Labotronics

Cleveland Open Cup Flash Point Tester LB-10CFP

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1. Safety Measures

1) Use grounded electrical outlets for instrument power supply.
2) During the testing process, the oil cup and its vicinity cannot be touched because of its high temperature.
3) Somebody must be on duty in the test process.
4) If the sample burns up after the test is over, cover the oil cup with the cup cover in time.
5) The oil cup cover has a high temperature.
6) Do not pull the ignition sweeping bar or it will cause permanent damage to the instrument.

2. Introduction

Cleveland Open Cup Flash Point Tester LB-10CFP ensures accurate and streamlined analysis of petroleum products and pitch. Engineered to meet ASTM D 92 standards, it has thermometer range of -6 to 400 ℃ The device minimizes human error and delivers consistent test results. Provides clear monitoring of parameters throughout the testing process. Its robust design ensures durability and longevity, standing up to the demands of busy laboratory environment.

3. Features

1. Cleveland Open Cup Flash Point Tester with manual ignition
2. Real time voltmeter display
3. Adjustable electric furnace heating
4. Improved safety
5. User friendly design

4. Specifications

Model No	LB-10CFP
Ignition method	Manual
Ignition Device	Fire Source: Gas
Power	0 W to 600 W, continuous adjustable
Heating Device	Quartz tube furnace heating
Thermometer Range	-6 to 400 ℃
Division degree	2 ℃
Technical Conditions	Meet GB/T514 requirements
Nozzle Aperture	0.6 to 0.8 mm
Ambient Temperature	-10 ℃to 50 ℃
Relative Humidity	≤ 85%
Voltage	AC 220 V ± 10%, 50 Hz
Power Consumption	< 650 W
Packaging dimension (L × W × H)	428 × 395 × 350 mm
Gross weight	10 Kg

5. Applications

Cleveland Open Cup Flash Point Tester guarantees safety and quality of the products across petroleum production, quality control, research, and development, etc.

