

# COMBITHERM® TECHNICAL SERVICE MANUAL



## ***CT PROformance™***

CTP6-10E, CTP6-10G  
CTP10-10E, CTP10-10G  
CTP7-20E, CTP7-20G  
CTP10-20E, CTP10-20G  
CTP20-10E, CTP20-10G  
CTP20-20E, CTP20-20G

## ***CT Classic™***

CTC6-10E, CTC6-10G  
CTC10-10E, CTC10-10G  
CTC7-20E, CTC7-20G  
CTC10-20E, CTC10-20G  
CTC20-10E, CTC20-10G  
CTC20-20E, CTC20-20G

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## ***How to Use this Technical Service Manual***

This manual has been compiled as a complete resource for a technician working on Combitherm CT series models. It includes necessary product information and drawings, along with helpful troubleshooting procedures.

**Introduction** gives a quick overview of the Combitherm CT series to aid in model identification.

**Sections A through I** contain information applying to all CT PROformance™ and CT Classic™ models:

- **CONTROL PANEL IDENTIFICATION** includes information on using the controllers and operating instructions. It is the same material supplied to the customer.
- **PREVENTIVE MAINTENANCE** includes procedures for cleaning. This information is also supplied to the customer.
- **SERVICE MODE AND ERROR CODES** explains the special programming available to you as a technician to view status, make adjustments and test functions on models equipped with CT PROformance and CT Classic Controllers. Information is also included on the use of displayed error codes to resolve problems and on the functions that can be operated under fault conditions.
- **TROUBLESHOOTING TREES** are provided for the most common conditions you will be required to address.
- **COMBITHERM PARTS** has drawings and lists of available parts that are common to all electric models.

**Section I** contains Wiring Diagrams that is specific to each model.

### ***Navigation***

Starting with the Main Table of Contents on the following page, you may click on any item that has a page number and quickly jump to the information you need.

### ***Printing***

You may print the Current Page or any range of pages. Here's a tip: Because printers vary in their capacity to handle large drawings, make a test print of one of the Wiring Diagrams before printing the model's section.

# INTRODUCTION

## MODEL NUMBERS

This manual covers the following CT series models:

Control Type		Boiler-Free Models	Steam Generator Models
CTP	CT PROformance™ with PROtouch™ control	6-10E, 6-10G 10-10E, 10-10G	6-10EB 10-10EB
CTC	CT Classic with simple manual control	7-20E, 7-20G 10-20E, 10-20G 20-10E, 20-10G 20-20E, 20-20G	7-20EB 10-20EB 20-10EB 20-20EB

## FEATURES AND OPTIONS

- Recessed Door is available on all models.
- Smoker Mode is available on all CTP models.
- Boiler option is available on electric models only.

**CONTROL IDENTIFICATION**

CT PROformance™

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CT Classic™

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# CT PROFORMANCE™ INTRODUCTION

## ECOSMART® TECHNOLOGY



The Alto-Shaam Combitherm combination oven/steamer employs Ecosmart operating efficiencies in the design and application of all operating and programming functions. Ecosmart operational characteristics include the use of a water barrier to close the oven compartment to the outside air. While maintaining a non-pressurized atmosphere, the primary purpose of the Ecosmart system is to prevent the steam and heat generated within the oven compartment from freely escaping to the outside.

The Ecosmart design displaces the air within the cooking compartment and achieves a higher level of steam saturation that offers quick-steaming at temperatures above 212°F (100°C).

This guide is provided as an operational aid with step-by-step instructions of the basic functions of the Combitherm oven, along with the many other additional features of the control.

## PROTOUCH™ CONTROL

The Combitherm PROtouch control features a simple, graphics-based control panel that commands all the oven functions. Access your titled recipes. Manual cooking by time and temperature also are easily accomplished.

**Intuitive interface** - The Alto-Shaam PROtouch offers a simple interface that commands all of the Combitherm's cooking functions. As the name implies, it is fully operable by touch.

**Graphic controls** - The highly visual graphic-based control with logical procedures ensure that correct steps are followed every time.

**An excellent memory** - Access an unlimited number of programmed titled recipes that you've customized. Each recipe can have up to 10 sequential steps.

**HACCP data access** - CT PROformance™ ovens include a downloadable HACCP function.

**Absolute Humidity Control™** - provides 0-100% humidity levels allowing more control over the ideal cooking environment and product finish [PATENT PENDING].

**Superior baking** - The five-speed fan provides consistent baking results. A moisture injection feature provides perfect sheen and crust on breads and pastry items.

**Multi-shelf timers** - Track cooking time of different food items in the same oven with multi-shelf timers. Time is tracked in minutes and seconds.

**On-board diagnostics** - The PROtouch control includes on-board diagnostic functionality with results displayed right on the touch screen.

**Two power levels:** reduced power to manage kitchen power peaks, and eco power for optimal oven efficiency.

**PROpower™ power level option** - an accelerated turbo power for an instant boost of heat or quick heat recovery [patent pending].

**Multiple languages:** software operation in English, French, German, Korean, Mandarin, Russian, or Spanish.



STEAM MODE



COMBINATION  
MODE



CONVECTION  
MODE




RETERM MODE

**Powerful tool** - The PROtouch control plays an important part in our continuous improvement process. New features and abilities can be loaded to your oven as they become available. Simply call our Service Department for assistance.

# OPERATING INSTRUCTIONS


## CT PROFORMANCE™ START-UP PROCEDURES


- **Turn on exhaust hood.**
- **Turn on water supply.**
- **Turn on gas supply valve** (if applicable).
- **Turn on main electrical power to appliance.**
- **Press Power ON icon on the appliance control panel.** 

The oven will automatically fill the steam generator equipped models with water that will heat to a stand-by mode temperature of 188°F (77°C).

**NOTICE:** To power off the appliance, press and hold the power icon for 5 seconds to initiate power shut down sequence to the oven. Oven will not shut down during a cooking cycle. From time to time, the control may become unresponsive. ONLY when this happens, firmly press and hold the power key for 10 seconds to power down the oven.

If, for any reason, the oven is turned off or loses power during this start-up process, the operator will be prompted to calibrate the Touch screen when the oven is next powered up.

 **Return to Home Screen** - Press the red arrow if the PROtouch™ screen *does not* need to be calibrated.

 **Begin Calibration Process** - Press the green check mark if the Touch screen *does* need to be calibrated. The screen will switch to a grey background. *See illustration at right.* A crosshairs icon will appear. The operator should touch the center intersection using a stylus for an accurate calibration. This prompt and required action will be repeated several times in different areas of the Touch screen. When complete, the operator will be returned to the Home screen.

**NOTICE:** Accumulations on the main burners can result in firing out of normal sequence. This delayed ignition creates an alarmingly loud sound. If your appliance makes an especially loud noise when starting up, shut down your appliance and call a qualified and trained service technician.

In the event of a power failure, the oven will not operate.



When the oven is powered on, the PROtouch screen illuminates. “Loading” indicates that the software is booting up. The screen will also indicate what level of progress has been made as the software becomes fully operational. *See illustration at left.*



## DANGER



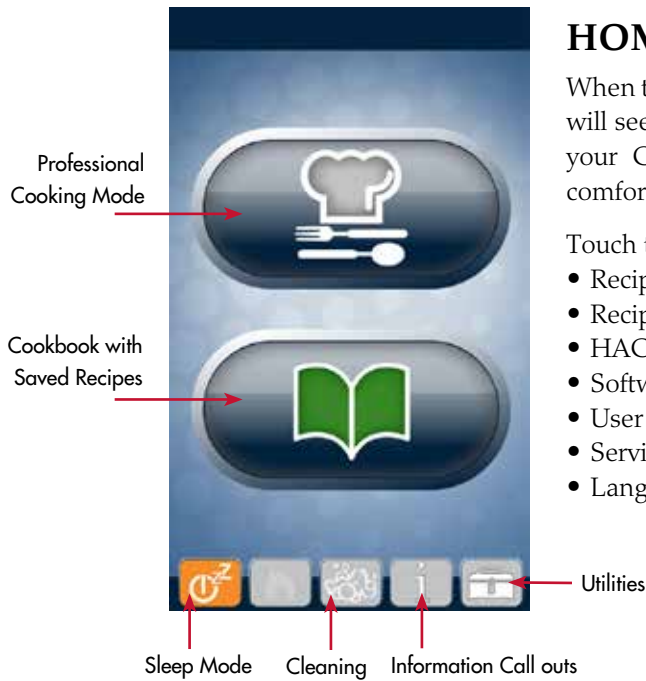
Before starting the appliance, make certain you do not detect the odor of gas.

### IF YOU SMELL GAS:

- Shut off the gas supply immediately.
- Do not attempt to light any appliance.
- Do not touch any electrical elements.
- Extinguish any open flame.
- Evacuate the area.
- Use a telephone outside the property and immediately contact your gas supplier.
- If unable to contact your gas supplier, contact the fire department.

# OPERATING INSTRUCTIONS

## CONTROL PANEL IDENTIFICATION



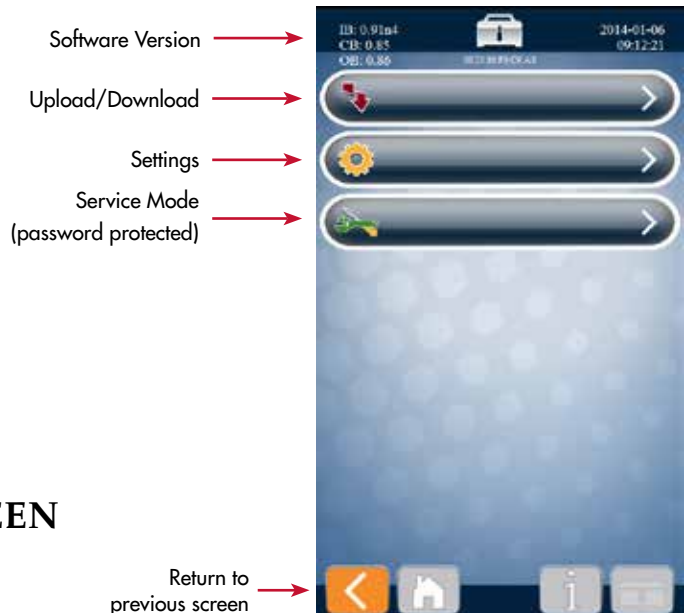
### HOME SCREEN

When the oven finishes powering up, this is the screen you will see. As a first time user, you may want to personalize your CombiOven to reflect the settings you are most comfortable with.

