SLOVENSKI STANDARD
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Fluidna tehnika - Hidravlika - Montažni sistemi - Potrjevanje snažnosti

Hydraulic fluid power -- Assembled systems -- Verification of cleanliness

Transmissions hydrauliques -- Systèmes assemblés -- Vérification de la propreté

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Hydraulic fluid power — Assembled systems — Verification of cleanliness

Transmissions hydrauliques — Systèmes assemblés — Vérification de la propreté

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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 3.

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.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative document:

— an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;

— an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years with a view to deciding whether it should be confirmed for a further three years, revised to become an International Standard, or withdrawn. In the case of a confirmed ISO/PAS or ISO/TS, it is reviewed again after six years at which time it has to be either transposed into an International Standard or withdrawn.

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

ISO/TS 16431 was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 6, *Contamination control*.

Annexes A and B of this Technical Specification are for information only.

Introduction

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

The initial cleanliness level of a hydraulic system can affect its performance and useful life. Unless removed, contaminants present after manufacture and assembly of a system may circulate through the system, causing damage. To limit such damage, the fluid and internal surfaces of the hydraulic fluid power system must be cleaned to an acceptable level.

While this Technical Specification describes a clean-up procedure that uses filters after final assembly of the system, this practice is not a substitute for the use of good practices to achieve and maintain cleanliness prior to final assembly.

Hydraulic fluid power — Assembled systems — Verification of cleanliness

1 Scope

This Technical Specification defines a procedure for measuring and verifying a desired cleanliness level in an assembled hydraulic fluid power system upon its release from the production area.

NOTE It is recommended that components and parts used in such systems be clean prior to assembly; see ISO 18413 for guidance.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this Technical Specification. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this Technical Specification are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 3722, *Hydraulic fluid power — Fluid sample containers — Qualifying and controlling cleaning methods*

ISO 4021, *Hydraulic fluid power — Particulate contamination analysis — Extraction of fluid samples from lines of an operating system*

ISO 4407[1)], *Hydraulic fluid power — Fluid contamination — Determination of particulate contamination by the counting method using an optical microscope*

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

ISO 11500, *Hydraulic fluid power — Determination of particulate contamination by automatic counting using the light extinction principle*

3 Terms and definitions

For the purposes of this Technical Specification, the definitions given in ISO 5598 and the following apply:

3.1
clean-up filter
high efficiency filter capable of providing the required cleanliness

3.2
off-line loop filter
filter or other filtration device that is externally mounted and connected to the assembled fluid power system for the purpose of providing fluid filtration then is removed from the system after verification of the system's cleanliness

1) To be published. (Revision of ISO 4407:1991)