



Cobb Water Absorbency Testing Machine Operating Instruction

Model: LD-KBX201

Preface

Thank you for choosing our products! We not only provide high quality products, but also reliable after-sales service.

In order to ensure the safety of the operator and keep the machine working well, kindly read related user manual carefully before operating machine; pay more attention to the operating notes. This manual will illustrate the design principles, design criteria, structure, operation specification, calibration, maintenance, some failure case and solutions and so on. If this manual ever mention some expressions like "test requirement", "standards", please note all of them would only be for your reference. Kindly review relevant standards or data by yourself if you disagree with this.

1. Overview

Cob hydroscopicity tester for paper and paperboard is a special instrument for the determination of surface hydroscopicity of paper and paperboard. Its main technical indexes and performance parameters comply with the relevant provisions of ISO535 "paper and paperboard -- determination of hydroscopicity -- Cobb law" and QB/T1668 "hydroscopicity tester". This instrument is mainly used to measure the surface absorption of sizing paper and paperboard under standard conditions. Loose paper (such as press printing paper), unsized paper (such as blotting paper) and other paper with high water absorption are not suitable for this instrument. Other test methods and instruments should be used.

2. Parameter

Item	Describe
Test area	100cm ² ±0.2cm ²
Sample size (diameter)	Φ125mm
Test water consumption	100ml±5ml
Roller length	200mm±0.5mm
Roller weight	10kg±0.5kg
External size (length × width × height)	430mm×320mm×320mm
Weight	About 30kg

3. Unpacking and commissioning

3.1 Split open a case

The instrument is packed in wooden cases. When unpacking, open the top plate of the packing box, take out the random technical documents in the data bag inside the box, and clean the contents of the box according to the packing list. After checking and verifying, open the side plate, remove the two fixing bolts connecting the bottom plate to the main machine of the instrument, and take out the main machine of the instrument.

3.2 Commissioning

3.2.1 wipe the instrument surface clean (remove the grease and wipe it with a soft cloth where the anti-rust oil is applied) and place it on the smooth and stable work table. 3.2.2 install the handle and check whether the parts of the instrument are damaged during transportation. 3.2.3 conduct operation test according to the operation procedure indicated in this manual. If there is no abnormality, it can be delivered for use.

4. Operating procedures and precautions

4.1 sample preparation and treatment

4.1.1 Take and treat samples according to GB450 and GB10739.

4.1.2 Cut the treated samples into circular specimens with a diameter of 125mm (special pulsating water-absorbing sampler is recommended).

4.2 test

4.2.1 Weigh the cut round sample quality g_1 with a balance with resolution not less than 0.01g.

4.2.2 loosen the locking knob counterclockwise, remove the lid, and pour $100\text{ml} \pm 5\text{ml}$ distilled water or deionizer water at $20^\circ\text{C} \pm 1^\circ\text{C}$ into the cup.

4.2.3 Place the sample at the mouth of the cup and cover the cup, turn the locking knob in the clockwise direction to press the cup cover, lift the knurled cap with the left hand, shake the handle with the right hand to make the cup mouth downward, and start the stopwatch to start timing.

4.2.4, according to the selected test time table below the **recommended time**, remove surplus water brought the knurled cap, turn head to and lock up, loosen the lid, unscrew the locking knob quickly remove the sample, the sample in the instant of time to finish the water absorption and water contact side down on the instrument base plate prepared suction filter paper, then cover with another piece of suction filter paper, and the roller without other pressures within the 4 s before and after rolling back and forth once, will the rest of the sample surface water. The side of the sample in contact with water is folded inward and the mass of the sample after absorption is immediately weighed g_2 .

The international standard recommends the total test time for removing surplus water and absorbing water

Recommended test time	Mark	Time to remove the remaining water	Time to complete absorption
30s	cobb30	20±1s	30±1s
60s	cobb60	45±1s	60±2s
120s	cobb120	105±2s	120±2s
300s	cobb300	285±2s	300±2s
1800s	cobb1800	1755~1815s	Remove the remaining water 15±2s

4.2.5 Calculated according to the quality difference between the two weighing samples,

$$C = (g_2 - g_1) \times 100 \text{ (g/m}^2\text{)}$$

Note: it is generally required that the test is a set of positive and negative, and each set of 5 times, and the average value is calculated.

4.2.6 Clean the rim of the cup and the surface of the plastic pad on the lid. Use the top surface of the water level screw as a reference to fill up the amount of water in the cup. Follow the above steps for the next test.

4.3 Matters needing attention

4.3.1 new water shall be replaced after the test of each group of samples.

4.3.2 the test water shall be distilled water or deionizer water.

4.3.3 the quantitative requirements of water absorption filter paper are 200 ~ 250g/m².

Note: according to test method standard GB1540 clause 4.3.1:"When the quantity of single absorbent filter paper is less than 200 ~ 250g/m², multiple layers can be used to meet the requirements."

4.3.4 when testing corrugated board, the press roller line should be parallel to the corrugated direction during rolling.

4.3.5 when rolling with the press roller, the external force in the vertical direction shall not be applied to the press roller.

4.3.6 each sample can only be tested once and cannot be reused.

5. Maintenance

5.1 keep the instrument clean and dry.

5.2 Collision damage between the instrument and the press roll surface shall be prevented during use.

5.3 Each rotating or sliding part shall be lubricated irregularly.

5.4 strictly prevent the rim and lid surface from being damaged, so as not to affect the sealing.

5.5 cup body should be kept clean. After the test, pour the water and dry it to prevent corrosion.

6. Remarks

If there are any omissions in this book, it will be necessary to make corrections, as well as to change the design of the testing machine, or to replace the better components, which must be stated in this column.

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The purpose of editing this manual is to assist you in understanding the operation and matters needing attention. Therefore, please keep it for reference when necessary. Our company is always innovating and improving our products. The examples, illustrations and specifications of this book are subject to the type of machine when this book is published.

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Delivery Inspection Report

Test program:

Product name	Item	Result	Note
Cobb Water Absorbency Testing Machine	Work situation	Conform to the standard	
	Appearance	Great	
	Attachment	Good	
	Whole machine structure	Great	
	Machine performance test	Qualified	

The machine meets the standard and is approved to leave the factory.

Reporter: 01

Date: 2023/11/02

Product Warranty Card

User:

Model	LD-KBX201
Product Number	20231102006
Warranty Time	2024/11/02
Customer Name	

Records of the warranty:

The fault phenomenon	Reason	Name of replacement parts	Result	Date	Customer Confirm

Warranty

1. During the warranty period, this warranty card can be repaired free of charge due to poor quality or manufacturing faults (consumables are not included in the free range).
2. Cost of materials shall be collected in case of the following circumstances
 - 1) Damaged or destroyed by natural disasters;
 - 2) Operating mistakes
 - 3) Voltage is not fit for our manual
 - 4) Uninstall without our guides
 - 5) Damaged for borrowing to others
 - 6) Damaged for without authorized machine modification
 - 7) Damaged for without authorized calibration
 - 8) Without authorized transshipment mistake

Note: please remind the record card for each service. If the card is lost, the warranty period will start from the date of delivery.

3. If there is any problem, please fax us your written contact letter and confirm by telephone. We will serve you promptly.

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