

Process Industry Practices  
Vessels

**PIP VEFV1100M  
Vessel/S&T Heat Exchanger Standard Details  
(Metric Units)**

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## PURPOSE AND USE OF PROCESS INDUSTRY PRACTICES

In an effort to minimize the cost of process industry facilities, this Practice has been prepared from the technical requirements in the existing standards of major industrial users, contractors, or standards organizations. By harmonizing these technical requirements into a single set of Practices, administrative, application, and engineering costs to both the purchaser and the manufacturer should be reduced. While this Practice is expected to incorporate the majority of requirements of most users, individual applications may involve requirements that will be appended to and take precedence over this Practice. Determinations concerning fitness for purpose and particular matters or application of the Practice to particular project or engineering situations should not be made solely on information contained in these materials. The use of trade names from time to time should not be viewed as an expression of preference but rather recognized as normal usage in the trade. Other brands having the same specifications are equally correct and may be substituted for those named. All Practices or guidelines are intended to be consistent with applicable laws and regulations including OSHA requirements. To the extent these Practices or guidelines should conflict with OSHA or other 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 the Practice.

This Practice is subject to revision at any time.

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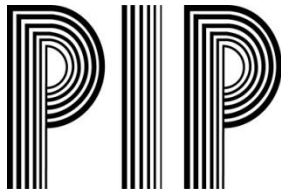
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### Table of Contents

<b>1. Introduction.....</b>	<b>3</b>
1.1 Purpose .....	3
1.2 Scope .....	3
<b>2. References .....</b>	<b>3</b>
2.1 Industry Codes and Standards.....	3
2.2 Government Regulations.....	4

### Drawings

VEFV1101M – Vessel Nameplate Bracket

VEFV1102M – Vessel Tolerances (2 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 Beam Type Leg Supports

VEFV1112M – Vertical Vessel Angle Type Leg Supports without Pad

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VEFV1113M – Vertical Vessel Angle Type Leg Supports with Reinforcement Pad  
VEFV1114M – Vessel Vertical Type A Support Lug with Cap Plate  
VEFV1115M – Vessel Vertical Type B Support Lug with Cap Plate and/or Rings  
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 (3 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 Breakers  
VEFV1125M – Vessel Internal Ladders  
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

## **1. Introduction**

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### **1.1 Purpose**

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.

### **1.2 Scope**

This Practice describes typical fabrication and installation requirements for the following:

- a. Nameplate
- b. Vessel fabrication tolerances and connection orientation tolerances
- c. Grounding lugs
- d. Horizontal vessel saddle supports
- e. Vertical vessel skirts
- f. Vertical vessel leg type supports
- g. Vertical vessel support lugs
- h. Manway and column davits
- i. Pipe supports and guides from vessels
- j. Insulation and fireproofing supports
- k. Vessel internals
- l. Heat exchanger tube sheet locking studs and vents/drains
- m. Studded joints
- n. Solids product container internals and manways

## **2. References**

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Applicable parts of the following industry codes and standards and references 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.

### **2.1 Industry Codes and Standards**

- American Society of Mechanical Engineers (ASME)
  - *Boiler and Pressure Vessel Code, Section VIII, Division 1*
- American Society for Testing and Materials (ASTM)
  - A123 - *Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products*
  - A143 - *Standard Practice for Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement*

## **2.2 Government Regulations**

- U. S. Occupational Safety and Health Administration (OSHA)
  - OSHA 29 CFR 1910.106(b)(5)(ii) - *Fire Protection for Tank Saddles*