# Handling and Control

Heratherm OGH Series, OMH Series, OGH-S Series and OMH-S Series ovens come with a front panel mounted control unit consisting of a multifunctional display, four control buttons, and an on/off button. The four control buttons interact with the display window to let users access all of the user control functions and adjustments of the oven, including - for example, the temperature set value, timer, as well as a variety of other functions.

Under normal operating conditions the display presents user with the work space temperature. The display returns to its default mode upon completion of the adjustments or whenever no entries have been made for a period of 30 seconds.

The graphic below shows the Heratherm OGH 60/100/180, Heratherm OMH 60/100/180/400/750, Heratherm OGH 60/100/180-S, and Heratherm OMH 60/100/180-S control panel with all of its visualization elements and controls.

Figure 7-1 Control Panel for Heratherm OGH Series, OMH Series, OGH-S Series and OMH-S Series Ovens
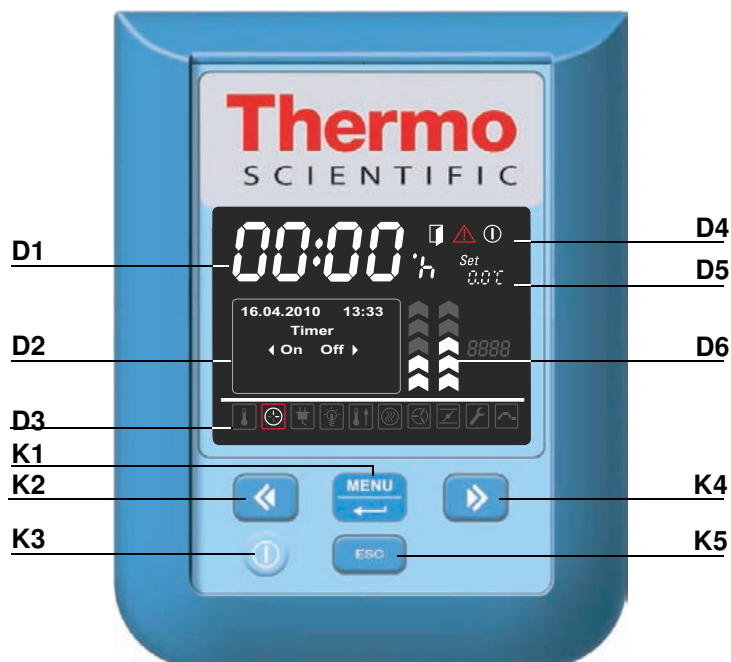
The table below contains brief descriptions of the buttons on the control panel (items K2 through K5 in).

Table 7-1 Control Buttons

Icon	Item	Function
MENU	K1	**Menu/Enter button** **First key press:** Activates the menu, highlighting the first menu item with a red border. **Second key press:** Selects the currently activated menu item (as highlighted by the red border), depending on the currently selected function, pressing this button enables entries with item D2, D5 or D6. **Third key press (once a setting has been changed):** Confirms a previous entry or selection.
(left icon)	K2	**Left button** **After the first press of Menu/Enter button:** - Moves the selection in the menu (see item D3) to the next icon on the left. **Once a menu item has been selected:** - Decreases an adjustable parameter value - for example, the temperature set value in D5 or the fan speed level at D6. Holding this button depressed for a few seconds changes the selected value in quick run mode. - Moves the selection in the multifunctional display pane at D2 to the next option on the left - for example, from the **Off** state of the timer to **On**.
(on/off icon)	K3	**On/Off button** Holding this button depressed for 2 seconds switches the oven off. The display window goes out, except for the readiness indicator icon in the status display area at item D4. The temperature display pane D1 provides as dimmed readout of the work space temperature, provided that the temperature exceeds 50 °C (122 °F).
(right icon)	K4	**Right button** **After the first press of Menu/Enter button:** - Moves the selection in the menu (see item D3) to the next icon on the right. **Once a menu item has been selected:** - Increases an adjustable parameter value - for example, the temperature set value in D5 or the fan speed level at D6. Holding this button depressed for a few seconds changes the selected value in quick run mode. - Moves the selection in the multifunctional display pane at D2 to the next option on the right - for example, from the **On** state of the timer to **Off**.
ESC	K5	**Escape button** Returns to the previous level of the menu or standard display. Upon exiting from the current menu item the user may be prompted to save any previously made settings.

