



# Standard Specification for Fuel Oil Meters of the Volumetric Positive Displacement Type<sup>1</sup>

This standard is issued under the fixed designation F1172; 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 specification provides the minimum requirements for the design, fabrication, pressure rating, marking, and testing for fuel oil meters (volumetric positive displacement type).

1.2 The values stated in inch-pound units are to be regarded as the standard. Metric (SI) units are provided for information only.

1.3 The following safety hazards caveat pertains only to the test method section 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*:<sup>2</sup>

**F722** Specification for Welded Joints for Shipboard Piping Systems

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

**B2.1** Pipe Threads

**B16.1** Cast Iron Pipe Flanges and Flanged Fittings

**B16.3** Malleable-Iron Screwed Fittings

**B16.4** Cast-Iron Screwed Fittings

**B16.5** Pipe Flanges and Flanged Fittings

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

**B16.34** Valves, Flanged and Buttwelding End

**B31.1** Power Piping

2.3 *Manufacturers' Standardization Society of the Valve and Fittings Industry*:<sup>4</sup>

**MSS SP-25** Standard Marking System for Valves, Fittings, Flanges and Unions

2.4 *API Standard*:<sup>5</sup>

**Code No. 1101** Measurement of Petroleum Liquid Hydrocarbons by Positive Displacement Meter

2.5 *American Society of Mechanical Engineers*:<sup>6</sup>

**ASME Boiler and Pressure Vessel Code, Section VIII, Div. I, Pressure Vessels**; Section IX, Welding and Brazing Qualifications

## 3. Terminology

3.1 *Definitions of Terms Specific to This Standard*:

3.1.1 *fuel oil meter (volumetric positive displacement type)*—device intended to indicate the volume of liquid fuel oil delivered to a fuel distribution system over a period of time.

3.1.2 *maximum allowable working pressure (MAWP)*—maximum system pressure to which a fuel oil meter may be subjected.

## 4. Ordering Information

4.1 Orders for products under this specification shall include the following applicable information:

4.1.1 Title, number, and date of this specification.

4.1.2 Operating pressure (psi) and temperature ( $^{\circ}$ F).

4.1.3 End connection and size.

4.1.4 Maximum capacity required.

4.1.5 Type of fuel service.

4.1.6 Materials—external and internal.

4.1.7 Other test requirements.

4.1.8 Qualification test reports as required.

## 5. Materials and Manufacture

5.1 Fuel oil meter casings, as well as any pressure-retaining parts, shall be constructed of ferrous material as listed in Section VIII, Division 1 of the ASME Boiler and Pressure Vessel Code. All other parts shall be constructed of materials suitable for the service intended. Fasteners in contact with interior fluid shall be of corrosion-resistant steel.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.11 on Machinery and Piping Systems.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

<sup>4</sup> Available from Manufacturers Standardization Society of the Valve and Fittings Industry (MSS), 127 Park St., NE, Vienna, VA 22180-4602.

<sup>5</sup> Available from The American Petroleum Institute (API), 1220 L. St., NW, Washington, DC 20005.

<sup>6</sup> Available from American Society of Mechanical Engineers (ASME), ASME International Headquarters, Three Park Ave., New York, NY 10016-5990.