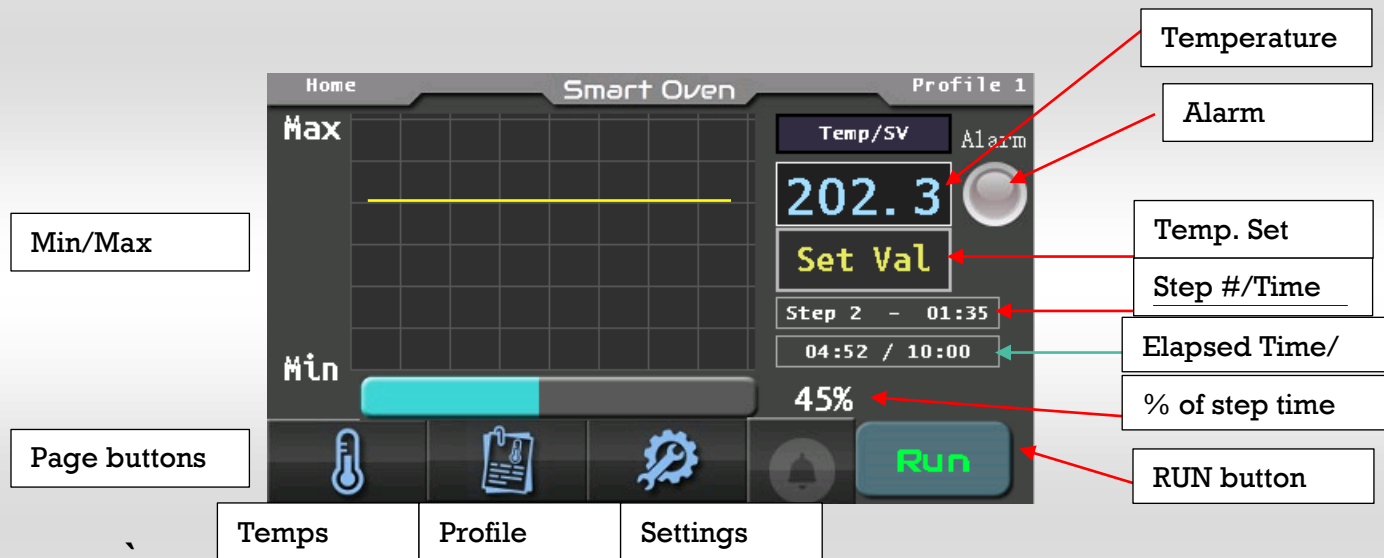


Nanometer Technologies SMART OVEN



Start up splash page, press anywhere to continue during power up.



Run page:

1. There are **2 modes** on the Smart Oven
 - a. **Manual Mode**, select a profile and the oven goes to that programmed temperature and controls to that temp.
 - b. **RUN Mode**, the oven runs either a Ramp/Step Profile with timing OR runs for the **step time** value (if there is no temp. change) press the RUN button for this mode of operation. When the profile is done the buzzer will turn ON, press the reset button to turn it off, there is a switch on the back to disable the buzzer as well.
 - c. To use for a timed cure, set the step time to that value (Example 10 min.) then press run, the buzzer will go off after 10 min.

TEMPS PAGE:

The TEMPS page sets the graph size.

