



**GLOBE VALVE**

**Series - GBV 01**



First issue Aug -2021 : Rev-0 Aug-2021

## APPLICABLE STANDARDS AND CODES

### British Standards are the standards produced by BSI Group

BS 1873	Specification for steel globe and globe stop and check valves (flanged and butt-welding ends) for the petroleum, petrochemical and allied industries
BS 10	Specification for flanges and bolting for pipes, valves and fitting.
BS EN-1092-1	Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated - Part 1: Steel flanges.
BS EN 558	Industrial valves. Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems. PN and Class designated valves.
BS EN ISO 15761	Steel gate, globe and check valves for sizes DN 100 and smaller, for the petroleum and natural gas industries
BS EN 12266-1	Testing for Industrial valves.

### API Standards – American Petroleum Institute

API 598	Valve Inspection and Testing
API 602	Gate, Globe, & Check Valves for Sizes up to NPS 4 ( DN 100).

### ASME Standards – ASME International (American Society of Mechanical Engineers)

ASME B16.1	Cast Iron Pipe Flanged Fittings.
ASME B16.5	Pipeline Flanges and Flanged Fittings.
ASME B16.10	Valve Dimensions, Face to Face and End to End.
ASME B16.25	Buttwelding Ends.
ASME B16.34	Valves- Flanged, Threaded and Welding End.
ASME B16.47	26" and Larger Flange dimensions.
ASME B31.1	Power Piping.
ASME B31.2	Fuel Gas Piping
ASME B31.3	Process Piping
ASME B16.11	Socket Welding
ASME B 1.20.1	Screwed End ( NPT)
ISO 15848-1 & ISO 15848-2	Test Procedures for the evaluation of external leakage of valve stem or shaft body joints.

### MSS Standards – Manufacturers Standardization

MSS SP- 45	Bypass and Drain Connections
MSS SP- 55	Quality Standard for Steel Castings for Valves, Flanges and Fittings and Other Piping Components – Visual Method for Eval of Surface Irregularities

### ASTM Standards – American Society for Testing and Materials

ASTM A 193	Standard Specification for Alloy - Steel and Stainless Steel Bolting Materials for High Temperature Service.
ASTM A 194	Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High-Pressure and High- Temperature Service.
ASTM A 216	Standard Specification for Steel Castings, Carbon, Suitable for Fusion Welding for High- Temperature Service.
ASTM A 217	Standard Specification for Steel Castings, Martensitic Stainless and Alloy for Pressure-Containing Parts, Suitable for High- Temperature Service.
ASTM A 276	Standard Specification for Stainless and Heat-Resisting Steel Bars and Shapes.
ASTM A 351	Standard Specification for Castings, Austenitic, Austenitic-Ferritic (Duplex), for Pressure-Containing Parts.
ASTM A 352	Standard Specification for Steel Castings, Ferritic and Martensitic, for Pressure-Containing Parts, Suitable for Low Temperature Service.
ASTM A 515	Standard Specification for Pressure Vessel Plates, Carbon Steel, for Intermediate and Higher-Temperature Service.
ASTM A 516	Standard Specification for Pressure Vessel Plates, Carbon Steel for Moderate-and Lower-Temperature Service.
EN 12266-1	Testing for Industrial Valves

### NACE Standards – NACE (National Association Engineers)

<b>NACE MR0175</b>	Standard Material Requirements Sulfide Stress Cracking Resistant Metallic Materials for Oilfield Equipment.
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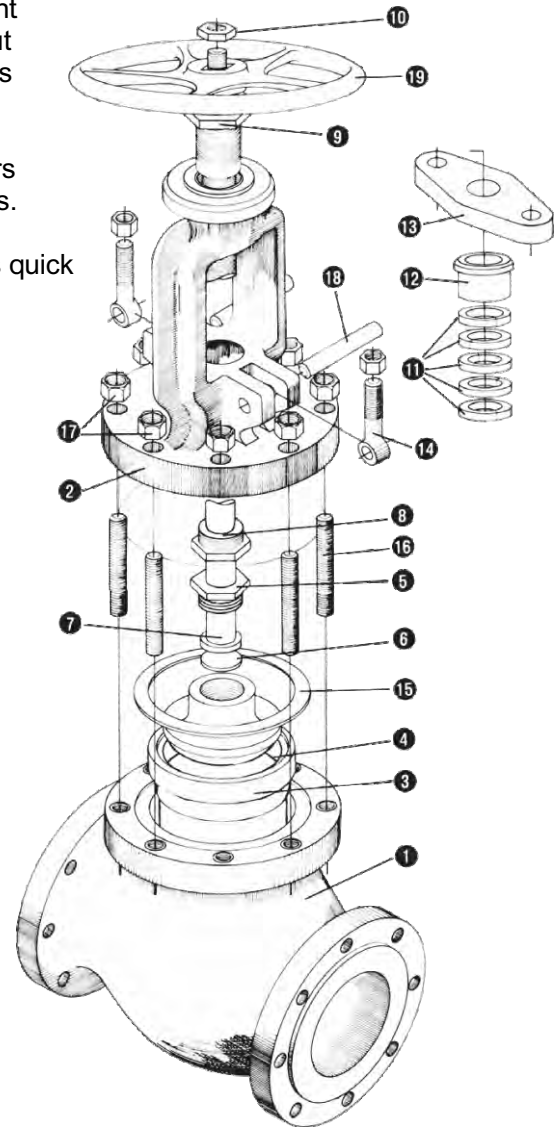
### Boiler and Pressure Vessel Code:

SECTION II	Parte A – Ferrous Material Specifications.
SECTION II	Parte B – Non Ferrous Material Specifications
SECTION II	Parte C – Specifications for Welding Rods, Electrodes and Filler Metals Specifications
SECTION V	Nondestructive Examination.
SECTION VIII	Rules for Construction of Pressure Vessels, Divisions 1 and 2.
SECTION IX	Welding and Brazing Qualifications.

## Design Features

Dembla globe valves are highly efficient for services requiring frequent operation and throttling when pressure drop across the valve is about 20% of inlet pressure. Closer throttling, creating higher pressure drops may cause cavitation or excessive velocities which could cause high noise level, curves, vibration and possible damage to the valve or adjacent piping. Globe valves can be equipped with optional operators and are available with a variety of trims to match service requirements. Dembla globe valves are supplied as standard with contour or spherical type plugs and are classified as quick opening.

1. Body: Body is cast with heavy sections reinforced at points subjected to the greatest stress. Valves are available in both flanged and butt welding ends. All conform to ASME specifications.
2. Bonnet
3. Seat Ring
4. Disc
5. Disc Stem Nut: Disc Stem Ring connects the disc to the stem, permitting the disc to swivel and aid in securing tight seating for trouble-free service.
6. Disc Washer
7. Stem: Stem has long engagement with yoke bushing for accurate seating.
8. Back Seat Bush
9. Yoke Nut
10. Wheel Nut
11. Packing
12. Gland Bush
13. Gland Flange
14. Gland Eye Bolts: Eye bolts are securely fastened to the bonnet yet swing away to permit easy access to the stuffing box.
15. Bonnet Gasket: Bonnet gasket provides a positive seal against leakage. Class 150 and 300 valves have a male female bonnet joint. A ring-type gasket is employed in Class 600 and above.
16. Bonnet Studs
17. Bonnet Nuts
18. Pin
19. Handwheel



## Globe Valves - Bolted Bonnet & Pressure-seal Range

Dembla Valves manufactures a comprehensive range of Globe Valves in sizes up to 30" (750 mm) and in ASME classes from 150 to 2500. The valves are offered in combination of size, pressure class, material, end-connection.

