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

GB/T 14038-2025

Replacing GB/T 14038-2008

Connections for pneumatic fluid power - Ports and stud ends

气动连接 气口和螺柱端

(English Translation)

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Table of Contents

Preface
Introduction
1 Scope
2 Normative References
3 Terms and Definitions
4 Size Requirements
5 Performance Requirements
6 Testing Methods
7 Logo 8.
8 Labeling Instructions
Appendix A (Informative) Center Distance of Air Inlets
Appendix B (Informative) Example 12 of Sealing Methods
Reference

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document replaces GB/T 14038-2008 "Pneumatic Connection Ports and Stud Ends". Compared with GB/T 14038-2008, except for the structure...

Aside from adjustments and editorial changes, the main technical changes are as follows.

- a) Warnings have been added to the scope (see Chapter 1);
- b) The term "protrusion" and its definition have been added (see 3.1);
- c) The torque requirements for leak testing have been changed (see 6.3.2, 2008 version of 6.3.2);
- d) The test cycle and pass/fail criteria for periodic durability testing have been changed (see 6.4.1, 6.4.4, and 6.4.1 in the 2008 version).
- 6.4.4);
- e) The torque requirements for the overload tightening test have been changed (see 6.5.2, 2008 version of 6.5.2).

This document is modified to adopt ISO 16030:2022 "Pneumatic Transmission Connections - Air Ports and Studs".

Compared with ISO 16030:2022, this document has undergone the following structural adjustments.

---Appendix A corresponds to Appendix B of ISO 16030:2022;

---Appendix B corresponds to Appendix A of ISO 16030:2022.

The technical differences between this document and ISO 16030:2022, and the reasons therefor, are as follows.

---ISO 5598 (see Chapter 3) has been replaced with the normatively referenced GB/T 17446 to adapt to my country's technical conditions and improve reliability.

Operability;

---ISO 228-1 has been replaced with the normatively referenced GB/T 7307 (see Tables 1 and 2) to adapt to my country's technical conditions and improve reliability.

Operability;

---ISO 261 has been replaced with the normatively referenced GB/T 193 (see Tables 1 and 2) to adapt to my country's technical conditions and improve operability.

Actual nature;

---ISO 3448 has been replaced with the normatively referenced GB/T 3141 (see 6.1.5) to adapt to my country's technical conditions and improve operability.

Actual nature;

---The torque requirements for leak testing have been modified (see 6.3.2, ISO 16030:2022) to adapt to my country's technical conditions, improving...

High operability;

---ISO 8778 (see 6.4.4) has been replaced with the normatively referenced GB/T 28783 to adapt to my country's technical conditions and improve operability.

Actual nature;

---The torque requirement for the overload tightening test has been changed (see 6.5.2, ISO 16030:2022) to adapt to my country's technical requirements.

This improves operability.

The following editorial changes have been made to this document.

---Change the standard name to "Pneumatic Connection Port and Stud End";

---Notes have been added to the range;

---The drawing has been redrawn according to my country's mechanical engineering drawing standards;

---The URLs for the terminology databases maintained by ISO and IEC for standardization have been removed;

---The source of the terms and definitions in section 3.1 has been removed;

---The phrase "see 6.3" has been removed from section 6.4.3;

---The caption for Figure A.1 has been changed.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Hydraulics and Pneumatics (SAC/TC3).

Introduction

In a pneumatic system, power is transmitted and controlled through compressed air in the circuit.

Each pneumatic component is primarily connected to the others via threaded air ports and various pipe fittings such as pipe connectors and connecting pipes with studded ends. The air port is...

Components of fluid transmission elements (such as valves, cylinders, and filters).

Pneumatic connection between air port and stud end

1 Scope

This document specifies the dimensions and performance requirements for the air inlet and stud end of pneumatic cylindrical threads. It is designed to meet the requirements of -0.09MPa to 1.6MPa.

The connection must be leak-free within the pressure range, requiring reusable and pressure-holding seals.

This document applies to the threaded ports and stud ends of newly designed pneumatic components.

Warning. Ports and stud ends conforming to ISO 1179 (all parts) or threads conforming to ISO 7-1 cannot be used with the ports specified in this document.

Connect to the stud end.

Note: Threads conforming to ISO 7-1 for ports and stud ends are for ISO 1179-1, but not for this document, because the thread depth specified in this document and ISO 1179-1 is different.

Significant differences exist, as shown in Figure 1 for delta1 and delta2.

Figure 1 shows that the thread depth requirements in this document (left) and ISO 1179-1 (right) are different.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 193 Standard Thread Diameters and Pitches (GB/T 193-2003, ISO 261:1998, MOD)
GB/T 3141 Industrial liquid lubricants - ISO viscosity classification (GB/T 3141-1994, eqv ISO 3448:1992)
GB/T 7307 55° Non-sealing pipe thread (GB/T 7307-2001, eqv ISO 228-1:1994)
GB/T 17446 Glossary of Fluid Transmission Systems and Components (GB/T 17446-2024, ISO 5598:2020, MOD)
GB/T 28783 Pneumatic Standard Reference Atmosphere (GB/T 28783-2012, ISO 8778:2003, IDT)

3 Terms and Definitions

The terms and definitions defined in GB/T 17446 and the following terms and definitions apply to this document.