



**HUMBOLDT**

**H-1394 & H-1394.4F**  
**Instruction Manual**

**EXTRA-LARGE CAPACITY**  
**CIRCULATING WATER BATH**

*Manufactured by:*

**Humboldt Mfg. Co.**

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*Sold and Serviced by:*

**Humboldt and Authorized Dealers Worldwide**

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## 1. Introduction

This microprocessor-based temperature controlled water bath is fully insulated and heats up to sixteen 4" diameter Marshall or nine 6" Marshall or Super Pave specimens at a time. A magnetic circulator on H-1394 models assures a uniform temperature throughout the bath.

A stainless steel shelf supports molds and allows free circulation of 2" of water above and below molds. All water exposed parts are stainless steel.

All Humboldt Marshall Testing Equipment meets specifications for the following tests:

ASTM D1559, ASTM D5581

AASHTO T245

British Standard BS 598: Part 107

The control processor provides a range from ambient to 180°F (82°C) accurate to within 0.1% of input span +/- 1°C.

H-1394 Microprocessor bath with magnetic circulator, 110V/60 Hz

H-1394.4F Microprocessor bath with magnetic circulator, 220V 50/60 Hz

## 2. General Information

### 2.1 Inspection:

Your water bath was thoroughly inspected before it was shipped and should be ready to operate as soon as you have completed the initial installation procedure. Notify Humboldt Mfg. Co. or your local agent and file a claim with any carriers involved if you find any damage to the machine.

### 2.2 Physical Specification:

Shipping weight: 68 lbs. (31 kg)

Overall height: 15 ½"

Base dimension: 22" x 22"

Inside 20" x 20" x 10" deep; Volume 14 gallons (53 liters)

### 2.3 Power Supply:

120 VAC 50/60 Hz 1 phase H-1394 1500 watts

220 VAC 50/60 Hz 1 phase H-1394.4F 1500 watts

Check that your machine has the correct voltage for your local supply.

### 2.4 Power Cord:

Your bath is fitted with a molded vinyl grounding plug. The cord is made of three conductors:

(American color coding)

Green

Ground (Earth)

White

Cold (Neutral)

Black

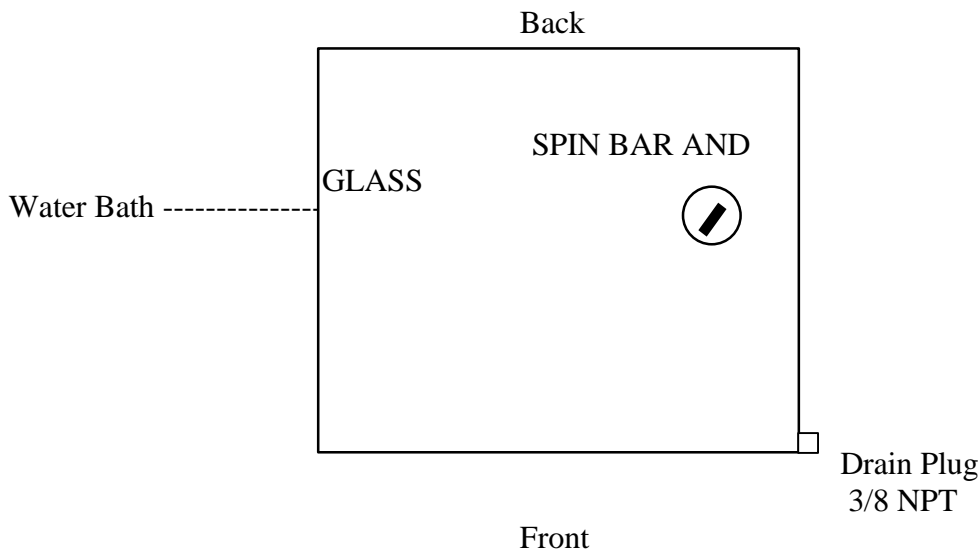
Hot (Live)

- 2.5 Fuses:  
The bath uses a slow-blow fuse that is fitted into the left rear of the machine.  
The replacement part number is H-1339.13.

### 3. Initial Installation

Remove the packing list and verify that all parts have been received. Normally you will receive one box with bath, cover, shelf, stirrer & glass wrapped individually. Remember to remove tape from the spin bar and glass.