6. Instrument Structure

1) Open cup flashpoint tester

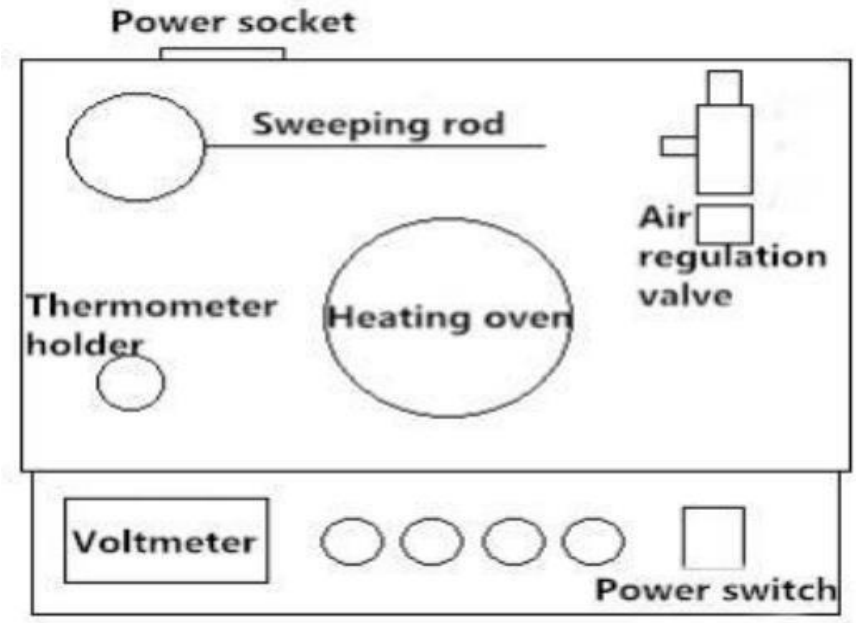

Figure-1

2) Closed-cup flashpoint tester

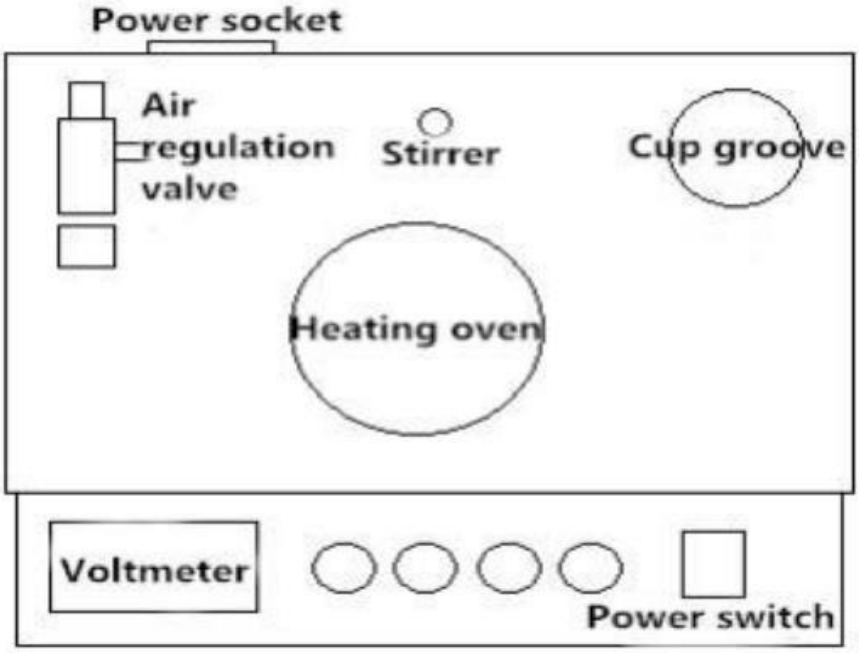

Figure-2

1. **Sweep switch:** Press this switch to make igniter forward rotate to ignite; press this switch again, make the igniter reverse rotate to ignite.
2. **Gas adjustment valve:** Igniter assembly for connecting the gas source, the frontend other nut is used to adjust the flame size.
3. **Voltmeter:** Used to display the operating voltage, regulate, and control the heating power of heating furnace.
4. **Heating oven:** Heating furnace.
5. **Thermometer bracket:** To fix thermometer and keep it vertical.
6. **Heating adjuster:** To adjust the heating furnace power.
7. **Heating switch:** Press it, the instrument starts heating.
8. **Fan:** After testing is complete, you can press this key to rapid cooling furnace.
9. **Stirring (closed flashpoint tester):** Switch to stir the sample.
10. **Oil cup cover (closed flash point tester)**
11. **Power switch:** Turn this switch; then indicator light and the instrument is connected to power supply.

7. Operations

7.1 Operation for Opening Flash Point Tester

1) According to the requirements specified, the instrument is placed in a dark and sheltered place to observe the flashfire, ready to test a variety of test equipment and materials.
2) Check the operating state of the instrument to match the instructions specified work environment and working conditions. Must be in good grounding condition and install equipment properly.
3) Turn on the power switch to test.
4) Power the sample into the Cleveland oil cup up to the scale line.
5) Put the oil cup on the furnace, adjust the height of the ignition device and a thermometer properly, adjust the size of the flame, and adjust the potentiometer namely speed temperature rising according to the standard requirements, then we could begin the test.
6) Before the expected flash point28 ℃press sweep stroke switch; ignition rod stroke sweep to ignite.
7) Failure to appear flash point phenomenon, after each rise of 2 ℃ press the sweep stroke switch again, lighting rod draws the opposite direction to ignite.
8) The test flame-crossed cup takes about 1s each time.
9) When the oil level appears flashfire at any point, record the temperature on the thermometers at the flashpoint.
10) After the test is over, clean all devices and tools and cut off the power.

7.2 Operating for Closed Flash Point Tester

1) According to the requirements specified, the instrument is placed in a dark and sheltered place to observe the flashfire, ready to test a variety of test equipment and materials.
2) Check the operating state of the instrument to match the instructions specified work environment and working conditions.
3) Inspect the housing, and the instrument must be in good grounding condition.
4) Add oil up to the oil cup mark line, place on the furnace, and place the lid, stirrer, and thermometer in place as required, open the stirred button (the button up to slowly, down to a rapidly stirred).
5) Pay attention to temperature adjustment required for temperature increase requests (adjustment "**thermostat knob**" control electric furnace heating power, heating voltage detected by the voltmeter and display).
6) Before the oil sample reaches the expected flashpoint, the release of gas according to the standards required temperature point, lit ignition device, adjust the flame shape to the standard requirements.
7) Adjust the spring rotating knob to rotate the slide, exposing the oil cup lid hole, while the fire is automatically swinging downward, lit toward the oil cup lid hole then begin the ignition test.

8. Troubleshooting

No	Common faults	Causes	Solutions
1	Power indication light is not bright.	Power off.	Check the external power.
		Fuse breaks.	Check and displace fuse.
		Power switch breaks.	Check and displace switch.
2	Voltmeter doesn'tindicate.	Fuse breaks.	Check and displace fuse.
		Voltmeter breaks.	Check and displace voltmeter.
3	Electric oven doesn'theat.	Heating wire breaks.	Check and displace wire.
4	Heating regulator doesn'twork.	Triac FS breaks.	Check and displace triac FS.
		Regulation potentiometer breaks	Check and displace regulation potentiometer.
5	Stirrer doesn'trotate.	Stirring switch not open.	Open the stirring switch.
		Motor wire not connected.	Check and connect the wire.
		Control panel fault.	Check the panel and find the fault.
6	Shell electrified.	Bad ground-connection condition.	Check and connect well the ground wire.
7	Heating wire doesn't heat and turn red.	1. potentiometer breaks. 2. SSVR breaks. 3. heating wire breaks.	1. Check and displace potentiometer. 2. Check and displaceSSVR. 3.Check and displace heating wire.