

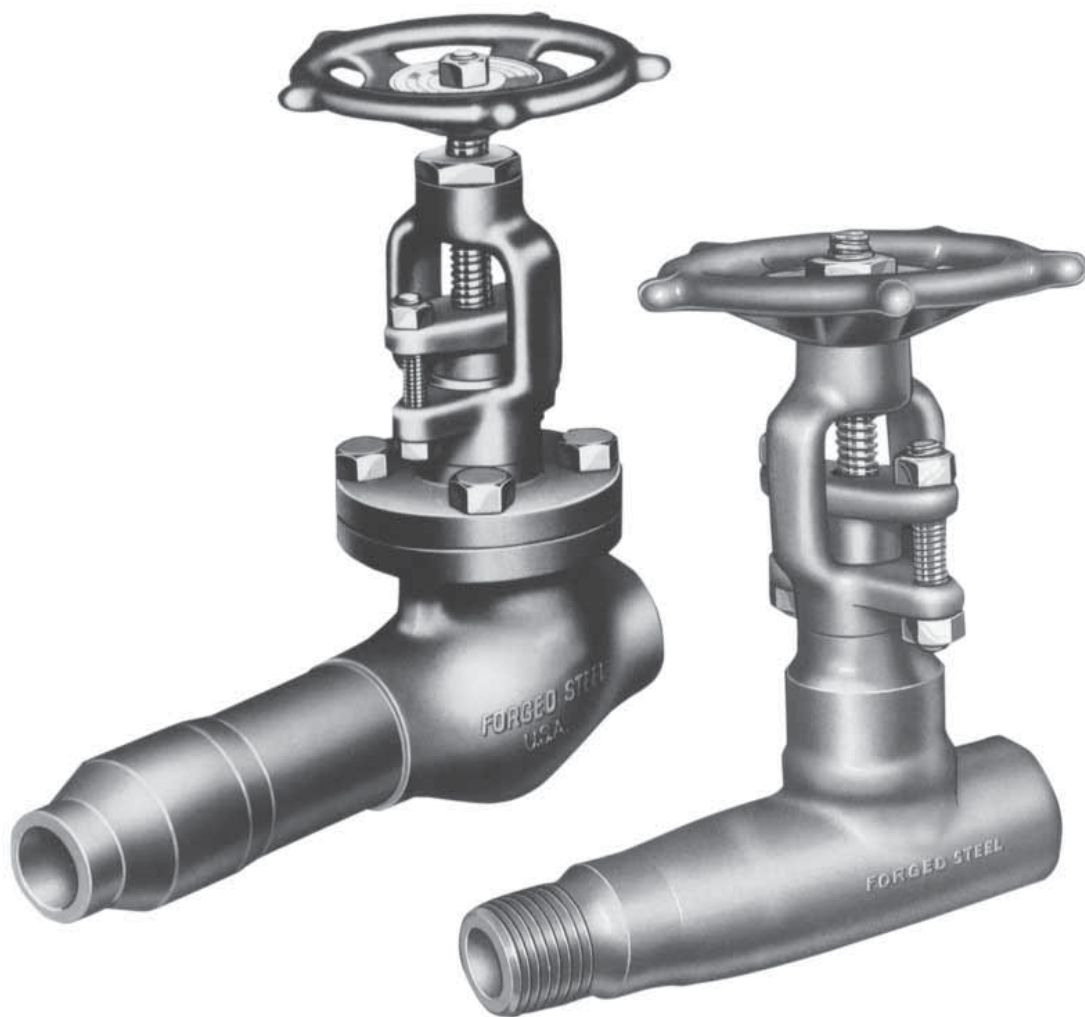


CONNECTION BULLETIN

Vogt Valves

Extended Body Forged Steel Valves
Welded Bonnet, Bolted Bonnet, Class 800 and 1500

FCD VVABR1022-00 – 01/05 (Replaces CB-22)



Experience In Motion

Extended Body Forged Steel Valves

An extended body gate valve specifically designed for pressure measurement, venting, draining and sampling applications.

The extended end concept has an inherently greater length-strength ratio than the traditional “valve with nipple” welded assembly. It accommodates varying insulation thickness.

