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

GB/T 7939.1-2024

Replacing GB/T 26143-2010

**Connections for hydraulic fluid power - Test methods - Part 1:
Connectors
(English Translation)**

Issued on: March 15, 2024

Implemented on: October 1, 2024

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is part 1 of GB/T 7939 "Test methods for hydraulic transmission connections". GB/T 7939 has been published in the following parts.

- Part 1: Pipe fittings;
- Part 2: Quick-change connectors;
- Part 3: Hose assemblies.

This document replaces GB/T 26143-2010 "Test methods for hydraulic pipe joints". Compared with GB/T 26143-2010, except for structural adjustment in addition to the integration and editorial changes, the main technical changes are as follows.

- a) The applicable scope of the standard has been deleted (see Chapter 1 of GB/T 26143-2010);
- b) Added the compliance standards and working pressure requirements for steel pipes (see Table 1);
- c) The hardness of the test connection block has been changed (see 4.2.1, 11.2, 4.2.1, 11.2 of GB/T 26143-2010);
- d) The requirements for recording test results and test conditions have been changed (see 4.4, 4.4 of GB/T 26143-2010);
- e) Changed some parameter values and test methods of cyclic durability (pulse) test, vibration test, and cyclic durability (pulse) test with vibration.

Steps (see Table 6, Table 9, Table 11, Table 6, Table 9, Table 11 of GB/T 26143-2010);

- f) The properties and test data table in Appendix A have been changed (see Appendix A, Appendix A of GB/T 26143-2010).

This document is equivalent to ISO 19879:2021 "Metallic pipe fittings for fluid transmission and general use - pipe connections for hydraulic transmission experiment method".

The following minimal editorial changes were made to this document.

- In order to coordinate with the existing standards, the name of the standard is changed to "Hydraulic transmission connection test methods Part 1: Pipe joints";
- The serial number of the parts is deleted in Table 1 and a note is added;
- Deleted the unit "bar" and the corresponding value;
- 9.1 Added notes.

Introduction

In hydraulic fluid power systems, power is transmitted and controlled by pressurized fluid in a closed circuit. Pipe fittings must be designed to meet in order to determine whether the pipe joints meet the design and use requirements, performance testing of the pipe joints is required.

GB/T 7939 specifies the test methods for hydraulic transmission connection elements and consists of three parts.

- Part 1: Pipe joints. The purpose is to determine the test and evaluation methods for the performance of pipe joints used in hydraulic transmission systems.
- Part 2: Quick-change connectors. The purpose is to determine the test and evaluation methods for the performance of quick-change connectors used in hydraulic transmission systems.

--- Part 3: Hose assemblies. The purpose is to determine the test and evaluation methods for the performance of hose assemblies used in hydraulic transmission systems.

Test methods for hydraulic transmission connections Part 1: Pipe fittings

1 Scope

This document describes the testing and performance evaluation of various types of steel pipe connections, stud end connections and flange connections used in hydraulic transmission.

unified approach.

The tests described in this document are independent of each other and are the documents that each test follows. For specific test items and performance requirements, see Corresponding standard documents.

For the qualification judgment of pipe joints, the minimum number of test samples specified in this document shall be used for testing, unless otherwise specified in the relevant pipe joint standards.

Unless otherwise specified or agreed upon between the manufacturer and the user.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

ISO 48-2 Rubber, vulcanized or thermoplastic - Determination of hardness - Part 2: Rubber hardness between 10 IRHD and 100 IRHD (Rub-100IRHD) tion) Note. GB/T 3141-1994 Industrial liquid lubricants ISO viscosity classification (eqvISO 3448.1992) ISO 3601-3 Fluid power systems - O-rings - Part 3: Quality acceptance criteria Note. GB/T 3452.2-2007 O-rings for hydraulic and pneumatic applications Part 2: Appearance quality inspection specification (ISO 3601-3:2005, IDT) Note. GB/T 17446-2024 Fluid power systems and components vocabulary (ISO 5598:2020, MOD) ISO 6508-1 Metallic materials Rockwell hardness test Part 1: Test method (Metallicmaterials-Rockwelhard-nesstest-Part 1: Testmethod) Note. GB/T 230.1-2018 Rockwell hardness test for metallic materials Part 1: Test method (ISO 6508-1:2016, MOD) andhoseassemblies) Note. GB/T 7939.3-2023 Hydraulic transmission connection test methods Part 3: Hose assemblies (ISO 6605:2017, IDT) ISO 6743-4 Lubricants, industrial oils and related products (Class L) Classification Part 4: Group H (Hydraulic systems) draulicsystems)] Note. GB/T 7631.2-2003 Classification of lubricants, industrial oils and related products (Class L) Part 2: Group H

(Hydraulic systems) (ISO 6743-4.

1999, IDT)

ISO 10763 Hydraulic fluid seamless or welded plain end precision steel tube dimensions and nominal pressures