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

GB/T 23892.2-2009

**Plain bearings -- Hydrodynamic plain tilting pad thrust bearings
under steady-state conditions -- Part 2: Functions for
calculation of tilting pad thrust bearings**

滑动轴承 稳态条件下流体动压可倾瓦块止推轴承 第2部分：可倾瓦块止推轴承的
计算函数

(English Translation)

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Foreword

GB/T 23892 "under steady-state conditions bearing hydrodynamic tilting pad thrust bearing" consists of the following three parts.

- Part 1. calculation of tilting pad thrust bearing block stop;
- Part 2. tilting pad thrust bearing calculation function of the stops;
- Part 3. Calculate bearing tilting pad push the allowable value of the stops.

This part of GB/T 23892 Part 2.

This section identical with ISO 12130-2:2001 "hydrodynamic plain bearings under steady-state conditions tilting pad thrust bearing Part 2 Score. tilting pad thrust bearing calculation function block stop. " this section is equivalent translation ISO 12130-2:2001.

For ease of use, this section made the following editorial changes.

- "This International Standard" be replaced by "this section";
- With a decimal point instead of a comma as the decimal point, ",";
- Delete international standards foreword.

This part is proposed by China Machinery Industry Federation.

Bearing this in part by the National Standardization Technical Committee (SAC/TC236) centralized.

This section is responsible for drafting unit. Productivity Promotion Center in the machine.

Participated in the drafting of this section. Xi'an Jiaotong University, Shanghai, Zhejiang send Bearing Co., Ltd., Zhejiang Bearing Co., Ltd. Shanghai Branch, Zhejiang Oriental Bearing Co., Ltd., Zhejiang Changsheng Bearing Co., Ltd., Zhejiang SF Oilless Bearing Co., Ltd.

This part of the National Standardization Technical Committee Secretariat slide bearing responsible for the interpretation.

This section first release.

GB/T 23892.2-2009/ISO 12130-2:2001

Introduction

This part of the formula is mainly used in line with GB/T 23892.1 oil lubrication tilting pad thrust bearing calculation, assuming that such bearings in the hydrodynamic state run, and in a completely fluid lubrication conditions. These formulas are based on assumptions and boundary conditions specified. Compute the desired value can be given formulas and figures and tables to get through. Document approximate formula is consistent numerical solution curve [1] with formula. Definition of symbols used in the calculation and calculation examples are given in GB/T 23892.1.

According to GB/T 23892.1-2009 Chapter 3 g), k is assumed) item, this section does not apply to tilting pad thrust shaft center support Cheng ($Rao F = 0.5$) is calculated, because there is no hydrodynamic bearing capacity. For determining the characteristic values of these bearings, it is necessary to consider at least tilting Deformed during operation of tile.

GB/T 23892.2-2009/ISO 12130-2:2001 Under steady-state conditions Bearing Hydrodynamic tilting pad thrust bearing Part 2. Calculation of tilting pad thrust bearing function block

1 Scope

This section GB/T 23892 gives the derivation of mathematical functions of hydrodynamic tilting pad thrust bearings used.

This section GB/T 23892 does not apply to heavy duty tilting pad thrust bearing.

2 Normative references

The following documents contain provisions which, through reference GB/T 23892 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 23892.1 hydrodynamic slide bearings under steady-state conditions of tilting pad thrust bearings - Part 1. tilting pad thrust shaft Order of the calculation (GB/T 23892.1-2009, ISO 12130:2001, IDT)

3.1 Overview

Definition of GB/T 23892.1 symbols apply to this section.

Curve approximation formula 1 (Scope $0.2 \leq C_{wed} \leq 2$).

$\ln 1 +$

Xun wed

$1 + \text{Rao } 1B/\square L$

Rao = 10

$C_{wed} +$

$C () \text{ wed } \square$

$C () \text{ wed } \square$

$A = 1.1686 - 0.32945 \times B () L + 0.22267 \times B () L - 0.04651 \times B () L$
 $B = -0.10095 + 0.19743 \times B () L - 0.13136 \times B () L + 0.028703 \times B () L$
 $C = -0.0048791 + 0.008601 \times B () L - 0.0054015 \times B () L + 0.0011278 \times B () L$
 GB/T 23892.2-2009/ISO 12130-2:2001