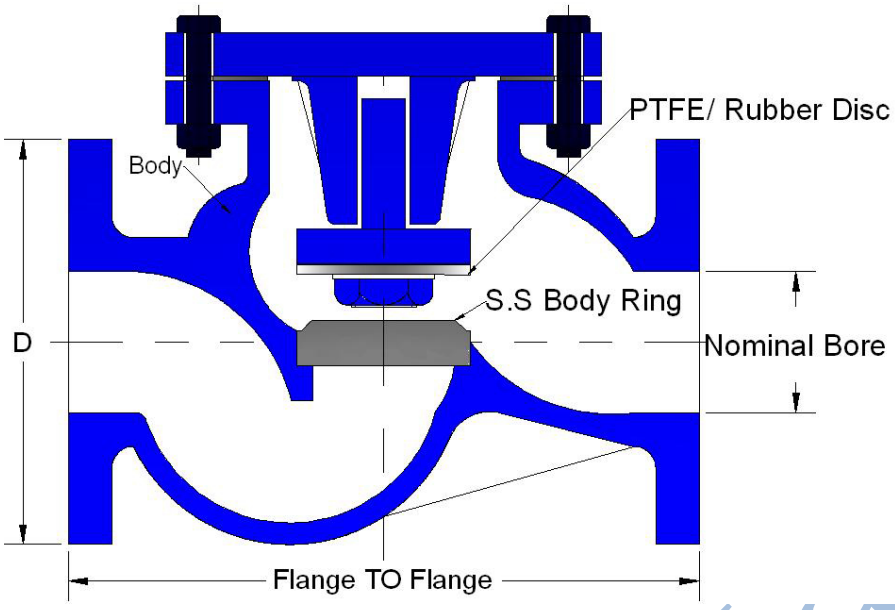


Figure No. 349-P **C.I Lift Check Valve** V V®

PN 16 • Bolted Cover • Flanged Ends • DIN Std. 2533



Max. Working Pressure : 10 Kg/cm^2.
Max. Working Temp. : 170°C

Features

- **For air service/ Hot air / gases/ steam**
- Globe type body design with full flow area
- Design prohibits galling or scoring of seating because the disc meets the flat seat securely on closing with no rubbing action
- Bolted Bonnet
- Flanges as per DIN 2533 PN 16
- Size Range : 15 mm – 150 mm
- Packing Graphited Asbestos
- Gaskets Compressed Asbestos Fibre

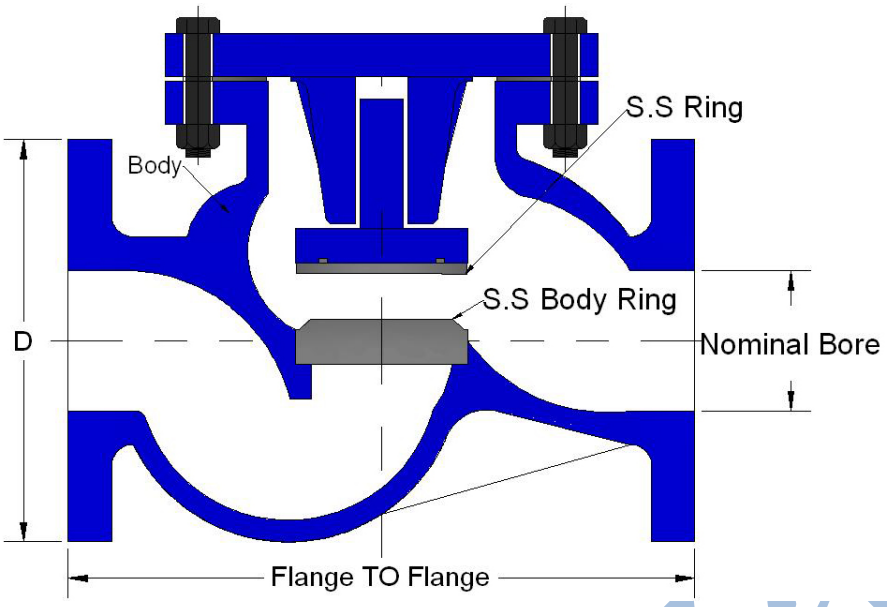
Dimensions

Nominal Size	L	D (Dia.)	H (Appx.)	T (Thickness)
mm	**mm**	**mm**	**mm**	**mm**
15	130	95	85	14
20	150	105	85	16
25	160	115	90	16
32	180	140	100	18
40	200	150	120	18
50	230	165	130	20
65	290	185	160	20
80	310	200	170	22
100	350	220	190	24
125	400	250	215	26
150	480	285	240	26

Figure No. 348/349 **Lift Check Valve G.M Trim/ S.S Trim**

V V®

Bolted Cover • Flanged Ends • DIN Std. 2533 • PN 16



Features

- Globe type body design with full flow area
- Design prohibits galling or scoring of seating because the disc meets the flat seat securely on closing with no rubbing action
- Flanges as per DIN 2533 PN 16
- Bolted Bonnet
- Size Range : 15 mm – 150 mm
- Packing Graphited Asbestos
- Gaskets Compressed Asbestos Fibre

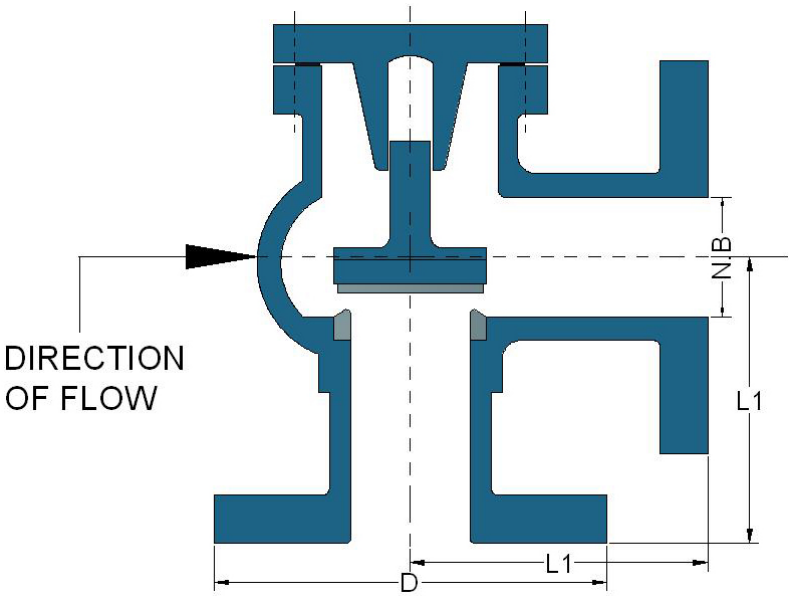
Dimensions

Nominal Size	L	D (Dia.)	H (Appx.)	T (Thickness)
mm	**mm**	**mm**	**mm**	**mm**
15	130	95	85	14
20	150	105	85	16
25	160	115	90	16
32	180	140	100	18
40	200	150	120	18
50	230	165	130	20
65	290	185	160	20
80	310	200	170	22
100	350	220	190	24
125	400	250	215	26
150	480	285	240	26

Figure No. 350/351 **Angle Type Lift Check Valve G.M Trim/ S.S Trim**

V V®

Bolted Cover • Flanged Ends • DIN Std. 2533 • PN 16



FOR Air/ Hot air/ Gases/ Steam Services Renewable PTFE Disc/ Rubber Disc can be made on demand

Features

- Globe type body design with full flow area
- Design prohibits galling or scoring of seating because the disc meets the flat seat securely on closing with no rubbing action
- Flanges as per DIN 2533 PN 16
- Bolted Bonnet
- Size Range : 15 mm – 150 mm
- Packing Graphited Asbestos
- Gaskets Compressed Asbestos Fibre

Dimensions

Nominal Size	L1	D (Dia.)	H (Appx.)	T (Thickness)
mm	**mm**	**mm**	**mm**	**mm**
15	90	95	65	14
20	95	105	65	16
25	100	115	70	16
32	105	140	75	18
40	115	150	90	18
50	125	165	95	20
65	145	185	115	20
80	155	200	140	22
100	175	220	150	24
125	200	250	170	26
150	225	285	190	26

