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**Performance requirements and test
methods of vehicle vacuum check valve**

汽车真空单向阀性能要求及试验方法

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Ministry of Industry and information Technology of PRC.
Announcement
Year 2016 No.3

It is hereby announced that the Ministry of Industry and Information Technology approved 643 industry standards (standard numbers, names, major contents and starting date of implementation can refer to Annex) including the *Piston Vacuum Pump*; thereof, there are 214 mechanical industry standards, 7 automotive industry standards, 1 aviation industry standard, 59 light industry standards, 110 chemical industry standards, 21 metallurgical industry standards, 6 building material industry standards, 20 petrochemical industry standards, 6 civil explosion industry standards, 132 electronic industry standards, and 67 communication industry standards.

The above mechanical industry standards are published by Mechanical Industry Press; automotive industry standards are published by Science and Technology Literature Press; engineering construction standards in chemical industry are published by China Planning Press; aviation industry standard is organized to publish by China Aero-Polytechnology Establishment; light industry standards are published by China Light Industry Press; chemical industry standards are published by Chemical Industry Press; metallurgical industry standards are published by Metallurgical Industry Press; building material industry standards are published by Building Material Industry Press; petrochemical industry standards are published by China Petrochemical Press; civil explosion industry standards are organized to publish by Nuclear Research Institute of Standardization of China Ordnance Industry; electronic industry standards are organized to publish by China Electronics Standardization Institute of Ministry of Industry and Information Technology; communication industry standards are published by People's Posts and Telecommunications Press.

Annex: standard numbers, names, starting dates of implementation of 7 automotive industry standards

Ministry of Industry and Information Technology of PRC.

January 15, 2016

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009 Directive for standardization – Part 1: Structure and drafting of standards.

This standard was proposed by AND shall be under the jurisdiction of the National Automotive Standardization Technical Committee (SAC/TC 114).

The drafting organizations of this standard: Shanghai Automotive Brake System Co., Ltd., Ningbo Qiaoshi Rubber Co., Ltd., China First Automobile Co., Ltd. Technology Center, Jilin Dongguang Awei Automobile Brake System Co., Ltd., Pan Asia Automotive Technology Center Co., Bosch Automotive Components (Suzhou) Co., Ltd.

The main drafters of this standard: Ge Hong, Bo Fanbin, Zhu Xianqiao, Lin Dahai, Zhang Yuhai, Wang Qiang, Qi Gang, Pu Xinyu, Zheng Wenhui.

Performance requirements and test methods of vehicle vacuum check valve

1 Scope

This standard specifies the terms and definitions, performance requirements, and bench test methods of the vacuum check valve for automotive braking system.

This standard is applicable to the vacuum check valve for all kinds of automotive braking system (hereinafter shortly referred to as “check valve”).

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this Standard.

GB 11121-2006 Gasoline engine oils

GB 11122-2006 Diesel engine oils

GB 17930-2013 Gasoline for motor vehicles

GB 18351-2013 Ethanol gasoline for motor vehicles (E10)

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1

Interval vacuum check valve

It refers to the check valve which is installed in the vacuum hose.

3.2

External vacuum check valve

It refers to the check valve for which one end is connected to the vacuum source AND the other end is connected to the vacuum hose or other devices.

4 Performance requirements

4.1 Vacuum sealability

4.1.1 Normal temperature vacuum sealability.

When tested in accordance with 6.1.1, the pressure rise shall not be greater than 1 kPa.

4.1.2 High temperature vacuum sealability.

When tested in accordance with 6.1.2, the pressure rise shall not be greater than 2 kPa.

4.1.3 Low temperature vacuum sealability.

When tested in accordance with 6.1.3, the pressure rise shall not be greater than 2 kPa.

4.2 Vacuum openness

When tested in accordance with 6.2, the vacuum output end of the check valve shall produce output.

4.3 Air pressure sealability

When tested in accordance with 6.3, the pressure drop shall not be greater than 0.2 kPa.

4.4 Condensation

When tested in accordance with 6.4, the check valve vacuum opening shall comply with the requirements of 4.2.

4.5 Medium resistance

When tested in accordance with 6.5, the check valve shall be free from crack or damage; the normal temperature vacuum sealability of the check valve shall comply with the requirements of 4.1.1, AND the vacuum openness shall comply with the requirements of 4.2.

4.6 Durability

When tested in accordance with 6.6, the normal temperature vacuum sealability of the check valve shall comply with the requirements of 4.1.1, AND the vacuum openness shall comply with the requirements of 4.2.

4.7 Compressive strength

When the external check valve is tested in accordance with 6.7, the shell and welds shall be free from damage.