



PROCESS
INDUSTRY
PRACTICES

March 2024

Hygienic Process

PIP PHDVEV001
Documentation Requirements for Hygienic Stainless
Steel and Nickel Alloy Vessels
ASME Code Section VIII, Divisions 1 and 2

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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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Appendixes

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

Data Forms

- PIP PHDVEV001-D – *Vessels Data Sheet*
- PIP VEDV1003-F – *Welded Pressure Joint Requirements*
- PIP VEDV1003-R – *Vessels Documentation Requirements Sheet*
- PIP VEDV1003-T – *Inspection and Testing Requirements Sheet*

1. Scope

This Practice provides data forms and the associated instructions for specifying requirements for Stainless Steel and Nickel Alloy pressure vessels for hygienic service 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 is used with *PIP VECV1001*, *PIP VEDV1003* (when required), and *PIP VESV1002* to specify information necessary for the manufacturer to design and fabricate a pressure vessel. Polymer and Glass lined vessels are not covered in this scope.

For the purposes of this practice, "Hygienic," "Process," or "Hygienic Process" refers to all Hygienic Processes for Food/Beverage/Consumer & Current Good Manufacturing Practices (CGMP) or other products requiring a clean design.

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 CTCH1000 - *External Coating System Selection Criteria for Hygienic Facilities*
- PIP VECV1001 - *Design Criteria and Purchasing Requirements for Vessels ASME Code, Section VIII, Divisions 1 and 2*
- PIP VEDV1003 - *Documentation Requirements for Vessels ASME Code Section VIII, Divisions 1 and 2*
- PIP VEFV1100 - *Vessel/S&T Heat Exchanger Standard Details (US Customary Units)*
- PIP VEFV1100M - *Vessel/S&T Heat Exchanger Standard Details (Metric Units)*
- PIP VESV1002 - *Design and Fabrication Specification for Vessels ASME Code, Section VIII, Divisions 1 and 2*

2.2 Industry Codes and Standards

- 3-A Sanitary Standards, Inc. (SSI)
 - 3-A 00-01 - *Sanitary Standard for General Requirements*
- American Society of Civil Engineers (ASCE)
 - ASCE 7 - *Minimum Design Loads and Associated Criteria for Buildings and other structures*
- American Society of Mechanical Engineers (ASME)
 - ASME B16.5 - *Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24, Metric/Inch Standard*
 - ASME B16.47 - *Large Diameter Steel Flanges: NPS 26 through NPS 60, Metric/Inch Standard*