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Hydraulic fluid power — Single rod, short-stroke cylinders with bores from 32 mm to 100 mm for use at 10 MPa (100 bar) — Mounting dimensions

Transmissions hydrauliques — Vérins course courte à simple tige, d'alésages 32 mm à 100 mm, pour utilisation à 10 MPa (100 bar) — Dimensions d'interchangeabilité

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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.

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 131, *Fluid power systems*, Subcommittee SC 3, *Cylinders*.

This second edition cancels and replaces the first edition (ISO 16656:2004), of which it constitutes a minor revision.

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Introduction

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

One component of such systems is the fluid power cylinder. This is a device that converts power into linear mechanical force and motion. It consists of a movable element, i.e. a piston and piston rod, operating within a cylindrical bore.

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Hydraulic fluid power — Single rod, short-stroke cylinders with bores from 32 mm to 100 mm for use at 10 MPa (100 bar) — Mounting dimensions

1 Scope

This International Standard establishes mounting dimensions for single rod short-stroke cylinders with bores from 32 mm to 100 mm for use at 10 MPa (100 bar) with or without magnetic functions, as required for interchangeability of these commonly used hydraulic cylinders.

NOTE 1 This International Standard is intended to provide basic guidelines while allowing manufacturers of hydraulic equipment flexibility in the design of cylinders and not restricting technical development.

NOTE 2 The dimensions of these cylinders are most likely to require a minimum of space for mounting.

NOTE 3 1 bar = 0,1 MPa = 10^5 Pa; 1 MPa = 1 N/mm^2.

2 Normative references

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

ISO 273, *Fasteners — Clearance holes for bolts and screws*

ISO 965-3, *ISO general purpose metric screw threads — Tolerances — Part 3: Deviations for constructional screw threads*

ISO 1179-1, *Connections for general use and fluid power — Ports and stud ends with ISO 228-1 threads with elastomeric or metal-to-metal sealing — Part 1: Threaded ports*

ISO 3320, *Fluid power systems and components — Cylinder bores and piston rod diameters and area ratios — Metric series*

ISO 4393, *Fluid power systems and components — Cylinders — Basic series of piston strokes*

ISO 4395, *Fluid power systems and components — Cylinder piston rod end types and dimensions*

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

ISO 6099, *Fluid power systems and components — Cylinders — Identification code for mounting dimensions and mounting types*

ISO 6149-1, *Connections for hydraulic fluid power and general use — Ports and stud ends with ISO 261 metric threads and O-ring sealing — Part 1: Ports with truncated housing for O-ring seal*

3 Terms and definitions

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

3.1
mounting
method by which a component, piping or system is fastened

Note 1 to entry: Definition which will be included in the next revision of ISO 5598.

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