



3-A Sanitary Standards, Inc.

Promoting Food Safety Through Hygienic Design



**2018**  
ANNUAL REPORT



## 3-A SSI Unified in a Changing World

3-A SSI today operates in a global marketplace where technology and business practices are evolving at a faster rate than any time in human history.

On the world stage, the Global Food Safety Initiative (GFSI) is bringing together key actors of the food industry to collaboratively drive continuous improvement in food safety management systems around the world, notably to reduce food safety risks and help build trust throughout the supply chain. Closer to home, the Food Safety Modernization Act (FSMA) is the new norm. Hygienic equipment design is essential for the processing and handling equipment in all types of food and beverage manufacturing facilities. The FSMA Preventive Controls rules for Human Food and for Animal Food require food processors to maintain written plans for monitoring, verification and corrective action in a range of areas, including supplier management, allergen controls, process controls, GMP program oversight, product traceability, recall plans and intentional contamination or food defense.

Like every industry, the food processing industry must stay grounded in the latest developments in their industry, from new robotics and automation to sophisticated plant-wide control systems. Many of these technologies and services did not exist a few years ago, or they were not applied on the same scale.

3-A Sanitary Standards and design criteria have become essential tools to stay up-to-date and relevant in a dynamic marketplace for food processing equipment and systems. The work of 3-A SSI is more important than ever before to help ensure the food processing industry can thrive economically while also assuring quality, public health safety, and access to global markets.

Thanks to the ongoing support and participation of leading regulatory sanitarians, equipment fabricators and processors, 3-A SSI is positioned at the forefront of strengthening the food processing industry throughout the U.S. and around the world. Our diverse group of experts from all sectors remain unified in the goal of Promoting Food Safety Through Hygienic Design.

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It is the mission of 3-A Sanitary Standards, Inc. to enhance product safety for consumers of food, beverages, and pharmaceutical products through the development and use of 3-A Sanitary Standards and 3-A Accepted Practices.



## Need for Hygienic Equipment Drives Demand for 3-A Symbol

The number of new 3-A Symbol authorizations in 2017 reflected the strong and growing demand for the assurance of hygienic equipment design. The 2017 3-A Symbol licensing program experienced the tenth straight year of significant growth. The number of new applications and the retention of current licensees is unprecedented in this vital industry program.

The steady growth in this licensing program reflects the demand for food processing equipment that meets provable hygienic design criteria for food processing equipment found in 3-A Sanitary Standards and the perceived value of the 3-A Symbol. The voluntary 3-A Symbol authorization program helps regulatory professionals, processors, and fabricators identify equipment that conforms to the criteria of 3-A Sanitary Standards.

The integrity of the 3-A Symbol authorization program rests upon the Third Party Verification (TPV) inspection requirement that reached full implementation in 2008. The TPV inspection requirement applies to all equipment built to 3-A Sanitary Standards that is licensed to display the 3-A Symbol. A licensee must engage a credentialed inspection professional, known as a Certified Conformance Evaluator (CCE), to conduct an on-site evaluation of finished equipment and other product attributes to affirm the equipment conforms to provisions of the applicable 3-A Sanitary Standard. Any deficiencies discovered in an inspection must be corrected before the equipment can be authorized to display the 3-A Symbol. Equipment manufacturers that do not comply with the TPV inspection requirement risk losing the authorization to use the 3-A Symbol. A complete on-site TPV inspection is required upon application and once every five years thereafter, or any time there is a significant design change or non-conformance.

Recognition and demand for '3-A' equipment is growing across the human and animal food processing industry as processors institute written plans to comply with the new federal rules on Preventive Controls under the Food Safety Modernization Act. The rules require food processing facilities to maintain a written food safety plan that includes an analysis of hazards and risk-based preventive controls.

Fabricators from across the U.S. and 24 other countries around the world maintain a 3-A Symbol authorization to verify the equipment conforms to 3-A Sanitary Standards. Other countries include:

Belgium	Israel	Republic of Korea
Canada	Italy	Spain
China	Japan	Sweden
Denmark	Malta	Switzerland
Finland	Mexico	Taiwan
France	Netherlands	Thailand
Germany	New Zealand	Turkey
India	Poland	United Kingdom

The 3-A SSI website features on-line access to complete certificate information for all 3-A Symbol licensees. The information is searchable by the unique authorization number, equipment type/standard or company name. A copy of the actual authorization certificate may also be generated and printed from the online database. The certificate search database is the most frequently visited area of the 3-A SSI web resources.

