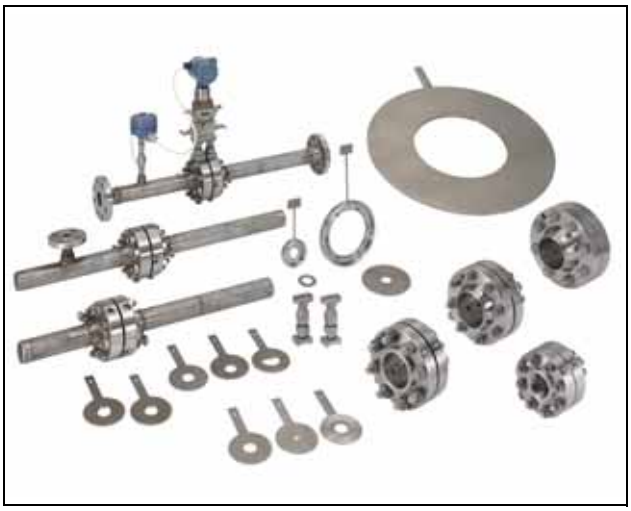
Product Data Sheet
00813-0100-4792, Rev JA
March 2008

Rosemount 1495 Orifice Plate, 1496 Orifice Flange Union, 1497 Orifice Meter Section

- *Comprehensive offering*
- *Easy to use, prove, and troubleshoot*
- *The Rosemount 1495 Orifice Plate is compliant to ISO 5167, AGA Report No. 3 / API 14.3.2 and ASME MFC-3M, making the 1495 ideal for custody transfer applications*
- *Suitable for most gas, liquid, and steam applications*
- *Rosemount 1495 Restriction Orifice Plates now available*



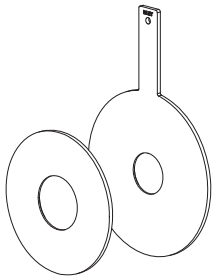
Contents

The Rosemount 1495, 1496, and 1497

Rosemount 1495 Orifice Plate

- The most common primary element in the world with established manufacturing and installation standards
- Reliable technology measurement due to known historical flow data
- Easy to use, prove, and troubleshoot
- Compliant to ISO 5167, AGA Report No. 3 / API 14.3.2, and ASME MFC-3M, ensuring a precise flow measurement.
- Ideal for custody transfer applications
- Additional bore types available per ISO TR 15377 as well as an unbeveled bore option for Restriction Orifice applications
- Suitable for most gas, liquid, and steam as well as high temperature and pressure applications
- Meets AGA, ASME, ISO, and API standards, ensuring precision flow measurement
- Available for DIN 19206 Part 1

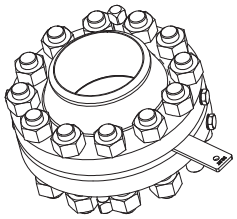
FIGURE 1. 1495 Orifice Plate



Rosemount 1496 Orifice Flange Union

- Cost effective flow measurement
- No on-site flange tap drilling required
- All hardware for complete assembly provided: studs, nuts, jack screws, gaskets, and pipe plugs
- Meets high pressure and temperatures requirement up to ANSI Class 2500#
- Meets ASME B16.36
- Flange unions available per DIN 19214 Part 1

FIGURE 2. 1496 Orifice Flange Union

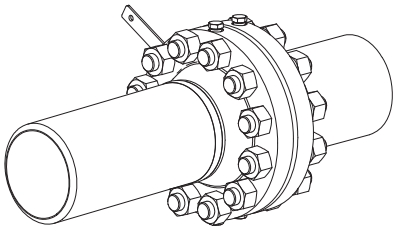


Shown with 1495 Orifice Plate (ordered separately).

Rosemount 1497 Flange Union Meter Section

- All the benefits of a 1496 Orifice Flange Union with upstream and downstream piping provided
- Ease of installation with various piping connections
- Optional temperature and pressure taps available

FIGURE 3. 1497 Orifice Meter Section



Shown with 1495 Orifice Plate (ordered separately).

Rosemount DP Flow Solutions

Annubar Flowmeter Series: Rosemount 3051SFA ProBar®, 3095MFA Mass ProBar, 485, and 285

The state-of-the-art, fifth generation Rosemount 485 *Annubar* combined with the 3051S or 3095MV MultiVariable transmitter creates an accurate, repeatable and dependable insertion-type flowmeter. The Rosemount 285 provides a commercial product offering for your general purpose applications.

Compact Orifice Flowmeter Series: Rosemount 3051SFC, 3095MFC, and 405

Compact Orifice Flowmeters can be installed between existing flanges, up to a Class 600 (PN100) rating. In tight fit applications, a conditioning orifice plate version is available, requiring only two diameters of straight run upstream.

Integral Orifice Flowmeter Series: Rosemount 3051SFP ProPlate®, 3095MFP Mass ProPlate, and 1195

These integral orifice flowmeters eliminate the inaccuracies that become more pronounced in small orifice line installations. The completely assembled, ready to install flowmeters reduce cost and simplify installation.

Orifice Plate Primary Element Systems: Rosemount 1495 and 1595 Orifice Plates, 1496 Flange Unions and 1497 Meter Sections

A comprehensive offering of orifice plates, flange unions and meter sections that is easy to specify and order. The 1595 Conditioning Orifice provides superior performance in tight fit applications.

Specifications

FUNCTIONAL SPECIFICATIONS

Service and Flow Range

Liquid, gas or vapor turbulent flow, for pipe Reynold's Numbers greater than the following[1]:
AGA-3: 4,000
ASME MFC-3M[2]: 5,000 and 170 β^2 D
ISO-5167[2]: 5,000 and 170 β^2 D

(1) For flange tap applications.

(2) D = pipe I.D. in mm.

Orifice Plate Operating Limitations

Temperature Limit:

Based on flange rating per ANSI B16.5.

Maximum Working Pressure:

Based on flange rating per ANSI B16.5.

Service and Flow Range

Liquid, gas or vapor turbulent flow, for pipe Reynold's Numbers within ISO 5167, AGA Report No. 3/ API 14.3.2, and ASME MFC-3M specifications.

Pipe Sizes

2-in. to 24-in. (50 mm to 600 mm). Contact Emerson Process Management for pipe sizes less than 2-in. (50 mm) or greater than 24-in. (600 mm).

Rosemount 1497 Meter Section Pipe Length

("D" is the inside diameter of the pipe)
Upstream
- 10D

Downstream
- 5D (standard)
- 8D (if temperature tap is selected)

Custom
- Contact Emerson Process Management for more information

Operating Limits

1495 Temperature Range:
- –320 to 1200 °F (–196 to 649 °C)

1496 and 1497 Temperature Range:
- –320 to 1000 °F (–196 to 538 °C)

PHYSICAL SPECIFICATIONS

Standard Pipe Schedules

TABLE 1. Default Pipe Schedules for 1496 Orifice Flange Unions and 1497 Orifice Meter Sections[1][2]

Pipe Size[3]	ANSI 300# (WN, TH, SO)	ANSI 600# (WN, RJ)	ANSI 900# (WN, RJ)	ANSI 1500# (WN, RJ)	ANSI 2500# (WN, RJ)
2 (50.8)	Standard	Standard	XS	XS	160
2½ (63.5)	Standard	Standard	XS	XS	
3 (76.2)	Standard	Standard	XS		
4 (101.6)	Standard	Standard	XS		
6 (152.4)	Standard	Standard	XS		
8 (203.2)	Standard	Standard			
10 (254)	Standard	XS			
12 (304.8)	Standard	XS			
14 (355.6)	Standard				
16 (406.4)	Standard				
18 (457.2)	Standard				
20 (508)	Standard				
24 (609.6)	XS				

(1) Shaded gray areas represent no default schedule provided - customer must specify pipe schedule.

(2) Standard wall thickness for DIN weldneck flanges is per ISO EN 1092-1 (2002). Consult factory if different wall thickness is required.

(3) Measurement is in inches (millimeters).

NOTE
It is strongly encouraged to use the ordering codes to specify desired pipe schedule.

TABLE 2. Dimensions of Pipe Inner Diameter(1)

Nominal Pipe Size	Schedule					
	5S	10	10S	20	30	40
2 (51)	2.245 (57.02)	2.157 (54.79)	2.157 (54.79)	–	–	2.067 (52.501)
2½- (64)	2.709 (68.81)	2.635 (66.93)	2.635 (66.93)	–	–	2.469 (62.71)
3 (76)	2.224 (56.49)	3.26 (82.80)	3.26 (82.80)	–	–	3.068 (77.93)
4 (102)	4.334 (110.08)	4.26 (108.20)	4.26 (108.20)	–	–	4.026 (102.26)
6 (152)	6.407 (162.74)	6.357 (161.47)	6.357 (161.47)	–	–	6.065 (154.05)
8 (203)	8.407 (213.54)	8.329 (211.56)	8.329 (211.56)	8.125 (206.38)	8.071 (205)	7.981 (202.72)
10 (254)	10.482 (266.24)	10.42 (264.67)	10.42 (264.67)	10.25 (260.35)	10.136 (257.45)	10.20 (254.51)
12 (305)	12.438 (315.93)	12.39 (314.71)	12.39 (314.71)	12.25 (311.15)	12.09 (307.09)	11.938 (303.23)
14 (356)	–	13.5 (342.90)	13.624 (346.05)	13.376 (339.75)	13.25 (336.55)	13.124 (333.35)
16 (406)	–	15.5 (393.70)	15.624 (396.85)	15.376 (390.55)	15.25 (387.35)	15.0 (381.0)
18 (457)	–	17.5 (444.50)	17.624 (447.65)	17.376 (441.35)	17.126 (435.00)	16.976 (431.19)
20 (508)	–	19.5 (495.30)	19.564 (496.93)	19.25 (488.95)	19.0 (482.60)	18.814 (477.88)
24 (610)	–	23.5 (596.90)	23.5 (596.90)	23.25 (590.55)	22.876 (581.05)	22.626 (574.70)

Nominal Pipe Size	Schedule					
	40S	Standard	60	80	80S	XS
2 (51)	2.067 (52.501)	2.067 (52.50)	–	1.939 (49.25)	1.939 (49.25)	1.939 (49.25)
2½- (64)	2.469 (62.71)	2.469 (62.71)	–	2.323 (59.0)	2.323 (59.0)	2.323 (59.0)
3 (76)	3.068 (77.93)	3.068 (77.93)	–	2.90 (73.66)	2.90 (73.66)	2.90 (73.66)
4 (102)	4.026 (102.26)	4.026 (102.26)	–	3.826 (97.18)	3.826 (97.18)	3.826 (97.18)
6 (152)	6.065 (154.05)	6.065 (154.05)	–	5.761 (146.33)	5.761 (146.33)	5.761 (146.33)
8 (203)	7.981 (202.72)	7.981 (202.72)	7.813 (198.45)	7.625 (193.68)	7.625 (193.68)	7.625 (193.68)
10 (254)	10.02 (254.51)	10.20 (259.08)	9.75 (247.65)	9.564 (242.94)	9.75 (247.65)	9.75 (247.65)
12 (305)	12.0 (304.8)	12.00 (304.80)	11.626 (41.30)	11.376 (288.95)	11.75 (298.45)	11.75 (298.45)
14 (356)	–	13.250 (336.55)	12.814 (325.48)	12.50 (317.50)	–	13.0 (330.20)
16 (406)	–	15.250 (387.35)	14.688 (373.08)	14.314 (363.58)	–	15.0 (381.0)
18 (457)	–	17.250 (438.15)	16.5 (419.10)	16.126 (409.60)	–	17.0 (425.0)
20 (508)	–	19.252 (488.95)	18.376 (466.75)	17.938 (455.63)	–	19.0 (482.60)
24 (610)	–	23.250 (590.55)	22.064 (560.43)	21.564 (547.73)	–	23.0 (584.20)

Nominal Pipe Size	Schedule				
	100	120	140	160	XXS
2 (51)	–	–	–	1.689 (42.9)	1.503 (38.18)
2½- (64)	–	–	–	2.125 (53.98)	1.771 (44.98)
3 (76)	–	–	–	2.624 (66.65)	2.30 (58.42)
4 (102)	–	3.624 (92.005)	–	3.438 (87.33)	3.152 (80.06)
6 (152)	–	5.501 (139.73)	–	5.189 (131.80)	4.897 (124.38)
8 (203)	7.437 (188.90)	7.189 (157.15)	7.001 (177.83)	6.813 (173.05)	6.875 (174.63)
10 (254)	9.314 (236.58)	9.064 (230.23)	8.75 (222.25)	8.50 (215.90)	–
12 (305)	11.064 (281.03)	10.75 (273.05)	10.5 (266.70)	10.126 (257.20)	–
14 (356)	12.126 (308.00)	11.814 (300.08)	11.5 (37.50)	11.188 (284.18)	–
16 (406)	13.938 (354.03)	13.564 (344.53)	13.124 (333.35)	12.814 (325.48)	–
18 (457)	15.688 (398.27)	15.25 (387.35)	14.876 (377.85)	14.438 (366.73)	–
20 (508)	17.44 (443.98)	17.0 (431.80)	16.5 (410.10)	16.064 (408.03)	–
24 (610)	20.938 (531.83)	20.376 (517.55)	19.876 (504.85)	19.314 (490.58)	–

(1) Measurement is in inches (millimeters).

