Huazheng HZKS-3

HZKS-3 Open Cup Flash Point Tester User Manual

Model: HZKS-3 | Brand: Huazheng

1. Introduction

The HZKS-3 Automatic Open Cup Flash Point Tester is an advanced analytical instrument designed for precise determination of the open flash point of petroleum products. Flash point is a critical safety parameter, representing the lowest temperature at which a liquid's vapors ignite in the presence of an open flame under specified test conditions. This instrument is essential for assessing the flammability hazards of various substances, crucial for transportation, storage, and operational safety management.

This tester is manufactured in accordance with international and national standards, including GB/T267-88, GB/T 3536-2008, European standards, and ASTM-D92, ensuring reliable and accurate results for a wide range of applications.

Figure 1: HZKS-3 Open Cup Flash Point Tester. This image shows the main unit with its integrated screen on the left and the open cup testing area on the right, including the igniter arm and temperature probe.

2. Safety Information

Operating the HZKS-3 tester involves working with flammable materials and electrical components. Adherence to safety protocols is paramount to prevent accidents and ensure accurate testing. Always read and understand all safety warnings before operation.

- Ensure the instrument is placed on a stable, level surface in a well-ventilated area, away from ignition sources.
- Always wear appropriate personal protective equipment (PPE), including safety glasses and chemical-resistant gloves, when handling samples.
- Do not operate the instrument if any part is damaged or if there are exposed wires.

- Use only the specified power supply and ensure proper grounding.
- Keep a fire extinguisher (suitable for chemical fires) readily available in the testing area.
- Never leave the instrument unattended during a test cycle.
- Dispose of samples and waste materials according to local environmental regulations.

3. Setup and Installation

Before operating the HZKS-3, ensure proper setup to guarantee accurate results and safe operation.

1. **Unpacking:** Carefully remove the instrument from its packaging. Inspect for any visible damage incurred during shipping. Report any damage to the supplier immediately.
2. **Placement:** Position the tester on a sturdy, flat, and vibration-free workbench. Ensure there is adequate space around the unit for ventilation and access. The testing area should be free from drafts that could affect flash point determination.
3. **Power Connection:** Connect the power cord to the instrument's power inlet and then to a grounded electrical outlet with the correct voltage and frequency as specified on the instrument's rating label.
4. **Component Assembly:**
    - Ensure the sample cup is clean and properly seated in its designated position within the heating block.
    - Verify that the temperature probe is correctly inserted into the sample cup.
    - Confirm the igniter assembly is securely in place and aligned over the sample cup.
5. **Initial Power On:** Turn on the main power switch. The instrument's display should illuminate, indicating it is ready for operation.

Figure 2: Side view of the HZKS-3 tester. This perspective highlights the sample cup, the igniter arm mechanism, and the protective clear shield around the testing area.

4. Operating Instructions

The HZKS-3 Automatic Open Cup Flash Point Tester automates the flash point determination process, minimizing user intervention and ensuring high reproducibility.

1. **Sample Preparation:** Obtain a representative sample of the petroleum product to be tested. Ensure the sample is free from any suspended water or foreign matter. Fill the clean sample cup to the indicated fill line.
2. **Loading Sample:** Carefully place the filled sample cup into the heating block of the instrument. Ensure it is seated correctly.
3. **Parameter Setting:** Using the instrument's touch screen or control panel, select the desired test standard (e.g., ASTM D92) and input any required test parameters, such as expected flash point range or heating rate, if applicable.
4. **Starting the Test:** Initiate the test cycle. The instrument will automatically begin heating the sample at a controlled rate. At specified temperature intervals, the igniter will automatically apply a test flame to the sample

surface.

