BPI Lab Master™ System

For use only by qualified personnel in a laboratory environment.

Due to high operating temperature, access should be restricted.

BPI® does not warrant the use of non-BPI® products in this instrument.

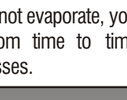
Turn off the unit when you have finished tinting for the day. Never allow the tanks to run dry. Do not leave unattended.

TANKS	HEIGHT	WIDTH	LENGTH	WEIGHT	TRANSFER FLUID	CIRCUIT BREAKER	VOLTAGE	AMPERAGE
1.5 gallon	8 in.	17.5 in.	12 in.	28 lbs.	1 gallon	20 amps. 250v. Circuit Breaker/Switch	110v	15 amps.
1 x 5.67 L	20.32 cm	44.45 cm	30.48 cm	12.70 kg	3785 ml		220v	10 amps.

THE SET-UP KIT INCLUDES THE FOLLOWING PRODUCTS:

- BPI Heat Transfer Fluid
- Manual & instructions
- Tank
- Precision thermometer
- HTF siphon pump

SYSTEM LAYOUT



ONE 1.5 GALLON TANK (1 x 5.67 LITERS)

Specifications

The Lab Master™ System is a one-tank dye system geared for modest volume requirements. An optional 16-pair lens rack is commonly used in this system.

The system requires 110 volt, 50/60 Hz and is circuit breaker protected at 20 amp. Components are UL and CSA recognized. A 220v. unit is also available.

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(NOTE: Be sure always to use the ground prong on the power cord for safe operation; never bypass it.)

Unpacking

When unpacking your tint system, please check to ensure that no concealed damage occurred in transit. If such is noted, save the shipping carton and immediately notify the shipping company's damage control inspector in your area so a claim may be processed. Failure to do this may void any future claim and replacement. Also, call BPI Customer Service so arrangements for a replacement may be made. Please verify that you have received all the items listed above.

Setting Up

Place your system on a LEVEL work surface convenient to an electrical receptacle. Make certain all switches are OFF.

Pour 1 gallon (4 quarts) of heat transfer fluid over the heating elements into the base unit BEFORE turning ON any switches. If heat is turned on before the heat transfer fluid is added, (With the dye tanks in place so that the elements are submerged), element failure may result due to excessive temperatures of the element.

Place the stainless steel dye solution tank into the main unit and fill it with approximately one gallon of working dye solution, or ¾ gallon of water if Diamond Dye™ 400 is to be used. BPI dyes are sold in concentrated solutions and are to be diluted (usually with water) to obtain the working solution. FOLLOW the instructions that comes with the dye for proper mixing. The one gallon is a suggested volume and may be adjusted depending on the size of lenses or material to be treated.

Mixing of the UV Diamond Dye™ 400nm into this tank is to be done with the unit warm so it is important to read the following section before proceding. Heat to approximately 140º F. THOROUGHLY SHAKE the bottle of Diamond Dye™ and add the appropriate amount to the distilled water. (Note: Always use the entire contents of the bottle.) Stir well after adding. Bring the temperature of the Diamond Dye™ solution up to 180º F. After 10 minutes at this temperature, increase to the working temperature of 200º F. DO NOT EXCEED this temperature as a boilover may occur.

Heating Up

The system has an ON/OFF switch, a temperature control dial, and an indicator lamp. The light in the switch comes on when the switch is turned ON and is merely an indicator that power is reaching the unit. The lamp above the temperature control dial indicates when power is being applied to the heating element.

Plug the unit into a properly grounded 110 volt electrical receptacle. (The 220 volt model is shipped without a plug and requires a qualified technician for installation.) Turn the switch ON. Set the temperature control dial to position 1. The lid may be in place at this temperature to speed the initial heat up.

When the thermostat lamp goes out, the unit has reached this low idle temperature. Remove the tank lid to prevent boilover before working towards higher temperatures. Gradually increase temperature settings until the dye solution is heated to 200-210 degrees F. It is recommended that a quality lab thermometer be used to monitor the dye temperature since it will DIFFER from the thermostat setting, which controls the temperature of the heating element area.

If there is going to be a time lapse between batches, the unit may be idled at half scale on the thermostat setting and the lid placed on the dye tanks to minimize evaporation and reduce the time it takes to attain operating temperature for the next batch. Since the pigment does not evaporate, you may simply add water from time to time to replace evaporative losses.

