

SPECIFICATIONS

Max Temperature	2200°F (1204°C)
Input Voltage	240V
Hz	60
Amp Circuit Required	20 Amp
Power	1800W
Controller	Programmable PID
Volume	360 in ³
Internal Dimensions	6" wide x 6" tall x 10" deep
Max Ambient Temperature	95°F (35°C)

HOT SHOT®

The Hot Shot 360 Oven is a state of the art, table-top, heat treating oven capable of reaching and holding temperatures up to 2200°F. Heat Treating Ovens can be used to heat such things as glass, cylinder heads, welded and carbon steel joints, pumps, various mechanical plates, ceramics, etc.

IMPORTANT SAFEGUARDS

READ ALL INSTRUCTIONS

POTENTIAL HAZARDS

- **Electrical shock hazard** – unplug the kiln from the electrical service before cleaning or servicing
- **Burn hazard** – Always wear protective clothing, gloves, and eyewear when working around the kiln. Use special care when opening a hot kiln as the escaping heat can cause severe burns. Keep unsupervised children away from an operating kiln
- **Fire hazard** – Do not place the kiln on a combustible surface. Allow at least 3 inches of airspace around the kiln and do not store any flammable or combustible materials nearby

Fumes and/or smoke may be present during the kiln break-in period or during heating of certain materials. Be sure to provide adequate ventilation

Locate the kiln in a covered but well-ventilated area. Do not operate the kiln outdoors or in wet conditions

CLEANING

The inside of your kiln can be vacuumed using a soft brush attachment to remove dust and debris. A vacuum with a HEPA filter is recommended. The outer surfaces can be wiped clean with a damp cloth or sponge. Do not use harsh cleaning chemicals on the painted surfaces of the kiln.

USER MAINTENANCE

The floor of your kiln is removable to allow for replacement due to wear and tear or to aid in set up of materials that will be fired in the kiln.

Servicing of any other components shall be done by an authorized Hot Shot Oven & Kiln service representative.

SAVE THESE INSTRUCTIONS



OVEN + KILN WARRANTY

All Hot Shot Oven & Kiln, oven and kilns are warranted against defects in material and workmanship for 18 months. Hot Shot Oven & Kiln will repair or replace (at our option), at no charge, any part(s) found to be faulty during the warranty period specified. The oven/kiln will be free of defects in workmanship and materials when used under normal and proper operating conditions. The oven and kiln warranty repairs must be performed by/at Hot Shot Oven & Kiln facility.

OBLIGATIONS OF THE ORIGINAL OWNER

Provide written proof of date of purchase. Notify Hot Shot Oven & Kilns immediately after defect has been discovered. Transportation of oven/kilns to Hot Shot Oven & Kiln is the responsibility of the original purchaser. Return transportation back to the customer is provided by Hot Shot Oven & Kiln when the oven/kiln is in-warranty.

FOR WARRANTY REPAIRS: Warranty repairs should be handled through Hot Shot Oven & Kiln who will arrange for any repairs or replacement of parts under the terms of this warranty. Otherwise, the defective part may be returned (postage prepaid) to Hot Shot Oven & Kiln at 2305 Stonebridge Rd, West Bend, WI 53095. If, after factory examination, the original part is found to be defective, a new or repaired part will be shipped prepaid by Hot Shot Oven & Kiln. If the entire oven is to be returned to the factory, all transportation costs will be done by the purchaser. The purchaser should notify Hot Shot Oven & Kiln (262) 361-4912 prior to shipping for a Return Materials Authorization (RMA) Number. Hot Shot Oven & Kiln will help advise if it is necessary to return the entire oven or only certain parts. Warranty work will be performed within 3 business days after defective part is returned to the factory. Hot Shot Oven & Kiln reserves the right, at its option, to replace the entire oven or any part of it in order to fulfill its obligation under this warranty.

THIS WARRANTY DOES NOT COVER:

- Ovens altered in any way, abuse or neglect, moisture, improper storage or installation.
- Ovens over fired (reaching temperature higher than melting point of ware inside oven) regardless of cause.
- Ovens operated on incorrect voltage. Improper electrical installation. Knife Blade furniture or ware other than Hot Shot Oven & Kiln made.
- Ovens used for salt firing.
- Ovens used for Nitriding.
- Ovens used for purposes other than the firing of heat-treating various metals.
- Ovens operated more than the temperature on the rating plate.
- Damage to Property or personal injury that may occur from ovens that are fired on or near wood floors or combustibles.
- Damage to property or personal injury that may occur from improper ventilation of the work area and building structure.

