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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 7939.3-2023

Connections for hydraulic fluid power - Test methods - Part 3: Hose assemblies

液压传动连接 试验方法 第3部分：软管总成

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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 3 of GB/T 7939 "Test Methods for Hydraulic Transmission Connections": GB/T 7939 has issued the following parts:

--- Part 3: Hose assembly: This document replaces GB/T 7939-2008 "Test methods for hydraulic hose assemblies": Compared with GB/T 7939-2008, except for structural adjustment In addition to rectification and editorial changes, the main technical changes are as follows:

a) In the terms and definitions, "cycle durability (pulse) test" (see 3:3) is added, and "maximum working pressure" and "proof pressure" are deleted "Pulse" (see 3:1, 3:3, 3:5 of the:2008 edition), changed the "length change" and "minimum burst pressure" (see 3:1, 3:2, 3:2, 3:4 of the:2008 edition);

b) In the cycle durability (pulse) test, the low-pressure test is added (see 5:6:2:5, 5:6:2:6, Figure 3);

c) Changed the test pressure cycle diagram of the cyclic durability (pulse) test (see Figure 2, Figure 3, Figure 2 of the:2008 edition);

d) Added "adhesive strength test" (see 5:8): This document is equivalent to ISO 6605:2017 "Test methods for fluid transmission hoses and hose assemblies": The following minimal editorial changes have been made to this document:

--- In order to coordinate with existing standards, change the name of the standard to "Hydraulic Transmission Connection Test Method Part 3: Hose Assembly": Please note that some contents of this document may refer to patents: The issuing agency of this document assumes no responsibility for identifying patents: This document is proposed by China

Machinery Industry Federation: This document is under the jurisdiction of the National Hydraulic Pneumatic Standardization Technical Committee (SAC/TC3): This document was drafted by: Ningbo Institute of Product and Food Quality Inspection (Ningbo Fiber Inspection Institute), Zhejiang Songqiao Pneumatic Hydraulic Co:, Ltd: Division, Ningbo Jiurong Hydraulic Equipment Co:, Ltd:, Eaton Hydraulics (Ningbo) Co:, Ltd:, Ningbo Hengtong Fluid Power Technology Co:, Ltd:, Ningbo Xingjian Aerospace Machinery Co:, Ltd:, Tianjin Jingyan Construction Machinery Transmission Co:, Ltd:, Beijing Machinery Industry Automation Research Institute Co:, Ltd: The main drafters of this document: Wang Yangding, Zheng Zhijian, Lou Zhongyu, Chen Ke, Yu Jijian, Yu Yabo, Li Yi, Feng Guoxun, Cao Qiaohui: This document was first released in 1987, revised for the first time in:2008, and this is the second revision:

In a hydraulic fluid power system, power is transmitted and controlled through a pressurized fluid in a closed circuit: The hose assembly is a flexible A flexible fluid conduit is composed of a certain length of hose and pipe joints crimped at both ends: GB/T 7939 specifies the test methods for hydraulic transmission connecting components, and is intended to be composed of three parts:

--- Part 1: Fittings: The purpose is to determine the test and evaluation methods for the performance of pipe joints used in hydraulic transmission systems (now GB/T 26143-2010):

--- Part 2: Quick couplings: The purpose is to determine the test and evaluation methods for the performance of quick-change couplings used in hydraulic transmission systems:

--- Part 3: Hose assembly: The purpose is to define methods of testing and evaluating the performance of hose assemblies for use in hydraulic power transmission systems: Test method for hydraulic transmission connections Part 3: Hose assembly

1 Scope

GB/T 7939.3-2023 is Part 3 of the Chinese series on test methods for hydraulic connections, and covers hose assemblies. A hose assembly is a hose plus two crimped fittings, and its weak point is almost always the crimp rather than the hose: it is where the assembly separates under pressure, sending a jet capable of injecting fluid through skin. That is why the assembly must be tested as a unit, by the party that crimped it, rather than certified from the ratings of its parts. The standard sets the visual inspection, the test items - proof pressure, burst, leakage, impulse and the tests on the fitting retention - the acceptance criteria and the marking instructions. It took effect on 1 December 2023.

This document specifies test methods for evaluating the performance of hose assemblies in hydraulic power connections: This document is applicable to the testing and performance evaluation of hoses and hose assemblies according to relevant technical requirements:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document: assemblies-Hydrostatic testing)

GB/T 5563-2013 Rubber and plastic hoses and hose assemblies hydrostatic test methods (

ISO 1402:2009, IDT) tion)

GB/T 3141-1994 Industrial Liquid Lubricants ISO Viscosity Classification (eqv ISO 3448:1992)

ISO 4671 Rubber and plastics hoses and hose assemblies, methods of measuring hose dimensions and lengths of hose assemblies (Rubberand

GB/T 9573-2013 Rubber and plastic hoses and hose assemblies, hose dimensions and hose assembly length measurement methods (ISO 4671:2007, IDT)

GB/T 17446-2012 Fluid Power System and Component Vocabulary (ISO 5598:2008, IDT)

ISO 5893 Technical requirements for rubber and plastics testing equipment in tension, flexion and compression (constant speed movement) [Rubberandplastics

GB/T 25270-2010 Tensile, flex and compression test equipment (constant speed moving type) technical requirements for rubber and plastics (ISO 5893:2002, IDT)

ISO 6133 Multimodal curve analysis in the determination of tear strength and adhesive strength of rubber and plastics (Rubberandplastics-

GB/T 12833-2006 Multimodal Curve Analysis in Determination of Tear Strength and Adhesive Strength of Rubber and Plastics (ISO 6133:1998, IDT)

GB/T 14905-2020 Determination of adhesive strength between layers of rubber and plastic hoses (

ISO 8033:2016, IDT) ISO /T R11340 Rubber and rubber products hydraulic hose assemblies hydraulic system external leakage classification (Rubberandrubber

Note: GB /Z 18427-2001 hydraulic hose assembly hydraulic system external leakage classification (idtISO /T R11340:1994) ISO /T S17165-