The table below contains brief descriptions of the display features of the control panel (items D1 through D6 in figure 7-1; the identifiers K1 through K4 refer to the buttons shown in that figure).

Table 7-2 Display Features

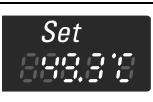| Feature	Item	Function
	D1	Display pane showing a permanent readout of the actual temperature in the work space either in °C or °F (depending on the user's preferences, see "Temperature Display Unit" on page 7-34). Alternatively, a flashing time entry prompt of the general format **hh:mm** (hours:minutes, both with two digits) appears in this place while the user is setting the oven's built-in clock.
	D2	Four-line multifunctional display pane with fields for date and time, a display area for the specific options of the selected menu item, detailed alarm messages with alarm codes, progress indicators for continuous processes (for example, program-controlled temperature ramping), etc.
	D3	Menu bar with iconized representations of adjustable parameters. A red border is used to highlight the current **Menü** item, as selected using the Menu (K1) and arrow buttons **Left** (K2) and **Right** (K4). Brief descriptions of the individual menu items are given in table 7-3. **Note** If a menu item cannot be selected, then the function it represents is not part of the equipment configuration of your unit.
	D4	Status display area with three icons representing specific statuses of the oven (from left to right): - The **Door open** icon appears when the front door of the oven is open or has not been closed correctly (see "Door switch" on page 4-15). **Note** The **Door open** icon is only functional with OGH-S Series, OMH-S Series devices and OMH Floor stand units. - Upon occurrence of an error condition, the red alarm icon will be illuminated. At the same time the current error code will flash in the display pane D2. The alarm may be acknowledged by pressing the button ESC . - The readiness indicator icon appears when the oven has been switched off using the **On/Off** button (item K3 in figure 7-1).
	D5	Settings pane labeled **Set** for temperature set value in either °C or °F (depending on the user's preferences; see "Temperature Display Unit" on page 7-34).
	D6	The left one of the two vertical bar graphs belongs to the **Fan** icon directly beneath it and displays the current fan speed level. Bar graph for fan speed setting (in 5 steps: 1 – 5) - 20% (chevron 1 illuminated) - 40% (chevrons 1 and 2 illuminated) - 60% (chevrons 1 through 3 illuminated) - 80% (chevrons 1 through 4 illuminated) - 100% (chevrons 1 through 5 illuminated)

Table 7-2 Display Features

Feature	Item	Function
	D6	The right one of the two vertical bar graphs belongs to the Damper icon directly beneath it and displays the current damper position. Bar graph for damper position (in 4 steps: 0 – 3) - position 0 (damper closed - all chevrons extinguished) - position 1 (chevrons 1 and 2 illuminated) - position 2 (chevrons 1 through 4 illuminated) - position 3 (damper fully opened; chevrons 1 through 5 illuminated)

The table below contains brief descriptions of the menu bar icons (position D3 in figure 7-1)

