INTERNATIONAL STANDARD

ISO 10770-2

Second edition
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Hydraulic fluid power — Electrically modulated hydraulic control valves —

Part 2: Test methods for three-port directional flow-control valves

Transmissions hydrauliques — Distributeurs hydrauliques à modulation électrique — Partie 2: Méthodes d'essai pour distributeurs de commande de débit à trois voies

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10770-2 was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 8, *Product testing*.

This second edition cancels and replaces the first edition (ISO 10770-2:1998) which has been technically revised.

ISO 10770 consists of the following parts, under the general title *Hydraulic fluid power — Electrically modulated hydraulic control valves*:

— *Part 1: Test methods for four-port directional flow-control valves*

— *Part 2: Test methods for three-port directional flow-control valves*

— *Part 3: Test methods for pressure control valves*

Introduction

This part of ISO 10770 has been prepared with the intention of improving the uniformity of valve testing and hence the consistency of recorded valve performance data so that this data can be used for system design, regardless of the data source.

Hydraulic fluid power — Electrically modulated hydraulic control valves —

Part 2:
Test methods for three-port directional flow-control valves

1 Scope

This part of ISO 10770 describes methods for determining the performance characteristics of electrically modulated hydraulic three-port directional flow-control valves.

This type of electrohydraulic valve controls the direction and amount of hydraulic flow in a hydraulic system.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1219-1, *Fluid power systems and components — Graphical symbols and circuit diagrams — Part 1: Graphical symbols for conventional use and data-processing applications*

ISO 3448, *Industrial liquid lubricants — ISO viscosity classification*

ISO 4406, *Hydraulic fluid power — Fluids — Method for coding the level of contamination by solid particles*

ISO 5598, *Fluid power systems and components — Vocabulary*

ISO 6743-4, *Lubricants, industrial oils and related products (class L) — Classification — Part 4: Family H (Hydraulic systems)*

ISO 9110-1:1990, *Hydraulic fluid power — Measurement techniques — Part 1: General measurement principles*

ISO 10771-1, *Hydraulic fluid power — Fatigue pressure testing of metal pressure-containing envelopes — Part 1: Test method*

IEC 60617-DB-12M, G*raphical symbols for diagrams*

3 Terms, definitions, symbols and units

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5598 and the following apply.

3.1.1
electrically modulated hydraulic directional flow control valve
valve that provides a degree of proportional flow control in response to a continuously variable electrical input signal

NOTE The flow direction can be changed by the input signal.

3.1.2
input signal deadband
portion of input signal that does not produce a controlled flow