

RIO GRANDE®

Since 1944

Sharing your passion for making jewelry.
Products. Service. Know-how.

1¹/₃-Quart Wax Injector

Setting Up the Injector

1. Unpack the unit as soon as you receive it to make sure there is no damage to the unit and all its parts are present. Immediately report shipping damage to the shipping company and to Rio Grande. Keep all packaging materials until the unit is up and running in case there is any need to return.
2. Place the unit on a secure, heat-resistant surface with 12" of clearance on all sides. If desired, you can bolt the unit to your work surface; the base of the unit is drilled to accommodate this (hardware is not included).
3. Connect the air line from a compressed air source (not included) to the injector. We recommend that you install an in-line air filter/dryer on your air supply line to keep the air clean to avoid introducing impurities to the wax (see a selection of these online and in your *Rio Grande Tools & Equipment* catalog).
4. Loosen the lid by unscrewing the two knobs on the top of the unit just enough to allow the lid to swivel free of the base. Remove the lid and wipe the inside of the chamber with a cloth, making sure not to leave any debris. Check the nozzle to ensure it is free of any debris as well. Important: Keep any contaminants or debris from getting into the chamber or nozzle. Contaminants can create air leaks that affect the functionality of the unit and potentially create quality issues in the injected wax patterns.
5. Plug the unit into a standard 110-volt receptacle (or 220-volt receptacle for a 220V model).

Operating the Injector

1. Using the ON/OFF toggle switch, turn the unit on and adjust the temperature knob on the unit to the desired setting.
2. Fill the chamber 1/3 full of wax and place the lid back on the unit; do not tighten down yet. Note: Starting with a small amount of wax helps to speed the melting cycle.
3. Once the wax begins to melt, add more wax until the unit is approximately 5/6 full (which is considered full). Important: Do not overfill!
4. Once the wax is fully melted, check that the lid is in

Remove and store all packing materials prior to setup.



position on top of the unit and tighten the knobs securely.

5. Place the thermocouple (included) through the opening in the top of the injector lid to monitor the temperature of the wax in the chamber. Allow the thermocouple to reach the temperature of the wax in the pot, then adjust the temperature using the dial on the side of the pot. For best results, follow the manufacturer's recommended temperature range for the injection wax you use. Please Note: This unit does not have temperatures marked on the dial. Use the thermocouple to find the settings you need and mark them on the pot with a marker or tape. The marks should be moveable so you can adjust them, but should resist accidental removal.
6. Turn on the compressed air and ensure that the connections are secure and do not leak. Set the air pressure using the regulator on the top of the injector to the desired setting. Air pressure generally ranges from 3–15psi for most patterns; however, you will need to adjust this for the patterns you are injecting.
7. Use Rio mold clamps or similar clamps to hold the rubber molds while you are injecting wax. Rio mold clamps are designed to be more ergonomic for the operator and to produce more consistent injections

than holding molds by hand.

8. Place the mold in the clamp and press the mold onto the nozzle, making sure the sprue hole and nozzle are aligned, for approximately 2–3 seconds. **Please Note:** You will need to experiment to find the temperature settings and injection times that work best for your patterns.
9. Remove the mold from the clamp and allow the wax to harden. Depending on the pattern, this can take as little as 10 seconds or as much as two minutes or more.
10. Open the mold and remove the wax pattern. If there are incomplete fills, adjust the temperature, pressure and/or injection time. Adjust your settings until you achieve a complete pattern fill. Make note of the settings for future use.
11. Turn off the air to the unit and, using the regulator on the wax pot, release any residual air from the line and pot.
12. We recommend leaving the injector on constantly if it will be used every day. If it will be out of use for more than 48 hours, we recommend turning it off and unplugging it between uses.

Cleaning the Injector

1. Use the wax down to a level even with the nozzle, or until you are ready to drain.
2. Fully release air pressure from the unit.
3. Remove the lid.
4. Lift the injector and pour the remaining wax into a sturdy heat-resistant container suitable for molten wax. **⚠ CAUTION!** Use care to avoid contact with hot wax and the pot when pouring the wax from the chamber. These will be hot enough to cause burns.
5. We recommend using flushing wax (available online and in your *Rio Grande Tools & Equipment* catalog) to help clean all remaining residue from the melting chamber and injection nozzle. For optimum results, follow the flushing wax instructions.

Safety & Precautions

- Never use compressed oxygen as a substitute for compressed air.
- The exterior of the wax injector will become hot whenever it is on—severe burns can occur. Do not handle the pot and keep all combustible material away from it.
- As with all electrical equipment, take precautions to keep the injector away from water and out of moist areas.
- The unit has a pop-off safety valve on the lid; if the air pressure exceeds 30psi, the pop-off valve will release the excess pressure. Important: This is a secondary safety feature. Always monitor the air pressure in the chamber and always release the pressure when you are finished working for the day.
- Wax ejecting from the nozzle can cause burns; always wear appropriate safety protection when operating the injector.

Specifications:

Power:	110–120 volts (220-volt by special order)
Wax capacity:	2.5 lbs. (1 ¹ / ₃ quarts)
Heater capacity:	250 watts
Overall dimensions:	10"H x 8" dia. (254 x 203mm)
Shipping weight:	18 lbs. (8.2kg)