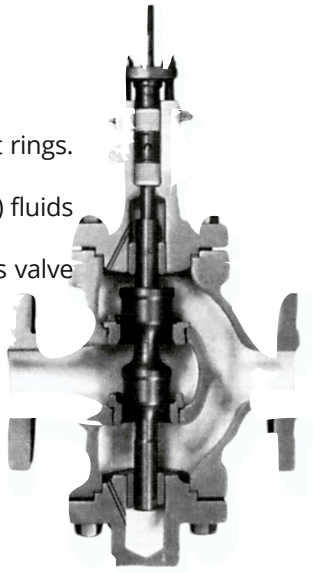
FEATURES

- *Heavy top- and bottom-guiding assures stable accurate control.*
- *Reversible body structure allows "push down to close" or "push down to open" assembly using the same parts.*
- *Contoured trim reduces the effects of hydraulic side loads on the valve trim.*
- *"Semi-balanced" design requires smaller actuator packages than single-seated valves.*
- *Full flow design provides approximately 40% more Cv than comparable single-seated valves.*
- *Body gaskets are fully captured and protected from the process medium.*
- *Optional live-loaded packing.*

Series V800/V801 Top And Bottom Guided Double Seated Globe Valve 1”- 12” (DN25 - 300) ANSI Class 150-1500



The V800/V801 Series is a double-seated, top and bottom guided globe-style valve with screwed-in seat rings. This style of valve is extremely useful in erosive (dirty) fluids and systems where high flow rates are required. This valve style may be ordered as “push stem down to close” (V800) or “push down to open” (V801) .

Specifications

Body Style: Double-seated globe

Body Size: 1" through 12" (DN 25 through 300)

Body Rating: ANSI Class 150, 300, 600, 900, 1500

Body Materials: Carbon steel, Stainless steel and Chrome-moly steel. Other castable alloys are available upon request.

End Connections: NPT threaded or socket weld (1" through 2"): ANSI flanged (1" through 12"): ANSI butt weld (2" through 12"). Others available upon request.

Bonnets: Plain, extension and bellows seal

Trim Style: Double-seated semi-balanced contoured trim.

Flow Direction: Up through upper seat ring, and down through lower seat ring

Trim Characteristic: Linear or equal percentage.

Flow Coefficient: Cv from 8 through 1550 (see table 2)

Leakage Class: II

Actuators: Standard bonnet mount will accept spring-diaphragm, piston and other actuators. For actuator selection, refer to KOSO Hammel Dahl actuator selection guide.

Material Selection

These charts should be used to select the pressure class and trim material combination. The curves sloping downward to the right are the pressure rating curves for each ANSI pressure class as listed in ANSI B16.34. In each case, the curve designates the maximum pressure and temperature for the class listed directly below the curve. The bold boundaries mark the recommended pressure and temperature limits for trim material combinations listed in the tables below. All recommendations are generalized and may be subject to adjustment based upon hydraulic considerations determined during the valve sizing process.

Figure 1. Trim Chart for Stainless Steel Body
(ASTM A351, CF8M)

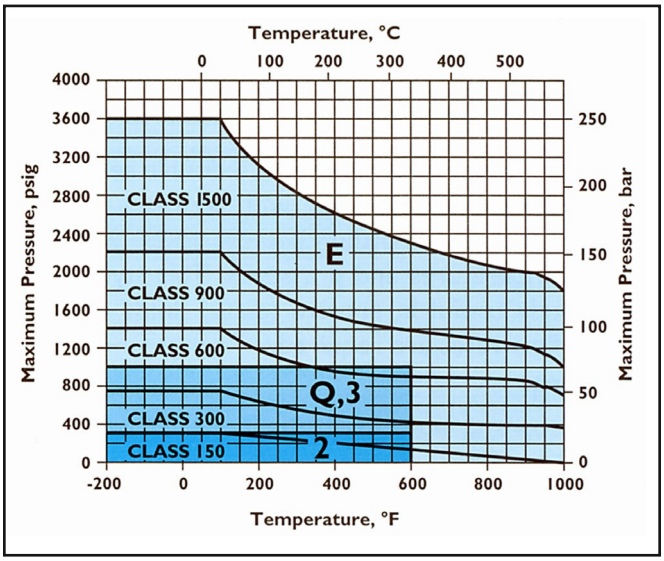


Table 1. Standard Trim Materials

Trim Code	Plug	Seat Ring	Stem	Guide Bushings
2	316SS	316SS	316SS	17-4PH
3	316SS/HFS	316SS/HFS	316SS	17-4PH
E	316SS/HFS+P	316SS/HFS	316SS	Alloy 12
Q	17-4PH	17-4PH	17-4PH	17-4PH