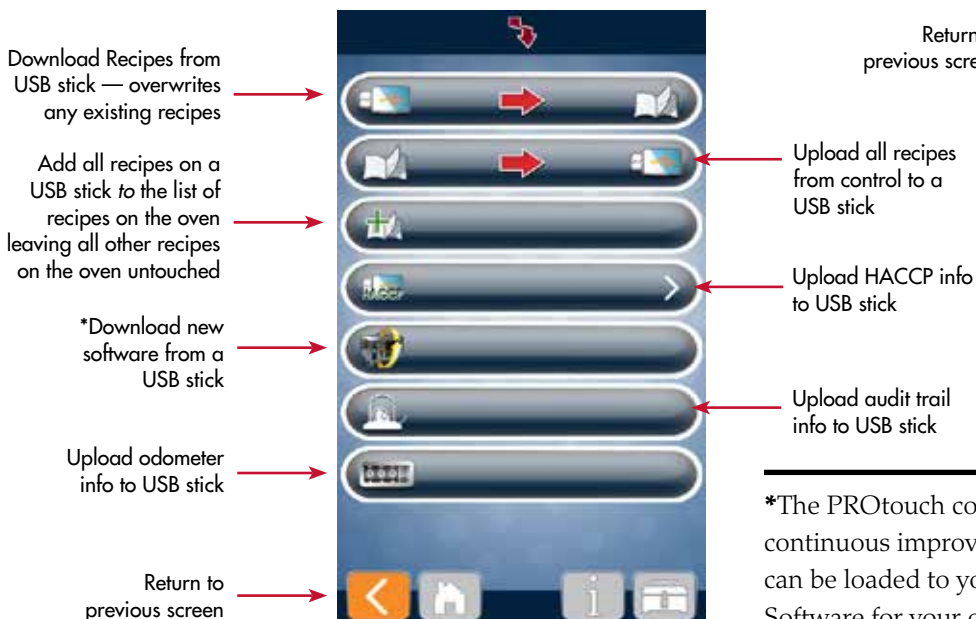
Touch the **Utilities** icon to access:

- Recipe uploads
- Recipe downloads
- HACCP downloads
- Software updates
- User setting
- Service mode
- Language choice

### UTILITY SCREEN



### UPLOAD/DOWNLOAD SCREEN



\*The PROtouch control plays an important part in our continuous improvement process. New features and abilities can be loaded to your oven as they become available. Software for your oven can be accessed from the Alto-Shaam website, under the Downloads tab.



# OPERATING INSTRUCTIONS

## SOFTWARE UPDATES

The PROtouch control plays an important part in our continuous improvement process. New features and abilities can be loaded to your oven as they become available. Software for your oven can be accessed from the Alto-Shaam website, under the Resource Library Tab, then Software Center. <http://www.alto-shaam.com/en/software-download-center>

Use a USB stick to copy the PROtouch software from the website to the USB stick.



PRESS ON BUTTON TO POWER OVEN ON.



TOUCH THE UTILITIES ICON.



TOUCH THE DOWNLOAD ICON.



TOUCH THE DOWNLOAD NEW SOFTWARE ICON.

Most software updates will require the full oven update as shown below. Additional options are available in the event a special need arises. Call our Service Department for assistance with these special circumstances.

REMOVE THE CAP OF THE USB PORT ON THE OVEN.

**INSERT THE USB STICK.** If the USB stick is not recognized by the Combitherm, a question mark will appear on screen. Try again with another flash drive device or call Alto-Shaam Service.

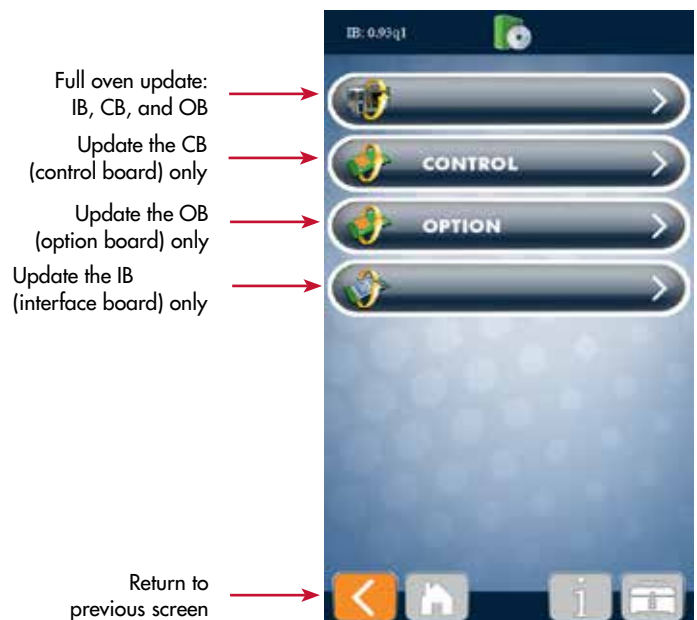
When the data has made a successful transfer to the UB drive, the screen will change. See below.



TOUCH THE GREEN CHECK MARK KEY TO COMPLETE THE PROCESS.

Remove the USB stick and replace the cap on the USB port on the oven.

