
**Hydraulic fluid power — Positive
displacement pumps and motors —
Determination of derived capacity**

*Transmissions hydrauliques — Pompes et moteurs volumétriques —
Détermination de la cylindrée mesurée*



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Published in Switzerland

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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 8426 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 8426:1988), which has been technically revised.

Introduction

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure within an enclosed circuit.

Two types of components of such systems are the positive displacement pump and motor. One of the key performance parameters of these components is derived capacity, which is the volume of fluid displaced per shaft revolution. This International Standard is intended to unify test methods for determining the derived capacity of hydraulic fluid power positive displacement pumps and motors so as to enable the performance of different components to be compared.

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Hydraulic fluid power — Positive displacement pumps and motors — Determination of derived capacity

1 Scope

This International Standard specifies the methods of determining the derived capacity of hydraulic fluid power positive displacement pumps and motors under steady-state conditions and at defined, continuous shaft rotational frequencies.

Units can be tested as a positive displacement pump, with mechanical energy applied to the shaft and hydraulic energy obtained at the outlet fluid connection, or as a motor, with hydraulic energy supplied to the inlet fluid connection and mechanical energy obtained at the shaft.

NOTE Measurement accuracy is divided into three classes A, B and C, which are explained in Annex A.

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 — Graphic symbols and circuit diagrams — Part 1: Graphic symbols for conventional use and data-processing applications*

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

ISO 4409, *Hydraulic fluid power — Positive-displacement pumps, motors and integral transmissions — Methods of testing and presenting basic steady state performance*

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)*

3 Terms and definitions

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

3.1

direction of rotation

direction of rotation as viewed looking at the shaft end

NOTE In cases where doubt exists, a sketch should be provided.

3.2

volume flow rate

volume of fluid crossing the transverse plane of a flow path per unit of time