

3-A[®] Sanitary Standards for Disc-Type Valves, Number 57-02

*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)*

Effective: May 1, 2008

Note: The highlighted text denotes changes to the previous document.

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Disclaimers

3-A Sanitary Standards, Inc. (3-A SSI) and collaborating organizations do not assume or undertake to discharge all or any responsibilities of manufacturers or any other user of 3-A Sanitary Standards or 3-A Accepted Practices. 3-A SSI is not responsible to any individual, organization or entity for the use of 3-A Standards and 3-A Accepted Practices. It is the science-based opinions, professional findings of volunteer experts and consensus that provides the sanitary (hygienic) criteria included in 3-A documents.

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

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

Drawings and illustrations contained herein are to assist in understanding the criteria in this 3-A Standard. Drawings and illustrations are not intended to show all variations of the equipment or system nor are they (it) to exclude alternate methods meeting this standard. Drawings and illustrations are non-normative.

Foreword

This 3-A Standard is to establish minimum sanitary (hygienic) requirements for **Disc-Type** Valves. Standard English is the official language of 3-A Sanitary Standards and 3-A Accepted Practices.

This 3-A Standard is for voluntary use by directly and materially affected organizations such as equipment and machinery fabricators, processors, regulatory agencies and by 3-A Sanitary Standards, Inc. to assure adequate public health protection exist for the devices and covered products. 3-A Sanitary Standards, Inc. use these documents as the source for sanitary criteria as part of 3-A Symbol authorization.

This 3-A Standard was developed jointly by 3-A Sanitary Standards, Inc. (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 purpose to encourage inventive genius and provide a forum to discuss new developments. Suggestions for improvement and new technology are welcome any time for consideration by the 3-A Sanitary Standards Committees. Please forward comments to the 3-A SSI, 6888 Elm Street, Suite 2D, McLean, VA 22101-3829, USA. By fax: 703-761-6284. By e-mail to: 3-ainfo@3-a.org.

A SCOPE

- A1 These standards cover the sanitary aspects of disc-type valves having a one- or two-piece body and disc with the disc rotating between the closed and open positions, as used on tanks or vessels that hold the product or solutions and as installed in product and solution pipelines. The stem that rotates the disc does not penetrate the seal face or seal seat insert of the valve. The disc-type valve begins at the product inlet connection and ends at the product outlet connection. These Standards do not include butterfly-type valves which may use two- or three-piece bodies and gaskets as sandwich seals and seal faces in combination with a disc and in which the stem penetrates the elastomer seal.
- A2 In order to conform to this 3-A Sanitary Standard, disc-type valves shall conform to the following design, material, and fabrication criteria, and applicable documents referenced herein.

B NORMATIVE REFERENCES

- B1 The following listed 3-A Sanitary Standards 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. 3-A Sanitary Standards for:
 18- Multiple-Use Rubber and Rubber-Like Materials
 20- Multiple-Use Plastic Materials
 33- Polished Metal Tubing
 63- Sanitary Fittings
- B3 Other References and Standards
 Ref. No. Title
1. AMS-S-13165, *Shot Peening of Metal Parts*. Society of Automotive Engineers (AWS), 400 Commonwealth Dr., Warrendale, PA 15096-0001.
 2. AISI Steel Products Manual, Stainless & Heat Resisting Steels, Table 2-1. Available from the American Iron and Steel Society, 410 Commonwealth Drive, Warrendale, PA 15086 (412-776-1535).
 3. Steel Founders Society of America, 780 McArdle Dr. Unit G, Crystal Lake, IL 60014, Phone: (815) 455-8240, Fax: (815) 455-8241, Internet: www.sfa.org.

4. The Code of Federal Regulations (CFR), Title 21, Parts 175 – Indirect Food Additives: Adhesives and Components of Coatings. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Phone: (202) 512-1800.
5. (ANSI)/American Society of Mechanical Engineers (ASME) B46.1 – Surface Texture. Available from ASME, 345 East 47th Street, New York, NY 10017-2392 (212) 705-7722.
6. Machinery's Handbook, published by Industrial Press Inc., 200 Madison Avenue, New York, NY 10157, Phone: 888-528-7852.
7. AWS/ANSI D18.1 – Specification for Welding of Austenitic Stainless Steel Tube and Pipe Systems in Sanitary (Hygienic) Applications. Published by American Welding Society, 550 N.W. LeJeune Rd., Miami FL, Phone: (800) 443-3953, www.aws.org.
8. EHEDG Doc. 9 – Welding Stainless Steel to Meet Hygienic Requirements. European Hygienic Engineering & Design Group. Published by EHEDG, www.ehedg.org.
9. Aerospace Standard (AS) 568, Aerospace Size Standards for O-rings, published by SAE, 400 Commonwealth Drive, Warrendale, PA 15086, Phone: (412) 776-4970.
10. ISO 3601-1: The International Organization for Standardization (ISO), 1 Rue de Varembe, Case Postale 58, CH 1 1211, Geneva, Switzerland, Phone: +41-22-734-1240.
11. ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959 (610) 832-9500.

C DEFINITIONS

- C1 *Bond*: The adhesive or cohesive forces holding materials together. This definition excludes press and shrink fits.