## SOFTWARE UPLOAD SCREEN

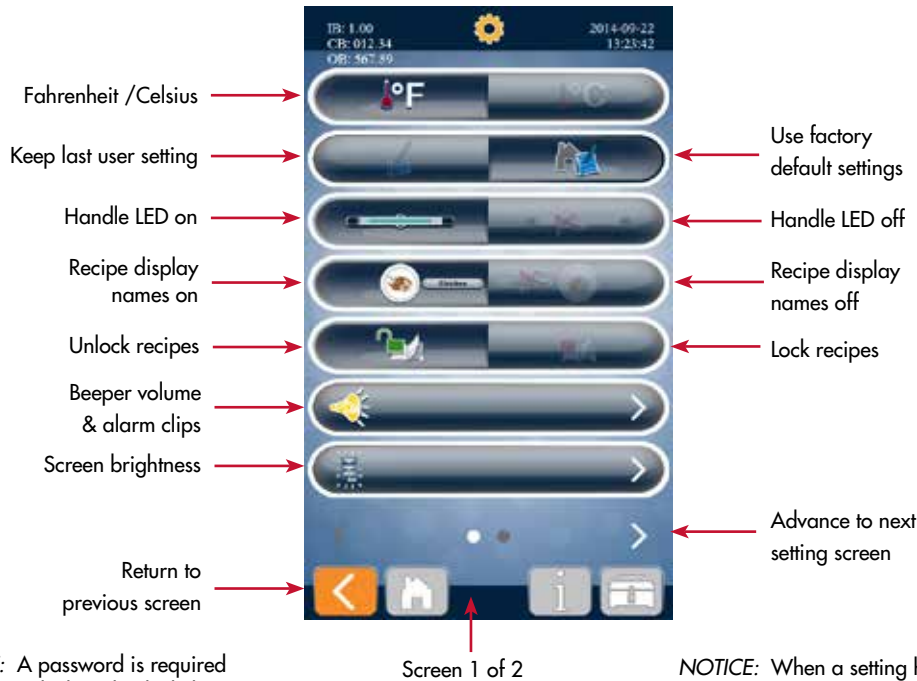


**NOTICE:** After the software update has been completed, the oven may automatically initiate a shut down and reboot sequence if required.

# OPERATING INSTRUCTIONS

## CONTROL PANEL IDENTIFICATION

### SETTINGS SCREEN 1



**NOTICE:** A password is required to lock and unlock the recipes. Simply call an Alto-Shaam Culinary Chef for assistance.

**NOTICE:** When a setting has been selected, the graphic will be vibrant in color while the alternate choice will appear faded and gray. In the illustration above, Fahrenheit, factory default setting, handle LED on, recipe display with text, and recipes are not locked have been chosen.

### SETTINGS SCREEN 2



Language choices available: English, French, German, Korean, Mandarin, Russian, or Spanish.

Time format available:  
12 hour clock  
24 hour clock

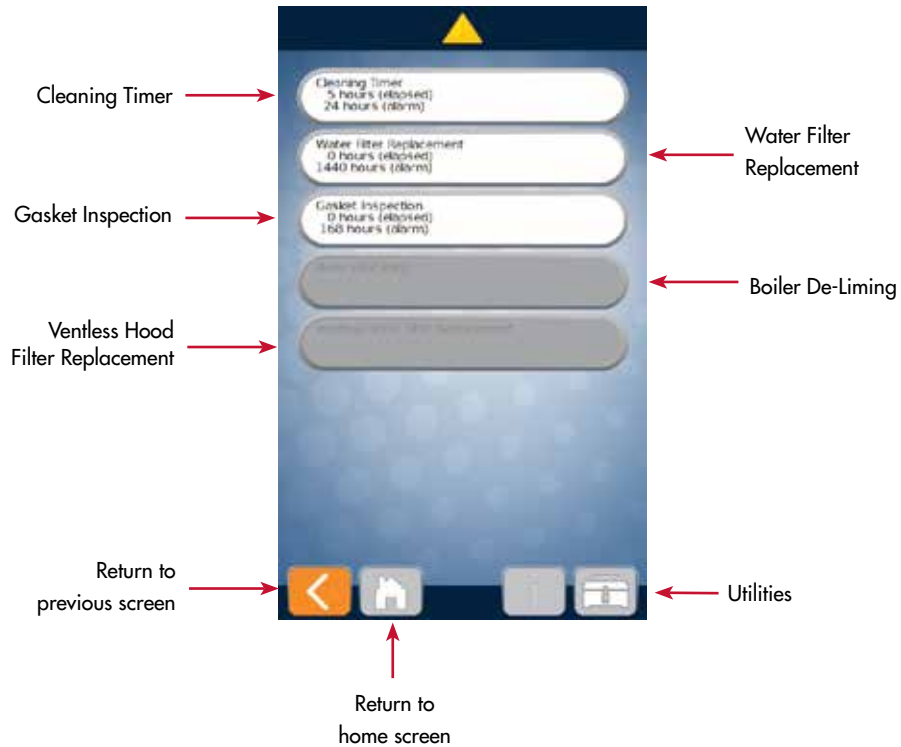
Different date formats available:  
YYYY/MM/DD  
MM/DD/YYYY  
DD/MM/YYYY



