

BPI Twin 12™

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 Twin 12™ System is a two-sided arrangement with each side having six one-quart tanks (unless fitted with optional mini-tanks). In addition, each side is independently temperature controlled. It has provisions for mounting two Gradient Lenses™. Two 5-Stroke™ Gradient Lenses are included with this system. It is necessary to specify whether the supplied gradients are to be 120 volt or 220 volt units.

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

NOTE: Be sure always to use the ground wire 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 below.

Setting Up

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

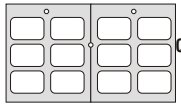
Pour 5 quarts of heat transfer fluid over the heating elements into the base unit BEFORE

TANKS	HEIGHT	WIDTH	LENGTH	VOLTAGE	WEIGHT	CIRCUIT BREAKER	AMPERAGE	TRANSFER FLUID
12 Quart or 24 Mini	6.5 in.	19 in.	33 in.	220v.	105 lbs	20 amps 250v. Circuit Breaker/Switch	17 amps	10 qts
12 x 0.94 L or 24 x 0.47 L	16.51 cm	48.26 cm	83.82 cm		47.7 kg			9.46 ml

THE SET-UP KIT INCLUDES THE FOLLOWING PRODUCTS:

- BPI Lens Prep II™
- BPI Neutralizer II™
- BPI Heat Transfer Fluid
- BPI Lens Holder II™
- 2 6-packs of BPI Molecular Catalytic™ tints (Two bottles of: gray, blue, yellow, brown, pink, & green)
- Manual & instructions
- Tanks & thermal tank lids
- Adapter plate
- Precision thermometer
- HTF siphon pump
- 2 BPI 5-Stroke™ gradients

SYSTEM LAYOUT



TWELVE QUART TANKS (12 x 0.94 LITERS)

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 stainless steel dye solution tanks into the main unit. Reserve one tank for Neutralizer II™ and another tank for Lens Prep II™. Fill the remaining tanks 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 one of the reserved tanks and Lens Prep II™ (diluted 1 part to 32 parts water) into the other reserved tank. The front tanks of this system will typically be a few degrees hotter than the back tanks. 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 front of the system.

Heating up

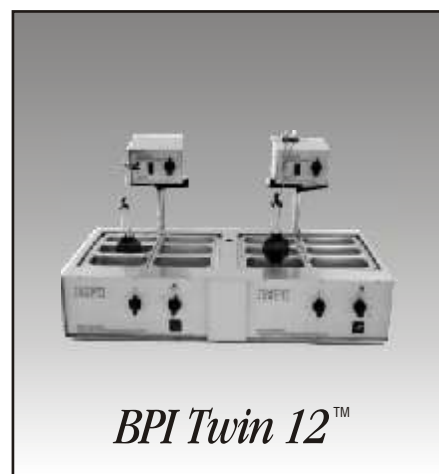
Each side of the system has an ON/OFF switch, a temperature control dial, an indicator lamp, and a mechanical timer. The lamp in each lighted switch comes on when the switch is turned ON and is merely an indicator that power is reaching that side of the unit. The lamp above each temperature control dial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

timers are for the convenience of setting a reminder of tinting duration. When the set time expires, a bell will sound for about 3 seconds.

Plug the unit into a properly grounded 220 volt electrical receptacle. (This 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 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 to prevent boil-over before working towards higher temperatures. 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 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 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

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

Neutralizer

BPI Neutralizer II™ is for removing color from CR-39™ lenses ONLY. Read precautions below.

