

ICS 49.080
CCS V 29



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

GB/T 45978-2025

**Pressure and temperature classifications for hydraulic
systemms of aerospace**

航空航天液压系统压力级别和温度型别

(English Translation)

Issued on: August 1, 2025

Implemented on: November 1, 2025

**Issued by: State Administration for Market Regulation, Standardization
Administration of China**

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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 is required.

This document is modified to adopt ISO 6771:2007 "Aerospace fluid systems and components - Pressure and temperature classification".

Compared with ISO 6771:2007, this document has the following structural adjustments.

--Added Chapter 2 "Normative References";

--Chapter 3 and Chapter 4 correspond to Chapter 2 and Chapter 3 of ISO 6771:2007.

The technical differences between this document and ISO 6771:2007 and their reasons are as follows.

--Deleted the description of hydraulic system application scenarios in the scope (see Chapter 1 of ISO 6771:2007) and added the scope of application (See Chapter 1), in line with domestic usage habits;

-- Deleted the statement "To meet the requirements of both systems, the higher pressure and higher temperature ranges should be used" (see ISO 6771.

2007, 3.2.1 and 3.2.2), which are in line with domestic usage practices.

The following editorial changes have been made to this document.

--To coordinate with the existing standard, the name of the standard will be changed to "Pressure Levels and Temperature Types for Aerospace Hydraulic Systems";

--Deleted the explanatory statements about the "old pressure levels" and "old temperature types" of the basic system in ISO 6771:2007;

--Deleted the footnotes on unit conversion and newly added pressure levels in Table 1 of

ISO 6771:2007, and added the footnotes on equivalent pressure.

Note on force value;

--Deleted the notes to Table 2, Table 3 and Table 4 in ISO 6771:2007.

1 Scope

This document specifies the pressure classes and temperature types of basic systems and their components commonly used in aerospace fluid systems.

This document applies to the design, production, and use of aerospace fluid systems.

2 Normative references

This document has no normative references.

3 Terms and Definitions

The following terms and definitions apply to this document.

basic system

Fluid systems used for aircraft control, with temperature types and pressure levels specified by the aircraft specifications.

NOTE 1: The basic system consists of several subsystems.

NOTE 2: Temperature type and pressure level are tested and certified as an integral part of aircraft performance.

component system

The temperature type and pressure level of the fluid component are usually specified by the product specification.

NOTE 1: Components are individually tested and qualified within each subsystem.

Note 2: The temperature and pressure tolerances of the components are selected appropriately to ensure that the subsystem achieves the same performance whether the components are used in the metric or imperial system.

4.1.1 General

The pressure levels of the basic system are shown in Table 1, and the temperature types are shown in Table 2. No tolerances are permitted for the pressure levels and temperature types of the basic system.

4.1.2 Pressure Level

The pressure level of the basic system shall comply with the requirements of Table 1.

Table 1 Basic system pressure levels

4 000 (40)

10 500 (105)

Pressure Level

Metric

Old pressure level

Pressure value

Basic pressure value kPa (bar) Equivalent pressure value a psi Imperial Old pressure level

Pressure value Basic pressure value psi Equivalent pressure value kPa