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

GB/T 15168-2013

Replacing GB/T 15168-1994

**Vibration and shock isolators measuring method for its static
and dynamic characteristics**

振动与冲击隔离器静、动态性能测试方法

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 15168-1994 "vibration and shock isolators measuring method." This standard compared with GB/T 15168-1994, the main technical changes are as follows:

- Modify the standard name for the "shock and vibration isolators static and dynamic performance testing methods";
- Added "Terms and Definitions" section (see Chapter 3);
- Added "static performance tests" isolator arrangement is described (see 5.3); Static load speed and the rated load deformation test methods (see 5.4.2)
- revised static performance testing;
- Revised static load - deformation curve Static test method (see 5.4.3);
- Added "static performance test" in the "Creep test" (see 5.4.5);
- Added "Ellipse" in the test methods were used to transmit force and seek input dynamic stiffness (see 6.4.1.3);
- Combined with "dynamic performance test" on the basis of the exciting, exciting and constant load variable load excitation method as "excitation scanning" (see 6.4.2);
- Revised the "dynamic performance test" in the "hammering" to "natural decay" (see 6.4.3);
- Increased isolator "Dynamic Performance Test" in the "mechanical impedance test" (see 6.4.4);
- Increased rigidity and impact shock loss factor performance parameters and test methods (see 7.4.3 and 7.4.5);
- Increasing the nonlinear method description and impact properties of the test (see

7.4.7);

1 Scope

GB/T 15168-2013 is the Chinese national standard on vibration and shock isolators measuring method for its static and dynamic characteristics, in the field of metrology and measurement. 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 18 September 2013 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 2014. Classification: ICS 17.160, CCS J04. 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 test methods and static performance of vibration and shock isolators, dynamic performance, classification and testing principles and impact properties. This standard applies to all kinds of materials, and the use of linear and non-linear type isolator performance testing.

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/T 5170.13-2005 Environmental testing for electric and electronic test equipment basic parameters of vibration (sinusoidal) test machine Shaking table

GB/T 5170.14-2009 Environmental testing for electric and electronic test equipment basic parameters of vibration (sinusoidal) test with an electric Shaking table

GB/T 5170.15-2009 Environmental testing for electric and electronic test equipment basic parameters of vibration (sinusoidal) test hydraulic Shaking table

GB/T 6592 Electrical and electronic measurement equipment - Expression of performance

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Complex stiffness complexstiffness By the elastic force structure and its damping force orthogonal to the synthesis isolator dynamic transmission ratio of the force and the corresponding displacement.

3.2 Dynamic stiffness dynamicstiffness On the isolator dynamic elastic force than the corresponding displacement of the role.

3.3 Loss of stiffness lossofstiffness Acting on the spacer and the displacement is proportional to the ratio of the speed of the opposite phase structure and a corresponding displacement of the damping force. Isolator loss just is the degree of isolation structure damping.

3.4 Loss factor lossfactor Loss ratio of the elastic stiffness and rigidity that than isolation structure and the elastic stiffness of the damping coefficient.

3.5 Shock stiffness shockstiffness Isolator impact than the elastic force of its impact displacements.