

Color Pot Manual



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Electrical Requirements:

Because of the many possible configurations, your furnace is shipped without a plug. Preferably you should hard wire the unit directly into the service box. If this is not possible, be certain that the unit is fitted with a plug rated properly for your furnace as per the specifications below.

The Color Pot amperage draw for this unit is 27.5 amps at 220 volts. It is recommended that you use a 40 amp circuit and a 40 amp plug.

Placement:

Your furnace placement should allow for at least 12" - 18" clearance all around from any combustible materials. Adjust the leveling bolts mounted in the legs of the stand so it sits steady.

Thermocouple (T/C)

Your furnace is fitted with an "R" type thermocouple with a ceramic sheath. It was removed for shipping and needs to be placed back in the furnace. The mounting hole is located on the left side of the furnace. Position the T/C with the screw cap facing up. Remove the cap. Take the 3/8" flexible conduit with the green wire in it (thermocouple wire) and put it through the strain relief on the back of the T/C housing. Now attach the two wires to the terminal block inside the T/C cap. The wires attach to the two outer-most screw terminals with the red wire going to the negative side (the terminal block is marked with a + and - for positive and negative).



Place the port casting in the furnace and place the fiber blanket gasket as shown in the photo below. Place the support brick in the center between the port casting and the floor of the furnace. Place the crucibles into the port casting.



Your furnace has been fired at our factory to cure the refractory and test the electrical circuitry. We fired the unit for a 24 -36 hour period to "set" the castable, which optimizes their strength. The first firing at customer location should be done with attention and care as it will significantly effect the life of the castings.

During your first firing the furnace may throw off considerable steam and condensation may puddle beneath the furnace. To help evacuate this moisture, prop the lid open a little bit until the air temperature reads 1000 degrees F is attained. You may also notice an acrid smell during the first firing. This is the binders in the insulation and is a one-time happening.

Initial Firing Schedule

Refer to the controller instruction sheet that came with your furnace to write your cold start program. This furnace has "free standing" crucibles and it is advised that the ramp rate be set to go slowly to the melting temperature to avoid thermal shocking your crucibles. See recommended cold start program below.

Cooling Procedure

When shutting down your furnace, you can simply set your temperature controller to shut off (see manual for your controller). Shut the furnace lid and let the unit come down to room temperature. This will usually take a couple of days.

Recommended firing schedule for a cold furnace

Load the crucibles with color. If using color bar, it is best to cut or break into small pieces as this will melt better. If loading into a hot furnace, either preheat the glass before loading by heating them in your annealing oven or kiln to around 1100 degrees F. Once up to temp, trickle them into the furnace. Or, use the quench method by heating the glass in your annealer or kiln to 1100 degrees. Take a 5 gallon bucket with small holes drilled into the bottom and place this bucket into another 5 gallon bucket with water in it. Pour the hot glass into the bucket to thermal shock the pieces into smaller sizes. Put the wet glass on pads of newspaper to dry before loading into a hot furnace. Never load cold glass into a hot furnace.

Enter 50 degrees F an hour for the ramp rate

Enter 2150 degrees F for the temperature set point

Enter the specific command for your controller for an indefinite hold.

Cleaning out a used crucible so you can change colors

Place a container in your kiln or annealing oven. The container can be any type of material that will not catch fire or explode in the kiln such as a metal pan or ceramic tray. You can put sand, fiber blanket or fiber board in the floor of the container to prevent the glass from sticking to the floor of the container and allowing it to be used again. Place the crucible upside down in the container and prop the crucible up off the floor of the container using kiln posts or fire brick pieces. Set the kiln to climb slowly to prevent thermal shock of the crucible to a temperature that will allow the glass to flow.