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GB/T 41981.1-2022

Connections for hydraulic fluid power - Couplings for diagnostic purposes - Part 1: Coupling not for connection under pressure

Issued on: October 12, 2022 **Implemented on: October 12, 2022**

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 of Standardization Documents" drafted.

This document is the first part of GB/T 41981 "Hydraulic Transmission Connection Pressure Measuring Joints". GB/T 41981 has issued the following

part.

--- Part 1.Non-pressurized connection type;

--- Part 2.Can be connected under pressure.

This document is modified to adopt ISO 15171-1.1999 "Hydraulic fittings for fluid transmission and general purpose fittings for diagnostic purposes"

Part 1.Fittings for Non-Pressure Connections".

This document has the following structural adjustments compared to ISO 15171-1.1999.

---4.2, 4.3, 4.4, 4.5 correspond to 4.1, 4.2, 4.3, 4.4 of ISO 15171-1.1999 respectively.

The technical differences between this document and ISO 15171-1.1999 and their reasons are as follows.

--- Changed the scope (see Chapter 1, Chapter 1 of ISO 15171-1.1999) to adapt to the technical conditions of our country;

--- Replaced ISO 6149-1 (see Chapter 1) with the normatively cited GB/T 2878.1 to adapt

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to my country's technical conditions and improve

Operability;

--- Replaced ISO 5598.1985 (see Chapter 3) with the normatively cited GB/T 17446 to adapt to the technical conditions of our country,

high operability;

--- Delete the definition of "quick connection" (see 3.1 of ISO 15171-1.1999) to adapt to the technical conditions of our country;

--- Added general rules for performance requirements (see 4.1) to adapt to my country's technical conditions and improve operability;

--- Added normative reference to ISO 18869 (see 4.3) to adapt to my country's technical conditions and improve operability;

--- Added normative reference to GB/T 26143 (see 4.5) to adapt to my country's technical conditions and improve operability;

--- Delete the normative reference ISO 8434-5.1995 (see ISO 15171-1.1999, 4.4) to adapt to our country's technology

condition;

--- Replaced ISO 6149-2 (see 4.5, Chapter 5) with the normatively cited GB/T 2878.2 to adapt to the technical conditions of our country,

improve operability;

--- Change the surface roughness (Ra) of paragraph "4.57" in footnote d from "<=2.5μm" to "<=3.2μm" (see Figure 1) to adapt to our country

technical conditions to improve operability;

--- Replaced ISO 9227.1990 (see 6.3) with the normatively quoted GB/T 10125 to adapt to the technical conditions of our country and improve the availability

operational;

--- Changed the requirements for surface treatment (see 6.3, 6.3 of ISO 15171-1.1999) to adapt to the technical conditions of our country and improve the availability

operational;

--- Replaced ISO 1629.1995 (see Chapter 7) with the normatively cited GB/T 5576 to adapt to the technical conditions of our country and improve

Operability.

The following editorial changes have also been made to this document.

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--- In order to coordinate with the existing standards, the standard name is changed to "Hydraulic Transmission Connection Pressure Measuring Joint Part 1.Non-pressurized Connection Type".

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

Pressure measuring joint is an important component of fluid transmission system testing, mainly used for sampling, pressure, temperature and other parameters of fluid system diagnosis.

GB/T 41981 aims to standardize the dimensions, performance requirements and test methods of pressure measuring joints in hydraulic transmission connections, and consists of two parts.

--- Part 1.Non-pressurized connection. The purpose is to determine the dimensions, performance requirements and

experiment method.

--- Part 2.Can be connected under pressure. The purpose is to determine the size, performance requirements and testing

test method.

Hydraulic transmission connection pressure measuring joint

Part 1.Non-pressurized connection

1 Scope

This document specifies that the stud end thread is M14x1.5, and the maximum working pressure is

Performance requirements, design, manufacture, naming and marking of 40MPa pressure measuring joints.

This document applies to pipe joints of hydraulic systems using mineral oil as the working medium.

Note. When used for non-mineral oil working medium, it should be negotiated by both the supplier and the buyer.

2 Normative references

The contents of the following documents constitute essential provisions of this document

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through normative references in the text. Among them, dated citations

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

this document.

GB/T 2878.1 Hydraulic transmission connections with metric threads and O-ring seals for oil ports and stud ends - Part 1.Oil ports

(GB/T 2878.1-2011, ISO 6149-1.2006, IDT)

GB/T 2878.2 Hydraulic transmission connections with metric threads and O-ring seals for oil ports and stud ends - Part 2.Heavy duty studs

End (S series) (GB/T 2878.2-2011, ISO 6149-2.2006, MOD)

GB/T 5576 Rubber and Latex Nomenclature (GB/T 5576-1997, idtISO 1629.1995)

GB/T 10125 Artificial Atmosphere Corrosion Test Salt Spray Test (GB/T 10125-2021, ISO 9227.2017, MOD)

GB/T 17446 Vocabulary of Fluid Transmission Systems and Components (GB/T 17446-2012, ISO 5598.2008, IDT)

GB/T 26143 Test method for hydraulic pipe joints (GB/T 26143-2010, ISO 19879.2010, IDT)

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3 Terms and Definitions

Terms and definitions defined in GB/T 17446 apply to this document.

4.1 General

Products conforming to the dimensions of this document are not guaranteed to achieve rated performance. Manufacturers are required to conduct tests in accordance with the specifications contained in this document to

Make sure components meet rated performance.

4.2 Working pressure and temperature

The maximum working pressure of the pressure measuring joint should be 40MPa, and the working temperature range should be -20 degrees C~120 degrees C.

NOTE. The operating temperature range of fittings with elastomeric seals depends on the seal.

4.3 Rated flow

The rated flow of the pressure measuring joint should be 3L/min, the maximum pressure

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