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Pneumatic fluid power — Cylinders with detachable mountings, 1 000 kPa (10 bar) series, bores from 32 mm to 320 mm — Basic, mounting and accessories dimensions

Transmissions pneumatiques — Vérins avec fixations détachables, série 1 000 kPa (10 bar), alésages de 32 mm à 320 mm — Dimensions de base, des fixations et des accessoires

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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.

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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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 3, *Cylinders*.

This second edition cancels and replaces the first edition (ISO 15552:2004), which has been technically revised.

The main changes made are:

— Symbols for the accessory types have been made to be the same as the symbols in ISO 6099;

— Characteristics of the piston rod were added to 4.1;

— Product designation codes were added;

— The port size for each piston bore diameter was added to "Basic dimensions".

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Introduction

In pneumatic fluid power systems, power is transmitted and controlled through a gas under pressure within a circuit.

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

To enable them to be fastened to user mechanisms, pneumatic cylinders comprise, in addition, some devices called “mountings”.

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Pneumatic fluid power — Cylinders with detachable mountings, 1 000 kPa (10 bar) series, bores from 32 mm to 320 mm — Basic, mounting and accessories dimensions

1 Scope

This document establishes a metric series of basic, mounting and accessories dimensions as required for interchangeability of single or double rod pneumatic cylinders with or without provision for magnetic sensors for a maximum rated pressure of 1 000 kPa (10 bar).

It applies to pneumatic cylinders with detachable mountings.

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

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 16030, *Pneumatic fluid power — Connections — Ports and stud ends*

3 Terms and definitions

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

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

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

4 Dimensions

4.1 Basic dimensions

The basic dimensions are given in Tables 2 and 3 and shown in Figures 2 and 3. The piston rod diameter shall be larger than the thread diameter (KK) to have a shouldered male thread end.

4.2 Mounting dimensions

The mounting dimensions are given in Tables 4 to 9 and shown in Figures 4 to 9.

The sign + after letters means that the stroke is to be added to the actual dimension.

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