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

GB/T 12712-2023

Replacing GB/T 12712-1991

**Technical management requirements for condensate recovery
and automatic steam traps of steam heating system**

蒸汽供热系统凝结水回收及蒸汽疏水阀技术管理要求

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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 replaces GB/T 12712-1991 "Technical Management Requirements for Condensate Recovery and Steam Traps in Steam Heating Systems" and is consistent with Compared with GB/T 12712-1991, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

a) Added the terms and definitions of "steam trap equipment rate" and "steam trap sampling rate" (see 3.2, 3.3); deleted "open type" System", "Closed system", "Calculation of steam content in pipe sections", "Unit drainage method", "Group drainage method", "Actual working of steam traps" "Pressure", "Actual operating back pressure of steam trap", "Actual maximum operating back pressure of steam trap" terms and definitions (see 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9,

3.10 of the.1991 edition);

b) Changed the principle of condensate recovery (see Chapter 4, Chapter 5 of the.1991 edition);

c) The technical requirements for the condensate recovery system have been changed and the technical requirements for the open system have been added (see Chapter 6, Chapter 6 of the.1991 edition) Chapter 8);

d) The technical requirements for steam traps have been changed, and the classification of steam traps has been added (see Chapter 7, Chapter 7 of the.1991 edition, Chapter 9);

e) Management and evaluation requirements have been changed, and system management requirements have been added (see Chapter 8, Chapter 10 and 11 of the.1991 edition);

f) The appendix "Steam Trap Action Detection Method" has been deleted (see Appendix A of the.1991 edition). 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 and coordinated by the National Energy Basics and Management Standardization Technical Committee (SAC/TC20). This document was drafted by: China Institute of Standardization, Gansu Hongfeng Machinery Co., Ltd., Yinqiu Energy Saving Engineering Co., Ltd., Dalian China Zhi Precision Technology Co., Ltd., Newton Fluid Technology Co., Ltd., Fleur Antimony (Guangdong) Engineering Equipment Co., Ltd., China Energy Construction Group Tianjin Electric Power Construction Co., Ltd., PetroChina Jilin Chemical Engineering Co., Ltd. The main drafters of this document. Liang Xiuying, Guo Yudong, Li Bingcheng, Huang Ying, Shao Guijun, Chen Haihong, Wei Hong, Zhang Sinan, Wang Shuiyuan, Zhang Qingnian, Zhang Yifeng and Dai Guoxing. This document was first published in.1991 and this is the first revision. Condensate recovery and steam trap in steam heating system Technical management requirements

1 Scope

GB/T 12712-2023 is the Chinese national standard on technical management requirements for condensate recovery and automatic steam traps of steam heating system, in the field of energy and heat transfer engineering. 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 7 September 2023 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 April 2024. Classification: ICS 27.010, CCS F01. 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 establishes the principle of condensate water recovery in steam heating systems, provides the basic formula for hydraulic calculation of condensate water pipelines, and stipulates the Technical requirements and management and evaluation requirements for the selection, installation and application of water recovery systems and steam traps. This document is applicable to the drainage and return of condensate water in steam heating systems with a nominal pressure not greater than PN40 and a medium temperature not greater than 350°C. Design, installation, commissioning and operation management of collection systems.

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 150.1 Pressure vessels Part

3 Terms and definitions

The terms and definitions defined in GB/T 12247 and GB/T 12250 and the following apply to this document.

3.1 specific pressuredrop The resistance loss along the unit length of the condensate pipeline.

3.2 The actual number of steam traps installed accounts for the percentage of the number of steam traps that should be installed in the condensate recovery system.

3.3 Among the steam traps randomly inspected, the number of qualified steam traps accounts for the percentage of the total number of randomly inspected steam traps.

3.4 The percentage of qualified condensate mass actually recovered to the condensate mass that can be recovered.

Note. The calculation period is generally one year.