3-A SSI also recorded significant growth this year in another voluntary certificate program for Replacement Parts and System Components. The Replacement Parts and System Component Qualification Certificate (RPSCQC) Program is open to manufacturers of replacement parts or system components that are not otherwise eligible for 3-A Symbol authorization. The RPSCQC is beneficial to certificate holders and customers because it affirms that such parts or system components are compatible with the design criteria found in the relevant 3-A Sanitary Standard(s). The RPSCQC is often used in sales or marketing information.

## Protecting the '3-A' Brand Worldwide

This year was the most active year in the history of 3-A SSI for taking steps to protect the 3-A Symbol in markets for hygienic equipment around the world. The 3-A Symbol is registered by the U.S. Patent and Trademark Office as the legal property of 3-A SSI. 3-A SSI licenses use of the 3-A Symbol to fabricators around the world to identify equipment that meets 3-A Sanitary Standards for design and fabrication.





3-A SSI initiated several actions this year to respond to the unauthorized use of the trademarked 3-A Symbol by numerous companies in China and others. The list of these companies was posted on the 3-A SSI web site under a special 'Buyer Beware' link and 3-A SSI circulated the announcement widely to regulatory authorities, trade press, licensees and others.

3-A SSI engaged special counsel in the U.S. and in China to take steps to counter these infringements. In early 2017, 3-A SSI filed new applications for registration of the 3-A Symbol in China with the China Trademark Office. In addition, 3-A SSI conducted the first-ever education program in Wenzhou, China in July to introduce fabricators to 3-A SSI and all of the requirements for 3-A Symbol authorization. Presenters at the Information Sharing Session were Gabe Miller, Bart S. Fisher, and Jerry Yang. The title for the session was "The 3-A Symbol: What Is It and Why Is It Important." There were about 40 in attendance, including 30 companies from China, Taiwan and Thailand. The program was highly productive for promoting a better understanding of 3-A SSI and the 3-A Symbol.

In Europe, 3-A SSI filed applications in the European Union Intellectual Property Office (EUIPO) to register the 3-A Symbol as a certification mark in several classes of equipment. 3-A SSI also applied to register '3A' as "standard character" certification mark. A "standard character" mark for '3A' provides a broader scope of protection and helps insure against any future changes in logo design.



Bart S. Fisher (center left) and Gabe Miller (center right) led first 3-A SSI program in China.

3-A SSI continues to pursue other measures under U.S. law to protect the integrity of the 3-A Symbol for U.S. customers and others around the world.

### 3-A SSI Resources Build New Audiences

3-A SSI became a trusted resource for hygienic design to a wider range of key audiences by contributing articles to leading industry publications and other important outreach. This outreach helped spread important knowledge about the critical role of hygienic equipment design and the many benefits of 3-A Sanitary Standards and 3-A Accepted Practices in a wide range of food processing applications.

#### 3-A Sanitary Design Connections

The quarterly e-newsletter *3-A Sanitary Design Connections*, continues to serve a growing, diverse and broad audience of readers from across the U.S. and around the world. *Connections* brings the important role of 3-A SSI in the hygienic design of equipment used in the processing of food or other products into perspective for equipment fabricators, food processors, regulatory sanitarians, academic leaders and students.

Each issue of *Connections* includes a lead or feature article on a prominent issue in hygienic equipment design or the role of 3-A Sanitary Standards, 'News of Interest' with relevant news about hygienic design from other sources, and 'What's New In 3-A SSI'.

#### Leading Industry Magazines

3-A SSI supports the editorial mission of *Dairy Foods* magazine, reaching 20,550 dairy processors across the \$110 billion dairy industry. 3-A SSI contributed four columns this year, including "Intro to Hygienic Design: New Online Training Modules," "Hygienic Equipment Design Fundamentals," "Verifying the Integrity of Hygienic Design," and "Maintaining Hygienic Design."

3-A SSI continued a series of three half-page display advertisements in *Dairy Foods* and *Food Engineering* magazines this year (circulation 28,000+). These ads promote recognition of 3-A SSI's integral role in Promoting Food Safety Through Hygienic Design.

