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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 15242.3-2021

Replacing GB/T 15242.3-1994

**Dimensions series of rod and piston dynamic seals for
hydraulic cylinders - Part 3: Dimensions and tolerances of
groove for co-axial seals**

液压缸活塞和活塞杆动密封装置尺寸系列 第3部分：同轴密封件沟槽尺寸系列和公差

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. This document is the third part of GB/T 15242 "Dimensions of hydraulic cylinder piston and piston rod dynamic seal device series". GB/T 15242 has The following sections were released.

- 1. Coaxial seal size series and tolerances;
- 2. Support ring size series and tolerances;
- 3. Coaxial seal groove dimension series and tolerances;
- 4. Support ring installation groove dimension series and tolerances. This document replaces GB/T 15242.3-1994 "The installation groove size system for coaxial seals for hydraulic cylinder piston and piston rod dynamic seal devices" Compared with GB/T 15242.3-1994, except for structural adjustments and editorial changes, the main technical changes are as follows:

- a) Modified the scope (see Chapter 1, Chapter 1 of the.1994 edition);
- b) Modified normative references (see Chapter 2, Chapter 2 of the.1994 edition);
- c) Added terms and definitions (see Chapter 3);
- d) Some symbols have been modified and added (see Chapter 4, Chapter 3 of the.1994 edition);
- e) The "Mounting groove type of coaxial seal for hydraulic cylinder piston dynamic sealing device" (see Figure 1 of the.1994 edition) is refined into "holes with square "Schematic diagram of coaxial seals and groove types for holes" and "Schematic diagram of coaxial seals for holes and groove types" and added sub-pictures "A) Schematic diagram of the

seal" (see Figure 1, Figure 2);

f) Modified and supplemented the groove dimensions and tolerances of square coaxial seals for holes, and added "Specification Code" (see Table 1,.1994 Edition of Table 1);

g) The groove dimensions and tolerances of combined coaxial seals for holes have been added (see Table 2);

h) "Mounting groove type of coaxial seal for hydraulic cylinder piston rod dynamic sealing device" (see Figure 2 of the.1994 edition) is changed to "stepped shaft for shaft "Schematic diagram of the coaxial seal and groove type" and added "Schematic diagram of the seal" (see Figure 3);

1 Scope

GB/T 15242.3-2021 is the Chinese national standard on dimensions series of rod and piston dynamic seals for hydraulic cylinders - part 3:dimensions and tolerances of groove for co-axial seals, in the field of fluid systems and general-purpose components. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 21 May 2021 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 December 2021. Classification: ICS 23.100.60, CCS J20. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the symbols, types, size series and tolerances, installation guidelines of the coaxial seal installation grooves for hydraulic cylinder pistons and piston rods. The axial length and clearance of the entrance angle. This document is applicable to square coaxial seals and hole sets for holes that are installed in the piston and piston rod of reciprocating hydraulic cylinders for sealing purposes. Contract shaft seals, stepped coaxial seals for shafts.

2 Normative references

The contents of the following documents constitute the indispensable clauses of this document through normative references in the text. Among them, dated quotations Only the version corresponding to that date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to This document.

GB/T 15242.1 Hydraulic cylinder piston and piston rod dynamic seal device size series Part

3 Terms and definitions

The terms and definitions defined in GB/T 15242.1 and GB/T 17446 apply to this document.

4 Symbols and abbreviations

The following symbols and abbreviations apply to this document. b

- groove width; D
- Hydraulic cylinder bore or bottom diameter of piston rod seal groove; d
- the diameter of the piston rod or the bottom diameter of the piston seal groove; d_1
- The diameter of the shoulders on both sides of the piston seal groove ($d_1=D-2F$); d_2
- The diameter of the shoulders on both sides of the piston rod seal groove ($d_2=d-2F$); F
- groove depth; L
- the axial length of the installation lead-in angle; R, r
- round corner radius; TF
- square coaxial seal for hole; TJ
- stepped coaxial seal for shaft; TZ
- Combined coaxial seal for hole.

5.1 Groove type, size series and tolerances of square coaxial seals for holes

5.1.1 The schematic diagram of the seal and the groove type are shown in Figure 1.