V V®

C.I Pulp Valve / Knife Edge Gate Valve

Size above 6” have 3 Pillars

Regulating Type Pulp Valve

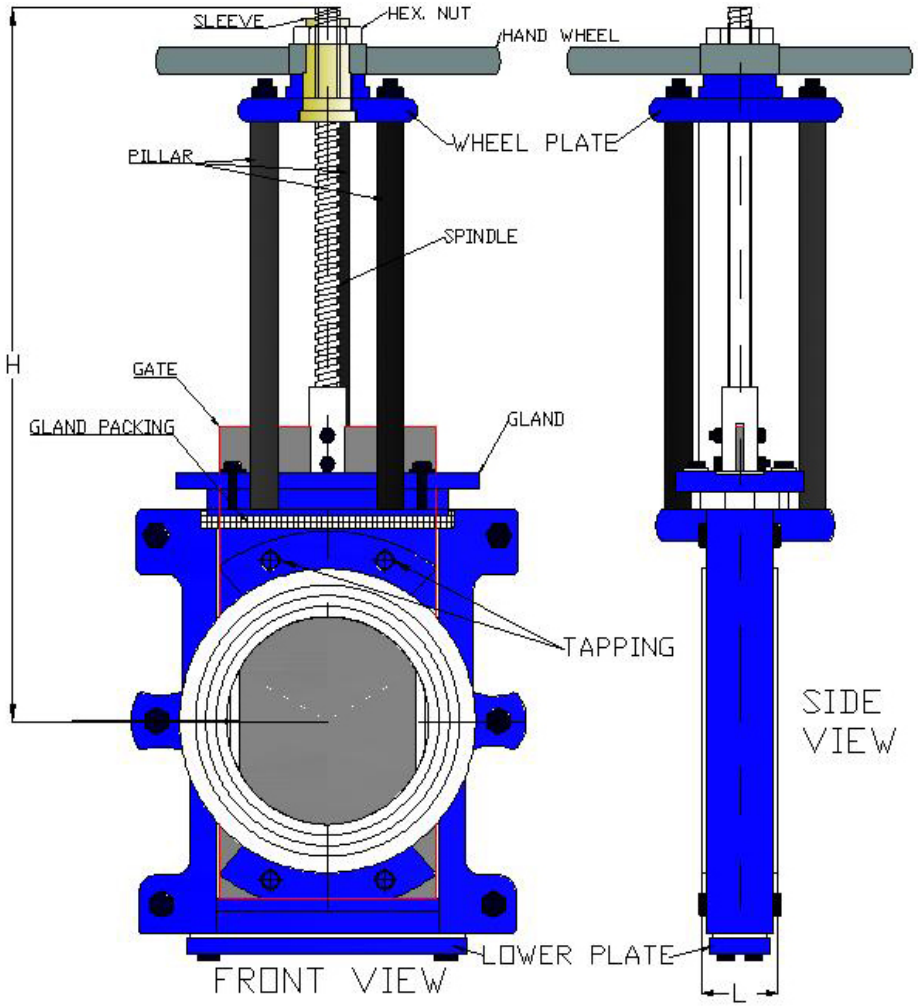
Features

- Valve Body have ample wall thickness and sturdy built
- Bolted lower plate incorporating CAF gasket for sealing.
- Simple Design with easy replaceable of parts
- Size Range : 2” (50 mm) – 20” (500 mm)
- Packing Graphited Asbestos
- Operating handwheel fitted with G.M Sleeve threaded from outside & Inside, wheel fitted with threaded sleeve and for proper fitting check nut is also provided at the top
- ACME Double Start Threading

Typical Applications

- Sewage Plants
- Pulp and Paper Services
- Dry Powder Hopper isolation applications

SECTIONAL VIEW



Size 8" Drawing (3 Pillars)

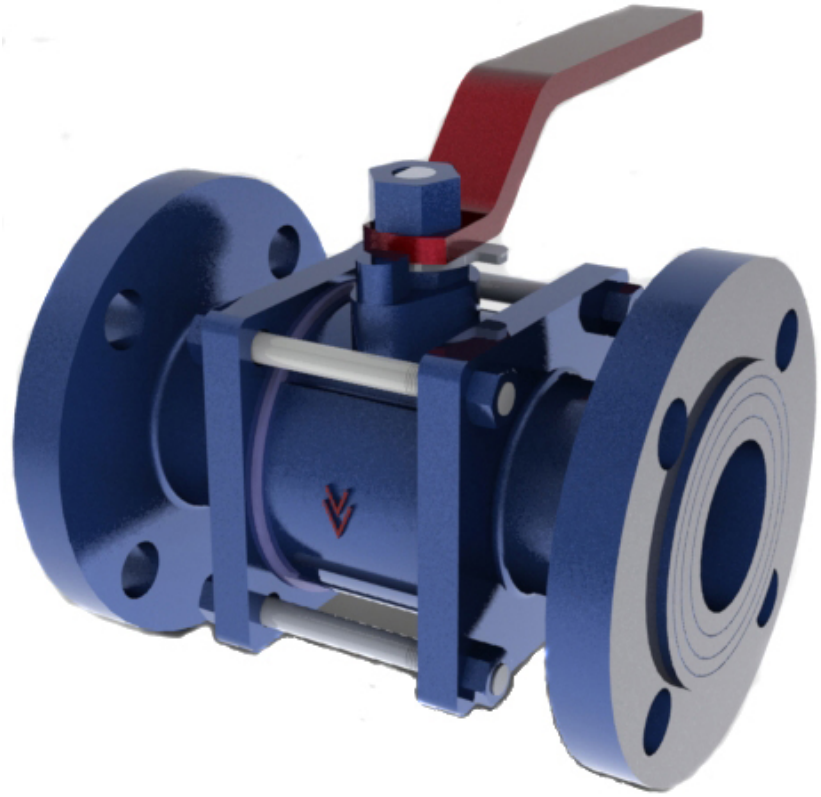
Dimensions

Nominal Size		L	H Approx.
inch	mm	mm	mm
2	50	50	310
2 ½	65	50	370
3	80	50	365
4	100	64	400
5	125	70	500
6	150	77	500
8	200	67	630
10	250	80	740
12	300	98	860
14	350	95	1000
16	400	115	1030
18	450	115	1200
20	500	120	1250

