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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 15623.3-2022

Replacing GB/T 15623.3-2012

Hydraulic fluid power - Electrically modulated hydraulic control valves - Part 3: Test methods for pressure control valves

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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 third part of GB/T 15623 "Hydraulic Transmission Electric Modulation Hydraulic Control Valve". GB/T 15623 has been released to

the next part.

--- Part 1.Test methods for four-way directional flow control valves;

--- Part 2.Test methods for three-way directional flow control valves;

--- Part 3.Test methods for pressure control valves.

This document replaces GB/T 15623.3-2012 "Hydraulic Transmission Electric Modulation Hydraulic Control Valve Part 3.Pressure Control Valve Test Method

Compared with GB/T 15623.3-2012, except for structural adjustment and editorial changes, the main technical changes are as follows.

a) Changed the ambient temperature from "20°C +/- 10°C" to "20°C +/- 5°C" (see Table 2, Table 2 of the.2012 edition);

b) Changed the way of citing dates in GB/T 3141 (see Table 2, 11.2.1, Table 2 and 11.2.1 of the.2012 edition);

c) The requirements for the temperature of the test oil are deleted (see Table 2 of the.2012 edition);

d) Changed the graphic symbols of components in Figure 1, Figure 2 and Figure 3 (see Chapter 5, Chapter 5 of the.2012 edition);

e) Changed the compliance standard of the meter accuracy, from "JB/T 7033-2007" to "ISO 9110-1"; changed the meter accuracy

Requirements for temperature in the.2012 edition (see 6.1, 6.1 of the.2012 edition);

f) Changed the holding time of the withstand voltage test from "5min" to "30s" (see 8.1.2.2, 8.1.2.3, 9.1.2.2 and 9.1.2.3,.2012

year editions 8.1.2.2, 8.1.2.3, 9.1.2.2 and 9.1.2.3);

g) Change "the volume of the pressure chamber should not be greater than 1.5% of the rated flow of oil" to "the volume of the controlled pressure should be less than the rated flow"

1.5% of the volume of oil" (see 8.2.2, 9.2.2, 8.2.2, 9.2.2 of the.2012 edition);

h) The action characteristic curves of relief valve and pressure reducing valve are added (see Figure 10 and Figure 14).

This document is modified to adopt ISO 10770-3.2020 "Hydraulic Transmission Electrically Modulated Hydraulic Control Valves - Part 3.Pressure Control Valve Tests"

method".

The technical differences between this document and ISO 10770-3.2020 and their reasons are as follows.

--- Increased the scope of application (see Chapter 1) to adapt to the technical conditions of our country;

--- Added the term and definition "threshold" (see Chapter 3) to adapt to our country's technical conditions;

--- Replaced ISO 5598 (see 3.1) with the normatively cited GB/T 17446 to adapt to my country's technical conditions and improve operability

action;

--- Added normative references GB/T 786.1, GB/T 4728.1 (see 3.2) to adapt to my country's technical conditions and improve operability

action;

--- Replaced ISO 3448.1992 with the normatively cited GB/T 3141 (see Table 2, 11.2.1) to adapt to my country's technical conditions,

improve operability;

--- Replaced ISO 6743-4 (see Table 2) with the normatively cited GB/T 7631.2 to adapt to my country's technical conditions and improve operability

action;

--- Replaced ISO 4406 with the normatively cited GB/T 14039 (see Table 2) to adapt to my country's technical conditions and improve operability.

action;

--- Changed the way of citing the date of ISO 9110-1 (see 6.1) to adapt to my country's technical conditions and improve operability;

--- Replaced ISO 10771-1 (see Chapter 10) with the normatively cited GB/T 19934.1 to adapt to my country's technical conditions, improve

High operability.

The following editorial changes have been made to this document.

--- Deleted the equivalent unit of pressure "(bar)".

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

Introduction

GB/T 15623 aims to standardize the test methods for the performance of electrically modulated hydraulic control valves, and consists of three parts.

--- Part 1.Test methods for four-way directional flow control valves. The purpose is to determine the four-port proportional, servo-type directional flow control valve performance

able test method.

--- Part 2.Test methods for three-way directional flow control valves. The purpose is to determine the three-port ratio, servo-type directional flow control valve performance

able test method.

--- Part 3.Test methods for pressure control valves. The purpose is to determine a test method for the performance of proportional, servo-type relief and pressure reducing valves.

This document describes the test methods for electrically modulated relief valves and pressure reducing valves. The function of these types of electrically modulated pressure control valves is determined by setting

electrical signals to regulate pressure.

The overflow valve is used to control the pressure value in the closed cavity. When the pressure exceeds the set pressure, the pressure is reduced by overflowing the excess flow.

Spilled flow is drained directly back to the tank.

The pressure reducing valve is used to control the pressure value in the closed cavity. When the pressure exceeds the set pressure, it reduces the pressure by restricting the inflow flow.

The design of the system and the location of the valve in the circuit determine the choice of valve type.

The purpose of this document is to improve the standardization of valve testing and, in turn, the consistency of recorded valve performance data so that these data

Used in system design without having to consider the source of the data.

Hydraulic transmission electric modulation hydraulic control valve

Part 3.Test methods for pressure control valves

1 Scope

This document describes a test method for the performance characteristics of electrically modulated hydraulic pressure control valves.

This document applies to the electric modulation relief valve (hereinafter referred to as "relief valve"), electric modulation pressure reducing valve (hereinafter referred to as "reduction valve") for general hydraulic equipment

pressure valve").

2 Normative references

The contents of the following documents constitute essential provisions of this document 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 786.1 Graphical symbols and circuit diagrams of fluid transmission systems and components - Part 1.Graphical symbols (GB/T 786.1-

2021, ISO 1219-1.2012, IDT)

GB/T 3141 ISO Viscosity Classification of Industrial Liquid Lubricants (GB/T 3141-1994, eqvISO 3448.1992)

GB/T 4728.1 Graphical Symbols for Electrical Diagrams Part 1.General Requirements (GB/T 4728.1-2018, IEC 60617

database, MOD)