3-A SSI received attention in other magazines/periodicals including *Rubber & Plastics News*, *National Provisioner*, *Cheese Reporter*, *Food Engineering* and *Food Processing*.

### 3-A SSI Adds Basic and First Advanced E-learning Modules

3-A SSI introduced the fourth in a series of new *Basics* e-learning modules and the first new *Advanced* module, all designed to bring the world of hygienic equipment design to audiences around the world at any time of the day or night.

Module 4.0, *Basics of Cleaning and Sanitizing*, provides a basic understanding of principles of cleaning, sanitizing, and sterilization processes. It features a closer look at various methods of cleaning, including manual cleaning, Clean-out-of-Place (COP), and Clean-in-Place (CIP). It also covers information on inspection, cleaning and sanitation documentation, as well as on safety hazards that might occur in the process of cleaning.

The first three *Basics* modules were introduced last year and continue to receive very positive feedback from users around the world. The first three modules in the series include:

#### 1.0 Overview of Principles of Hygienic Design & Foundation Elements

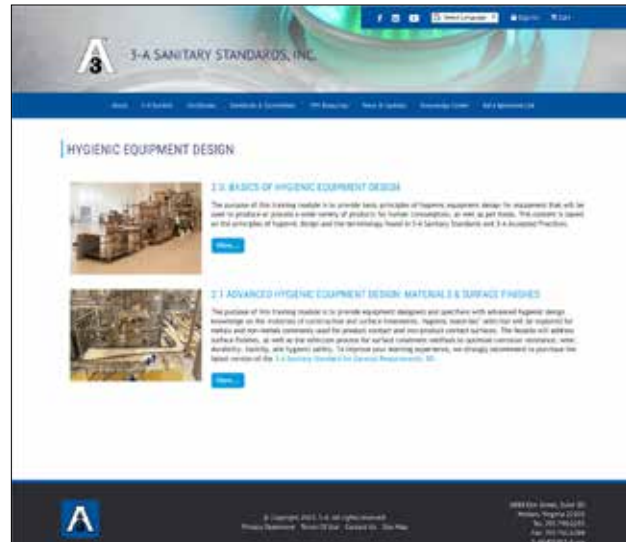
#### 2.0 The Basics of Hygienic Equipment Design

#### 3.0 Basics of Hygienic Facility Design & Environmental Controls

Learning objectives are clearly listed at the beginning of each module and interactive assessment tools are included to support the learning experience. Each module is narrated and a script is provided for convenience. All materials are accompanied by straightforward illustrations including photos from the field, animations, as well as informative diagrams.

The first new *Advanced* module, **2.1 Advanced Hygienic Equipment Design: Materials & Surface Finishes**, offers equipment designers and specifiers with advanced hygienic design knowledge on the materials of construction and surface treatments. The content emphasizes hygienic materials selection and the metals and non-metals commonly used for product contact and non-product contact surfaces. The Module also covers surface finishes, as well as the selection process for surface treatment methods, to optimize corrosion resistance, wear, durability, toxicity, and hygienic safety.

Much of the content for the modules is derived from the comprehensive *ANSI/3-A 00-01-2018, 3-A Sanitary Standards for General Requirements*, a compendium of baseline sanitary (hygienic) criteria for design, materials, and fabrication/installation of equipment and systems in



various 3-A Sanitary Standards and 3-A Accepted Practices. The modules also reference criteria from the European Hygienic Engineering & Design Group (EHEDG) and other organizations.

Through early this year, tracking data shows the 3-A SSI e-learning modules recorded 1,886 users from 35 countries around the world. The largest number of viewers by country were USA (1307), Philippines (103), Germany (71), Canada (39), Italy (48), India (25), Brazil (21). 55% of the viewers reported initial familiarity with the subject at a medium level, 31% were beginners and 14% considered themselves experts. 74% of the views indicated that the modules were very helpful and 25% somewhat helpful.

Three additional modules are in development and more advanced sections are planned for several of the modules.

### 3-A SSI Advances Education Mission

3-A SSI awarded a select group of future industry professionals an opportunity to participate in the 2017 education program and annual meeting.

Recipients participated in the 3-A SSI education program, '3-A Equipment and Beyond: Applying 3-A Principles to Food & Beverage Processing Environments' and related events on May 1–2, 2017 at the Hilton Minneapolis/St. Paul Airport-Mall of America in Bloomington, MN.

