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Plastic Industrial Ball Valves

Standard Practice
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Substantive changes in this 2017 edition are “flagged” by parallel bars as shown on the margins of this paragraph. The specific detail of the change may be determined by comparing the material flagged with that in the previous edition.

Non-toleranced dimensions in this Standard Practice are nominal unless otherwise specified.

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PLASTIC INDUSTRIAL BALL VALVES

1. SCOPE

1.1 This Standard Practice establishes requirements for plastic industrial ball valves in nominal pipe sizes (NPS) 1/2 through NPS 6, designed for general industrial systems for the distribution of pressurized liquids that are chemically compatible with the piping material. It reflects the industry practice for the design, manufacture, and application of these valves.

1.2 This Standard Practice applies to valves having the ball seal against two self-lubricating seats of the following types:

- a) **True-Union Ball Valves** All joint ends have detachable nuts and end connectors so as to facilitate repair or replacement. These types of valves are also known as “double-union” or “dual-union” ball valves. See Figure 1 for illustrative example.
- b) **Single-Union Ball Valves** Only one joint end has detachable nut and end connector, with the other joints being integral to the valve body. See Figure 2 for illustrative example.
- c) **Non-Union Ball Valves** All joint ends are integral to the valve body. See Figure 3 for illustrative example.

1.3 This Standard Practice encompasses the following requirements:

- a) Materials of Construction
- b) Pressure-Temperature Ratings and Design Requirements
- c) Commonly Used Laying Length Dimensions
- d) Safety Features
- e) Port Size
- f) Actuator Application Requirements
- g) Production Tests
- h) Markings

2. MATERIALS OF CONSTRUCTION

2.1 Plastic materials, such as polyvinyl chloride (PVC), chlorinated polyvinyl chloride (CPVC), acrylonitrile-butadiene styrene (ABS), polypropylene (PP), and polyvinylidene fluoride (PVDF) are routinely used as materials of construction for ball valves types indicated in this Standard Practice.

Due to the number of grades and classifications of these materials, standard specifications cannot be readily established and are subject to agreement between customer and manufacturer. If intended for use in potable water, the materials should be listed for that use by an independent testing laboratory or agency.

2.2 Seals and seats of various materials are commonly used in plastic valves. The purchaser shall ensure the seals and seats specified are compatible with the stated intended use.

2.3 Any lubricants used shall be nontoxic, shall not support the growth of bacteria, and shall have no deteriorating effect on the seal or component materials.