C.I Ball Valve

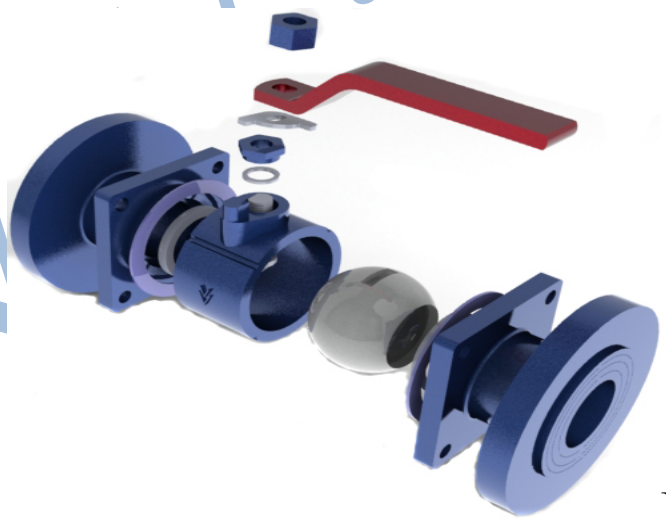
V V®

Class 125 • Three Piece Design• Flanged Ends



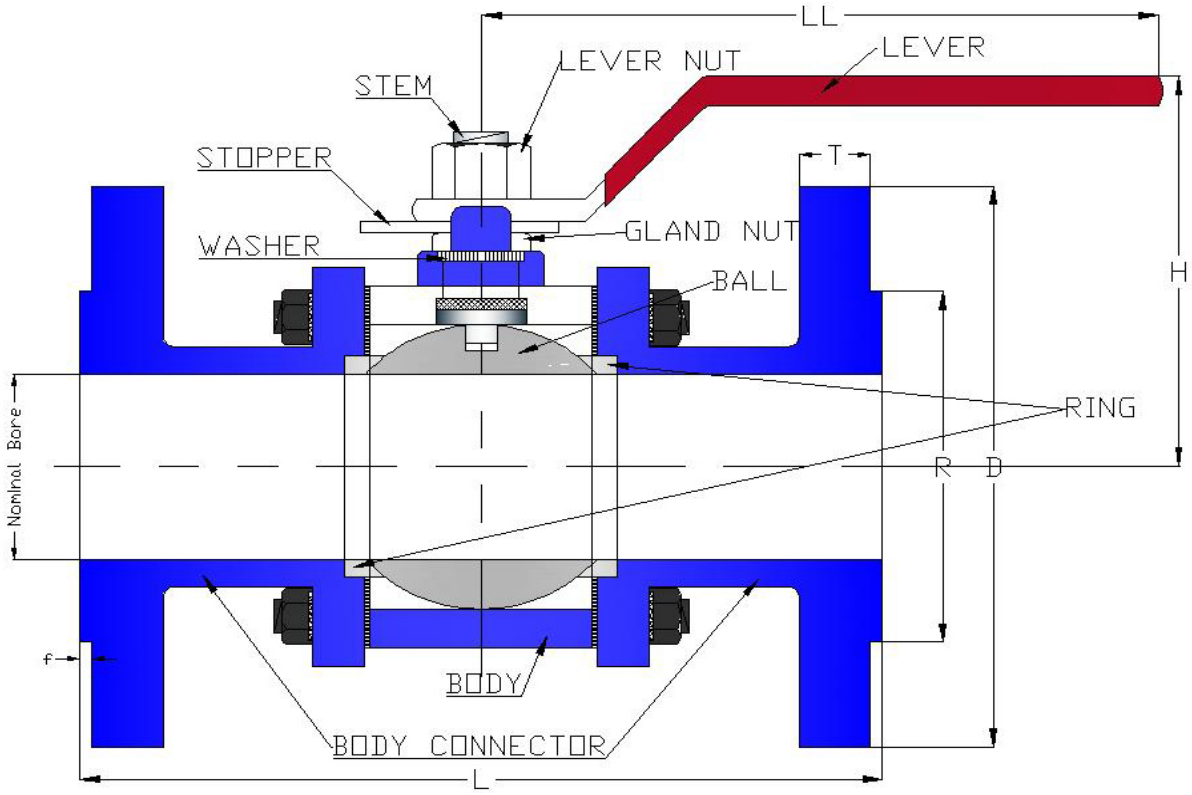
Features

- Three piece valve itself act as union. The parts which might require servicing can be removed from the valve without disturbing the end connections
- Mirror finish smooth ball
- Full Bore (Excellent flow)
- Quarter turn shut off, blow out proof stem
- No lubrication and maintenance required
- Suitable for temperature upto **170^0 C**
- Suitable for **oil, water, air, gas, steam and chemicals**
- Size Range : 15 mm – 150 mm



Exploded View

SECTIONAL VIEW



Dimensions

Nominal Size	L	D (Dia.)	H (Appx.)	T (Thickness) min.	LL (Appx.)	R	f
mm	**mm**	**mm**	**mm**	**mm**	**mm**	**mm**	**mm**
15	130	95	60	14.3	135	45	2
20	130	100	66	15.9	155	50	2
25	140	108	68	17.5	155	60	2
32	165	117	105	19.1	165	63	2
40	165	127	105	20.6	190	73	3
50	203	152	120	22.2	190	92	3
65	222	177	127	25.4	285	104	3
80	241	190	140	28.6	285	127	3
100	305	228	152	31.8	325	157	3
125	368	254	220	36.5	610	185	3
150	394	279	224	36.5	610	215	3

C.I Foot Valve

V V®

Rubber Seat• Flanged End/ Screwed End

Flanged End

Screwed End

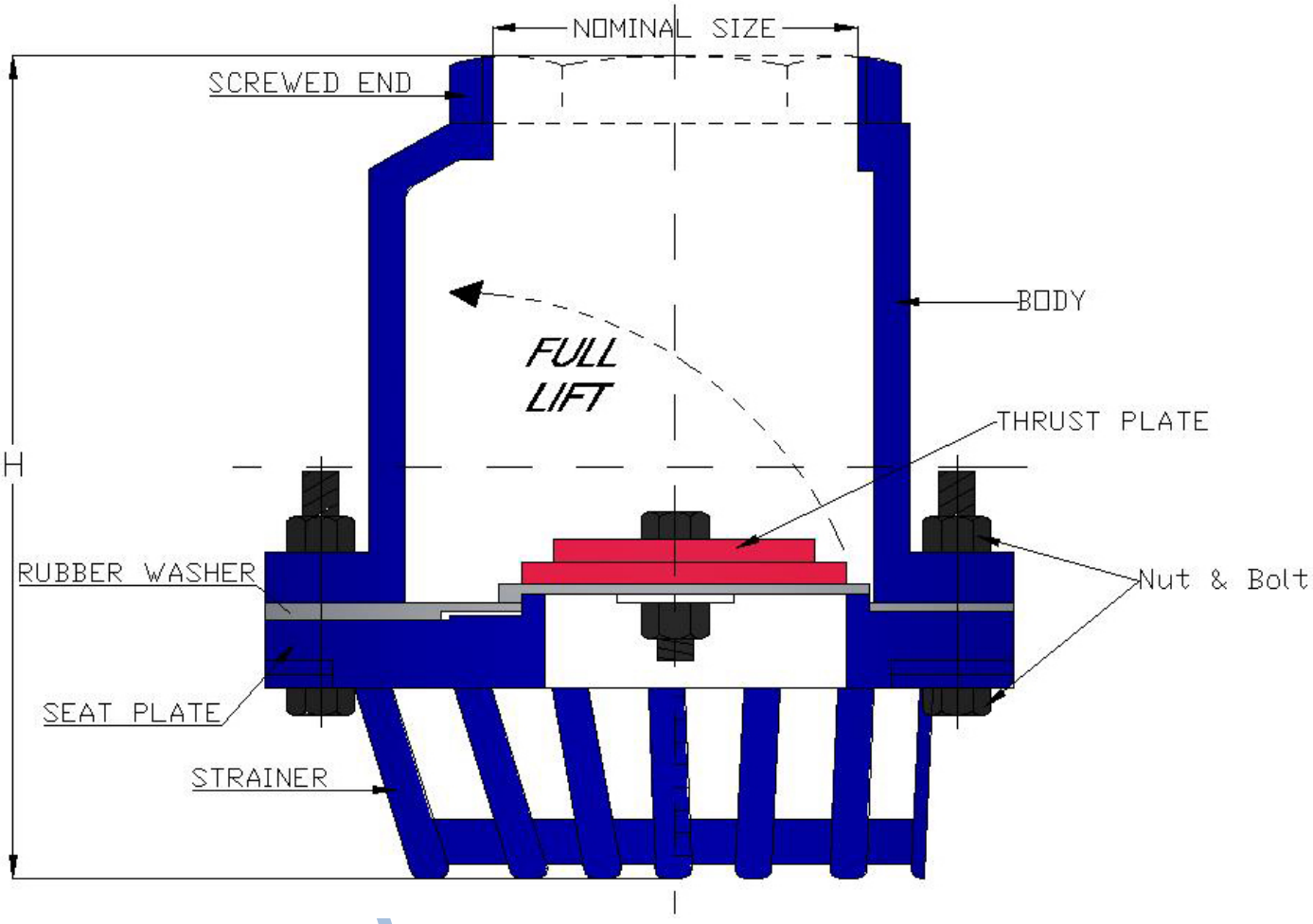
Special Features:

- Full Flow Area, equal to pipe size at all points through Valve. Unique seating design, provides positive shut off at all pressure ranges without additional loading on seal.
- Silent operation, by using rubber seat.
- Heavy duty body for long life.
- Size range 1 ½" (40 mm) – 6" (150 mm).

FOOT VALVE OPERATION: V V Foot Valve are designed to be installed on the suction side of a pump. The purpose of a foot valve is to maintain pump prime between pumping cycles. A strainer prevents debris from entering the piping system. Foot valves are designed to minimize head loss and optimize pumping efficiency.

