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

**GB/T 9094-2020**

Replacing GB/T 9094-2006

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**Fluid power systems and components. Identification code for  
cylinders mounting dimensions and mounting types**

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## Foreword

This standard was drafted in accordance with the rules given in GB/T 1:1-2009:

This standard replaces GB/T 9094-2006 "Hydraulic Cylinder Installation Dimensions and Installation Type Code", compared with GB/T 9094-2006

See Appendix NA for the main technical changes:

The translation method used in this standard is equivalent to ISO 6099:2018 "Installation Dimensions and Installation Types of Fluid Transmission Systems and Component Cylinders

Style code":

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

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

This standard has made the following editorial changes:

---Added the application instructions of letter codes in the chart;

---Added informative appendix NA:

This standard was proposed by China Machinery Industry Federation:

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

Drafting organizations of this standard: Hefei Changyuan Hydraulic Co., Ltd., Xuzhou Xugong Hydraulic Parts Co., Ltd., Shaoguan Hydraulic Parts Factory Co., Ltd.,

Yantai Future Automatic Equipment Co., Ltd., Beijing Machinery Industry Automation Research Institute Co., Ltd:

## Introduction

In a fluid transmission system, power is transmitted and controlled through a pressurized fluid (liquid or gas) in a closed circuit: Normal system

Its components are designed and sold for specific fluid pressure:

Hydraulic cylinders and air cylinders are one of these components, which are devices that convert fluid power into linear mechanical force and motion: It includes a transport

Moving parts, namely the piston and piston rod that move in the cylinder:

Although this standard provides codes and dimensioning methods for cylinder installation, it does not cover all dimensions: Code specified in this standard

For the future formulation of interchangeability standards is not perfect, it only establishes a unified and standardized description of installation dimensions:

Without causing confusion or misunderstanding, the code specified in this standard can also be used for the size of similar products:

Fluid transmission system and components

Cylinder installation size and installation type code

## 1 Scope

This standard specifies the installation dimensions and identification codes of the installation type of hydraulic cylinders and air cylinders (hereinafter referred to as cylinders), including: installation dimensions of cylinders

Dimensions, external dimensions, accessory dimensions and connection port dimensions, as well as the identification code of the installation type and accessory type:

This standard does not include all hydraulic cylinders and cylinder installation types and accessory types:

## 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 references, the latest version (including all amendments) applies to this document:

ISO 5598 Fluidpower systems and components-Vocabulary

(Fluidpowersystemsandcomponents-Vocabulary)

### 3 Terms and definitions

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

ISO and IEC maintain databases for standardized terminology at the following websites:

---IEC Electronic Open Platform: <http://www.electropedia.org/>;

---ISO online browsing platform: <http://www.iso.org/obp>;

### 4 Identification code of piston rod end type

#### 4:1 Reference point and code

##### 4:1:1 Overview

##### 4:1:1:1 First reference point

The axial size of the cylinder is determined by the reference point, which is the same for all cylinders no matter how the cylinder is installed: The theoretical basis

The Punctual Point (TRP) is the transfer point where the force is transferred from the piston rod to the moving parts, called the first reference point:

##### 4:1:1:2 Second reference point

For a double-piston rod cylinder, the second reference point refers to the point from the first reference point to the shoulder of the other end of the piston rod as ZM: The reference point is

The reference point used to install the piston rod attachment at the other end:

##### 4:1:2 Flat piston rod end

For the flat piston rod end, the reference point is the intersection point of the piston rod end surface and the piston rod axis, as shown in Figure 1: