

ICS 75.180.20
CCS J72



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

GB/T 42601.1-2023

**Petroleum, petrochemical and natural gas industries -
Lubrication, shaft-sealing and control-oil systems and
auxiliaries - Part 1: General requirements**

石油、石油化工和天然气工业 润滑、轴密封和控制油系统及辅助设备 第1部分：
一般要求

Issued on: May 23, 2023

Implemented on: December 1, 2023

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules for Standardization Documents" drafting: This document is GB/T 42601 "Petroleum, Heavy Chemical and Natural Gas Industries Lubrication, Shaft Sealing and Oil Control Systems and Auxiliary Equipment" part 1: GB/T 42601 has issued the following parts:

--- Part 1: General requirements;

--- Part 3: Oil systems for general purposes: This document is equivalent to ISO 10438-1:2007 "Petroleum, heavy chemical and natural gas industries Lubrication, shaft sealing and control oil systems and auxiliary Auxiliary Equipment Part 1: General Requirements": The following editorial changes were made to this document:

--- Added my country's material standards in Appendix E;

--- Changed the list of references: Please note that some contents of this document may refer to patents: The issuing agency 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 Fan Standardization Technical Committee (SAC/TC187): This document is drafted by: Shenyang Blower Group Co., Ltd.; Xi'an Shaangu Power Co., Ltd.; Hangzhou Steam Turbine Co., Ltd.; Co., Ltd.; Shenyang Blower Group Co., Ltd: Shenyang General Equipment Branch, Shenyang Blower Group Ventilation Equipment Technology Co., Ltd.; Shanghai Li'an Lubrication Equipment Manufacturing Co., Ltd.; Changzhou Huali Hydraulic Lubrication Equipment Co., Ltd.; Jiangsu Guide Lubrication Hydraulic Technology Co., Ltd: Division, Shenyang Blower Group Gear Compressor Co., Ltd.; Wuxi Houde Automation Instrument Co., Ltd.; Shenyang Blower Research Institute (Co., Ltd: company): The main drafters of this document: Zhang Yong, Ma Chunmei, Xin Xiaopeng, Liu Hao, Zhai Ruihu, Wang Houfeng, Cheng Yong,

Zhuang Yongfei, Wang Yi, Xu Zhiqiang, Hao Yuming, Li Yuhong, Ding Xudong, Liu Jiawei:

Lubrication, shaft sealing and oil control systems and auxiliary equipment are turbocompressors, turboblowers, large industrial fans, speed changers, pumps and The most important supporting equipment for driving machines and other equipment: GB/T 42601 aims to establish the relevant regulations for the design, manufacture and procurement of lubrication, shaft seals, oil control systems and auxiliary equipment: composed of parts:

--- Part 1: General requirements: The purpose is to establish lubricating oil system, oil lubricated shaft seal system suitable for general purpose or special purpose Conventional requirements for system, dry gas lubrication end face shaft seal system and control oil system, while limiting the general application of lubricating oil system:

--- Part 2: Oil systems for special purposes: The purpose is to establish requirements for oil systems for special applications: These oil systems provide Lubricating and sealing oils for equipment such as compressors, gears, pumps and drives:

--- Part 3: Oil systems for general purposes: The purpose of this document is to establish requirements for general purpose oil systems which are capable of providing Lubricating oil instead of sealing oil, suitable for equipment such as compressors, transmissions, pumps and drives:

--- Part 4: Self-adjusting gas seal support system: The purpose is to establish a self-adjusting gas seal (dry gas seal) support It is applicable to equipment such as compressors, speed changers, pumps and drivers: As the first part of GB/T 42601, this document is equivalent to adopting ISO 10438-1:2007, which will help my country's fan industry and related To better understand and implement the relevant technical requirements in the standard, improve the lubrication, shaft sealing and control oil system and auxiliary equipment of the fan industry prepared technical level: This document is a code that fan companies must abide by in the design, manufacture and sales of main engine products and supporting products, and it can improve my country's Lubrication, shaft sealing, oil control system and auxiliary equipment product quality, and compete with similar international companies under the same standard conditions: exist Clauses or sub-clauses preceded by a (-) indicate that it is up to the buyer to decide or to provide further information, which needs to be indicated in the data sheet Come out, or clarify in the quotation or order: Petroleum, heavy chemical and natural gas industries Lubrication, shaft sealing and control oil systems and auxiliary equipment Part 1: General requirements

1 Scope

GB/T 42601.1-2023 is Part 1 of the Chinese series on lubrication, shaft sealing and control oil systems for the petroleum, petrochemical and gas industries. These skids sit next to the compressors and turbines of a plant and are the commonest cause of an unplanned trip:

the machine itself may be sound, but a plugged filter, a failed transfer valve or a lube oil pressure switch takes it offline, and in a refinery that is measured in hundreds of thousands of dollars a day. That is why the specification is so prescriptive about redundancy, materials and instrumentation. Part 1 sets the general requirements: the dimensions and units, the design, the system selection, the pressure design criteria, the basic design and the welding, then the piping - oil piping, instrument piping and process piping - and the components, instrumentation, inspection, testing and preparation for shipment. It took effect on 1 December 2023.

This document specifies general purpose or special purpose lubricating oil systems, oil lubricated shaft seal systems, dry gas lubricated face type shaft seal systems and control systems: The general requirements of the oil system limit the general application of the lubricating oil system: These systems can be used such as compressors, transmissions, pumps and drive machines and other equipment: This document can be used together with ISO 10438-2, ISO 10438-3, ISO 10438-4:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document:

GB/T 7306:1-2000 55° sealing pipe thread Part 1: Cylindrical internal thread and conical external thread (eqv ISO 7-1:1994)

GB/T 7306:2-2000 55° sealing pipe thread Part 2: Tapered internal thread and tapered external thread (eqv ISO 7-1:1994)

ISO 13706 Air-cooled heat exchangers for the petroleum, petrochemical and gas industries (Petroleum, petrochemical and

ISO 15761 Steel gate, globe and check valves ($\leq$ DN100) for the oil and gas industry (Steelgate, globe and

GB/T 28776-2012 Steel Gate Valves, Globe Valves and Check Valves ($\leq$ DN100) for Oil and Gas Industry (

ISO 15761:2002, MOD) gas industries-Shel-and-tube heat exchangers) mospheres)

GB/T 3836 (all parts) Explosive atmospheres [IEC 60079 (all parts)]

GB/T 4208-2017 enclosure protection level (IP code) (IEC 60529:2013, IDT)