### Globe Valves

Variants	ASME Class	2	3	4	6	8	10	12	14	16	18	20	22	24	26	28	30	36	38	40	42	48
		50	80	100	150	200	250	300	350	400	450	500	550	600	650	700	750	900	950	1000	1050	1200
T- Pattern	150	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
	300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
	600	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
	900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
	1500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
	2500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
Y- Pattern	150	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
	300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
	600	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
	900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
	1500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
	2500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									

## Operator Options

Dembla Valves offers a variety of actuators and accessories to suit customer requirements.

### Gear Unit

A gear unit is provided to reduce the effort required to operate the valve. A fully encased weather proof bevel gear is provided as standard. For applications with higher torque requirements, the bevel gear is supplemented with additional spur gear.

### Pneumatic and Hydraulic

Pneumatic or Hydraulic actuators are selected for automation of valves for applications which require quick operating cycles.

Double Acting or Spring Return actuators can be supplied with various failsafe options.

### Electric Operator

Electric actuators are selected for 'stay put' applications and are the most commonly used method of automation.

Electric actuators are suited for a variety of environmental conditions where power supply and communication protocol are available.

When Valves are to be used in highly corrosive environments, in addition to choosing expensive corrosion – resistant alloy material, we can also consider using carbon steel / low temperature carbon steel as the base material & surfacing Inconel 625 to be overlay or cladding on the contact surface with the medium to save cost.

The process of cladding creates a perfect fusion between two layers without any dilution of the overlay material. A minimum thickness of 2.5mm achieved in at least 2 layers of overlay.

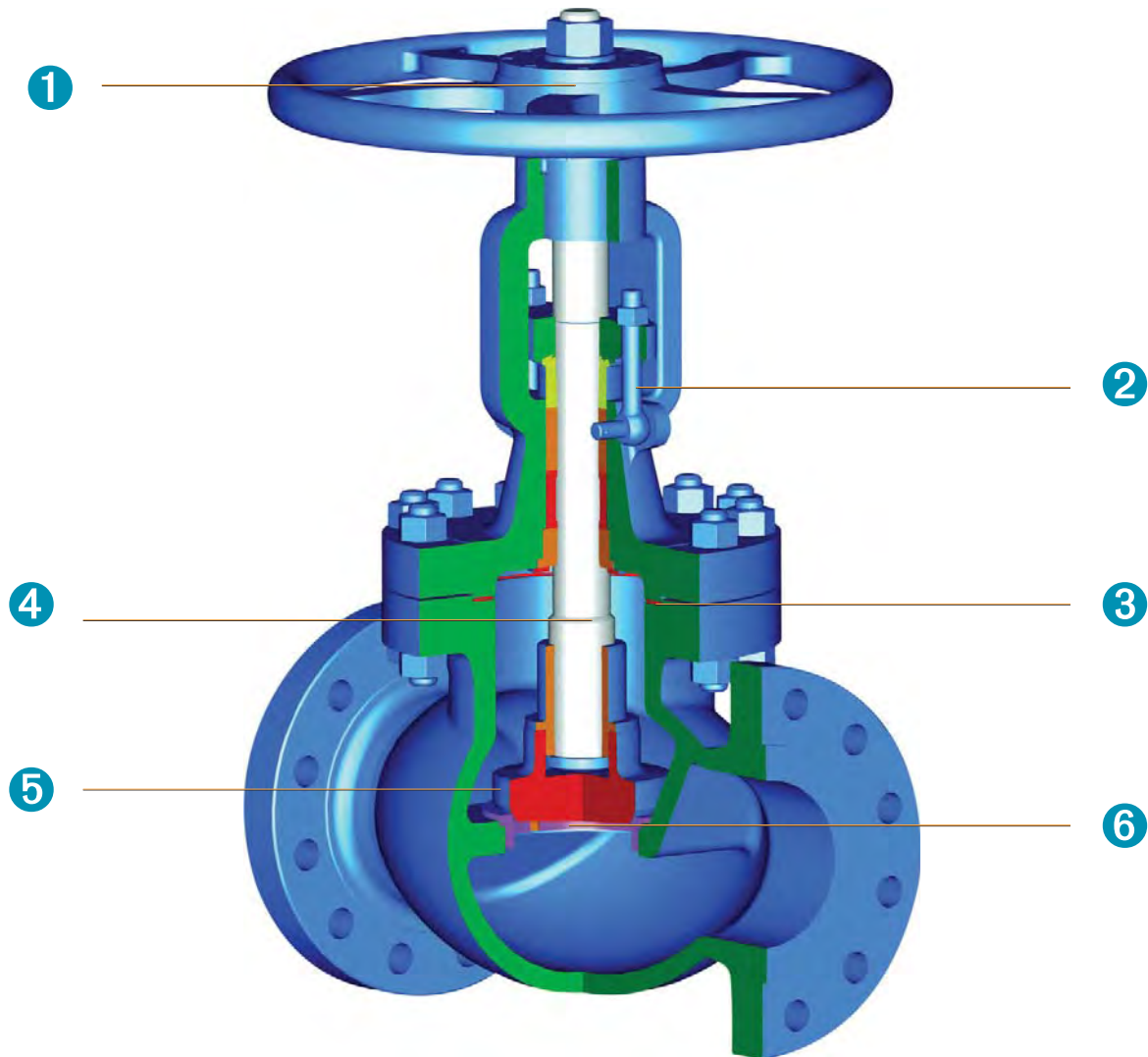
For Valves, cladding is applied on the flow bore area of Gate, Globe, Check, Ball & Butterfly Valves.

## Small Bore Globe Valves - ASME Class 800, 1500 & 2500 (ASME B16.34)

Dembla forged steel globe valves in sizes up to 2" complement the high pressure globe valves range. The T-pattern valves are certified if required available in a variety of materials and IBR certified.



## Design Features - Bolted Bonnet Globe Valve



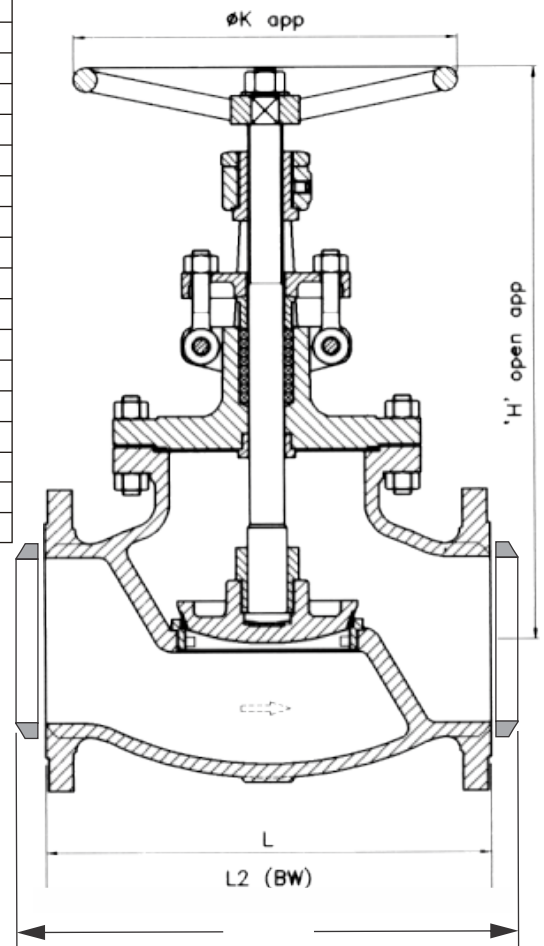
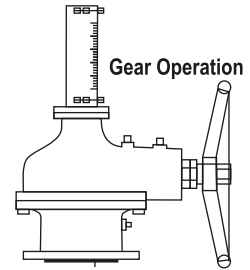
- ① Impact handwheel supplied at manufacturer's option or on customer request.
- ② Gland eyebolts are mounted to aside in order to facilitate packing maintenance.
- ③ Male and female bonnet joins for valves between 150 and 600 lbs. Ring joints for valves 900 lbs & above or as an option for 600 lb valves on customer request.
- ④ Anti blow-out stem design with conical backseat surface to permit the repacking of the valve while in the fully open position.
- ⑤ Plug seat surface is the standard disc design. Spherical and flat seat surfaces are optional on customer request.
- ⑥ Seat face with stellite 6 optional.

