



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

GB/T 40565.4-2021

**Connections for hydraulic fluid power. Quick-action couplings -
Part 4: Screw connection type at 72 Mpa**

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1 Scope

This document specifies the dimensions and requirements of screw connection type of hydraulic quick-action couplings at a pressure of 72 MPa.

This document is applicable to two types of quick-action couplings: Type-P, which has a poppet valve, and Type-S, which has a spherical valve.

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in the text. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 2351 Fluid Power Systems and Components - Outside Diameters of Tubes and Inside Diameters of Hoses (GB/T 2351-2021, ISO 4397:2011, IDT)

GB/T 17446 Fluid Power Systems and Components - Vocabulary (GB/T 17446-2012, ISO 5598:2008, IDT)

GB/T 20666 Unified Screw Threads - Tolerances (GB/T 20666-2006, ISO 5864:1993, MOD)

ISO 725 ISO Inch Screw Threads - Basic Dimensions

ISO 18869 Hydraulic Fluid Power - Test Methods for Couplings Actuated with or without Tools

3 Terms and Definitions

What is defined in GB/T 17446, and the following terms and definitions are applicable to this document.

3.1 fluid loss

Fluid loss refers to the amount of fluid that leaks when the quick-action couplings are disconnected.

3.2 residual static pressure

shall comply with the stipulations of ISO 18869.

5.7 The quick-action couplings shall ensure that either end can be connected under a residual static pressure of 10 MPa, and pass 100 connection durability tests under this pressure without functional damage. The test method shall comply with the stipulations of ISO 18869.

6 Precautions

6.1 The manufacturer of the quick-action couplings conforming to this document shall provide appropriate written instructions to provide users with information on safety, correct operation and maintenance, so as to ensure the correct and safe use of the products.

6.2 The quick-action couplings conforming to this document are subject to extremely high internal pressure, hence, the user shall always use the most suitable protective device when applying the products, and reserve a safe working area for the products.

6.3 The quick-action couplings designed in compliance with this document are not allowed to be connected or disconnected under the working pressure. The stipulations of Table 2 only allow connections at one end with the highest residual static pressure.

6.4 The Type-S quick-action couplings with spherical valve are not applicable to pressurization in the disconnected state.

7 Identification The couplings conforming to this document are identified as follows:

- a) "quick-action couplings";
- b) Serial No. of this document "GB/T 40565.4" and space character "-";
- c) Specifications and space character;
- d) Type of quick-action couplings: Type-P with poppet valve or Type-S with spherical valve.

Example: hydraulic quick-action couplings that comply with this document and have a specification of 6.3 and Type-P poppet valve are identified as follows: quick-action couplings GB/T 40565.4-6.3-P.

8 Marking The quick-action couplings conforming to this document shall at least be permanently marked with the manufacturer's name, trademark or product identification.

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