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

GB/T 44053-2024

**Hydraulic fluid power - Method for evaluating water separation
performance of dehydrators**

液压传动 净油机水分离性能的试验方法

(English Translation)

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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 equivalent to ISO 18237:2017 "Test method for water separation performance of hydraulic transmission oil purifiers".

The following minimal editorial changes were made to this document.

--- Changed the name of "Moisture sensor" in the "Test parameters" column of Table 1 to coordinate with other test parameters;

--- Added the number of formula (3) in 10.6 to coordinate with other formulas.

Introduction

In the hydraulic system, one of the functions of hydraulic oil is to isolate and lubricate moving parts. The presence of water pollution will not only reduce the lubrication of hydraulic oil, but also reduce the lubrication of hydraulic oil.

The lubricity and filtration properties of the hydraulic oil will increase the oxidation rate, corrode the components, shorten the service life of the filter, cause component wear, and lead to system failure.

This reduces efficiency, shortens component and hydraulic oil life, and causes hydraulic system unreliability.

Oil purifiers are often used to separate water from hydraulic oil, making the water content of the hydraulic oil significantly lower than the water saturation of the hydraulic oil.

It is an independent system that separates water from hydraulic oil according to different principles and methods. This document provides a clear and reliable A repeatable method is used to evaluate the water separation performance of various oil purifiers, making it convenient for users to evaluate similar products on the market through the same method.

Test method for water separation performance of hydraulic transmission oil purifier

1 Scope

This document specifies.

--- Test equipment, test circuits and test procedures for evaluating the water separation performance of oil purifiers;

--- Procedure for preparing test oil;

--- Procedures for obtaining and analyzing test oil samples.

This document applies only to oil purifiers that reduce the relative water saturation of the hydraulic oil to below 20% at the test temperature.

This document provides a procedure for obtaining reproducible water separation performance test results for oil purifiers using the same hydraulic fluid.

Performance comparison under the same test conditions.

The test procedures specified in this document can be used to evaluate the water separation performance of the oil purifier for different types of hydraulic oil under different conditions.

The characteristics of a particular hydraulic fluid may require adjustment of some of the test procedure conditions. For example, hydraulic fluids with high water solubility (many

synthetic and Flame-retardant hydraulic fluids) require a higher water content at the start of the test; hydraulic fluids with zinc-based additives require a Karl Fischer However, the performance of oil filters can be compared under the conditions specified in this document.

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.

(General method)]

ISO 1219-1 Fluid power systems and components Graphical symbols and circuit diagrams Part 1: Graphical symbols for general purposes and data processing applications Note. GB/T 786.1-2021 Fluid power systems and components - Graphical symbols and circuit diagrams - Part 1: Graphical symbols (ISO 1219-1:2012, IDT) Note. GB/T 17489-2022 Analysis of particle contamination in hydraulic transmissions. Extracting liquid samples from working system pipelines (ISO 4021:1992, MOD) Note. GB/T 17446-2024 Fluid power systems and components vocabulary (ISO 5598:2020, MOD) ISO 6743-5 Lubricants, industrial oils and related products (Class L) Classification Part 5: Group T (Turbines) [Lubricants, Note. GB/T 7631.10-2013 Classification of lubricants, industrial oils and related products (Class L) Part 10: Group T (Turbines) (ISO 6743-5.

2006, MOD)

3 Terms and definitions

For the purpose of this document, the terms and definitions defined in ISO 5598 and the following apply.