# BOLTED BONNET

## CLASS 150

### MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	WCB/WCC	WC6/WC9	CF8
BONNET	WCB/WCC	WC6/WC9	CF8/ CF8M
PLUG	CA15/ 13% Cr. FACING ON WCB/WCC	WC6+WC9 13%Cr FACING	CF8/ CF8M
SEAT RING (Integral/Removable)	CA15/A 515-70 / 13%Cr FACING	S.S 304 / SS 316	CF8 /CF8M
BACK SEAT	S S 410		INTEGRAL
SPINDLE	S S 410		S S 304/SS 316
GLAND BUSH	S S 410		S S 304/ SS 316
GLAND FLANGE	CARBON STEEL /WCBS.S 304		B8/8M
YOKE NUT	ASTM A 439 Gr.D2/ AL-BRONZE		
PLUG NUT	SS 410		SS 304
HAND WHEEL	CARBON STEEL		
HAND WHEEL NUT	Gr.2H		Gr.8
STUD & NUT	B7 / 2H	B16 / 7	B8/8
EYE BOLT & NUT	B7 / 2H		
CROSS BOLT & NUT	B7 / 2H		B8 / 8
GASKET	SPW S S 304/ 316 WITH Graphite		
GLAND PACKING	GRAPHITE INHIB. & INCONEL WIRE REIN/ GRAPHOIL		
THRUST WASHER	SS 410 (HARDENED STEEL)		SS 304/ SS 316
WASHER	STEEL		
GRUB SCREW	STEEL		
LOCK NUT	STEEL		
NAME PLATE	SS 304		



- 1) INTEGRAL SEAT AND BACK SEAT FOR AUSTENITIC STEEL VALVES.
- 2) SEAT AND PLUG STELLITING OPTIONAL
- 3) THRUST BEARINGS, NON - ROTATING STEM WITH YOKE SLEEVE PROVIDED "12" NB & ABOVE SIZES.
- 4) GUIDED DISC PROVIDED 12" NB & ABOVE
- 5) SCREW DOWN NON RETURN (SDNR) CONSTRUCTION CAN BE OFFERED IF REQUIRED
- 6) 14" NB & ABOVE NORMALLY SUPPLIED WITH GEAR BOX
- 7) SEAL WELDING FOR SEAT RING

#### Type of Ends

- Flanged Raised Face
- Flanged Ring Type Joint
- Buttweld
- Valves of Inconel 625/ Inconel 625 cladding available (cladding or wetted flow area).

#### DIMENSION TABLE

VALVE SIZE in mm	2	2.5	3	4	5	6	8	10	12	14	16	18	20	22	24
L	8.0 203	8.5 216	9.5 241	11.5 292	14.0 356	16.0 406	19.5 495	24.5 622	27.5 698	31.0 787	36.0 914	38.5 978	38.5 978	42.0 1067	51.0 1295
L1	8.0 203	8.5 216	9.5 241	11.5 292	14.0 356	16.0 406	19.5 495	24.5 622	27.5 698	31.0 787	36.0 914	38.5 978	38.5 978	42.0 1067	51.0 1295
H app	320	330	380	480	525	575	650	780	935	1185	1250	1350	1410	1525	1650
K app	200	200	250	300	300	350	450	500	600	700	750	800	800	850	900
Wt.Kg app(F/E)	20	30	38	57	75	98	155	225	360	580	800	910	1100	1300	1450

# BOLTED BONNET

## CLASS 300

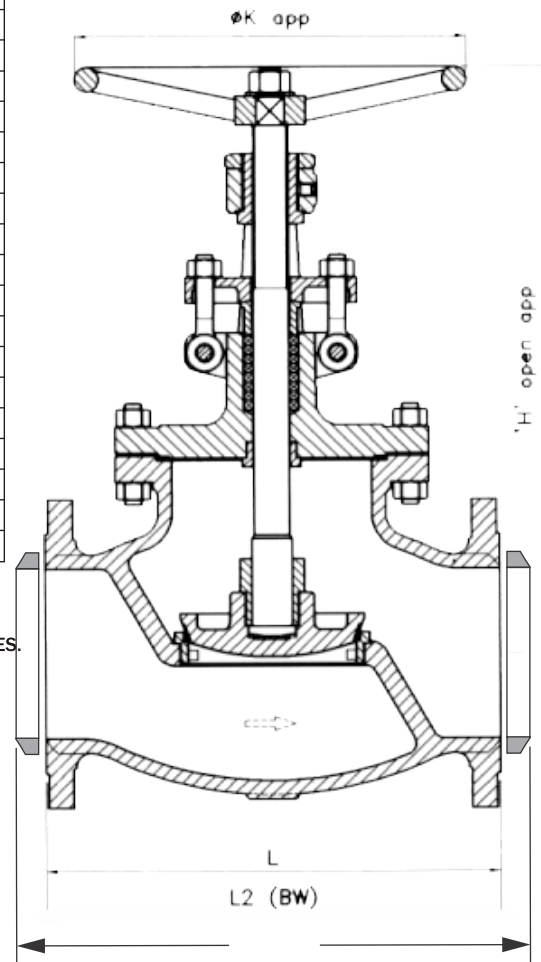
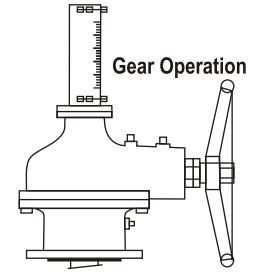
### MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	WCB/WCC	WC6/WC9	CF8/ CF8M
BONNET	WCB/WCC	WC6/WC9	CF8/ CF8M
PLUG	CA15 / 13%Cr. FACING ON WCB/WCC	WC6+/WC9 13% Cr FACING	CF8 / CF 8M
SEAT RING	CA15/A 515Gr-70+ 13%Cr FACING	SS 304 / SS 316	CF8/ CF8M
BACK SEAT	SS 410		INTEGRAL
SPINDLE	SS 410		SS 304/SS 316
GLAND BUSH	SS 410		SS 304/SS 316
GLAND FLANGE	CARBON STEEL /WCB		SS 304
YOKE NUT	ASTM A 439 Gr.D2/AL-BRONZE		
PLUG NUT	SS 410		SS 304
HAND WHEEL	CARBON STEEL		
HAND WHEEL NUT	Gr.2H		Gr.8
STUD & NUT	B7 / 2H	B16 / 7	B8 / 8
EYE BOLT & NUT	B7 / 2H		B8/8M
CROSS BOLT & NUT	B7 / 2H		B8 / 8
GASKET	SPW S.S 304 / 316 WITH		
GLAND PACKING	GRAPHITE INHIB. & INCONEL WIRE REIN/ GRAPHOIL		
THRUST WASHER	SS 410 (HARDENED STEEL)		SS 304
WASHER	STEEL		
GRUB SCREW	STEEL		
LOCK NUT	STEEL		
NAME PLATE	SS 304		

- 1) SEAL WELDING FOR SEAT RING
- 2) INTEGRAL SEAT AND BACK SEAT FOR AUSTENITIC STEEL VALVES.
- 3) SEAT AND PLUG STELLITING OPTIONAL
- 4) THRUST BEARINGS, NON - ROTATING STEM WITH YOKE SLEEVE PROVIDED 10" NB & ABOVE SIZES.
- 5) GUIDED DISC PROVIDED 10" NB & ABOVE
- 6) SCREW DOWN NON RETURN (SDNR) CONSTRUCTION CAN BE OFFERED IF REQUIRED
- 5) 12" NB & ABOVE NORMALLY SUPPLIED WITH GEAR BOX

#### Type of Ends

- Flanged Raised Face
- Flanged Ring Type Joint
- Butt weld
- Valves of Inconel 625/ Inconel 625 cladding available (cladding or wetted flow area).



