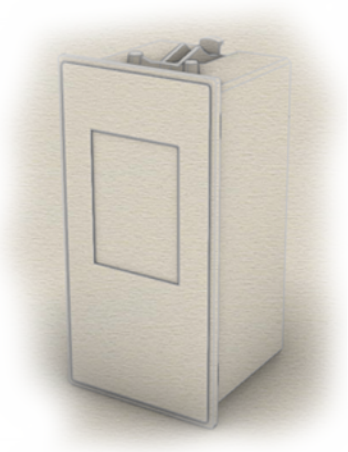
S1

Super One

MULTI FUNCTIONAL GLASS KILNS



Karma
STEP
CONTROLLER

The touchpad-screen of the step control device is touch-sensitive. This main screen appears shortly after the kiln is turned on.

This screen displays only the current temperature of the kiln.

The arrows at the bottom of the screen (right and left) allow you to navigate through the menus of the kiln.

>> (right arrow) advances and moves to the next screen.
<< (left arrow) moves to the previous screen.

You can use 5 different programs.
Each program consists of a maximum of 15 steps.
The starting temperature of each step is the target temperature of the previous step.

Keep in mind that:
!.. The starting temperature of the first step is the current temperature of your kiln.
!!.. If your kiln is higher than the target temperature you set for each step before starting any program, it will skip steps up to a higher target value.
!!!.. If there is a cooling step between steps with a lower target value, it will not skip this step and the program will continue execution from there.
!!!!.. If the target value of a step is the same as the target value of the previous step, your oven will remain constant at the target temperature for the duration of the step.

After selecting the program, this screen appears according to the program number.

On this screen, the program progresses according to the selection that you made.

HOW TO SET PROGRAM

When you select "AYARLA," the step number will appear. This value determines the total number of steps in the selected program.
The kiln runs regarding this number of steps.

As an example, lets handle the borosilicate annealing program that we set in your kiln as 4th program.

Step 1 End Temperature (ASD): 600 C
Step 1 Duration: 01:30 hours:minutes

Step 2 End Temperature (ASD): 600 C
Step 2 Duration: 00:15 hours:minutes

Step 3 End Temperature (ASD): 560 C
Step 3 Duration: 01:00 hours:minutes

This sample program consists of 3 steps.
The value (1) seen on the first screen should be changed to 3.

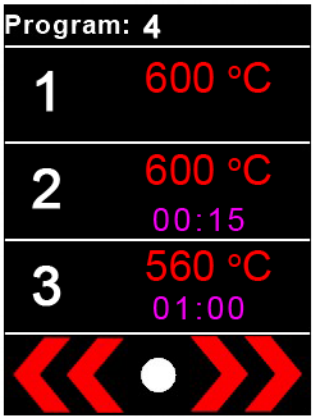
To do this, tap the value (1) found on the first screen to access the second screen.
You can adjust the desired values using the value change bar here.

The value change bar consists of two parts.
The red side increases the value on the screen, and the blue side decreases it.

! The step controller saves values as soon as you change them. Changing the number of steps does not affect previously set step values.

Once the set up complete, you can forward to the next setting screen by tapping the ">>" sign at the bottom.

SDA means Temprature Fixed Step



The next screen lists 3 steps for accessing and controlling of the program easily.

Since we selected the 4th program as a 3-step process, only a list screen will appear. Tapping on the steps will take you directly to the settings page for that step.

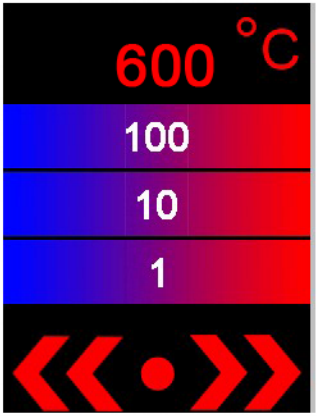
To continue the setup process in sequence, tap the ">>" sign.

This screen is the main screen for Step 1 and displays step information.

The meanings of the colors are:
Red: Target value at the end of the step,
Magenta: Step duration,
White: Warm-up rate (hours/degrees) for the step.