Table 7-3 Menu Bar Icons

Icon	Function
	Temperature Set Value Allows for changing the temperature set value within the permissible temperature range. The set value can be changed by pressing the **Left** and **Right** (item K2 or K4) and you can, after confirming your changes with the **Menu/Enter** button (item K1), track the impact on the actual temperature in the multifunctional display pane at D1. **Instructions:** "Temperature Set Value" on page 7-7.
	Timer Allows for having the oven turn on or off upon expiry of a user-specified countdown period or at a fixed on or off time, or having it operate on a complete weekly schedule of daily on and off times. When the user enables an "on timer" the oven is turned off. A rotating arrow in the **Timer** icon and the illuminated readiness indicator icon in the status display area indicate that the timer is running. **Instructions:** "Timer" on page 7-9.
	Booster (only for Table-top units) A convenience feature designed to allow for speed-heating a cold and empty unit spontaneously (requires a set temperature of at least 150 °C/302 °F). **Instructions:** "Boost" on page 7-18.
	Fan Turns the fan on and allows for choosing the fan speed levels described under D6. The current setting is shown by the bar graph located directly above the icon and spelled out as a numeric value in the display pane at D2. **Instructions:** "Fan" on page 7-20.
	Damper Opens and closes the damper in graded steps. The current damper position is shown by the bar graph located directly above the icon and spelled out as a percentage in the display pane at D2. **Instructions:** "Damper" on page 7-24.

Table 7-3 Menu Bar Icons

Icon	Function
	Settings Invokes a submenu with the following functions: - Read access to error log - Calibrating the oven - Setting date and time - Toggling the temperature display unit between °C and °F - Setting preferences for user programs (program cycles / mode after end) - Selecting the timer mode of operation (countdown / fixed time of day / weekday timer) - Entering a configuration control code **(Instructions:** "Settings" on page 7-26)
	Program (Instructions: "Programming" on page 7-40) Allows for launching, creating, deleting, copying, and editing user programs.

		NOTE **Button Inactivity Monitoring** **When no button is pressed for more than 30 seconds in any selected menu item, the display exits from the selected screen and returns to default display mode.**

Powering Up

1. Plug the power plug of the oven into a suitable protection-earthed AC power outlet.

   In the display window on the front panel the readiness indicator icon (rightmost icon in the status display area at D4 in figure 7-1 on page 7-1) is illuminated.

2. Keep the **On/Off** button depressed for two seconds.

   An initialization routine will be run after the oven has been powered up. Once initialization has been completed, the display will light up and the current work space temperature will appear in the temperature display pane (item D1 in figure 7-1 on page 7-1). The oven is ready for use now.

Switching the Oven Off / Powering Down

1. Keep the **On/Off** button depressed for two seconds.

   The display window goes out, except for the readiness indicator icon (rightmost icon in the status display area at D4 in figure 7-1 on page 7-1) and a residual heat temperature readout in case the work space temperature is still ≥ 50 °C/122 °F. The oven is switched off now.

2. If required, unplug the AC power plug to power down the oven completely.

Temperature Set Value

Heratherm ovens allow for setting the desired work space temperature directly using only a few button presses. After confirming the new temperature set value in the settings pane **Set** (item D5 in figure 7-1 on page 7-1), the user may trace the resulting temperature change in the temperature display pane (item D1 in figure 7-1 on page 7-1).

You can also use the temperature set value to speed up cool-down subsequent to a drying or heating process. Temperatures as low as ambient +10 °C can be selected, this requires open damper and no additional heat in unit. You can set the oven to a set temperature of 0 °C (32 °F), though, to speed up cool-down. This is achieved in one single step, as described further below.

Table 7-4 Adjusting the Temperature Set Value

	Press MENU to activate the menu bar, then use ≫ to select the **Temperature** icon and press MENU to confirm.
Set 10.8°C	In the flashing settings pane **Set**, press ≫ or ≪ to adjust a new temperature set value, then press MENU to confirm your settings.
	The display returns to its default mode. The actual temperature measured in the work space and shown in the temperature display area starts to change until it reaches the newly adjusted set value.

NOTE

Built-in heating and drying ovens Heratherm OGH, OGH-S, OMH und OMH-S are to be operated up to a working temperature of max. 250 °C (482 °F), only.

Table 7-5   Using the Temperature Set Value to Speed Up Cool-Down

🌡	At the end of the drying or heating process, press **MENU** to activate the menu bar, then use ≫ to select the Temperature icon and press **MENU** to confirm.
Set **0.0 °C**	In the flashing settings pane **Set**, press ≪ to lower the temperature set value to 50 ℃ (122 ℉), then on ≪ to 0 ℃ (32 ℉) in one additional step. When the display reads 0 ℃ (32 ℉), press **MENU** to confirm your settings.
	The display returns to its default mode. The actual temperature measured in the work space and shown in the temperature display area starts to drop, showing the progress of the cool-down process.

