



PROCESS  
INDUSTRY  
PRACTICES

TECHNICAL REVISION  
May 2022

**Vessels**

**PIP VESAC001**  
**Air-Cooled Heat Exchanger Specification**  
**(Supplement to API STD 661, 7<sup>th</sup> Edition)**

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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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### **PUBLISHING HISTORY**

March 2012	Issued
January 2016	Editorial Revision
May 2022	Technical Revision

Not printed with State funds



**PIP VESAC001  
Air-Cooled Heat Exchanger Specification  
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## Scope

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This Practice supplements *API Standard 661*, 7<sup>th</sup> Edition, July 2013 - Petroleum, Petrochemical, and Natural Gas Industries - Air-cooled Heat Exchangers. Together, this Practice and *API STD 661* provide requirements for an air-cooled heat exchanger.

This Practice and *API STD 661* describe minimum requirements for the design, materials, fabrication, inspection, and testing of air-cooled heat exchangers. This Practice describes additions, modifications, and deletions made to *API STD 661*. In addition, this Practice describes decisions made regarding options offered by *API STD 661*. This Practice supplements, but does not supersede, *API STD 661* and any applicable jurisdictional requirements.

## Requirements

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The numbering of the following headings and paragraphs in the Requirements section corresponds to the numbering of *API STD 661*, which this Practice supplements. The type of revision (i.e., addition, modification, deletion, or new) made to a specified heading or paragraph is described after the heading or paragraph identification. Provisions of *API STD 661* that are not revised remain in force.

### 1 Scope

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#### **Addition: Supplement as Follows:**

Equipment that is part of a self-contained package unit (e.g., jacket water and lube oil coolers, integral radiators, humidified exchangers, or exchangers that are part of air-conditioning equipment) is not included.

### 2 Normative References

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#### **Addition: Supplement as Follows:**

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

- a) Process Industry Practices (PIP)
  - 1) PIP VEFV1100[M] *Vessel/S&T Heat Exchanger Standard Details (U.S. Customary Units) [(Metric Units)]*
  - 2) PIP VEFV1101[M] *Vessel Nameplate Bracket*
  - 3) PIP VEFV1103[M] *Vessel Grounding Lug*
  - iii) PIP VEFV1129[M] *Vessel Studded Joints*
  - 4) PIP VECV1001 *Design Criteria and Purchasing Requirements for Vessels; ASME Code Section VIII, Divisions 1 and 2*
  - 3) PIP STF05501 *Fixed Ladders Fabrication Details*
  - 4) PIP STF05511 *Standard Stairs Fabrication Details*
  - 5) PIP VESAC001-T *Inspection and Testing Requirements Sheet for Air-Cooled Heat Exchangers*