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

GB/T 9128.1-2023

**Metallic ring joint gaskets for steel pipe flanges - Part 1: PN
designated**

钢制管法兰用金属环垫 第1部分：PN系列

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. This document is Part 1 of GB/T 9128 "Metal Ring Gasket for Steel Pipe Flanges". GB/T 9128 has released the following parts.

---Part 1: PN series;

2. Class Series. This document partially replaces GB/T 9128-2003 "Metal Ring Gasket

Dimensions for Steel Pipe Flanges" and GB/T 9130-2007 "Steel Pipe Flange Dimensions" "Technical Conditions for Metal Ring Gaskets for Flanges", compared with GB/T 9128-2003 and GB/T 9130-2007, except for structural adjustments and editorial changes In addition, the main technical changes are as follows:

- a) The dimensions of PN series metal ring gaskets are added (see Table 2), and the dimensions of Class series metal ring gaskets are deleted (see GB/T 9128- Table 1 of.2003);
- b) The material name/grade of the metal ring gasket has been changed (see Table 3, Table 1 of GB/T 9130-2007);
- c) Added common materials for metal ring gaskets and recommended maximum operating temperatures (see Table 3);
- d) Changed the dimensional limit deviation of metal ring gasket (see Table 4, Table 4 of GB/T 9130-2007);
- e) Added manufacturing requirements for metal ring gaskets (see 6.2.1, 6.2.2);
- f) The recommended maximum hardness value of commonly used materials for metal ring gaskets has been changed (see Table 5, Table 3 of GB/T 9130-2007);
- g) Added provisions for selecting metal ring pad hardness test methods (see 8.3.1);
- h) The inspection rules have been changed (see Chapter 9, Chapter 6 of GB/T 9130-2007);
- i) Added the content of signs (see 10.2.1). Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents. This document is proposed by China Machinery Industry Federation. This document is under the jurisdiction of the National Technical Committee on Standardization of Pipe Accessories (SAC/TC237). This document was drafted by: China Machinery Productivity Promotion Center Co., Ltd., Cixi Hengli Sealing Materials Co., Ltd., Ningbo Tiansheng Seals Co., Ltd., Zhejiang Cathay Xiaoxing Sealing Materials Co., Ltd., Wenzhou Huahai Sealing Materials Co., Ltd., Wenzhou Yiyu Sealing Materials Co., Ltd. Company, Wuxi Xixi Chemical Machinery Parts Co., Ltd., Guangzhou Dongshan Southern Seals Co., Ltd. The main drafters of this document. Feng Feng, Qiu Kuanheng, Xu Shaohuan, Wu Yimin, Lu Wenming, Zhang Jiahong, Zhang Yong, Fang Deyin, Hui Fuming, Wu Kaijun, Zhu Xiaoping, Li Xiaoqin. The previous versions of this document and the documents it replaces are as follows:

---First published as GB/T 9128.1-1988 and GB/T 9128.2-1998 in 1988, and merged into the first revised version in.2003. GB/T 9128-2003;

1 Scope

GB/T 9128.1-2023 is Part 1 of the Chinese series on metallic ring joint gaskets for steel

pipe flanges, covering the PN designated series. A ring joint gasket seals by plastic deformation of a solid metal ring in a machined groove, which is why it is what refineries and high pressure gas systems use where a soft gasket would be extruded or would burn. The seal depends on the ring being softer than the flange and on the dimensions and hardness being right: too hard and it damages the groove, too soft and it will not hold. The standard sets the types and codes, the sizes, the materials and manufacture, the requirements on appearance, dimensional tolerances and hardness, the inspection methods and the inspection rules, and the marking, packaging and storage provisions. It took effect on 1 April 2024.

This document specifies the type and code, dimensions, materials and manufacturing, requirements, and test methods of metal ring gaskets for PN-marked steel pipe flanges. laws, inspection rules and marking, marking, packaging, storage and transportation. This document is applicable to steel pipe flange metal for ring connection sealing surfaces with nominal pressures PN63~PN400 specified in GB/T 9124.1 It is a ring pad.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

GB/T 230.1 Rockwell hardness test of metallic materials Part

3 Terms and definitions

There are no terms or definitions to be defined in this document.

4 Type and code

4.1 Type Metal ring gaskets for steel pipe flanges (hereinafter referred to as "metal ring gaskets") are divided into oval metal ring gaskets (hereinafter referred to as "elliptical gaskets") and eight-shaped metal ring gaskets (hereinafter referred to as "metal ring gaskets") according to their cross-sectional shapes. There are two types of angular metal ring pads (octagonal pads for short). The structures of the two types of metal ring pads are shown in Figure 1 and Figure 2.