



"AV" Forged Steel Valves



Specialist in : Gate, Globe, Check, Control & Motor Operated Valves

COMPANY PROFILE



We are a traditional Valve manufacturing house established in 1952. Our world class quality "AV" Valves for Low & High Pressures and Temperatures for Refineries, Petro-chemical Plants, Thermal & Hydro Power Plants, Steel Plants, Sugar Industries etc., are reputed for their quality, durability and long lasting performance. The Product Range includes various types of Valves viz Gate / Globe / Check / Butterfly / Ball Valves etc. in different material mix from Class 150 to 2500 rating. All facilities including modern steel foundry exists In-House.

A.V. Enterprises is an off-shoot of A.V. Valves Ltd. an ISO 9001:2000 Certified Unit to cater exclusively to the expanding demands of Forged Steel Valves. The Significant resources invested in this manufacturing plant produces Valves to the highest international quality standards for a wide range of applications in the Power, Industry, Oil & Gas sectors, main Steam and Process applications involving the highest pressures & temperatures. The facility is equipped with full fledged Hydrostatic and Pneumatic Testing bays.

OUR OBJECTS : –

- ➡ To specialise in each valve product by segregating manufacturing facilities, to increase customer service and refine our product line through research and development.
- ➡ To adopt the latest manufacturing technology, management method and high quality materials.

We reaffirm our ongoing commitment to quality Valves and satisfactory service to customers.

SATISH JAIN
CEO



Design features of “AV” Forged Steel Valves

- Maintaining 0.24% maximum carbon contents and are normalized to further refine the grain and homogenize the micro-structure .
- Are designed to operate in a fully open or fully closed position. When open, the media will flow with the minimal turbulence and pressure drop across the valve.
- Are available in a range of sizes from ¼” to 2” (in reduced port design) & from 3/8” to 1½” (in full port design) and in a broad pressure range of upto Class-2500 rating in screwed, socket, butt-welded and flanged ends.
- The rugged / robust construction provides an extended life of safe operation. Metal-to-metal seating surfaces accommodate the widest range of pressure-temperature service conditions.
- Are furnished with “Spiral Wound SS-304 metallic gasket with Compressed Asbestos Filler”. Monel Trim Valves are fitted with Monel spiral wound graphoil filled gasket.
- The Welded bonnet valves (in Class-2500 rating) are initially joined by threading the body-bonnet joint together and then welded. After welding all the welds are inspected.
- Are fitted with Graphited Asbestos Gland Packing with sacrificial inhibitor and Inconel wire re-inforced.
- Contains no copper bearing alloys.
- Valves in Class 1500 & 2500 rating are manufactured with a two piece self aligning gland flange assembly which ensures even compression of the stuffing box during assembly and re-packing.
- Flanges welded onto the body in the case of flanged valves.
- Spring loaded disc on Non-return valves.

Optional : Gasket – SS-316 spiral wound graphoil filled gasket .

Packing– a) Die molded split ring of braided asbestos with Inconel wire re-inforcement and corrosion inhibitor suitable for petroleum fluid upto a temperature of 1050°F.

b) Non-asbestos graphoil packing.

Operation– Electrical Actuator and Pneumatic Cylinder Actuation for Gate & Globe Valves

Special Materials & Seating Surfaces

Following seating surfaces (Trim) are offered to suit variety of services:

Trim # (API 602)	Type of Valve	Seating Surfaces		Stem Material	Body & Bonnet / Cover
		Wedge / Disc	Body Seat		
01	Gate Valve	13% Cr. SS	13% Cr. SS	Type 410 SS	A-105, A-182 F5,
05	Gate, Globe & Check Valves	HF**	HF**	Type 410 SS	F-9, F-11, F-22,
08	Gate, Globe & Check Valves	13% Cr. SS	HF	Type 410 SS	A-350 LF-2
02	Gate, Globe & Check Valves	SS-304	SS-304	Type 304 SS	F 304
10	Gate Valve	SS-316	SS-316	Type 316 SS	F 316
12	Gate, Globe & Check Valves	SS-316	HF	Type 316 SS	F 316
15	Gate, Globe & Check Valves	SS-304 + HF	HF	Type 304 SS	F 304
16	Gate, Globe & Check Valves	SS-316 + HF	HF	Type 316 SS	F 316, A-350 LF2