Materials of Construction

1495 Orifice Plate

304/304L or 316/316L Stainless Steel ASTM A240; DIN 1.4571 (316Ti SST)(1); Hastelloy® C-276 ASTM B575; or Monel® 400 ASTM B127.

Orifice Bore Sizes

Standard bore sizes are in 1/8-in. (3.2 mm) increments from ½-in. (12.7 mm) to 4-in. (101.6 mm) and in 1/4-in. (6.3 mm) increments from 4 1/4 to 6-in. (107.95 mm to 152.4 mm).

If required, Emerson Process Management can determine the orifice bore. Basic flow data is required at the time of order, see “Calculation Data Sheet” on page 1.

Bore tolerances are within AGA and ASME specifications. Available options allow the user to have the Rosemount 1495 sized for specific operating conditions. The “Orifice Plate Drawings” on page 6 specifies the physical parameters of the orifice from a detailed sizing calculation.

1496 Flange Unions

Orifice Flanges (ANSI B16.36): Carbon Steel ASTM A105 / A350; Stainless Steel ASTM A182; Hastelloy ASTM B564/575; or Monel 400 ASTM B564/127; DIN 1.4571 (316Ti SST)(1); DIN 1.0460 (carbon steel)(1).

1497 Meter Section

- Pipe: Carbon Steel ASTM A106 Grade B; Stainless Steel ASTM A312; Hastelloy ASTM B619 / B622, or Monel ASTM B165
- Flanges (ANSI B16.5): Carbon Steel ASTM A105 / A350; Stainless Steel ASTM A182; Hastelloy ASTM B564/575, or Monel 400 ASTM B564/127
- See “Standard Pipe Schedules” and Table 2 on page 4.

Flange Mounting Hardware

- Studs: Carbon Steel ASTM A193 Grade B7M
- Nuts: Carbon Steel ASTM A194 Gr 2H
- Gaskets: Non-asbestos ring type, Durlon® 8500 Green, Klingersil C4400, or equivalent
- Pipe Plugs: Match flange material

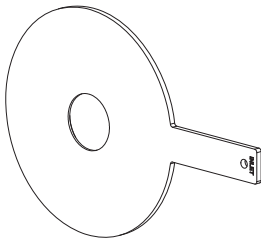
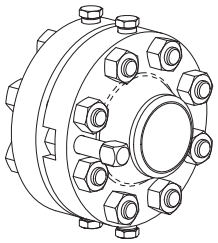
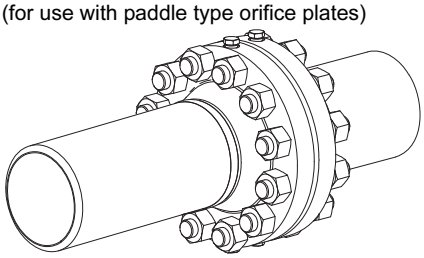
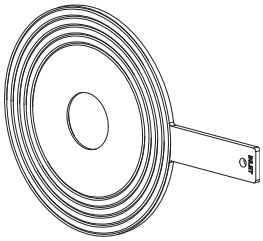
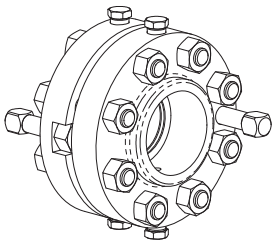
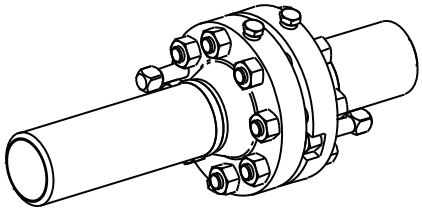
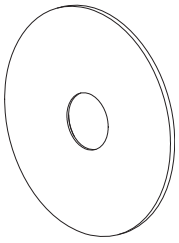
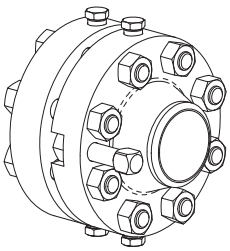
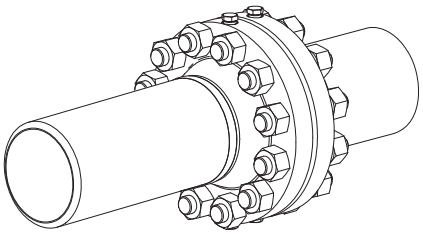
Pressure Taps

Pressure tap connections are ½ -in. (12.7 mm) NPT and 180° apart as standard. The tap hole diameter is ¼-in. (6.35 mm) for 2-in. (51 mm) and 2 ½ -in. (63.5 mm) size, 3/8-in. (9.6 mm) for 3-in. (76.2 mm) size, and ½-in. (12.7 mm) for 4-in. (101.6 mm) and larger sizes.

(1) May not be available in all world areas.

Sizing and How to Order

When making a selection, move from left to right, selecting an option in Column 1 and/or either Column 2 or Column 3.

	Column 1	Column 2	Column 3
	Orifice Paddle Type	**Flange Union**	**Meter Section**
Paddle Type	**1495 PC** Paddle, square edged, concentric 	**1496 WN** Raised Face (RF) Weld Neck (for use with paddle type orifice plates) 	**1497 WN** Raised Face (RF) Weld Neck (for use with paddle type orifice plates) 
	1495 PG Paddle, square edged, concentric, spiral finish 	**1496 SO / TH** Raised Face (RF) Slip On / Threaded (for use with paddle type orifice plates) 	**1497 SO** Raised Face (RF) Slip On (for use with paddle type orifice plates) 
	Orifice Universal Type	**Flange Union**	**Meter Section**
Universal Type	**1495 UC** Universal, square edged, concentric 	**1496 RJ** Ring Type Joint (RTJ) Weld Neck (for use with universal orifice plates with plate holder) 	**1497 RJ** Ring Type Joint (RTJ) Weld Neck (for use with universal orifice plates with plate holder) 

Continued on next page

Column 1	Column 2	Column 3
Orifice Plate	**Flange Union**	**Meter Section**
Choose Flange Rating: ANSI Class 300#, 600#, 900#, 1500#, or 2500# DIN flange ratings: PN10, PN16, PN25, PN40, PN63, PN100	ANSI Class 300#, 600#, 900#, 1500#, or 2500# DIN flange ratings: PN10, PN16, PN25, PN40, PN63, PN100	ANSI Class 300#, 600#, 900#, 1500#, or 2500#
Material: • SST 316/316L ASTM A240 • SST 304/304L ASTM A240 • SST 316Ti DIN 1.4571 • HASTELLOY C-276 ASTM B575 • MONEL 400 ASTM B564	• CS ASTM A105 (STANDARD) • CS ASTM A350 LF2 (PED COMPLIANT - J6) • SST 316/316L ASTM A182 • SST 304/304L ASTM A182 • SST 316Ti DIN 1.4571 • HASTELLOY C-276 ASTM B564 • MONEL 400 ASTM B564	• CS ASTM A105 (STANDARD) • CS ASTM A350 LF2 (PED COMPLIANT - J6) • SST 316/316L ASTM A182 • SST 304/304L ASTM A182 • HASTELLOY C-276 ASTM B564 • MONEL 400 ASTM B564
Choose Line Size: • 2 to 24-in. (50 to 600 mm) • Contact Emerson Process Management for lines less than 2-in. (51 mm) or greater than 24-in. (600 mm)	• 2 to 24-in. (50 to 600 mm) • Contact Emerson Process Management for lines less than 2-in. (51 mm) or greater than 24-in. (600 mm)	• 2 to 24-in. (50 to 600 mm) • Contact Emerson Process Management for lines less than 2-in. (51 mm) or greater than 24-in. (600 mm)
Choose Plate Thickness: • Default is 0.125-in. (3.2 mm) for 2 to 6-in (50 to 150 mm) line size • Default is 0.250-in. (6.35 mm) for 8 to 14-in (200 to 350 mm) line size • Default is 0.375-in. (9.53) for 16 to 20-in. (400 to 500 mm) • Default is 0.500-in. (12.7 mm) for 24-in (600 mm) line size	**Choose Flange Union Type:** • Raised Face Weldneck (1496WN) • Raised Face Threaded (1496TH) • Raised Face Slip-On (1496SO) • RTJ weldneck (1496RJ) • Raised Face DIN Weldneck (1496DN)	**Choose Tap Type:** • 1/2-in. NPT Flange Taps • 1/2-in. Socket Flange Taps
Choose Bore Diameter: Refer to Instrument Toolkit™ for orifice plate sizing. Or, Emerson Process Management will calculate the bore diameter by specifying option code BC in the 1495 ordering table. Include all of the flowing conditions and pipe information for the application on the CDS. See the “Calculation Data Sheet” for a detailed sizing calculation.		**Choose Piping Connection:** • Beveled • Flanged

Dimensional Drawings

1495 DIMENSIONAL DRAWINGS

1495PC Paddle Type Orifice Plate
(DIN, Paddle, Square edged, Concentric)

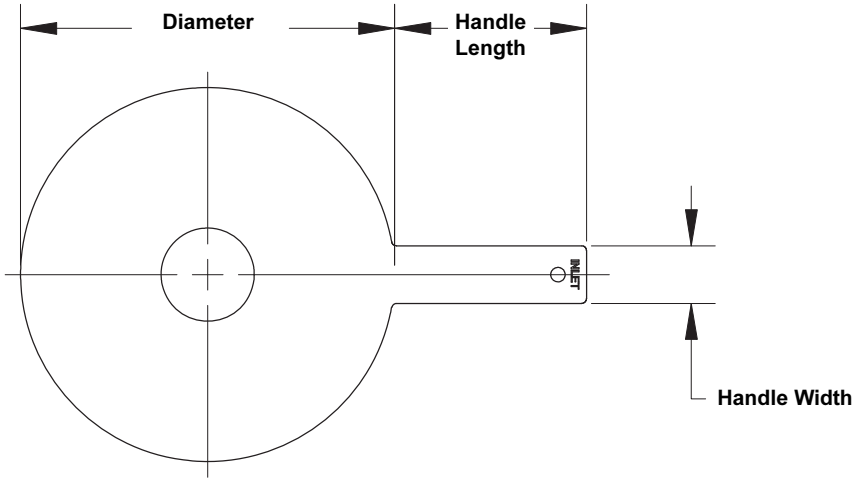
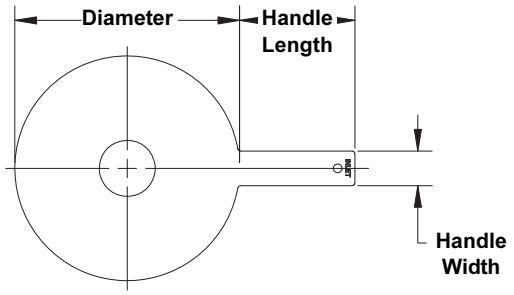


TABLE 3. 1495 Orifice Plate Dimensions(1)