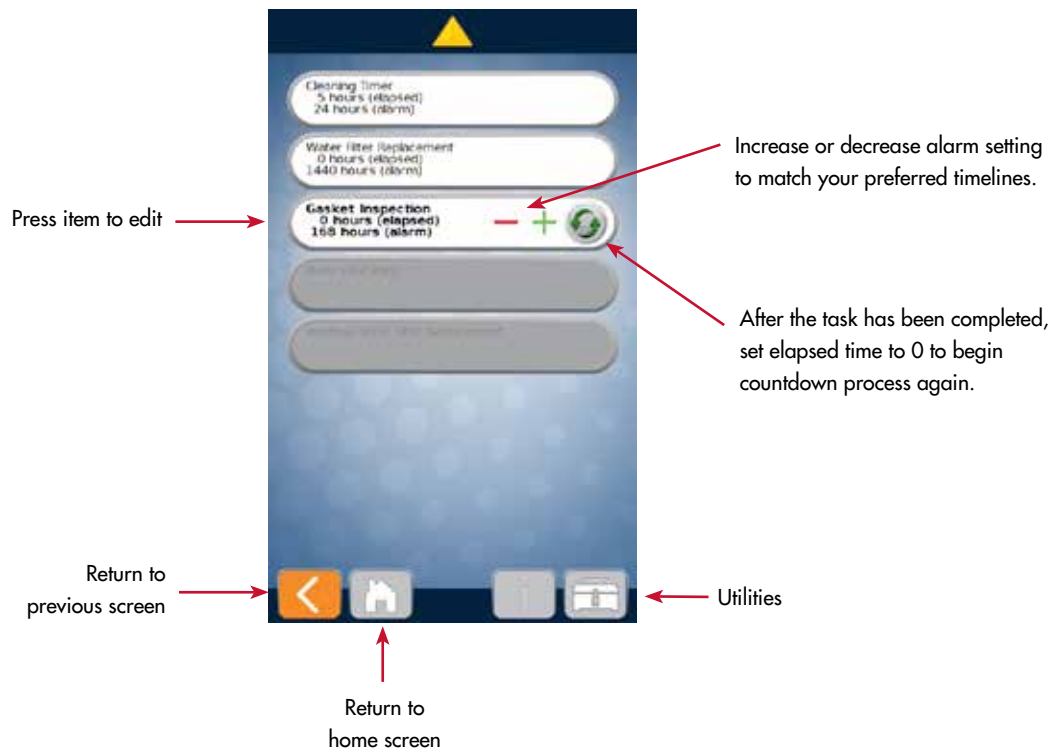
# OPERATING INSTRUCTIONS

## CONTROL PANEL IDENTIFICATION

### PREVENTATIVE MAINTENANCE SCREEN

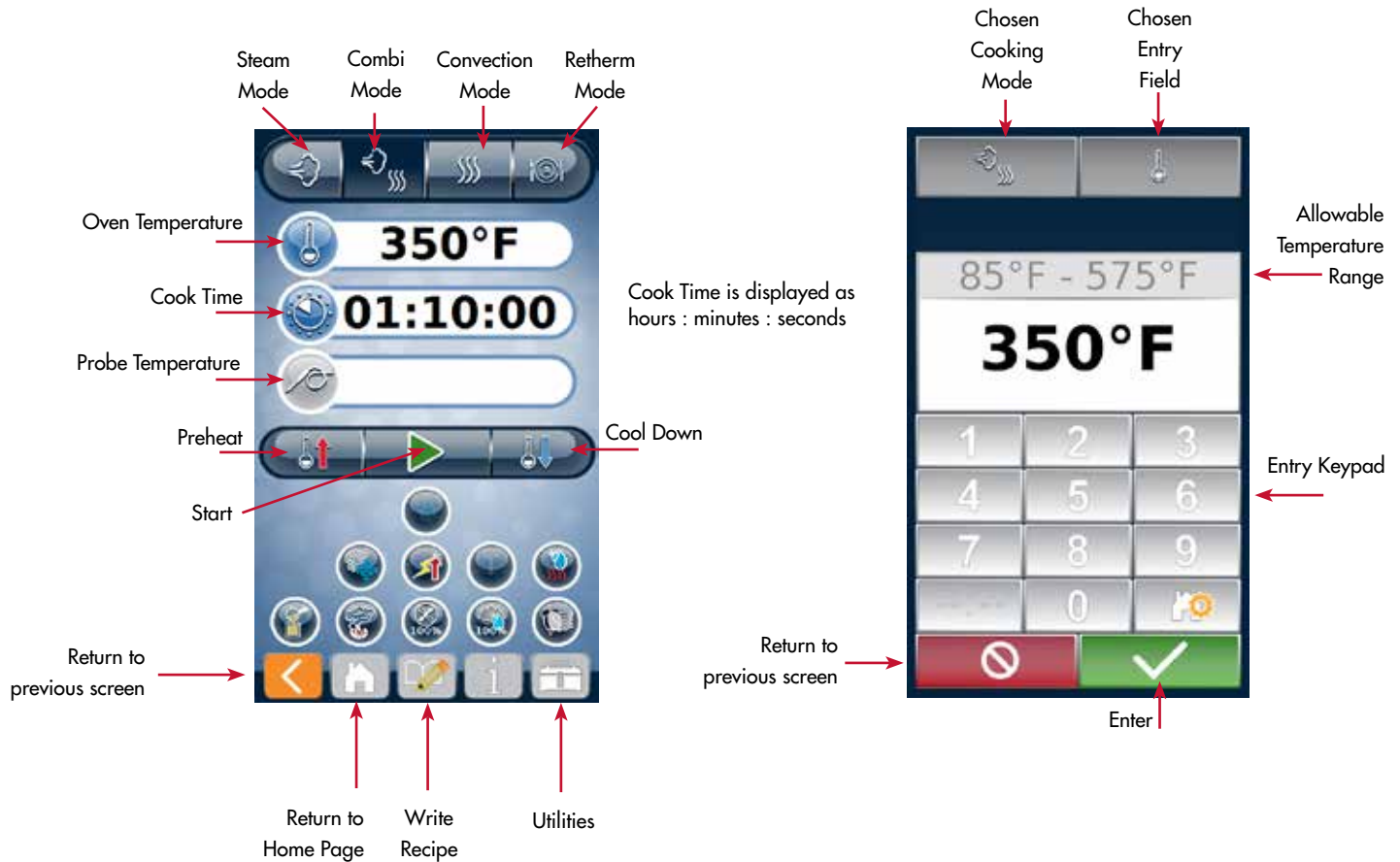


### PREVENTATIVE MAINTENANCE - EDITING



# OPERATING INSTRUCTIONS

## COOKING SCREEN IDENTIFICATION



**NOTICE:** When a cooking mode has been selected, it will appear darker blue. When the cooking mode is calling for heat, it will appear red. When the cooking mode is calling for moisture, it will appear light blue. In the illustration above, Combi Mode has been chosen and is calling for heat. Also, the PROpower™ level has been chosen, and the fan speed has been set at 100%.

