ICS 17.040.30
CCS J42

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 1216-2018

Replacing GB/T 1216-2004

External micrometer

外径千分尺

Issued on: May 14, 2018 **Implemented on: December 1, 2018**

Issued by: State Administration for Market Regulation;
Standardization Administration of China

Table of Contents

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 1216-2004 "outer diameter micrometer". This standard is compared with GB/T 1216-2004, except for editorial modifications. In addition, the main technical changes are as follows:

--- Scope of application removed the outer diameter micrometer with a graduation value of 0.005mm (see Chapter 1, Chapter 1 of the.2004 edition);

--- Modified the definition of the outer diameter micrometer (see 3.1,

3.1 of the.2004 edition);

--- Increased the type of outer diameter micrometer (see 4.1.1);

--- Increased the type and description of the outer diameter micrometer reading device (see 4.1.2);

--- Modified the basic parameters of the outer diameter micrometer (see 4.2,.2004 version 4.2);

--- Modified the deformation requirements of the ruler (see 5.3.1,

5.3.1 of the.2004 edition);

---Modified the technical requirements for micrometer screw and anvil (see 5.4,.2004 edition 5.4);

--- Revised the technical requirements for interaction (see 5.5,

5.5 and Appendix A of the.2004 edition);

---Modify the "force measuring device" as "locking device" (see 5.6,

5.6 of the.2004 edition);

1 Scope

GB/T 1216-2018 is the Chinese national standard on external micrometer, in the field of metrology and measurement. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 14 May 2018 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 December 2018. Classification: ICS 17.040.30, CCS J42. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

c) Anvil can adjust the position (or movable) outer diameter micrometer Description. 1

---measurement surface; 2

---micrometer screw; 4

---foot frame; 5

---insulation device; 6

---locking device; 7

---fixed casing; 8

--- ruler analog reading device; 10

---microtube; 11

---force measuring device; 12

---counter digital reading device; 13

---replaceable anvil; 14

---Adjustable position (or movable) anvil. Figure 1 (continued)

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 1800.2-2009 Geometrical Product Specifications (GPS) Limits and fits. Part 2. Standard tolerance classes and Limit deviation table

GB/T 17163-2008 Geometric quantity measuring instrument terminology basic terminology

GB/T 17164-2008 Geometric quantity measuring instrument terminology product terminology

3 Terms and definitions

The following terms and definitions as defined in GB/T 17163-2008 and GB/T 17164-2008 apply to this document.

3.1 Using the screw pair to convert the rotation angle of the micrometer screw into the axial displacement of the micrometer screw, and the distance between the two measuring surfaces on the scale frame An external measuring device that performs readings.

Note. Rewrite GB/T 17164-2008, definition 2.3.2.

3.2 Micrometer maximum allowable error maximumpermissibleerrorofmeasuringhead The influence of the anvil and the ruler is neglected, and only the maximum allowable error of the indication of the micrometer is specified.

4.1 Type

4.1.1 Outer diameter micrometer main type The type of the outer diameter micrometer is shown in Figure 1, and the illustration is for illustration purposes only. The anvil of the outer diameter micrometer can be made fixed, replaceable or adjustable (or movable). The outer diameter micrometer readings have analog scale readings and counter digital readings. The outer diameter micrometer should be equipped with a zero adjustment tool. The outer diameter micrometer of the lower limit of the measurement range greater than or equal to 25mm should be accompanied by proofreading. Measuring rod.

a) Fixed anvil fixed micrometer

b) Anvil can be replaced with an outer diameter micrometer Figure

4.1.2 Outside diameter micrometer reading device

4.1.2.1 Analog scale reading device The analog scale reading device is shown in Figures 2 and 3. Description. 1

---main ruler; 2

Note. The reading in the figure is 35.04mm. Figure

2 Analog scale reading device (the pitch of the micro screw is 0.5mm, the graduation value is 0.01mm) Description. 1

---main ruler; 2

--- vernier ruler.

Note. The reading in the figure is 5.005mm. Figure

3 Analog scale reading device (the pitch of the micro screw is 0.5mm, the graduation value is 0.001mm)

4.1.2.2 Counter digital reading device The counter digital reading device is shown in Figure 4. Description. 1

---Counter digital reading device. Figure 4 counter digital reading device

4.2 Basic parameters The basic dimensions of the outer diameter micrometer are shown in Figure 5 and Table 1. The lower limit of the measurement range of the outer diameter micrometer is preferably 0, or an integral multiple of the range. Figure

5 Basic dimensions of the outer diameter micrometer Table

1 Basic dimensions are in millimeters Basic size nominal value The nominal diameter of the portion of the micrometer screw and the anvil that protrudes from the frame, D1a 5, 6.35, 6.5, 7.5,

8.0 The length of the anvil is extended by the frame, L1 >=

3 Measuring the length of the micro screw protruding from the frame at the upper limit of the measuring range, L2 >=

3 Upper limit of measuring range of outer diameter micrometer, L3 <=1000 The range of the outer diameter micrometer, L4a 13,15,25,

50 Ruler depth, L5 >= 0.5 x L

3 The outer diameter micrometer micrometer screw pitch a 0.5,1 a Manufacturer may choose other parameters.

5.1 Appearance The outer diameter micrometer should not have defects such as rust, bumps, scratches, cracks, etc. that affect the performance.