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

GB/T 46624.1-2025

**Medium-transfer units for tool interfaces - Part 1: Transfer units
for hollow taper shanks in accordance with the GB/T 19449
series**

工具接口的介质传输单元 第1部分：符合GB/T 19449系列的空心工具柄的传输单元

(English Translation)

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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 46624 "Media Transmission Units for Tool Interfaces". GB/T 46624 has been published as follows.

part.

---Part 1: Transmission Units for Hollow Tool Handles Conforming to GB/T 19449 Series.

This document is modified to adopt ISO 22402-1:2021 "Mechanical interfaces - Media transfer units - Part 1: Conformity with ISO 12164 series".

The transmission unit of the hollow tool handle.

The technical differences between this document and ISO 22402-1:2021, and the reasons therefor, are as follows.

---The transmission unit type diagrams for types A, B, C, D, E, F, G, H, and J have been modified (see Figure 1~).

Figure 9), to adapt to my country's technological conditions;

---The dimensions of the D, E, and F type transmission units have been modified (see Table 3) to meet domestic usage requirements;

---The dimensions of the G-type, H-type, I-type, and J-type transmission units have been

modified (see Table 4) to meet domestic usage requirements;

---The tag has been changed (see 5.5) to meet domestic usage requirements.

The following editorial changes have been made to this document.

---To harmonize with existing standards, the standard name has been changed to "Media Transmission Units for Tool Interfaces - Part 1: Conformity with GB/T 19449" Transmission Unit for Hollow Tool Handles (Series);

---ISO 12164 (all parts) has been replaced with GB/T 19449 (all parts) as cited in the informational reference (see Chapter 1, 4.3 and Section 4.4).

Chapter 5);

---The marked citation has been deleted [see 4.3a).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Cutting Tools (SAC/TC91).

Introduction

In the machining industry, wet and micro-lubrication processes are becoming increasingly important. For wet machining, a large amount of cutting fluid is required continuously and stably.

The cutting fluid is delivered to the machining area via a high-efficiency flow section of the media transport unit, ensuring that it arrives quickly with sufficient flow and pressure to meet the requirements.

The system addresses the needs for cooling, lubrication, and chip removal; the "precision control" section can precisely adjust the delivery volume and timing of the cutting fluid according to changes in machining conditions.

This machine avoids resource waste. For micro-lubrication machining, only a very small amount of lubricating oil mist needs to be precisely sprayed onto the cutting point; the "precision control" part can...

Precise control of the amount, direction, and frequency of oil mist generation ensures lubrication while reducing oil consumption; the "high-efficiency circulation" section further assists...

The high-speed, lossless delivery of oil mist ensures accurate application to the processing area even in high-speed machining environments, significantly improving processing quality

and performance.

efficiency.

Hollow tool shanks (HSK) and pyramidal tool shanks (PSC) are widely used in the market. The International Organization for Standardization (ISO) established this standard in 2021.

Standards for media transmission units with these two interfaces were released in 2016 and 2022. GB/T 46624, "Media Transmission Units for Tool Interfaces," is proposed to be...

It consists of two parts.

---Part 1: Transmission Units for Hollow Tool Handles Conforming to GB/T 19449 Series.

The purpose is to provide a transmission unit for hollow tool handles (HSK).

Provide transmission unit design specifications.

---Part 2: Transmission units with pyramidal interfaces conforming to the GB/T 32557 series.

The purpose is to provide a transmission unit for pyramidal tool shanks.

(PSC) provides design specifications for transmission units.

Medium transmission unit of tool interface Part 1: Hollow cores conforming to GB/T 19449 series Transmission unit of tool handle

1 Scope

This document specifies the type, dimensions, materials, and heat treatment of wet machining transfer units and micro-lubrication (MQL) machining transfer units.

This document applies to transmission units with hollow tool shanks with internal threads that conform to GB/T 19449 (all parts).

2 Normative references

This document has no normative references.

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4.1 Type A Automatic Tool Changer Handle Transfer Unit

The type of transmission unit should be as shown in Figure 1, and the dimensions should be as specified in Table 1.

Index number explanation.

1 ---Transmission conduit;

2 --- Screw sleeve;

3 --- O-ring 1;

4 --- O-ring 2.

Installation status;

b. Polishing.

Figure 1 Type A transmission unit