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Third edition
2019-10

Hydraulic fluid power — Valves — Determination of differential pressure/flow rate characteristics

*Transmissions hydrauliques — Distributeurs — Détermination des
caractéristiques de pression différentielle/débit*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 5, *Control products and components*.

This third edition cancels and replaces the second edition (ISO 4411:2008), which has been technically revised. The main changes compared to the previous edition are as follows:

- “volume flow rate” is replaced with “flow rate”;
- “flow rate symbol q_v ” is replaced with “ q ”;
- updated and improved quality of [Figure 1](#) and [Figure 2](#).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure within an enclosed circuit. Hydraulic valves control the direction, pressure or flow rate of the fluid in the system.

When fluid flows through a valve, it encounters some resistance, which results in a loss of pressure; this loss is called the pressure differential.

This document is intended to unify testing methods for hydraulic fluid power valves to enable the pressure differential/flow characteristics of different valves to be compared.