

---

---

**Hydraulic fluid power cylinders —  
Dimensions and tolerances of  
 housings for elastomer-energized,  
 plastic-faced seals —**

**Part 2:  
Rod seal housings**

*Vérins hydrauliques — Dimensions et tolérances des logements pour  
 joints en élastomère renforcé par des matières plastiques —*

*Partie 2: Logements de joints de tige*



This document is a preview generated by ELS



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Symbols</b> .....	<b>2</b>
<b>5 Seal housings</b> .....	<b>2</b>
5.1 General.....	2
5.2 Axial length.....	3
5.3 Radial depth.....	3
<b>6 Dimensions and tolerances</b> .....	<b>3</b>
<b>7 Extrusion gap</b> .....	<b>3</b>
<b>8 Surface finish</b> .....	<b>3</b>
8.1 General statement.....	3
8.2 Sliding and static sealing surfaces.....	3
<b>9 Lead-in chamfer</b> .....	<b>4</b>
<b>10 Identification statement</b> .....	<b>5</b>
<b>Bibliography</b> .....	<b>8</b>

## 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 of 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 [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 7, *Sealing devices*.

This second edition cancels and replaces the first edition (ISO 7425-2:1989), which has been technically revised.

The main changes compared to the previous edition are as follows:

- 400 mm and 450 mm rods have been added to [Table 2](#) to ensure consistency with ISO 3320 and to [Clause 8](#) to ensure consistency with ISO 5597.

A list of all parts in the ISO 7425 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](http://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. Sealing devices are used to contain the pressurized fluid with components with elements with linear motion, i.e. hydraulic cylinders. In general, these sealing devices are used with both cylinder rod and piston seal housings. This document covers rod seal housings.

This document is one part of the ISO 7425 series of standards covering dimensions and tolerances of reciprocating seal housings.



# Hydraulic fluid power cylinders — Dimensions and tolerances of housings for elastomer-energized, plastic-faced seals —

## Part 2: Rod seal housings

### 1 Scope

This document specifies the dimensions and associated tolerances for a series of hydraulic cylinder rod seal housings to accommodate elastomer-energized, plastic-faced seals used in reciprocating applications.

This document does not stipulate details of seal design, since the manner of construction of seals varies with each manufacturer. The design and material of the seals, and any incorporated anti-extrusion components, are determined by conditions such as temperature and pressure.

This document only applies to the dimensional characteristics of products manufactured in accordance with this document. It does not apply to their functional characteristics.

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

ISO 4287:1997, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters*

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

### 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:

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