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CCS J20



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

GB/Z 43482-2023

**Hydraulic fluid power - Hose and hose assemblies - Method of
collecting a fluid sample for analyzing the cleanliness of a hose
or hose assembly**

液压传动 软管和软管总成 收集流体样本分析清洁度的方法

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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 is equivalent to ISO /T S18409:2018 "Hydraulic transmission hoses and hose assemblies collecting fluid samples for analysis of cleanliness" Method", the document type was adjusted from ISO technical specifications to my country's national standardization guiding technical documents: Please note that some content in this document may be subject to patents: The publisher 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 and Pneumatic Standardization Technical Committee (SAC/TC3): This document was drafted by: Shenzhen Kesten Hydraulic Equipment Co., Ltd., Guangzhou High-Speed Railway Measurement and Inspection Co., Ltd., Zhejiang Songqiao Gas Hydraulic Hydraulic Co., Ltd., Jiangsu Yaokun Hydraulic Co., Ltd., Xiamen Qinghua Intelligent Transmission Co., Ltd., Jinan Hydraulic Pump Co., Ltd., Ningbo Product and Food Quality Inspection Institute (Ningbo Fiber Inspection Institute), Beijing Machinery Industry Automation Research Institute Co., Ltd: The main drafters of this document: Wang Xueguo, Chen Guoguang, Lou Zhongyu, Zhou Feng, Liu Chuanfeng, Zheng Zhijian, Xie Shangbin, Cao Qiaohui:

In hydraulic fluid power systems, power is transmitted and controlled through pressurized fluid in a closed circuit: In the circuit, fluid passes through Pipes flow between components: Piping includes hoses and hose assemblies: In a hydraulic system, fluid has the function of lubricating the moving parts of hydraulic components: Solid particles in hydraulic oil can cause component wear and lead to Resulting in reduced efficiency, shortened component life and reduced reliability: Therefore, the contamination level of hydraulic oil is critical to the trouble-free operation of the system and extending its service life: Life is very important: The cleanliness of components after manufacturing and before being put into use must meet the requirements: Before installation, collect fluid samples from the hose or hose assembly:

Ben, analyze cleanliness: Hydraulic transmission hoses and hose assemblies Methods of collecting fluid samples for analysis of cleanliness

1 Scope

GB/Z 43482-2023 specifies how to sample a hose assembly to find out how clean it is inside. Particulate contamination is the dominant cause of hydraulic component failure, and a new hose assembly is a significant source of it: cutting the hose to length leaves rubber and wire debris in the bore, and crimping the fittings adds more. That debris goes into the system on first pressurisation and reaches the servo valves and pumps that have the tightest clearances. Cleanliness classes are therefore specified in purchase orders, and the difficulty is that the answer depends entirely on how the sample was taken - flush volume, flow rate and technique - so an assembly can be shown clean or dirty by choosing the method. This document describes two methods for collecting fluid samples to analyse the cleanliness of hoses and hose assemblies within specified ranges of internal diameter and length. As a GB/Z it is a guiding technical document. Under ICS 23.100.40 and CCS J20, it is written for hose assembly manufacturers, for the machine builders and end users who specify cleanliness levels, and for the laboratories reporting particle counts.

This document describes two methods for collecting fluid samples for analysis of hydraulic hoses or hose assemblies within a specified range of inside diameters and lengths:

Cleanliness: This document is a specific application of ISO 18413:2015, see Appendix A and Appendix B: The two methods given in this document are only suitable for collecting solid particle pollutants and are not suitable for collecting liquid or grease pollutants: This document does not provide cleaning methods for hose assemblies during the production process:

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document:

GB/T 17484-1998 Identification and control of purification methods for hydraulic oil sampling containers (idt ISO 3722:1976)

GB/T 27613-2011 Hydraulic transmission liquid contamination is determined by weighing method (ISO 4405:1991, MOD)

GB/T 14039-2002 Hydraulic transmission oil solid particle pollution level code (ISO 4406:1999, MOD)

ISO 4407 Hydraulic fluid contamination method for determination of particle contamination

using optical microscopy (Hydraulicfluidpow- opticalmicroscope)

GB/T 20082-2006 Hydraulic transmission fluid contamination method for determining particle contamination using optical microscope (ISO 4407:2002, IDT)

GB/T 12804-2011 Laboratory glass instrument measuring cylinder (ISO 4788:2005, NEQ)

GB/T 17446-2012 Fluid transmission system and component vocabulary (ISO 5598:2008, IDT)

ISO 11500 Hydraulic transmission uses an automatic particle counting method based on the shading principle to determine the particle contamination of liquid samples (Hydraulicfluid

GB/T 37163-2018 Hydraulic transmission uses an automatic particle counting method based on the shading principle to determine the particle contamination level of liquid samples (ISO 11500:2008, MOD)

ISO 18413 Inspection documentation related to collection, analysis and data reporting of cleanliness and contamination of hydraulic transmission parts and components