**HF : Hard faced with Cobalt–Chromium–Tungsten Alloy (Stellite # 6).

Manufacturing Standards

Valve Type	Basic Design	Face-to-face Dimension (Flanged Valves)	End-to-end Dimensin			Pressure/Temp. Rating	Pressure Testing
			Screwed Ends	Socket Weld Ends	Flanged Ends		
Gate Valve	API-602 BS:5352	ASME B16.10 BS : 2080	Taper Ends to ASME B1.20.1 (NPT) BS 21 / ISO 7	As per ASME B16.11	Raised face (RF) serrated finish to 125–250 Ra (AARH) ASME B16.5	API-602 ASME B16.34	API-598 BS:6755 Pt-1
Globe and Check Valves	BS:5352 ASME B16.34		Parallel Ends to BS 21 / ISO 7 BS 2779 / ISO 228			BS : 5352 ASME B16.34	



Estd.-1969

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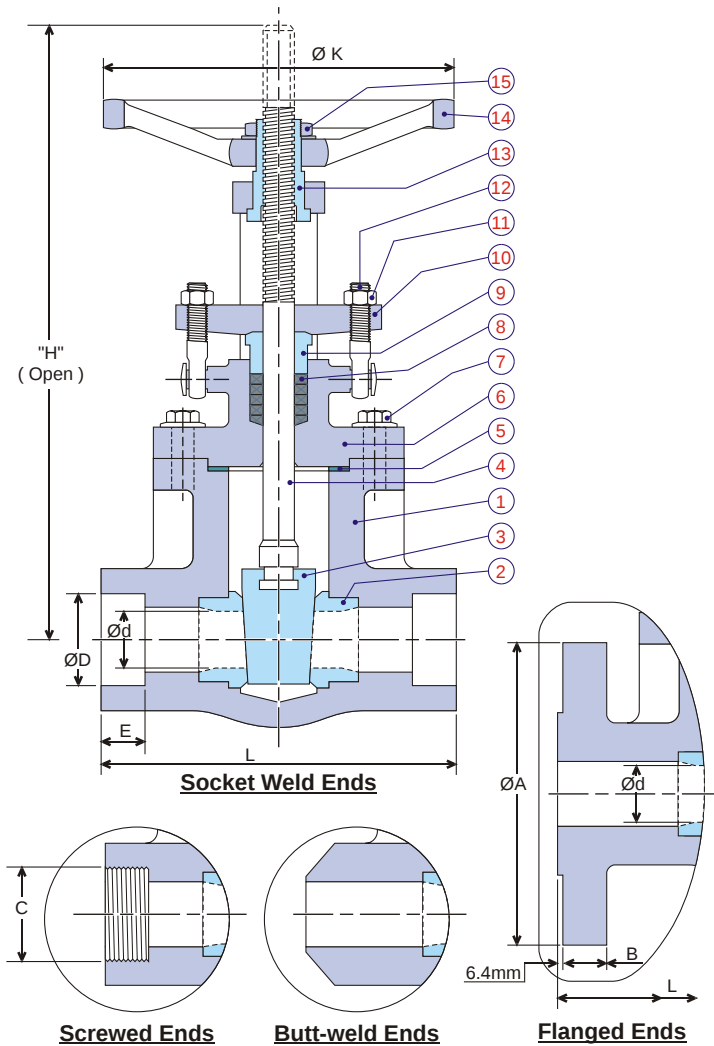
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FORGED GATE VALVES

**Gate
Class
800 & 1500**



Sr. No.	Description	Material	Specification
1.	Body	F. C. S.	ASTM A 105
2.	Body Seat	S. S.	AISI 410
3.	Wedge	S. S.	AISI 410
4.	Spindle	S. S.	AISI 410
5.	Gasket	Spiral Wound S.S. 304 with C. A. Fillers	
6.	Bonnet	F. C. S.	ASTM A 105
7.	Collar Bolt	Steel	ASTM A 193 Gr.- B7
8.	Gland Packing	Metal Reinforced Asbestos	
9.	Gland	S. S.	AISI 410
10.	Gland Flange	M. S.	IS : 2062
11.	Eye Bolt Nut	Steel	ASTM A194 Gr.- 2H
12.	Eye Bolt	Steel	ASTM A 193 Gr.- B7
13.	Yoke Sleeve	Ni-resist / SS	ASTM A 439 Gr. D2 / AISI 304
14.	Hand Wheel	Carbon Steel / Malleable Iron	
15.	Sleeve Nut	Steel	ASTM A 194 Gr. 2H

