



PROCESS
INDUSTRY
PRACTICES

COMPLETE REVISION
May 2024

Vessel

**PIP VEFV1100M
Vessel/Shell & Tube Heat Exchanger Standard Details
(Metric Units)**

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PURPOSE AND USE OF PROCESS INDUSTRY PRACTICES

This Practice has been prepared by harmonizing technical requirements from existing standards of major industrial operators, contractors, and standards development organizations. While this Practice is intended to incorporate the majority of requirements, individual applications may have requirements which take precedence over this Practice. Determinations concerning fitness for purpose or application of this Practice to specific project or engineering situations should not be made solely on information contained in this Practice. All Practices are intended to be consistent with applicable laws and regulations. Should this Practice conflict with applicable laws or regulations, such laws or regulations must be followed. Consult an appropriate professional before applying or acting on any material contained in or suggested by this Practice.

Use of trade names should not be viewed as an expression of preference. Other brands having the same specifications are equally correct and may be substituted for those named.

This Practice is subject to revision at any time. For more information refer to PIP ADG001, *Specification for Developing Practices*.

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Process Industry Practices
3925 West Braker Lane (R4500)
Austin, Texas 78759

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Table of Contents

1. Scope	3
2. References	3
Industry Codes and Standards	

Drawings

VEFV1100M – Abbreviation (2 Pages)	
VEFV1101M – Vessel Nameplate Bracket	
VEFV1102M – Vessel Tolerances (4 Pages)	
VEFV1103M – Vessel Grounding Lug	
VEFV1104M – Small Horizontal Vessel Saddle Supports	
VEFV1105M – Horizontal Vessel Saddles Supported on Concrete	
VEFV1106M – Horizontal Vessel Saddles Supported on Structural Steel	
VEFV1107M – Vertical Vessel Type A Skirt Base Plate with Gussets	
VEFV1108M – Vertical Vessel Type B Skirt Base Plate with Cap Plate and Gussets	
VEFV1109M – Vertical Vessel Type C Skirt Base Plate with Cap Plate and Offset Gussets	
VEFV1110M – Vertical Vessel Type D Skirt Base Plate with Top Ring and Gussets	

VEFV1111M – Vertical Vessel Wide Flange Leg Supports (2 Pages)
VEFV1112M – Vertical Vessel Angle Leg Supports without Pad
VEFV1113M – Vertical Vessel Angle Leg Supports with Pad
VEFV1114M – Vessel Vertical Support Lug Supported by Channel
VEFV1115M – Vessel Vertical Support Lug Supported by Wide Flange
VEFV1116M – Vessel Manway Hinges
VEFV1117M – Vessel Vertical Manway Davits
VEFV1118M – Vessel Horizontal Manway Davits
VEFV1119M – Vessel Column Davits (2 Pages)
VEFV1120M – Pipe Supports Attached to Vessels (2 Pages)
VEFV1121M – Pipe Guides Attached to Vessels (2 Pages)
VEFV1122M – Horizontal Vessel Insulation Supports
VEFV1123M – Vertical Vessel Insulation and Fireproofing Supports (5 Pages)
VEFV1124M – Vessel Vortex Breaker
VEFV1125M – Vessel Internal Rungs
VEFV1126M – Locking Studs for Heat Exchanger Removable Tubesheets
VEFV1127M – Heat Exchanger Fixed Tubesheet Vent and Drain
VEFV1128M – Skirt Attachments (5 Pages)
VEFV1129M – Vessel Studded Joints
VEFV1130M – Solids Product Container Blend Tube and Shell Interface
VEFV1131M – Solids Product Container Flush-Mounted Side-Entry Manway Detail
VEFV1132M – Minimum Clearance for Nozzle Attachment to Integral Tubesheet
VEFV1133M – Internal Head Attachment
VEFV1134M – Skirt Openings Vertical Vessels (2 Pages)
VEFV1135M – Flared Skirt Attachment to Shell Detail

1. Scope

This Practice provides fabrication and installation details and dimensional tolerances for the design of supports and other attachments for vessels, heat exchangers and solids products containers.

Dimensions are conversion of the *PIP VESV1100* dimensions using the conversion guidelines of ASME Section VIII, Appendix GG.

Note: Except for bolting and threading, details are based upon United States codes and standards (e.g., Code, pipe sizes and schedules, structural shapes, flange classes, etc.).

2. References

Applicable parts of the following industry codes and standards shall be considered an integral part of this Practice. The edition in effect at the date of contract award shall be used, except as otherwise noted. Short titles are used herein where appropriate.

Industry Codes and Standards

- American Institute of Steel Construction (AISC)
 - *AISC Manual of Steel Construction*
- American Society of Mechanical Engineers (ASME)
 - *ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 - Rules for Construction of Pressure Vessels*
 - *ASME B16.5 - Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24 Metric/Inch Standard*
- ASTM International (ASTM)
 - *ASTM A36/A36M - Standard Specification for Carbon Structural Steel*
 - *ASTM A992/A992M - Standard Specification for Structural Steel Shapes*