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

**GB/T 5894-2015**

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**Terminology of mechanical seals**

机械密封名词术语

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## Table of Contents

- 1 Scope
- 2 Types of mechanical seals and terminology
- 9 Index

### Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 5894-1986 "mechanical seal terminology." This standard compared with GB/T 5894-1986, the main technical changes are as follows:

- Remove the "primary seal" "secondary seal" and other terms (see the 1986 version 2.9, 2.10);
- Modify the "secondary seal" is defined (see 3.10, 1986 Version 2.11);
- Increased "face to face, back to back, facing the back double mechanical seal" "cartridge mechanical seal", "Flush," "isolation fluid" "Buffer fluid" and other terms (see 2.26 to 2.28, 2.41, 4.1, 4.12, 4.13). The standard proposed by China Machinery Industry Federation. This standard by the National Standardization Technical Committee on mechanical seal (SAC/TC491) centralized. This standard was drafted. Hefei General Machinery Research Institute, Tsinghua University, Hefei General Environmental Control Technology Co., Ltd., Zhejiang University, Beijing University of Chemical Technology. The main drafters of this standard. Li Kun, Wang Yuming, Peng Xudong, Wu Zhao Shan, Li Hong, Cai Jining, Yanghui Xia, Chen Zong marsh, Lifeng Cheng, Huang Weifeng, And Li. This standard replaces the standards previously issued as follows:
- GB/T 5894-1986. Mechanical seal Terminology

### 1 Scope

China's national terminology for mechanical seals. A mechanical seal is what keeps fluid inside a pump where the shaft leaves the casing, and it does so by holding two very flat rings in contact - one turning with the shaft, one fixed - with a film of fluid between them a fraction of a micrometre thick. That film is the whole design problem: too thick and the seal leaks, too thin and the faces touch and destroy themselves, and it is set by a balance of hydraulic and spring forces that the vocabulary here describes. The field's terms are precise and easily confused - balance ratio, face load, the distinction between a single, double, tandem and cartridge arrangement, the flush plans and quench arrangements of the auxiliary systems - and a wrong term in a specification produces the wrong seal. This

standard specifies the terms for mechanical seal types and parts, fluid circulation and auxiliary systems, and common design, testing and performance concepts, and applies to rotating shaft mechanical seals.

This standard specifies the mechanical seal and the type of parts, fluid circulation and auxiliary systems, common design, testing and performance terms. This standard applies to the rotating shaft mechanical seal.

## 2 Types of mechanical seals and terminology

**2.1 Mechanical seal** mechanical seal Seal face seal At least one end surface perpendicular to the axis of rotation with a compensation mechanism in fluid pressure and elastic (or magnetic) and the role of secondary seal Maintaining close relative sliding end surface paste merger constituted a device to prevent fluid leakage.

**2.2 Hydrodynamic mechanical seal** hydrodynamic mechanical seal Seals are designed to specific geometry, using the relative rotation of self-generated hydrodynamic effects of mechanical seals.

**2.3 Tangential role in hydrodynamic mechanical seal** tangential acting hydrodynamic mechanical seal Can tangential fluid hydrodynamic pressure distribution is formed dynamic pressure type mechanical seal.

**2.4 Radially acting hydrodynamic mechanical seal** radial acting hydrodynamic mechanical seal Proactive role hydrodynamic mechanical seal positive acting hydrodynamic mechanical seal Capable of forming a dynamic pressure type mechanical seal has to resist leaking fluid pressure distribution in the fluid dynamic action in the radial direction.

**2.5 Hydrostatic mechanical seal** hydrostatic mechanical seal Seals designed specific geometry, with an external pressure fluid introduced through the pressure medium itself or the sealing of the sealing interface Force drops a mechanical seal hydrostatic pressure effects.

**2.6 External hydrostatic pressure mechanical seal** outside pressurized hydrostatic mechanical seal Hydrostatic pressure of the fluid introduced into the fluid mechanical seal from the outside.

**2.7 Self-hydrostatic pressure mechanical seal** self-pressurized hydrostatic mechanical seal To be sealed as a fluid medium itself hydrostatic pressure of the fluid mechanical seal.

**2.8 Hybrid composite fluid mechanical seal** hydrodynamic and hydrostatic mechanical seal Flow seal face design specific geometry, both external fluid pressure introduced through the pressure drop produced by the interface seal Hydrostatic effect body, but also take advantage of the relative rotation of the hydrodynamic effects of mechanical seals themselves.

2.9 Built-in mechanical seal internal mounted mechanical seal Stationary ring mounted in a sealed cover (or equivalent sealing cap part) inner side (ie, the side facing the host working chamber) of the mechanical seal.

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