FOOT VALVE Applications: Municipal Water Treatment, Industrial, Rural Fire Protection, Irrigation

SECTIONAL VIEW



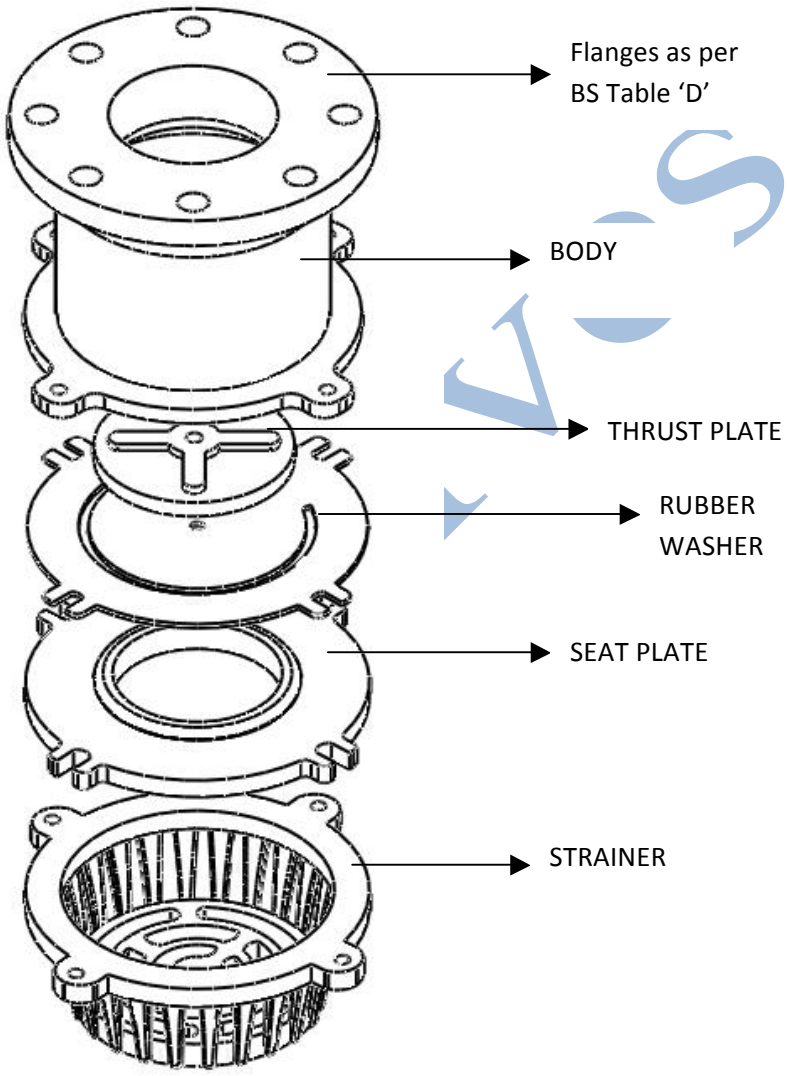
DIMENSIONS

Nominal Size		
inch	**mm**	**H (Appx.) mm**
1 ½	40	135
2	50	135
2 ½	65	160
3	80	190
4	100	220
5	125	245
6	150	270

MATERIALS

COMPONENT	MATERIAL
Body, Seat Plate, Thrust Plate	Cast Iron
Strainer	Cast Iron
Rubber Washer	Nitrile Rubber
Bolting	Mild Steel

Size Range 1 ½” (40 mm) – 6” (150 mm) V V®



UN- ASSEMBLED VIEW

C.I Y- Type Strainer

V V®

Class 125 • S.S Screen• Flanged Ends/ Screwed Ends

Flanged Ends

Screwed Ends

Min. Flow Area 85% To 90 %

V V pipe line stariners are designed and built to afford dependable long lasting protection to a wide variety of mechanical equipment like pumps, burners, nozzles, pressure reducing valves, traps, meters & Turbines, etc.

SPECIAL FEATURES

"V V" Strainers are in demand for many applications where straining is required, due to the following special design features :-

i. Arc shaped body that is revolved to ensure minimum blockage, less maintenance & less pressure drop with full flow to fluid.
ii. Fine finish castings to reduce pressure drop.
iii. Screens are guided in the body.
iv. Y-Type strainers may be installed in downward vertical lines with effectiveness equal to horizontal installation.
v. Bodies require long period for cleaning as it has larger cross sectional area & more height.
vi. Large ratio between the clear area through the strainer and pipe area to limit pressure drop to minimum.
vii. A wide variety of corrosion resistance screens, available in a wide range of perforations, provide the answer to straining problems.

MATERIALS:

- ✓ **Strainers body and cover are made in following materials:-**

a) Cast Iron (IS 210 Gr. FG 200).
b) Cast Steel (ASTM A 216 GR. WCB).
c) Stainless Steel (304 & 316).

- ✓ Strainer Screens : There are two types of screens used in strainers:

Perforated screens:- These are formed by punching a large number of holes in a flat sheet of the required material using a multiple punch. The perforated sheet is then rolled into a tube and electric welded together for smooth & permanent joint.
Consequently, perforated screens are only suitable for removing general pipe debris.

Mesh screens:- Fine wire is formed into a grid or mesh arrangement. This is then commonly layered over a perforated screen, which acts as a support cage for the mesh.
Screen can either be perforated sheet or wire woven mesh depending on working conditions.

DIMENSIONS:

The main dimensions of these strainers have been tabulated in Table 1. Inlet and Outlet flanges of the flanged valve shall be as follows:-

C.I ---------- ANSI B 16.1 CL-125.

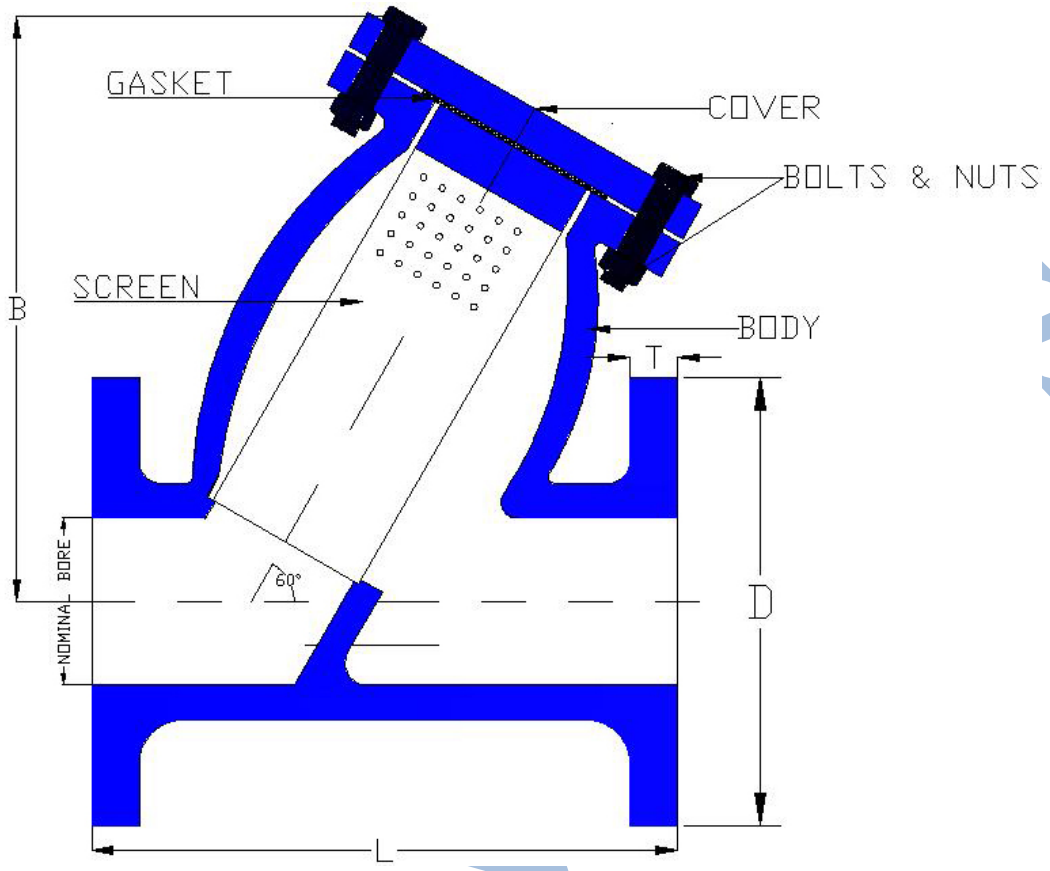
C.S ---------- ANSI B 16.5 CL-150 (Raised Face).

Flanges conforming to other flange standards can also be supplied against specific requirements. Screwed ends strainers are supplied with female threaded ends as per IS 554/ BS 21.

PRESSURE/ TEMPERATURE RATINGS:

Pressure/ Temperature ratings of strainer confirm the standards mentioned above in dimensions. The strainers are tested to maximum cold non shock Hyd. Pressure of 20 Kg/cm^2 for C.I and 30 Kg/cm^2 for Cast Steel.

