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

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**Calibration Specification for Impedance Tubes(Transfer
Function Method)
(English Translation)**

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Introduction

This specification based JJF 1071-2010 "National Calibration Specifications writing rules" establishment, the main reference GB/T 18696.2-2002 "acoustic impedance tube sound absorption coefficient and impedance measurement - Part 2. transfer function Number of law "[eqvISO 10534-2.1998 (E)].

This specification is the first release.

Impedance Tube calibration specifications (Transfer Function Method)

1 Scope

This instruction applies to transfer function measurement of sound-absorbing material sound absorption coefficient of resistance tube calibration.

2. References

This specification references the following documents.

JJF 1001-2011 common measurement terms and definitions JJF 1034-2005 acoustic measurement terminology and definitions GB 3102.5-1993 Quantities and units of electricity and magnetism GB 3102.7-1993 Quantities and units of acoustics GB/T 18696.2-2002 acoustic impedance tube sound absorption coefficient and impedance measurement - Part 2. Biography Transfer function method for dated references, only the dated edition applies to this specification; undated reference documents Member, the latest edition (including any amendments) applies to this specification.

3 terminology and units of measurement this specification uses quantities and units GB 3102.5-1993 and GB 3102.7-1993 prescribed.

JJF 1001-2011 and JJF 1034-2005 and as defined in the following terms and definitions apply to this specification.

3.1 The transfer function (H₁₂) transferfunction Acoustic impedance tube is passed to the location of the complex sound pressure ratio of 2 to 1 from the microphone.

According to equation (1) or (2) the calculation.

$$H_{12} = p_2/p_1 \quad (1)$$

Where.

p₁ --- 1 position complex sound pressure;

complex sound pressure p₂ --- position 2.

$$H_{12} = S_{12}/S_{11} \quad (2)$$

Where.

Sound re-S11 --- 1 position since the pressure spectrum;

Sound re-S12 --- position 1 to position 2 pressure of cross spectrum.

3.2 wave number (k_0) wavenumber Acoustic angular frequency of the air than sound.
Generally complex, according to equation (3) calculation.

$$k_0 = k'_0 - jk''_0 \quad (3)$$

Where.

k_0 --- wave number;

k'_0 --- k_0 real part of the phase constant;