Sanitary Standards for Food Processing Equipment

Government regulations and industry review programs are in place that set standards for the design and use of food processing equipment and utensils. The following are summaries of several programs currently in place.

US Government Regulations and Programs

FDA
General equipment sanitary requirements for FDA regulated food processors are mandated under US Good Manufacturing Practices. Current GMPs [21 CFR Part 110.40] state, in part, that all plant equipment and utensils shall be so designed and of such material and workmanship as to be adequately cleanable, and shall be properly maintained. The design, construction, and use of equipment and utensils shall preclude the adulteration of food with lubricants, fuel, metal fragments, contaminated water, or any other contaminants.

USDA
For many years, meat and poultry processors that were not regulated by FDA relied upon the USDA document “Guidance on Establishment Facilities and Equipment” (USDA/FSIS Agriculture Handbook 570) to provide guidance on accepted sanitary standards. USDA also listed commercially available equipment approved for food contact use. Although Handbook 570 is no longer published, it is available for guidance purposes. “Accepted Meat and Poultry Equipment”, was discontinued in 1997 and today NSF has taken over responsibility for reviewing equipment. As part of the HACCP regulation for meat and poultry processors, processors now are required to document acceptable sanitary design and equipment as part of their SSOPs.

The Agricultural Marketing Service (AMS) has developed a voluntary, user-fee-funded program to inspect and certify equipment and utensils used to process livestock and poultry products. The AMS Meat and Poultry Equipment Review Program is a voluntary, fee-for service that replaces the mandatory review program previously performed by the USDA Food Safety Inspection Service. The program certifies conformance to NSF (see below) standards for sanitary design so that equipment meets minimum requirements for cleanability, suitability of materials used in construction, durability and inspectability.
Non-government sanitary equipment programs

NSF Standards (NSF)
Since 1944, NSF has developed more than 50 voluntary American National Standards under the scope of public health and safety. These standards are developed and updated with input from all who may be affected by the scope of the standard, including industry, public health and regulatory officials, and end users, such as consumers.

The Food Equipment Program begins with voluntary standards that represent a consensus between manufacturers, users, and regulatory authorities. In addition to developing and maintaining the standards, NSF offers a voluntary, conformity assessment program -- testing, certification, and production facility audits -- to verify compliance.

The presence of the NSF Certification Mark on food equipment confirms that NSF has assessed and certified its conformity with the relevant NSF/ANSI Standard. As part of the certification process, the production facility is audited annually. The purpose of this audit is to assure that all the requirements of the Standard continue to be met, quality assurance and quality control procedures are followed in fabrication, products are sampled and retested on schedule, and labeling and product literature are true and accurate.

3-A Sanitary Standards (3-ASSI)
3-A Sanitary Standards are written by a group of volunteer state and federal dairy regulators, dairy equipment manufacturers and dairy industry personnel. 3-A SSI formulates standards and practices for the sanitary design, fabrication, installation and cleanability of dairy and food equipment or systems used to handle, process and package consumable products where a high degree of sanitation is required. Sanitary codes and guidelines issued by regulatory agencies for equipment are often based on 3-A Sanitary Standards. Oversight of 3-A Standards and guides is maintained by the 3-A Steering Committee which is responsible for establishing standard operating procedures and setting priorities for the development of new or revised 3-A standards.

American Meat Institute (AMI)
In 2001, an Equipment Design Task Force was formed by the American Meat Institute to develop equipment sanitary design standards for minimizing the spread of *Listeria monocytogenes* in meat processing plants. In 2003, the group came up with the 10 sanitary design principles for processors of ready-to-eat meat and poultry, equipment designers, and suppliers serving the meat industry. AMI offers a fact sheet on the principles of sanitary design that can downloaded [here](http://www.sanitarydesign.org). Additional information can be found at [http://www.sanitarydesign.org](http://www.sanitarydesign.org).
International Fresh-Cut Produce Association (IFPA)
IFPA has created a Sanitary Equipment Design Buying Guide & Checklist. This guide consists of guidelines, definitions, illustrations that fresh-cut fruit and vegetable processors can use when selecting new equipment. The guide can be downloaded here.