Frequently asked questions...
! Step rate is a calculated value. It is displayed just for your information.

On this screen, tap the value you want to change to access the edit screen.



If you have already tapped the degree value, this screen is accessed.

Adjust the target value using the value change bars.

When the adjustment is complete, tap the ">>" sign at the bottom to access the previous step's settings main screen.

Similarly, tap the time value to adjust the step time.

Once you reach this screen, you can use the value adjustment bars again to adjust the step duration.

Once the adjustment process is complete, tap the ">>" sign at the bottom to access the previous step adjustment main screen.

We can check the step values and proceed to the next settings screen by tapping the ">>" sign at the bottom.

This screen is the main screen for the second step.

If the values match the program diagram we created, we can proceed to the next settings screen without making any changes by tapping the ">>" sign at the bottom.

This screen is the main screen for step 3.

If the values match the program diagram we created, even without making any changes, tapping the ">>" sign at the bottom will advance to the Run/Configure screen, as step 3 is the last step.

Questions...
!.. While setting a step, tap the "<<" sign to return to the previous step, and tap the ">>" sign to advance to the next step.

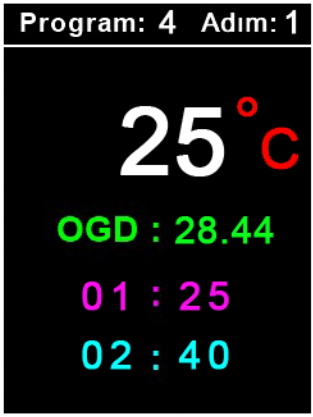
RUNNING THE PROGRAM

Tap the ÇALIŞTIR button to start the 4th program.

First, a clicking sound will be heard from the kiln's electrical panel.
This indicates that the safety relay is active.
The fan will then start immediately.

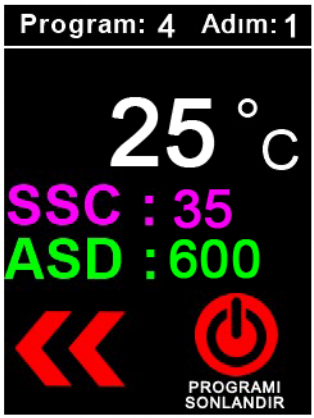
The values displayed on the operating screen are, in order of color, as follows:

White: Instantaneous kiln temperature,
Green: Value to be reached (OGD),
Magenta: Remaining time of the step,
Turquoise: Total remaining time of the program.



When the temperature indicator on the operating screen turns from white to red, power relay of the kiln is activated. The heaters begin heating.

HOW TO STOP THE RUNNING PROGRAMME



To stop a running program at any time, tap the temperature value.

This screen is also the operating screen. The displayed values are listed in order of color as follows:

White: Current oven temperature
Magenta: System temperature (SSC)
Green: End of step value (ASD)

Keep in mind that:
!.. The system temperature is the temperature of the controller.

Tap the icon at the bottom right corner to access to select.

Selecting "HAYIR" returns you to the operating screen, but the program continues running.

Selecting "EVET" on this screen terminates the program.

The safety relay is deactivated. The fan stops, and you access the next screen.

Keep in mind that:
!.. The decision screen was developed to prevent accidental program interruptions.

Two selections can be made on this screen.

If combustion analysis is selected, the combustion analysis screens will continue.

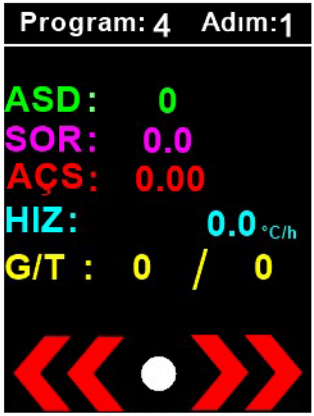
If "ANA MENÜYE DÖNÜŞ" is selected, the device will reset itself and all analysis values will be deleted.