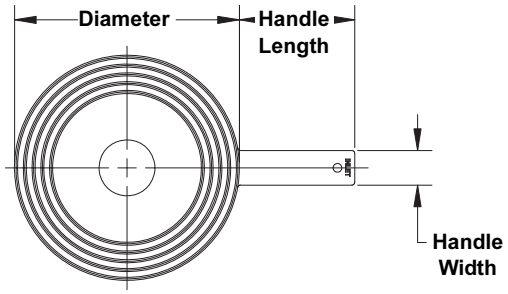
DN	Diameter (max) – by flange rating						Handle Width	Handle Length
	PN 10	PN 16	PN 25	PN 40	PN 63/64	PN 100		
DN 50	4.21 (107)	4.21 (107)	4.21 (107)	4.21 (107)	4.45 (113)	4.69 (119)	1.5 (40)	6.3 (160)
DN 65	5 (127)	5 (127)	5 (127)	5 (127)	5.43 (138)	5.67 (144)	1.5 (40)	6.3 (160)
DN 80	5.6 (142)	5.6 (142)	5.6 (142)	5.6 (142)	5.82 (148)	6.06 (154)	1.5 (40)	6.3 (160)
DN 100	6.38 (162)	6.38 (162)	6.61 (168)	6.61 (168)	6.85 (174)	7.09 (180)	1.5 (40)	6.3 (160)
DN 125	7.56 (192)	7.56 (192)	7.64 (194)	7.63 (194)	8.27 (210)	8.54 (217)	1.5 (40)	6.3 (160)
DN 150	8.58 (218)	8.58 (218)	8.82 (224)	8.82 (224)	9.72 (247)	10.12 (257)	1.5 (40)	6.3 (160)
DN 200	10.74 (273)	10.74 (273)	11.18 (284)	11.42 (290)	12.17 (309)	12.76 (324)	1.5 (40)	6.3 (160)
DN 250	12.91 (328)	12.95 (329)	13.39 (340)	13.86 (352)	14.33 (364)	15.39 (391)	1.5 (40)	6.3 (160)
DN 300	14.88 (378)	15.11 (384)	15.75 (400)	16.42 (417)	16.69 (424)	18.03 (458)	1.5 (40)	6.3 (160)
DN 350	17.24 (438)	17.48 (444)	17.99 (457)	18.66 (474)	19.13 (486)	20.16 (512)	1.5 (40)	6.3 (160)
DN 400	19.25 (489)	19.49 (495)	20.24 (514)	21.49 (546)	21.38 (543)	22.52 (572)	1.5 (40)	6.3 (160)
DN 450	21.22 (539)	21.85 (555)	22.24 (565)	22.48 (571)	Not Applicable	Not Applicable	1.5 (40)	6.3 (160)
DN 500	23.39 (594)	24.29 (617)	24.57 (624)	24.72 (628)	25.87 (657)	27.72 (704)	1.5 (40)	8.0 (200)
DN 600	27.36 (695)	28.9 (734)	28.78 (731)	29.41 (747)	30.08 (764)	32.01(813)	1.5 (40)	8.0 (200)

(1) Measurement is in inches (millimeters)

1495PC Orifice Paddle Type
(Paddle, Square edged, Concentric)



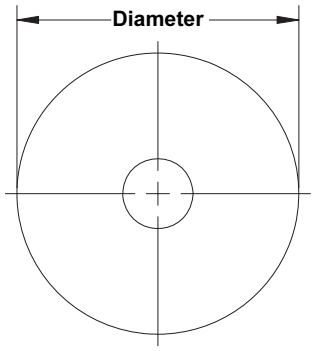
1495PG Orifice Paddle Type
(Paddle, Square edged, Concentric, Spiral finish)



Line Size	Diameter for Paddle Type (1) 150#	300#	600#	900#	1500#	2500#	Handle Length	Handle Width
2-in.	4.125 (104.78)	4.375 (111.13)	4.375 (111.13)	5.625 (142.875)	5.625 (142.875)	5.750 (146.05)	4.0 (101.6)	1.00 (25.4)
2 1/2-in.	4.875 (123.82)	5.125 (130.18)	5.125 (130.18)	6.500 (165.1)	6.500 (165.1)	6.625 (168.275)	4.0 (101.6)	1.00 (25.4)
3-in.	5.375 (136.53)	5.875 (149.23)	5.875 (149.23)	6.625 (168.275)	6.875 (174.625)	7.750 (196.85)	4.0 (101.6)	1.00 (25.4)
4-in.	6.875 (174.63)	7.125 (180.98)	7.625 (266.7)	8.125 (206.375)	8.250 (209.55)	9.250 (234.95)	4.0 (101.6)	1.00 (25.4)
6-in.	8.750 (222.25)	9.875 (250.83)	10.500 (266.7)	11.375 (288.925)	11.125 (282.575)	12.500 (317.5)	4.0 (101.6)	1.00 (25.4)
8-in.	11.000 (279.4)	12.125 (307.98)	12.625 (320.675)	14.125 (358.775)	13.875 (352.425)	15.250 (387.35)	6.0 (127)	1.5 (38.1)
10-in.	13.375 (339.73)	14.250 (361.95)	15.750 (400.05)	17.125 (434.975)	17.125 (434.975)	18.750 (476.25)	6.0 (152.4)	1.5 (38.1)
12-in.	16.125 (409.58)	16.625 (422.26)	18.000 (457.2)	19.625 (498.475)	20.500 (520.7)	21.625 (549.275)	6.0 (152.4)	1.5 (38.1)
14-in.	17.750 (450.85)	19.125 (485.78)	19.375 (339.725)	20.500 (520.7)	22.750 (577.85)	—	6.0 (152.4)	1.5 (38.1)
16-in.	20.250 (514.35)	21.250 (539.75)	22.250 (565.15)	22.625 (574.675)	25.250 (641.35)	—	6.0 (152.4)	1.5 (38.1)
18-in.	21.500 (546.1)	23.375 (593.725)	24.000 (609.6)	25.000 (635.00)	27.625 (701.675)	—	6.0 (152.4)	1.5 (38.1)
20-in.	23.750 (603.25)	25.625 (650.875)	26.750 (679.45)	27.375 (695.325)	29.625 (752.475)	—	6.0 (152.4)	1.5 (38.1)
24-in.	28.125 (714.375)	30.375 (771.525)	31.000 (787.4)	32.875 (835.025)	35.500 (901.7)	—	6.0 (152.4)	1.5 (38.1)

(1) Measurement is in inches (millimeters)

1495UC Orifice Universal Type
(Universal, Square edged, Concentric

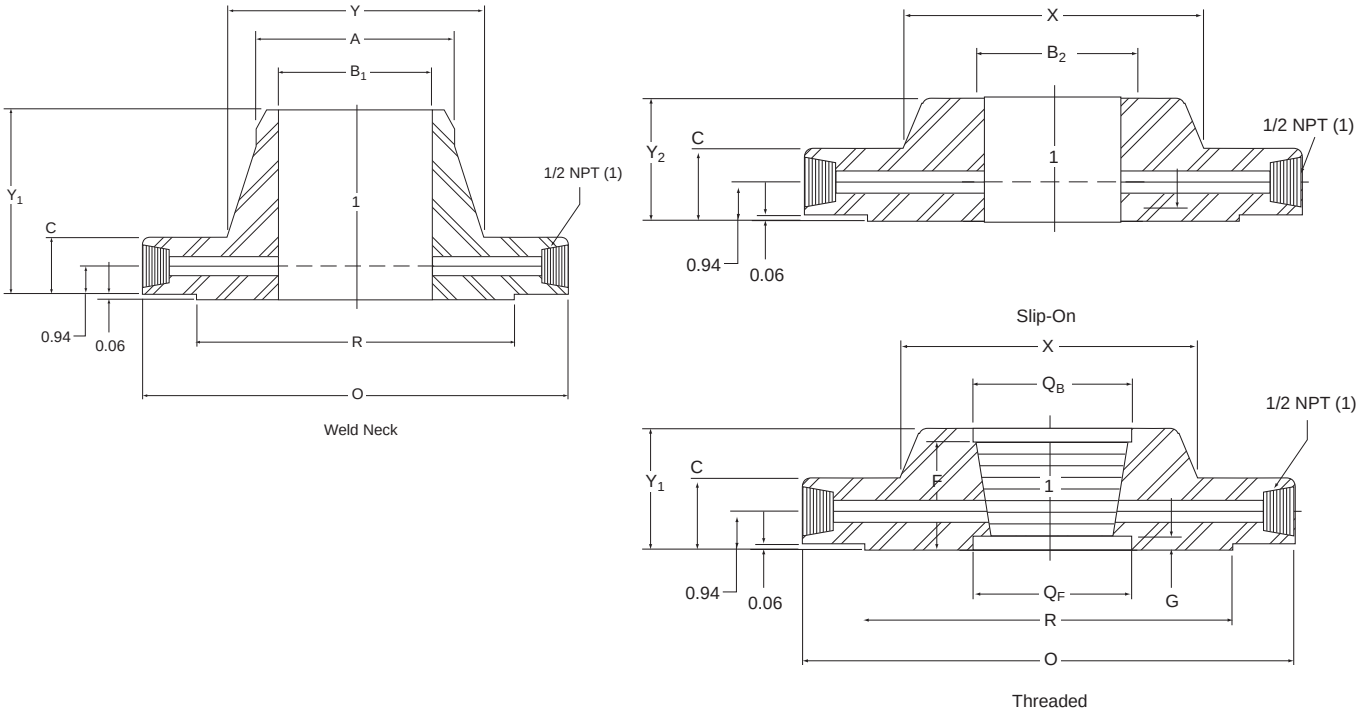


Line Size	Diameter for Universal Type(1)
2-in.	2.437 (61.8998)
2 1/2-in.	2.812 (71.4248)
3-in.	3.437 (87.2998)
4-in.	4.406 (111.912)
6-in.	6.437 (163.5)
8-in.	8.437 (214.3)
10-in.	10.687 (271.45)
12-in.	12.593 (319.862)
14-in.	14.000 (355.6)
16-in.	16.000 (406.4)
18-in.	18.000 (457.2)
20-in.	20.000 (508)
24-in.	24.000 (609.6)

(1) Measurement is in inches (millimeters)

1496 DIMENSIONAL DRAWINGS

FIGURE 4. Class 300



ASME B16.36-1996

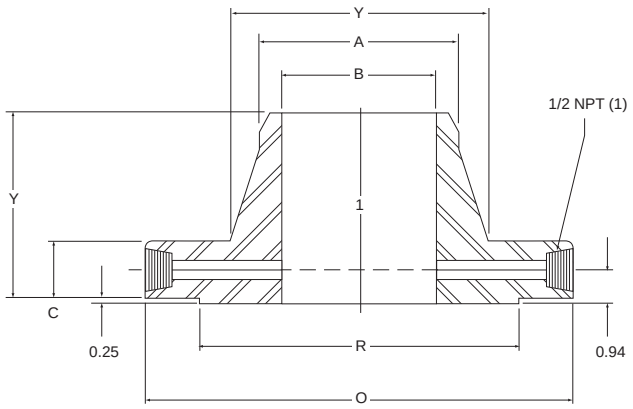
TABLE 4. Class 300 Orifice Flanges, Welding Neck, Slip-On, and Threaded(1)(2)

Nominal Pipe Size	Outside Diameter of Raised Face R	Outside Diameter of Flange O	Thickness of Flange, Min. C	Length Through Hub		Diameter of Hub X	Hub Diameter Beginning of Chamfer (W.N.) A	Diameter of Counter-bore		Counter-bore Depth (From Face)		Bore	
				Slip-On and Threaded Y_2	Weld Neck Y_1			Back Q_B	Face Q_F	F	G	Slip-On B_2	Weld Neck B_1
1	2.00	4.88	1.50	1.88	3.25	2.12	1.32	1.41	1.30	1.44	0.75	1.36	See Note (5)
1 1/2	2.88	6.12	1.50	1.88	3.38	2.75	1.90	1.99	1.89	1.47	0.72	1.95	
2	3.62	6.50	1.50	1.94	3.38	3.31	2.38	2.50	2.36	1.50	0.69	2.44	
2 1/2	4.12	7.50	1.50	2.00	3.50	3.94	2.88	3.00	2.84	1.75	0.56	2.94	
3	5.00	8.25	1.50	2.06	3.50	4.62	3.50	3.63	3.46	1.81	0.56	3.57	
4	6.19	10.00	1.50	2.12	3.62	5.75	4.50	4.63	4.45	1.88	0.56	4.57	
6	8.50	12.50	1.50	2.12	3.94	8.12	6.63	6.75	6.57	1.88	0.31	6.72	
8	10.62	15.00	1.62	2.44	4.38	10.25	8.63	8.75	8.55	2.19	0.44	8.72	
10	12.75	17.50	1.88	2.62	4.62	1262	10.75	See Note (6).				10.88	
12	15.00	20.50	2.00	2.88	5.12	14.75	12.75					12.88	
14	16.25	23.00	2.12	3.00	5.62	16.75	14.00					14.14	
16	18.50	25.50	2.25	3.25	5.75	19.00	16.00					16.16	
18	21.00	28.00	2.38	3.50	6.25	21.00	18.00					18.18	
20	23.00	30.50	2.50	3.75	6.38	23.12	20.00					20.20	
24	27.25	36.00	2.75	4.19	6.62	27.62	24.00					24.25	