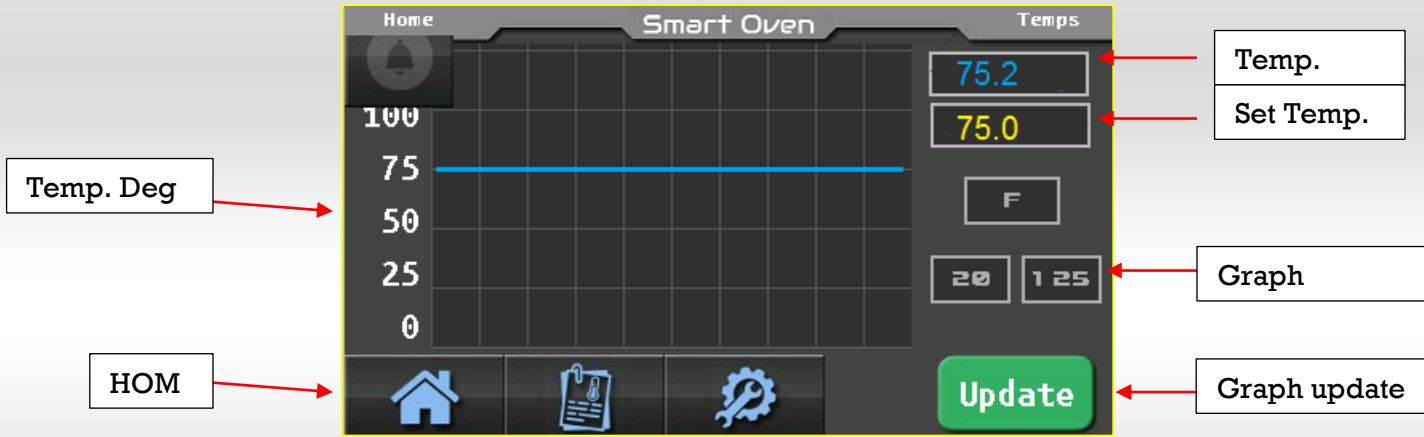
Graph time scales

1x = 36 sec. per unit

2x = 18 sec. per unit

3x = 12 sec. per unit

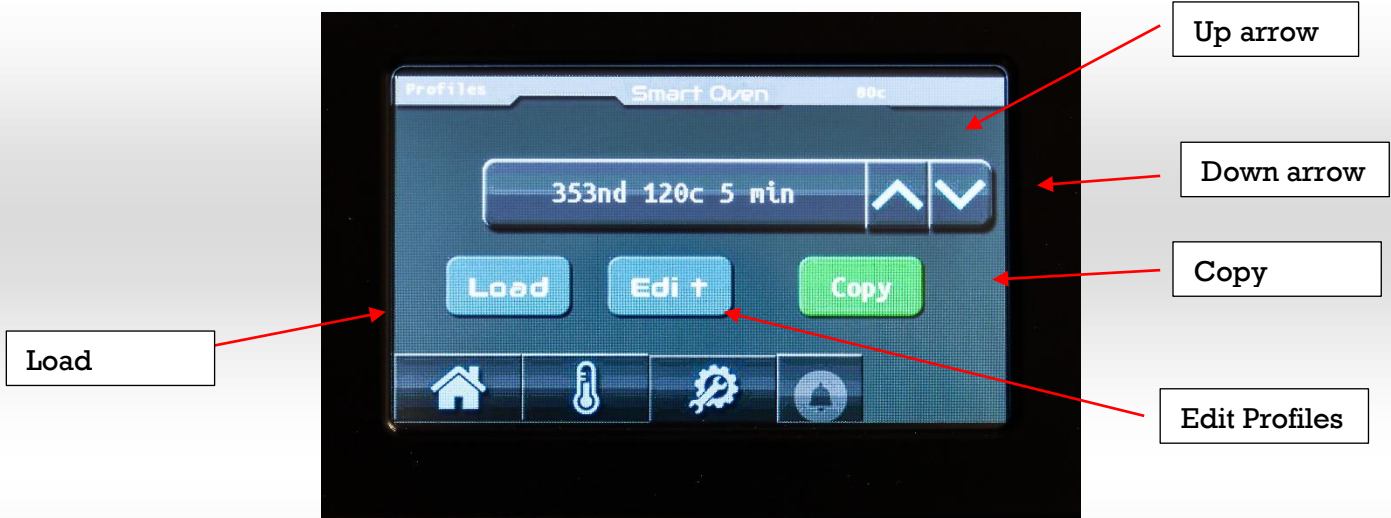
4x = 9 sec. per unit



Temps Page:

1. Use the Graph min/max to set the size of the displayed temp., use update to set it (stores with the profile).

Profiles Page:



The Smart Oven comes pre-loaded with many popular epoxy types and curing temperatures such as 353ND at 120 deg C for 5 min. (see the list at the end of this document)

Edit Profiles Page:

	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10
Time	5	10	3	7	3	7	3			
Temp	80	80	100	100	125	125	70			

353ND 150c 1 min.

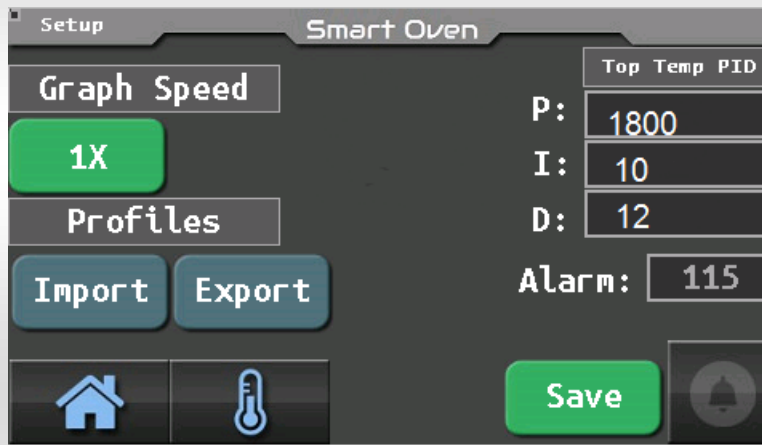
Save

1. When you select name or a time/temp a keyboard pops up to enter the values/names.
2. Save: Saves the profile to memory.
3. Ramp/Soak: when the temperature changes **between** steps it will RAMP to the new temperature in the step time.