DIMENSION TABLE

VALVE SIZE	in	2	2.5	3	4	5	6	8	10	12	14	16	18	20	24
	mm	50	6.5	80	100	125	150	200	250	300	350	400	450	500	600
L		10.5 267	11.5 292	12.5 318	14.0 356	15.7 400	17.5 444	22.0 559	24.5 622	28.0 711	33.0 838	34.0 864	38.5 978	40.0 1016	53.0 1346
L1		10.5 267	11.5 292	12.5 318	14.0 356	15.7 400	17.5 444	22.0 559	24.5 622	28.0 711	33.0 838	34.0 864	38.5 978	40.0 1016	53.0 1346
H app		360	410	450	530	590	650	735	825	950	1145	1370	1422	1475	1510
K app		200	250	300	350	400	450	600	700	750	800	800	850	900	1000
Wt.Kg app(F/E)		30	45	60	95	125	150	235	390	590	965	1115	1400	1800	2475

# BOLTED BONNET

## CLASS 600

### MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	WCB/WCC	WC6/WC9	CF8 / CF8M
BONNET	WCB/WCC	WC6/WC9	CF8 / CF8M
PLUG	CA15/ 13% Cr.	WC6/WC9	CF8 / CF8M
SEAT RING	FACING ON WCB/WCC A 515 -70 / 13% Cr.	13% Cr FACING SS 304 / SS 316	CF8 / CF8M
BACK SEAT	SS 410		SS INTEGRAL
SPINDLE	SS 410		SS 304 / SS 316
GLAND BUSH	SS 410		SS 304 / SS 316
GLAND FLANGE	CARBON STEEL / WCB		SS 304
YOKE NUT	ASTM A 439 Gr.D2 / AL-BRONZE		
PLUG NUT	SS 410		SS 304
HAND WHEEL	CARBON STEEL		
HAND WHEEL NUT	Gr.2H		Gr.8
STUD & NUT	B7 / 2H	B16 / 7	B8 / 8
EYE BOLT & NUT	B7 / 2H		B8/8M
CROSS BOLT & NUT	B7 / 2H		B8 / 8
GASKET	SPIRAL WOND S.S 304/ 316 WITH		
GLAND PACKING	GRAPH. INHIB. & INCONEL WIRE REIN./GRAPHOIL		
THRUST WASHER	SS 410		SS 304
WASHER	STEEL		
GRUB SCREW	STEEL		
LOCK NUT	STEEL		
NAME PLATE	SS 304		

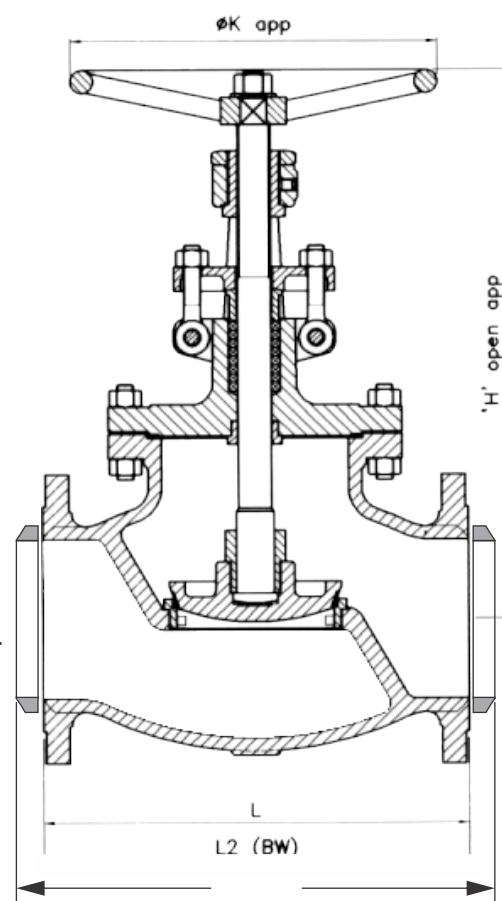
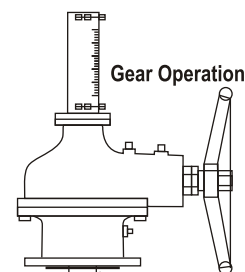
- 1 SEAL WELDING FOR SEAT RING
- 2 INTEGRAL SEAT AND BACK SEAT FOR AUSTENITIC STEEL VALVES.
- 3 PLUG / SEAT STELLITING OPTIONAL
- 4 GUIDED DISC PROVIDED 10" NB & ABOVE
- 5 SCREW DOWN NON RETURN (SDNR) CONSTRUCTION CAN BE OFFERED IF REQUIRED
- 6 THRUST BEARINGS, NON - ROTATING STEM WITH YOKE SLEEVE PROVIDED 8"NB & ABOVE SIZES.
- 7 8" NB & ABOVE NORMALLY SUPPLIED WITH GEAR BOX

#### Type of Ends

- Flanged Raised Face
- Flanged Ring Type Joint
- Buttweld
- Valves of Inconel 625/ Inconel 625 cladding available (cladding or wetted flow area).

#### DIMENSION TABLE

VALVE SIZE	in	2	2.5	3	4	5	6	8	10	12	14	16	18
	mm	50	6.5	80	100	125	150	200	250	300	350	400	450
L		11.5 292	13.0 330	14.0 356	17.0 432	20.0 508	22.0 559	26.0 660	31.0 787	33.0 838	35.0 889	39.0 991	43.0 1092
L1		11.5 292	132.0 330	14.0 356	17.0 432	20.0 508	22.0 559	26.0 660	31.0 787	33.0 838	35.0 889	39.0 991	43.0 1092
H <sub>app</sub>		400	425	490	635	685	740	975	1080	1230	1800	1930	2100
K <sub>app</sub>		250	300	350	400	450	500	600	650	700	900	1000	1100
Wt.Kg app(F/E)		35	40	68	128	185	250	435	825	910	1700	2500	2800



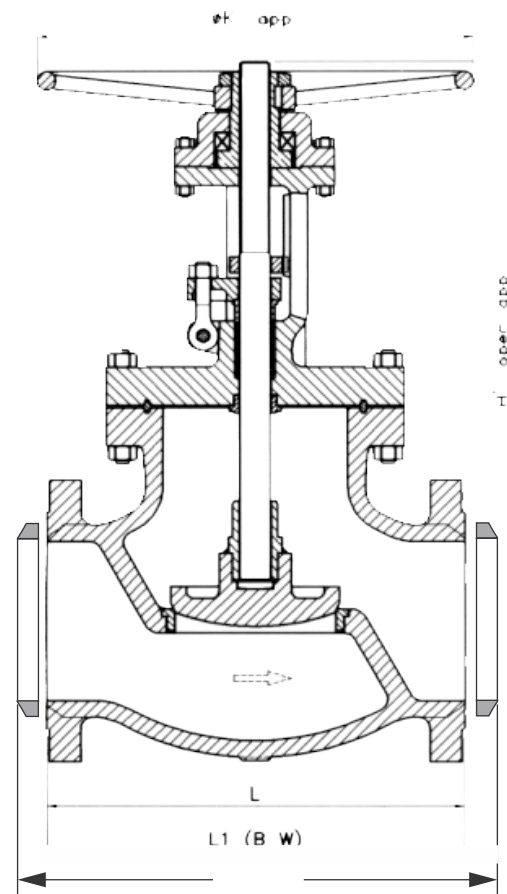
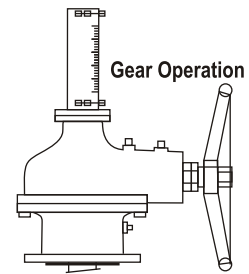


# BOLTED BONNET

## CLASS 900/1500/2500

### MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	WCB	WC6 / WC9	CF8/ CF8M
BONNET	WCB	WC6 / WC9	CF8/ CF8M
PLUG	CA15 / 13%Cr. FACING ON WCB +STELLITED	WC6+STELLITED WC9+STELLITED	Cf8/ CF8M +STELLITED
SEAT RING	515Gr-70+13%Cr FACING	304+WC6+STELLITED	Cf8 /CF8M + STELLITED
BACK SEAT	SS 410		INTEGRAL
SPINDLE	SS 410		SS 304/ SS 316
GLAND BUSH	SS 410		SS 304/ SS 316
GLAND FLANGE	CARBON STEEL /WCB		SS 304
YOKE SLEEVE	ASTM A 439 Gr.D2/AL-BRONZE		
PLUG NUT	SS 410		SS 304
CASING COVER	WCB	WCB / WC6	CF8/CF8M
GUIDE PLATE	CARBON STEEL		
HAND WHEEL	CARBON STEEL		
HAND WHEEL NUT	CARBON STEEL		SS 304
STUD & NUT	B7 / 2H		B8 / 8
EYE BOLT & NUT	B7 / 2H		B8/8M
CASING STUD & NUT	B7 / 2H		
CROSS BOLT & NUT	B7 / 2H		B8 / 8
GASKET	S.S 304 / 316 RING		
GLAND PACKING	GRAPH. INHIB. & INCONEL WIRE REIN./GRAPHOIL		
NAME PLATE	SS 304		SS 304
BEARING	STANDARD		



- 1) SEAL WELDED
- 2) GUIDED-DISC OPTIONAL
- 3) INTEGRAL SEAT AND BACK SEAT FOR AUSTENITIC STEEL VALVES.

- Valves of Inconel 625/ Inconel 625 cladding available (cladding or wetted flow area).

**DIMENSION TABLE 900 CLASS**

VALVE SIZE	in	2	3	4	6	8	10	12
	mm	50	80	100	150	200	250	300
L		14.5	15.0	18.0	24.1/5	29.0	33.0	38.1/8
		368	381	457	613	737	838	968
L1		14.5	15.0	18.0	24.1/8	29.0	33.0	38.1/8
		368	381	457	613	737	838	968
H app		505	6	710	900	980	1150	1700
K app		300	400	500	600	700	750	750
Wt.Kg app(F/E)		85	140	240	630	810	1150	2600

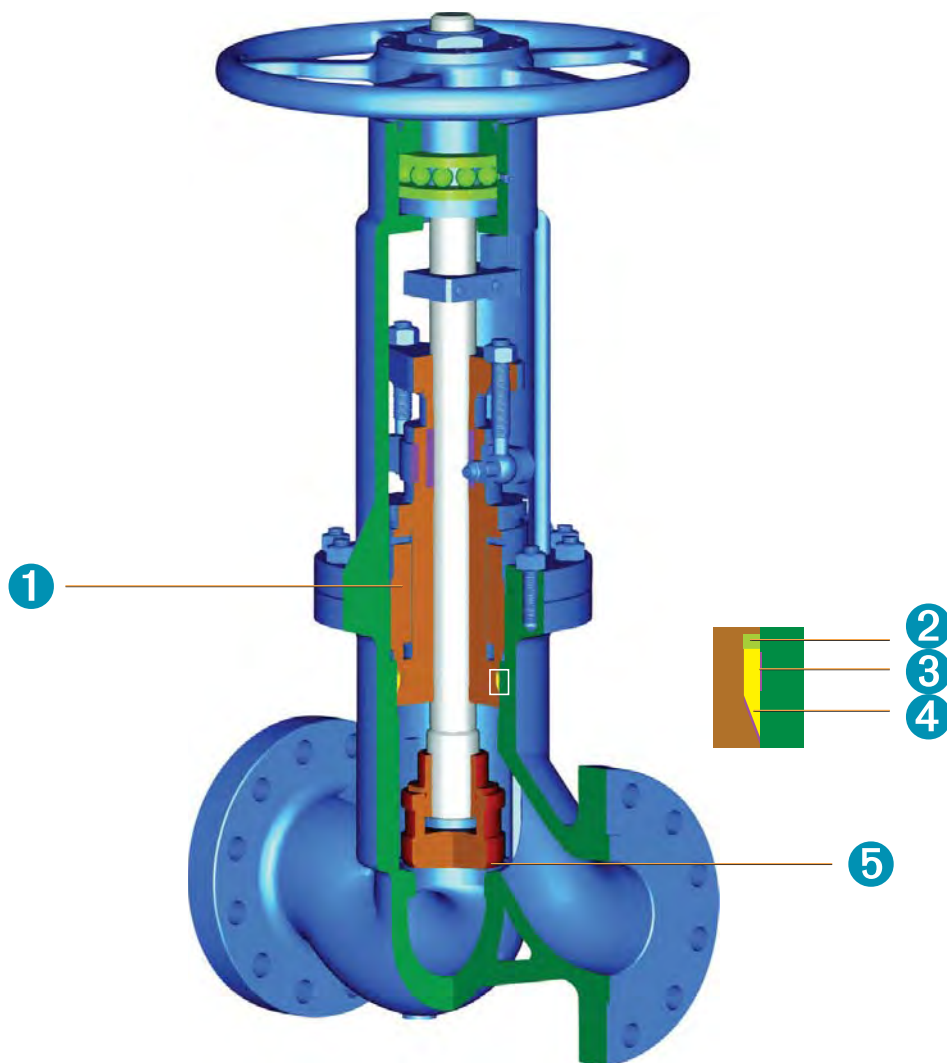
**DIMENSION TABLE 2500 CLASS**

VALVE SIZE	in	2	3	4	6	8	10	12
	mm	50	80	100	150	200	250	300
L		17.7	22.7	26.5	36.0	40.7/8	50.7/8	56.7/8
		451	578	673	914	1038	1292	1445
L1		17.7	22.7	26.5	36.0	40.25	50.0	56
		451	578	673	914	1022	1270	1422
H app		610	795	975	1080	2400	2800	3500
K app		400	500	700	750	750	600	100
Wt.Kg app(F/E)		115	346	490	910	4800	6800	8500

**DIMENSION TABLE 1500 CLASS**

VALVE SIZE	in	2	3	4	6	8	10	12
	mm	50	80	100	150	200	250	300
L		14.5	18.5	21.5	27.7	32.7	39	45.1/8
		368	470	546	705	832	991	1146
L1		14.5	18.5	21.5	27.7	32.7	39	44.5
		368	470	546	705	832	991	1130
H app		548	750	865	1048	1188	2300	2650
K app		350	450	50	700	800	900	1000
Wt.Kg app(F/E)		95	155	305	550	900	3200	4400

## Design Features - Pressure Seal Globe Valve



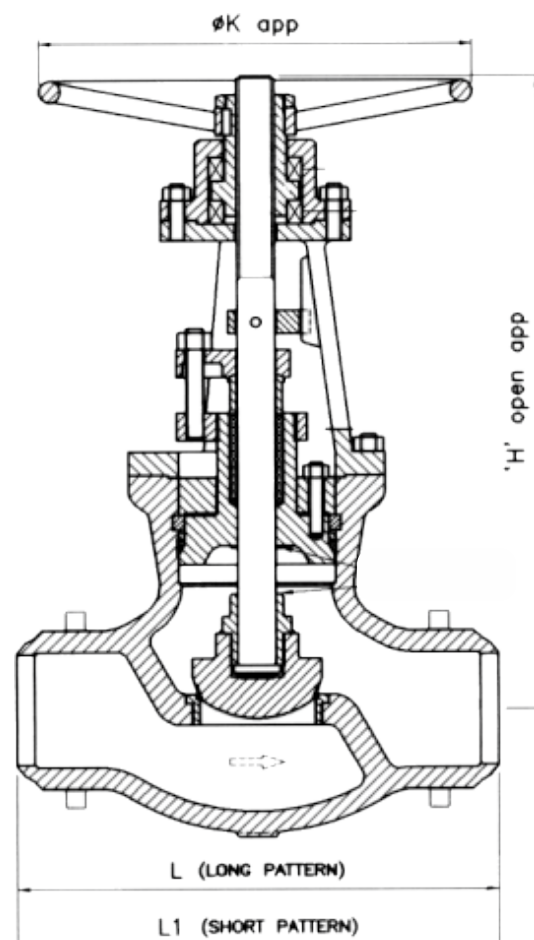
- 1 Thrust ring nut absorbs the thrust applied by the internal pressure
- 2 Thrust ring provides surface bearing and prevents deformation of the gaskets
- 3 Stainless steel inlay to ensure soundness and corrosion resistance in the critical body sealing zone for carbon and alloy steel valves
- 4 Soft steel gasket seal provides a large contact area for perfect sealing
- 5 Seat ring with stellite 6 overlay is standard design

