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

GB/T 25753.4-2015

**Vacuum technology - Roots vacuum pump - Measurement of
performance characteristics - Part 4: Measurement of noise**

真空技术 罗茨真空泵性能测量方法 第4部分：噪声的测量

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Foreword

GB/T 25753 "Roots vacuum pumps - Measurement of performance art" is divided into four parts.

--- Part 1. The maximum allowable differential pressure measurement;

--- Part 2. Zero flow compression ratio measurement;

--- Part 3. Measurement of differential pressure relief valve;

--- Part 4. Noise measurement. This is Part 4 GB/T 25753 of. This section drafted in accordance with GB/T 1.1-2009 given rules. This part is proposed by China Machinery Industry Federation. This part of the National Vacuum Technology Standardization Technical Committee (SAC/TC18) centralized. This section is responsible for drafting. Zhejiang Vacuum Equipment Group Co., Ltd. Participated in the drafting of this section. Ludwig magnetic fluid Hunan Co., Ltd., Zhongshan Kaixuan Vacuum Technology Engineering Co., Ltd., Zhejiang God for Vacuum Equipment Manufacturing Co., Ltd., Hangzhou Xihu Vacuum Equipment Factory, Shandong Precision Pump Co., Ltd., Ningbo ULVAC Vacuum Technology Co., Taizhou Global Vacuum Equipment Manufacturing Co., Ltd., Ma Leybold Vacuum Equipment Group Co., Ltd., Shandong par Vacuum Equipment Co., Ltd., Shenyang Shenyang Vacuum Technology Research Institute. The main drafters of this section. Wang Xi, Luogen Song, Xu Tao, the words following spring, Wang hair, Li Longjun, Wang Deshun, Ren Weimin, Li Feng, He Xiaobo, Zhao meter spring, Zhao Weisheng, Wang Yu-xiang, Zhang Dongqing, Li Yuying. Roots vacuum pumps - Measurement of performance art Part 4. Noise measurement

1 Scope

GB/T 25753.4-2015 is the Chinese national standard on vacuum technology - roots vacuum pump - measurement of performance characteristics - part 4: measurement of noise, 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 10 December 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 January 2017. Classification: ICS 23.160, CCS J78. 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 section GB/T 25753 specifies the measure Roots vacuum pump noise acoustic environment, measuring instruments, pump installation, load and run Conditions, and the sound power level measurements. This section applies to Roots vacuum pump (hereinafter referred to as the Roots pump).

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB 3102.7 Quantities and units of acoustics

GB/T 3241 electro-acoustics octave and fractional octave filters

GB/T 3785.1-2010 Electric Acoustic Sound Level Meters - Part 1. Specification

GB/T 3947 Acoustics Terminology Declaration and verification of

GB/T 14574 Acoustics machinery and equipment noise emission values

GB/T 15173-2010 electric acoustic sound calibrators

GB/T 21271-2007 vacuum pump noise measurement technology

3 Terms and Definitions

GB 3102.7 and GB/T 3947 defined by the following terms and definitions apply to this document.

3.1 Sound Power soundpower Noise source in unit time emitted acoustic energy.

Note. in watts (W).

3.2 Sound power level soundpowerlevel L_W Than the sound power emitted by the test and the reference sound power of noise sources logarithm to the base 10 multiplied by 10.

Note 1. in decibels (dB).

Note 2. You must specify the frequency weighting used. Such as A-weighted sound power level is L_{WA} .

Note 3. The reference sound power 1pW ($1\text{pW} = 10^{-12}\text{ W}$).

3.3 Background noise correction backgroundnoisecorrection K

1 By the effect of background noise on the surface sound pressure level and the introduction of a correction term.

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