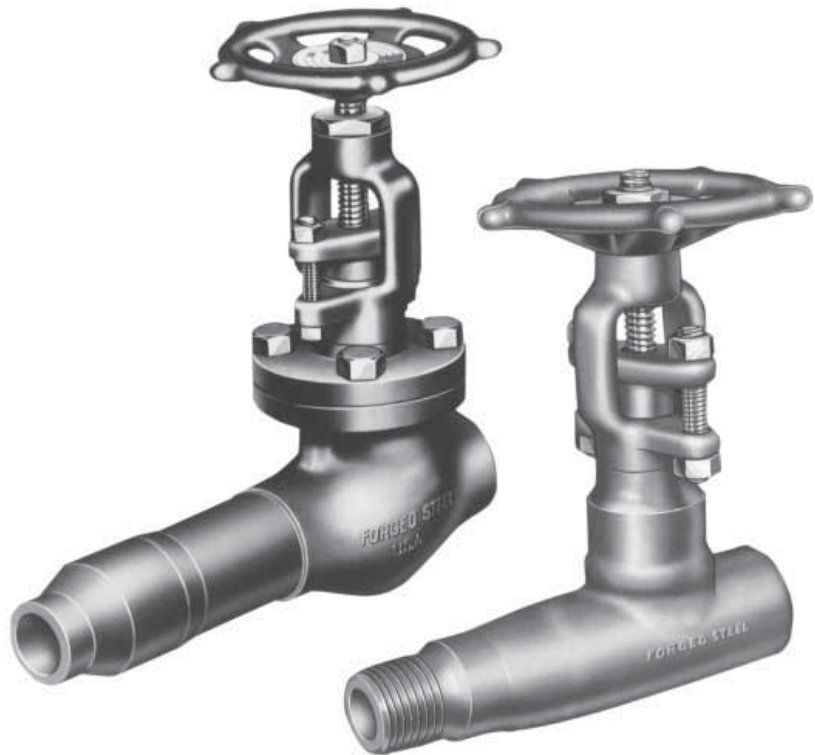
This is a ready-to-install outlet which provides reliable performance as well as significant savings in installation, inspection and maintenance time.

Forged Steel Gate Valves Conform to API-602.

Extended Body Gate
and Globe Valves

Welded Bonnet and
Bolted Bonnet

Class 800 and 1500



Extended Body Globe Valves Also Available.

Forged Steel Seal Weld Bonnet Gate Valves for Extended Body Valve Applications

- Outside screw and yoke
- Bolted gland
- Seal weld bonnet
- Solid wedge
- HF seats

Table 1: Class 800 Conventional Port

Carbon Steel: 1975 psi @ 100°F

Type 316: 1920 psi @ 100°F

For other ratings, see Table 10.

Order by size and series number.

Conforms to API-602

Series Number	Material		Type Ends	Illustration (Table 2 shows dimensions)
	Body	Trim		
TT2801 Δ	Carbon Steel A105	13% Cr. ★	Integral Male Threaded Female Threaded	
TT2831 Δ	316	316	Integral Male Threaded Female Threaded	
TT2811 ◆ Δ (inside screw stem)	Carbon Steel A105	13% Cr. ★	Integral Male Threaded Female Threaded	
ST2801	Carbon Steel A105	13% Cr. ★	Integral Male Socket Weld Female Threaded	
SS2801	Carbon Steel A105	13% Cr. ★	Female Socket Weld (not illustrated)	
ST2831	316	316 ★	Integral Male Socket Weld Female Threaded	
CT2801	Carbon Steel A105	13% Cr. ★	Integral Male Couplet Female Threaded	
CT2831	316	316	Integral Male Couplet Female Threaded	
CT2901	Carbon Steel A105	13% Cr. ★	Integrally Reinforced Extended Length Male Couplet Female Threaded	
CS2901	Carbon Steel A105	13% Cr. ★	Female Socket Weld (not illustrated)	
CT2911 ◆ (inside screw stem)	Carbon Steel A105	13% Cr. ★	Integrally Reinforced Extended Length Male Couplet Female Socket Weld	
BT2901	A105	13% Cr. ★	Integrally Reinforced Extended Length Butt Weld End Female Threaded	

Carbon Steel material conforms to ASTM A105. Stainless Steel material conforms to ASTM A182-F316.

◆ Inside Screw Stem valves are not illustrated; however, OS&Y dimensions shown are applicable, except for the open/closed dimensions.

† Normally furnished to these lengths. Other lengths can be fabricated. See page 7.

Δ 1/2" TT2801, TT2811 and TT2831 valves are not covered under API-602 Rules.

★ Seats are hard faced.

Forged Steel Seal Weld Bonnet Gate Valves for Extended Body Valve Applications

Table 2: Class 800
Conventional Port, Seal Weld Bonnet

Carbon Steel: 1975 psi @ 100°F
Type 316: 1920 psi @ 100°F
For other ratings, see Table 10.

