

ICS 23.140
CCS J72



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

GB/T 15487-2015

Replacing GB/T 15487-1995

Methods of flow measurement for displacement compressor

容积式压缩机流量测量方法

Issued on: October 9, 2015

Implemented on: June 1, 2016

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China;
Standardization Administration of China**

Table of Contents

1	Scope
2	Normative reference documents
3	Terms and definitions
8.1	Measuring device
8.2	Installation requirements
8.3	Measurements
8.4	Flow calculation
9.1	Measuring device
9.2	Measurements
9.3	Flow calculation
10.1	General
10.2	Calculation of Uncertainty

Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 15487-1995 "Volumetric Compressor Flow Measurement Method". This standard compared with GB/T 15487-1995, in addition to editorial changes in the main technical changes are as follows: - Removed secondary device terminology (see

4.2 of.1995); - the terms of uncertainty were removed (see

--- modified part of the provisions of Table 2, and increased the internal cooling liquid spray rotary compressor spray temperature, absolute inspiratory humidity and exhaust pressure (See

6.1 and Table 2, version

6.2 and table 2 of.1995); - modified the size of the ISA1932 nozzle (see 7.1.2.2,.1995, 7.1.2.2);

--- modified the size of the injection hole of the ISA1932 nozzle (see 7.1.2.2, 7.1.2.2.5 of.1995);

--- modified with the ISA1932 nozzle plus rectifier measuring device to measure the compressor flow method in the nozzle upstream temperature calculation method (See

7.4.1 in.1995, 7.4.1); - Excessive variable $E = (1 - \beta^4)^{-1/2}$ (see

7.4.5 in.1995); - modified the U-pipe water column pressure gauge size requirements (see 8.3.1.2,.1995 edition 8.3.1.2); Amend the position of the control pressure valve in the measurement procedure in Appendix B (normative) (see B.3.1,.1995 B2.1). This standard is proposed by the China Machinery Industry Federation. This standard is under the jurisdiction of the National Standardization Technical Committee for Compressors (SAC/TC145). The drafting unit. Hefei General Machinery Research Institute, Hefei General Mechanical and Electrical Products Testing Institute Co., Ltd., Hefei General Environmental Control Technology Limited liability company. The main drafters of this standard. Xiao spear, Bao Yang Yang, Ren Fang. This standard replaced the previous version of the standard release.

--- GB/T 15487-1995. Volumetric Compressor Flow Measurement Method

1 Scope

GB/T 15487-2015 is the Chinese national standard on methods of flow measurement for displacement compressor, in the field of fluid systems and general-purpose components. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 9 October 2015 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 June 2016. Classification: ICS 23.140, CCS J72. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the measurement device and measurement method for the displacement of the displacement compressor (hereinafter referred to as "compressor"). This standard applies to the measurement of compressor flow. The measurement of the flow rate in the gas pipe can also be made with reference. This standard does not apply to the pipeline flow instability, gas phase change, the gas has solid or liquid and other material precipitation and upstream of the throttle The gas is measured in the case of sound or supersonic flow.

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.

GB/T 2624 (all parts) Measure the full flow of fluid with a differential pressure device

installed in a circular cross-section pipe Acceptance test of

GB/T 3853 volumetric compressor

GB/T 4975 General terms for volumetric compressors

JB/T 9107 Reciprocating Compressor Terminology

3 Terms and definitions

GB/T 4975, JB/T 9107 and GB/T 2624, as well as the following terms and definitions apply to this document.

3.1 One device directdevice Directly installed in the pipeline of the measured fluid, used to measure the flow of fluid devices, including the pressure port.

3.2 Throat throat Throttle element opens at the smallest cross section.

3.3 Nozzle An apparatus consisting of a retraction inlet portion and a throat connected thereto.

3.4 Arc Venturi Nozzle arcVenturinozzle And a means for connecting the throat and the conical extension by the contraction inlet of the circular rotary surface.

3.5 Nozzle diameter Nozzle throat diameter.

3.6 Pipe wall take pressure port The annular slit or round hole drilled in the pipe wall has its inner edge flush with the inner wall of the pipe.