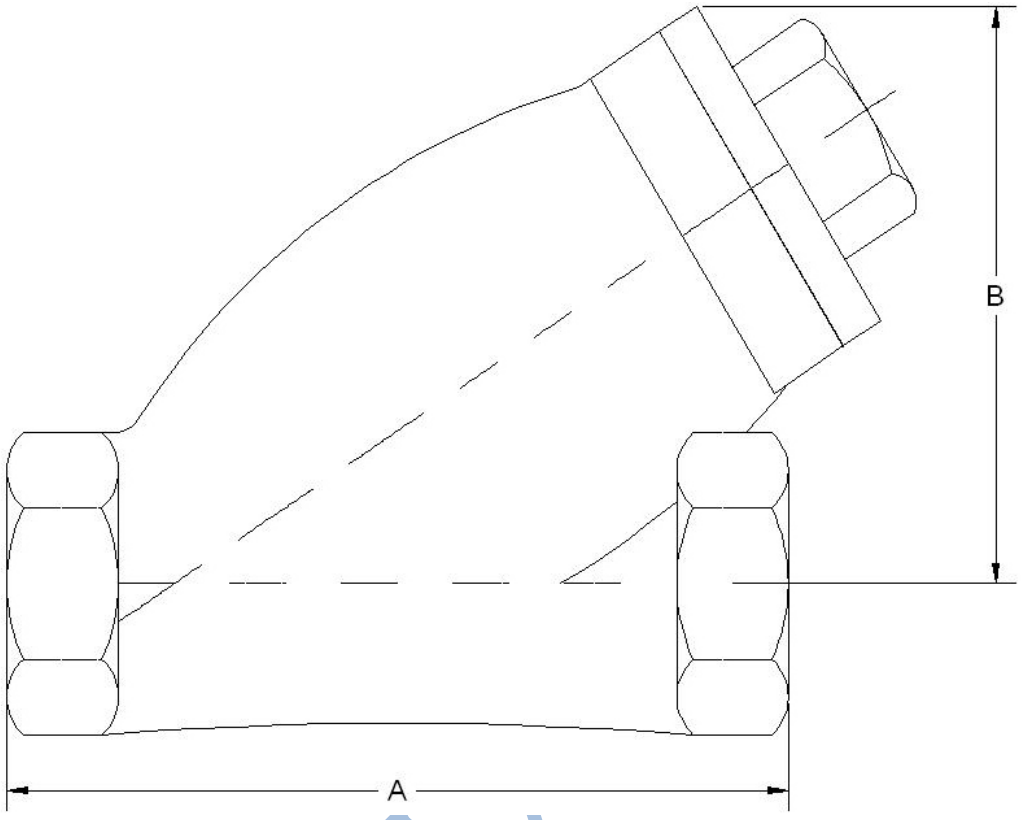
OVERALL DIMENSIONS OF Y-TYPE STRAINERS(FLANGED ENDS)



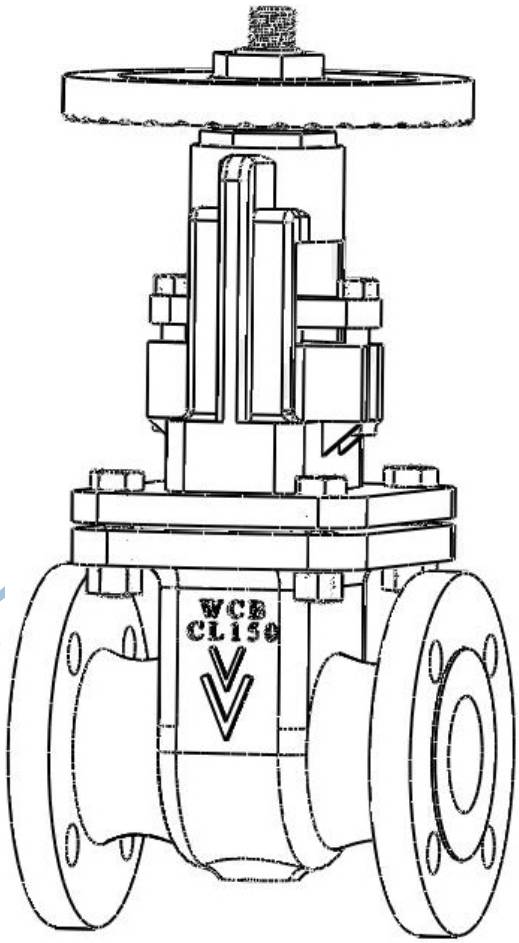
Dimensions

Nominal Size	Flange To Flange L		Flange Dia. D Ø		T (Thickness) min.	H (Appx.)
	inch	**mm**	**inch**	**mm**	**mm**	**mm**
½" (15 mm)	6 ¼	160	3 ½	89	14	90
¾" (20 mm)	6 ¼	160	3 7/8	100	14	90
1" (25 mm)	6 ¾	171	4 ¼	108	15	155
1 ¼" (32 mm)	8 ¼	210	4 5/8	118	17	200
1 ½" (40 mm)	8 ¼	210	5	127	17	200
2" (50 mm)	8 3/8	214	6	152	19	220
2 ½" (65 mm)	9 ¾	247	7	178	19	260
3" (80 mm)	10 ½	267	7 ½	190	19	260
4" (100 mm)	15	387	9	228	22	335
5" (125 mm)	16 ½	420	10	254	24	420
6" (150 mm)	17 ¾	450	11	279	27	425

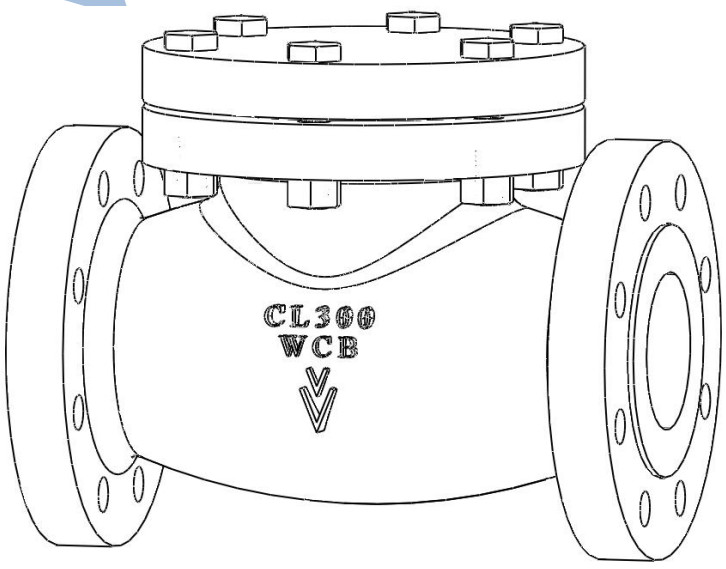
OVERALL DIMENSIONS OF Y-TYPE STRAINERS(SCREWED ENDS)



SIZE	Face To Face A		Height B
	inch	mm	mm
½" (15 mm)	3	76	49
¾" (20 mm)	3 7/8	98	67
1" (25 mm)	5 3/8	137	80
1 ½" (40 mm)	7 ¼	184	130
2" (50 mm)	8 13/16	224	150
2 ½" (65 mm)	10 3/8	263	205

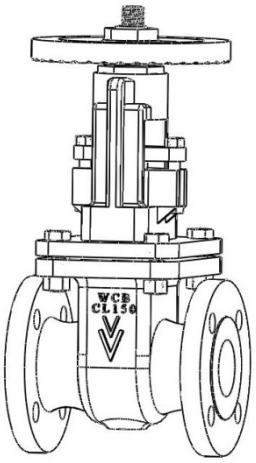


CAST CARBON STEEL VALVES : NON -IBR



V.V® C.S Gate Valves

NON - IBR



Gate Valve Rising Stem

V V Gate Valves offer the ultimate independable service wherever minimum pressure drop is important. They serve as efficient stop valves with fluid flow in either direction.

Velocity of flow against a partly opened disc may cause vibration and chattering and result in damage to the seating surfaces. Also, when throttled, the disc is subjected to severe wire-drawing erosive effects.

The straight through design offers little resistance to flow and reduces pressure drop to a minimum. Seat actuated by a stem and hand wheel that moves up and down at right angles to the path of flow, and fits against two seat face to shut off flow.

