

3-A Sanitary Standard for Plate Type Heat Exchangers, Number 11-10

Standards Developing Organizations

3-A Sanitary Standards, Inc. (3-A SSI)

In collaboration with

United States Public Health Service (USPHS)/

United States Food and Drug Administration (USFDA)

United States Department of Agriculture (USDA)

European Hygienic Engineering & Design Group (EHEDG)

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Disclaimers

3-A Sanitary Standards and 3-A Accepted Practices are developed through the efforts of experts, working on a volunteer basis, using science-based information and their professional experiences to reach consensus decisions on the sanitary (hygienic) criteria in these 3-A documents.

3-A Sanitary Standards Inc. (SSI), its employees and its volunteer committees/working groups shall not incur any obligation or liability for damages, including consequential damages, arising from or in connection with the development, use, interpretation, or reliance upon this 3-A Sanitary Standard.

3-A Sanitary Standards and 3-A Accepted Practices do not include provisions for mechanical, electrical, or personnel safety. Such safety criteria are established by government regulations and other standards development organizations (SDOs). Other SDO standards may be referenced.

Metric conversions are provided for convenience and are not intended to be mandatory.

The Appendix is an advisory or informative section unless specifically cited in the Materials or Fabrication Section as requiring conformance.

Foreword

This 3-A Sanitary Standard establishes minimum sanitary (hygienic) requirements for design, materials, fabrication, and/or installation of Plate Type Heat Exchangers.

This 3-A Sanitary Standard is for use on a voluntary basis by directly and materially affected organizations such as equipment and machinery fabricators, processors, regulatory agencies, and by other SDOs to assure adequate public health protections exist for the equipment or systems and covered products. 3-A SSI uses these documents as its source of sanitary criteria for 3-A Symbol authorization.

This 3-A Sanitary Standard was developed jointly by 3-A SSI, the United States Public Health Service (USPHS), United States Food and Drug Administration (USFDA), the United States Department of Agriculture – Dairy Programs (USDA), and the European Hygienic Engineering & Design Group (EHEDG).

It is our intent to encourage inventive genius and provide a forum to discuss new developments. Suggestions for improvement and new technology are welcome at any time for consideration by 3-A SSI. Please forward comments to: 3-A SSI, 6888 Elm Street, Suite 2D, McLean, VA 22101-3829, USA or by fax: 703-761-6284, or by e-mail to: 3-ainfo@3-a.org.

A SCOPE

- A1 This 3-A Sanitary Standard applies to the sanitary aspects of plate type heat exchangers beginning with the inlet fittings for product(s) and for heat exchange media and ending with the outlet fittings for product(s) and for heat exchange media. This standard includes the frame and/or support components for holding the heat exchange plates and the means for manual and non-manual opening and closing of the plate pack assembly.
- A2 To conform to this 3-A Sanitary Standard, plate heat exchangers shall conform to the following criteria for design, materials of construction, fabrication techniques and installation, as applicable, and the current revisions or editions of all referenced documents cited herein.

B NORMATIVE REFERENCES

- B1 The following listed 3-A Sanitary Standards, 3-A Accepted Practices and other documents shall be considered as Normative References and the provisions of the referenced documents shall apply to this Standard without further reference in this document unless necessary to describe special considerations.
- B2 **3-A Sanitary Standards**

Doc. No. Title (3-A Sanitary Standard for:)

00-	General Requirements
33-	Metal Tubing
63-	Sanitary Fittings
88-	Machine Leveling Feet and Supports

C DEFINITIONS

The most current approved version of the *3-A Sanitary Standard for General Requirements, 00-* shall apply, unless otherwise noted herein with additions, clarifications, exceptions, modifications, or exclusions.

- C1 *Heat Exchange Media or Media:* Product or non-product fluids used to exchange heat with product.
- C2 *Inlet:* An opening that allows product, media, cleaning solutions and sanitizing solutions to enter the equipment.
- C3 *Mechanically Retained Gaskets:* Readily detachable gaskets which are manually pressed into sealing position on heat exchanger plates without the use of adhesive or additional components. When the plate pack is closed, the mechanically retained gaskets are compressed to seal against both plates.
- C4 *Outlet:* An opening that allows product, media, cleaning solutions, and sanitizing solutions to exit the equipment.