



Use Manual

Friction Color Fastness Test Machine

Operating Instruction

MODEL :NG-328

Read before Operation

Before operation this machine, please read this manual thoroughly, and keep a copy with the machine for future reference. This manual is to be considered part of your machine.



Preface

Thank you for choosing our products. We will not only provide you with high-quality products, but also offer reliable and first-class after-sales service.

To ensure the personal safety of operators and the intactness of the instrument, please carefully read this operation manual and strictly comply with all precautions before use. This manual details the instrument's design principles, applicable standards, structure, operating specifications, maintenance methods, common faults and troubleshooting solutions. All test regulations and standards mentioned in this manual are for reference only. In case of any objection, please check the relevant official standards and documents independently.

Every instrument has undergone strict and detailed inspection at our factory before packaging and transportation to ensure qualified quality. Although the packaging is designed to withstand impacts during handling and transportation, severe vibration may still cause damage to the equipment. Therefore, please carefully inspect the main unit and accessories for damage upon receipt. If any damage is found, please submit a complete written report to our marketing service department. We will properly handle the damaged equipment and guarantee product quality for you. Please perform inspection, installation and commissioning in strict accordance with the requirements specified in this manual. Do not discard this manual at will; keep it properly for future reference.

We welcome your feedback and suggestions regarding deficiencies in the instrument design and product optimization.

Your comments and improvement suggestions on this operation manual are also highly appreciated.

Special Statement:

This manual shall not be used as a basis for raising any claims against our company.

Our company reserves the final right of interpretation of this manual.



Table of Contents

- 1.Summarize
- 2.Notice
- 3.Appearance Sketch Map
- 4.Operating
- 5.Maintenance
- 6.Quality Assurance



1. Summarize

1. Overview

Wrap a piece of dry or wet white cotton cloth around the friction hammer surface of the instrument. In accordance with specified methods, rub the test specimen against the white friction cotton cloth under a fixed load and for a set number of times. Compare the staining degree of the stained white cotton cloth with the grey scale for staining assessment, so as to evaluate the color fastness to rubbing grade. This instrument is also applicable to rubbing tests with organic solvents.

This instrument complies with the following standards: JIS-L0801, JIS-L0823, JIS-L0849, JIS-L1084, JIS-K6328, JIS-P8136

2. Machine Specifications

Rubbing Speed: 30 cpm

Friction Hammer Load: 200 g

Auxiliary Load: 300 g

Friction Hammer Size: 45×50 mm

Specimen Size: 22×3 cm

White Cotton Cloth Size: 5×5 cm

Machine Weight: Approx. 58 kg

Rubbing Area of White Cotton Cloth: 1 cm²

Rubbing Stroke: 100 mm

Counter: 6-digit electronic type

Friction Test Groups: 6 groups

Power Supply: 220V

Machine Dimension: Approx. 50×55×35 cm



2. Notice

2.1 Please comply with the following signs of warnings, dangers and attentions for the sake of prevention of accidents and dangers when using the apparatus.



The operator may be hurt if he does not comply with the specification.



The apparatus may be damaged if the operator does not comply with the specification.



Note

Using specification of the apparatus is added here.