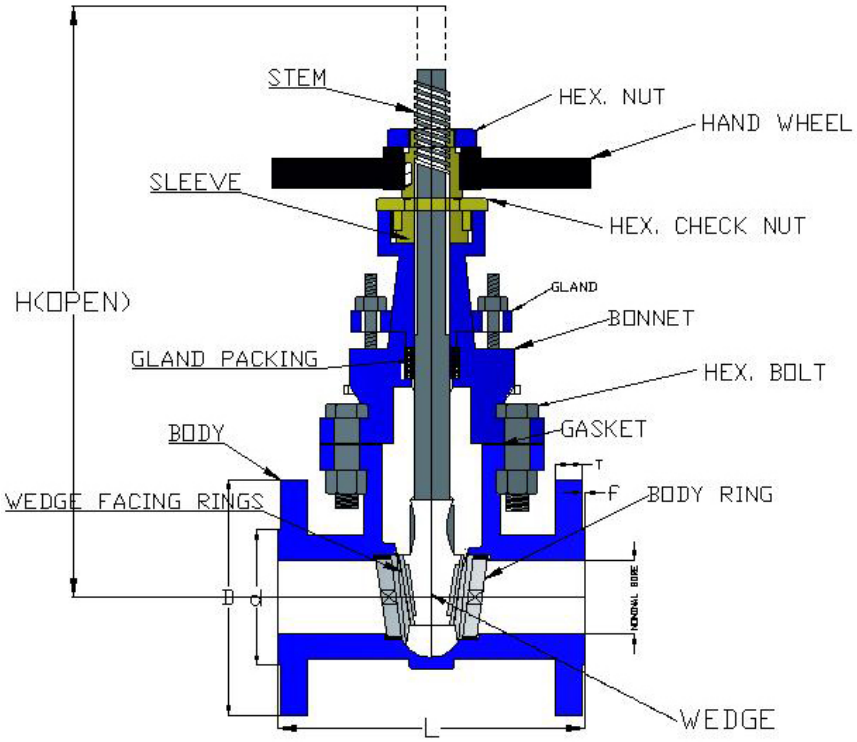
Handwheels are furnished on all valves.

Solid wedge Gate Valve Discs - The strong, simple, single piece design with long disc guides is a proven performer for all service conditions, particularly suitable for conditions of severe turbulence and stem vibration. Seat and disc surfaces are accurately machined and tapered for shut- off without undue strain.

Gate valves are best for services that require infrequent valve operation, and where seat/disc is kept either fully opend or closed. They are not recommended for throttling. With the usual type of gate valve, close flow regulation is impossible.

Class 150 • Outside Screw & Yoke • Rising Stem • BS: 1414/ API 600 • A-216 Gr. WCB V V®

Figure No. 1013



B.T.P : 425 psig Hyd.
S.T.P : 300 psig Hyd.

Features

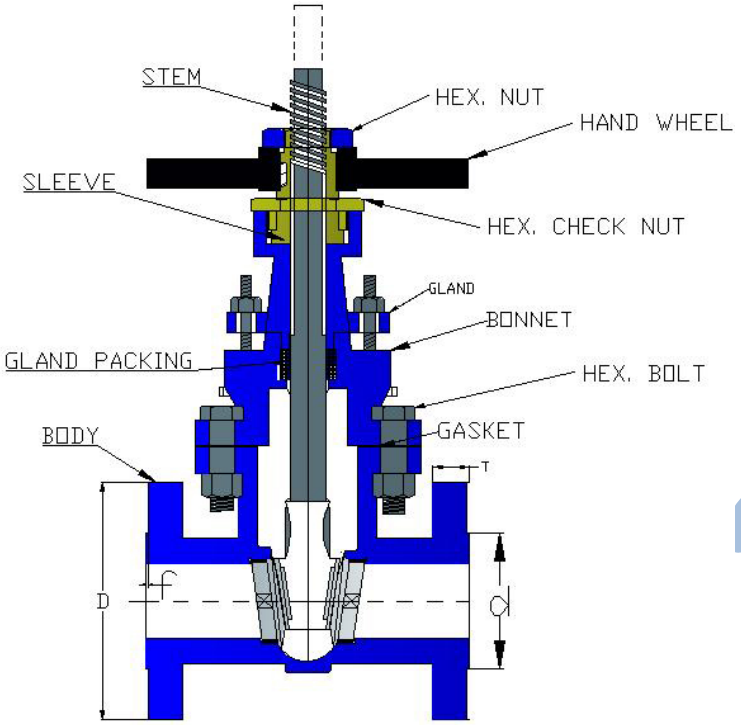
- Tapered Solid Wedge Disc.
- Body Guide Ribs
- 13% Cr. S.S Body Ring & Seat Ring.
- Stem Provided with ACME Double Start
- Packing Graphited Asbestos
- Gaskets Compressed Asbestos Fibre
- Flanges as per ANSI B 16.5 CL-150 R.F.
- Bolted Bonnet
- Size Range : 1 ½"- 6"
- Seating: S.S
- Stem : S.S AISI 410

Dimensions

Nominal Size		L		D (Dia.)		Raised Face Dia. d		H (Open) Appx.	T (Thickness)	
inch.	**mm**	**inch.**	**mm**	**inch.**	**mm**	**inch.**	**mm**	**mm**	**inch**	**mm**
1 ½	40	6 ½	165	5	127	2 7/8	73	330	9/16	14.3
2	50	7	178	6	152	3 5/8	92	370	5/8	15.9
2 ½"	65	7 ½	190	7	178	4 1/8	105	425	11/16	17.5
3	80	8	203	7 ½	190	5	127	455	¾	19.0
4	100	9	229	9	229	6 3/16	158	620	15/16	23.8
5	125	10	254	10	254	7 5/16	186	725	15/16	23.8
6	150	10 ½	267	11	279	8 ½	215	770	1	25.4

1. 1/16 inch Raised Face is regularly furnished on CL 150 & CL 300 unless otherwise specified.
2. The height of raised face is included in minimum flange thickness for CL 150 & CL 300.

Class 300 • Outside Screw & Yoke • Rising Stem • BS: 1414/ API 600



Features

- Tapered Solid Wedge Disc.
- Body Guide Ribs
- 13% Cr. S.S Body Ring & Seat Ring.
- Stem Provided with ACME Double Start
- Packing Graphited Asbestos
- Gaskets Compressed Asbestos Fibre
- Flanges as per ANSI B 16.5, CL-300 R.F.
- Bolted Bonnet
- Size Range : 1 ½”- 6"
- Seating: S.S
- Stem : S.S AISI 410

B.T.P : 1125 psig Hyd.
S.T.P : 750 psig Hyd.

Dimensions

Nominal Size		Face TO Face L		D Ø (Dia.)		Raised Face Dia. d Ø		T (Thickness)	
inch.	**mm**	**inch.**	**mm**	**inch.**	**mm**	**inch.**	**mm**	**inch**	**mm**
1 ½	40	7 ½	190	6 1/8	155	2 7/8	73	13/16	20
2	50	8 ½	216	6 ½	165	3 5/8	92	7/8	22
2 ½”	65	9 ½	241	7 ½	190	4 1/8	105	1	25.4
3	80	11 1/8	281	8 ¼	210	5	127	1 1/8	28
4	100	12	305	10	254	6 3/16	157	1 ¼	31
5	125	15	381	11	279	7 5/16	185	1 3/8	35
6	150	15 7/8	402	12 ½	317	8 ½	215	1 7/16	37

Cast Steel Swing Check Valve Features V V®

Check Valves permit flow in one direction only and close automatically when flow reverses. They are entirely automatic in action, depending upon pressure and velocity of flow within the line to perform their functions of opening and closing.

The disc and any associated moving parts may be in a constant state of movement if the velocity pressure is not sufficient to hold the disc in a wide open and stable position. Premature wear and noisy operation or vibration can be avoided by selecting the size of the check valve on the basis of flow conditions rather than selecting the check valve according to the size of the pipeline.

Sizing check valves on this basis may often result in the use of valves that are smaller than the pipe in which they are used, necessitating the use of reducers for installation. The pressure drop will be no greater than that of a larger valve that is partially open. Valve life will be greatly extended, and the added bonus, of course, is the lower cost of the smaller valves.

Swing Check Valves with straight through body design and wide hinge support provide turbulence-free flow and accurate seating. There is no tendency for seating surfaces to gall or score because the disc meets the flat seat squarely without rubbing.

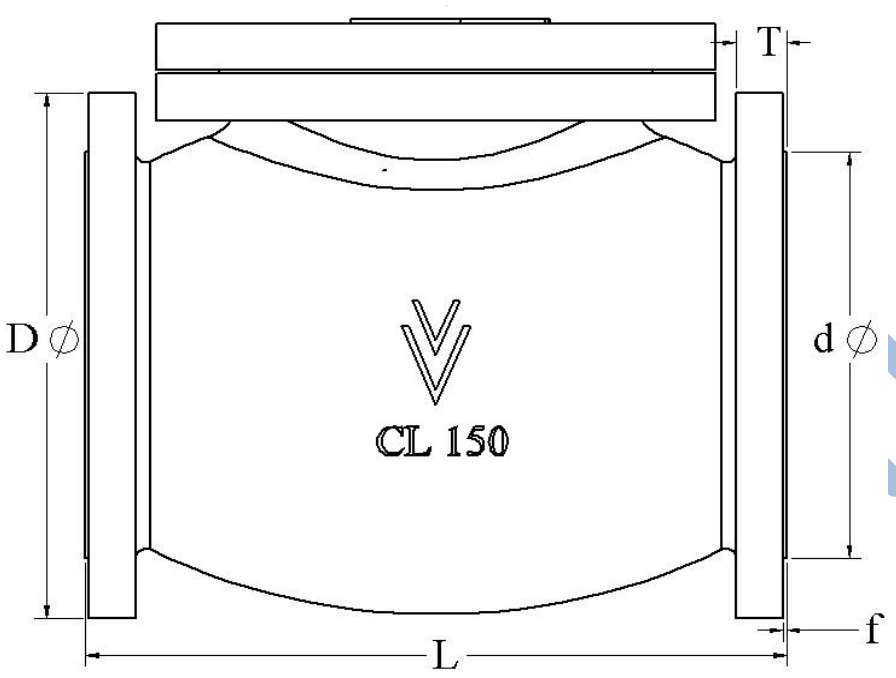
When faster reaction to flow reversal is necessary, certain valves can be equipped with an outside lever and weight. This will assist the disc to close more rapidly and reduce the possibility of surge and shock.