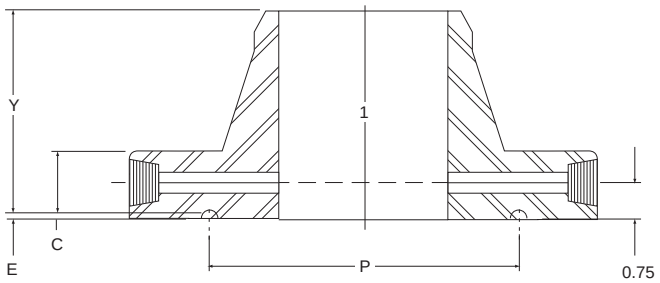
Nominal Pipe Size	Diameter of Pressure Connection TT	Drilling Template				Bolt Length (3)(4)	
		Bolt Circle	Number of Holes	Diameter of Holes	Diameter of Bolts	Machine Bolts	Stud Bolts
1	1/4	3.50	4	0.69	5/8	4.50	5.00
1 1/2	1/4	4.50	4	0.81	3/4	4.75	5.25
2	1/4	5.00	8	0.69	5/8	4.50	5.00
2 1/2	1/4	5.88	8	0.81	3/4	4.75	5.25
3	3/8	6.62	8	0.81	3/4	4.75	5.25
4	1/2	7.88	8	0.81	3/4	4.75	5.25
6	1/2	10.62	12	0.88	3/4	4.75	5.25
8	1/2	13.00	12	1.00	7/8	5.00	5.75
10	1/2	15.25	16	1.12	1	5.75	6.50
12	1/2	17.75	16	1.25	1 1/8	6.25	7.00
14	1/2	20.25	20	1.25	1 1/8	6.50	7.25
16	1/2	22.50	20	1.38	1 1/4	7.00	7.75
18	1/2	24.75	24	1.38	1 1/4	7.25	8.00
20	1/2	27.00	24	1.38	1 1/4	7.50	8.50
24	1/2	32.00	24	1.62	1 1/2	8.25	9.50

(1) Weld neck flanges NPS 3 and smaller are identical to Class 600 flanges and may be so marked.
(2) All other dimensions are in accordance with ASME B16.5.
(3) Bolt lengths include allowance for orifice and gasket thickness of 0.25 in. for NPS 1-12 and 0.38 in. for NPS 14-24.
(4) In conformance with ASME B16.5, stud bolt lengths do not include point heights.
(5) Threaded flanges are furnished in NPS 1-8 only.
(6) Bore diameter of weld neck flanges is to be specified by the purchaser.

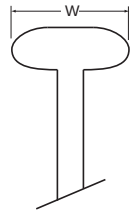
FIGURE 5. Class 600



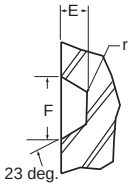
Raised Face



Ring Type Joint



Special One or Two Piece Ring and Orifice Plate Assembly



Groove Detail

TABLE 5. Class 600 Orifice Flanges, Welding Neck[(1)(2)]

Nominal Pipe Size	Outside Diameter of Raised Face R	Outside Diameter of Flange O	Thickness of Flange, Min. C	Length Through Hub Y	Height of Raised Face H	Ring Type Joint						Diameter of Hug X	Hub Diameter Beginning of Chamfer A
						Groove Number	Pitch Diameter P	Groove Depth E	Groove Width F	Radius at Bottom r_{max}	Special Oval Ring Height W		
1	2.00	4.88	1.44	3.19	0.06	R16	2.000	0.250	0.344	0.03	1.00	2.12	1.32
1 1/2	2.88	6.12	1.44	3.32	0.06	R20	2.688	0.250	0.344	0.03	1.00	2.75	1.90
2	3.62	6.50	1.44	3.32	0.06	R23	3.250	0.312	0.469	0.03	1.06	3.31	2.38
2 1/2	4.12	7.50	1.44	3.44	0.06	R26	4.000	0.312	0.469	0.03	1.06	3.94	2.88
3	5.00	8.25	1.44	3.44	0.06	R31	4.875	0.312	0.469	0.03	1.06	4.62	3.50
4	6.19	10.75	1.50	4.00	0.25	R37	5.875	0.312	0.469	0.03	1.06	6.00	4.50
6	8.50	14.00	1.88	4.62	0.25	R45	8.312	0.312	0.469	0.03	1.06	8.75	6.63
8	10.62	16.50	2.19	5.25	0.25	R49	10.625	0.312	0.469	0.03	1.06	10.75	8.63
10	12.75	20.00	2.50	6.00	0.25	R53	12.750	0.312	0.469	0.03	1.06	13.50	10.75
12	15.00	22.00	2.62	6.12	0.25	R57	15.000	0.312	0.469	0.03	1.06	15.75	12.75
14	16.25	23.75	2.75	6.50	0.25	R61	16.500	0.312	0.469	0.03	1.06	17.00	14.00
16	18.50	27.00	3.00	7.00	0.25	R65	18.500	0.312	0.469	0.03	1.19	19.50	16.00
18	21.00	29.25	3.25	7.25	0.25	R69	21.000	0.312	0.469	0.03	1.19	21.50	18.00
20	23.00	32.00	3.50	7.50	0.25	R73	23.000	0.375	0.531	0.06	1.25	24.00	20.00
24	27.25	37.00	4.00	8.00	0.25	R77	27.250	0.438	0.656	0.06	1.44	28.25	24.00

Nominal Pipe Size	Bore B	Diameter of Pressure Conn-ection TT	Drilling Template				Diameter of Bolts	Length of Stud Bolts(3)(4)	
			Bolt Circle	Number of Holes	Diameter of Holes				
					Raised Face	Ring Joint		Raised Face	Ring Joint
1	See Note (5).	1/4	3.50	4	0.69	0.75	5/8	5.00	5.50
1 1/2		1/4	4.50	4	0.81	0.88	3/4	5.25	5.50
2		1/4	5.00	8	0.69	0.75	5/8	5.00	5.50
2 1/2		1/4	5.88	8	0.81	0.88	3/4	5.25	5.75
3		3/8	6.62	8	0.81	0.88	3/4	5.25	5.75
4		1/2	8.50	8	1.00	1.00	7/8	6.00	6.50
6		1/2	11.50	12	1.12	1.12	1	7.00	7.50
8		1/2	13.75	12	1.25	1.25	1 1/8	7.75	8.25
10		1/2	17.00	16	1.38	1.38	1 1/4	8.75	9.25
12		1/2	19.25	20	1.38	1.38	1 1/4	9.00	9.50
14		1/2	20.75	20	1.50	1.50	1 3/8	9.50	10.00
16		1/2	23.75	20	1.62	1.62	1 1/2	10.25	10.75
18		1/2	25.75	20	1.75	1.75	1 5/8	11.00	11.50
20		1/2	28.50	24	1.75	1.75	1 5/8	11.75	12.50
24		1/2	33.00	24	2.00	2.00	1 7/8	13.25	13.75

(1) Weld neck flanges NPS 3 and smaller are identical to Class 300 flanges except for bolting and may be used for such service.
(2) All other dimensions are in accordance with ASME B16.5.
(3) Bolt lengths for raised face flanges include allowance for orifce and gasket thickness of 0.25 in. for NPS 1-12 and 0.38 in. for NPS 14-24. Bolt lengths for ring type joint flanges inclue allowance of 0.62 in. for NPS 1-10, 0.75 in. for NPS 12-18, and 0.88 in. for NPS 20.
(4) In conformance with ASME B16.5, stud bolt lengths do not include point heights.
(5) Bore is to be specified by the purchaser.

FIGURE 6. Class 900

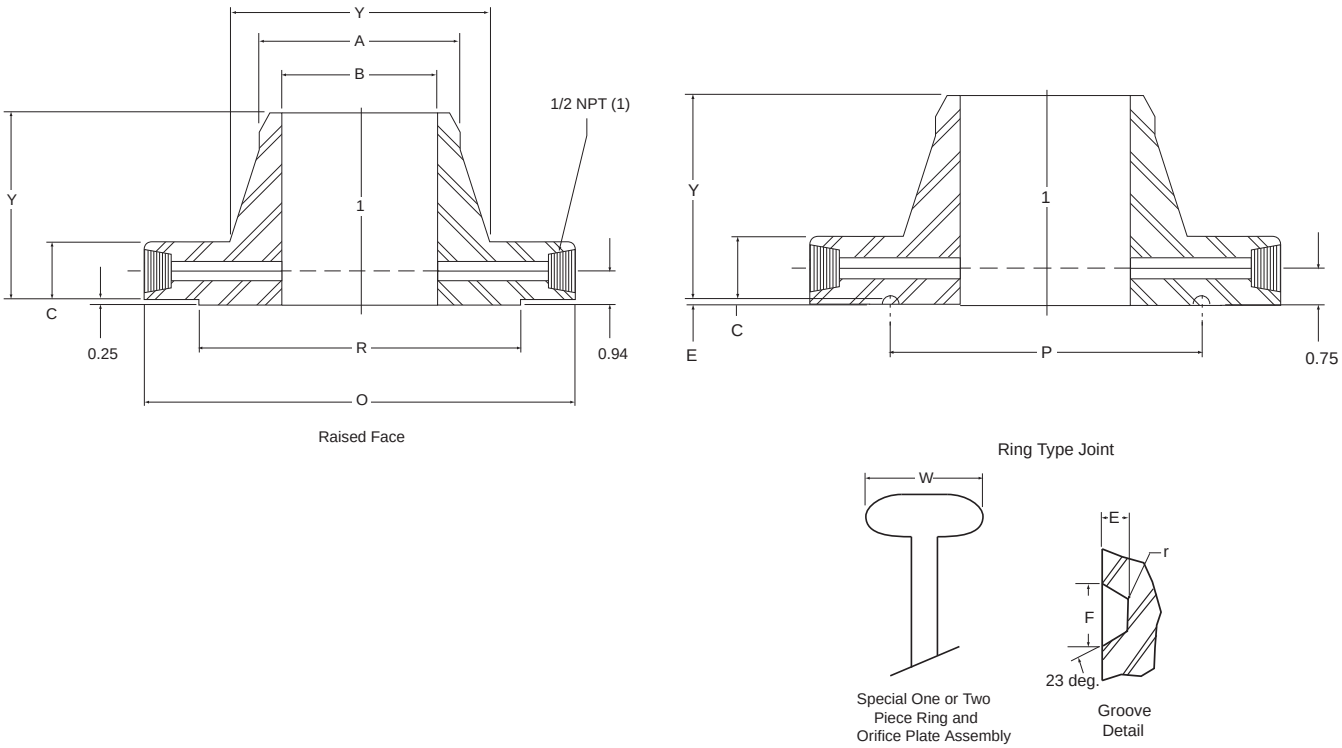


TABLE 6. Class 900 Orifice Flanges, Welding Neck(1)

