



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

GB/T 8100.3-2021

**Mounting surfaces of hydraulic valves - Part 3:
Pressure-reducing valves, sequence valves, unloading valves,
throttle valves and check valves**

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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 of Standardization Documents" drafted:

This document is part 3 of GB/T 8100 "Hydraulic Valve Mounting Surface": GB/T 8100 has released the following parts:

--- Part 2: Speed control valve;

--- Part 3: Pressure reducing valves, sequence valves, unloading valves, throttle valves and check valves:

This document replaces GB/T 8100-2006 "Fluid transmission pressure reducing valve, sequence valve, unloading valve, throttle valve and one-way valve mounting surface",

Compared with GB/T 8100-2006, the main technical changes are as follows:

--- Changed normative references (see Chapter 2, Chapter 2 of the:2006 edition);

--- Deleted the mounting surface with the main oil port diameter of 4mm (see 6:7, 7:12, Figure 16, Figure 17 of the:2006 edition);

--- Delete the provisions on the flow direction of hydraulic oil (see 7:13 of the:2006 edition);

--- Deleted Appendix A (see Appendix A of the:2006 edition):

This document is revised and adopted ISO 5781:2016 "Fluid transmission pressure reducing valve, sequence valve, unloading valve, throttle valve and one-way valve mounting surface":

The technical differences between this document and ISO 5781:2016 and their reasons are

as follows:

--- Regarding normative reference documents, this document has made adjustments with technical differences to adapt to the technical conditions of our country and the circumstances of the adjustment:

The situation is reflected in Chapter 2 "Normative References", and the specific adjustments are as follows:

- * Replace ISO 1219-1 (see 4:2) with GB/T 786:1 which is equivalent to adopting international standards;
- * Replace ISO 4401 with GB/T 2514 modified to adopt international standards (see Chapter 8);
- * Replace ISO 5783 with GB/T 14043 which is equivalent to adopting international standards (see 4:3);
- * Replace ISO 5598 with GB/T 17446 which is equivalent to adopting international standards (see Chapter 3);
- * Removed ISO 3601-2:2008 (see ISO 5781:2016, Chapter 2 and 5:1):

--- Delete the provisions on the direction of hydraulic oil flow (see ISO 5781:2016, 7:12):

The following editorial changes have also been made to this document:

--- Change the installation surface code "5781-x-x-x-16" to "GB/T 8100:3-x-x-x-2021";

--- Change the code name "5781-10-13-0-16" to "8100:3-09-13-x-2021":

Please note that some content of this document may be patented: The issuing agency of this document assumes no responsibility for identifying patents:

Introduction

In a hydraulic transmission system, power is transmitted and controlled through a pressurized fluid in a closed circuit: The hydraulic valve is the most typical in the system

A type of element that controls the direction, pressure or flow of fluid in a closed loop:

GB/T 8100 specifies the dimensions of the installation surface of hydraulic valves, which are to be composed of 5 parts:

--- Part 1: Four-port directional valve: The purpose is to determine the size of the installation surface of the four-port directional valve (temporarily GB/T 2514-2008):

--- Part 2: Speed control valve: The purpose is to determine the size of the mounting surface of the speed control valve:

--- Part 3: Pressure reducing valves, sequence valves, unloading valves, throttle valves and

check valves: The purpose is to determine the pressure reducing valve, sequence valve, unloading valve, joint

Dimensions of the mounting surface for flow valves and check valves:

--- Part 4: Relief valve: The purpose is to determine the size of the mounting surface of the relief valve (temporarily GB/T 8101-2002):

--- Part 5: Four-port and five-port servo valves: The purpose is to determine the size of the installation surface of the four-port and five-port servo valves (temporarily for

GB/T 17487-1998):

The five parts of GB/T 8100 are formulated by ISO 's independent standards: In order to facilitate the systematic management and implementation of the standards, the independent standards are

The quasi-combination is a sub-section standard:

Hydraulic valve mounting surfaces - Part 3: Pressure reducing valves, sequence valves, Unloading Valves, Throttle Valves and Check Valves

1 Scope

This document specifies the dimensions and related data of the mounting surfaces of hydraulic pressure reducing valves, sequence valves, unloading valves, throttle valves and check valves to ensure the use of

interchangeability:

This document applies to the mounting surfaces of hydraulic pressure reducing valves, sequence valves, unloading valves, throttle valves and check valves currently commonly used in industrial equipment:

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to

this document:

GB/T 786:1 Graphical symbols and circuit diagrams of fluid transmission systems and components - Part 1: Graphical symbols (GB/T 786:1-

2021, ISO 1219-1:2012, IDT)

GB/T 2514 Hydraulic transmission four-port directional control valve mounting surface
(GB/T 2514-2008, ISO 4401:2005, MOD)

GB/T 14043 Identification code of hydraulic transmission valve mounting surface and valve
hole of cartridge valve (GB/T 14043-2005, ISO 5783:

1995, IDT)

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

3 Terms and Definitions

Terms and definitions defined in GB/T 17446 apply to this document:

4 symbols

4:1 The following symbols apply to this document:

- a) A, B, P, T, X and Y indicate ports;
- b) F1, F2, F3, F4, F5 and F6 indicate threaded holes for fixing screws;
- c) G represents the positioning pin hole;
- d) D represents the diameter of the fixing screw;
- e) r_{max} represents the edge fillet radius of the mounting surface:

4:2 The graphic symbols used in this document comply with the provisions of GB/T 786.1:

4:3 The codes in this document are in accordance with the provisions of GB/T 14043:

5 Tolerance

5:1 The mounting surface (that is, the area within the double-dotted line) should adopt the
following tolerances:

---Surface roughness: $Ra \leq 0.8 \mu m$;