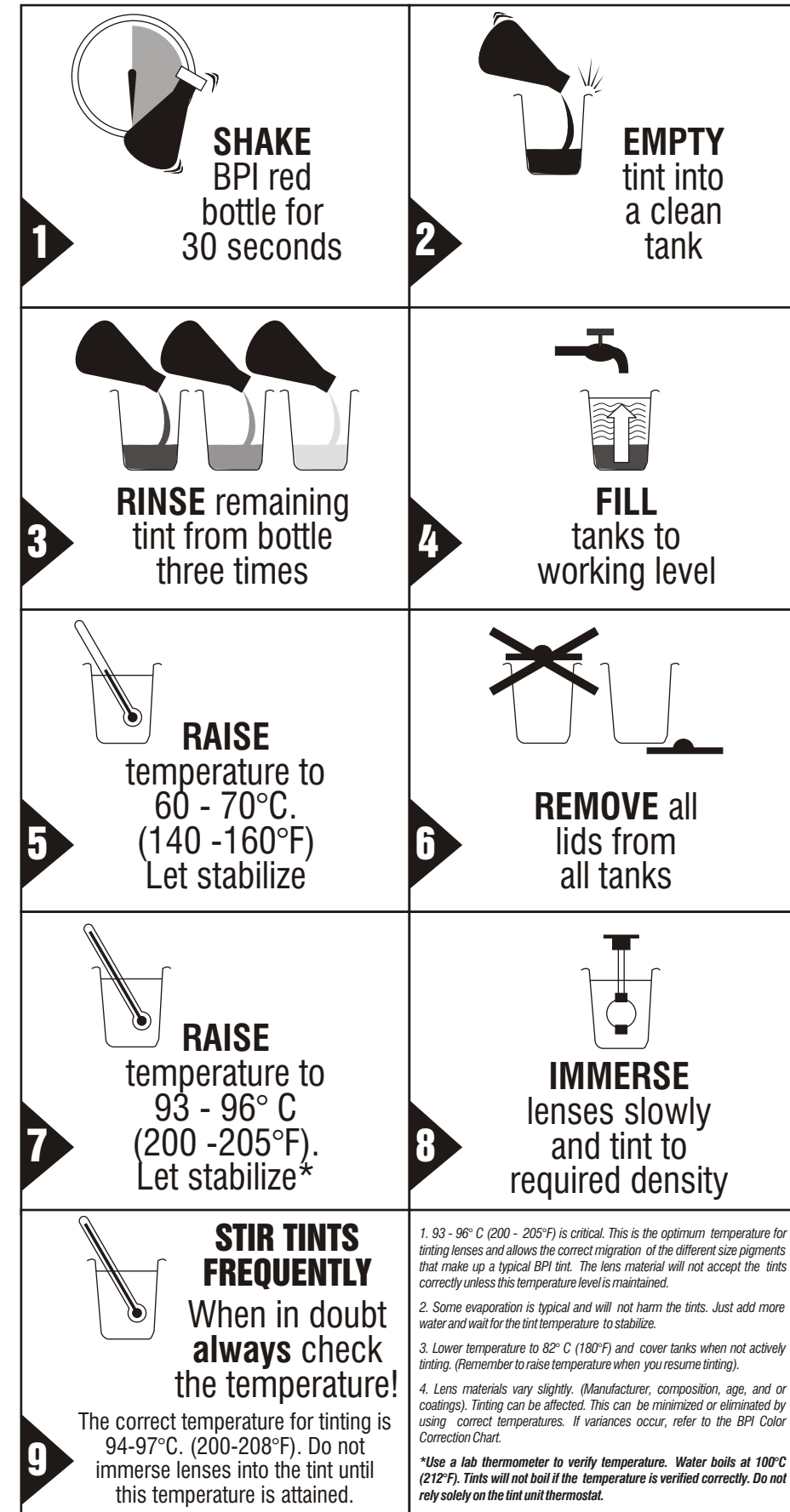
1. Heat Neutralizer II™ in an approved tint unit. Do not exceed 210° F.
2. Dip lens to be neutralized into the heated solution until the desired amount of color has been removed.
3. Remove lens and rinse in cool water.
4. Lens may now be immersed in BPI Lens Prep II™ and re-tinted.

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.



1. SHAKE BPI red bottle for 30 seconds
2. EMPTY tint into a clean tank
3. RINSE remaining tint from bottle three times
4. FILL tanks to working level
5. RAISE temperature to 60 - 70°C. (140 - 160°F) Let stabilize
6. REMOVE all lids from all tanks
7. RAISE temperature to 93 - 96° C (200 - 205°F). Let stabilize*
8. IMMERSE lenses slowly and tint to required density
9. STIR TINTS FREQUENTLY When in doubt always check the temperature! The correct temperature for tinting is 94-97°C. (200-208°F). Do not immerse lenses into the tint until this temperature is attained.

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.