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

GB/T 8177-2024

Replacing GB/T 8177-2004

Internal micrometers with two-point contact

两点内径千分尺

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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 replaces GB/T 8177-2004 Two-point internal micrometer: Compared with GB/T 8177-2004, except for structural adjustment and editing, In addition to the changes in performance, the main technical changes are as follows:

- a) Added the type of rod-type internal diameter micrometer in the range (see Chapter 1);
- b) The definition of two-point internal micrometer has been changed (see 3:1, 3:1 of the:2004 edition);
- c) The two-point internal micrometer type has been changed (see 4:1, 4:1 of the:2004 edition);
- d) Added two-point internal diameter micrometer to measure the axial movement between the screw and the nut (see 5:3);
- e) The hardness requirements of the measuring surface have been changed (see 5:5:1, 5:5:1 of the:2004 edition);
- f) The requirements for digital display devices have been deleted (see 5:7 of the:2004 edition);
- g) The allowable variation of the length dimension of the two-point internal micrometer has been changed (see 5:8:2, Table 1, and 5:9:2 of the:2004 edition);

- h) The tool for adjusting the zero position of the two-point internal micrometer has been changed (see 5:9:1, 5:10:1 of the:2004 edition);
- i) Added the hardness value, indication error and parallelism requirements for the calibration caliper measuring surface (see 5:9:2);
- j) Added the inspection conditions for two-point internal micrometer (see Chapter 6);
- k) The inspection method for indication error has been changed (see 7:1, 6:1 of the:2004 edition);
- l) The inspection method for the allowable variation of length dimension has been changed (see 7:2, 6:2 of the:2004 edition);
- m) Added the inspection method for calibration gauge indication error and parallelism of two working surfaces (see 7:3):

Please note that some of the contents of this document may involve patents: The issuing organization of this document does not assume the responsibility for identifying patents:

This document was proposed by the China Machinery Industry Federation:

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This document was drafted by: Chengdu Xincheng Measuring Tools Co., Ltd., Guilin Measuring Tools and Blades Co., Ltd., Chengdu Tools Research Institute Co., Ltd:

Guilin Guanglu Digital Measurement and Control Co., Ltd., Harbin Measuring Tools and Cutting Tools Group Co., Ltd., Qingliang Technology (Shenzhen) Co., Ltd., Qinghai Measuring Tools Tools and Blades Co., Ltd., Suzhou Guoliang Measuring Tools Technology Co., Ltd:

The main drafters of this document are: Wang Ting, Huang Longrong, Wei Gaihong, Mei Yingtao, Xu Gang, He Yixian, Yan Liexue, Zhang Wei, Sun Yunchen, Ma Shibin, Zhao Yonghai and Zhao Jian:

This document was first published in 1987; when it was first revised in:2004, GB/T 9057-1988 "Single-rod internal micrometer" was incorporated; This is the second revision: Two-point inside micrometer

1 Scope

This document specifies the types and basic parameters of two-point internal micrometers (including connecting rod internal micrometers and single rod internal micrometers):

General rules, inspection conditions, inspection methods, marking and packaging:

This document is applicable to graduation values of 0:01mm, 0:001mm, 0:002mm,

0:005mm, and micrometer screw pitch of 0:5mm or 1:0mm, the upper limit of measurement is not more than 6000mm, the rod-type internal diameter micrometer and the single-rod internal diameter micrometer (excluding electronic digital internal diameter micrometer)
Design, manufacture and inspection of scales:

2 Normative references

GB/T 17163

GB/T 17164

3 Terms and definitions

The terms and definitions defined in GB/T 17163 and GB/T 17164 and the following apply to this document: 3:1 An internal dimension measuring instrument that uses the principle of screw pair to read the distance between the spherical measuring surfaces at both ends of the main body:

Note: It is referred to as internal micrometer: Among them, the one without extension rod, i.e: the integral structure, is also called single-rod internal micrometer:

4 Types and basic parameters

4:1 Type The schematic diagram of the connecting rod type internal diameter micrometer is shown in Figure 1, and the schematic diagram of the single rod type internal diameter micrometer is shown in Figure 2:

The illustrations are for illustrative purposes only: