



# Standard Specification for Cast (All Temperatures and Pressures) and Welded Pipe Line Strainers (150 psig and 150°F Maximum)<sup>1</sup>

This standard is issued under the fixed designation F 1199; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This standard covers all cast strainers and welded strainers in services up to 150 psig and 150°F (1 MPa and 65°C). For welded strainers used in services above 150 psig and 150°F, see Specification F 1200.

1.2 This standard provides the minimum requirements for the design, fabrication, rating, marking, and testing of cast and welded pipe line strainers for services above 0°F (–18°C).

1.3 Strainers manufactured to this specification are acceptable for use in the marine environment.

1.4 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

1.5 The following safety hazards caveat pertains only to the test methods portion, Section 8, of this specification. *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

## 2. Referenced Documents

### 2.1 ASTM Standards:

F 1200 Specification for Fabricated (Welded) Pipe Line Strainers (Above 150 psig and 150°F)<sup>2</sup>

### 2.2 ANSI Standards:<sup>3</sup>

#### B2.1 Pipe Threads

B16.1 Cast Iron Pipe Flanges and Flanged Fittings

B16.3 Malleable Iron Threaded Fittings

B16.4 Cast Iron Threaded Fittings

B16.5 Steel Pipe Flanges and Flanged Fittings

B16.11 Forged Steel Fittings, Socket-Welding and Threaded

B16.15 Cast Bronze Threaded Fittings

B16.24 Bronze Pipe Flanges and Flanged Fittings

B16.25 Butt-welding Ends

B31.1 Power Piping

### 2.3 MSS Standards:<sup>4</sup>

SP-51 150 lb Corrosion Resistant Cast Flanges and Flanged Fittings

SP-63 High Strength Wrought Welding Fittings

### 2.4 ASME Standard:<sup>5</sup>

ASME Boiler and Pressure Vessel Code, Section VIII, Division 1, Pressure Vessels

## 3. Terminology

### 3.1 Definitions:

3.1.1 *basket or element*—the replaceable part in a strainer that performs the barrier separation of solid particles from flowing fluid. It is normally removable for cleaning and servicing and can be furnished in a wide variety of materials, particle size removal capability, straining area, and types of construction. Interchangeable baskets or elements are normally available for a given make, model, and size strainer.

3.1.2 *maximum allowable working pressure (MAWP)*—the highest internal pressure that the strainer can be subjected to in service. The maximum nonshock working pressure for which a strainer is rated by the manufacturer.

3.1.3 *maximum design temperature*—the maximum temperature for which a strainer is rated by the manufacturer.

3.1.4 *strainer*—a device which, when installed in a pipe line, provides a mechanical means of removing solids from a flowing liquid or gas by using a barrier element.

3.1.5 *straining open area*—the net effective open area of the clean element through which the fluid can pass.

## 4. Classification

4.1 Strainers may be classified into three general construction categories, simplex, duplex (or multiplex), and automatic (self-cleaning), as follows:

4.1.1 *Simplex*—A strainer consisting of a single basket or element chamber that normally requires the flow through the unit to be shut down before cleaning.

4.1.1.1 Classifications of simplex strainers based on port alignment relative to basket or element chamber are *Y*, *T*, *Z*, and others.

4.1.2 *Duplex (or Multiplex)*—A strainer usually consisting

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 01.07.

<sup>3</sup> Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

<sup>4</sup> Available from American Society of Mechanical Engineers, 345 East 47th St., New York, NY 10017.

<sup>5</sup> Available from Manufacturers Standardization Society of the Valve and Fitting Industry, Inc., 1815 N. Fort Myer Dr., Arlington, VA 22209.