Flanged Swing Check Valves conform to ANSI B 16.5 CL-150 in sizes 1 ½” through 8”.

Swing Check Valve May be Installed in horizontal or vertical pipelines. In vertical lines, or any angle from horizontal, they can be used for upward flow only.

Flanged Ends • BS 1868 • A-216 Gr. WCB

Figure No. 5051



Features

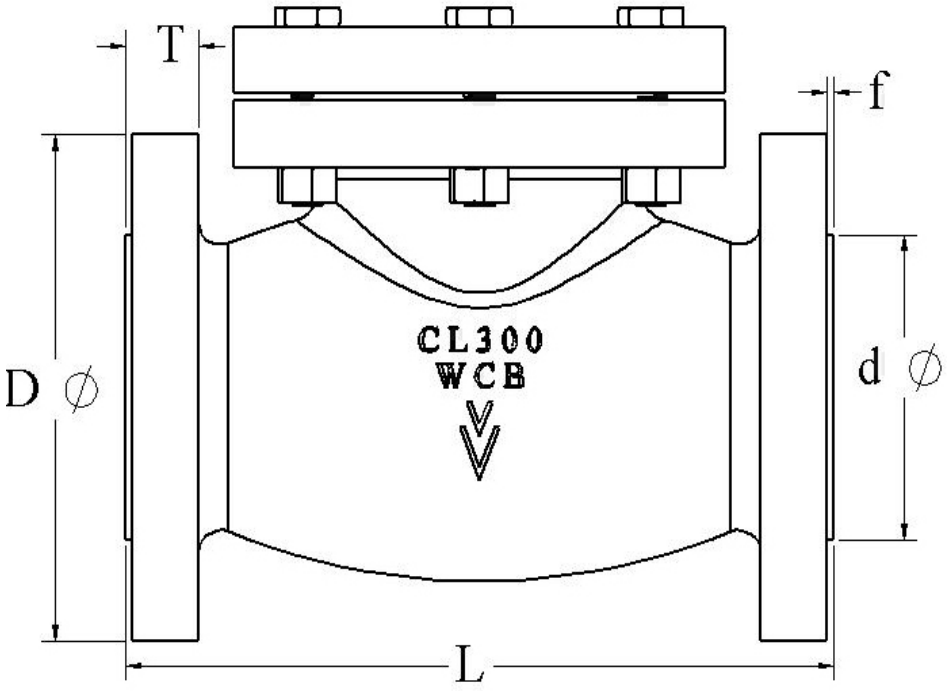
- Design prohibits galling or scoring of seating because the disc meets the flat seat securely on closing with no rubbing action
- M.S Hinges
- Replacable M.S Hinge Pins
- Large Bolted on cover
- Flanges as per ANSI B 16.5 CL-150
- Bolted Bonnet
- Size Range : 1 ½”- 8”
- Packing Graphite Asbestos
- Gaskets Compressed Asbestos Fiber

Dimensions

Nominal Size		Flange To Flange L		Dia. D Ø		Raised Face Dia. d Ø		H Appx.	T (Thickness)	
inch.	**mm**	**inch.**	**mm**	**inch.**	**mm**	**inch.**	**mm**	**mm**	**inch**	**mm**
1	25	5 ¼	135	4 ¼	110	2 7/8	73	90	7/16	13
1 ¼	32	6 3/8	162	4 5/8	122	3 5/8	92	100	½	17
1 ½	40	6 ½	165	5	127	4 1/8	105	100	9/16	14.3
2	50	8	203	6	152	5	127	105	5/8	15.9
2 ½	65	8 ½	216	7	178	6 3/16	158	115	11/16	17.5
3	80	9 ½	241	7 ½	190	7 5/16	186	130	¾	19.0
4	100	11 ½	292	9	229	8 ½	215	150	15/16	23.8
5	125	13	330	10	254	2 7/8	73	185	15/16	23.8
6	150	14	356	11	279	3 5/8	92	195	1	25.4

Class 300 • Bolted Cover • Flanged Ends • BS:1868

Figure No. 5052



Features

- Design prohibits galling or scoring of seating because the disc meets the flat seat securely on closing with no rubbing action
- M.S Hinges
- Replacable M.S Hinge Pins
- Large Bolted on cover
- Flanges as per ANSI B 16.1 CL-300
- Bolted Bonnet
- Size Range : 1 ½”- 6”
- Packing Graphite Asbestos
- Gaskets Compressed Asbestos Fiber

Dimensions

Nominal Size		Flange TO Flange L		D Ø (Dia.)		Raised Face Dia. d Ø		T (Thickness)	
inch.	**mm**	**inch.**	**mm**	**inch.**	**mm**	**inch.**	**mm**	**inch**	**mm**
1 ½	40	9 ½	241	6 1/8	155	2 7/8	73	13/16	20
2	50	10 ½	267	6 ½	165	3 5/8	92	7/8	22
2 ½	65	11 ½	292	7 ½	190	4 1/8	105	1	25.4
3	80	12 ½	317	8 ¼	210	5	127	1 1/8	28
4	100	14”	355	10	254	6 3/16	157	1 ¼	31
5	125	15 ¾	403	11	279	7 5/16	185	1 3/8	35
6	150	17 ½	444	12 ½	317	8 ½	215	1 7/16	37

CAST Steel Globe Valve DIN 2401 V V®

V V globe and angle valves are highly efficient for throttling service because disc and seat designs provide flow characteristics with proportionate relationships between valve lift and flow rate. This assures accurate regulated flow control.

Bolted Bonnet is the most common design because there is practically no limitation on size. Multiple bolting permits equalized sealing pressure on the gasket against high pressure encountered in iron globe and angle valve applications.

There are two types of discs supplied in V V globe and angle valves:

Metal Disc in most valves is fully guided throughout its travel, minimizing vibration of internal parts and assuring true seating. The disc stem connection is designed to securely hold the disc yet permit swivel action. Disc materials are iron faced with 13% Cr. S.S

Metal Plug Disc/ Needle Type is conically shaped. This design is universally accepted for rigorous service. Because of the wide seating surfaces, it is not easily harmed by foreign matter or wiredrawing. V V uses S.S in this design.

Seats are screwed in and can be reground or replaced whenever necessary.

Stem material is matched to service recommendations for improved operating dependability and life.

Packing Graphited asbestos

Backseating: Rising stem valves are equipped with backseats. It is recommended that the back seat be used as a means for determining the full open valve postion.
For normal operation in the open postion, the stem should backed off so that the back seat is not in contact. This permits the stem packing to assume its intended sealing function and not conceal unsatisfactory stem packing.

In the event of stem packing leakage, the back seat can be used to stop stem leakage until circumstances permit a system shut down and time for packing replacement.

