



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

GB/T 12807-2021

Laboratory glassware - Graduated pipettes

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1 Scope

This standard specifies the product classification and specifications, structure, graduation line and number, technical requirements, outflow time, test methods, inspection rules, marking, packaging, transportation, storage of graduated pipettes for laboratory use.

This standard applies to various types of graduated pipettes used in laboratories.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document;

for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

GB/T 2828.1 Sampling procedures for inspection by attributes - Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

GB/T 6543 Single and double corrugated boxes for transport packages

GB/T 6582 Glass - Hydrolytic resistance of glass grains at 98 °C - Method of test and classification

GB/T 15726 Glassware - Stress examination methods

JJG 196 Verification regulation of working glass container

3 Product category and specifications

The product category and specifications of graduated pipettes are as shown in Table 1.

5.1.4 The length of the graduation line shall meet the requirements in Table 2.

5.2 Length of graduation line

5.2.1 Incomplete flow-out pipette's graduation line length:

- The length of the short line shall not be less than 10% of the circumference of the graduated pipette AND shall not be greater than 20% of the circumference of the graduated pipette;
- The length of the middle line shall be close to 1.5 times the length of the short line AND shall symmetrically exceed both ends of the short line;
- The length of the long line shall not be shorter than twice the length of the short line AND shall extend symmetrically beyond the ends of the short and middle lines.

5.2.2 Other pipette's graduation line length:

- The length of the short line shall not be less than 10% of the circumference of the graduated pipette AND shall not be greater than 20% of the circumference of the graduated pipette;
- The length of the middle line is about 1.5 times the length of the short line AND shall symmetrically exceed both ends of the short line;
- The long line shall extend around the entire circumference of the graduated pipette, BUT a gap not exceeding 10% of the circumference is allowed.

5.3 Graduation line sequence

5.3.1 For graduated pipettes, which have a minimum division value of 0.01 mL or 0.1 mL, the graduation lines are arranged as follows:

- Every tenth graduation line shall be a long line;
- There shall be a median line between two adjacent long lines;
- There shall be four short lines between the adjacent middle and long lines.

5.3.2 For graduated pipettes which have a minimum graduation value of 0.02 mL or 0.2 mL, the graduation lines are arranged as follows:

- Every fifth index line shall be a long line;
- There shall be four short lines between two adjacent long lines.

5.3.3 For pipettes which have a minimum graduation value of 0.05 mL, the division lines are

arranged as follows:

9.2.3 Inspection implementation and inspection results Inspection items, inspection levels, acceptance quality limits shall comply with the provisions in Table 8. The manufacturer conducts inspections, according to the exit-factory inspection items in Table 7. Only batches of products that pass the inspection can leave the factory; a certificate of conformity shall be attached when leaving the factory. All unqualified batches after inspection shall be returned to the production department for full inspection; after the unqualified products are eliminated, they are allowed to submit to the exit-factory inspection again.

9.3 Type inspection In one of the following situations, type inspection shall be carried out:

- When new products are subject to type-finalized identification;
- After formal production, if there are major changes in structure and process, which may affect product performance;
- When the exit-factory inspection result is significantly different from the previous type inspection;
- During normal production, inspection shall be carried out once a year;
- When the relevant quality inspection agency requests type inspection.

10 Marking, packaging, transportation, storage

10.1 Marking

10.1.1 Product marking The product marking shall contain the following:

- Manufacturer's trademark;
- Standard temperature "20 °C";
- Nominal capacity value and unit "mL";
- Grade symbol "grade A" or " grade B";
- Blowout symbol "Blow" or "blow_out";
- Measuring-out symbol "EX";
- If a waiting time is specified, it shall be marked "15 s".