Note : For other Materials (type F-304, F-316, F-22, F-5, Monel etc.), refer table on Special Material & Seating Surfaces

- API 602, BS :5352
- Back Seat
- Solid Wedge
- Bolted Gland
- Hard Faced Seats
- Spiral wound Gasket
- Outside Screw & Yoke
- Square / Round Bolted Bonnet
- Class 900 to 2500 are also available
- Seal Welded Bonnet in Class – 2500
- IBR Approved Valves available

Class-800#		Port Type		Centre-to-top Height		Screwed & Socket-weld ends				Hand wheel Dia.	Flanged Ends to Class – 600#		
Valve Size (NB)		Regular	Full	Regular	Full	Face-to-face	Socket Bore	Socket Depth	Tapered Threads	Ø K	Face-to-face	Flange Dia.	Flange Thick.
Inch	mm	Ød	Ød	H-Open		L	Ø D	E	C		L	Ø A	B
¼"	8	6.35	—	158.0	—	83	14.3	9.5	¼	85.0	—	—	—
3/8"	10	6.35	—	158.0	—	83	17.5	9.5	3/8	85.0	—	—	—
½"	15	9.53	12.0	162.0	162.0	85	21.7	9.5	½	85.0	165.0	95.3	14.2
¾"	20	12.70	18.0	162.0	211.0	92	27.1	12.7	¾	85.0	190.5	117.3	15.7
1"	25	18.00	23.0	211.0	242.0	104	33.8	12.7	1	110.0	216.0	124.0	17.5
1¼"	32	24.00	30.0	257.0	272.0	127	42.5	12.7	1¼	140.0	228.6	133.4	20.6
1½"	40	30.00	36.0	257.0	282.0	127	48.6	12.7	1½	140.0	241.3	155.4	22.4
2"	50	36.51	—	282.0	—	140	61.1	15.9	2	185.0	292.1	165.1	25.4

Class-1500#		Regular	Full	Regular	Full	Screwed & Socket-weld ends				Ø K	Flanged Ends to Class – 1500#		
Inch	mm	Ød	Ød	H-Open		L	Ø D	E	C		L	Ø A	B
½"	15	12.7	12.7	189.0	189.0	90.0	21.7	9.5	½	110.0	216.0	120.7	22.4
¾"	20	12.7	19.1	189.0	246.0	102.0	27.1	12.7	¾	110.0	228.6	130.0	25.4
1"	25	19.1	25.4	246.0	282.0	122.0	33.8	12.7	1	140.0	254.0	149.4	28.4
1¼"	32	25.4	31.8	282.0	289.0	127.0	42.5	12.7	1¼	185.0	279.4	158.8	28.4
1½"	40	31.8	38.1	289.0	351.0	140.0	48.6	12.7	1½	200.0	330.2	177.8	31.8
2"	50	38.1	—	351.0	—	140.0	61.1	15.9	2	230.0	368.3	215.9	38.1

- Face-to-face (L) dimension for Screwed and SW / BW end valves shall depend upon availability of forgings.
- Size marking on Forged Body shall be in inch.

Note : Center to top height & design subject to change depending on our R&D.



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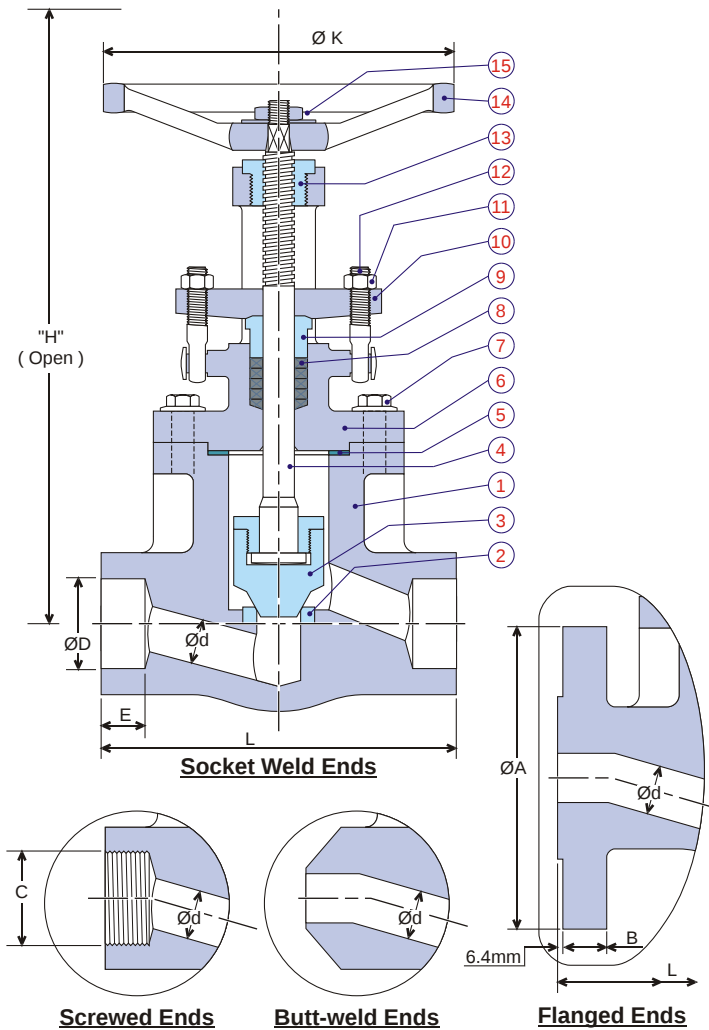
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FORGED GLOBE VALVES

**Globe
Class
800 & 1500**



Sr. No.	Description	Material	Specification
1.	Body	F. C. S.	ASTM A 105
2.	Body Seat	S. S.	AISI 410
3.	Disc	S. S.	AISI 410
4.	Spindle	S. S.	AISI 410
5.	Gasket	Spiral Wound S.S. 304 with C. A. Fillers	
6.	Bonnet	F. C. S.	ASTM A 105
7.	Collar Bolt	Steel	ASTM A 193 Gr.- B7
8.	Gland Packing	Metal Reinforced Asbestos	
9.	Gland	S. S.	AISI 410
10.	Gland Flange	M. S.	IS : 2062
11.	Eye Bolt Nut	Steel	ASTM A194 Gr.- 2H
12.	Eye Bolt	Steel	ASTM A 193 Gr.- B7
13.	Yoke Sleeve	Ni-resist / SS	ASTM A 439 Gr. D2 / AISI 304
14.	Hand Wheel	Carbon Steel / Malleable Iron	
15.	Hand wheel Nut	Steel	ASTM A 194 Gr. 2H

Note : For other Materials (type F-304, F-316, F-22, F-5, Monel etc.), refer table on Special Material & Seating Surfaces

- BS : 5352
- Back Seat
- Loose Disc
- Bolted Gland
- Hard Faced Seats
- Spiral wound Gasket
- Outside Screw & Yoke
- Square / Round Bolted Bonnet
- Class 900 to 2500 are also available
- Seal Welded Bonnet in Class – 2500
- IBR Approved Valves available

Class-800#		Port Type		Centre-to-top Height		Screwed & Socket-weld ends				Hand wheel Dia.	Flanged Ends to Class – 600#		
Valve Size (NB)		Regular	Full	Regular	Full	Face-to-face	Socket Bore	Socket Depth	Tapered Threads	Ø K	Face-to-face	Flange Dia.	Flange Thick.
Inch	mm	Ød	Ød	H-Open		L	Ø D	E	C		L	Ø A	B
¼"	8	6.0	--	154.0	--	83	14.3	9.5	¼	85.0	--	--	--
3/8"	10	6.0	--	154.0	--	83	17.5	9.5	3/8	85.0	--	--	--
½"	15	9.0	12.0	154.0	157.0	85	21.7	9.5	½	85.0	165.0	95.3	14.2
¾"	20	12.0	17.5	165.0	171.0	92	27.1	12.7	¾	85.0	190.5	117.3	15.7
1"	25	18.0	22.5	172.0	177.0	104	33.8	12.7	1	110.0	216.0	124.0	17.5
1¼"	32	22.5	29.5	254.0	261.0	127	42.5	12.7	1¼	140.0	228.6	133.4	20.6
1½"	40	29.5	35.0	254.0	261.0	127	48.6	12.7	1½	140.0	241.3	155.4	22.4
2"	50	35.0	--	314.0	--	140	61.1	15.9	2	185.0	292.1	165.1	25.4

