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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 17286.2-2016

Replacing GB/T 17286.2-1998

**Liquid hydrocarbons -- Dynamic measurement -- Proving
systems for volumetric meters -- Part 2: Pipe provers**

液态烃动态测量 体积计量流量计检定系统 第2部分：体积管

(English Translation)

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Foreword

GB/T 17286 "Liquid Hydrocarbon Dynamic Measurement Volume Metering Flowmeter Verification System" is divided into the following four parts.

- Part 1. General principles;
- Part 2. Volume tube;
- Part 3. Pulse insertion technology;
- Part 4. Guide for volume tube operator.

This part is part 2 of GB/T 17286.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part of the replacement GB/T 17286.2-1998 "Dynamic measurement of liquid hydrocarbon volume measurement flowmeter Verification system Part 2. Volume tube". And GB/T 17286.2-1998 in the technical content of the main changes are as follows.

- deleted ISO preface;
- ISO 4267-2 was added to the normative reference file;
- in the normative reference file to delete the abolition of GB/T 17290, changed to ISO

8222;

--- in the preface to delete the 5.1 volume tube test flow meter repeatability description;

--- The reverberation speed of the two-way volume tube in 7.4.3 is re-described;

--- some of the standard inaccurate, non-standard statements were modified;

- the English standard is given in the original standard.

This part uses the translation method equivalent to ISO 7278-2. 1988 "Liquid Hydrocarbon Dynamic Measurement Volume Metering Flowmeter Verification System Section 2 Part. volume tube ".

And this part of the normative reference documents have a corresponding relationship between China's documents are as follows.

GB/T 17286.3-2010 Dynamic measurement of liquid hydrocarbon volume measurement flowmeter verification system - Part 3. Pulse insertion technology (ISO 7278.3.:1998, IDT) Liquid hydrocarbon volume measurement - Turbine flowmeter metering system (ISO 2715. 1981, IDT) GB/T 17289-2009 Petroleum liquids and gases - Measurement standard reference conditions (neqISO 5024. 1976) GB/T 17291-1998.

This part of the National Oil and Gas Standardization Technical Committee (SAC/TC355) proposed and centralized.

This part of the drafting unit. China National Petroleum Corporation Metrology and Testing Institute.

This part of the main drafters. Cui Jinghai, An Shumin, Sun Ce, Yang Xiaoping, Zhao Chenghai.

This part of the previous version of the standard to replace the release of the situation.

--- GB/T 17286.2-1998.

Introduction

The volumetric tube is a flow standard device for verifying the liquid flowmeter. This section covers the basic structure and technical performance requirements of the volumetric tube, Guide its design, installation and verification. This standard relates to the volume tube is a dynamic start and dynamic stop test equipment, the fluid in the quarantine period Continuous flow through the volume tube, the flowmeter can work in the normal test. This type of volumetric tube includes. replaceer, standard pipe section, Detection switch three parts. When the displacer enters the ball (or separation) zone with the fluid, the fluid flows through the bypass and the displacer stops run.

According to the principle of this part, you can create a fixed or movable volume tube. The standard pipe section of the volumetric tube may be straight pipe or elbow (U-type), can be

designed so that the displacer around a closed loop in one direction (one-way), can also be designed in two directions Line (two-way).

Dynamic measurement of liquid hydrocarbons Volumetric metering system Part 2. volume tube

1 Scope

This part of GB/T 17286 gives technical guidelines for the design, installation and verification of volume tubes. This section does not include volume tube verification and A detailed calculation method for flowmeter verification.

This section applies to different liquids, different types of flowmeters, and volume tubes that are tested using different methods.

This part does not apply to small volume tubes.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

ISO 2715 Liquid hydrocarbon volume measurement Turbine metering system
(Liquidhydrocarbons-Volumetricmeasure-mentbyturbinemetersystems ISO 4267-2
Petroleum and liquid petroleum products - Calculation of oil volume - Part 2. Dynamic
metering (Petroleumandliquidpetro -leumproducts-Calculationofoilquantities-Part 2.
Dynamicmeasurement) ISO 5024 Petroleum liquid and gas metering standards Reference
conditions (Petroleumliquidsandliquefiedpetroleumgases
measurement-standardreferenceconditions ISO 7278-3 Liquid hydrocarbon dynamic
measurement - Volume metering system - Verification system - Part 3. Liquid
-drocarbonsdynamicmeasurement-Provingystemsforvolumetricmeters-Part 3.
Pulseinterpola-tion techniques ISO 8222 oil measurement system calibration standard
gauge temperature correction (Petroleum
measurementsystems-Cali-bration-temperaturecorrectionsforusewithvolumetricreferenceme
asuringsystems)

3 Terms and definitions

The following terms and definitions apply to this document.

Standard volume basevolume the volume of the standard pipe section of the volumetric tube (ie, the pipe section between the two detection switches) under the specified standard reference conditions.

K factor Kfactor

The ratio of the number of electronic pulses emitted by the flowmeter to the volume of the liquid through the flowmeter during the test run.

Flow meter coefficient the ratio of the actual volume of the liquid passing through the flow meter to the flow rate of the flow meter.