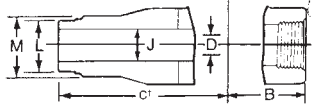
Order by size and series number.
Conforms to API-602

Valve Size (in.)	Weight (lb.)	Dimensions (in.)														
		A	B	C	Max. D	E	Open F	Closed G	Handwheel Dia. H	J	K	L	M	N	P	R
½	4.2	4.00	1.69	7.00	.47	.50	6.50	5.88	4.00	.64	.75	.84	1.25	.81	1.56	.97
¾	4.2	4.00	1.69	7.00	.47	.50	6.50	5.88	4.00	.65	.75	1.05	1.25	.81	1.56	.97
1	7.4	4.38	2.00	7.50	.69	.75	8.31	7.38	4.75	.90	1.00	1.32	1.56	1.06	1.94	1.22
1½	13.4	5.00	2.38	8.00	1.25	1.25	10.12	8.69	5.75	1.47	1.50	1.90	2.25	1.69	2.56	1.72

Table 3: Class 1500
Conventional Port, Seal Weld Bonnet

Carbon Steel: 3705 psi @ 100°F

Order by size and series number.
Conforms to API-602

Series Number	Material		Type Ends	Illustration
	Body	Trim		
ST15801	Carbon Steel A105	13% Cr. ★	Integral Male Socket Weld Female Threaded	

† Normally furnished to these lengths. Other lengths can be fabricated, see page 7.

★ Seats are hard faced.

Table 4: Class 1500
Conventional Port, Seal Weld Bonnet

Carbon Steel: 3705 psi @ 100°F

Order by size and series number.
Conforms to API-602

Valve Size (in.)	Dimensions (in.)								
	A	B	D	Open F	Closed G	Handwheel Dia. H	J	L	M
½	4.69	2.00	.50	7.53	6.88	4.75	.69	.84	1.56
¾	4.69	2.00	.50	7.53	6.88	4.75	.69	1.05	1.56
1	5.38	2.38	.75	9.69	8.78	7.00	1.12	1.32	2.25

Forged Steel Bolted Bonnet Gate Valves for Extended Body Valve Applications

- Outside screw and yoke
- Bolted gland
- Bolted bonnet
- Solid Wedge
- HF seats

Table 5: Class 800 Conventional Port

Carbon Steel: 1975 psi @ 100°F
For other ratings, see Table 10.

Order by size and series number.
Conforms to API-602

Series Number	Material		Type Ends	Illustration
	Body	Trim		
TT12111	Carbon Steel A105	13% Cr. ★	Male Threaded Female Threaded	
ST12111	Carbon Steel A105	13% Cr. ★	Male Socket Weld Female Threaded	
CT12111	Carbon Steel A105	13% Cr. ★	Integrally Reinforced Extended Length Male Couplet Female Threaded	
CS12111	Carbon Steel A105	13% Cr. ★	Female Socket Weld (not illustrated)	
BT12111	Carbon Steel A105	13% Cr. ★	Integrally Reinforced Extended Length Butt Weld End Female Threaded	
BS12111	Carbon Steel A105	13% Cr. ★	Female Socket Weld (not illustrated)	

† Normally furnished to these lengths. Other lengths can be fabricated. See page 7.

Δ ½" TT 2111 valves are not covered by API-602 rules.

★ Seats are hard faced.

Can be disassembled for post weld heat treat procedure only if gate orientation is marked and maintained when reassembled. Note: Series CT12111 valves do not require an interfacing fitting. The valve can be welded directly to the pipe header or vessel as illustrated for CT2901. See Table 9.

Table 6: Class 800 Conventional Port

Carbon Steel: 1975 psi @ 100°F
For other ratings, see Table 10.

Order by size and series number.
Conforms to API-602

Valve Size (in.)	Weight (lb.)	Dimensions (in.)													
		A	B	Max. C	Max. D	E	Open F	Closed G	Handwheel Dia. H	Max. Dia. J	K	L	M	P	R
½	5.7	4.50	1.97	7.00	.47	.50	6.38	5.75	4.00	.64	.75	.84	1.56	1.56	.97
¾	4.1	4.50	1.97	7.00	.47	.50	6.38	5.75	4.00	.75	.75	1.05	1.56	1.56	.97
1	7.3	5.25	2.09	7.50	.75	.75	8.31	7.38	4.75	1.00	1.00	1.32	1.94	1.94	1.22
1½	16.5	6.00	2.72	8.00	1.25	1.25	10.12	8.69	5.75	1.50	1.50	1.90	2.56	2.56	1.72

† Normally furnished to these lengths. Other lengths can be fabricated. See page 7.

★ Seats are hard faced.

