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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 14514-2013

Replacing GB/T 14514.1-1993

Test methods of pneumatic fluid power fittings

气动管接头试验方法

Issued on: September 18, 2013 **Implemented on: June 1, 2014**

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 14514.1-1993 "pneumatic fittings Test methods." This standard compared with GB/T 14514.1-1993, the main changes are as follows:

--- The original "reference standard" to "normative references", and change the content;

3 Terms and Definitions" and content;

--- The "connection strength test" to "pull split test" and add and modify content;

--- Pilot projects to increase the "pressure rated Verification Test" project and test methods;

--- Modify the "leak test" and content "pressure test";

--- Remove the "1" and in "This standard does not apply to pneumatic fitting cylindrical quick test" content;

--- Added "other requirements" and content;

--- Increased "visual inspection" project and test methods;

7 Marking explanation";

--- Delete "Appendix A", the contents of which added to the standard text. The standard proposed by China Machinery Industry Federation. This standard by the National Standardization Technical Committee of hydraulic and pneumatic (SAC/TC3) centralized. This standard is drafted by: date Zhejiang billion Pneumatic Technology Co., Ltd. Participated in the drafting of this standard. pneumatic Wuxi Institute of Technology Co., Ltd. Yangzhou City Jiangdu Yong Jian, Ningbo Sono industrial automation Control Equipment Co., Ltd. Ningbo aerodynamic package, Ningbo AirTAC Automation Industry Co., Ltd., Ningbo Isaiah Pneumatic Set Ltd., Zhejiang Braun Pneumatic Technology Co., Ltd. Fenghua City Bong-automation Industrial Limited. The main drafters of this standard. Wang Jian Guang, Wang Wenkui, Yang Sui Ran, Zhanglian Ren, Feng Jianguo, silver unit, Zhang excellent wave, Xiajia Yong, Yang Chen early, Liu Yong, Lin Kaifeng, FAN Hai Lang, Jiang Jiansheng, Jiangbao Zhong. This standard replaces the standards previously issued as

follows:

--- GB/T 14514.1-1993.

In the pneumatic system, the power is through a closed loop within the compressed air to pass and control. With each element fittings and takeovers are interconnected via the air inlet. Pneumatic fittings Test methods

1 Scope

China's national test methods for pneumatic fittings - the push-in connectors, quick couplings and threaded fittings that join the rigid tube and the flexible hose of a compressed air circuit, and whose failure mode is not dramatic but cumulative: a plant loses a large fraction of its compressed air, and therefore of its energy bill, through fittings that leak a little each. The standard specifies the test methods for the fittings used with rigid tube and with hose in pneumatic systems. It applies to the fittings for pneumatic systems that use compressed air as the working medium at a maximum working pressure of 1.6 MPa. The tests are the ones that decide whether a fitting can be relied on over a plant's life: the leakage under pressure, internally and to atmosphere; the proof and burst pressure of the assembly; the pull-out or gripping force, which is what keeps a tube in a push-in connector under pressure and under vibration; the repeated connection and disconnection endurance of the quick couplings; the resistance to bending, to vibration and to impulse pressure cycling; and the flow characteristics, determined in accordance with GB/T 14513, which is what tells a designer how much of the supply pressure the fitting itself will cost. The port and stud end dimensions follow GB/T 14038 and the cylindrical quick couplings GB/T 22076, with the vocabulary taken from GB/T 17446 and the push-in connectors for thermoplastic tubes aligned with ISO 14743. Issued on 18 September 2013 and in force since 1 June 2014, it replaces GB/T 14514.1-1993.

This standard specifies the pneumatic tube system hardware, test methods hose pipe joint. This standard applies to compressed air as the working medium, the maximum working pressure of 1.6MPa pressure transmission medium hard pipe, hose tube Test joints.

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 14038 Pneumatic connection Ports and stud ends Determination of

GB/T 14513 flow characteristics of pneumatic components

GB/T 17446 Fluid power systems and components - Vocabulary

GB/T 22076 cylindrical pneumatic quick couplings - Plug connecting dimensions,

specifications, application guidelines and testing

ISO 14743 Pneumatic plug-in for plastic pipe fittings (Pneumaticfluidpower-Push-inconnectors forthermoplastictubes)

3 Terms and Definitions

GB/T 17446 define the terms and definitions apply to this document.

4 Symbol

Symbols and units Table 1. Table

1 Symbols and units Symbol Unit Name Pressure p MPa MPa Newton force FN Frequency f Hz Hz Time ts seconds Amplitude Y mm mm The radius of curvature r mm mm Take over the length L mm mm Take over the outer diameter D mm mm Delta mm mm wall thickness takeover