Class-1500#		Regular	Full	Regular	Full	Screwed & Socket-weld ends				Ø K	Flanged Ends to Class – 1500#		
Inch	mm	Ød	Ød	H-Open		L	Ø D	E	C		L	Ø A	B
½"	15	12.7	12.7	200.0	200.0	90.0	21.7	9.5	½	110.0	216.0	120.7	22.4
¾"	20	12.7	18.3	200.0	205.0	102.0	27.1	12.7	¾	110.0	228.6	130.0	25.4
1"	25	19.0	24.6	257.0	263.0	122.0	33.8	12.7	1	140.0	254.0	149.4	28.4
1¼"	32	28.5	30.2	279.0	281.0	127.0	42.5	12.7	1¼	185.0	279.4	158.8	28.4
1½"	40	28.5	36.5	279.0	287.0	140.0	48.6	12.7	1½	200.0	330.2	177.8	31.8
2"	50	35.0	--	338.0	--	140.0	61.1	15.9	2	230.0	368.3	215.9	38.1

- Face-to-face (L) dimension for Screwed and SW / BW end valves shall depend upon availability of forgings.
- Size marking on Forged Body shall be in inch.

Note : Center to top height & design subject to change depending on our R&D.



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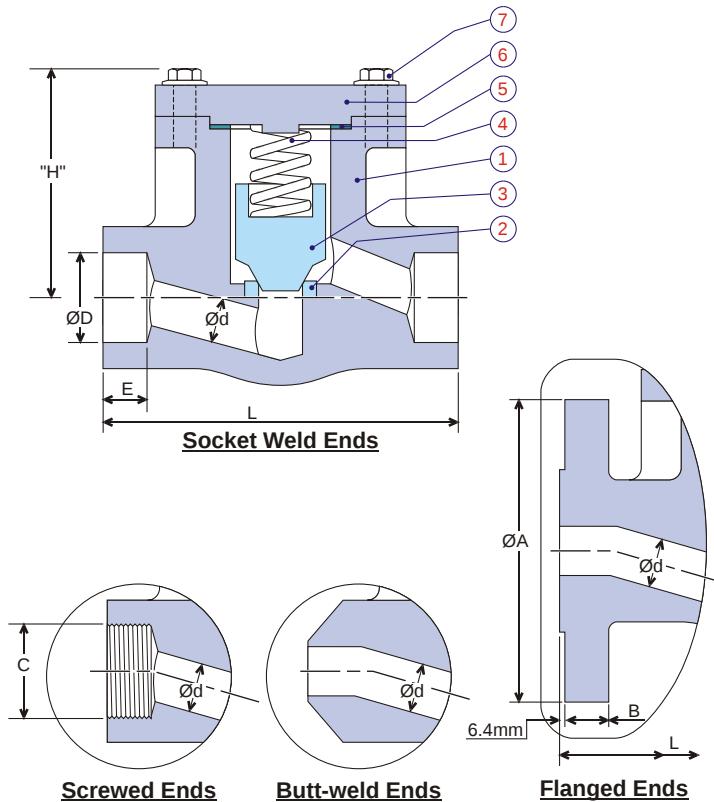
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FORGED CHECK VALVES

**Check
Class
800 & 1500**



Sr. No.	Description	Material	Specification
1.	Body	F. C. S.	ASTM A 105
2.	Body Seat	S. S.	AISI 410
3.	Piston Disc	S. S.	AISI 410
4.	Spring	Carbon Steel	SS - 302
5.	Gasket	Spiral Wound S.S. 304 with C. A. Fillers	
6.	Bonnet	F. C. S.	ASTM A 105
7.	Collar Bolt	Steel	ASTM A 193 Gr.- B7