NOTES TO TABLE AND TRIM CHARTS

a) Above +600°F (316°C) extension bonnet is required
b) For service temperature above 1000°F (538°C) contact your local representative.
c) Unless otherwise specified, the hard-facing is Alloy 6.
d) Guiding surfaces are treated to prevent galling.
e) KOSO HAMMEL DAHL reserves the right to substitute materials when appropriate based upon the service or availability.

Figure 2. Trim Chart for Carbon Steel Body
(ASTM A216, WCB)

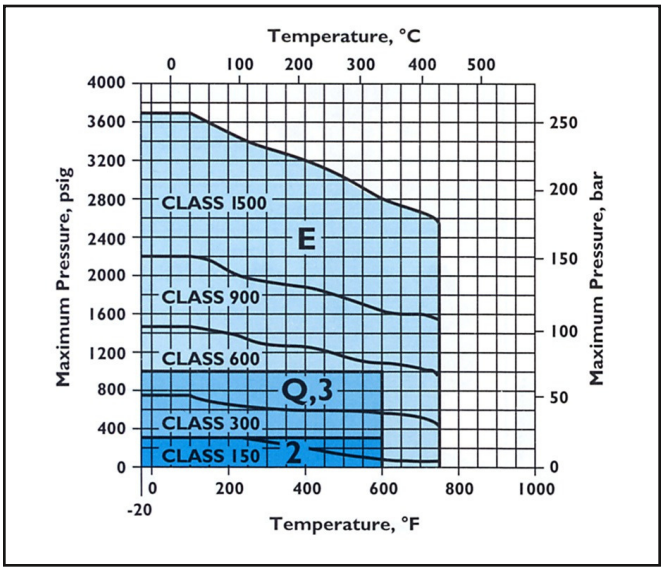


Figure 3. Trim Chart for Chrome-Moly Body
(ASTM A217, C5)