Can be disassembled for post weld heat treat procedure only if gate orientation is marked and maintained when reassembled. Note: Series CT12111 valves do not require an interfacing fitting. The valve can be welded directly to the pipe header or vessel as illustrated for CT2901. See Table 9.

Forged Steel Bolted Bonnet Globe Valves for Extended Body Valve Applications

- Round bolted bonnet
- Spiral wound gasket
- Outside screw and yoke
- Bolted gland
- HF seat
- ASME B16.34

Repair In-Line

For in-line repair, this valve can be restored to first-class service by lapping of the seat/disc and can be disassembled before post weld heat treatment.

Throttling

Lower Cv factors permit throttling. May be used for pressure snubbing applications (pressure gauges, etc.).

Table 7: Class 800 Conventional Port

Carbon Steel: 1975 psi @ 100°F
For other ratings, see Table 10.

Order by size and series number.

Series Number	Material		Type Ends	Illustration
	Body	Trim		
CT12141	Carbon Steel A105	13% Cr. ★	Integrally Reinforced Extended Length Male Couplet Female Threaded	
ST12141	Carbon Steel A105	13% Cr. ★	Extended End Male Socket Weld Female Threaded	
TT12141	Carbon Steel A105	13% Cr. ★	Extended End Male threaded Female Threaded	

★ Body seat is hard faced.

Note: Series CT12141 valves do not require an interfacing fitting. The valve can be welded directly to the pipe header or vessel as illustrated for CT2901. See Table 9.

† Normally furnished to these lengths. Other lengths can be fabricated. See page 7.

Table 8: Class 800 Conventional Port

Carbon Steel: 1975 psi @ 100°F
For other ratings, see Table 10.

Order by size and series number.

Valve Size (in.)	Dimensions (in.)													
	A	B	C	G	Open H	Closed J	Handwheel Dia. K	L	M	N	P	R	S	T
½	7.00	2.00	.75	.50	6.62	6.19	4.00	.97	1.56	.84	.52	.31	4.50	1.44
¾	7.00	2.00	.75	.50	6.62	6.19	4.00	.97	1.56	1.05	.65	.44	4.50	1.44
1	5.75	2.31	1.00	.75	8.44	7.81	4.75	1.22	1.94	1.32	.81	.44	5.25	1.75
1½	6.50	3.12	1.47	1.28	10.38	9.47	5.75	1.72	2.56	1.90	1.47	.44	6.00	2.38
2	6.50	3.88	2.00	1.53	11.06	10.0	8.00	2.22	3.12	2.38	1.81	.56	6.00	2.94

Insulation Capabilities

Table 9: Optimum Insulation Thickness

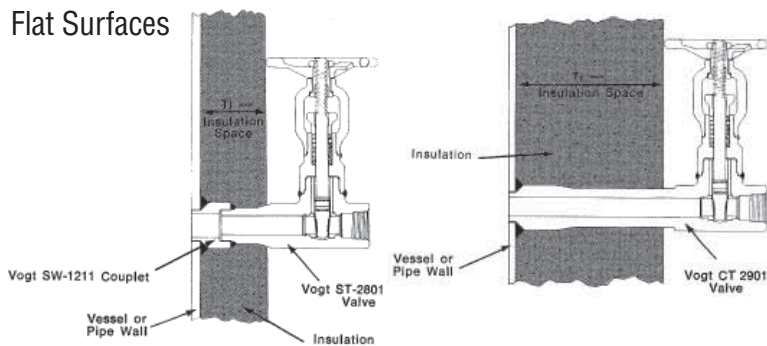
Series Number	Flat Surfaces		Curved Surfaces			Rv
	Valve Size	Ti Max. Insulation Space	Valve Size	Ri Inches	Ti Max. Insulation Space	
TT2801	½	2.40	½	12.7	3.62	9.08
TT2811**	¾	2.45	¾	12.7	3.66	9.04
TT2831	1	2.66	1	17.5	4.06	13.44
	1½	3.06	1½	21.9	4.65	17.25
ST2801	½	2.63	½	12.7	3.84	8.86
	¾	2.56	¾	12.7	3.78	8.92
ST2831	1	2.87	1	17.5	4.28	13.22
	1½	3.31	1½	21.9	4.90	17.00
SS2801	½	2.00	½	12.7	3.22	9.48
	¾	2.00	¾	12.7	3.22	9.48
CT2801*	1	2.00	1	17.5	3.41	14.09
	1½	2.12	1½	21.9	3.72	18.18
CT2831*	½	4.87	½	12.7	6.10	6.60
	¾	4.87	¾	12.7	6.10	6.60
CT2901	1	5.00	1	17.5	6.41	11.09
	1½	5.00	1½	21.9	6.60	15.30

* Series CT2801 and CT2831 valves do not require interfacing fitting. Valves can be welded directly to the vessel as illustrated for CT2901.

