



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

GB/T 2877.2-2021

**Hydraulic two-port slip-in cartridge valves - Part 2: Mounting
dimensions**

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Foreword

GB/T 2877 "Hydraulic Two-way Cover Plate Cartridge Valve" is divided into the following four parts.

---Part 1. Graphical symbols;

---Part 2. Installation and connection dimensions;

---Part 3. Technical conditions;

---Part 4. Test method.

This part is Part 2 of GB/T 2877.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 2877-2007 "Hydraulic Two-way Cover Plate Cartridge Valve Installation and Connection Dimensions", and is consistent with GB/T 2877-2007

Compared with the editorial changes, the main technical changes are as follows.

---The maximum fillet radius R1 has been increased (see Chapter 4);

---Deleted the requirement on the identification of work pressure (see Chapter 7 of the.2007 edition);

---The tolerance of the diameter matching size of all valves and holes is changed from H8 to H7 (see Table 1~Table 16, Figure 1~Figure 16 of the.2007 edition);

---The minimum depth of threaded holes for fastening bolts has been modified from 1.5 times the bolt diameter to 1.8 times (see Table 1, Figure 1 of the.2007 edition);

--- Increased the maximum fillet radius allowed at the bottom of the cartridge valve mounting hole (see Chapter 6);

---The locating pin aperture of size 15 and size 16 is modified from dia. 9 to dia. 10 (see

Table 15, Table 16, Figure 15 and Figure 16 of the 2007 edition);

---A groove for installing O-rings has been added to the cover of size 16 (see Figure 16).

The translation method used in this section is equivalent to ISO 7368:2016 "Hydraulic Transmission Two-way Cover Plate Type Cartridge Valve Mounting Hole".

The Chinese documents that have a consistent correspondence with the international documents cited in this section are as follows.

---GB/T 131-2006 Product Geometric Technical Specification (GPS) Representation of surface structure in technical product documents (ISO 1302:

2002, IDT)

---GB/T 1804-2000 General tolerances The tolerances of linear and angular dimensions without tolerances (equiv ISO 2768-1:1989)

---GB/T 3452.3-2005 Hydraulic and pneumatic O-shaped rubber sealing ring groove size (ISO 3601-2:1999, MOD)

---GB/T 3505-2009 Product Geometrical Technical Specification (GPS) Surface structure profile method terms, definitions and surface structure

Parameters (ISO 4287:1997, IDT)

---GB/T 14043-2005 Hydraulic drive valve mounting surface and cartridge valve hole identification code (ISO 5783:1995, IDT)

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

This section has made the following editorial changes.

---Modified the standard name.

This part was proposed by China Machinery Industry Federation.

This part is under the jurisdiction of the National Hydraulic and Pneumatic Standardization Technical Committee (SAC/TC3).

Drafting organizations of this section. Shandong Taifeng Intelligent Control Co., Ltd., Ningbo Huaye Machinery Manufacturing Co., Ltd., Henan Pengli Technology Co., Ltd.

Co., Ltd., Xiamen Chengcan Industrial Equipment Co., Ltd., Beijing Machinery Industry Automation Research Institute Co., Ltd.

Introduction

In the hydraulic system, the power is transmitted and controlled by the pressurized fluid in the closed circuit. Hydraulic valve is a typical element in hydraulic system

It controls the flow direction, pressure or flow of liquid in a closed circuit.

Hydraulic two-way cover plate cartridge valve

Part 2. Installation and connection dimensions

1 Scope

This part of GB/T 2877 specifies the geometrical specifications related to the installation and connection of hydraulic two-way cover plate cartridge valves (hereinafter referred to as cartridge valves).

Poor to ensure interchangeability.

This section applies to the installation and connection of hydraulic two-way cover plate cartridge valves for general industrial equipment.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

Pieces. For undated reference documents, the latest version (including all amendments) is applicable to this document.

ISO 1302 Geometrical Product Specification (GPS) The representation of the surface structure in the technical product document [GeometricalProduct

Specifications(GPS)-Indicationofsurface textureintechicalproductdocumentation]

ISO 2768-1 General tolerances Part 1.Tolerances of linear and angular dimensions without tolerances (General tolerances-Part 1.

Tolerancesforlinearandangular dimensionswithoutindividualtoleranceindications)

ISO 3601-2 O-rings for fluid power systems-Part 2.Groove dimensions for general applications (Fluidpowersystems-

O-rings-Part 2.Housingdimensionsforgeneralapplications)

ISO 4287 Product Geometric Technical Specification (GPS) Surface Structure. Profile Method Terms, Definitions and Surface Structure Parameters

(GeometricalProductSpecifications(GPS)-Surfacetexture.Profilemethod-Terms,definitionsand

surfacetextureparameters)

ISO 5783 Hydraulic fluid power-Codeforiden-identification code for the mounting surface of the hydraulic transmission valve and the valve hole of the cartridge valve

(Hydraulic fluid power - Code for identification of valve mounting surfaces and cartridge valve cavities)

ISO 5598 Hydraulic power systems and components - Vocabulary
(Fluid power systems and components - Vocabulary)

3 Terms and definitions

The terms and definitions defined in ISO 5598 apply to this document.

The term base for standardization maintained by ISO and IEC can be obtained from the following website.

4 symbols

The following symbols apply to this document.

- a) A, B, X, Y, Z1 and Z2 identify the ports (in some cases it can be different from the following examples).
- 1) A. Oil inlet, working oil and oil outlet that vary with its position in the hydraulic circuit;
 - 2) B. Oil inlet, working oil port, and oil outlet that vary with its position in the hydraulic circuit;
 - 3) X. Pilot oil inlet;