



**International
Standard**

ISO 8426-1

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

**Part 1:
Two-step Toet method**

*Transmissions hydrauliques — Détermination de la cylindrée
calculée des pompes et moteurs volumétriques —*

Partie 1: Méthode Toet à deux étapes

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Foreword

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

A list of all parts in the ISO 8426 series can be found on the ISO website.

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.

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 pumps and motors. One of the technical parameters of these components is the derived displacement, also known as derived capacity. The term "derived displacement" is preferred over "derived capacity". This document describes the test procedure and analytical approach of the two-step Toet method for the determination of the derived displacement of hydraulic fluid power positive displacement pumps and motors.

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Hydraulic fluid power — Determination of derived displacement of positive displacement pumps and motors —

Part 1: Two-step Toet method

1 Scope

This document specifies the two-step Toet method for the determination of the derived displacement of hydraulic fluid power positive displacement pumps and motors under steady-state conditions. A value for the derived displacement is determined from measurements at multiple shaft speeds.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 4409:2019, *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*

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

unit

hydraulic positive displacement pump or motor

4 Symbols and units

The symbols used throughout this document are based on ISO 4391 and shown in [Table 1](#). Graphical symbols are depicted in accordance with ISO 1219 series.

A diagram showing the use of symbols and graphical symbols is shown in [Figure 1](#).