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

**GB/T 23253-2009**

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**Hydraulic fluid power -- Electrically controlled hydraulic pumps  
-- Test methods to determine performance characteristics**

液压传动 电控液压泵 性能试验方法

**(English Translation)**

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## Foreword

This standard is equivalent to using ISO 17559:2003 "electronically controlled hydraulic drive pump performance test method" (in English).

This standard is equivalent translation ISO 17559:2003.

For ease of use, this standard made the following editorial changes.

- Note the increase in the "Scope";
- In the "normative references" in order to replace the corresponding national standards with international standards, increase ISO 1219-2;
- Flow units to L/min instead of dm<sup>3</sup>/min;
- Speed \u200b\u200bunits with r/min instead of min<sup>-1</sup>;
- 6.1.3 Oil Contamination Level in code-named "19/16" to "-/19/16." Appendix A of this standard is a normative appendix.

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 Branch of China Coal Research Institute, State Key

Laboratory of Fluid Power Transmission and Control, Zhejiang University, Guizhou force  
Liyuan Hydraulic AG.

## Introduction

This standard is intended to unify the various test methods for electronic control of the hydraulic pump, in order to compare the performance of different pump. This standard specifies the Test equipment, test procedures and test results of the expression of specific requirements.

GB/T 23253-2009/ISO 17559:2003 Electronically controlled hydraulic drive pump  
performance test method

## 1 Scope

This standard specifies the test method for electronically controlled hydraulic pump (hereinafter referred to as the pump) steady-state and dynamic performance characteristics.

**Note:** This standard is concerned only with the electronic control device related to pump performance test methods.

Covered by this standard pumps have changed the input electrical signal proportional to the output flow or pressure functional. These pumps can be load Sensitive control pumps, servo-controlled pump, it can be electronically controlled variable displacement pump.

Measurement accuracy is divided into A, B, C three, detailed in Appendix A.

## 2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

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 3141 Industrial liquid lubricants - ISO viscosity classification (GB/T 3141-1994, eqvISO 3448.1992) GB/T 14039-2002 Hydraulic fluid level of contamination by solid particles (ISO 4406:1999, MOD) GB/T 17446 Fluid power systems and components Terminology (GB/T 17446-1998, idtISO 5598. 1985) GB/T 17485 hydraulic pumps, motors and integral transmissions - Parameter definitions and letter symbols (GB/T 17485-1998, idtISO 4391. 1983) GB/T 17491 hydraulic pumps, motors and integral transmissions - Determination of steady-state performance (GB/T

17491-1998, idtISO 4409.

1986)

ISO 1219-2 fluid power systems and components - Graphic symbols and circuit diagram - Part 2. Circuit diagram

### 3 Terms and Definitions

GB/T 17446 and established the following terms and definitions apply to this standard.

According to the variable input signals can pump controls the pump output pressure or flow.

To maintain maximum working pressure required minimum flow input command signal.

When the absolute value of the input command signal is zero pressure and flow command signal is the lowest maximum output pressure of the pump.

A working range of the pump. Within this working range, the absolute value of the input signal increases from zero or reduced to zero by the input signal Output pressure and output flow control number does not change.

Subjects range from the outlet of the pump to load the main line valve inlet, the total volume of working oil.

GB/T 23253-2009/ISO 17559:2003