Attention

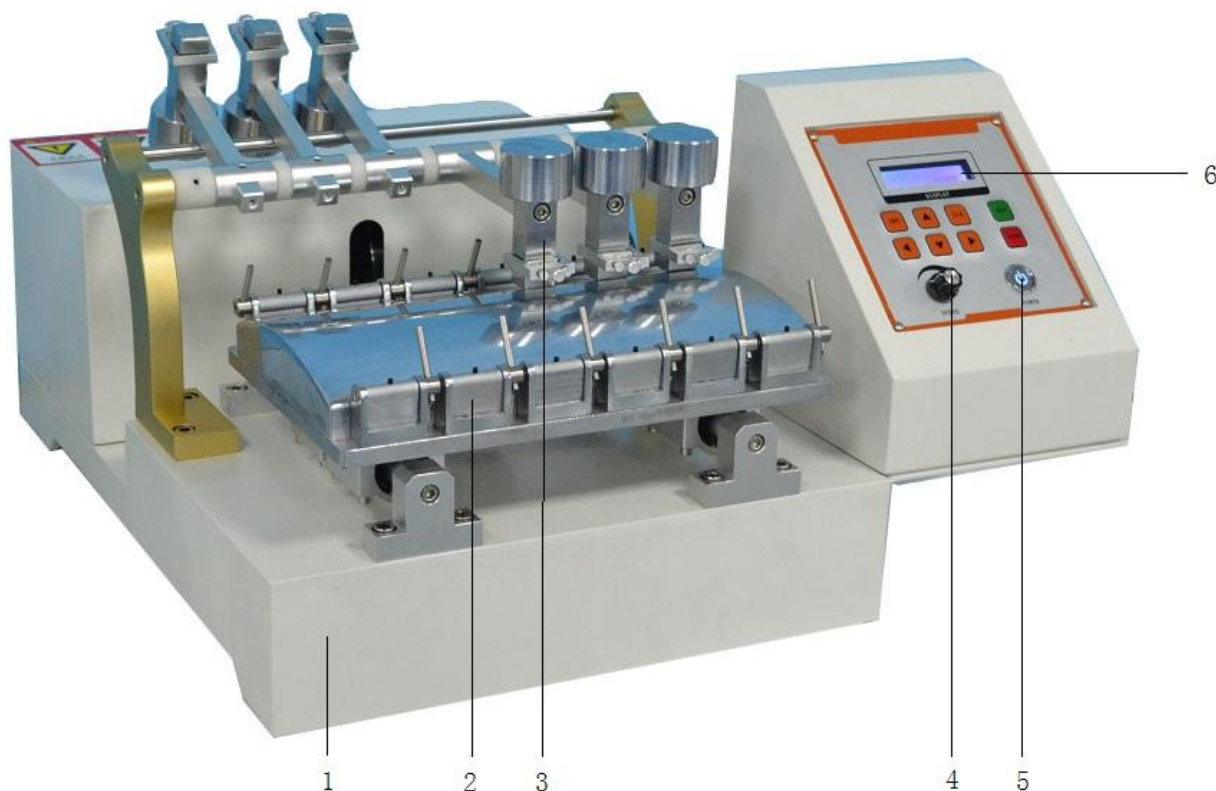
Testing quality and results may be influenced.

2.2 The warning and attention sign of instrument.

	Warning	Please refer to the manual if necessary.
	Dangerous Voltage	There is high voltage.
	Grounding Protection	The apparatus should be connected to the grounding terminal.



3. Appearance Sketch Map



1.Base	3.Friction head	5.Power switch
2.Clamp	4.Speed regulating knob	6.Control panel

Control Panel Function Key Description:

POWER: Power button, to turn on and off the instrument.

RUN: Start button

STOP: Stop button

CLR: Clear button, used to reset the displayed value to zero.

SET: Setting button. Switch from normal mode to edit mode to adjust test times. Press to confirm settings and return to normal mode.

广东纽格尔仪器有限公司
Guangdong Newgoer Instrument Co., Ltd

Add: NO.16, Shuijiao Gongye Road, Lichuan, Dongcheng,
Dongguan City 523000, Guangdong CHINA



Value Increase Key



Right Shift Key



Value Decrease Key



Left Shift Key

Figure 3

As shown in the figure 3

SP: Test Speed

TM: Set Test Times

ADD TIMES: Actual Test



Times

Turn on the power and press the SET key, the display window is shown in the figure below.



Figure 4

Press the  key again to change the counting mode. 0 = Forward counting, 1 = Reverse counting.

Press the  key to enter the setting times modification interface. Move the cursor to the position that needs to be modified, then increase or decrease the value via the



keys.



After setting the required test times, press the **SET** key to exit the editing state. Once the setting is completed, press the **RUN** key to start the test. The instrument will stop automatically after completing the set number of movements.

To stop midway, press the **STOP** key; press the **RUN** key again to resume the test. Before the next test, press the **CLR** key to clear all records.

4. Operation

Preparation of Test Specimens:

1. Divide test specimens into Type A and Type B according to the type of color fastness to rubbing test, with two specimens for each type.
2. Specimen cutting: Cut strip-shaped test specimens with a length of 22 cm and a width of 3 cm.