Timer

The **Timer** feature from the menu bar enables the user to turn the oven on and off at scheduled times. The timer supports three different modes of operation, depending on the user's preferences:

- **Countdown-type on or off timer:** Turns the oven on or off after a user-specified period of time. Instructions on setting the preferences for this option are given in table 7-6 below, while its use as an off timer and on timer are described in table 7-7 on page 7-10 and table 7-8 on page 7-10, respectively.

- **Fixed-time on or off timer:** Turns the oven on or off at a scheduled time. Instructions on setting the preferences for this option are given in table 7-9, while its use as an off timer and on timer are described in table 7-10 on page 7-11 and table 7-11 on page 7-11, respectively.

- **Weekly timer:** Turns the oven on or off at scheduled times on specific days of the week. The process for setting the preferences for this option is described in table 7-12, while instructions for programming the daily turn-on and turn-off times are given in table 7-13 on page 7-12.

Programming a turn-on time causes the oven to shut down until it is scheduled to restart, while a turn-off time keeps it running before it shuts down at the user-specified time. The timer starts running immediately as soon as the user confirms his or her entries.

Pre-programmed routines (user programs, decontamination) override timer schedules. A timer will not start before a concurring program has finished execution.

Table 7-6 Presetting the Countdown Timer Mode of Operation

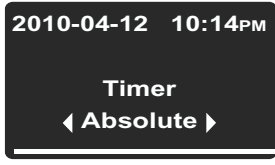|	
	Press **MENU** to activate the menu bar, then use **»** to select the **Settings** icon and press **MENU** to confirm.
2010-04-12 10:14PM **Settings** ◀ **Timer** ▶	Press **»** to switch to the **Timer** menu item and confirm the selection with **MENU**.
2010-04-12 10:14PM ◀ **Count Down** ▶	Press **»** or **«** to preselect the **Countdown** timer as the mode of your choice, then use **MENU** to confirm the selection.
	The display returns to its default mode.

Table 7-7 Setting a Countdown-type Off Timer
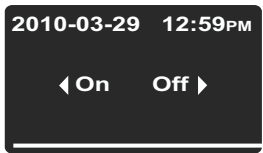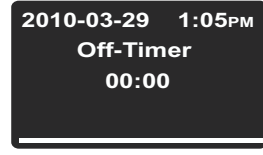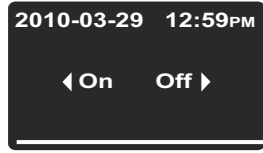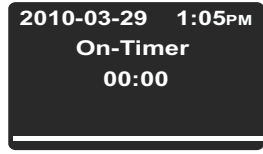
	Press [MENU] to activate the menu bar, then use [»] to select the **Timer** icon and press [MENU] to confirm.
2010-03-29 12:59PM ◄ On Off ►	Press [MENU] to select the off timer option **Off**.
2010-03-29 1:05PM Off-Timer 00:00	Set the hours and minutes until the oven is supposed to shut down by pressing [»] or [«], then press [MENU] to confirm.
	The display returns to its default mode. In the menu bar, the Timer icon is illuminated and an arrow is rotating on the icon's face.

Table 7-8 Setting a Countdown-type On Timer

	Press [MENU] to activate the menu bar, then use [»] to select the **Timer** icon and press [MENU] to confirm.
2010-03-29 12:59PM ◄ On Off ►	Press [«] to select the on timer option **On**, then [MENU] to confirm.
2010-03-29 1:05PM On-Timer 00:00	Set the hours and minutes until the oven is supposed to turn on by pressing [»] or [«], then press [MENU] to confirm.
	The oven switches off. The display goes out, the Timer icon is illuminated in the menu bar with a hand rotating on its face. Additionally, the readiness indicator icon is illuminated.

Setting a Fixed-time On or Off Timer

Table 7-9 Presetting the "Fixed-time" Timer Mode of Operation

	Press **MENU** to activate the menu bar, then use **»** to select the **Settings** icon and press **MENU** to confirm.
	Press **»** to switch to the **Timer** menu item and confirm the selection with **MENU**.
2010-04-12 10:14PM Timer ◀ Absolute ▶	Press **»** or **«** to preselect the **Absolute** fixed-time timer as the mode of your choice, then **MENU** to confirm the selection.
	The display returns to its default mode.

Table 7-10 Setting a Fixed-time Off Timer
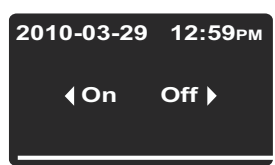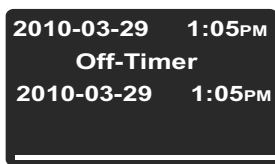
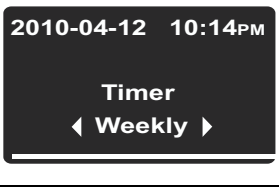|	
	Press **MENU** to activate the menu bar, then use **»** to select the **Timer** icon and press **MENU** to confirm.
2010-03-29 12:59PM ◀ On Off ▶	Press **MENU** to select the off timer option **Off**.
2010-03-29 1:05PM Off-Timer 2010-03-29 1:05PM	Set year, month, day, hours and minutes using **»** or **«**, followed by **MENU** to confirm.
	In the menu bar, the Timer icon is illuminated and an arrow is rotating on the icon's face.

Table 7-11 Setting a Fixed-time On Timer
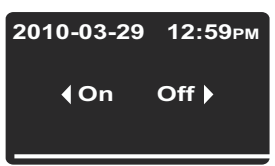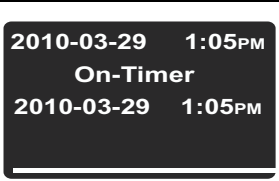
	Press **MENU** to activate the menu bar, then use **»** to select the **Timer** icon and press **MENU** to confirm.
2010-03-29 12:59PM ◀ On Off ▶	Press **«** to select the on timer option **On**, then **MENU** to confirm.

Table 7-11 Setting a Fixed-time On Timer

2010-03-29 1:05PM **On-Timer** **2010-03-29 1:05**PM	Set year, month, day, hours and minutes using ⟫ or ⟪ , followed by MENU to confirm.
⏻ ⏻	The oven switches off. The display goes out, the Timer icon is illuminated in the menu bar with a hand rotating on its face. Additionally, the readiness indicator icon is illuminated.

Setting a Weekly Timer

Table 7-12 Presetting the Weekly Timer Mode of Operation

🔧	Press MENU to activate the menu bar, then use ⟫ to select the **Settings** icon and press MENU to confirm.
2010-04-12 10:14PM **Settings** ◀ **Timer** ▶	Press ⟫ to switch to the **Timer** menu item and confirm the selection with MENU .
2010-04-12 10:14PM **Timer** ◀ **Weekly** ▶	Press ⟫ or ⟪ to preselect the **Weekly** timer as the mode of your choice, then MENU to confirm the selection.
	The display returns to its default mode.

Table 7-13 Setting a Weekly Timer
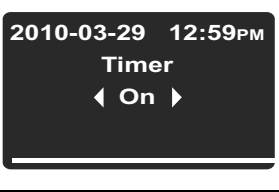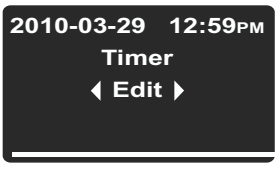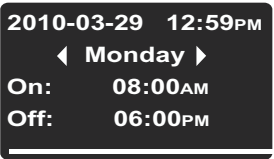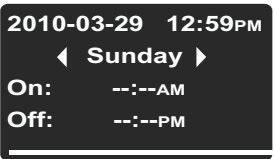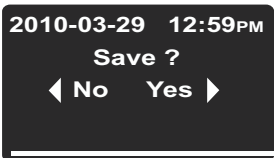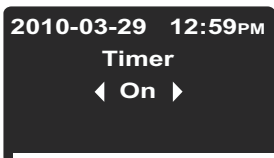
⏲	Press MENU to activate the menu bar, then use ⟫ to select the **Timer** icon and press MENU to confirm.
2010-03-29 12:59PM **Timer** ◀ **On** ▶	In the selection screen shown at left, press ⟫ to switch from **On** to the **Edit** option.
2010-03-29 12:59PM **Timer** ◀ **Edit** ▶	Select the **Edit** option by pressing MENU .

Table 7-13 Setting a Weekly Timer

2010-03-29 12:59PM ◀ **Monday** ▶ On: 08:00AM Off: 06:00PM	Press 🄼 to select the **On** time" for Monday, which should start flashing when selected (or continue to the desired weekday by pressing 》, which will cause the on time of that day to start flashing; Press 》 or 《 to set the hours, then continue to minutes by pressing 🄼. Use 》 or 《 to set the minutes🄼. Then continue to Tuesday or any other desired weekday by pressing 🄼. To prevent the oven from turning on and back off on a specific day, set both hours and minutes to **--:--**.
2010-03-29 12:59PM ◀ **Sunday** ▶ On: --:--AM Off: --:--PM	Set the scheduled turn-on and turn-off times for each single day of the week all the way to Sunday and press 🄼. (The turn-on and turn-off times for Saturday and Sunday are disabled by default.) If there is no need to set or change the turn-on and/or turn-off times for a specific weekday, press ESC and 》 or 《 to go back and forth to the previous and next day, respectively.
2010-03-29 12:59PM **Save ?** ◀ No Yes ▶	When prompted to save your changes, press 🄼 to confirm. **Note** This prompt for saving also appears when you press the button **Esc** while working on the weekly timer's settings.
2010-03-29 12:59PM **Timer** ◀ On ▶	To enable the weekly timer press 🄼. Alternatively, press 》 and 🄼 to select the **Off** option if the weekly timer you have just saved should be activated at a later date.
⊙	In the menu bar, the Timer icon is illuminated and an arrow is rotating on the icon's face.

Stopping a Timer

Table 7-14 Stopping an Off Timer Before It Expires

⊕	Press **MENU** to activate the menu bar, then use **»** to select the **Timer** icon and press **MENU** to confirm.
2010-03-29 1:12PM **Stop Timer ?** ◀ **No Yes** ▶	Press **MENU** to confirm the **Yes** default selection.
⊕	In the menu bar, the Timer icon will go out. The display returns to its default mode.

Table 7-15 Stopping an On Timer Before It Expires

⓪	To cancel a pre-programmed on timer while the oven is switched off, hold the On/Off button depressed for a few seconds.
2010-03-29 1:12PM **Stop Timer ?** ◀ **No Yes** ▶	In the **Stop Timer?** prompt that appears, confirm the default selection **Yes** by pressing **MENU**.
⊕	In the menu bar, the Timer icon will go out. The display returns to its default mode.

Table 7-16 Stopping a Weekly Timer Before It Expires
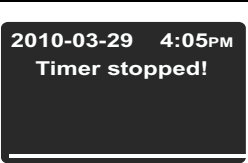
⊕	Press **MENU** to activate the menu bar, then use **»** to select the **Timer** icon and press **MENU** to confirm.
2010-03-29 12:59PM **Timer** ◀ **On** ▶ ⬇ 2010-03-29 12:59PM **Timer** ◀ **Off** ▶	The flashing word **On** appears in the multifunctional display pane. Press **«** to switch to **Off** state, then press **MENU**.

Table 7-16 Stopping a Weekly Timer Before It Expires

2010-03-29 4:05PM Timer stopped!	The message **Timer stopped**! appears as a confirmation.
⊕	In the menu bar, the Timer icon will go out. The display returns to its default mode.

