

Internal combustion engines — Piston rings —

Part 4: Half keystone rings made of steel

ICS 43.060.10

National foreword

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The UK participation in its preparation was entrusted by Technical Committee MCE/14, RIC engines, to Subcommittee MCE/14/-/10, RIC engines — Cylinders, pistons and rings, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

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Summary of pages

This document comprises a front cover, an inside front cover, the ISO title page, pages ii to v, a blank page, pages 1 to 18, an inside back cover and a back cover.

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Amendments issued since publication

Amd. No.	Date	Comments

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 16 December 2003

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ISBN 0 580 43100 2

INTERNATIONAL STANDARD

ISO
6624-4

First edition
2003-10-01

Internal combustion engines — Piston rings —

Part 4: Half keystone rings made of steel

*Moteurs à combustion interne — Segments de piston —
Partie 4: Segments semi-trapézoïdaux en acier*



Reference number
ISO 6624-4:2003(E)



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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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ISO 6624-4 was prepared by Technical Committee ISO/TC 22, *Road vehicles*.

ISO 6624 consists of the following parts, under the general title *Internal combustion engines — Piston rings*:

- *Part 1: Keystone rings made of cast iron*
- *Part 2: Half keystone rings made of cast iron*
- *Part 3: Keystone rings made of steel*
- *Part 4: Half keystone rings made of steel*

Introduction

ISO 6624 is one of a number of series of International Standards dealing with piston rings for reciprocating internal combustion engines. Others are ISO 6621^{[2], [3], [4], [5]}, ISO 6622^{[6], [7]}, ISO 6623^[8], ISO 6625^[9], ISO 6626^{[10], [11]} and ISO 6627^[12].

The common features and dimensional tables presented in this part of ISO 6624 constitute a broad range of variables and, in selecting a particular ring type, the designer shall bear in mind the conditions under which it will be required to operate.

It is also essential that the designer refer to the specifications and requirements of ISO 6621-3^[4] and ISO 6621-4 before completing selection.

Internal combustion engines — Piston rings —

Part 4: Half keystone rings made of steel

1 Scope

This part of ISO 6624 specifies the essential dimensional features of half keystone rings made of steel, types HK and HKB, having diameters of from 38 mm up to and including 160 mm, used in reciprocating internal combustion piston engines.

2 Normative references

The following referenced documents are indispensable for the application 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 6621-4, *Internal combustion engines — Piston rings — Part 4: General specifications*

3 Overview

The half keystone ring types are specified in Table 1 and Figures 1 and 2. Their common features and the dimensions of those features are specified in Tables 2 to 5 and Figures 3 to 8. Table 6 gives the force factors for the different ring types, while Table 7 gives the dimensions and forces of half keystone rings.

4 Ring types and designation examples

NOTE For the angle of half keystone rings, the same definition and measurement apply as for keystone rings (see ISO 6621-2).

4.1 Type HK — Straight faced half keystone ring 7°

4.1.1 General features

See Table 6 for dimensions and forces.

h_3 values are calculated based on $h_1 + 0,05$ mm.