Test Procedure: The test includes dry rubbing test and wet rubbing test.

Dry Rubbing Test:

- ① Place the test samples and white rubbing cotton cloth under standard conditions (1) for more than 4 hours in advance.

Note (1): Specified in Clause 6.(1) of JIS L 0801.

- ② When using the rubbing fastness tester, fix the sample on the test bench, and fasten the white rubbing cotton cloth on the friction head. Apply a downward pressure of 2 N (4), and perform reciprocating rubbing 100 times at a speed of 30 cycles per minute within a 100 mm range of the sample.

Note (4): The mass of the friction head is approximately 200 g.

Wet Rubbing Test: Moisten the white rubbing cotton cloth with distilled water to a moisture content of approximately 100%. Rub the sample placed under standard conditions with the damp cloth, then dry the sample at a temperature not exceeding 60°C.

Test Result Processing:

广东纽格尔仪器有限公司
Guangdong Newgoer Instrument Co., Ltd



Add: NO.16, Shuijiao Gongye Road, Lichuan, Dongcheng,
Dongguan City 523000, Guangdong CHINA

1. Place the test cotton cloth beside the grey scale for staining assessment, and visually compare the staining degree of the cloth.
2. Assess the color fastness to rubbing grade by comparison with the grey scale.
3. Record the staining grades of dry test and wet test respectively.
4. Determine whether the test results comply with the factory acceptance criteria.

Test Result Evaluation:

Compare the color difference between the unstained part and the stained part of the white cotton cloth. The color fastness to rubbing grade of the test specimen shall be determined by the most similar grade of the grey scale.

Inspection Standard

The staining assessment of white rubbing cotton cloth shall be implemented in accordance with Clause 9 (Evaluation of Color Fastness) of JIS L 0801.

Evaluation Criteria

- Grade A (Excellent): No color transfer on white cloth after wet rubbing test.
- Grade B (Fair): Color transfer occurs on white cloth in wet test, while no staining remains after dry rubbing test.
- Grade C (Poor): Obvious color residue remains on white cloth after dry rubbing test.



5. Maintenance

- Do not lift or carry the equipment from the bottom of the control box during handling to avoid crush injuries.
- Wipe the electroplated parts with engine oil to prevent rusting and maintain surface gloss.
- Thoroughly clean the machine after testing. Regularly lubricate all movable pivot points to extend service life and ensure operating sensitivity. (Lubricant: mix grease with a small amount of engine oil.)
- Clean the panel (control box and display screen) with a dry cloth. Strictly prevent water ingress to avoid damage to IC electronic components.
- Properly store all jigs, connectors and accessories, and apply anti-rust oil wiping to prevent corrosion.
- After moving and positioning the machine, fix the base stably, adjust the level, and ensure firm and stable placement.
- Connect the power supply in accordance with the marked specifications. (Ensure correct power phase sequence; incorrect wiring will cause electric leakage.)
- Install the ground wire in compliance with standard grounding specifications to prevent electric leakage hazards and signal interference.
- Operation and maintenance shall be performed by professional personnel. For major malfunctions, contact our company's maintenance department for professional service. Do not disassemble parts privately, otherwise severe equipment damage and losses may occur.



6.Quality Assurance

I、 The guarantee period is one year (consumer goods and travel costs are not included).

II、 The main quality warranty maintenance certificate

1. Please keep this guarantee letter, if you lost it, please connect with us in a month.
2. If this guarantee letter has been altered or it has no our stamp, it is useless.

III、 The following conditions need to pay reasonably even in the assurance period.

1. Natural reasons
2. Operating mistakes
3. Voltage is not fit for our operation instruction
4. Repack it without our guides
5. Damaged for borrowing to others
6. Damaged for authorized machine modification
7. Damaged for authorized calibration
8. Authorized transshipment mistake
9. Serve for long distance area

IV、 Notes:

1. Where the original in Guangdong province installation of our products, if the product moved to outside Guangdong-area use, whether or not within the effective warranty period, the transportation and travel expenses of the service personnel should be paid by the client.
2. All customers outside of Guangdong province, whether or not in the warranty period, the service of transportation and travel expenses paid by the customer.