- 3.1 The Humboldt water bath should be placed on a table or bench that is level. Check unit for power requirements, then connect line cord plug to a suitable electrical outlet.
- 3.2 Using the white spin bar locate the magnetic field, on the bottom of the tank. After locating the field, place the round glass over the field and place the spin bar on top of the glass (the spin bar should spin in the middle of the glass).



- 3.3 Place the shelf in place carefully, not to disrupt the placement of the spin bar.
- 3.4 Slowly fill bath with water. Water level should be approximately 1" from the top when specimens are placed in the bath.

## 4. Operation

Control Panel:

The control panel is situated on the front of the bath base.

- 4.1 Switch the power on/off switch to the “on” position. The heating indicator will illuminate. Do the same for the spin bar, i.e., STIR switch.
- 4.2 Use the arrows to increase or decrease the temperature set point shown on the lower display.
- 4.3 When the bath temperature has stabilized at desired temperature, the heat pilot light will cycle on and off as the thermostat calls the heaters to maintain that temperature.
- 4.4 Typical heat up time from 70°F to 140°F for a full water bath is 1 hour and 45 minutes.

**WARNING: DO NOT RUN UNIT DRY. UNIT SHOULD NEVER RUN WITH LESS THAN 2” OF WATER. IF UNIT IS EMPTIED WHEN HOT, IMMEDIATELY REFILL WITH MINIMUM OF 2” OF COLD WATER.**

### **NEVER USE FLAMMABLE LIQUIDS IN BATH**

Preset parameters:

The programmed instructions are factory set and require no further adjustments by the user in the field.

## 5. Maintenance

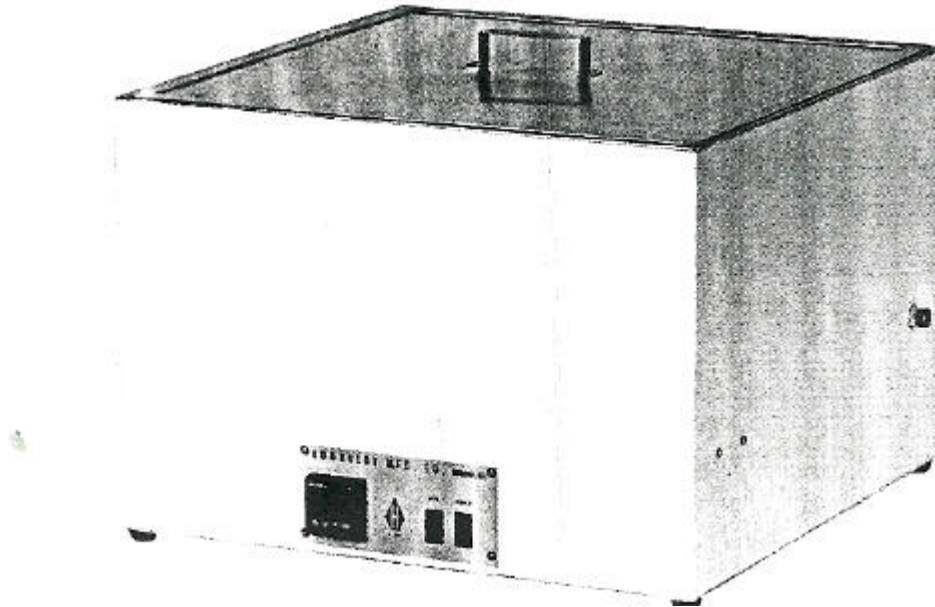
The water bath can generally be maintained by keeping it clean and properly filled.

## 6. Warranty

Humboldt Mfg. Co. warrants its products to be free from defects in material or workmanship. The exclusive remedy for this warranty is Humboldt Mfg. Co., factory replacement of any part or parts of such product, for the warranty of this product please refer to Humboldt Mfg. Co. catalog on Terms and Conditions of Sale. The purchaser is responsible for the transportation charges. Humboldt Mfg. Co. shall not be responsible under this warranty if the goods have been improperly maintained, installed, operated or the goods have been altered or modified so as to adversely affect the operation, use performance or durability or so as to change their intended use. The Humboldt Mfg. Co. liability under the warranty contained in this clause is limited to the repair or replacement of defective goods and making good, defective workmanship.

**CAUTION: Keep hands, clothing and other objects away from moving parts when the machine is in operation.**

**7. Drawing**



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