# PRESSURE SEAL BONNET

## CLASS 900/1500/2500

### MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	WCB	WC6	CF8/ CF8M
BONNET	WCB	WC6	CF8/ CF8M
YOKE	WCB	WC6	CF8/ CF8M
WEDGE	CA15 / 13%Cr. FACING ON WCB+STELLITED	WC6+STELLITED	CF8/ CF8M+ STELLITED
SEAT RING	A 515-70/13%Cr.STELLITED	S.S 304 + STELLITED	SS 304/ 316
BACK SEAT	INTEGRAL		
SPINDLE	SS410		SS304/ SS316
GLAND BUSH	SS 410		SS304/ SS316
GLAND FLANGE	CARBON STEEL /WCB		SS304
YOKE SLEEVE	ASTM A 439 Gr.D2/AL-BRONZE		
CASING COVER	WCB	Wc6	CF8
BONNET PLATE	A 515-70		SS 304
HAND WHEEL	CARBON STEEL		
HAND WHEEL NUT	CARBON STEEL		SS 304
STUD & NUT	B7/2H	B16/7	B8 / 8
GLAND STUD & NUT	B7/2H		B8/8M
CASING STUD & NUT	B7/2H		
YOKE STUD & NUT	B7/2H		
GLAND PACKING	GRAPH. INHIB. & INCONEL WIRE REIN / GRAPHOIL		
SEAL RING	S.S.304		
SPACER RING	ASTM A 515-70	SS 304	SS304/ 316
SEGMENTAL RING	ASTM A 515-70	SS 304	SS304/ 316
LOCKING BOLT	GR. B7		
BEARING	STANDARD		
NAME PLATE	SS 304		



- 1) SEAL WELDED.
- 2) END TO END AS PER L1 UNLESS OTHERWISE SPECIFIED

- Valves of Inconel 625/ Inconel 625 cladding available (cladding or wetted flow area).

**DIMENSION TABLE 900 CLASS**

VALVE SIZE	in	2	3	4	6	8	10	12	14	16
	mm	50	80	100	150	200	250	300	350	400
L		14.5	15.0	18.0	24.0	29.0	33.0	38.0	40.5	44.5
		368	381	457	610	737	838	965	1029	1130
L1		8.5	12.0	14.0	20.0	26.0	31.0	36.0	39.0	44.5
		216	305	356	508	660	787	914	991	1030
H app		545	595	720	970	1140	1345	1615	1651	2362
K app		250	300	400	500	600	700	800	800	1000
Wt.Kg app(F/E)		60	90	170	310	550	970	2000	3200	4000

**DIMENSION TABLE 1500 CLASS**

VALVE SIZE	in	2	3	4	6	8	10	12	14
	mm	50	80	100	150	200	250	300	350
L		14.5	18.5	21.5	27.8	32.7	39.0	44.5	49.5
		368	470	546	705	832	991	1130	1257
L1		8.5	12.0	16.0	22.0	28.0	39.0	44.5	49.5
		216	305.0	406	559	711	991	1130	1257
H app		480	85	790	1085	1190	2000	2300	2680
K app		350	450	500	700	800	810	1000	1100
Wt.Kg app(F/E)		80	115	235	340	600	2200	2800	4000

**DIMENSION TABLE 2500 CLASS**

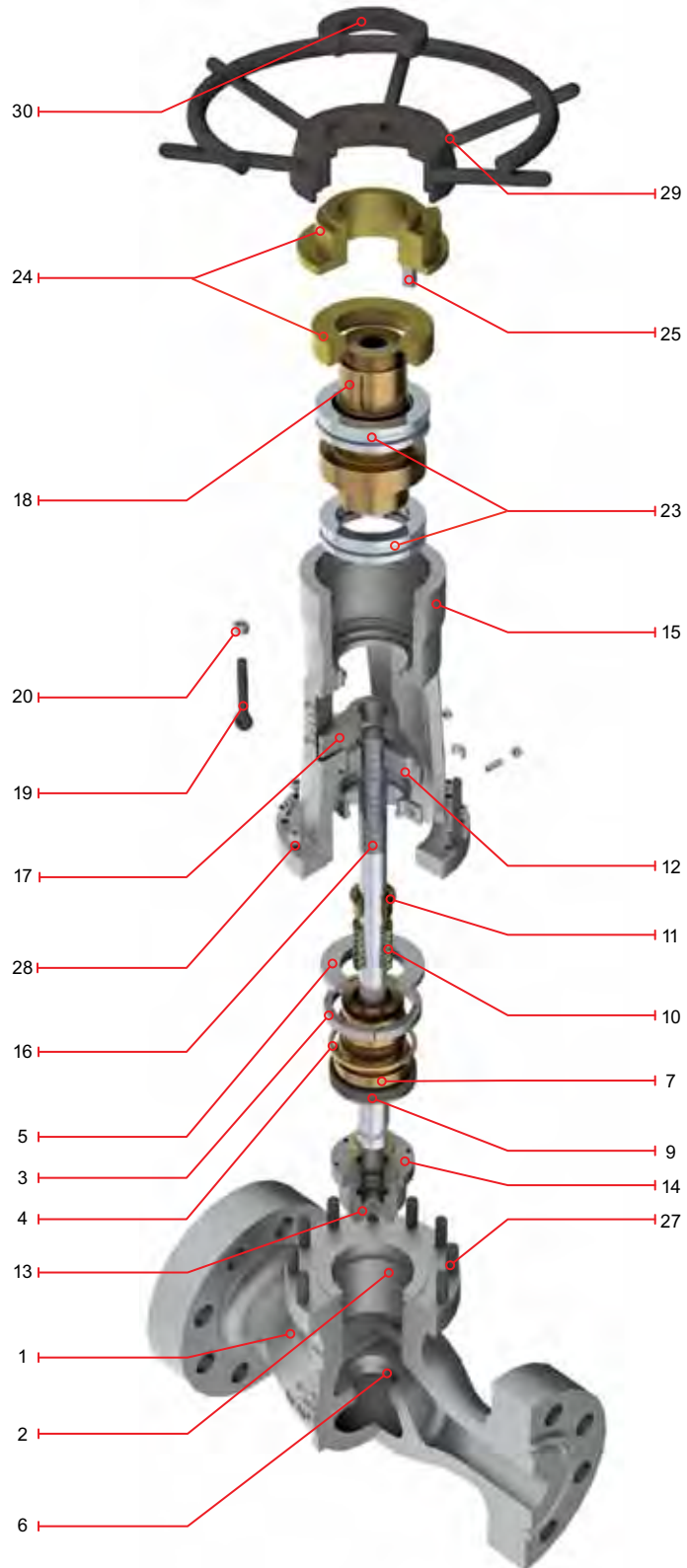
VALVE SIZE	in	2	3	4	6	8	10	12
	mm	50	80	100	150	200	250	300
L		17.7	22.7	36.5	36.0	40.25	50.0	56.7/8
		451	578	673	914	1022	1270	1445
L1		11.0	14.5	18.0	24.0	30.0	50.0	56.0
		279	368	457	610	762	1270	1422
H app		610	795	975	1120	2900	1120	2292
K app		400	500	700	750	750	800	1000
Wt.Kg app(F/E)		115	346	490	910	4800	6800	8500

