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overview

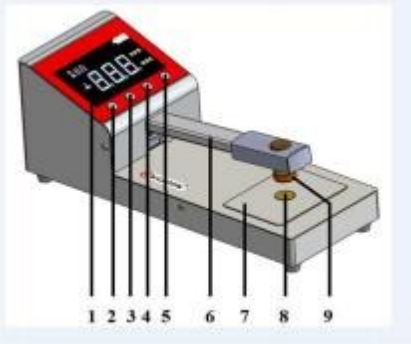
1. This instrument is a portable black-and-white transmission densitometer equipped with imported photoelectric sensors. It is powered by a high-capacity Li-ion battery, which provides over 4 hours of continuous operation with the viewing area light on and over 24 hours with it off. Developed by Kedian Company through extensive testing, this high-precision instrument is characterized by its simple operation, portability, high measurement accuracy, and excellent long-term stability.
2. Portable black-and-white transmission densitometer, capable of measuring both density values and density differences. This densitometer employs a high-stability light source and a specialized optical head structure. Its circuit section utilizes high-precision detection technology, significantly enhancing resistance to optical and electrical interference. Specialized fitting techniques are employed to improve measurement accuracy. The newly added viewing area facilitates easy positioning of calibration and measurement points. Additionally, the instrument features a metal casing, effectively shielding against external electromagnetic interference to ensure operational stability.
3. The portable black-and-white transmission densitometer has undergone strict debugging and inspection before leaving the factory. After a 5-minute warm-up, simply press the "Zero Calibration" button to begin formal measurements. The included standard density plates allow users to conveniently verify the instrument's accuracy. When used with the calibration software, users can perform self-calibration of the instrument.
4. Portable black-and-white transmission densitometer, capable of measuring transmission density up to 4.5D, with reference value for densities above 4.5D. When the measured value exceeds 4.8D, the instrument displays "8.88", indicating it is beyond the maximum range. This portable densitometer is an instrument for analyzing the quality of X-ray films in pressure vessels, ship hulls, chemical plants, bridges, hospitals, etc.
5. Portable black-and-white transmission densitometer, capable of measuring transmission density up to 5.0D, with reference value for densities above 5.0D. The H600A portable black-and-white transmission densitometer is an instrument for analyzing the quality of X-ray films in pressure vessels, ship hulls, chemical plants, bridges, hospitals, etc.

measurement principle

Main Indicators	H-600A
1 Measuring Range	0 ~ 5.0D
2 Measuring Area	φ2mm（aperture diameter）
3 Repeatability Error	±0.01D
4 Measuring Error	(0.00D ~ 3.00D)±0.02D (3.00D ~ 4.50D)±0.03D (4.50D ~ 5.00D)±0.04D
5 Display	Segment Screen
6 Adapter	8.4V--1000mA
7Battery Capacity	2200mAh
8 Charging Time	≤ 2.2h
9 Operating Time	≥ 24h（with viewing light off）
10 Viewing Time	≥ 4h（with viewing light on）
11Power Consumption	≤ 4W
12Operating Environment	0 ~ 40℃， Relative Humidity≤ 85%
13 Dimensions	210×100×110mm
14 Weight	about 1.5Kg

measurement principle

The instrument determines the surface absorption of light by measuring the amount of light transmitted through the test sample. It primarily consists of an illumination system, light receiving system, photoelectric conversion system, signal conditioning system, signal processing system, and display system. The stable light signal is converted into an electrical signal, which is then conditioned and sent to a microprocessor for calculating the density value. The density value of the test sample is finally displayed on the segment screen.





1——Display Area; 2——Zero Calibration Key; 3——Write Key;
4——Read Key; 5——View Film | Delete; 6——Pressure Arm;
7——Viewing Area; 8——Aperture; 9——Sensor Head;
I——Communication Port; II——Charging Port; III——Power Switch;

Instructions and steps

1.Connect the densitometer to the power supply and turn on the power switch. The display will show "- - -", indicating the instrument is functioning normally. Allow it to warm up for 5 minutes before taking measurements. If the battery level indicator shows less than 1 bar, it indicates low battery. Please recharge promptly, as measurement accuracy cannot be guaranteed otherwise.

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2.Zero calibration: With no sample placed, press the measuring arm and simultaneously press the "Zero Calibration" button. When the display shows

"0.00", first release the "Zero Calibration" button, then release the measuring arm. The instrument is now ready for normal measurement.

. 3.Place the test sample in the measurement area, align it with the aperture, and press the measuring arm. The reading on the display is the density value of the test sample.

. 4.Release the pressure arm, and the displayed value remains unchanged.

. 5.Density Difference Measurement**:** After zero calibration, measure the reference sample. Once the reading stabilizes, release the measuring arm and press the "Zero Calibration" button. The display will show "0.00" and "Density Difference". Then, place the sample to be compared in the measurement area and press the measuring arm. The displayed value is the density difference between the two samples.

. 6.After zero calibration with no sample, the instrument is ready for normal density measurement.

. 7.The instrument has two operational states: **Measurement State** and **Storage State**. Pressing the measuring arm enters the Measurement State, with no "Read"/"Write" indicator in the top-left corner. In the released state, pressing "Write" or "Read" enters the Storage State, with the corresponding indicator displayed.

. 8.The **View Film | Delete** key is multifunctional. In Measurement State (no "Read"/"Write" indicator), it toggles the viewing light on/off. In Storage State (with "Read"/"Write" indicator), it serves as the **Delete** key for stored data.

. 9.In the released state:

- Press **Write** to store the currently displayed "Density Value" or "Density Difference".
- Press **Read** to cycle through previously stored data.
- Press **View Film | Delete** to delete the currently displayed stored data.

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Precautions

1.Do not measure wet film.

- 2.When performing zero calibration, ensure there are no obstructions under the measuring arm. The presence of obstructions will result in inaccurate density readings.
- 3.Keep the aperture and measuring arm clean to maintain measurement accuracy.
- 4.Avoid subjecting the instrument to strong vibrations, magnetic fields, or direct sunlight.
- 5.The standard density film is used as a calibration reference and should be stored properly to prevent mold, aging, contamination, or scratches. Avoid exposure to strong light. Only use this film if you suspect the instrument's readings are inaccurate.
- 6.This portable black-and-white transmission densitometer is a high-precision instrument. Handle it with care to protect it from dust, moisture, and acidic or alkaline substances. After use, turn off the power, store it in its case, and keep it in a cool, dry, well-ventilated place away from strong mechanical vibrations and corrosive gases.
- 7.If the displayed reading exceeds the specified density range, the measurement value still serves as a reference.
- 8.The instrument is precisely calibrated before leaving the factory. **Do not disassemble it under any circumstances.**
- 9.If the instrument is not in use for an extended period, recharge the battery every three months for maintenance.

Packing List

- 1.Adapter: One
- 2.Instruction Manual: One
- 3.Instrument Warranty Card: One
- 4.Certificate of Conformity: One
- 5.Standard Density Film