Light

This menu item toggles the interior light in the work space of the device on and off (requires optional inspection package - for table-top units). While the light is switched on the **Light** icon is illuminated in the menu bar.

Table 7-17 Turning the Light On

	Press MENU to activate the menu bar, then use ≫ to select the **Light** icon and press MENU to confirm.
2010-03-31 1:34PM ◀ On Off ▶	In the selection screen that appears confirm the selection by pressing MENU.
2010-03-31 1:34PM On	The selected option **On** remains in the multifunctional display pane for a few seconds to let you track your action.
	The display returns to its default mode. The **Light** icon in the menu bar is illuminated to indicate that the light is on inside the oven.

Table 7-18 Turning the light off

	Press MENU to activate the menu bar, then use ≫ to select the **Light** icon and press MENU to confirm.
2010-03-31 1:34PM ◀ On Off ▶	In the selection screen that appears confirm the selection by pressing MENU.
2010-03-31 1:35PM Off	The selected option **Off** remains in the multifunctional display pane for two seconds to let you track your action.
	The display returns to its default mode. The **Light** icon in the menu bar is extinguished to indicate that the light is off inside the oven.

		NOTE **Lighting Restrictions**
		The workspace lighting is not designed for use as a permanent illumination source. Use it for brief visual checks of the device's interior only.

		NOTE **Maximum Operating Temperature**
		The Viewing Package with viewing windows and workspace lighting limits the operating temperature range of the heating and drying oven to 250 °C (482 °F).

Boost

The boost feature (only for table-top units) allows for speed-preheating a cold, empty oven to a previously adjusted temperature set value (see "Temperature Set Value" on page 7-7) of at least 150 ℃ (302 °F). In boost mode, the oven's heaters work at their full capacity to approximate the set temperature as fast as possible. This feature may disable overheat protection for up to 30 minutes and allow the heater to work with temporary peak temperatures. Once the preset temperature has been reached, the unit is restored to normal temperature control, and the user may proceed to loading the oven with the samples.

⚠ **CAUTION** Risk of damage to samples! Be sure to remove the material to be dried and all other temperature-sensitive items from the oven's workspace before speed-heating the oven. High temperatures which could possibly damage the samples may temporarily prevail in the work space once the oven has been speed-heated using the boost feature.	

Table 7-19 Turning Boost On

	Set the temperature set value to at least 150 ℃/302 °F (see "Temperature Set Value" on page 7-9).
	Press MENU to activate the menu bar, then use ≫ to select the **Boost** icon and press MENU to confirm.
2010-03-31 1:34PM ◀ **On** Off ▶	In the selection screen that appears, confirm the preselected option **On** by pressing MENU.
2010-03-31 1:34PM **On**	The selected option **On** remains in the multifunctional display pane for a few seconds to let you track your action.

Table 7-19 Turning Boost On

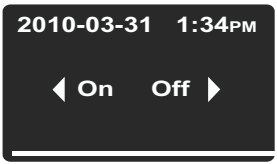|	
	The display returns to its default mode. The **Boost** icon in the menu bar is illuminated to indicate that boost mode has been activated. Once the preset temperature set value has been reached, the boost heater turns off automatically, and the **Boost** icon goes out.
⚠CAUTION	**Risk of burns! Depending on the chosen temperature set value, high temperatures may prevail in the work space once the oven has been speed-heated using the boost feature.** **To avoid the risk of injury, users must wear protective gloves or other suitable personal protection equipment when loading the work space of the oven!**

Table 7-20 Turning boost off prematurely

	Press MENU to activate the menu bar, then use ▷ to select the **Boost** icon and press MENU to confirm.
2010-03-31 1:34PM ◀ On Off ▶	In the selection screen that appears, confirm the preselected option **Off** by pressing MENU.
2010-03-31 1:35PM Off	The selected option **Off** remains in the multifunctional display pane for a few seconds to let you track your action.
	The display returns to its default mode. The **Boost** icon in the menu bar is extinguished to indicate that boost mode has been turned off.