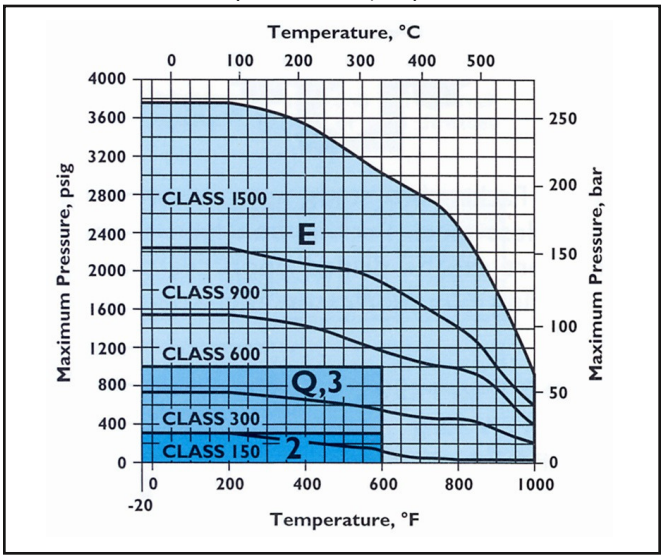


Figure 4. Bellows Seal Rating Chart

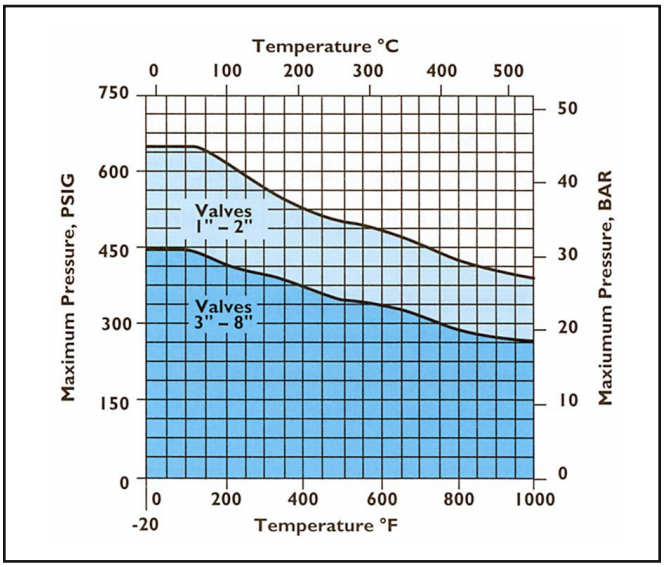


Table 2. Flow Coefficient (Cv) at Maximum Travel

Flow Characteristic	Trim Size	Size Code	Valve Size - Inches								
			1	1.5	2	3	4	6	8	10	12
Equal Percentage	Full	A	15.2	31	62	160	225	540	780	1250	1550
	1 Reduction	B	8	25	40	104	147	255	520	830	–
	2 Reduction	C	–	13.5	25	60	100	140	260	520	–
Linear	Full	A	17	41	70	150	265	580	1070	–	–
	1 Reduction	B	10	25	37	100	163	–	–	–	–
	2 Reduction	C	–	20	28.5	65	100	–	–	–	–

Table 3. V800 Valve Body Dimensional Data - in (mm) ANSI Classes 150 - 600

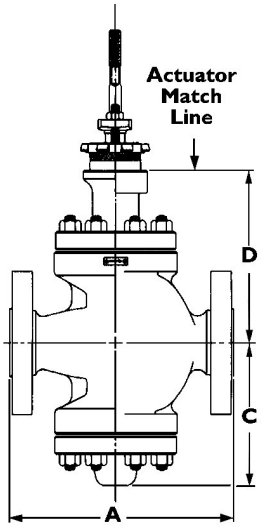
Body Size	Travel	A					C	D			Approx. Weight lb/kg*
		Screwed or Socket	Raised Face Flanged			Butt Weld		Plain Bonnet	Extension Bonnet	Bellows Bonnet	
			Weld	Class 150	Class 300	Class 600					
1 (25)	0.75 (19)	7.00 (178)	7.25 (184)	7.75 (197)	8.25 (210)	–	5.13 (130)	6.50 (165)	10.75 (273)	14.00 (356)	40 (18)
1-1/2 (40)	1.13 (29)	8.00 (203)	8.75 (222)	9.25 (235)	9.88 (251)	–	6.13 (156)	7.38 (187)	12.25 (311)	15.50 (394)	70 (32)
2 (50)	1.13 (29)	9.25 (235)	10.00 (254)	10.50 (267)	11.25 (286)	11.25 (286)	6.63 (168)	7.63 (194)	12.88 (327)	16.13 (410)	100 (45)
3 (80)	1.5 (38)	–	11.75 (298)	12.50 (318)	13.25 (337)	12.50 (318)	8.25 (210)	9.25 (235)	13.88 (353)	20.25 (514)	170 (77)
4 (100)	1.5 (38)	–	13.88 (353)	14.50 (368)	15.50 (394)	14.50 (368)	8.75 (222)	9.75 (248)	15.75 (400)	20.75 (527)	300 (136)
6 (150)	2.25 (57)	–	17.75 (451)	18.63 (473)	20.00 (508)	18.63 (473)	12.75 (324)	13.88 (353)	18.25 (464)	28.75 (730)	500 (227)
8 (200)	2.25 (57)	–	21.38 (543)	22.38 (568)	24.00 (610)	22.38 (568)	13.88 (353)	15.00 (381)	20.88 (530)	29.88 (759)	700 (318)
10 (250)	3.5 (89)	–	26.88 (683)	28.25 (718)	30.00 (762)	28.25 (718)	17.00 (432)	18.25 (464)	27.75 (705)	–	1300 (590)
12 (300)	3.5 (89)	–	29.00 (737)	30.50 (775)	–	30.50 (775)	18.25 (464)	19.75 (502)	31.13 (791)	–	2000 (907)

