

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)

3-A SSI Effective Date: 2/1/2020

TABLE OF CONTENTS

TITLE	1
DISCLAIMERS	4
FOREWORD	4
A SCOPE	5
B NORMATIVE REFERENCES	5
C DEFINITIONS	5
C1 Heat Exchange Media or Media	5
C2 Inlet	5
C3 Mechanically Retained Gaskets	5
C4 Outlet/Product Outlet	5
C5 Plate Carrying Bars	6
C6 Terminals	6
C7 Product contact surfaces	6
D MATERIALS	6
D1 Product Contact Surfaces	6
D1.1 Metals	6
D1.2 Non-Metals	6
D2 Non-Product Contact Surfaces	6
E FABRICATION OF PRODUCT AND SOLUTION CONTACT SURFACES	7
E1 Surface Texture	7
E2 Joints	7
E2.1 Permanent Joints	7
E2.2 Non-Permanent Joints	7
E3 Coatings	7
E4 Cleaning and Inspectability	7
E5 Draining	8
E6 Dead Ends	8
E7 Gaskets, Gasket Retaining Grooves, O-rings and Seals	8
E8 Radii	9
E9 Threads	9
E10 High-Temperature Systems	9
F FABRICATION OF NON-PRODUCT CONTACT SURFACES	10
F1 Surfaces	10
F2 Joints	10
F3 Coatings	10
F4 Cleaning and Inspectability	10

F5	Draining	10
F6	Guards and Other Safety Devices	10
F7	Threads	10
F8	Service Piping and Lines	10
F9	Panels, Doors and Access Ports	10
F10	Supports	10
	F10.1 Casters.....	10
	F10.2 Slabs or Islands	11
F11	Name and/or Information Plates (Nameplates)	11
G	SPECIAL CONSIDERATIONS	11
G1	Gasket Leak Detection Grooves	11

APPENDIX

1	STAINLESS STEEL AND EQUIVALENT MATERIALS	12
2	PRODUCT CONTACT SURFACE FINISH	12
3	CIP CLEANING	12
4	ENGINEERING DESIGN AND TECHNICAL CONSTRUCTION FILE ...	12
5	INSTRUCTION HANDBOOK FOR INSTALLATION, MAINTENANCE, AND CLEANING	12
6	SUGGESTED CLEANING PROCEDURES	14
7	SLABS, ISLANDS, OR FLOORS	14
8	INSPECTION OF PLATE GASKETS	14
9	PLATE HEAT EXCHANGER LEAK TESTING AND VISUAL INSPECTION	14
10	LOCATION	15
11	HARMONIZATION	15

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.