The recipients of the 2017 awards included:

Akhil Reddy Bora	Texas Tech University
Diego Casas	Texas Tech University
Yungi Huang	Ohio State University
Ishwar Katawal	Texas Tech University
Subbiah Nagappan	Ohio State University



The 3-A SSI program reflected high interest this year in the number of applicants, the level of professional achievement and the number of awards granted. According to 3-A SSI Chair David Kedzierski (Cabot Cheese), “We expanded our role in hygienic design education because it is a fundamental element of assuring food safety. The 3-A SSI program gives these future food industry professionals a great opportunity to gain in-depth knowledge about hygienic equipment design in the real world and network with a truly diverse group of industry leaders.”

Award recipients were selected by a 3-A SSI review committee on the basis of a personal essay, official transcripts and a letter of recommendation from a faculty member or department head.

### 3-A SSI Volunteer Recognition

3-A SSI announced the recipients of its 2017 Volunteer Service Awards and the release of the latest annual progress report at the 3-A SSI Annual Meeting held recently in Bloomington, MN.

The 3-A SSI Volunteer Service Awards recognize the extraordinary dedication and commitment of individuals who contribute to the development of voluntary standards and the mission of 3-A SSI. Nominations for the awards are made by fellow volunteers from the three stakeholder groups in 3-A SSI—regulatory sanitarians, fabricators, and processors—and others.

3-A SSI Chair David Kedzierski (Cabot Cheese) announced the following award recipients for 2017:

- **Greg Marconnet (Mead & Hunt)** received the *Leadership Service Award* for outstanding service to the voluntary standards development of 3-A SSI and significant contributions to the mission of 3-A SSI.
- **F. Tracy Schonrock (Schonrock Consulting)** received the *‘Richard K. Smith’ Advancement Award* for outstanding accomplishments on behalf of 3-A SSI.

### 3-A SSI Posts Record Turnout for 2017 Education Program

3-A SSI hosted the largest crowd ever for its expanded yearly education programs this year in a brand new setting, the Hilton Minneapolis/St. Paul Airport-Mall of America in Bloomington, MN. The education programs on May 1–2 were designed to provide high-value learning and networking for industry professionals seeking a good ‘basics’ introduction and those interested in advanced applications knowledge.

3-A SSI welcomed 270 participants from all segments of the industry, including processors, fabricators and regulatory professionals, from across the U.S. and nine other countries.

The 2017 program opened on May 1 with an expanded introductory workshop, *3-A SSI and the Basics of Hygienic Design*. This full-day program was designed specifically for industry newcomers and early career professionals, and anyone wishing to review the fundamentals. Led by Greg Marconnet (Mead & Hunt) and Larry Hanson (CIP Concepts, LLC), the program began with an overview of 3-A SSI, then a comprehensive look at the entire building envelope, concluding with the details of equipment fabrication, installation, operation, cleaning and maintenance. Key learning points included Principles of Hygienic Design, Cleaning, Application of 3-A Principles to Equipment Design and Fabrication, Designing for Hygienic Installation, and more. The program featured hands-on segments to help illustrate the hygienic equipment design principles in ‘real world’ equipment fabrication.

The second full day of education on May 2 showcased the theme, *3-A Equipment and Beyond: Applying 3-A Principles to Food & Beverage Processing Environments*. The program featured leading experts on timely topics reflecting the current developments, future challenges and new opportunities for hygienic design in the food industry.

Presentations from previous yearly education programs are archived and available at no charge on the 3-A SSI web site.

### 3-A SSI Certified Conformance Evaluators Build Inspection Expertise

The integrity and acceptance of the 3-A Symbol and the other voluntary certificates of 3-A SSI rests largely upon the role of its accredited Certified Conformance Evaluators (CCEs). 3-A SSI strives for consistent and uniformly expert assessments of equipment by the CCEs. CCEs are independent equipment review professionals accredited by 3-A SSI to perform the Third Party Verification (TPV) inspection of equipment required for a 3-A Symbol authorization and other voluntary 3-A SSI certificate programs.