KILN ANALYSIS AND STATISTICS

This screen is the first screen of the combustion analysis. The displayed values are as follows, in order of color:

Red: Highest temperature reached during the entire combustion cycle
Turquoise: Total combustion time
Magenta: Total resistance time

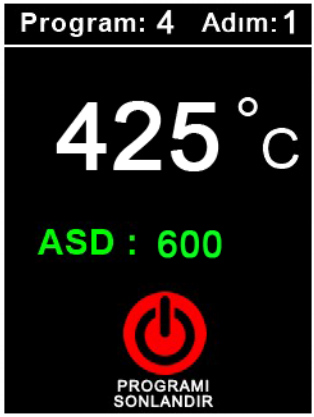
Keep in mind that:
!.. Total operating time is the time during which the kiln uses the most electricity. Although this time is measured in hours, it is calculated in decimal. Multiplying this value by the TL/kWh unit on your electricity bill calculates the cost of combustion.
Tap the ">>" sign to advance to the step statistics.



This and the following screens display the calculated analysis values for each step. The displayed values are listed in order of color:

Green: End of step temperature (ASD)
Magenta: Average deviation: Average of the deviations between the temperature value and the target temprature
Red: Active working time of the step
Turquoise: Heating rate of the step (hours/degrees).
Yellow: Lag (G) is the largest value by which the temperature falls short of the target temprature
Overflow (T) is the largest value by which the temperature exceeds the target temprature.

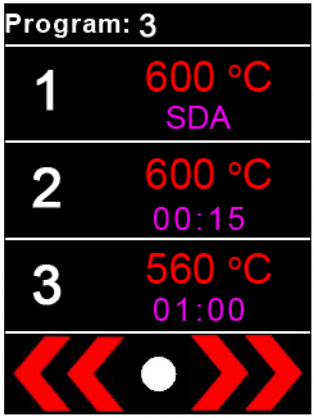
FEATURED WORKING MODES



This screen appears if the step time has elapsed but the preset end temperature has not been reached.

This is a normal situation. The heating rate is proportional to the resistance power, and since the oven cannot reach this speed, it attempts to reach the ASD at maximum speed without interrupting power.

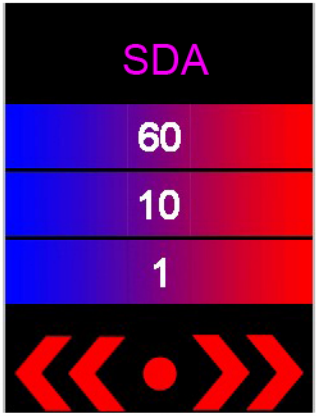
Upon reaching the ASD, it moves to the next step and returns to the normal step operation screen.



FIXED DEGREE STEP (SDA)

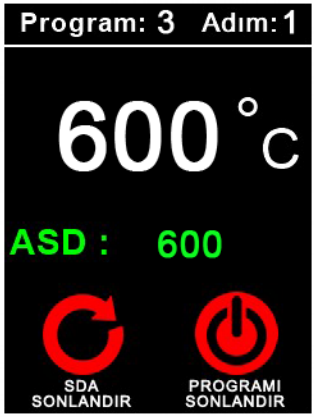
SDA is an amazing mode for flameworkers. The kiln quickly reach the annealing temperature and keep it until you cancel. In fusion-raking applications, it is used to maintain the kiln at the temperature for raking. It is also an ideal feature for kiln casting charges.

The 3rd program of S1 kiln is the rapid borosilicate annealing program. With this three-step program, the kiln reaches at 600 Celsius as fast as possible in the first step and holds the temperature at 600 Celsius indefinitely.
When SDA is terminated, it moves to the second step automatically.



Because SDA is a time parameter, it is a value below zero on the step time adjustment screen. In other words, SDA is reached by scrolling back from "0" using the value change bars.

HOW TO TERMINATE SDA



This screen is accessed via the same process as ending the program.

Tap the "SDA SONLANDIR" icon in the bottom left and confirm the decision screen to exit SDA, and the program will automatically proceed to the next step.

! This screen is also used to end the program.

POWER OUTAGE WARNINGI

If this warning message appears when the program automatically ends or terminates, it means that there was at least one power outage during the firing process.