Process Step	Description	Temp (C)	Duration (min)
0-00	Preheat Ramp	80	5
0-01	Preheat Soak	80	10
0-02	Temp 1 Ramp	100	3
0-03	Temp 1 Soak	100	7
0-04	Temp 2 Ramp	125	3
0-05	Temp 2 Soak	125	7
0-06	Temp 3 Ramp	150	3
0-07	Temp 3 Soak	150	7
0-08	Cool down	20C	15

Example of a Ramp/Soak profile

Settings Page:



1. **Graph speed** changes how fast the display updates.
2. **Import/Export**, use the SmartOvenProfileSync.exe program, select the correct COM port (USB connector internal to oven)
3. **Top Temp PID**, these are factory set **do not change** without contacting the factory
4. **Alarm:** sets the Alarm temp., the alarm display is on the HOME page.
5. **Save** saves the settings.

Back view



1. On/Off, controls AC power to the oven
2. AC input jack, 3-amp slo blo fuse
3. Buzzer On/Off, disables the buzzer.

Specifications:

Resolution: 0.25deg C

Accuracy: +/- 2.5 deg C @ 150deg C , +/- 2 deg C @ 25-120 (thermocouple accuracy)

Max Temperature: 150 deg C

Stability: (lid closed) +/-0.75 deg C

Heating: 12 deg./Min.

Cooling: 1.5 deg / min.

Settling time: 3 minutes

Capacity: 24 connectors (variable depends on heater block)

Weight: 5 lbs.

Power 120vac or 240 vac 3 amps

Width: 13.5" 343mm, Height 5" 127mm, depth 9.3" 236mm

Ramp/Soak Specs:

10 steps per profile

Program time and temps

Save up to 25 profiles

Save names per profile

Linear ramping to temp.

Over shoot +/- 5 %

160degC thermal shutdown protection

Buzzer on/off switch

Pre-set Oven Profiles list:

LMCO ramp soak Mil Spec.

353ND 150c 1min

353nd 120c 5 min

353nd 100 10min

353nd 80c 30min

F112 90c 15min

F123 100c 5min

3577 150c 30min

3677 120c 60min

AB9123 100C 5 Min

AB9123 120C 2MIN

AB9123 150C 1MIN

1min 100c

Before using this electrical equipment, the following basic precautions should always be followed: 1. Read all instructions. 2. Keep oven out of reach of children. 3. Before use, check that the voltage of wall outlet corresponds to the one shown on the rating. 4. Do not operate equipment with a damaged cord or plug, or after the oven malfunctions, is dropped or damaged in any manner. Return oven to the nearest authorized service center in order to avoid a hazard. 5. Do not let cord hang over the edge of table or hot surface. 6. Do not immerse plug, cord or oven into water due to risk of electric shock. 7. This oven is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have proper training by a person responsible for their safety. 8. Always wear protective, insulated oven mitts or gloves when removing ferrules or handling the unit. THE OVEN GETS VERY HOT! 9. Do not touch hot surfaces. 10. Place ferrules or connectors in the tray before putting into the oven to avoid injury. 11. Do not operate the oven for any other purpose than its intended use. 12. Always move "Power" switch to "OFF" position before removing the plug from the wall outlet. 13. Do not place paper, cardboard, plastic or other flammable materials inside the oven. 14. Unplug from main power socket when not in use. 15. Servicing and repair should only be conducted by an authorized technician. 16. If oven is used in any manner not specified in this manual, the protection provided by the equipment may be impaired.

CAUTION: DO NOT USE THIS PRODUCT IN ENVIRONMENTS WHERE FLAMMABLE OR EXPLOSIVE GASSES MAY BE PRESENT. WARNING: ACCESS TO THE POWER SWITCH AND PLUG SHOULD BE MAINTAINED FOR EMERGENCY DISCONNECT. WARNING: CAUTION HOT SURFACES: This oven generates high temperatures during use. Proper precautions must be taken to prevent the risk of burns, fires, or other injury to persons or damage to property. **WARNING: OVEN CORD MUST BE ROUTED AWAY FROM ALL HOT SURFACES.**

CAUTION: This oven is hot during operation and retains heat for some time after turning off. Always use oven mitts when handling hot materials and allow metal parts to cool before cleaning. • Position the oven so that it is never against a wall or in a corner. • When operating the oven on a work surface keep the surrounding areas clear and free from clutter. Ensure adequate air space surrounding the oven for circulation. • Do not place anything on top of the oven while it is operating or while it is hot. • Do not operate this oven with other major equipment plugged into the same power socket- there is a risk of blowing the fuse. • Do not touch the hot oven surfaces while the unit is on or while cooling. • All users of this oven must read and understand this User's Guide before operating this equipment. • If the oven begins to malfunction during use, immediately unplug the cord. Do not use or attempt to repair the malfunctioning oven. • Do not leave oven unattended during use.

Nanometer Technologies

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