5. **Flash Point Detection:** The instrument continuously monitors for a flash, which is a momentary flame appearing over the surface of the sample. Once a flash is detected, the instrument records the corresponding temperature as the flash point and typically stops the test.
6. **Results and Reporting:** The determined flash point temperature will be displayed on the screen. The instrument may also store results or allow for printing, depending on its configuration.
7. **Post-Test Procedure:** After the test, allow the sample cup and heating block to cool down. Carefully remove the sample cup and dispose of the sample safely. Clean the sample cup and igniter assembly as per maintenance guidelines.

Figure 3: Angled view of the HZKS-3 tester. This image provides a clearer view of the instrument's overall design, including the screen interface and the open cup area with its protective cover.

5. Maintenance

Regular maintenance ensures the longevity and accuracy of your HZKS-3 Open Cup Flash Point Tester.

- **Cleaning:** After each test, clean the sample cup thoroughly. Use appropriate solvents for petroleum residues. Ensure the heating block and igniter assembly are free from spills or debris.
- **Temperature Probe:** Periodically check the temperature probe for any signs of damage or contamination. Clean gently with a soft cloth if necessary.
- **Igniter Assembly:** Inspect the igniter tip for carbon buildup. Clean carefully to ensure a consistent flame during testing. Replace if worn or damaged.
- **Calibration:** It is recommended to perform periodic calibration checks using certified reference materials to verify the instrument's accuracy. Refer to the calibration section in the full technical manual for detailed procedures.
- **Storage:** When not in use, store the instrument in a clean, dry environment, protected from dust and extreme temperatures.

6. Troubleshooting

This section provides solutions to common issues you might encounter. For problems not listed here, contact technical support.

Problem	Possible Cause	Solution
Instrument does not power on.	No power supply; loose power cord; blown fuse.	Check power connection; ensure outlet is functional; inspect fuse (if accessible and user-replaceable).
Inaccurate flash point readings.	Contaminated sample cup; faulty temperature probe; incorrect calibration.	Clean sample cup thoroughly; check probe connection; perform calibration check.
Igniter not producing flame.	Gas supply issue; clogged igniter tip; faulty igniter.	Verify gas supply (if applicable); clean igniter tip; contact service for replacement.
Error message on display.	Sensor malfunction; operational error.	Refer to the instrument's error code list in the full manual; restart the instrument; contact support if persistent.

7. Specifications

Key technical specifications for the HZKS-3 Open Cup Flash Point Tester:

- **Model:** HZKS-3
- **Manufacturer:** Huazheng Electric Manufacturing(Baoding) Co.,Ltd
- **Material:** Stainless Steel
- **ASIN:** B07G736PNP
- **Date First Available:** August 5, 2018
- **Batteries Included:** No
- **Batteries Required:** No
- **Standards Complied:** GB/T267-88, GB/T 3536-2008, European standard, ASTM-D92
- *Note: Detailed specifications regarding temperature range, heating rate, and detection methods are available in the comprehensive technical manual.*

Figure 4: Rear-angled view of the HZKS-3 tester. This view provides a perspective of the instrument's rear and side, showing the overall compact design.

8. Warranty and Support

For information regarding the warranty period, terms, and conditions for your HZKS-3 Open Cup Flash Point Tester, please refer to the documentation provided at the time of purchase or contact your authorized Huazheng distributor or the manufacturer directly.

For technical support, service, or spare parts, please reach out to Huazheng Electric Manufacturing(Baoding) Co.,Ltd or your local service representative. Provide your instrument's model number (HZKS-3) and serial number (if applicable) when requesting support.

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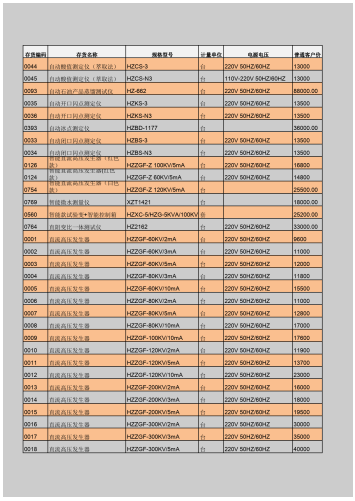

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