This warranty is in lieu of all other warranties, expressed, or implied.

EXCLUSIONS OF THE WARRANTY

This warranty does not cover any of the following: accident, misuse, fire, flood, and other acts of God, acts of terrorism, nor any contingencies beyond the control of Hot Shot Oven & Kiln, including but not limited to water damage, incorrect line voltage, improper installation, installation where this unit will not meet local electrical codes, missing or altered serial numbers, and service performed by an unauthorized facility. Hot Shot Oven & Kiln's liability for any damages caused in association with the use of Hot Shot Oven & Kiln's equipment shall be limited to the repair or replacement only of the Hot Shot Oven & Kiln's equipment. No person, agent, distributor, dealer, or company is authorized to modify, alter, or change the design of this merchandise without express written approval of Hot Shot Oven & Kiln.

Liability Limitation: In no event shall Hot Shot Oven & Kiln be liable or responsible for consequential, incidental or special damages resulting from or related in any manner to any Hot Shot Oven & Kiln product, third party installation(s), manufactured or distributed, or parts thereof.

Hot Shot Oven & Kiln does not accept returns on units that have been burned in or fired.

INTERNATIONAL + CONTIGUOUS WARRANTY

Due to the shipping distance Hot Shot Oven & Kiln has created separate warranty terms for all units shipped outside of the continental US including Hawaii and Alaska. This warranty is still valid for the full 18 Months however, the customer will be responsible for all shipping costs including customs, taxes and fees for any replacement parts or if the unit needs to be sent in for any inspection deemed under warranty.

SAFETY RECOMMENDATIONS

Your heating element is made from Kanthal Ni-Chrome wire, allowing cold air to enter a hot oven will harden your element and make it become brittle. Never use compressed air or fans to force cool the oven, always close the door and let the oven cool on its own, this will keep your heating element annealed.

Our cool touch technology, with the fan running, should keep the outer surface within 20°C of room ambient temperature.

1. Install on a 15 amp (120V) or 20 amp (240V) circuit (will depend on what's ordered).
2. Do not use the oven to cure paint or any other solvent borne products.
3. Do not use the oven for powder coat.
4. Use in a well ventilated area.
5. Wear protective clothing and protect thyself from burns.
6. Do not unplug the unit till it has fully cooled down.
7. Do not EVER put magnesium in the oven.
8. Do not exceed 2000°F.
9. Do not block any vents.
10. Keep the fan exhaust at least 3 inches from any wall or obstruction.
11. In the event the oven overheats, the oven will automatically shut down. Please contact our office at 262-361-4912 to work with our team on resetting your oven if shut down occurs.
12. Use caution when loading and unloading kiln while kiln is in operation.
13. Do not leave kiln unattended.
14. The thermocouple works best if its not crowded against your work. Give it as much room as practically possible. Avoid blocking the thermocouple from the sides, particularly both sides at once.



WARNING: This product can expose you to chemicals including chromium, which is know to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

HOT SHOT®

HOT SHOT 360 ELECTRICAL FEATURES

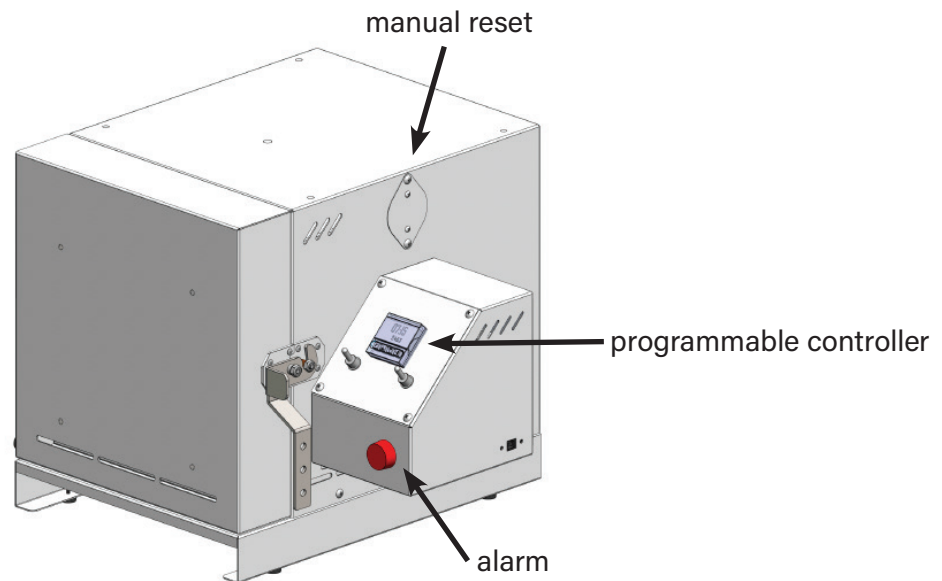
- Novus N20K48 programmable controller with factory presets.
- Available bluetooth programming with Mobile App.
- Failsafe overtemp manual reset thermostat.
- 40 amp rated SSR with convection heat sink.
- Kiln type "K" thermocouple.
- Door limit switch.
- Easy to read slant top control panel.
- Heavy Duty cord with 15 amp plug.
- Fully grounded control and oven shell.

HOT SHOT 360 MECHANICAL FEATURES

- Dual layer air plenum for external heat management and precise temperature control.
- 20 Gauge 304 Stainless steel core construction.
- Powder coated exterior shell.
- Two-inch Kaowool insulation in door.
- 14 Gauge Kanthal A-1 heating element.
- 6H x 6W x 10D working chamber / 360 cu-in.

HOT SHOT 360 PERFORMANCE FEATURES

- The Hot Shot oven is equipped with Cool-Touch Technology (patent pending). This provides a safe external temperature to allow for safer operation and protection of its surroundings.
- 1800-watt heating element/15 amp total oven load.
- Ambient to 2200°F/1204°C in as little as 40 minutes (room temperature, empty oven).
- Maximum ambient room temperature of 95°F - (35°C).



STARTING YOUR OVEN FOR THE FIRST TIME?

Please carefully remove all packing material from the inside of your oven. Visually check that the element hasn't been bumped or moved during shipping.

- DO NOT block any vents.
- Keep the back of the oven (fan unit) at least 3 inches away from a wall or other objects.
- DO NOT attempt to duct the exhaust of the fan unless the exhaust has a power vent compatible with the cfm of the fan.

Your temperature controller has been pre-programmed to outgas your oven automatically and anneal your heating element. Place oven on a level, non-combustible surface.

Important: Do these steps in a well ventilated area or outdoors if possible.

Note: The oven fan is regulated by the oven core temperature, therefore, it will not turn on immediately.

- Ramp to 800°F - slight odor of burned anchor lube and assembly lubricants, small amount of smoke, kaowool board will turn chocolate brown and start outgassing.
- Run and heat soak for 45 minutes @ 800°F - odor from the insulating board will really begin to stink, you will wonder if this is actually normal, don't worry, it is. If you open the oven door, expect to see a fire show of outgassing contaminants & heavy smoke.
- Run and soak for 1 hour @ 1200°F.
- Run and soak for 1 hour @ 1600°F - the smell is still very strong, the inner insulating board of the oven is starting to cleanse itself and is turning white, there will be a brown ring around the door that will move away from the inner shell as temperature increases.
- Run and soak for 1 hour @ 1800°F - all downhill from here, you have burned off most of the impurities from the insulating board. Inner oven should be chalk white. The brown ring around the door should be fading.

2nd and 3rd firings: slight odor will be present, decreasing with each subsequent firing.

While it's not necessary to run your oven all the way up to the max temperature for the outgassing process, holding at 1500°F for 1 hour will remove 90% of the contaminants from the insulation. You will see steam escaping from the seams and even water forming at the feet of the oven from trapped moisture being burned away from the inner (hot) layer and condensing when it gets to the outer (cooler) layer.

INITIAL RUN INSTRUCTIONS

STEP 1:



Turn on the control power. After a few seconds the home screen will appear.

STEP 2:

The oven has been programmed to run the Initial Run sequence which will bake out the moisture and binders in the insulation. Make sure the oven is in a well ventilated area and when ready, turn on the Heat Enable switch. Your unit will start to heat up and run the initial burn. You do not need to do anything to start it.

STEP 3:

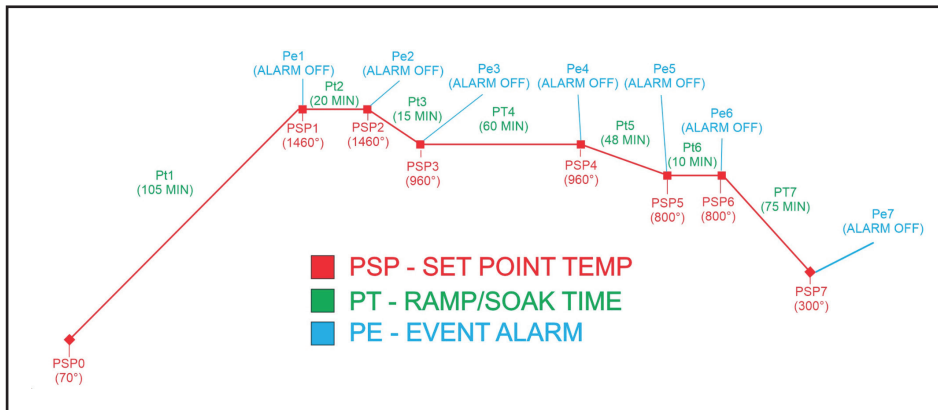
When the program has completed, the oven will begin to cool down. The controller will go back to the program start screen but will not restart the program. Let the oven cool back down to room temp. Now you can create new programs and begin using the oven.

NOTE

Allow 4-5 hours for the oven to run completely through the "INITIAL RUN" schedule. Try to plan ahead so the schedule can be completed without interruption.

How to start initial run if it does not do it automatically: Press "P" 2 times until "PRG" appears. Make sure it is set to program 1. Press "P" 3 times until "Run" appears and use the up and down arrow to make sure it is set to "yes" in blue letters. Lastly, press "P" 2 times and this will take you to the main screen and your oven should start to heat up.

Example Program:



Medium Open Face Mold (1/2 to 3/4 Inch Thick)

1	800°F (425°C)	1460°F (795°C)	20
2	AFAP	960°F (515°C)	60
3	200°F (95°C)	800°F (425°C)	10
4	400°F (205°C)	300°F (150°C)	0

WHAT YOU NEED TO KNOW ABOUT PROGRAMMING

Ramps are measured by the degree per hour For example: if you want the oven to reach 1460F at 800F ramp will climb at 800F per hour until goal temp is reached, in the case it's up to temp in 1.8 hours.

HOW TO FIND THE RAMP RATE FORMULA

Desired Setpoint Temp - Ambient Temp ÷ Hours = Ramp Rate

DO NOT KNOW YOUR RAMP RATE?

If you want to get to 1460° and you want it to take 5 hours to get to that point, you would use this formula.

$1460^{\circ} - \text{Ambient} \div 5 \text{ Hrs} = 278^{\circ} \text{ Per Hour (Ramp Rate)}$

RAMPS ON THE NOVUS CONTROLLER ARE ENTERED IN AS (TIME RATE/HRS)

$1460^{\circ} - \text{Ambient} \div \text{Rate (800}^{\circ}) = 1.8 \text{ Hrs (Ramp Time)}$

Ramp down - would be the same as ramping up.

NOTE

How Ramps and Hold Times Work (Pt1,Pt2,Pt3...)

When you start your program at your first set point temperature (example 400°) your ODD PT numbers will be your HOLD OR SOAK time, and your EVEN PT numbers are the RAMP RATE. This will ramp to first set point temp AFAP.

When you start your program at room temperature (example 70°) your ODD PT numbers will be your RAMP RATE and your EVEN PT numbers will be your SOAK or HOLD times.

MANUALLY CREATING A RAMP/HOLD PROGRAM

For digital programming, download the free QuickTune Mobile App and skip to page 11.

STEP 1:



To begin creating or editing a program, start by turning the control power on.

STEP 2:



Press and hold the “P” button approx. 2 seconds until the “CFG PROG” screen appears.

STEP 3:



Press the “P” button 4 times until “Pr N” appears. Select the program number you would like to edit using the up and down arrows.

STEP 4:



Press the “P” button one time until “Ptol” appears (This stands for tolerance). This setting controls how closely the internal temp follows the program.

STEP 5:



Press the “P” button one time so “PSP0” appears. This will be the first temperature setpoint of the program.

STEP 6:



Press the “P” button one time so “Pt1” appears. This will be the desired time between the 1st and 2nd setpoint of the program. 30 minutes is shown above.

STEP 7:



Press the “P” button one time until “PE1” appears (This stands for alarm). If an alarm is desired in this segment, set to “1”

STEP 8:



Press the “P” button one time until “PSP1” appears. This will be the second setpoint temp of the program.

STEP 9:

Continue through the program by pressing the “P” button and entering the desired temperatures and times. Up to 9 setpoints can be added. If not using all 9, set the remaining setpoints to “0”. For further information on programming the controller, refer to the Novus manual included with the oven.

SETTING A SINGLE TEMPERATURE HOLD

STEP 1:



To run a simple temperature hold, start by turning the control power on.

