



# SLOVENSKI STANDARD

## SIST ISO 10762:2016

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SIST ISO 10762:1998

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**Fluidna tehnika - Hidravlika - Vgradne mere valjev, vrste 10 MPa (100 barov)**

Hydraulic fluid power - Mounting dimensions for cylinders, 10 MPa (100 bar) series

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Transmissions hydrauliques - Dimensions d'interchangeabilité des vérins, série 10 MPa (100 bar)

Ta slovenski standard je istoveten z: [SIST ISO 10762:2016](https://standards.iteh.ai/standards/ISO/ISO-10762-2016/ISO-10762-2016-474b-8196-af7ab5a63420/sist-iso-10762-2016) **ISO 10762:2015**

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**ICS:**

23.100.20      Hidravlični valji                      Cylinders

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ISO  
10762

Second edition  
2015-05-01

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**Hydraulic fluid power — Mounting  
dimensions for cylinders, 10 MPa  
(100 bar) series**

*Transmissions hydrauliques — Dimensions d'interchangeabilité des  
vérins, série 10 MPa (100 bar)*

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## ISO 10762:2015(E)

### 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](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 10762:1997), 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.

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 — Mounting dimensions for cylinders, 10 MPa (100 bar) series

## 1 Scope

This International Standard establishes mounting dimensions for cylinders for use at 10 MPa [100 bar<sup>1)</sup>], as required for interchangeability of these cylinders.

NOTE This International Standard allows manufacturers of hydraulic equipment flexibility in the design of 10 MPa (100 bar) cylinders and does not restrict technical development; however, it does provide basic guidelines.

## 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 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 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 apply.

## 4 Dimensions

Mounting dimensions for cylinders manufactured in accordance with this International Standard shall be as given in [Figures 1 to 13](#) and [Tables 1 to 13](#).

## 5 Bore sizes

The following bore sizes in accordance with ISO 3320, in millimetres, are included in this series:

40 — 50 — 63 — 80 — 100 — 125 — 160 — 200

1) 1 bar = 0,1 MPa = 10<sup>5</sup> Pa; 1 MPa = 1 N/mm<sup>2</sup>.

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### 6 Stroke tolerances

The tolerance on piston strokes shall be as follows:

- piston strokes  $\leq 1\ 250$  mm:  $+2/-0$  mm;
- piston strokes  $>1\ 250$  mm and  $\leq 3\ 150$ :  $+5/-0$  mm;
- piston strokes  $>3\ 150$  mm and  $\leq 8\ 000$ :  $+8/-0$  mm.

### 7 Mounting types

This International Standard includes the following mounting types, in accordance with ISO 6099:

- ME5 — Rectangular flange, integral with head (see [Figure 3](#) and [Table 3](#));
- ME6 — Cap, rectangular flange (see [Figure 4](#) and [Table 4](#));
- MP1 — Cap, fixed clevis (see [Figure 5](#) and [Table 5](#));
- MP3 — Cap, fixed eye (see [Figure 6](#) and [Table 6](#));
- MP5 — Cap, fixed eye with spherical plain bearing (see [Figure 7](#) and [Table 7](#));
- MS2 — Side lugs (see [Figure 8](#) and [Table 8](#));
- MT1 — Head, integral trunnion (male; see [Figure 9](#) and [Table 9](#));
- MT4 — Intermediate trunnion (male) with selectable position (see [Figure 10](#) and [Table 10](#));
- MX1 — Both ends, studs or tie rods extended (see [Figure 11](#) and [Table 11](#));
- MX2 — Cap, studs or tie rods extended (see [Figure 12](#) and [Table 12](#));
- MX3 — Head, studs or tie rods extended (see [Figure 13](#) and [Table 13](#)).

### 8 Piston rod characteristics

**8.1** This International Standard covers piston rods that have a shouldered male thread end (see [Figure 1](#) and [Table 1](#) for basic dimensions).

**8.2** For piston rod end types, see ISO 4395.

**8.3** If other piston rod diameters or other piston rod threads are required, those specified in ISO 3320 and ISO 4395 shall be used.

### 9 Identification statement (reference to this International Standard)

It is strongly recommended to fabricators who elect to conform to this International Standard to use the following statement in test reports, catalogs, and sales literature:

“Interchangeable mounting dimensions selected in accordance with ISO 10762:2015, *Hydraulic fluid power — Mounting dimensions for cylinders, 10 MPa (100 bar) series.*”

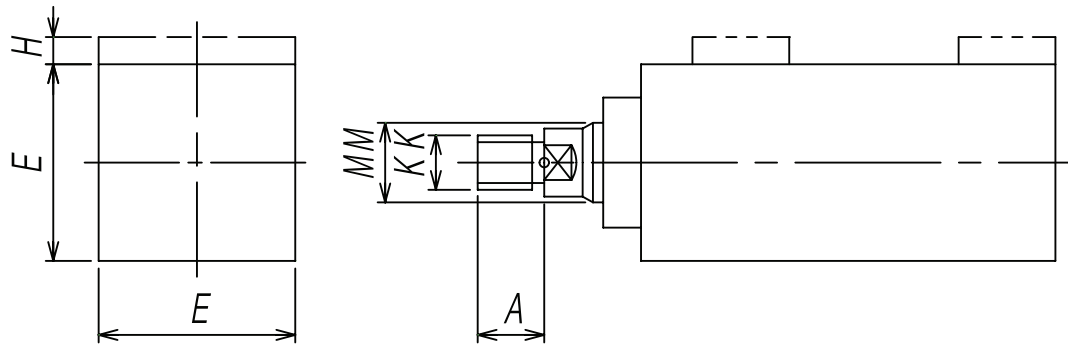


Figure 1 — Basic dimensions

Table 1 — Basic dimensions

Dimensions in millimetres

Bore	Rod $MM^a$	$KK$ 6g	$A$ max.	$E$ max.	$H^b$ max.
40	18	M14 × 1,5	18	52	5
	22	M14 × 1,5	18		
		M16 × 1,5	22		
	28	M14 × 1,5	18		
50	22	M16 × 1,5	22	65	5
	28	M16 × 1,5	22		
		M20 × 1,5	28		
	36	M16 × 1,5	22		
63	28	M20 × 1,5	28	77	3
	36	M20 × 1,5	28		
		M27 × 2	36		
	45	M20 × 1,5	28		
80	36	M27 × 2	36	96	4
	45	M27 × 2	36		
		M33 × 2	45		
	56	M27 × 2	36		
100	45	M33 × 2	45	115	5
	56	M33 × 2	45		
		M42 × 2	56		
	70	M33 × 2	45		
		M48 × 2	63		

NOTE For accessories, see ISO 8133. Port dimensions and positions are given in [Figure 2](#) and [Table 2](#).

<sup>a</sup> See [8.3](#).

<sup>b</sup> Extra height is provided for the reinforced rod cover on all four bore sizes 50 mm, 63 mm, 80 mm and 100 mm; also provided for both the rod and cap cover on rod sizes for the 40 mm bore.