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

GB/T 8107-2012

Replacing GB/T 8107-1987

**Hydraulic fluid power -- Valves -- Determination of pressure
differential/flow characteristics**

液压阀 压差-流量特性的测定

(English Translation)

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Foreword

This standard is based on GB/T 1.1-2009 given rule drafting.

This standard replaces GB/T 8107-1987 "hydraulic valve pressure - flow characteristics test methods." Compared with the previous version of this standard main technical changes are as follows.

--- The standard name be changed to "hydraulic valve pressure - Determination of flow characteristics";

--- Modify the "Range" chapter, title changed to "scope" to increase the applicability of narrative;

--- Added "normative references", "Terms and Definitions" two chapters;

--- Chapter 4, the title changed to "Symbols and units", according to which the content of ISO 4411:2008 has been adjusted;

--- "Means test" and a chapter 1 Press ISO 4411:2008 Content adjustment;

--- "Test measurement" chapter title to read "measuring method", in which the content was amended and supplemented;

--- After the original chapter of adjustment as the provisions of the chapter "measuring method" "The results of the expression " test results Expression"; for the contents Modified, deleted "dimensionless expression" and "dimensionless expression" and the corresponding icon to increase the "expression pattern of test results

Example "and so on;

--- Delete the original Appendix A "test level" and Appendix B "pipe loss calculation method";

--- Increase in Appendix A "utility unit" and Appendix B "checklist before the test." this standard uses the redrafted law revision using ISO 4411:2008 "hydraulic valve pressure -

Determination of flow characteristics" (in English).

This standard and ISO 4411:2008 and the technical differences for the following reasons.

--- On normative references, this standard has been adjusted technical differences, in order to adapt our technical conditions. Adjustments Focus reflected in Chapter 2, "Normative references", the specific adjustments are as follows.

- equivalents adoption of international standards GB/T 786.1 instead of ISO 1219-1 (see 4.2);

- Modify with international standards of GB/T 2514 instead of ISO 4401 (see 5.2.2);

- Modify with international standards of GB/T 8098 instead of ISO 6263 (see 5.2.2);

- Modify with international standards of GB/T 8100 instead of ISO 5781 (see 5.2.2);

- Modify with international standards of GB/T 8101 instead of ISO 6264 (see 5.2.2);

- equivalents adoption of international standards GB/T 17446 replaces ISO 5598 (see Chapter 3);

- equivalents adoption of international standards GB/T 17487 replaces ISO 10372 (see 5.2.2);

- Modify with international standards of JB/T 7033 instead of ISO 9110-1 (see 5.1.2,6.1).

--- 5.2.6 narrative will "be on the test valve downstream pressure tap" to "upstream valves were tested measurement points." Original and 5.2.7 Contradictions do not meet the description of FIG. 1 expression;

--- 2 modification. phi marked for deletion before the groove width dimension, dimensional tolerances with the symbol "±" marked row; increased cross-sectional ring Line; the parts leads to increase in number and description; phiA manometry hole plate with the valve port is turned on again. Correction of errors and artwork Comply with the provisions of mechanical drawing;

--- Table 2, "Temperature (K)" was changed to "Temperature (°C)", the original and 3 in Table 1 are inconsistent.

This standard made the following editorial changes.

--- "1" and increase the applicability of the chapter describes;

--- Delete "normative references" in ISO 5598 footnote chapter;

--- Table 1, footnote a, increase "Theta --- temperature";

--- 1 Review. Graphical symbols according to GB/T 786.1 standard, the contact line of hollow circular solid dots to modify the hydraulic oil source Symbol, tank painting to a whole tank lid.

The standard proposed by China Machinery Industry Federation.

This standard by the National Standardization Technical Committee of hydraulic and pneumatic (SAC/TC3) centralized.

This standard was drafted. Shanghai Lixin Hydraulic Co., Ltd., Haimen power Hydraulic oil industry limited liability company, Beijing Howard Hydraulic Engineering Industry Group Co., Ltd.

Introduction

In fluid power systems, power is a square enclosed by pressurized fluid transfer and control circuits within the hydraulic valve control system liquid Direction, pressure and flow.

Suffered when the liquid through the hydraulic resistance of the valve, causing the pressure loss, this loss is called pressure.

This standard is intended to unify the hydraulic valve pressure - Determination of flow characteristics, in order to compare the performance of different valves.

Hydraulic valve pressure - Determination of flow characteristics

1 Scope

Determination of steady-state conditions arising in the working medium flows through the hydraulic pressure valve of any particular passage of this standard, and well test Test equipment, procedures, and results express requirements.

This standard applies to hydraulic valve pressure hydraulic fluid as the working medium - Determination of flow characteristics.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 786.1 Fluid power systems and components - Graphic symbols and circuit diagram - Part 1. for general use and data processing of FIG.

Symbol (GB/T 786.1-2009, ISO 1219-1:2006, IDT) GB/T 2514 Hydraulic Four - port directional control valve mounting surface (GB/T 2514-2008, ISO 4401:2005, MOD) GB/T 8098 Hydraulic fluid power - Compensated flow control valve mounting surface (GB/T 8098-2003, ISO 6263:1997, MOD) GB/T 8100 Hydraulic valves, sequence valves, unloading valves, throttle valves and check valves - Mounting surfaces (GB/T 8100-2006, ISO 5781:2000, MOD) GB/T 8101 hydraulic pressure relief valve mounting surface (GB/T 8101-2002, ISO 6264:1998, MOD) GB/T 17446 Fluid power systems and components -

Vocabulary (GB/T 17446-2012, ISO 5598:2008, IDT) GB/T 17487 Four - port and five-port servovalves mounting surface (GB/T 17487-1998, idt ISO 10372:1992) JB/T 7033 Hydraulic measurement techniques General (JB/T 7033-2007, ISO 9110-1:1990, MOD) ISO 9110-2 Hydraulic measurement techniques - Part 2. Closed loop measurement of the average steady-state pressure (Hydraulicfluid power-Measurementtechniques-Part 2. Measurementofaveragesteady-statepressureinaclosed conduit)

3 Terms and Definitions

GB/T 17446 and defined by the following terms and definitions apply to this document.

Pipeline pressure tarepressure differential in addition to the loss of two pressure measurement points outside the valves were tested by the test device generates between.

Measuring the differential pressure measuredpressure differential Between two measurement points measured pressure loss, including loss of pressure valves were tested and the test apparatus.

Traffic flowrate

In the measuring point per unit time through a cross-section of the volume of fluid flow path.