STEP 2:



Press the "P" button 2 times until the "PRG" screen appears.

STEP 3:



Using the up/down arrows, toggle to "NONE."

STEP 4:



Press the "P" button one time to get to the "RUN" screen. Make sure it is set to "YES."

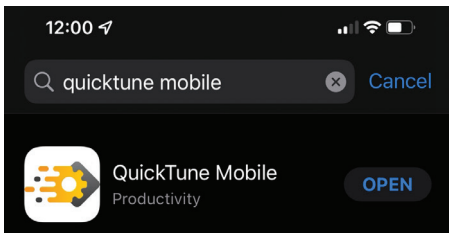
STEP 5:



Press the "P" button and using the up/down arrows, set the desired temperature. When the Heat Enable switch is turned on the oven will ramp to the setpoint and hold until the oven is shut off.

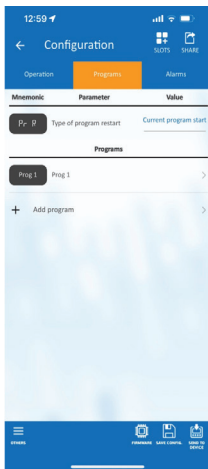
USING THE QUICKTUNE APP

STEP 1:



Search for "Quicktune Mobile" in the IOS or Android App Store and install the app.

STEP 4:



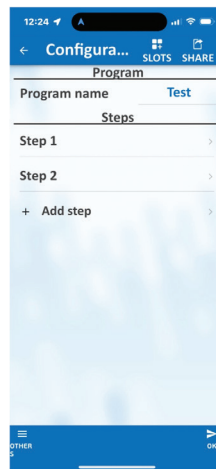
Scroll through the top menus and you will find the "PROGRAMS" tab where you can create and edit RAMP/HOLD programs. Make sure that PR R is set to "current program starts". Click on the PROGRAM NUMBER you choose to edit.

STEP 2:



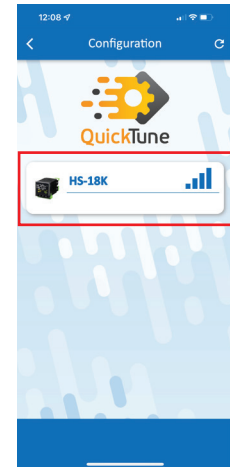
Make sure Bluetooth is turned on, open app, and tap on "Configuration."

STEP 5:



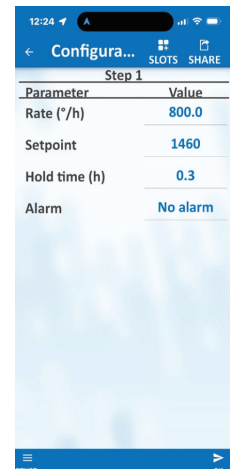
Click on the PROGRAM NAME and name your program. Next you will start to edit your PROGRAM by clicking on STEP 1.

STEP 3:



The app will list any ovens that are within range and powered on. Tap on the one you would like to access.

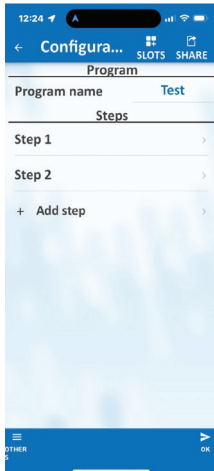
STEP 6:



Begin to enter in your parameters. First, enter your RAMP RATE (DPH). Then, enter in your desired SET POINT TEMPERATURE. Finally, enter in your desired HOLD TIME. If you choose to have an ALARM, click on the alarm section and choose when you would like the alarm to go off. To enter in STEP 2, click on "OK" on the bottom right corner.

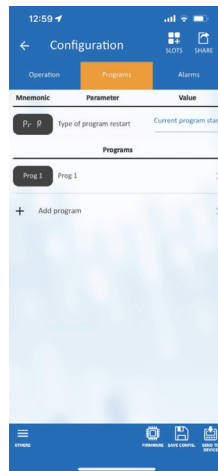
USING THE QUICKTUNE APP (CONTINUED)

STEP 7:



If you have completed entering all your steps, press the "OK" button on the bottom right corner of your screen. This will take you back to the program list.

STEP 8:



Once you have reached the main program screen and completed all changes, click on "SEND TO DEVICE" on the lower right corner. "THE CONFIGURATION WAS SUCCESSFUL" will appear when the data transfer is complete. You can now start running your new program.