** Weights are for ANSI Class 600 flanged valves with plain bonnet.*

Table. 4. Dimensional Data - in (mm) ANSI Classes 900 - 1500

Body Size	Travel	A				C	D		Approx. Weight lb/kg*
		Screwed or Socket Weld	Raised Face Flanged		Butt Weld		Plain Bonnet	Extension Bonnet	
			Class 900	Class 1500					
1-1/2 (40)	1.13 (29)	12.00 (305)	12.00 (305)	12.00 (305)	12.00 (305)	6.75 (171)	7.38 (187)	12.25 (311)	145 (66)
2 (50)	1.13 (29)	–	13.25 (337)	13.25 (337)	13.25 (337)	6.50 (165)	7.63 (194)	12.88 (327)	195 (88)
3 (80)	1.5 (38)	–	15.50 (394)	16.25 (413)	16.25 (413)	8.38 (213)	9.25 (235)	13.88 (353)	250 (113)
4 (100)	1.5 (38)	–	18.50 (470)	19.25 (489)	19.25 (489)	9.00 (229)	9.75 (248)	15.75 (400)	500 (227)
6 (150)	2.25 (57)	–	24.38 (619)	26.50 (673)	26.50 (673)	13.00 (330)	13.88 (353)	18.25 (464)	900 (408)

** Weights are for ANSI Class 1500 flanged valves with plain bonnet.*



How to Order

To completely specify a control valve, make a selection from each category in the Valve Model Coding System below. The assembled codes create a complete valve model number. The Valve Model Coding System displays the standard product offering for this product line. An extensive number of options and variations exist, which are not listed. For options not shown or to enter an order, contact your local sales representative.

1	Model
V800	Push stem down to close
V801	Push stem down to open

2	Body Size
F	1 (25)
H	1.5 (40)
J	2 (50)
L	3 (80)
N	4 (100)
Q	6 (150)
S	8 (200)
T	10 (250)
U	12 (300)

3	Body Rating
G	ANSI Class 150
H	ANSI Class 300
F	ANSI Class 600
M	ANSI Class 900 (1-1/2"- 6")
N	ANSI Class 1500 (1-1/2"- 6")

4	Body Material
C	Carbon Steel (ASTM A216, WCB)
E	Stainless Steel (ASTM A351, CF8M)
K	Chrome-Moly Steel (ASTM A217, C5)

5	End Connections
3	Raised Face Flange
4	NPT Threaded
6	Socket Weld
8	Butt Weld Sch. 40
9	Butt Weld Sch. 80
A	Butt Weld Sch. 160

6	Bonnet Type
2	Plain
3	Extension
5	Bellows (1"- 8")

7	Trim Characteristics
C	Linear, Contoured
E	Equal Percent, Contoured

8	Trim Size
A	Full Size
B	1 Reduction
C	2 Reduction

9	Standard Trim Materials			
Trim Code	Plug	Seat Ring	Stem	Guide Bushings
2	316SS 316SS		316SS	17-4PH
3	316SS/HFS 316SS/HFS		316SS	17-4PH
E	316SS/HFS+P 316SS/HFS		316SS	Alloy 12
Q	17-4PH17-4PH		17-4PH	17-4PH

10	Packing
G	TFE V-ring with Packing Spacer
Y	Double PTFE V-Ring/Spacer
U	PTFE impregnated PTFE Braid
W	Lubricated Aramid Braid
9	Laminated Graphite
B	Live-loaded PTFE V-Ring*

*Not available in ANSI Class 900 or 1500

NOTE: Graphite packings are generally required in services above 450°F

11	Variations*
-	None
8	Stainless Steel Body Studs and Nuts
9	Stainless Lubricator and Isolating Valve
F	Tack Weld Guide Bushings, recommended above
G	750°F Tack Weld Seat Rings, recommended above
H	750°F Seal Weld Seat Rings, recommended above
N	750°F NACE Standard MR-01-75 Compliance

*For multiple variations, specify all variation codes required.

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