

# International Standard 6547

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## Hydraulic fluid power — Cylinders — Piston seal housings incorporating bearing rings — Dimensions and tolerances

*Transmissions hydrauliques — Vérins — Logements de joints d'étanchéité à bagues de guidage pour pistons — Dimensions et tolérances*

First edition — 1981-08-15

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6547 was developed by Technical Committee ISO/TC 131, *Fluid power systems and components*, and was circulated to the member bodies in February 1980.

It has been approved by the member bodies of the following countries :

Australia	Finland	Norway
Austria	France	Poland
Belgium	Germany, F. R.	Romania
Brazil	Hungary	South Africa, Rep. of
Canada	India	Spain
China	Italy	Sweden
Czechoslovakia	Japan	USA
Egypt, Arab Rep. of	Netherlands	USSR

The member body of the following country expressed disapproval of the document on technical grounds :

United Kingdom

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## 0 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 within components having elements with relative motion, for example, a linear movement within hydraulic cylinders. These sealing devices are used with both cylinder rod and piston seal housings.

ISO 5597/1 provides details of seal housings of a purely rectangular profile. However, where it is the practice to employ a design of piston-head seal that incorporates bearing rings, the profile of the housing is basically of "T" form. This International Standard specifically relates to such applications.

## 1 Scope and field of application

**1.1** This International Standard establishes the dimensions and associated tolerances for a series of housings for hydraulic cylinder piston seals that incorporate bearing rings.

**1.2** It specifies the dimensions for a range of seal housings for cylinders of 25 to 500 mm.

**1.3** It is not the intention of this International Standard to set forth details of seal design, since the manner of construction of seals varies with each manufacturer. The design and material of the seal and the incorporated bearing rings are determined by conditions such as temperature and pressure.

**1.4** It applies to piston-heads that may be either assembled from a number of components or made in one piece.

## 2 References

ISO 3320, *Fluid power cylinders — Cylinder bore and piston rod diameters — Metric series.*

ISO 4394/1, *Fluid power systems and components — Cylinder barrels — Part 1: Requirements for steel tubes with specially finished bores.*

ISO 5597/1, *Hydraulic fluid power — Cylinder rod and piston seals for reciprocating applications — Dimensions and tolerances of housings — Part 1: Normal series.*

ISO 5598, *Fluid power systems and components — Glossary.*<sup>1)</sup>

## 3 Definitions

For definitions of terms used, see ISO 5598.

## 4 Symbols

Symbols used in this International Standard are as follows :

$D$  = outside diameter (bore diameter or rod seal groove diameter) of the seal housing

$S$  = radial width of the seal housing

$d_1$  = inside diameter (rod diameter or piston seal groove diameter) of the seal housing

$L_1$  = axial length (seal groove length) of the seal ring

$L_2$  = axial length of the bearing ring

$L_3$  = overall axial length of seal and bearing ring (reference only)

$d_2$  = inside diameter of the bearing ring

$d_3$  = piston clearance diameter

$C$  = axial length of the lead-in chamfer

$r$  = corner radii.

1) At present at the stage of draft.