# PARTS ILLUSTRATOR

## PRESSURE SEAL BONNET

Regular Bill of Materials








No.	Description	1 1/4 % Chrome
1	"T" pattern body	ASTM A217 GR. WC6
2	Body inlay	SS-309
3	Segmental thrust ring	AISI 410
4	Spacer ring	AISI 410
5	Bonnet retainer	ASTM A-515 GR. 70
6	Seat ring	ASTM A-217 GR. WC6 & Co-Cr-W overlay
7	Bonnet	ASTM A-217 GR. WC6 or ASTM A182 GR. F11
8	Bonnet back seat	Integral (not shown)
9	Gasket	Mild steel (100 HB) silver plated
10	Packing	Flexible graphite intermediate rings / anti extrusion rings on top and bottom side of the packing chamber.
11	Gland bushing	ASTM A-276 GR. 410
12	Glang flange	ASTM A-216 GR. WCB
13	Guided plug	ASTM A-217 GR. WC6 or ASTM A182 GR. F11 & Co-Cr-W overlay
14	Disc nut	ASTM A 276-410
15	Yoke	ASTM A-216 GR. WCB
16	Stem	ASTM A-182 GR. F6A CL2
17	Stem guide	ASTM A-515 GR. 70
18	Stem nut	ASTM B-148 C95600
19	Gland flange stud	ASTM A-193 GR. B7
20	Gland flange nut	ASTM A-194 GR. 2H
21	Bonnet studs	ASTM A-193 GR. B16 (not shown)
22	Stud nuts	ASTM A-194 GR. 7 (not shown)
23	Bearings	Commercial
24	Bearing cover	ASTM A-515 GR. 70
25	Bearing cover stud	ASTM A-193 GR. B7
26	Bearing cover stud nut	ASTM A-194 GR. 2H (not shown)
27	Yoke bolt	ASTM A-193 GR. B7
28	Yoke nuts	ASTM A-194 GR. 2H
29	Handwheel	Commercial
30	Handwheel nut	ASTM A-515 GR. 70



## GLOBE VALVE CV FLOW COEFFICIENT (USGPM)

VALVE SIZE		GLOBE VALVE CV FLOW COEFFICIENT (USGPM)				
NPS	DN	150#	300#	600#	900#	1500#
2	50	35	35	35	30	30
2.1/2	65	60	60	30	-	-
3	80	92	92	92	90	75
4	100	180	180	155	155	130
6	150	430	370	369	350	-
8	200	810	695	695	610	-
10	250	1070	1065	1050	975	-
12	300	1950	1640	1345	-	-
14	350	2500	2015	-	-	-
16	400	3400	2705	-	-	-
18	450	4500	4500	-	-	-
20	500	-	-	-	-	-
24	600	6720	6580	-	-	-

## How to order steel globe valves

Type of connection	Size of connection	Pressure rating	Gate Valve	Body/bonnet style	Body material	Trim material
<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
						
<b>F</b>	<b>1 0</b>	<b>— 0</b>	<b>0 1</b>	<b>4 C —</b>	<b>0 2</b>	<b>J Y</b>

The figure numbers shown on this key are designed to cover essential features of Dembla valves. Please use figure numbers to ensure prompt and accurate processing of your order. A detailed description must accompany any special orders.

A TYPE OF CONNECTION			
<b>A</b> Special	<b>D</b> DIN Flanged	<b>P</b> Flanged B16.47 series B (API605)	
<b>B</b> Butt weld	<b>E</b> Welded studs (butt weld)	<b>R</b> Flanged ring joint	
<b>C</b> Combination	<b>F</b> Flanged B16.5 (B16.47 series B)	<b>U</b> Undrilled flanges	

B SIZE OF CONNECTION											
Customers have the choice of specifying valve size as part of the valve figure number (B) using the numbers below, or indicating valve size separately. Sizes shown in NPS (DN)											
<b>EXAMPLES:</b>											
F10-0064C-02JY (valve size is part of figure number)											
3 (80) F-0064C-02JY (valve size is shown separately)											
<b>08</b>	2 (50)	<b>14</b>	6 (150)	<b>21</b>	18 (450)	<b>30</b>	30 (750)	<b>42</b>	42 (1050)	<b>56</b>	56 (1400)
<b>09</b>	2½ (65)	<b>15</b>	8 (200)	<b>22</b>	20 (500)	<b>32</b>	32 (800)	<b>44</b>	44 (1100)	<b>60</b>	60 (1500)
<b>10</b>	3 (80)	<b>16</b>	10 (250)	<b>23</b>	22 (550)	<b>34</b>	34 (850)	<b>46</b>	46 (1150)	<b>64</b>	64 (1600)
<b>11</b>	3½ (90)	<b>18</b>	12 (300)	<b>24</b>	24 (600)	<b>36</b>	36 (900)	<b>48</b>	48 (1200)	<b>99</b>	Special
<b>12</b>	4 (100)	<b>19</b>	14 (350)	<b>26</b>	26 (650)	<b>38</b>	38 (950)	<b>50</b>	50 (1250)		
<b>13</b>	5 (125)	<b>20</b>	16 (400)	<b>28</b>	28 (700)	<b>40</b>	40 (1000)	<b>54</b>	54 (1350)		

C PRESSURE RATING											
<b>0</b>	150	<b>1</b>	300	<b>2</b>	600	<b>3</b>	1500	<b>7</b>	900	<b>8</b>	2500

D VALVE TYPE			
<b>01</b>	Globe Valve		

E BODY/BONNET STYLE					
<b>4</b> Vertical	<table border="1"> <tr> <td><b>A</b> Special</td> </tr> <tr> <td><b>C</b> Bolted bonnet (cast)</td> </tr> <tr> <td><b>E</b> Extended bonnet (cryogenic)</td> </tr> <tr> <td><b>V</b> Cast bolted bonnet bellows seal</td> </tr> </table>	<b>A</b> Special	<b>C</b> Bolted bonnet (cast)	<b>E</b> Extended bonnet (cryogenic)	<b>V</b> Cast bolted bonnet bellows seal
<b>A</b> Special					
<b>C</b> Bolted bonnet (cast)					
<b>E</b> Extended bonnet (cryogenic)					
<b>V</b> Cast bolted bonnet bellows seal					

F BODY MATERIAL <sup>(1)</sup>					
<b>01</b> Special	<b>09</b> C12	<b>19</b> Monel M35	<b>31</b> LCC		
<b>02</b> WCB	<b>11</b> CF8	<b>23</b> Alloy 20	<b>34</b> C12A (F91)		
<b>03</b> WC1	<b>12</b> CF3	<b>25</b> LCB	<b>38</b> LC1		
<b>04</b> C5	<b>13</b> CF8M	<b>27</b> LC3	<b>39</b> LC2		
<b>05</b> WC6	<b>14</b> CF3M	<b>28</b> CG8M	<b>46</b> GS-C25N		
<b>06</b> WC9	<b>15</b> CF8C	<b>29</b> CG3M			

(1) Pressure-containing valve components which may include body, bonnet, cover and body end.

**Note:** CoCr alloy as used throughout this catalog refers to cobalt chrome hardfacing alloys as supplied by Kennametal Stellite™, and other approved manufacturers.

