



PROCESS
INDUSTRY
PRACTICES

REAFFIRMATION
March 2022

Vessel

**PIP VEDSP003
Documentation Requirements for
Shell and Plate Heat Exchangers
ASME Code Section VII, Divisions 1 and 2**

Currently in preview, click buy full version

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. Determination concerning fitness for purpose and particular matters or application of the Practice to a 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.

© Process Industry Practices (PIP), Construction Industry Institute, The University of Texas at Austin, 3925 West Braker Lane (R4500), Austin, Texas 78759. PIP Member Companies and Subscribers may copy this Practice for their internal use. Changes or modifications of any kind are not permitted within any PIP Practice without the express written authorization of PIP. Authorized Users may attach addenda or overlays to clearly indicate modifications or exceptions to specific sections of PIP Practices. Authorized Users may provide their clients, suppliers and contractors with copies of the Practice solely for Authorized Users' purposes. These purposes include but are not limited to the procurement process (e.g., as attachments to requests for quotation/purchase orders or requests for proposals/contracts) and preparation and issue of design engineering deliverables for use on a specific project by Authorized User's client. PIP's copyright notices must be clearly indicated and unequivocally incorporated in documents where an Authorized User desires to provide any third party with copies of the Practice.

PUBLISHING HISTORY

November 2014 Issued
March 2020 Reaffirmation

Not printed with State funds



PIP VEDSP003 Documentation Requirements for Shell and Plate Heat Exchangers ASME Code Section VII, Divisions 1 and 2

Table of Contents

- 1. Scope 1**
- 2. References 2**
 - 2.1 Process Industry Practices 2
 - 2.2 Industry Codes and Standards 2
- 3. Definitions 3**
- 4. Requirements 3**
 - 4.1 General 3
 - 4.2 Purchaser's Responsibilities 4
 - 4.3 Manufacturer's Responsibilities 7
 - 4.4 PIP VEDSP003-D Data Sheet
Instructions 8

Data Forms

- VEDSP003-D – Shell and Plate Heat Exchanger
Data Sheet
- VEDSP003-F – Shell and Plate Heat Exchanger
Welded Pressure Joint Requirement
- VEDSP003-T – Shell and Plate Heat Exchanger
Inspection and Testing Requirements Sheet
- VEDSP003-R – Shell and Plate Heat Exchanger
Documentation Requirements Sheet

Appendices

- Appendix A – Design Calculations Information
- Appendix B – Manufacturer's Drawing
Information
- Appendix C – Manufacturer's Data Package
Documentation

1. Scope

This Practice provides data forms and the associated instructions for specifying requirements for shell and plate heat exchangers constructed in accordance with *ASME Boiler and Pressure Vessel Code*, Section VIII, Division 1 or Division 2, henceforth referred to as the *Code*. Requirements that are specific to *Code*, Section VIII, Division 2 are shown in braces { }.

This Practice contains four data forms for providing requirements for cylindrical heat exchangers having internal design pressures equal to or greater than 15 psig (103 kPa) and/or full vacuum external pressure at the top of the exchanger in its normal operating position, and are welded, shop- and field-fabricated, and in accordance with the requirements of the *Code*, Section VIII, Division 1 {or Division 2}.

This Practice is required to be used with *PIP VECV1001*, *PIP VESV1002*, *PIP VECSP001*, and *PIP VESSP002* to specify requirements, not otherwise specified, that are required by manufacturer to design and fabricate an exchanger.

This Practice also provides instructions to purchaser and manufacturer for inserting data and information in the data forms.

2. References

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

2.1 Process Industry Practices (PIP)

- PIP VECSP001 - *Supplemental Design Criteria and Purchasing Requirements for Shell and Plate Heat Exchangers, ASME Code, Section VIII, Divisions 1 and 2*
- PIP VECV1001 - *Design Criteria and Purchasing Requirements for Vessels, ASME Code, Section VIII, Divisions 1 and 2*
- PIP VEFV1100 - *VesselS&T Heat Exchanger Standard Details (U.S. Customary Units)*
- PIP VESSP001 - *Supplemental Design and Fabrication Specification for Shell and Plate Heat Exchangers, ASME Code, Section VIII, Divisions 1 and 2*
- PIP VESV1002 - *Design and Fabrication Specification for Vessels, ASME Code, Section VIII, Divisions 1 and 2*

2.2 Industry Codes and Standards

For the following reference document, if *Code*, Table U-3 {1.1} lists an edition or addenda different than the edition listed in the reference, the edition listed in *Code*, Table U-3 {1.1} shall be used.

- American Society of Mechanical Engineers (ASME)
 - *ASME Boiler and Pressure Vessel Code*
Section VIII - *Pressure Vessels, Divisions 1 and 2*