3-A SSI worked to support the knowledge and skills of the CCEs in their important inspection work through a period of substantial worldwide demand for new and renewal TPV inspections. The TPV Coordinating Committee, consisting of regulatory sanitarians, fabricator and processor representatives, coordinated a special training seminar for CCEs. In addition, the TPV Coordinating Committee conducted outreach throughout the year to refine and improve TPV inspection program procedures and to exchange information on the application of 3-A Sanitary Standards and other hygienic design issues relating to the performance of TPV inspections. The Committee also published several bulletins to provide guidance on consistent and uniform CCE inspection services. The new bulletins are available to all visitors on the 3-A SSI website.

## Conversion of 3-A SSI Standards and Accepted Practices into Its 4th Year

The first revision of ANSI/3-A 00-01-2018, *3-A Sanitary Standard for General Requirements* (GR) was approved this year. 3-A SSI Work Group Members continued their show of commitment to convert all 3-A Sanitary Standards and 3-A Accepted Practices to the “B Level” format. The American National Standard (ANS), also referred to as the “A Level” Standard, represents a comprehensive foundational document with the minimum sanitary (hygienic) requirements for design, materials, and fabrication of product contact surfaces and non-product contact surfaces for equipment and systems. Work to convert all 3-A Sanitary Standards and Accepted Practices to a new “B Level” format and style utilizing the GR represents the largest document revision project in the history of 3-A SSI.

In the first quarter 2018, there have been more than 20 individual Working Group meetings and the GR was reaffirmed by ANSI. There are over 20 active conversion projects and several revision proposals for the GR.

A number of revised Standards and Accepted Practices have been approved and published through the first quarter of 2018, including:

- *Number 17-12, 3-A Sanitary Standard for Formers, Fillers, and Sealers of Containers for Fluid Products*
- *Number 58-02, 3-A Sanitary Standard for Vacuum Breakers and Check Valves*
- *Number 31-07, 3-A Sanitary Standard for Scraped Surface Heat Exchangers*
- *Number 28-05, 3-A Sanitary Standard for Flow Meters*
- *Number 38-01, 3-A Sanitary Standard for Open Cheese Vats and Tables*
- *Number 610-03, 3-A Accepted Practice for Sanitary Construction, Installation, and Cleaning of Membrane Processing Systems*

Many more documents are in the conversion process:

- *WG 1 (Vessels) revision Project B-78-01-A for 3-A Sanitary Standard for Spray Devices Intended to Remain in Place*

- *WG 2 (Fillers) revision Project B-17-12-A for joint 3-A Sanitary Standard for Formers, Fillers, and Sealers of Containers for Fluid Products and 3-A Sanitary Standard for Packaging of Viscous Products*
- *WG3 (Valves & Fittings) revision Project B-63-03-A for 3-A Sanitary Standard for Sanitary Fittings*
- *WG 4 (Pumps & Mixers) new Project B-77-00-A for 3-A Sanitary Standards for Mechanical Seals*
- *WG 5 (Heat Exchangers) revision Project B-61-01-A for 3-A Sanitary Standard for Steam Injection Heaters*
- *WG 6 (Conveyors & Feeders) revision Project B-81-00-A for 3-A Sanitary Standard for Auger-type Feeders; revision Project B-88-00-W for 3-A Sanitary Standard for Machine Leveling Feet and Supports*
- *WG 7 (Instruments) revision Project B-74-06-A for 3-A Sanitary Standard for Sensors and Sensor Fittings and Connections*
- *WG 8 (Concentrating Equipment) revision Project B-26-05-A for 3-A Sanitary Standard for Sifters for Dry Products*
- *WG 9 (Farm & Raw Milk) revision Project B-30-01-A for 3-A Sanitary Standard for Farm Storage Tanks; new Project B-102-00-A for 3-A Sanitary Standard for Automated Milking Installations*
- *WG 10 (Cheese & Butter Equipment) revision Project B-83-00-A for 3-A Sanitary Standard for Enclosed Cheese Vats and Tables*
- *WG 12 (Plant Support Systems) revision Project B-604-05-A for 3-A Accepted Practice for Supplying Air Under Pressure in Contact with Product or Product Contact Surfaces*

The conversion of each document entails long and careful consideration and cooperation by dedicated volunteers. From the initial drafting and review through balloting, resolution of comments, re-balloting, final approval and final editing, our accredited standards development process ensures due process. The strength of 3-A SSI rests upon the unwavering commitment of its volunteers to maintaining the most widely recognized and respected criteria for hygienic equipment design.





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