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Note

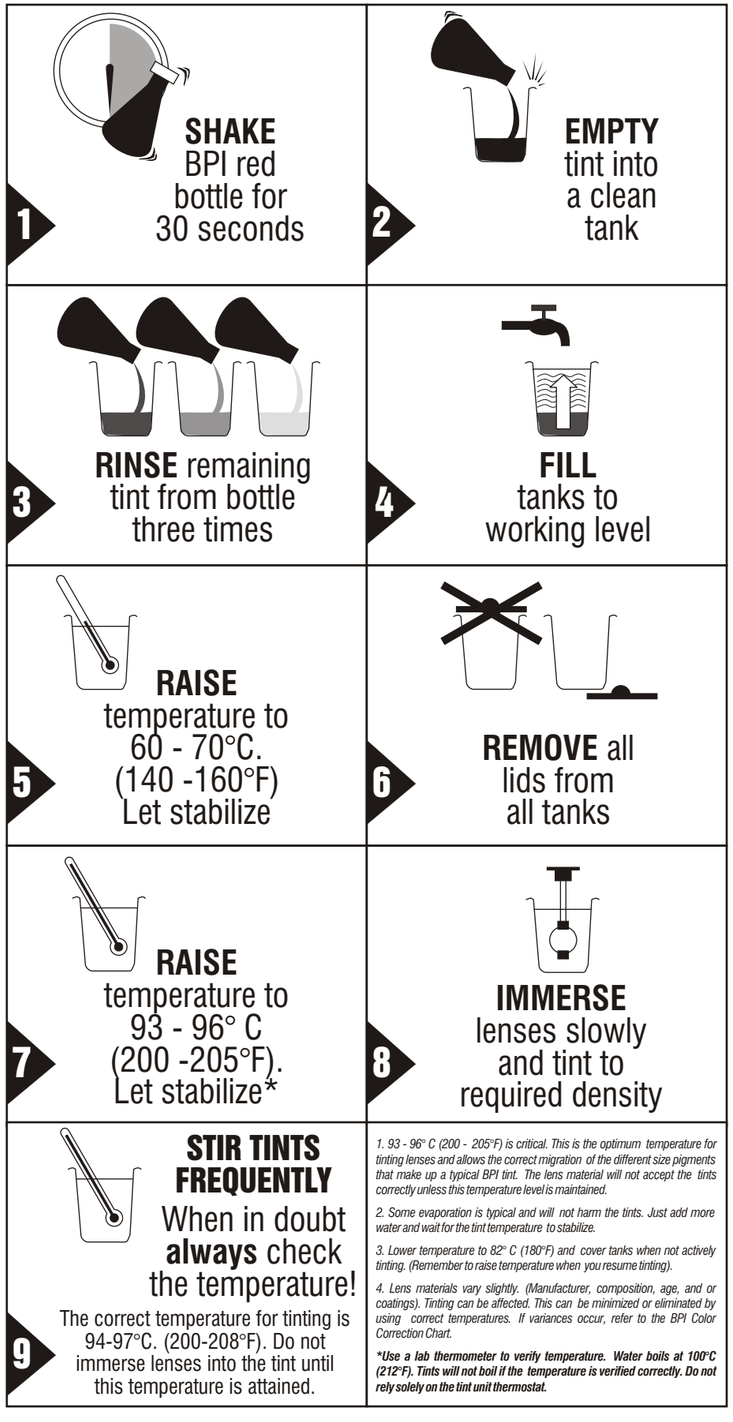
During the first few days of use, foaming may occur and can be controlled by adding cold distilled water and skimming the foam from the surface. Save the foam in a separate clean container so that it may be re-added as the level drops due to evaporation.

Treating Lenses

Lenses to be treated with UV dye should be clear; if they have been previously tinted or edge coated, first remove the color with Neutralizer II™ to prevent the color from leaching out into the UV dye solution. Tinting and edge coating are to be done after UV treatment.

CHECK RESULTS using a meter that tests for transmission in the spectral range known as UVA.

Since standards for UV transmission are in a state of change (including the definition of UVA), BPI cannot specifically state what is an acceptable UVA transmission reading. We believe that a reading of 1% or less on any of the variety of BPI UV meters will meet existing and currently proposed standards. If lenses are placed in Neutralizer II™ during the course of tinting, check lenses again for UV transmission. After removing lenses from the oven, allow them to air cool to room temperature. Do NOT place lenses in cool water because thermal shock may damage the lenses.



1. 93 - 96° C (200 - 205°F) is critical. This is the optimum temperature for tinting lenses and allows the correct migration of the different size pigments that make up a typical BPI tint. The lens material will not accept the tints correctly unless this temperature level is maintained.

2. Some evaporation is typical and will not harm the tints. Just add more water and wait for the tint temperature to stabilize.

3. Lower temperature to 82° C (180°F) and cover tanks when not actively tinting. (Remember to raise temperature when you resume tinting).

4. Lens materials vary slightly. (Manufacturer, composition, age, and or coatings). Tinting can be affected. This can be minimized or eliminated by using correct temperatures. If variances occur, refer to the BPI Color Correction Chart.

Use a lab thermometer to verify temperature. Water boils at 100°C (212°F). Tints will not boil if the temperature is verified correctly. Do not rely solely on the tint unit thermostat.