

BPI[®] Solar Color 4L[™]

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.

Specifications

The Solar Color 4L[™] System (BPI# 213201) is a linear arrangement of four one-quart tanks. Like most BPI tinting units it has provisions for mounting a single optional Gradient Lens. In addition, a unit with four 5-Stroke Gradient Lenses (220 volt, BPI# 214802) is also available for the high volume lab.

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

The tinting unit is for indoor use at altitudes below 2000 meters in a maximum ambient temperature of 40°C. The maximum relative humidity near the tinting unit should be 92%. Power supply mains fluctuations should be no more than ±10%. The tinting unit is in installation category II with pollution degree (2). If the equipment is used in a manner not specified in this manual, the protection provided by the equipment may be impaired.

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

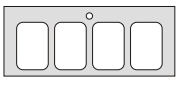
The tinting unit should be cleaned with a damp cloth. Before using any cleaning or decontamination method except that recommended by Brain Power Inc., users should check with Brain Power Inc. that the proposed method will not damage the equipment.

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.

TANKS	HEIGHT	WIDTH	LENGTH	VOLTAGE	WEIGHT	CIRCUIT BREAKER	AMPERAGE	TRANSFER FLUID
4 Quart or 8 Mini	7.5 in.	11 in.	21 in.	220v. 50/60 Hz.	33 lbs.	20 amps. 250v.	9 amps.	1 gal.
4 x 0.94 L or 8 x 0.47 L	19.05 cm	27.99 cm	53.34 cm		15 kg			3.78 liter
THE SET-UP KIT INCLUDES THE FOLLOWING PRODUCTS:						SYSTEM LAYOUT		
<ul style="list-style-type: none"> BPI[®] Lens Prep II[™] BPI[®] Neutralizer II[™] BPI[®] Heat Transfer Fluid BPI[®] Lens Holder II[™] BPI[®] Molecular Catalytic[™] tints (One each: gray, blue, yellow, brown, pink, & green) 			<ul style="list-style-type: none"> Manual & instructions Tanks & thermal tank lids Adapter plate Precision thermometer Wall outlet (UL systems) HTF siphon pump 			 <p>FOUR QUART TANKS (4 x 0.94 LITERS)</p>		

Setting Up

Place your system on a LEVEL work surface convenient to an electrical receptacle. Make sure that the unit is no closer than 3 inches from the nearest wall. Make certain all switches are OFF.

Pour four quarts of heat transfer fluid over the heating element into the base unit BEFORE turning ON any switches.

If the heat is turned on before the heat transfer fluid is added and the dye tanks are in place so the elements are submerged, element failure may result due to excessive temperature of the element.

Place stainless steel dye solution tanks into the main unit. Reserve one tank for Neutralizer II[™]. Fill the remaining tanks one-half full with water (distilled is preferred for grays and browns) and add one color of dye to each tank.

BPI[®] dyes are sold in concentrated solutions and are to be diluted to obtain the working solution. FOLLOW the instructions that come with the dye for proper mixing.

Add a little water to each dye bottle and shake well to remove the residual pigment in the bottle; add to the corresponding dye solution. Add water to the dye tanks to achieve the correct working level.

Pour Neutralizer II[™] (full strength) into the reserved tank and Lens Prep II[™] (diluted to 1 part to 32 parts water) into a separate container.

This last solution is used heated in larger dye machines, but works well at room temperature.

Most users of this size unit prefer to have another color on line rather than heat the Lens Prep II[™] working solution. The right side of this system will typically be a few degrees hotter than the left side of the unit.

Since Neutralizer II[™] and certain colors (such as grays and browns) work better at higher temperatures we recommend keeping these tanks at or near the right hand end (as viewed from the front) of the system.

Heating Up

The system has an I/O circuit breaker switch, a temperature control dial, and an indicator lamp. The lamp above the temperature control dial indicates when power is being applied to the heating element.

Plug the unit into a properly grounded 120 volt electrical receptacle (The 220 volt model is shipped without a plug and requires a qualified technician for installation). Turn the switch to I. Set the temperature control dial to position 1. The lids 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 lids before working towards higher temperatures to prevent boil over. Gradually increase temperature settings until the dye solution is heated to 200-210° F (190-200° F for gradients and light tints).

It is recommended that a quality lab thermometer be used to monitor the dye temperature since it will DIFFER from the thermostat setting which is controlling 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 lids 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.



Lens Tinting

- Place one pair of lenses in lens holder.
- Immerse in Lens Prep II[™] for 30 seconds. Check the temperature of tints with the supplied thermometer before immersing lenses into dye bath.
- Transfer to dye bath still wet. Take care to minimize the introduction of Lens Prep II[™] in the dye bath as it may cause color shifts. Dye times vary from less than one minute to greater than 10 minutes.
- Place back into the Lens Prep II[™] for a few seconds.
- Wash lenses using tap water and dry with a soft, lint-free cloth or Kaydry[™].
- Check for density and color.

For more detailed instructions, refer to the BPI[®] booklet "Practical Guide to Lens Tinting".

Neutralizer

BPI[®] Neutralizer II[™] is for removing color from CR-39[™] lenses ONLY. **Read precautions.**



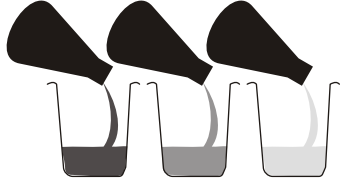


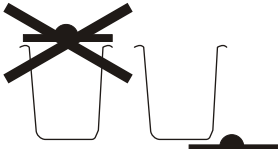

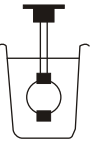

- Heat Neutralizer II[™] in an approved tint unit. Do not exceed 210° F.
- Dip lens to be neutralized into the heated solution until the desired amount of color has been removed.
- Remove lens and rinse in cool water.
- Lens may now be immersed in BPI[®] Lens Prep II[™] and re-tinted.

PRECAUTIONS: Use Neutralizer II[™] in a well ventilated area or with a vent hood. NEVER USE ON OPEN FLAME OR ELECTRIC BURNERS! If fluid contacts eyes, immediately wash with water. If irritation persists, contact physician. Harmful or fatal if swallowed. Product is combustible and may become flammable if directions and precautions are not followed.

Questions? Ordering....

If you have any questions about the use of your lens coloring instrument, please refer to our pamphlet, "The Practical Guide to Lens Tinting" for general information. To place orders or to receive technical support, please call your local BPI[®] office.

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 <p>1 SHAKE BPI red bottle for 30 seconds</p>	 <p>2 EMPTY tint into a clean tank</p>
 <p>3 RINSE remaining tint from bottle three times</p>	 <p>4 FILL tanks to working level</p>
 <p>5 RAISE temperature to 60 - 70°C. (140 - 160°F) Let stabilize</p>	 <p>6 REMOVE all lids from all tanks</p>
 <p>7 RAISE temperature to 93 - 96° C (200 - 205°F). Let stabilize*</p>	 <p>8 IMMERSE lenses slowly and tint to required density</p>
 <p>9 STIR TINTS FREQUENTLY When in doubt always check the temperature!</p> <p>The correct temperature for tinting is 94-97°C. (200-208°F). Do not immerse lenses into the tint until this temperature is attained.</p>	<p>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.</p> <p>2. Some evaporation is typical and will not harm the tints. Just add more water and wait for the tint temperature to stabilize.</p> <p>3. Lower temperature to 82° C (180°F) and cover tanks when not actively tinting. (Remember to raise temperature when you resume tinting).</p> <p>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.</p> <p>*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.</p>