## Auxiliary Function Icons



# OPERATING INSTRUCTIONS

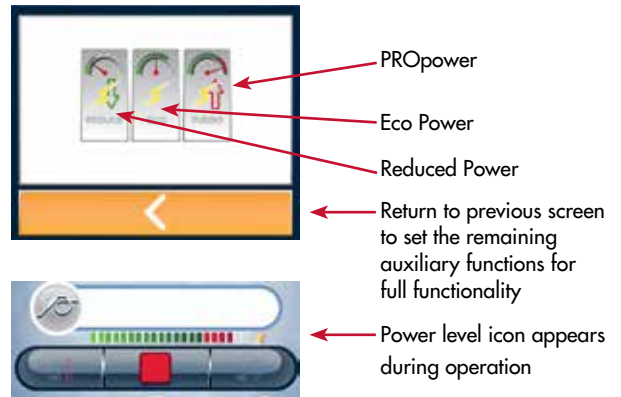
## AUXILIARY FUNCTIONS

### POWER SETTINGS

**Two power levels:** reduced power to manage kitchen power peaks, and eco power for optimal oven efficiency.

A third choice is optional on electric models, but standard on gas models. PROpower™ is an accelerated turbo power for an instant boost of heat or quick heat recovery [PATENT PENDING].

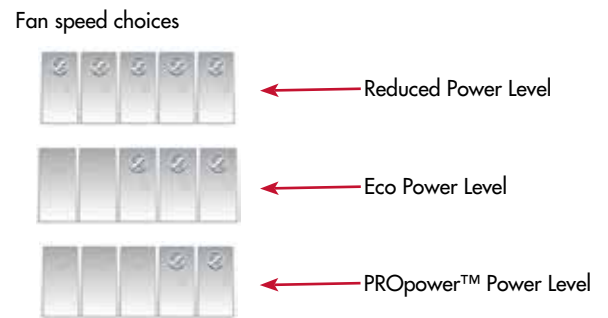
**NOTICE:** Reduced power will result in longer cooking times and PROpower will decrease your cooking time by several minutes.



### MULTIPLE FAN SPEEDS

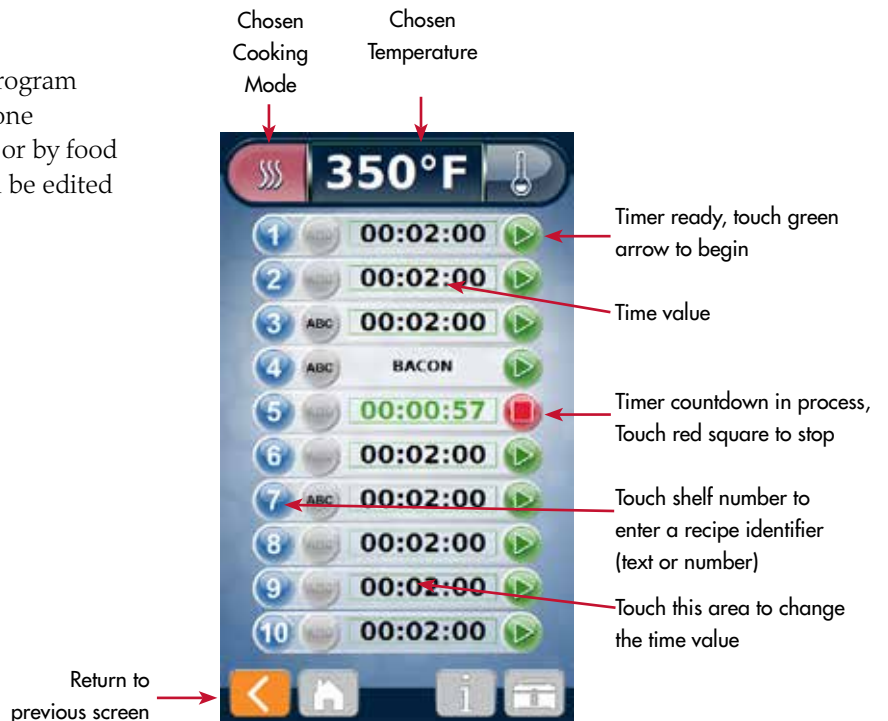
The PROtouch™ control includes five different fan speeds. The reduced fan speed function is useful for flow-sensitive products such as soufflés and meringues, or any products affected by a high velocity of air movement.

**NOTICE:** Fan speed choices are based upon the power level you have chosen.



### MULTI-SHELF TIMER

The multi-shelf timer allows the operator to program alarm times for the oven shelves. This can be one common time for corresponding oven shelves or by food item that is cooking. The multi-shelf timer can be edited when in a recipe mode.



# OPERATING INSTRUCTIONS

## AUXILIARY FUNCTIONS AND FEATURES

### PREHEAT FEATURE

The oven should be preheated before most cooking functions. When cooking full loads, use a temperature 50°F (10°C) greater than the cook temperature in order to recover from heat loss when the door is opened to add food to the oven. For items that use the **Steam** mode, it is necessary to use a preheat temperature lower than the cook temperature in order to create the proper amount of steam.



PRESS ON BUTTON TO POWER OVEN ON.