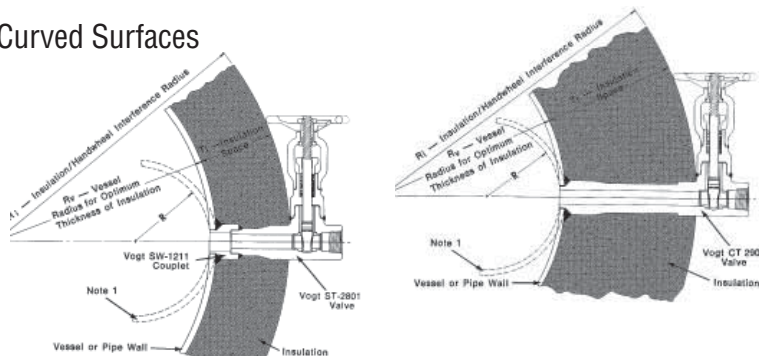
** The insulation space (Ti) for Series TT2811 will exceed those shown in this table.

Note 1: For vessels with radius less than Rv, the insulation space (Ti) is increased. For vessels with radius greater than Rv, the insulation space (Ti) is decreased.

Flat Surfaces



Curved Surfaces



Forged Steel Gate and Globe Valves for Extended Body Applications

Table 10: Pressure/Temperature Ratings

Service Temperature (°F)	Class 800		Class 1500
	Carbon Steel A105 ^{1,2,4}	A182-F316/316L ^{1,3}	Carbon Steel A105
-20 to 100	1975	1920	3705
200	1810	1655	3395
300	1745	1495	3270
400	1690	1370	3170
500	1610	1275	3015
600	1515	1205	2840
650	1465	1180	2745
700	1415	1160	2655
750	1350	1140	2535
800	1100	1125	2055
850	850	1115	1595
900	615	1105	1150
950	365	1030	685
1000	225	970	430
1050	—	—	—

¹ Ratings are in accordance with procedures in ASME B16.34-Standard Class.

² Permissible but not recommended for prolonged use above 800°F.

³ F316 stainless steel containing maximum carbon of .035. Do not use above 1000°F.

⁴ Only killed steel shall be used above 850°F.

CT2901, CT12111, CT12141, ST12141 and TT12141 Series can be modified for special applications

Flowserve Vogt Valves unique method of construction of the Series CT2901, CT12111 and CT12141, permits design flexibility and allows extended body valves to be modified with special extended male end dimension (either shorter or longer) while retaining the integral reinforcement feature. Users with special insulation thickness or space limitation requirements may find this feature desirable.



United States
Flowserve Corp.
Flow Control
Flowserve Vogt Valves
1511 Jefferson Street
Sulphur Springs, TX 75482 USA
Telephone: 1 903 885 3151
Fax: 1 903 439 3386

FCD VVABR1022-00 Printed in USA. (Replaces CB-22)

To find your local Flowserve representative:

For more information about Flowserve Corporation, visit
www.flowserve.com or call USA 1 800 225 6989

Flowserve Corporation has established industry leadership in the design and manufacture of its products. When properly selected, this Flowserve product is designed to perform its intended function safely during its useful life. However, the purchaser or user of Flowserve products should be aware that Flowserve products might be used in numerous applications under a wide variety of industrial service conditions. Although Flowserve can (and often does) provide general guidelines, it cannot provide specific data and warnings for all possible applications. The purchaser/user must therefore assume the ultimate responsibility for the proper sizing and selection, installation, operation, and maintenance of Flowserve products. The purchaser/user should read and understand the Installation Operation Maintenance (IOM) instructions included with the product, and train its employees and contractors in the safe use of Flowserve products in connection with the specific application.

While the information and specifications contained in this literature are believed to be accurate, they are supplied for informative purposes only and should not be considered certified or as a guarantee of satisfactory results by reliance thereon. Nothing contained herein is to be construed as a warranty or guarantee, express or implied, regarding any matter with respect to this product. Because Flowserve is continually improving and upgrading its product design, the specifications, dimensions and information contained herein are subject to change without notice. Should any question arise concerning these provisions, the purchaser/user should contact Flowserve Corporation at any one of its worldwide operations or offices.

© 2005 Flowserve Corporation, Irving, Texas, USA. Flowserve is a registered trademark of Flowserve Corporation.