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

GB/T 38205.2-2025

**Hydraulic fluid power - Mounting dimensions for single rod
cylinders, 16 MPa series - Part 2: Compact series with bores
from 25 mm to 220 mm**

(English Translation)

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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.

This document is Part 2 of GB/T 38205 "Installation Dimensions of Hydraulic Transmission 16MPa Series Single Rod Cylinders".

The following parts have been published.

- Part 1: Medium series;
- Part 2: Compact series with cylinder diameters of 25 mm to 220 mm;
- Part 3: Compact series with cylinder diameters of 250 mm to 500 mm.

This document is modified to adopt ISO 6020-2:2015 "Hydraulic transmission 16MPa (160bar) series single-rod cylinder installation dimensions Part 2 Part. Compact Series.

The technical differences between this document and ISO 6020-2:2015 and their reasons are as follows.

- Increased the scope of application (see Chapter 1) to adapt to my country's technical conditions;
- The normative references GB/T 17446 replace ISO 5598 (see Chapter 3), GB/T 9094 replaces ISO 6099 (see 4.3, Chapter 7), GB/T 2348 replaced ISO 3320 (see Chapter 5, Table 1), GB/T 5277 replaced ISO 273 (see Table 2, Table 3 and Table 7), in order to adapt to my country's technical conditions and improve operability;
- Added the piston rod end type and size requirements (see 8.2) and the installation size requirements of accessories (see 8.3) to adapt to my country's technology Conditions,

improve operability;

--- Added five cylinder diameters of 90mm, 110mm, 140mm, 180mm and 220mm (see Table 1 to Table 14) to suit Improve operability in response to my country's technical conditions;

--- Deleted the "OD" column and notes in Table 2 of ISO 6020-2:2015 to adapt to my country's technical conditions and improve operability;

---Change the tolerance value "max" of "FF" in ISO 6162-1 rectangular flange, type 1 oil port to "0-0.15", and the hole value "25" to "25.6" (see Table 14) to adapt to my country's technical conditions and improve operability;

--- Added the installation dimension limit deviation value determined by the stroke "S >8000" (see Table 15) to adapt to my country's technical conditions Improve operability;

--- The stroke limit deviation value of stroke "S >8000" (see Table 16) has been added to adapt to my country's technical conditions and improve operability.

The following editorial changes were made to this document.

--- In order to coordinate with the existing standards, the name of the standard is changed to "Installation Dimensions of Hydraulic Transmission 16MPa Series Single Rod Cylinders Part 2 Divided into. Compact series with cylinder diameters of 25mm to 220mm;

--- Deleted the notes to Chapter 1 and Chapter 5 of ISO 6020-2:2015;

--- Change the "Swing angle Z" column in Table 6 of ISO 6020-2:2015 to a paragraph in Table 6;

--- Present the travel limit deviation in ISO 6020-2:2015 in the form of a table (see Table 16);

--- Deleted the footnote of Table 15 in ISO 6020-2:2015;

--- Additional information on size selection values is added to Tables 1 to 14;

--- Added "Units are millimeters unless otherwise specified" in the upper right corner of Table 14;

--- Changed the reference list.

Introduction

In a hydraulic fluid power system, power is transmitted and controlled by pressurized fluid in a closed circuit.

A hydraulic actuator that converts pressure energy into mechanical energy to achieve linear motion. The moving components include pistons, piston rods, etc.

GB/T 38205 aims to determine the installation dimensions of the 16MPa series single-rod

cylinders and is intended to consist of three parts.

--- Part 1: Medium series. The purpose is to determine the installation dimensions of 16MPa series medium single-rod cylinders.

--- Part 2: Compact series with cylinder diameters of 25 mm to 220 mm. The purpose is to determine the 16 MPa series of compact single-rod cylinders (cylinders the installation dimensions are 25mm~220mm in diameter).

--- Part 3: Compact series with cylinder diameters of 250 mm to 500 mm. The purpose is to determine the 16 MPa series of compact single-rod cylinders (cylinders the installation dimensions are 250mm~500mm in diameter).

Hydraulic transmission 16MPa series single rod cylinder Installation dimensions Part 2:
Cylinder diameter 25mm~ 220mm Compact Series

1 Scope

This document specifies the installation dimensions of the 16MPa series compact hydraulic single-rod cylinders to meet interchangeability requirements.

This document is applicable to square head hydraulic single-rod cylinders (hereinafter referred to as hydraulic cylinders) with a nominal pressure of 16MPa and a cylinder diameter of 25mm~220mm.

pressure cylinder).

NOTE: This document provides basic guidelines only and does not restrict its technical application, allowing manufacturers to use it flexibly in the design of hydraulic cylinders.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 2348 Fluid transmission systems and components - Cylinder diameter and piston rod diameter (GB/T 2348-2018, ISO 3320:2013, MOD) GB/T 2350 Fluid transmission systems and components Piston rod thread types and dimension series (GB/T 2350-2020, ISO 4395.

2009,MOD)

GB/T 5277 Fasteners - Through holes for bolts and screws (GB/T 5277-1985, eqvISO 273.1979) GB/T 9094 Fluid transmission system and component cylinder installation

dimensions and installation type codes (GB/T 9094-2020, ISO 6099.

2018, IDT)

GB/T 17446 Fluid power systems and components vocabulary (GB/T 17446-2024, ISO 5598:2020, MOD) GB/T 39949.2 Installation dimensions of hydraulic transmission single-rod cylinder accessories Part 2.16MPa cylinder diameter 25mm~220mm tight Compact series (GB/T 39949.2-2021, ISO 8133:2014, MOD)

3 Terms and definitions

The terms and definitions defined in GB/T 17446 apply to this document.

4 Dimensions

4.1

The installation dimensions of the hydraulic cylinder should be selected from Figures 1 to 13 and the corresponding Tables 1 to 13.

4.2

The types and dimensions of oil ports and flanges shall comply with Table 14.

4.3

All dimensions in this document are marked according to the codes specified in GB/T 9094.

4.4

The installation dimension limit deviation determined by the stroke shall comply with Table 15.

5 Cylinder diameter

The cylinder diameters covered by this document shall comply with GB/T 2348, see Table 1.