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

GB/T 9877.1-1988

Replacing GB/T 9877.1-1988; GB/T 9877.2-1988; GB/T 9877.3-1988

**Hydraulic fluid power -- Guide specifications for designing
rotary shaft lip type seals
(English Translation)**

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Foreword

This standard is for GB/T 9877.1-1988, GB/T 9877.2-1988 and GB/T 9877.3-1988 "Rotating Shaft Lip Seal Consolidation revision of the "Ring Structure Dimension Series".

Compared with GB/T 9877.1-1988, GB/T 9877.2-1988 and GB/T 9877.3-1988, the main changes of this standard are as follows.

---The name of the standard was changed to "Code for Design of Lip Seal Rings for Hydraulic Transmission Rotary Shafts";

---Combine the standard structure from 3 parts into a whole;

---The technical content of structural design has been greatly revised, focusing on design guidance, supplementing technical content such as "return oil seal design", and the standard structure and arrangement order have undergone major changes.

Appendix A and Appendix B of this standard are informative appendices.

This standard was proposed by China Machinery Industry Federation.

This standard is under the jurisdiction of the National Hydraulic and Pneumatic Standardization Technical Committee (SAC/TC3).

Drafting organizations of this standard. Guangzhou Academy of Machinery Science, Qingdao Kaishi Sealing Industry Co., Ltd., Zhongding Sealing Co., Ltd.

1 Scope

This standard specifies the basic requirements for the structural design of the lip seal ring of the rotating shaft, including the basic size of the rotary Design requirements and size series of the assembly support part, main lip, auxiliary lip, frame, spring, etc. of the shaft lip-shaped seal ring. In addition, this standard also gives the main parameters of conventional design and special design parameters (such as lip recirculation form design,

etc.).

This standard applies to the rotary shaft lip seal ring installed in the equipment that seals liquid or grease.

The cavity pressure is not more than 0.05MPa.

2 Normative references

The clauses in the following documents become clauses of this standard after being quoted. For dated reference documents, all subsequent Amendments (not including errata content) or revised editions do not apply to this standard, however, encourage all parties to an agreement based on this standard to study is the latest version of these files available? For undated references, the latest version is applicable to this standard.

GB/T 13871.1 Rotary shaft lip seals with elastomeric sealing elements. Part 1: Basic dimensions and tolerances (GB/T 13871.1-2007, ISO 6194-1:1982, MOD) GB/T 4357 Carbon spring steel wire

3.1 Basic structure

3.1.1

The basic structure is composed of the assembly support part, frame, spring, main lip, and auxiliary lip (no dustproof requirement or auxiliary lip), as shown in Figure 1.

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4.5.2 The parameters of the spring are selected according to Table 26 and Table 27.

Table 26 Basic dimensions of hoop spring

5 Basic dimensions and technical requirements

5.1

The basic size of the sealing ring should comply with GB/T 13871.1, see Table 28, the basic size of the non-table can be negotiated between the purchaser and the manufacturer.

5.2

The technical requirements of the sealing ring can refer to Appendix A, which shall be negotiated between the purchaser and the manufacturer.

5.3

Refer to Appendix B for the relationship between the selection of rubber types and shaft diameter and speed.

Appendix A

(Informative appendix) Technical requirements for sealing ring A. 1 For the convenience of users and manufacturers, it is recommended that users follow Table A. 1 format provides the manufacturer with the necessary information to ensure that the manufacturer's health the sealing ring produced meets the requirements of users.

A. 2 It is recommended that manufacturers follow Table A. The format of 2 provides the user with the necessary information to ensure that the sealing ring conforms to the user's equipment design and use at the same time, it is convenient for users to check and accept the seal ring provided by the manufacturer.

Table A. 1 User information

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