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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 38178.2-2019

Hydraulic fluid power -- Mounting dimensions for single rod cylinders, 10 MPa series -- Part 2: Short-stroke series

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Foreword

GB/T 38178 "Hydraulic transmission 10MPa series single rod cylinder installation size" is divided into the following two parts.

--- Part 1. General series;

--- Part 2. Short stroke series.

This part is the second part of GB/T 38178.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This section uses the redrafting method to modify the use of ISO 16656.2016 "hydraulic drive for 10MPa (100bar), cylinder diameter 32mm

Installation size to single rod short stroke cylinder of 100mm.

The technical differences between this part and ISO 16656.2016 and their reasons are as follows.

---About the normative reference documents, this part has made technical adjustments to adapt to China's technical conditions, adjustments

The situation is reflected in Chapter 2, "Regulatory Citations", and the specific adjustments are as follows.

* Replace ISO 3320 with GB/T 2348 modified to international standards (see Chapter 4, Table 2, footnote a);

* Replace ISO 4395 with GB/T 2350 equivalent to the international standard (see 6.2, footnote b of Table 2);

* Replace ISO 6149-1 with GB/T 2878.1 equivalent to the international standard (see Table 2);

* Replace ISO 273 with GB/T 5277 equivalent to the international standard (see footnote c in Table 2);

* Replace ISO 6099 with GB/T 9094 equivalent to the international standard (see 7.2);

* Replace ISO 5598 with GB/T 17446 equivalent to the international standard (see Chapter 3);

* ISO 965-3, ISO 4393 have been deleted (see Chapter 2 of ISO 16656.2016, footnote c of Table 2).

--- Removed the term "installation" as specified in GB/T 17446-2012 (see ISO 16656.2016, 3.1).

--- Increased cylinder diameter and related data of 90mm specifications (see Table 2).

--- Increased piston rod end type and size (see 6.2).

--- Added the identification code "RTFX" and "RTMX" of the piston rod end with internal and external threads (see Figure 1, Figure 2).

--- The letter code of the length of the rear guide shoulder is changed from "VD" to "VA", and the letter code of the diameter of the rear guide shoulder is repaired by "phiB"

Change to "phiBA" and increase the data related to "VA" and "phiBA" (see Figure 1, Figure 2, Table 2).

--- The port "G1/4" of the bore 80 is modified to "G3/8" (see Table 2).

--- Figure 1, Figure 2 size "FB" is changed to "4 x phiFB", "DA" is modified to "

4xphiDA

Two sides", label the front KE size.

This section has made the following editorial changes.

--- Use the physical quantity specified in GB 3102.3 and its symbol, delete the "(100bar)" in the standard name and text.

This part was proposed by the China Machinery Industry Federation.

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

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1 Scope

This part of GB/T 38178 specifies the installation dimensions of 10MPa series short-stroke single-rod hydraulic cylinders to meet the mutual hydraulic cylinders.

Changeability requirements.

This section applies to short-stroke hydraulic cylinders with a cylinder diameter of 32mm~100mm.

Note 1. This section only provides basic guidelines and does not limit its technical application, allowing manufacturers to use flexibly in the design of hydraulic cylinders.

Note 2. Hydraulic cylinders that meet the requirements of this section may require sufficient installation space.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 2348 fluid transmission system and component bore and piston rod diameter (GB/T 2348-2018, ISO 3320.2013,

MOD)

GB/T 2350 Hydraulic and pneumatic systems and components piston rod thread type and size series (GB/T 2350-1980, eqv

ISO 4395.1978)

GB/T 2878.1 Hydraulic drive connection with metric and stud ends for metric and O-ring seals Part 1. Port

(GB/T 2878.1-2011, ISO 6149-1.2006, IDT)

GB/T 5277 fastener bolts and screw through holes (GB/T 5277-1985, eqvISO 273.1979)

GB/T 9094 hydraulic cylinder cylinder installation size and installation type code (GB/T 9094-2006, ISO 6099.2001, IDT)

GB/T 17446 fluid drive system and component vocabulary (GB/T 17446-2012, ISO 5598.2008, IDT)

ISO 1179-1 Pipe couplings for hydraulic transmission and general purpose with ISO 228-1 thread with elastomeric seal or metal to metal

Sealed port and stud end Part 1. Threaded port
(Connectionsforgeneraluseandfluidpower-Portsand

studendswithISO 228-1threadswithelastomericormetal-to-metalsealing-Part 1.Threadedports)

3 Terms and definitions

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

4 bore

The bore should meet the requirements of GB/T 2348.

5 piston stroke and tolerance

See Table 1 for piston stroke and tolerance.