Nominal Pipe Size	Out-side Diameter of Raised Face R	Out-side Diameter of Flange O	Thickness of Flange, Min. C	Length Through Hub Y	Ring Type Joint						Diameter of Hug X	Hub Diameter Beginning of Chamfer A
					Groove Number	Pitch Diameter P	Groove Depth E	Groove Width F	Radius at Bottom r_{max}	Special Oval Ring Height W		
1	For Nominal Pipe Size (NPS) 2 1/2 and smaller, use Class 1500.											
1 1/2												
2												
2 1/2												
3	5.00	9.50	1.50	4.00	R31	4.875	0.312	0.469	0.03	1.06	5.00	3.50
4	6.19	11.50	1.75	4.50	R37	5.875	0.312	0.469	0.03	1.06	6.25	4.50
6	8.50	15.00	2.19	5.50	R45	8.312	0.312	0.469	0.03	1.06	9.25	6.63
8	10.62	18.50	2.50	6.38	R49	10.625	0.312	0.469	0.03	1.06	11.75	8.63
10	12.75	21.50	2.75	7.25	R53	12.750	0.312	0.469	0.03	1.06	14.50	10.75
12	15.00	24.00	3.12	7.88	R57	15.000	0.312	0.469	0.03	1.06	16.50	12.75
14	16.25	25.25	3.38	8.38	R62	16.500	0.438	0.656	0.06	1.31	17.75	14.00
16	18.50	27.75	3.50	8.50	R66	18.500	0.438	0.656	0.06	1.44	20.00	16.00
18	21.00	31.00	4.00	9.00	R70	21.000	0.500	0.781	0.06	1.56	22.25	18.00
20	23.00	33.75	4.25	9.75	R74	23.000	0.500	0.781	0.06	1.56	24.50	20.00
24	27.25	41.00	5.50	11.50	R78	27.250	0.625	1.062	0.09	1.88	29.50	24.00

Nominal Pipe Size	Bore B	Diameter of Pressure Connection TT	Drilling Template				Length of Stud Bolts[2][3]	
			Diameter of Bolt Circle	Number of Holes	Diameter of Holes	Diameter of Bolts	Raised Face	Ring Joint
1	For Nominal Pipe Size (NPS) 2 1/2 and smaller, use Class 1500.							
1 1/2								
2								
2 1/2								
3	See Note [4].	3/8	7.50	8	7.50	7/8	6.00	6.50
4		1/2	9.25	8	9.25	1 1/8	7.00	7.50
6		1/2	12.50	12	12.50	1 1/8	7.75	8.25
8		1/2	15.50	12	15.50	1 3/8	9.00	9.50
10		1/2	18.50	16	18.50	1 3/8	9.50	10.00
12		1/2	21.00	20	21.00	1 3/8	10.25	10.75
14		1/2	22.00	20	22.00	1 1/2	11.00	11.50
16		1/2	24.25	20	24.25	1 5/8	11.50	12.00
18		1/2	27.00	20	27.00	1 7/8	13.00	13.75
20		1/2	29.50	20	29.50	2	14.00	14.75
24		1/2	35.50	20	35.50	2 1/2	17.50	18.50

(1) All other dimensions are in accordance with ASME B16.5.
(2) In conformance with ASME B16.5, stud bolt lengths do not include point heights.
(3) Bolt lengths for raised face flanges include allowance for orifce and gasket thickness of 0.25 in. for NPS 3-12 and 0.38 in. for NPS 14-24. Bolt lengths for ring type joint flanges inclue allowance of 0.62 in. for NPS 3-10 and 0.75 in. for NPS 12.
(4) Bore is to be specified by the purchaser.

FIGURE 7. Class 1500

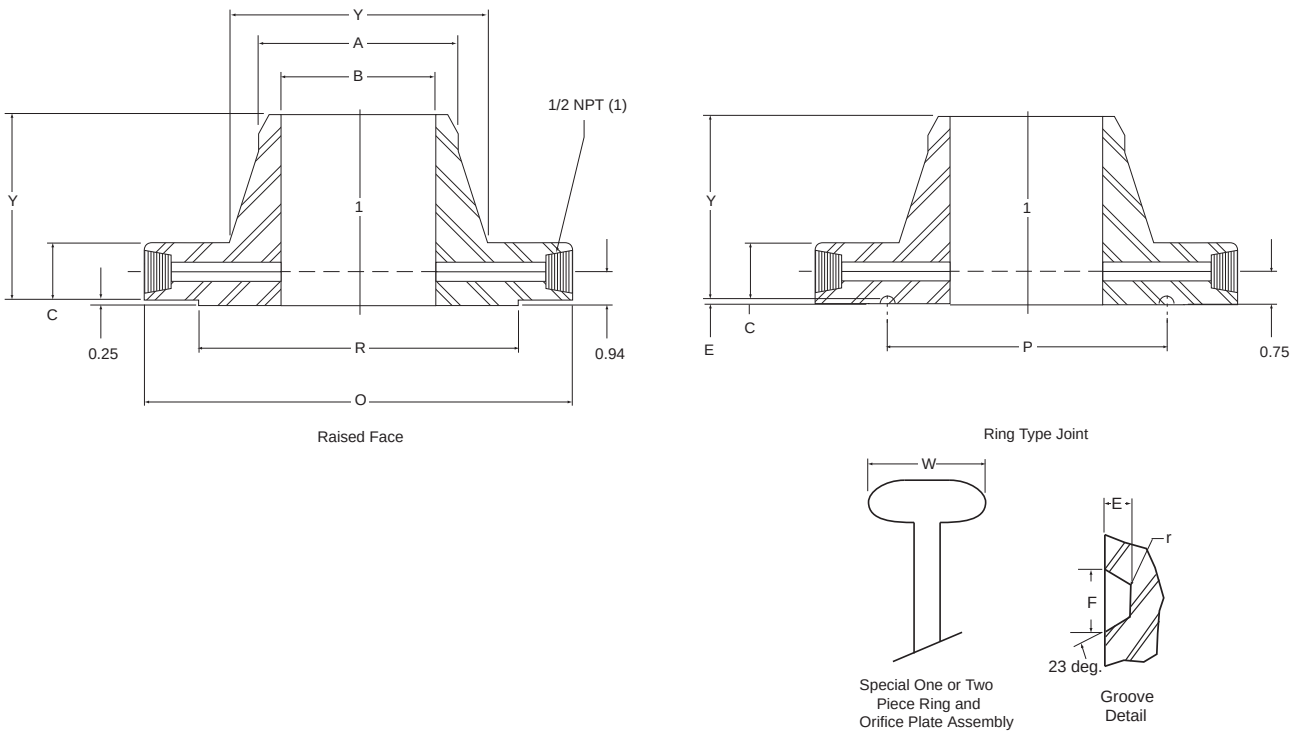


TABLE 7. Class 1500 Orifice Flanges, Welding Neck(1)

Nominal Pipe Size	Outside Diameter of Raised Face R	Outside Diameter of Flange O	Thickness of Flange, Min. C	Length Through Hub Y	Ring Type Joint						Diameter of Hug X	Hub Diameter Beginning of Chamfer A
					Groove Number	Pitch Diameter P	Groove Depth E	Groove Width F	Radius at Bottom r_{max}	Special Oval Ring Height W		
1	2.00	5.88	1.50	3.25	R16	2.000	0.250	0.344	0.03	1.00	2.06	1.32
1 1/2	2.88	7.00	1.50	3.50	R20	2.688	0.250	0.344	0.03	1.00	2.75	1.90
2	3.62	8.50	1.50	4.00	R24	3.750	0.312	0.469	0.03	1.06	4.12	2.38
2 1/2	4.12	9.62	1.62	4.12	R27	4.250	0.312	0.469	0.03	1.06	4.88	2.88
3	5.00	10.50	1.88	4.62	R35	5.375	0.312	0.469	0.03	1.06	5.25	3.50
4	6.19	12.25	2.12	4.88	R39	6.375	0.312	0.469	0.03	1.06	6.38	4.50
6	8.50	15.50	3.25	6.75	R46	8.312	0.375	0.531	0.06	1.12	9.00	6.63
8	10.62	19.00	3.62	8.38	R50	10.625	0.438	0.656	0.06	1.31	11.50	8.63
10	12.75	23.00	4.25	10.00	R54	12.750	0.438	0.656	0.06	1.31	14.50	10.75
12	15.00	26.50	4.88	11.12	R58	15.000	0.562	0.806	0.06	1.56	17.75	12.75
14	16.25	29.50	5.25	11.75	R63	16.500	0.625	1.062	0.09	1.75	19.50	14.00
16	18.50	32.50	5.75	12.25	R67	18.500	0.688	1.188	0.09	2.00	21.75	16.00
18	21.00	36.00	6.38	12.88	R71	21.000	0.688	1.188	0.09	2.00	23.50	18.00
20	23.00	38.75	7.00	14.00	R75	23.000	0.688	1.312	0.09	2.12	25.25	20.00
24	27.25	46.00	8.00	16.00	R79	27.250	0.812	1.438	0.09	2.31	30.00	24.00

Nominal Pipe Size	Bore B	Diameter of Pressure Conn-ection TT	Drilling Template				Length of Stud Bolts(2)(3)	
			Diameter of Bolt Circle	Number of Holes	Diameter of Holes	Diameter of Bolts	Raised Face	Ring Joint
1	See Note (4).	1/4	4.00	4	1.00	7/8	6.00	6.25
1 1/2		1/4	4.88	4	1.12	1	6.25	6.50
2		1/4	6.50	8	1.00	7/8	6.00	6.50
2 1/2		1/4	7.50	8	1.12	1	6.50	7.00
3		3/8	8.00	8	1.25	1 1/8	7.25	7.25
4		1/2	9.50	8	1.38	1 1/4	8.00	8.50
6		1/2	12.50	12	1.50	1 3/8	10.50	11.00
8		1/2	15.50	12	1.75	1 5/8	11.75	12.25
10		1/2	19.00	12	2.00	1 7/8	13.50	14.00
12		1/2	22.50	16	2.12	2	15.00	15.75
14		1/2	25.00	16	2.38	2 1/4	16.25	17.52
16		1/2	27.75	16	2.62	2 1/2	17.75	19.00
18		1/2	30.50	16	2.88	2 3/4	19.75	21.00
20		1/2	32.75	16	3.12	3	21.50	22.50
24		1/2	39.00	16	3.62	3 1/2	24.50	26.00

(1) All other dimensions are in accordance with ASME B16.5.
(2) Bolt lengths for raised face flanges include allowance for orifce and gasket thickness of 0.25 in. for NPS 1-12 and 0.38 in. for NPS 14-24. Bolt lengths for ring type joint flanges inclue allowance of 0.62 in. for NPS 1-10, 0.75 in. for NPS 12-18, and 0.88 in. for NPS 20.
(3) In conformance with ASME B16.5, stud bolt lengths do not include point heights.
(4) Bore is to be specified by the purchaser.

FIGURE 8. Class 2500

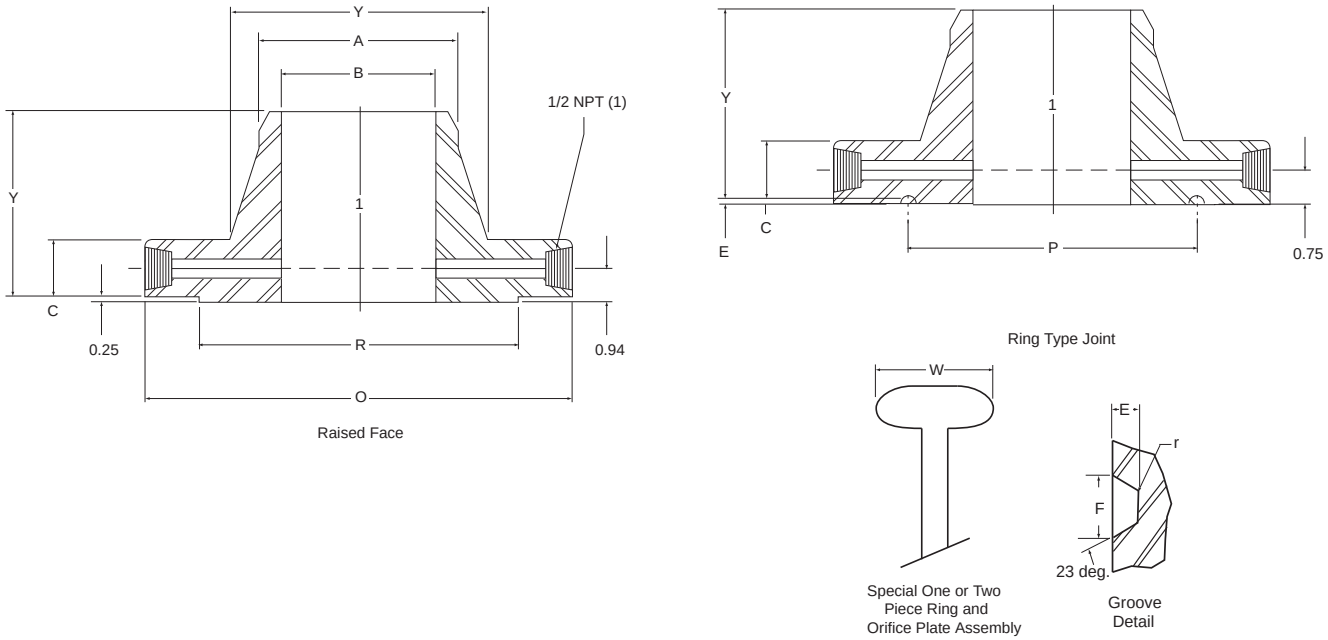


TABLE 8. Class 2500 Orifice Flanges, Welding Neck(1)

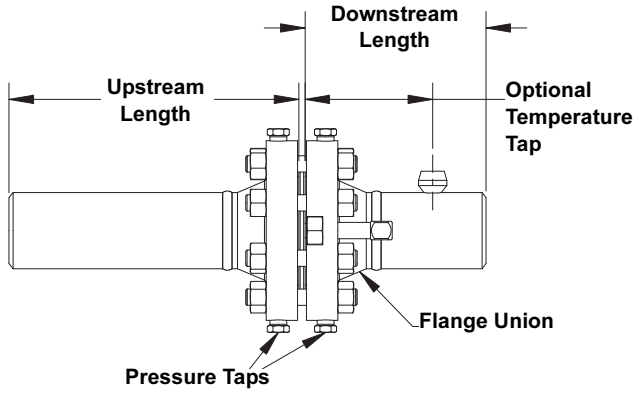
Nominal Pipe Size	Outside Diameter of Raised Face R	Outside Diameter of Flange O	Thickness of Flange, Min. C	Length Through Hub Y	Ring Type Joint						Diameter of Hug X	Hub Diameter Beginning of Chamfer A
					Groove Number	Pitch Diameter P	Groove Depth E	Groove Width F	Radius at Bottom r_{max}	Special Oval Ring Height W		
1	2.00	6.25	1.50	3.62	R18	2.375	0.250	0.344	0.03	1.00	2.25	1.32
1.5	2.88	8.00	1.75	4.38	R23	3.250	0.312	0.469	0.03	1.06	3.12	1.90
2	3.62	9.25	2.00	5.00	R26	4.000	0.312	0.469	0.03	1.06	3.75	2.38
2.5	4.12	10.50	2.25	5.62	R28	4.375	0.375	0.531	0.06	1.19	4.50	2.88
3	5.00	12.00	2.62	6.62	R32	5.000	0.375	0.531	0.06	1.19	5.25	3.50
4	6.19	14.00	3.00	7350	R38	6.188	0.438	0.656	0.06	1.31	6.50	4.50
6	8.50	19.00	4.25	10.75	R47	9.000	0.500	0.781	0.06	1.31	6.50	4.50
8	10.62	21.75	5.00	12.50	R51	11.000	0.562	0.906	0.06	1.56	12.00	8.63
10	12.75	26.50	6.50	16.50	R55	13.500	0.688	1.188	0.09	1.88	14.75	10.75
12	15.00	30.00	7.25	18.25	R60	16.000	0.688	1.312	0.09	2.00	17.38	12.75

Nominal Pipe Size	Bore B	Diameter of Pressure Conn-ection TT	Drilling Template				Length of Stud Bolts(2)(3)	
			Diameter of Bolt Circle	Number of Holes	Diameter of Holes	Diameter of Bolts	Raised Face	Ring Joint
1	See Note (4).	1/4	4.25	4	1.00	7/8	6.00	6.25
1.5		1/4	5.75	4	1.25	1 1/8	7.00	7.50
2		1/4	6.75	8	1.12	1	7.25	7.75
2.5		1/4	7.75	8	1.25	1 1/8	8.00	8.50
3		3/8	9.00	8	1.38	1 1/4	9.00	9.50
4		1/2	10.75	8	1.62	1 1/2	10.25	10.75
6		1/2	14.50	8	2.12	2	13.75	14.50
8		1/2	17.25	12	2.12	2	15.25	16.00
10		1/2	21.25	12	2.62	2 1/2	19.25	20.25
12		1/2	24.38	12	2.88	2 3/4	21.25	22.50

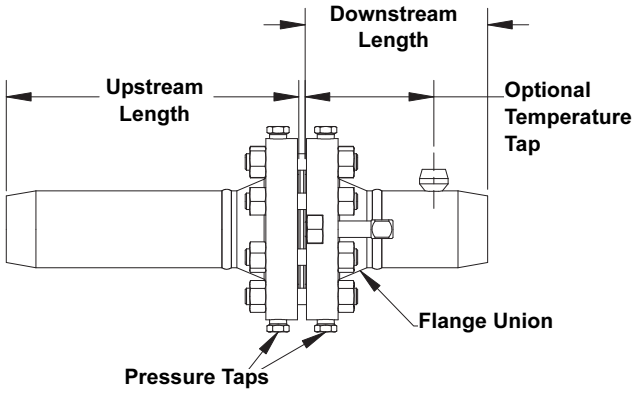
(1) All other dimensions are in accordance with ASME B16.5.
(2) Bolt lengths for raised face flanges include allowance for orifce and gasket thickness of 0.25 in. for NPS 1-12 and 0.38 in. for NPS 14-24. Bolt lengths for ring type joint flanges inclue allowance of 0.62 in. for NPS 1-10, 0.75 in. for NPS 12-18, and 0.88 in. for NPS 20.
(3) In conformance with ASME B16.5, stud bolt lengths do not include point heights.
(4) Bore is to be specified by the purchaser.

1497 DIMENSIONAL DRAWINGS

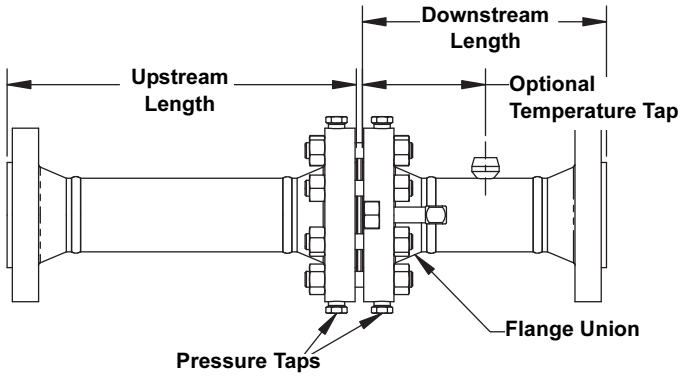
Welded Meter Section



Threaded Meter Section



Flanged Meter Section(1)



(1) Optional pressure tap available six diameters upstream of orifice plate.

TABLE 9. Meter Section Lengths(1)(2)

Nominal Size	Upstream Length	Downstream Length	Downstream Lengths (DSL) with Temperature Tap
2 (51)	21 (533)	11 (279)	17 (432)
2½ (64)	26 (660)	12 (305)	21 (533)
3 (76)	32 (813)	16 (406)	24 (607)
4 (102)	41 (1041)	21 (533)	33 (838)
6 (152)	62 (1575)	30 (762)	48 (1219)
8 (203)	81 (2057)	40 (1016)	64 (1625)
10 (254)	101 (2565)	51 (1295)	82 (2082)
12 (305)	120 (3048)	60 (1524)	96 (2438)
14 (356)	134 (3404)	66 (1676)	106 (2692)
16 (406)	153 (3886)	77 (1959)	123 (3124)
18 (457)	173 (4394)	87 (2209)	138 (3505)
20 (508)	194 (4928)	96 (2438)	154 (3912)
24 (610)	230 (5842)	115 (2921)	171 (4343)

(1) Standard length.

(2) Measurement is in inches (millimeters)

Ordering Information

ROSEMOUNT 1495 CONFIGURATION

Standard configuration is with a square-edged concentric bore in both paddle and universal type plates. Also available with a spiral finish. Final inspection reports illustrating plate thickness, concentricity, outside dimensions, inside dimensions, roundness, and flatness are available.

- Bore calculations are available if the Configuration Data Sheet (CDS) is completed and Option BC is selected.
- Line sizes larger than 24-in. (609.6 mm) are available. Contact Emerson Process Management.

1495 ORDERING INFORMATION

TABLE 10. Rosemount 1495 Orifice Plate Ordering Table

Model	Product Description
1495	Orifice Plate Primary
Code	**Orifice Plate Type**
PC	Paddle, Concentric
PG	Paddle, Concentric, Spiral finish
UC	Universal, Concentric
Code	**Line Size**
020	2-in. (50 mm)
025	2½-in. (64 mm)
030	3-in. (80 mm)
040	4-in. (100 mm)
060	6-in. (150 mm)
080	8-in. (200 mm)
100	10-in. (250 mm)
120	12-in. (300 mm)
140	14-in. (350 mm)
160	16-in. (400 mm)
180	18-in. (450 mm)
200	20-in. (500 mm)
240	24-in. (600 mm)
Code	**Flange Rating**
A1	ANSI Class 150 *Note: Not compatible with standard ASME B16.36 Orifice Flanges.*
A3	ANSI Class 300
A6	ANSI Class 600
A9	ANSI Class 900
AF	ANSI Class 1500
AT[(1)]	ANSI Class 2500
D1	DIN PN10 (only available with Orifice Plate Type code PC)
D2	DIN PN16 (only available with Orifice Plate Type code PC)
D3	DIN PN25 (only available with Orifice Plate Type code PC)
D4	DIN PN40 (only available with Orifice Plate Type code PC)
D5	DIN PN63[(2)] (only available with Orifice Plate Type code PC)
D6	DIN PN100 (only available with Orifice Plate Type code PC)
R3	ANSI Class 300 Ring Joint (only available with Orifice Plate Type code UC and requires Plate Holder code PH)
R6	ANSI Class 600 Ring Joint (only available with Orifice Plate Type code UC and requires Plate Holder code PH)
R9	ANSI Class 900 Ring Joint (only available with Orifice Plate Type code UC and requires Plate Holder code PH)
RF	ANSI Class 1500 Ring Joint (only available with Orifice Plate Type code UC and requires Plate Holder code PH)
RT	ANSI Class 2500 Ring Joint (only available with Orifice Plate Type code UC and requires Plate Holder code PH)

TABLE 10. Rosemount 1495 Orifice Plate Ordering Table

Code	Orifice Plate Material Type
S	316/316L Stainless Steel (not available with Flange Rating codes D1, D2, D3, D4, D5, D6)
T	DIN 1.4571 (316Ti Stainless Steel) (only available with Flange Rating codes D1, D2, D3, D4, D5, D6)
L	304/304L Stainless Steel (not available with Flange Rating codes D1, D2, D3, D4, D5, D6)
H	Hastelloy® C-276
M	Monel®

Code	Plate Thickness
A	0.125-in. (3.2 mm) – default for line size 2 to 6-in. (50 to 150 mm)
B	0.250-in. (6.35 mm) – default for line size 8 to 14-in. (200 to 350 mm)
C	0.375-in. (9.53 mm) – default for line size 16 to 20-in. (400 to 500 mm)
D	0.500-in. (12.7 mm) – default for line size 24-in. (600 mm)
E(3)	Plate Thickness per DIN 19206
Code	**Bore**
XXXXX	Bore (XXXXX = XX.XXX)
Code	**Options**
Bore Calculations	
BC	Bore Calculation
Drain / Vent Hole	
DV(4)	Drain / Vent Hole
Plate Holder	
PH(5)	Plate Holder for RTJ Flanges
Alternate Bore Type	
TC	Conical Entrance Bore
TE(4)	Eccentric Bore
TS(4)	Segmental Bore
TQ	Quandrant Edged Bore
RO(6)	Unbeveled Bore for Restriction Orifice Plate
Alternate Pipe Schedule	
FA(7)	Schedule 5S
FB(7)	Schedule 10
FC(7)	Schedule 10S
FD(7)	Schedule 20
FE(7)	Schedule 30
FF(7)	Schedule 40
FG(7)	Schedule 40S
FH(7)	Schedule Standard (STD)
FI(7)	Schedule 60
FJ(7)	Schedule 80
FK(7)	Schedule 80S

FL[7]	Schedule Extra Strong (XS)
FM[7]	Schedule 100
FN[7]	Schedule 120
FP[7]	Schedule 140
FQ[7]	Schedule 160
FR[7]	Schedule Double Extra Strong (XXS)
Special Cleaning	
P2	Cleaning for special processes
Special Inspection	
QC1	Visual and dimensional inspection with certificate
QC7	Inspection and performance certificate
Material Traceability Certification	
Q8	Material certificate per ISO 10474 3.1.B and EN 10204 3.1.B
Code Conformance	
J5[8]	NACE MR-0175 / ISO 15156
Country Certification	
J1	Canadian Registration
Typical Model Number: 1495 PC 040 A3 S A 02125	

(1) Available in line sizes from 2-12 inches.

