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

GB/T 43077.4-2023

**Connections for hydraulic fluid power - Ports and stud ends
with general threads - Part 4: Hex plugs**

液压传动连接 普通螺纹平油口和螺柱端 第4部分：六角螺塞

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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 4 of GB/T 43077 "Hydraulic transmission connection of ordinary threaded flat oil ports and stud ends". GB/T 43077 has been issued The following parts have been published.

4. Hexagonal screw plug. This document is equivalent to ISO 9974-4.2016 "Pipe fittings for general purposes and fluid transmission with elastomers with ISO 261 threads" or metal-to-metal sealing ports and stud ends Part

4. Dimensions, design, test methods and requirements for external and internal hexagonal plugs. This document has made the following minimal editorial changes.

---Change the standard name to "Hydraulic Transmission Connection Ordinary Threaded

Flat Oil Port and Stud End Part

4.Hexagonal Screw Plug";

---The informational reference ISO 9974-1 has been deleted from the list of normative reference documents, and the normative reference ISO 5598 has been added;

---Deleted the "note" in the original range;

---Added footnotes to Chapter 2;

---Deleted the unit "bar";

---Changed the note of Figure 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 Hydraulic and Pneumatic Standardization Technical Committee (SAC/TC3). This document was drafted by: Shenzhen Kesten Hydraulic Equipment Co., Ltd., Hefei Baofa Power Technology Co., Ltd., Zhejiang Songqiao Gas Hydraulic Power Co., Ltd., Zhejiang Haigewei Hydraulic Technology Co., Ltd., Xiamen Qinghua Intelligent Transmission Co., Ltd., Zhejiang Haihong Hydraulic Technology Co., Ltd. Co., Ltd., Sichuan Chuanrun Hydraulic Lubrication Equipment Co., Ltd., Wenzhou Sanli Fasteners Co., Ltd., Hunan University, Taiyuan University of Science and Technology, Guangzhou Dongtianheng Hydraulic Machinery Co., Ltd., Xi'an Libeian Intelligent Technology Co., Ltd., Guangdong Hengxinya Technology Co., Ltd., Tianjin Jingyan Engineering Mechanical Transmission Co., Ltd., Jinhua Guanri Intelligent Technology Co., Ltd., and Beijing Machinery Industry Automation Research Institute Co., Ltd. The main drafters of this document. Wang Xueguo, Lou Zhongyu, He Xianjian, Wang Yuanshu, Yu Dongze, Wang Yongchao, Zheng Zhexing, Xiang Daxin, An Gaocheng, Wu Zhantao, Li Weijian, Liu Songlin, Huang Qiongfang, Feng Guoxun, Lin Pengxiang, Cao Qiaohui.

In a hydraulic transmission system, power is transmitted and controlled through pressurized fluid in a closed circuit. In general applications, fluids can be Delivered under pressure. The element connects the threaded oil port to the hard pipe or hose through a pipe or hose coupling. Can be closed by screwing in the screw plug Oil port. GB/T 43077 aims to determine the size and performance requirements for ordinary threaded flat oil ports and stud ends, and is intended to be composed of four parts.

1.Flat oil port. The purpose is to determine the size and performance requirements for ordinary threaded flat oil ports.

2.Elastomeric sealing stud end (Type E). The purpose is to determine the size and performance of ordinary threaded elastic sealing stud ends (Type E). Can request.

1 Scope

GB/T 43077.4-2023 is Part 4 of the Chinese series on hydraulic connections with general threads, and specifies hex plugs. A plug is the cheapest item in a hydraulic assembly and one of the more common causes of leaks and injection injuries, because it seals against a flat port face through an elastomeric ring at pressures of hundreds of bar and is often the part fitted last, by hand, without a torque wrench. The standard sets the plug sizes, the hexagon tolerances and the threads, the requirements on pressure and temperature and on performance, the elastomeric seal, the test method, the designation of the plugs, and their manufacture, covering machining, processing and surface treatment. It took effect on 7 September 2023.

This document specifies the dimensional and performance requirements for metric hexagon socket and hexagon socket plugs for use in ports complying with ISO 9974-1. The working pressure of the screw plug applicable to this document can reach up to 63MPa (the maximum working pressure depends on the end size, material, structure, Determined by working conditions and application occasions, etc.). Hexagonal plugs that only conform to the dimensions specified in this document are not guaranteed to achieve their rated performance.

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 3103.1-2002 Fastener tolerances bolts, screws, studs and nuts (idt ISO 4759-1.2000)

ISO 48-21) Determination of hardness of vulcanized or thermoplastic rubbers Part