Notes : –

- a) Minimum differential pressure of 1 bar required for opening the Valve.
b) For other Materials (type F-304, F-316, F-22, F-5, Monel etc.), refer table on Special Material & Seating Surfaces

- BS : 5352
- Piston Lift Type
- Hard Faced Seats
- Spiral wound Gasket
- Spring Control
- Square / Round Bolted Bonnet
- Class 900 to 2500 are also available
- Seal Welded Bonnet in Class – 2500
- IBR Approved Valves available

Class-800#		Port Type		Centre-to-top Height		Screwed & Socket-weld ends				Flanged Ends to Class – 600#		
Valve Size (NB)		Regular	Full	Regular	Full	Face-to-face	Socket Bore	Socket Depth	Tapered Threads	Face-to-face	Flange Dia.	Flange Thick.
Inch	mm	Ød	Ød	H-Open		L	Ø D	E	C	L	Ø A	B
¼"	8	6.0	—	65.0	—	83	14.3	9.5	¼	—	—	—
3/8"	10	6.0	—	65.0	—	83	17.5	9.5	3/8	—	—	—
½"	15	9.0	12.0	65.0	65.0	85	21.7	9.5	½	165.0	95.3	14.2
¾"	20	12.0	17.5	65.0	65.0	92	27.1	12.7	¾	190.5	117.3	15.7
1"	25	18.0	22.5	77.0	77.0	104	33.8	12.7	1	216.0	124.0	17.5
1¼"	32	22.5	29.5	114.0	114.0	127	42.5	12.7	1¼	228.6	133.4	20.6
1½"	40	29.5	35.0	114.0	114.0	127	48.6	12.7	1½	241.3	155.4	22.4
2"	50	35.0	—	125.0	—	140	61.1	15.9	2	292.1	165.1	25.4

Class-1500#		Regular	Full	Regular	Full	Screwed & Socket-weld ends				Flanged Ends to Class – 1500#		
Inch	mm	Ød	Ød	H-Open		L	Ø D	E	C	L	Ø A	B
½"	15	12.7	12.7	78.0	78.0	90.0	21.7	9.5	½	216.0	120.7	22.4
¾"	20	12.7	18.3	78.0	78.0	102.0	27.1	12.7	¾	228.6	130.0	25.4
1"	25	19.0	24.6	112.0	112.0	122.0	33.8	12.7	1	254.0	149.4	28.4
1¼"	32	28.5	30.2	128.0	128.0	127.0	42.5	12.7	1¼	279.4	158.8	28.4
1½"	40	28.5	36.5	128.0	128.0	140.0	48.6	12.7	1½	330.2	177.8	31.8
2"	50	35.0	—	155.0	—	140.0	61.1	15.9	2	368.3	215.9	38.1

- Face-to-face (L) dimension for Screwed and SW / BW end valves shall depend upon availability of forgings.
— Size marking on Forged Body shall be in inch.

Note : Center to top height & design subject to change depending on our R&D.



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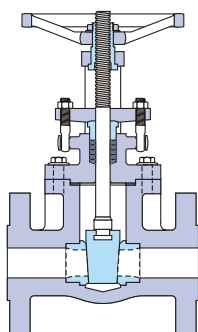
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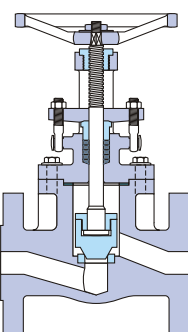
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Our Other Products



