Plunger Lift Lubricators and Related Equipment

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Suggested revisions are invited and should be submitted to the Standards Department, API, 200 Massachusetts Avenue, Suite 1100, Washington, DC 20001, standards@api.org.

Contents

Contents

Introduction

This specification has been developed by users/purchasers and suppliers/manufacturers of plunger lift lubricators intended for use in the petroleum and natural gas industry worldwide. This specification is intended to give requirements and information to both parties in the selection, manufacture, testing and use of plunger lift lubricators. Further, this specification addresses supplier/manufacturer requirements which set the minimum requirements with which suppliers/manufacturers shall conform.

This specification has been structured to allow for grades of increased requirements both in quality control and design validation. These variations allow the user/purchaser to select the grade required for a specific application for a chosen tool.

The quality grades and design validation grades provide the user/purchaser the choice of requirements to meet a specific preference or application. Additional quality and design validation requirements may be specified by the user/purchaser as supplemental requirements.

Plunger Lift Lubricators and Related Equipment

1 Scope

This specification provides requirements and guidelines for plunger lift lubricators, which includes plunger catchers as defined herein for use in the petroleum and natural gas industry. Threaded and flanged external connections are covered by the applicable API or proprietary connection design requirements. This specification provides requirements for the functional specification and technical specification, including design requirements (outlet locations, specified and optional), design extensions, design verification and validation, welding, materials, quality controls (QCs), marking, documentation and data control, shipment, and storage.

This specification does not include control system components, including electrical and electronic devices, installation requirements, field modifications of lubricators, and plunger lift downhole equipment. Additionally, the requirements for the inlet and outlet flange bolting and gaskets are not addressed herein. Equipment and technology that are covered by other API specifications and standards are exempted from this specification.

This specification includes five annexes: Annex A (informative), Annexes B through D (normative), and Annex E, which is informative and includes guidelines for plunger lift lubricator use and maintenance.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

API Specification 5B, *Specification for Threading, Gauging, and Thread Inspection of Casing, Tubing, and Line Pipe Threads*, 15th Edition

API Recommended Practice 5B1, *Gauging and Inspection of Casing, Tubing, and Line Pipe Threads*

API Specification 5CRA, *Specification for Corrosion-resistant Alloy Seamless Tubes for Use as Casing, Tubing and Coupling Stock*

API Specification 5CT, *Specification for Casing and Tubing*, Ninth Edition

API Specification 6A, *Specification for Wellhead and Christmas Tree Equipment*, 20th Edition

API Specification 20A, *Carbon Steel, Alloy Steel, Stainless Steel, and Nickel Base Alloy Castings for Use in the Petroleum and Natural Gas Industry*

API Specification Q1, *Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry*

ANSI [1]/NACE [2] MR0175/ISO [3] 15156 (all parts), *Petroleum and natural gas industries—Materials for use in H2S-containing environments in oil and gas production*

ASME *Boiler Pressure and Vessel Code* (*BPVC*) [4], *Section IX: Welding, Brazing, and Fusing Qualifications*

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1 American National Standards Institute, 25 West 43rd Street, 4th Floor, New York, New York 10036, www.ansi.org.

2 NACE International, 15835 Park Ten Place, Houston, Texas 77084, www.nace.org.

3 International Organization for Standardization, 1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland, www.iso.org.

4 ASME International, 2 Park Avenue, New York, New York 10016-5990, www.asme.org.