

Manual of Petroleum Measurement Standards Chapter 4—Proving Systems

Section 4—Tank Provers

SECOND EDITION, MAY 1998

REAFFIRMED, DECEMBER 2020



American
Petroleum
Institute

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Measurement Coordination

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FOREWORD

Chapter 4 of the *Manual of Petroleum Measurement Standards* was prepared as a guide for the design, installation, calibration, and operation of meter proving systems commonly used by the majority of petroleum operators. The devices and practices covered in this chapter may not be applicable to all liquid hydrocarbons under all operating conditions. Other types of proving devices that are not covered in this chapter may be appropriate for use if agreed upon by the parties involved.

The information contained in this edition of Chapter 4 supersedes the information contained in the previous edition (First Edition, May 1978), which is no longer in print. It also supersedes the information on proving systems contained in API Standard 1101, *Measurement of Petroleum Liquid Hydrocarbons by Positive Displacement Meter* (First Edition, 1960); API Standard 2531, *Mechanical Displacement Meter Provers*; API Standard 2532, *Metering Viscous Hydrocarbons*; and API Standard 2534, *Measurement of Liquid Hydrocarbons by Turbine-Meter Systems*, which are no longer in print.

This publication is primarily intended for use in the United States and is related to the standards, specifications, and procedures of the National Institute of Standards and Technology (NIST). When the information provided herein is used in other countries, the specifications and procedures of the appropriate national standards organizations may apply. Where appropriate, other test codes and procedures for checking pressure and electrical equipment may be used.

For the purposes of business transactions, limits on error or measurement tolerance are usually set by law, regulation, or mutual agreement between contracting parties. This publication is not intended to set tolerances for such purposes, it is intended only to describe methods by which acceptable approaches to any desired accuracy can be achieved. Chapter 4 now contains the following sections:

- Section 1, "Introduction"
- Section 2, "Conventional Pipe Provers"
- Section 3, "Small Volume Provers"
- Section 4, "Tank Provers"
- Section 5, "Master-Meter Provers"
- Section 6, "Pulse Interpolation"
- Section 7, "Field-Standard Test Measures"
- Section 8, "Operation of Proving Systems"

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Suggested revisions are invited and should be submitted to the Measurement Coordinator, American Petroleum Institute, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001.

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