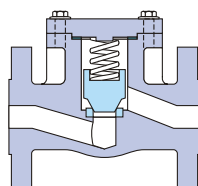
**Forged Gate Valves
Flanged End**

Class Range	Size Range
150 to 1500	15mm to 50mm



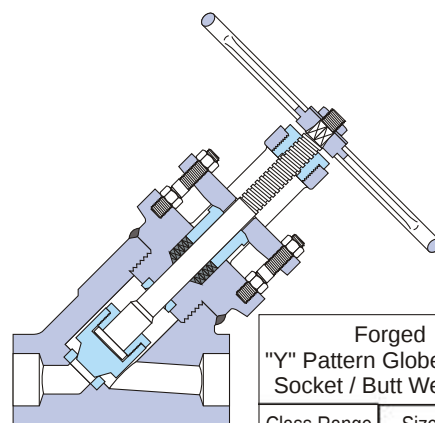
**Forged Globe Valves
Flanged End**

Class Range	Size Range
150 to 1500	15mm to 50mm



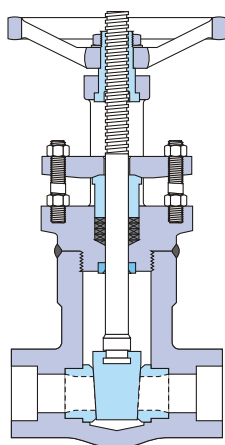
**Forged Check Valves
Flanged End**

Class Range	Size Range
150 to 1500	15mm to 50mm



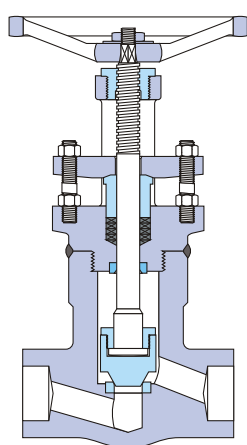
**Forged
'Y' Pattern Globe Valves
Socket / Butt Weld End**

Class Range	Size Range
2500	15mm to 50mm



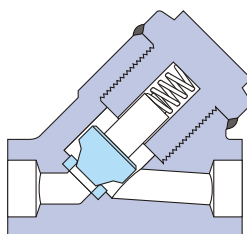
**Forged Gate Valves
Socket / Butt Weld End**

Class Range	Size Range
1500 & 2500	15mm to 50mm



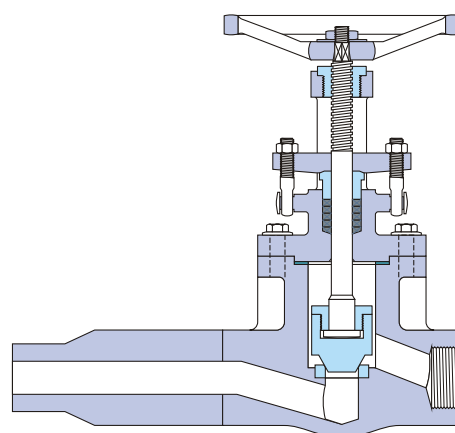
**Forged Globe Valves
Socket / Butt Weld End**

Class Range	Size Range
1500 & 2500	15mm to 50mm



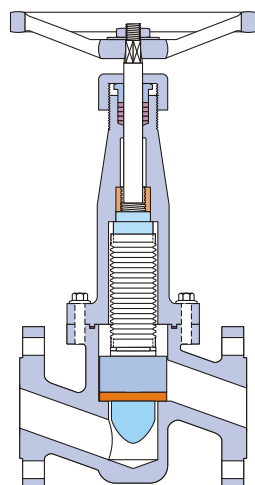
**Forged 'Y' Pattern Check Valves
Socket / Butt Weld End**

Class Range	Size Range
1500 & 2500	15mm to 50mm



**Forged Globe Valves
Extended Body, Socket / Butt Weld End**

Class Range	Size Range
800	15mm to 50mm



Bellow Seal Gas Valves

Class Range	Size Range
150 to 2500	15mm to 80mm



Control Valves

Class Range	Size Range
150 to 1500	15mm to 300mm



Motor Operated Valves

Class Range	Size Range
150 to 1500	25mm to 50mm

Specialist In : –

- ➡ Electric Operations of Gate, Globe and Control Valves.
- ➡ Pneumatic & Hydraulic Operation of Gate, Globe and Control Valves with complete operational system.
- ➡ Control Valves complete with Diaphragm Actuator, IP/EP Converter, Positioner & Position Transmitter.
- ➡ Bellow-sealed Valves for Hazardous / Gas service. Test Vacuum 0.001 Mbar.