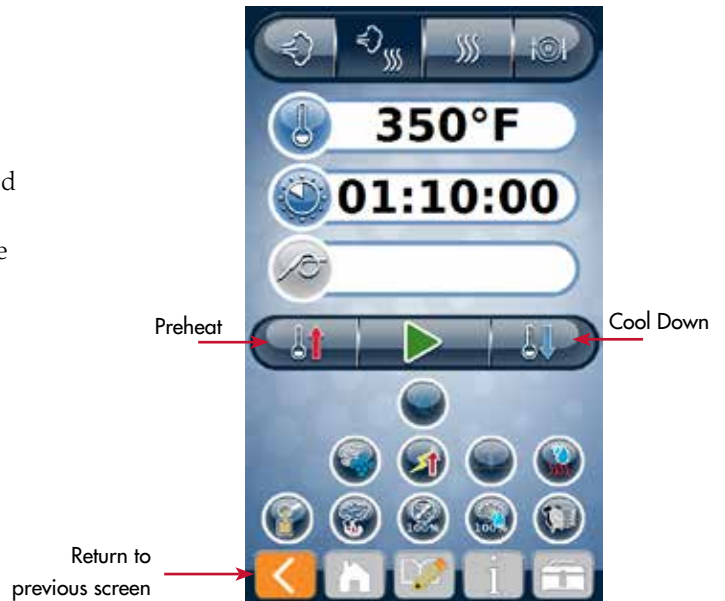


TOUCH THE PREHEAT ICON.

TYPE IN DESIRED TEMPERATURE.



TOUCH THE GREEN CHECK MARK KEY TO START THE PREHEAT.



### COOL DOWN FEATURE

The cool-down feature provides the operator with the ability to lower the temperature of the oven compartment at an accelerated pace. This function is useful when it is necessary to immediately change from a high temperature cooking function to a lower temperature function or to the steam program. This function is also useful to help cool the oven compartment in preparation for cleaning.

TIP: Always allow the oven walls to cool to a minimum of 140°F (60°C) before spraying the compartment with oven cleaner.



OPEN OVEN DOOR.

TOUCH THE COOL DOWN ICON.

TYPE IN DESIRED TEMPERATURE.



TOUCH THE GREEN CHECK MARK KEY TO BEGIN THE COOL DOWN.

THE TARGET OVEN TEMPERATURE CHOSEN WILL APPEAR JUST ABOVE THE RED STOP BUTTON.

THE CURRENT OVEN TEMPERATURE WILL APPEAR AT THE TOP OF THE SCREEN.



# OPERATING INSTRUCTIONS

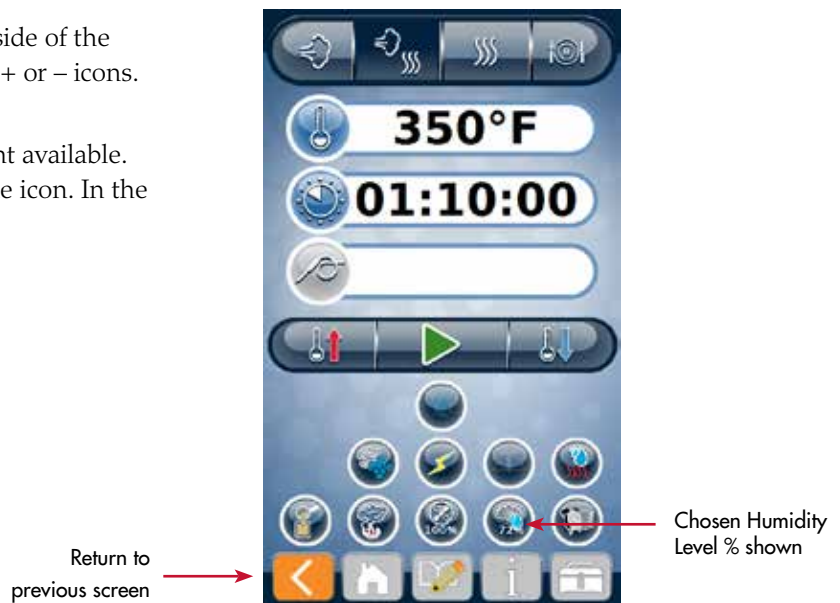
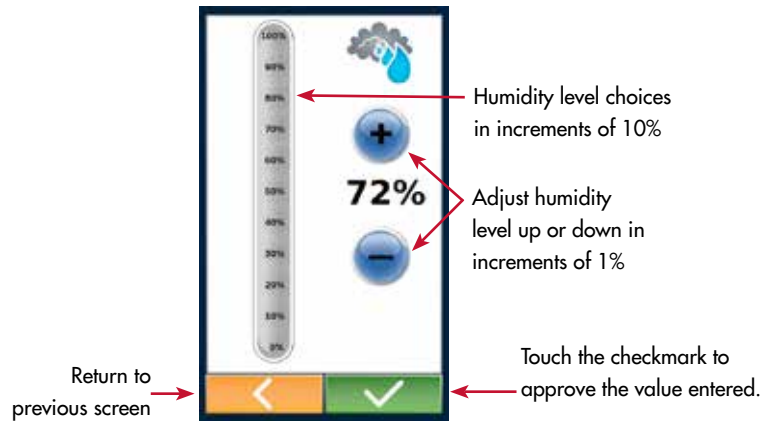
## AUXILIARY FUNCTIONS AND FEATURES

### HUMIDITY CONTROL FEATURE

The humidity control feature is an automatic function designed to regulate humidity to provide additional color to food as needed. This feature is particularly useful for adding color to high moisture products such as chicken and other poultry, or for additional browning of full loads and other moist products. In addition, this feature may be used to add texture to fried items such as french fries or breaded chicken. Humidity control can be used in any cooking mode and can be programmed into a cooking procedure.