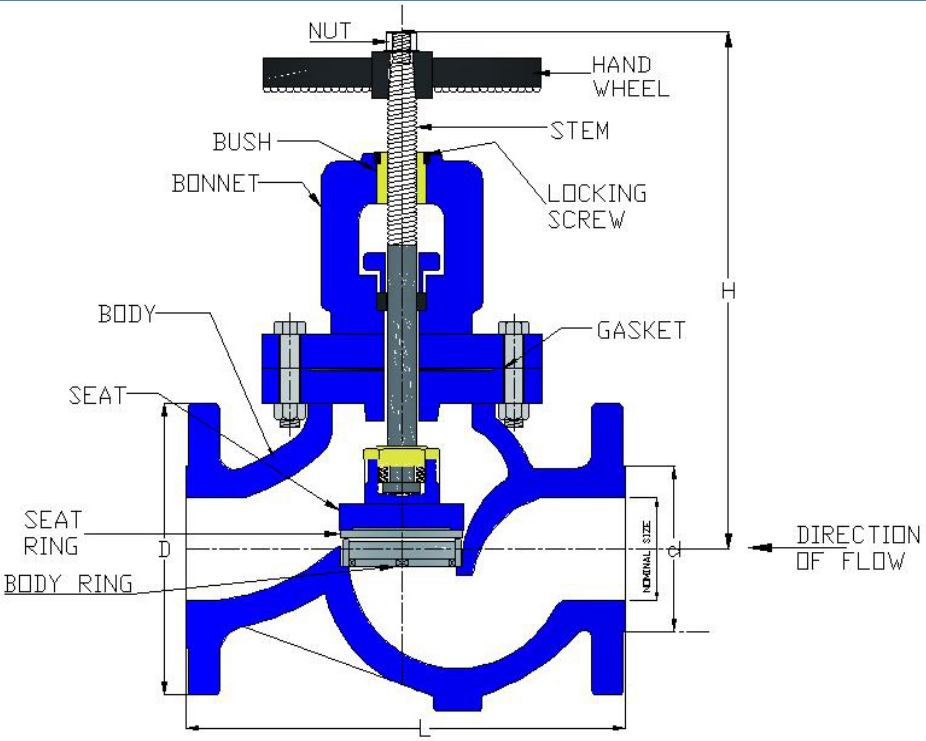
Stem packing replacement with the valve under pressure and backseated represents a hazard and should not be undertaken. The hazard is magnified as fluid pressure or temperature increases or when the fluid is toxic.

Handwheels are furnished on all valves

Face-To-Face Dimensions of flanged end valves conform to DIN 2545.

Figure No. 1019 **C.S Globe Valve** **V V®**

Outside Screw & Yoke • Rising Stem • BS 5160



Features

- Integral yoke bonnet
- Valves are provided with a Back Seat
- 13% Cr. S.S Body Ring & Seat Ring Trim.
- Packing Graphited Asbestos
- Gaskets Compressed Asbestos Fibre
- Flanges as per DIN 2545
- Bolted Bonnet
- Size Range : 15 mm-150 mm
- Seating : S.S
- Stem : S.S AISI 410

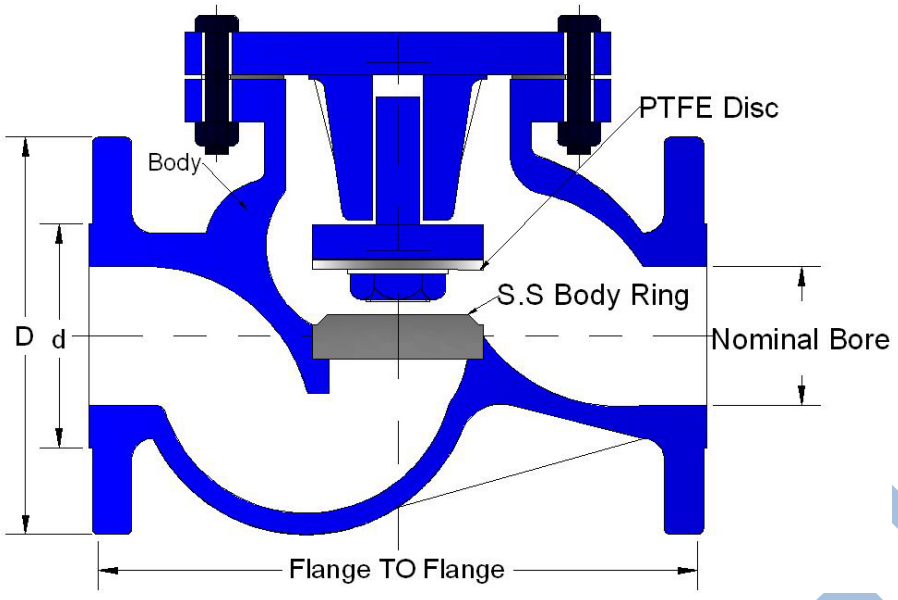
Dimensions

Nominal Size	Flange To Flange L	D Ø (Dia.)	Raised face dia. d Ø	H (Appx.)	T (Thickness)
mm	**mm**	**mm**	**mm**	**mm**	**mm**
15	130	95	45	180	14
20	150	105	58	180	16
25	160	115	68	185	16
32	180	140	78	200	18
40	200	150	88	250	18
50	230	165	102	270	20
65	290	185	122	340	20
80	310	200	138	380	22
100	350	220	158	450	24
125	400	250	188	530	26
150	480	285	212	600	26

Cast Steel Horizontal Lift Check Valve V V®

NP40 • Bolted Cover • Flanged Ends • DIN Std. 2401

Figure No. 1020 – P



Body Test Pressure : 60 Kg/cm^2.

- **For air service/ Hot air / gases/ steam**

Features

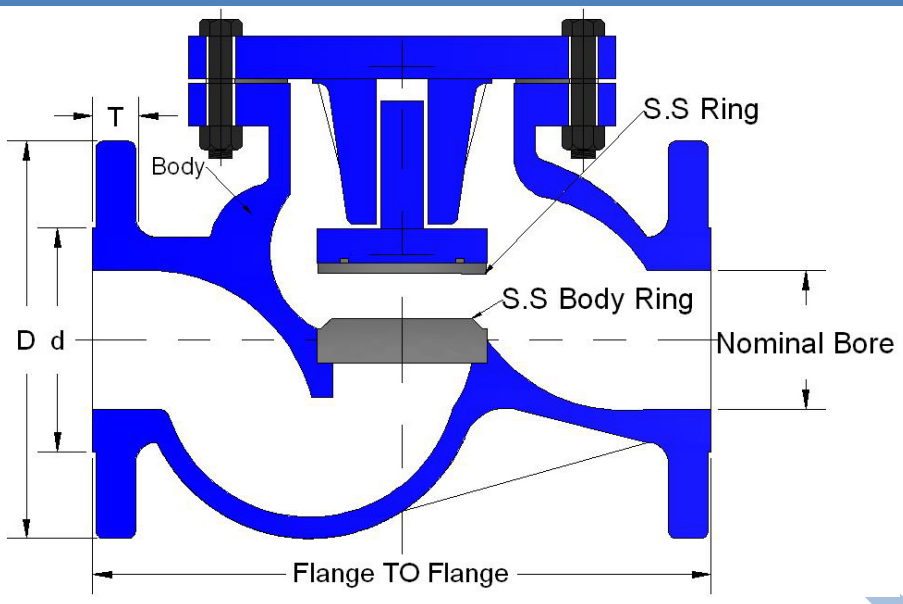
- Globe type body design with full flow area
- Design prohibits galling or scoring of seating because the disc meets the flat seat securely on closing with no rubbing action
- Bolted Bonnet
- Flanges as per DIN 2545.
- Size Range : 15 mm – 150 mm
- Packing Graphited Asbestos
- Gaskets Compressed Asbestos Fibre

Dimensions

Nominal Size	Flange TO Flange L	(Dia.) D Ø	Raised face dia. d Ø	H (Appx.)	T (Thickness)
mm	**mm**	**mm**	**mm**	**mm**	**mm**
15	130	95	45	85	14
20	150	105	58	85	16
25	160	115	68	90	16
32	180	140	78	100	18
40	200	150	88	120	18
50	230	165	102	130	20
65	290	185	122	160	20
80	310	200	138	170	22
100	350	220	158	190	24
125	400	250	188	215	26
150	480	285	212	240	26

Figure No. 1020 **Lift Check S.S Trim** V V®

Bolted Cover • Flanged Ends • DIN Std. 2401 • PN 40



Features

- Globe type body design with full flow area
- Design prohibits galling or scoring of seating because the disc meets the flat seat securely on closing with no rubbing action
- Flanges as per DIN 2533 PN 40
- Bolted Bonnet
- Size Range : 15 mm – 150 mm
- Packing Graphited Asbestos
- Gaskets Compressed Asbestos Fibre

Dimensions

Nominal Size	Flange TO Flange L	Dia. D Ø	Raised face dia. d Ø	H (Appx.)	T (Thickness)
mm	**mm**	**mm**	**mm**	**mm**	**mm**
15	130	95	45	85	14
20	150	105	58	85	16
25	160	115	68	90	16
32	180	140	78	100	18
40	200	150	88	120	18
50	230	165	102	130	20
65	290	185	122	160	20
80	310	200	138	170	22
100	350	220	158	190	24
125	400	250	188	215	26
150	480	285	212	240	26

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