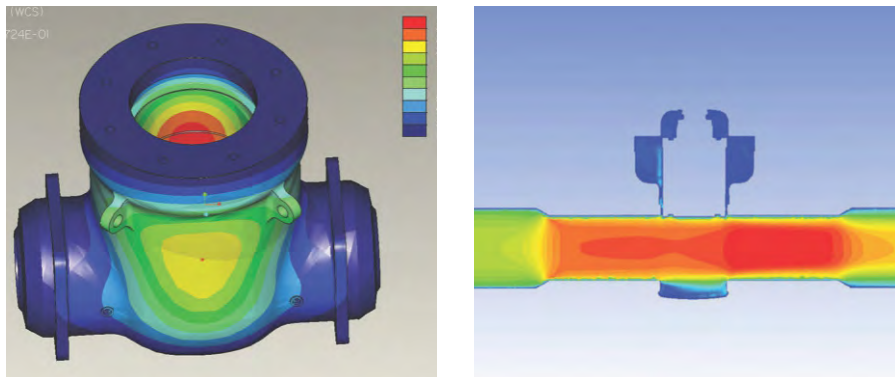
For a more detailed list of available trims, contact the factory

G TRIM (standard trims)					
Code	Wedge/disc surface <sup>(2)</sup>	Seat surface <sup>(2)</sup>	Stem	API Number	Bellows <sup>(3)</sup> (if applicable)
<b>PS</b>	CoCr alloy <sup>(4)</sup>	CoCr alloy <sup>(4)</sup>	316	16	316TI/321
<b>PY</b>	CF8M or 316	CoCr alloy <sup>(4)</sup>	316	12	316TI/321
<b>JS</b>	CoCr alloy <sup>(4)</sup>	CoCr alloy <sup>(4)</sup>	13 Cr (410) <sup>(5)</sup>	5	316TI/321
<b>JY</b>	13 Cr (410 or CA15)	CoCr alloy <sup>(4)</sup>	13 Cr (410)	8	
<b>VA</b>	13 Cr (410 or CA15) HRC 22 max.	CoCr alloy <sup>(4)</sup>	13 Cr 410 HRC 22 max.	8	
<b>VB</b>	CF8M	CoCr alloy <sup>(4)</sup>	316	12	316TI/321
<b>VC</b>	Monel	CoCr alloy <sup>(4)</sup>	Monel	11	Hastelloy C
<b>VD</b>	CoCr alloy <sup>(3)</sup>	CoCr alloy <sup>(3)</sup>	630 (H1150M)	5 <sup>(8)</sup>	
<b>VE</b>	CoCr alloy <sup>(4)</sup>	CoCr alloy <sup>(4)</sup>	13 Cr 410 HRC 22 max.	5	
<b>VF</b>	CoCr alloy <sup>(4)</sup>	CoCr alloy <sup>(4)</sup>	Same as body		
<b>VG</b>	CoCr alloy <sup>(4)</sup>	CoCr alloy <sup>(4)</sup>	316	16	
<b>VV</b>	CF8M	CoCr alloy <sup>(4)</sup>	316	12	
<b>VU</b>	Monel	Monel	Monel	9	
<b>VY</b>	CoCr alloy <sup>(4)</sup>	CoCr alloy <sup>(4)</sup>	XM-19	16 <sup>(9)</sup>	
<b>AS</b>	CoCr alloy <sup>(4)</sup>	CoCr alloy <sup>(4)</sup>	321	16 <sup>(10)</sup>	316TI/321
<b>AY</b>	CF8C/F321	CoCr alloy <sup>(4)</sup>	321	12 <sup>(10)</sup>	316TI/321
<b>CC</b>	Alloy 20	Alloy 20	Alloy 20	13	
<b>ES</b>	CoCr alloy <sup>(4)</sup>	CoCr alloy <sup>(4)</sup>	347	16 <sup>(10)</sup>	
<b>EY</b>	CF8C/F347	CoCr alloy <sup>(4)</sup>	347	12 <sup>(10)</sup>	
<b>HC</b>	Hastelloy C	CoCr alloy <sup>(4)</sup>	Hastelloy C		Hastelloy C
<b>HP</b>	HF-acid trim	HF-acid trim	HF-acid trim		
<b>PF</b>	CF8M or 316 w/ Teflon insert <sup>(6)</sup>	CoCr alloy <sup>(4)</sup>	316	12	
<b>PH</b>	CoCr alloy <sup>(4)</sup>	CoCr alloy <sup>(4)</sup>	316	16	Hastelloy C
<b>PV</b>	CoCr alloy <sup>(4)</sup>	CoCr alloy <sup>(4)</sup>	316	16	Inconel 625
<b>PU</b>	CF8M	316	316	10	
<b>JF</b>	13Cr (410 or CA15) w/ Teflon insert <sup>(6)</sup>	CoCr alloy <sup>(4)</sup>	13 Cr (410)	8	
<b>JH</b>	CoCr alloy <sup>(4)</sup>	CoCr alloy <sup>(4)</sup>	13 Cr (410) <sup>(5)</sup>	5	Hastelloy C
<b>JN</b>	CoCr alloy <sup>(4)</sup>	CoCr alloy <sup>(4)</sup>	13 Cr (410) <sup>(5)</sup>	5	Inconel 625
<b>US</b>	CoCr alloy <sup>(4)</sup>	CoCr alloy <sup>(4)</sup>	Monel		
<b>UU</b>	Monel	Monel	Monel	9	
<b>UY</b>	Monel	CoCr alloy <sup>(4)</sup>	Monel	11	

- (2) Base material is either the same as the body or solid trim at manufacturer's option.
- (3) Bellows material shown as standard, Inconel can be used in lieu of 321 and Hastelloy C in lieu of Inconel, where design and/or pressure class applicable.
- (4) CoCr alloy refers to cobalt-chrome alloys in Grade 6 (e.g. AWS CoCr-A, UNS 30006 & 30106) or Grade 21 (e.g. AWS CoCr-E, UNS 30021). Use of Grade 6 or 21 is at DEMBLA's option.
- (5) 616HT manufacturer's standard. (F91 and C12A only).
- (6) Inserts may be in seat or wedge at manufacturer's option.
- (7) Valves with "NACE" figure numbers will meet the material requirements of NACE MRO103 and MRO175/ISO 15156. It is the equipment user's responsibility to ensure that the materials are suitable for the intended service.
- (8) 630 SS is a Precipitation - Hardenable Stainless Steel (Also referred to as 17-4 PH stainless steel) Has superior Mechanical properties and adequate corrosion resistance when compared to 410 SS.
- (9) XM-19 is an austenitic stainless steel known for its superior mechanical properties and corrosion resistance compared to 316 SS.
- (10) An austenitic stainless steel which has comparable mechanical properties and corrosion resistance compared to 316.

## R&D

Designs for Dembla Globe Valves are created using 3D design and analysis software. Finite Element Analysis (FEA) and Computational Fluid Dynamics (CFD) are extensively used to fine-tune product designs.

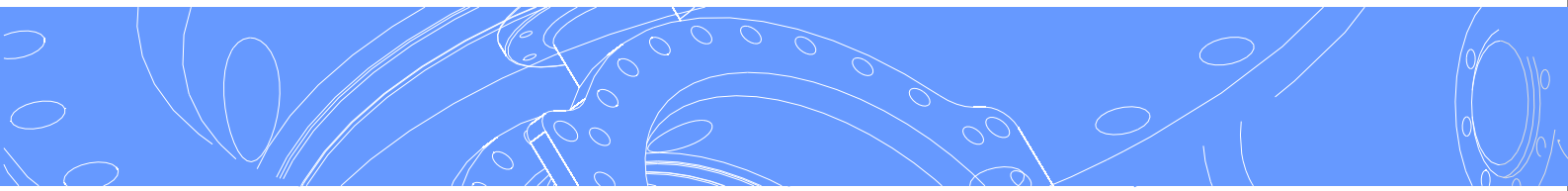


### In-house Qualification Test Facilities:

- High Pressure Gas Test
- Endurance & Cycle Test
- Pipe end load Test
- Vacuum Test
- Fire Safe Test
- Fugitive Emission Test
- Tat Test



The integrity of seat and pressure were established at ambient condition, at elevated temperature and pressure as well as at cryogenic condition.



**Dembla**

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