(2) Previously PN64.

(3) Standard Plate Thickness:
DN50 - 65 = 3 mm
DN80 – 450 = 4 mm
DN500 - 600 = 6 mm

(4) This option requires pipe I.D. to be specified. Please select alternate pipe schedule option or specify on order.

(5) Integral Plate Holder (material matches plate material) for line sizes to 3-in., requires minimum ^{1}/4-in plate thickness. Screw Type Plate Holder in 304SS for line sizes 4-in. and larger.

(6) Some Standard Orifice Plates used for measurement are un-beveled. These are Standard compliant plates where the dimension e (bore thickness) ≥ E (plate thickness).

(7) These options should only be selected if options DV, TE, or TS are selected. These options are not available with flange rating D1-D6.

(8) Materials of Construction comply with metallurgical requirements highlighted within NACE MR0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.

ROSEMOUNT 1496 CONFIGURATION

Standard flange styles are raised face (RF) weld neck, RF slip-on, or RF threaded for paddle type orifice plates, and ring type joint (RTJ) weld neck for universal type plates with plate holders. All flange unions are supplied with studs, nuts, jackscrews, gaskets, and pipe plugs. Table 1 lists standard pipe schedules.

- Meets ASME B16.36
- Meets DIN 19214 part 1
- Threaded tap connection provided 180-degrees apart

The following options are available.

- Socket weld tap connections
- High temperature flange gaskets for temperatures greater than 500 °F (260 °F)
- Stainless Steel flange bolting per ASTM A193 Grade B8M/A194 Grade 8M

1496 ORDERING INFORMATION

TABLE 11. Rosemount 1496 Orifice Flange Union Ordering Table

Model	**Product Description**
1496	Orifice Flange Union
Code	**Flange Union Type**
WN	Raised Face, Weld Neck
RJ	Ring Joint, Weld Neck
TH	Raised Face, Threaded (only available with Flange Rating code A3 and line sizes to 3-in.)
SO	Raised Face, Slip-On (only available with Flange Rating code A3)
DN	Raised Face, Weld Neck, DIN 19214 Part 1 (only available with Flange Rating codes D1, D2, D3, D4, D5, D6)
Code	**Line Size**
020	2-in. (50 mm)
025	2½-in. (64 mm)
030	3-in. (80 mm)
040	4-in. (100 mm)
060	6-in. (150 mm)
080	8-in. (200 mm)
100	10-in. (250 mm)
120	12-in. (300 mm)
140	14-in. (350 mm)
160	16-in. (400 mm)
180	18-in. (450 mm)
200	20-in. (500 mm)
240	24-in. (600 mm)
Code	**Flange Rating**
A3	ANSI Class 300
A6	ANSI Class 600
A9	ANSI Class 900
AF	ANSI Class 1500
AT[(1)]	ANSI Class 2500
D1	DIN PN10 (only available with Flange Union Type code DN and line sizes 2-in (DN50) through 20-in. (DN500)
D2	DIN PN16 (only available with Flange Union Type code DN and line sizes 2-in (DN50) through 20-in. (DN500)
D3	DIN PN25 (only available with Flange Union Type code DN and line sizes 2-in (DN50) through 20-in. (DN500)
D4	DIN PN40 (only available with Flange Union Type code DN and line sizes 2-in (DN50) through 20-in. (DN500)
D5	DIN PN63[(2)](only available with Flange Union Type code DN and line sizes 2-in (DN50) through 20-in. (DN500)
D6	DIN PN100 (only available with Flange Union Type code DN and line sizes 2-in (DN50) through 20-in. (DN500)
R3	Ring-Type Joint (RTJ) Class 300
R6	Ring-Type Joint (RTJ) Class 600
R9	Ring-Type Joint (RTJ) Class 900
RF	Ring-Type Joint (RTJ) Class 1500
RT	Ring-Type Joint (RTJ) Class 2500

TABLE 11. Rosemount 1496 Orifice Flange Union Ordering Table

Code	Flange Union Material Type
C	Carbon Steel
S	316/316L Stainless Steel (not available with Flange Rating codes D1, D2, D3, D4, D5, D6)
T	DIN 1.4571 (316Ti Stainless Steel) (only available with Flange Union Type code DN)
L	304/304L Stainless Steel (not available with Flange Union Type code DN)
H	Hastelloy® C-276
M	Monel®
Code	**Options**
Alternate Pipe Schedule / Wall Thickness(3)	
FA(4)	Schedule 5S
FB(4)	Schedule 10
FC(4)	Schedule 10S
FD(4)	Schedule 20
FE(4)	Schedule 30
FF(4)	Schedule 40
FG(4)	Schedule 40S
FH(4)	Schedule Standard (STD)
FI(4)	Schedule 60
FJ(4)	Schedule 80
FK(4)	Schedule 80S
FL(4)	Schedule Extra Strong (XS)
FM(4)	Schedule 100
FN(4)	Schedule 120
FP(4)	Schedule 140
FQ(4)	Schedule 160
FR(4)	Schedule Double Extra Strong (XXS)
High Temperature Gaskets	
G1(5)	High Temperature Gaskets (spiral wound gaskets)
Alternate Bolting Material	
SS(6)	316SS Studs/Nuts
Alternate Pressure Tap Type	
ST	Socketweld Pressure Taps (not available with Flange Union Type code DN)
Special Cleaning	
P2	Cleaning for special processes
Special Inspection	
QC1	Visual and dimensional inspection with certificate
Material Traceability Certification	
Q8	Material certificate per ISO 10474 3.1.B and EN 10204 3.1.B
Code Conformance	
J5(7)	NACE MR-0175 / ISO 15156
Country Certification	
J1	Canadian Registration Number (not available with Flange Union Type code DN)
J6(8)	Conformance to European Pressure Equipment Directive (PED) 97/23/EC
Typical Model Number: 1496 WN 040 A3 S	

(1) Available in line sizes from 2-12 inches.

(2) Previously PN64.

(3) Default pipe schedules are listed in Table 1 on page 3 for the 1496 Orifice Flange Unions.

(4) These options are not available with flange type DN. These options should only be selected if the required pipe schedule is different from the default pipe schedule, as shown in Table 1 on page 3. Standard wall thickness for DIN weldneck flanges is per ISO EN 1092-1 (2002). Consult the factory if a different wall thickness is required.

(5) Not available with Flange Union Type code RJ.

(6) Stainless steel bolting (ASTM A193 GR B8M Class 2) is classified as "low strength bolting" by the various ASME B31 piping codes and may not be suitable for all applications requiring code conformance.

(7) Materials of Construction comply with metallurgical requirements highlighted within NACE MR0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.

(8) Carbon steel flanges will be supplied in A350 Grade LF2 material.

ROSEMOUNT 1497 CONFIGURATION

Meter sections are available with either Raised Face (RF) or Ring Type Joint (RTJ) weld neck flange connections. The standard meter section length is 10 pipe diameters upstream, 5 pipe diameters downstream, with a choice of beveled or flanged piping connection. Custom lengths available. Contact Emerson Process Management for more information.

Piping conditions may require additional straight run.

Numerous construction material options are available including 304/316 stainless steel, Hastelloy and Monel. Other materials can be supplied upon request, contact an Emerson Process Management representative for more information.

Additional 1/2-in. (12.7 mm) or 1-in. (25.4 mm) NPT threaded (or socket-weld) fittings for auxiliary temperature are also available.

Meter section with special assemblies can be supplied. Contact Rosemount Engineered Assemblies for more information.

1497 ORDERING INFORMATION

TABLE 12. Rosemount 1497 Orifice Meter Section Ordering Table

Model	Product Description
1497	Orifice Meter Section
Code	**Meter Section Type**
WN	Raised Face, Weld Neck
RJ	Ring Joint, Weld Neck
SO	Raised Face, Slip-On (only available with Flange Rating code A3)
Code	**Line Size**
020	2-in. (50 mm)
025	2½-in. (64 mm)
030	3-in. (80 mm)
040	4-in. (100 mm)
060	6-in. (150 mm)
080	8-in. (200 mm)
100	10-in. (250 mm)
120	12-in. (300 mm)
140	14-in. (350 mm)
160	16-in. (400 mm)
180	18-in. (450 mm)
200	20-in. (500 mm)
240	24-in. (600 mm)
Code	**Flange Rating**
A3	ANSI Class 300
A6	ANSI Class 600
A9	ANSI Class 900
AF	ANSI Class 1500
AT(1)	ANSI Class 2500
R3	Ring-Type Joint (RTJ) Class 300
R6	Ring-Type Joint (RTJ) Class 600
R9	Ring-Type Joint (RTJ) Class 900
RF	Ring-Type Joint (RTJ) Class 1500
RT	Ring-Type Joint (RTJ) Class 2500

TABLE 12. Rosemount 1497 Orifice Meter Section Ordering Table

Code	Meter Section Material Type
C	Carbon Steel
S	316/316L Stainless Steel
L	304/304L Stainless Steel
H	Hastelloy® C-276
M	Monel®
Code	**Pressure Tap Location / Type**
F	Flanged / 1/2-in. FNPT
G	Flanged / 1/2-in. Sock Tap
Code	**Meter Section End Connections**
B	Beveled (prepared for welding)
F	Flanged (flange rating matches orifice flange rating)
G	Flanged, ANSI Class 150
Code	**Options**
Alternate Pipe Schedule / Wall Thickness(2)	
FA(3)	Schedule 5S
FB(3)	Schedule 10
FC(3)	Schedule 10S
FD(3)	Schedule 20
FE(3)	Schedule 30
FF(3)	Schedule 40
FG(3)	Schedule 40S
FH(3)	Schedule Standard (STD)
FI(3)	Schedule 60
FJ(3)	Schedule 80
FK(3)	Schedule 80S
FL(3)	Schedule Extra Strong (XS)
FM(3)	Schedule 100
FN(3)	Schedule 120
FP(3)	Schedule 140
FQ(3)	Schedule 160
FR(3)	Schedule Double Extra Strong (XXS)
Temperature Taps	
TO	Temperature Tap, fitting only, 1/2-in. NPT
TP	Temperature Tap, fitting only, 1/2-in. SW
TQ	Temperature Tap, fitting only, 3/4-in. NPT
TR	Temperature Tap, fitting only, 3/4-in. SW
TS	Temperature Tap, fitting only, 1-in. SW
TT	Temperature Tap, fitting only, 1-in. NPT
TV	Temperature Tap, fitting only, 1-in. flanged (rating matches orifice flange rating)
TW	Temperature Tap, fitting only, 1 1/2-in. flanged (rating matches orifice flange rating)
TX	Temperature Tap, fitting only, 2-in. flanged (rating matches orifice flange rating)
Additional Pressure Taps	
PO	Pressure Tap, fitting only, 1/2-in. NPT
PP	Pressure Tap, fitting only, 1/2-in. SW
PQ	Pressure Tap, fitting only, 3/4-in. NPT
PR	Pressure Tap, fitting only, 3/4-in. SW
PS	Pressure Tap, fitting only, 1-in. SW
PT	Pressure Tap, fitting only, 1-in. NPT

TABLE 12. Rosemount 1497 Orifice Meter Section Ordering Table

High Temperature Gaskets	
G1[4]	High Temperature Gaskets (spiral wound gaskets)
Alternate Bolting Material	
SS[5]	316 Stainless Steel Studs/Nuts
Hydrostatic Test	
P1	Hydrostatic Test (1.5 x design pressure for 10 minutes)
Dye Penetrant Examination	
V1	Dye Penetrant Examination
Radiographic Examination	
V2	Radiographic Examination
Special Inspection	
QC1	Visual and dimensional inspection with certificate

Material Traceability Certification	
Q8	Material certificate per ISO 10474 3.1.B and EN 10204 3.1.B
Code Conformance	
J2	ANSI B31.1
J3	ANSI B31.3
J5	NACE MR-0175 / ISO 15156
Country Certification	
J1	Canadian Registration Number
J6[6]	Conformance to European Pressure Equipment Directive (PED) 97/23/EC
Typical Model Number: 1497 WN 040 A3 C FF	

(1) Available in line sizes from 2-12 inches.

