

3-A® Sanitary Standards, Inc.*

3-A Sanitary Standards, Inc. is an organization that finds its roots dating back to the late 1920's with three founding organizations. Over the next 7 decades 3-A expanded into a nonprofit organization focused on protecting public health. As a result of that vision 3-A developed sanitary standards and practices for the design, manufacture, installation and method of cleaning of dairy and food equipment or systems associated with handling, processing and packaging consumable products requiring a high degree of sanitation.

3-A standards are predominantly applied throughout the food & beverage, dairy and pharmaceutical industries with the primary goals of protecting consumable products from contamination and to ensure that all products surfaces can be mechanically (CIP) cleaned or easily dismantled for manual cleaning.

3-A Accepted Practices cover a system, which is defined as a set of connected equipment and machinery that forms a whole or works together. In addition to the criteria for equipment, a practice may also provide specifications for sanitary installation and legal controls.

3-A Sanitary Standards provide material specifications, design criteria and other necessary information for equipment types to satisfy public health concerns.

3-A criteria is universally accepted by equipment manufacturers, fabricators, users and sanitarians. The 3-A Symbol is used to indicate conformance to 3-A Standards.

Organizations That Provide Resources and Information

American Society of Mechanical Engineers (ASME)	www.asme.org
American Dairy Products Institute (ADPI)	www.adpi.org
European Hygienic Equipment Design Group (EHEDG)	www.ehedg.org
International Association of Food Industry Suppliers (IAFIS)	www.iafis.org
International Association of Food Protection (IAFP)	www.foodprotection.org
International Dairy Foods Association (IDFA)	www.idfa.org
United States Department of Agriculture (USDA)	www.usda.gov
United States Food and Drug Administration (USFDA)	www.fda.gov
International Organizations for Standardization (ISO)	www.iso.ch
NSF International (NSF)	www.nsf.org

* This and additional information regarding 3-A SSI can be found on their website at www.3-a.org

Environmental Ratings

IP Environmental Protection Codes

<i>First Numeral - Protection from Particles</i>	<i>Second Numeral - Protection from Water</i>
0 No protection	0 No protection
1 Particles >50mm	1 Vertical falling water
2 Particles >12mm	2 Direct sprays up to 15° from vertical
3 Particles >2.5mm	3 Direct sprays up to 60° from vertical
4 Particles >1mm	4 Direct sprays from all directions - limited ingress permitted
5 Dust protected - limited ingress, no deposits	5 Low pressure jets of water from all directions
6 Dust tight - totally protected	6 Strong jets of water from all directions
	7 Immersion in water from 15cm to 1m
IP (first numeral, second numeral), for example IP67	8 Immersion in water under pressure for long periods of time
	9 High pressure steam jet up to 100 bar

Environmental ratings on NOSHOK transducers are indicated with the individual specifications throughout this catalog. The following ratings are used and this is how they are defined.

- IP65** Totally protected from dust as well as protection from low pressure jets of water from all directions – limited ingress permitted (no effect on performance)
- IP67** Dust tight and capable of immersion in water from 15 cm to 1 m.
- IP68** Capable of immersion in water for long periods of time.
- IP69K** Capable of steam jet washdown.

Since IP65, NEMA 4 and NEMA 4X are related, the differences are in the standards used in qualification. Here they are:

	IP65	NEMA 4
Method	Stream of water	Stream of water
Nozzle Size	1/2 "	1"
Distance	10 ft	10 ft
Duration	15 minutes	5 minutes
Direction	All angles	All angles
Pressure/Flow	10 m of water	65 gallons/min.

In order to meet the standard, the IP65 test results allow some ingress of water as long as it does not affect the performance of the instrument.

In order to meet the standard, the NEMA 4 test results do not allow any ingress of water.

NEMA 4X includes the NEMA 4 standard requirements plus corrosion resistance.