Keep in mind that:
!.. Power outages affect analysis calculations and reliable results cannot be obtained.
!.. During a power outage, if the kiln has cooled below 35 Celsius, it makes an approximation based on the current temperature and recalculates the remaining time.
!.. If the kiln cooled above 35 Celsius, it returns to the beginning of the step where the outage occurred at an average speed.

COLD ENVIRONMENT WARNING

This warning screen may appear in cold weather. The device attempts to adjust the starting temperature to ensure accurate calculations that may take few minutes.

ERROR WARNINGS

THERMAL COUPLE WARNING

If the K-type thermocouple, the sensor that measures the oven's temperature, is not detected, a KTC error message will appear. It may be faulty or have a connection problem.

When the error screen appears, the safety relay disconnects the power supply, the device performs no action, and an alarm will sound.

HIGH TEMPRATURE WARNING

The device parameters are set to 880 or 860 Celsius, the highest temperature at which the oven can safely operate.

If these temperatures are exceeded for any reason, a TMAX error warning is displayed.

When the error screen appears, the safety relay disconnects the power supply, the device performs no action, and an alarm sounds.

SYSTEM TEMPERATURE WARNING

If the safe operating temperature of the microprocessor and electronic components is exceeded for any reason, an NTC error message is displayed.
When the error screen appears, the safety relay disconnects the power supply, the appliance performs no action, and an alarm sounds.

Concerns...
! If you encounter error screens, turn the kiln off . Wait for 5 seconds, and then turn it on. If the error persists or if these error screens occur even intermittently, it is essential to report it to an authorized service center.

WARNINGS

- Place your kiln on a flat, flame-proof surface and at least 30 cm away from flammable materials.
- Always use your kiln with a grounded outlet connected to a residual current circuit breaker (RCD).
- Place your kiln in a well-ventilated and sheltered area.
- The kiln's electronic devices operate between 0 and 40°C.
Do not place the kiln near room heaters or in direct sunlight.
- Open the kiln doors only by using the door handles.
- Observe and stay with your kiln while it is operating.
Remember to intervene in the event of any malfunction.
- Do not open the kiln door before it reaches room temperature and never until the program has finished and the main switch has been turned off.
- Do not touch the heating elements with any material or your hand. You may be exposed to high current.
- When handling hot objects inside a hot kiln , always wear Kevlar gloves and safety goggles with didymium filters.
- When the kiln is not operating, keep it securely closed and unplugged.
- Do not place anything on the kiln , whether operating or idle.
- If you smell burning plastic, immediately unplug the kiln and check the cord and the surrounding walls.
- Do not place any materials such as bricks, fibers, or wires inside or outside your kiln for heat conservation purposes without consulting our company.
- Keep your kiln away from children and pets.

WARNINGS

●Keep a fire extinguisher in the room that you keep your kiln.
●Do not exceed 860°C during your works. (Effetre glass sticks to kiln at 750°C, and float/flat glass sticks after 850°C.)
●Do not place glass on the sensor (thermocouple) inside the kiln or stick hot glass to the sensor during your work.
●Apply rigidizer to the visible areas of the kiln once a year.
●Use separators or refractory materials in your work to extend the life of the kiln floor. (Separator: kaolin, alumina, bentonite | Refractory: fiber paper, board, etc.)
●NEVER touch the heating elements located at the top of the kiln .
●When performing maintenance on your kiln , first disconnect the power supply and ensure there is no debris (such as glass, metal, or fiber fragments) inside.
●Keep the connecting cables out of the areas you walk through.
Do not crush the cables.
●Prevent the cables from touching any part of the kiln. While the kiln is running, heat can be harmful to the cables.
●Use products from trusted brands in your kiln .
●Do not put inside of the kiln any materials other than glass, such as marble, rock, or stone. Sudden increases in temperature can cause dangerous reactions in many materials.
●Never put inside of the kiln tempered glass. It will explode and damage your kiln.
●Do not fully open the kiln door above 38°C (100°F). Depending on the number and thickness of the items inside, you can open the door after 60°C (120°F).