(2) Default pipe schedules are listed on Table 1 on page 3 for the 1497 Orifice Meter Runs.

(3) These options should only be selected if the required pipe schedule is different from the default pipe schedule, as shown in Table 1 on page 3. Standard wall thickness for DIN weldneck flanges is per ISO EN 1092-1 (2002). Consult the factory if a different wall thickness is required.

(4) Not available with Meter Section Type code RJ.

(5) Stainless steel bolting (ASTM A193 GR B8M Class 2) is classified as "low strength bolting" by the various ASME B31 piping codes and may not be suitable for all applications requiring code conformance.

(6) Carbon steel flanges will be supplied in A350 Grade LF2 material.

Calculation Data Sheet

This Calculation Data Sheet can be provided. The detailed sizing calculation may be done through the “Configuration Data Sheet (CDS)” on page 31.

ROSEMOUNT INC.
1495 ORIFICE PLATE
CALCULATION DATA SHEET

GENERAL DATA

Customer:	Customer Name
Project:	2002 Official Calculations
S. O. No:	Sales Order Number
P. O. No:	Customer P.O Number
Calc. Date:	11/21/2001
Model No:	1495PC080A3SA04625BC
Tag No:	Tag Number

PRODUCT DESCRIPTION

Plate Type:	Square-edge	Tap Type:	Flange tapping
Plate Material:	316 SST	Tap Location:	Upstream
Drain/Vent Diameter:	None	Line Size:	8-inch
Process Connection		Pipe Schedule:	40
		Pipe Material:	Carbon Steel

INPUT DATA

Fluid Type:	Steam				
Fluid Description:					
Pipe I.D.	7.981	inch			
Pressure	60	psig	Base Pressure	14.6960001	psia
Temperature at Flow:	307.33	F	Base Temperature	59	F
Absolute Viscosity:	0.014093	cP			
Isentropic Exponent	1.317455				
Compressibility at Flow			Base Compressibility		
Density at Flow:	0.171328	lb/ft^3	Base Density		lb/ft^3
Flow Rates					
	Minimum:	6000	lb/hr		
	Normal:	8000	lb/hr		
	Maximum:	10000	lb/hr		
	Full Scale:	10000	lb/hr		

CALCULATED DATA (Calculation performed at normal conditions. DP in H_2O at 68 °F)

Orifice Bore Size:	4.000	inch	Bore Reynolds Number (Normal):	894278.832	
DP at Min. Flow:	16.379	in H_2O at 68 °F	Pipe Reynolds Number (Normal):	448514.484	
DP at Normal Flow:	29.117	in H_2O at 68 °F	Gas Expansion Factor:	0.99538888	
DP at Max. Flow:	45.496	in H_2O at 68 °F	Permanent Pressure Loss:		
URV (DP at Full Scale):	45.496	in H_2O at 68 °F	at Normal Flow:	21.2294996	in H_2O at 68 °F
Drain/Vent Corr. Factor:	1		at Max Flow:	33.1710931	in H_2O at 68 °F
Beta:	0.50119		Velocity at Max. Flow:	46.6687791	ft/sec
Discharge Coefficient	0.60366		Minimum Accurate Flow:	2111.34891	lb/hr

Notes

Calculation by VLB

Version: 3.0 (Build 91) Printed on: 11/27/01 11:07

Configuration Data Sheet (CDS)

DP FLOW CDS

Complete this form to define a custom flow configuration for DP Flowmeters. Unless specified, the flowmeter will be shipped with the default values identified by the H symbol.

For technical assistance in filling out this CDS, call a Rosemount representative.

NOTE
Any missing information will be processed with the indicated default values.

* = Required Item
★ = Default

Customer Information

Customer:	Contact Name:
Customer Phone:	Customer Fax:
Customer Approval Sign-Off:	Customer PO:

Calculation Approval

❑ Check this box if you require a calculation for approval prior to manufacturing

Application and Configuration Data Sheet (Required with Order)

Tag:

Model No (1)

* **Select fluid type** ❑ Liquid ❑ Gas ❑ Steam

* **Fluid name**

Flowmeter Information (optional)

* Failure Mode Alarm Direction (select one) ❑ Alarm High★ ❑ Alarm Low

Software Tag: ___ ___ ___ ___ ___ ___ ___ ___ (8 characters)

Descriptor: ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ (16 characters)

Message: ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ (32 characters)

Date: Day __ __ (numeric) Month __ __ (numeric) Year __ __ (numeric)

(1) A complete model number is required before Rosemount Inc. can process the order.

For Rosemount Use Only

S.O.:	LI
CHAMP:	DATE:
	ADMIN:

Rosemount 1495, 1496, and 1497

* = Required Item
★ = Default

Primary Element Information

* Select Differential Producer (Select One)

Annubar
- ❑ 485 Annubar/ 3095MFA Mass ProBar, 3051SFA ProBar
- ❑ Annubar Diamond II + / Mass Probar
- ❑ Long Radius Wall Taps, ASME
- ❑ Long Radius Wall Taps, ISO
- ❑ ISA 1932, ISO

Venturi
- ❑ Nozzle, ISO
- ❑ Rough Cast/Fabricated Inlet, ASME
- ❑ Round Cast Inlet, ISO
- ❑ Machined Inlet, ASME
- ❑ Machined Inlet, ISO
- ❑ Welded Inlet, ISO

Other (All options require a discharge coefficient value)
- ❑ Calibrated Orifice: Flange, Corner, or D & D/2 Taps.
  Discharge coefficient: _____
- ❑ Calibrated Orifice: $2^1/_2$ D & 8D Taps
  Discharge coefficient: _____
- ❑ Calibrating Nozzle
  Discharge coefficient: _____
- ❑ Calibrating Venturi
  Discharge coefficient: _____
- ❑ Area Averaging Meter
  Discharge coefficient: _____
- ❑ V-Cone®
  Discharge coefficient: _____

Orifice
- ❑ 3051SFP, 3095MFP, 1195
- ❑ 405C, 405P, 3051SFC, 3095MFC
- ❑ 1595 Conditioning Orifice
- ❑ $2^1/_2$D & 8D Taps, ASME
- ❑ Corner Taps, ASME
- ❑ Corner Taps, ISO
- ❑ D & D/2 Taps, ASME
- ❑ D & D/2 Taps, ISO
- ❑ D & D/2 Taps, ISO 99 Amendment 1
- ❑ Flange Taps, AGA
- ❑ Flange Taps, ASME
- ❑ Flange Taps, ISO
- ❑ Flange Taps, ISO 99 Amendment 1
- ❑ Small Bore, Flange Taps, ASME

Diameter (d) _____ ❑ inch★ ❑ millimeters at _____ ❑ °F ❑ °C ❑ 68 °F★

Special Annubar dimension (required if customer supplies mounting hardware). ❑ ODF _____ ❑ ODT _____

Pipe Information

* Orientation / Flow Direction: ❑ Vertical Up ❑ Vertical Down ❑ Horizontal

* Line Size / Schedule: _____ Body I.D. (D): _____

Materials of Construction

* Pipe Material ❑ Carbon Steel ❑ 304 SST ❑ 316 SST ❑ Hastelloy ❑ Other _____

* Primary Element Material ❑ 316 SST ❑ Hastelloy ❑ Other _____ (Please verify material availability)

Operating Conditions

	4 mA value	Minimum	Normal	Maximum	Full Scale:20 mA flow rate (design to P and T)	Design
Flow Rate	0	*(1)	*	*		
Pressure (P)	—	*(1)	*	*(1)	*(2)	
Temperature (T)	—	*(1)	*	*(1)	*	

RTD Mode

❑ Normal Mode ★ (Requires a RTD to be connected. If the RTD is disconnected or fails, the 3095MV output goes to alarm value)

❑ Fixed Temperature Mode: Specify the fixed temperature value _____ ❑ °F ❑ °C

❑ Backup Mode (Uses the connected RTD for temperature measurement. If the RTD is disconnected or fails, the transmitter uses a fixed temperature value as a backup. This will not cause the mA output to go to alarm value and can potentially cause inaccurate flow measurement.) Fixed temperature value to be used as backup_____ ❑ °F ❑ °C

* = Required Item
★ = Default

Base Conditions

❑ Standard Base (P=14.696 psia / 101.325 kPa abs, T= 60 °F (15.56 °C))

❑ Normal Base (P=14.696 psia / 101.325 kPa abs, T= 32 °F (0 °C))

❑ Standard Base for Natural Gas (AGA) (P=14.73 psia, T= 60°F (15.56 °C))

❑ User Defined: P= _____ Units: _____ T= _____ Units = _____

Compressibility at Base: _____ OR Density at Base: _____

(1) Operating ranges for pressure and temperature are needed for transmitter configuration.

(2) Required to verify that the product selection meets design criteria.

TABLE 13. Rosemount Fluids Database(1)

Acetic Acid	Divinyl Ether	Methane	n-Hexane	1-Heptanol
Acetone	Ethane	Methanol	n-Octane	1-Heptene
Acetonitrile	Ethanol	Methyl Acrylate	n-Pentane	1-Hexene
Acetylene	Ethylamine	Methyl Ethyl Ketone	Oxygen	1-Hexadecanol
Acrylonitrile	Ethylbenzene	Methyl Vinyl Ether	Pentafluorothane	1-0ctanol
Air	Ethylene	m-Chloronitrobenzene	Phenol	1-Octene
Allyl Alcohol	Ethylene	Neon	Propadiene	1-Nonanol
Ammonia	GlycolEthylene	Neopentane	Pyrene	1-Pentadecanol
Argon	Oxide	Nitric Acid	Propylene	1-Pentanol
Benzene	Fluorene	Nitric Oxide	Styrene	1-Pentene
Benzaldehyde	Furan	Nitrobenzene	Sulfer Dioxide	1-Undecanol
Benzyl Alcohol	Helium-4	m-Dichlorobenzene	Propane	1-Nonanal
Biphenyl	Hydrazine	Nitroethane	Toluene	1,2,4- Trichlorobenzene
Carbon Dioxide	Hydrogen	Nitrogen	Trichloroethylene	1,1,2- Trichloroethane
Carbon Monoxide	Hydrogen Chloride	Nitromethane	Vinyl Acetate	1,1,2,2- Tetrafluoroethane
Carbon Tetrachloride	Hydrogen Cyanide	Nitrous Oxide	Vinyl Chloride	1,2-Butadiene
Chlorine	Hydrogen Peroxide	n-Butane	Vinyl Cyclohexane	1,3-Butadiene
Chlorotrifluoroethylene	Hydrogen Sulfide	n-Butanol	Water	1,3,5- Trichlorobenzene
Chloroprene	Isobutane	n-Butyraldehyde	1-Butene	1,4-Dioxane
Cycloheptane	Isobutene	n-Butyronitrile	1-Decene	1,4-Hexadiene
Cyclohexane	Isobutyl benzene	n-Decane	1-Decanal	2-Methyl-1-Pentene
Cyclopentane	Isopentane	n-Dodecane	1-Decanol	2,2-Dimethylbutane
Cyclopentene	Isoprene	n-Heptadecane	1-Dodecene	
Cyclopropane	Isopropanol	n-Heptane	1-Dodecanol	

(1) This list is subject to change without notice. Steam per ASME Steam tables. All other fluids per AIChE.

Drawing/Notes

NOTES

Rosemount 1495, 1496, and 1497

Product Data Sheet
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