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Pressure Testing as per API-598 / BS : 6755 (Part-1)

ASTM A-105	Class – 150		Class – 300		Class – 600		Class – 800		Class – 900		Class – 1500		Class – 2500	
	Psi (g)	Kg/Cm ²	Psi (g)	Kg/Cm ²	Psi (g)	Kg/Cm ²	Psi (g)	Kg/Cm ²	Psi (g)	Kg/Cm ²	Psi (g)	Kg/Cm ²	Psi (g)	Kg/Cm ²
Hydro Test Body / Shell	425	30	1130	79	2220	156	3000	211	3320	234	5500	386	9375	659
Hydro Test Seat & Back Seat	325	22	840	59	1680	118	2200	155	2465	174	3890	274	6250	439
Air / Pneumatic Test Seat (Gate & Globe only)	90	6.2	90	6.2	90	6.2	90	6.2	90	6.2	90	6.2	90	6.2

Pressure – Temperature Rating as per ASME B16.34

ASTM A-105	Service Temperature in ° F													
	–20 to 100	200	300	400	500	600	650	700	750	800	850	900	950	1000
Class – 150 (in Psi g)	285	260	230	200	170	140	125	110	95	80	65	50	35	20
Class – 300 (in Psi g)	740	675	655	635	600	550	535	535	505	410	270	170	105	50
Class – 600 (in Psi g)	1480	1350	1315	1270	1200	1095	1075	1065	1010	825	535	345	205	105
Class – 800 (in Psi g)	1975	1800	1750	1690	1595	1460	1430	1420	1345	1100	715	460	275	140
Class – 1500 (in Psi g)	3705	3375	3280	3170	2995	2735	2685	2665	2060	2060	1340	860	515	260
Class – 2500 (in Psi g)	6250	6250	6250	6250	6250	5940	5825	5780	5250	4285	2785	1785	1110	600

Few of AV's Prestigious Clients

Power Sector	N. T. P. C.	B. H. E. L.	Uttar Pradesh V. U. N. L.	Rajasthan V. U. N. L.	Punjab State Elect. Board	Haryana State Elect. Board	Karnataka Power Corp. Ltd.	Maharashtra State Elect. Board	West Bengal P. D. C. L.	Gujarat Elect. Board
Jindal Power	Gujarat Urja Vikas Nigam Ltd.	Alstom Power	Deptt. of Atomic Energy	APGENCO	N. H. P. C.	Tehri Hydro Devlp. Corp.	I. P. G. C. L. Delhi	Steel Plants	SAIL	Vizag Steel
Tata Iron & Steel Co.	Jindal Steel Pvt. Ltd.	Indian Iron & Steel Company	Oil, Gas & Petro Chem Sectors	ONGC	Gas Auth. of India Ltd.	Indian Oil Corp. Ltd.	Bharat Petro. Corp. Ltd.	Hindustan Petro. Corp. Ltd.	I. B. P.	M.P.I.
Fertilizer Plants	National Fertilizers Ltd.	Guj. Narmada Valley Fertilizers Corp. Ltd.	Gujarat State Fert. Corp. Ltd.	Sugar Industries	Mawana Sugars	Titawi Sugar Complex	Bajaj Hindustan Sugar Ltd.	Benari Amman Sugar Ltd.	Siel Group	Nanglamal Sugar Limited
Paper Plants	Shri Krishna Paper Mills Ltd.	BLUEMOUNT PAPER AND BOARDS LIMITED	Others	Siemens India Limited	U. P. Jal Nigam	U. P. Irrigation	Thermax Ltd.	TATA Projects Ltd.	Larsen & Toubro Ltd.	BOC India Limited
Blue Star Ltd.	Asia Brown Boveri	The Indure Pvt. Ltd.	Hindalco Industries Ltd.	BHW Kessels Intern'l Corp.	VA Tech Wyss Flovel Ltd	Export	ITT Krichner Italy	Paramount Ltd. Australia	Samsung Engng., Seoul	VCS Valves & Control Australia
Tech. Services Bureau, Jordan	P. E. T. Co., Kuwait	Consultants & Inspection Agencies	EIL Engineers India Limited	Lloyds Register Asia	P. D. I. L.	Nuclear Power Corp. India Ltd	SGS India Pvt. Limited	MECON	RITES	Central Boiler Board
Toyo Engg. India Ltd.	Engg. Proj. India Limited	Fichtner Consulting Engrs. (India) Pvt. Ltd.	Certfcn. Engg. India Limited	Udhe India Limited	Desein	CEA	Devp. Consultants Pvt. Ltd.	Bureau Veritas	Det Norske Veritas	Indian Register Quality System