Touch the nearest 10% increment on the left side of the screen, and then adjust up or down using the + or – icons.

0% humidity is the driest cooking environment available. The percentage level chosen will appear on the icon. In the illustration at right, 72% is shown.



# OPERATING INSTRUCTIONS

## CT PROFORMANCE™ FACTORY DEFAULT SETTINGS

COOKING MODE	OVEN TEMPERATURE	CORE TEMPERATURE	COOKING TIME
<b>Steam</b> 	212°F (100°C)	160°F (70°C)	25 minutes
<b>Combination Steam</b> 	350°F (175°C)	160°F (70°C)	70 minutes
<b>Convection</b> 	350°F (175°C)	160°F (70°C)	30 minutes
<b>Retherm</b> 	275°F (135°C)	160°F (70°C)	5 minutes



# OPERATING INSTRUCTIONS

## HACCP ACCESS

The Combitherm CT PROformance™ oven meets the requirements of established HACCP criteria by providing automated sampling, record keeping, set-point validation, recipe used, dates and time. Data is captured when Core Temperature Probe cooking method is chosen. The information can be viewed on screen for verification or troubleshooting. The HACCP preview page will be displayed in LIFO (last in, first out) order. This data is retained indefinitely - until the information is downloaded. Once downloaded, the information is removed from the ovens memory. Best practice would be to download the information every 30 days to a USB stick. This information can then be copied to your computer. The file format is text (.txt).

**CAUTION:** The CombiOven USB port is not recommended for use with personal hand held devices.

### TO ACCESS THE DATA COLLECTED:



TOUCH UTILITIES ICON LOCATED ON THE HOME PAGE.



TOUCH THE UPLOAD/DOWNLOAD ICON.



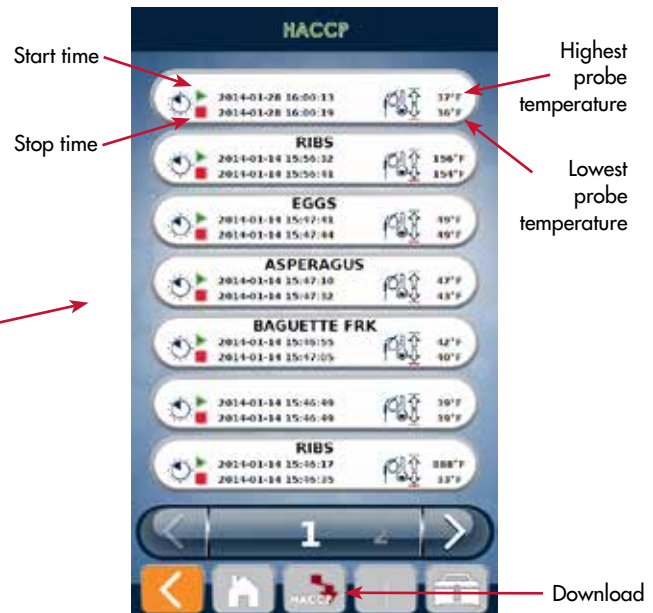
TOUCH THE HACCP USB ICON.

The HACCP screen can help diagnose a problem or error code if limited information is available.

*(next steps continued on next page)*



Utilities



Start time

Stop time

Highest probe temperature

Lowest probe temperature

Download

# OPERATING INSTRUCTIONS

## HACCP ACCESS AND DOWNLOAD



*(steps continued from previous page)*

### **TO DOWNLOAD THE DATA COLLECTED:**

**PULL BACK THE CAP OF THE USB PORT ON THE OVEN.**

**INSERT THE USB STICK.** The USB stick, if recognized, will automatically take the user to the download page. If the USB stick is not recognized by the Combitherm oven, a question mark will appear on screen. Try again with another flash drive device or call Alto-Shaam Service.

When the data has made a successful transfer to the UB drive, the screen will change. See below.



**TOUCH THE GREEN CHECK MARK KEY TO COMPLETE THE PROCESS.**

Remove the USB stick and close the cap on the USB port on the oven.

UNIT ID	10:07:56:AS:26:00				
IS	0.56	←			
CB	0.37	←			
OB	0.08	←			
					Firmware versions
RECIPE NAME	VESSBLANDH				
DATE	Time	PROGRAM NAME	COOK MODE	CAVITY SETPOINT (°F)	COOK TIME (hh:mm:ss)
10/31/2013	17:49:14	Preheat	Continuous	212	--
10/31/2013	17:59:27	Steam	Time	212	0:04:00
10/31/2013	18:00:27	Steam	Time	212	0:04:00
10/31/2013	18:01:28	Steam	Time	212	0:04:00
10/31/2013	18:02:29	Steam	Time	212	0:04:00
10/31/2013	18:03:29	Steam	Time	212	0:04:00
PROBE SETPOINT (°F)	Cavity Temperature (°F)	Core Temperature (°F)	Door Open	RECIPESSTEP	
100	---	0	1		
110	---	0	2		
110	---	0	2		
110	---	0	2		
110	---	0	2		
110	---	0	2		
110	---	0	2		

The download process will automatically create a folder on the USB stick titled "haccp". Each text file contains cooking program specifics and each function the oven performed.

# CT CLASSIC™ INTRODUCTION

## ECOSMART® TECHNOLOGY



The Alto-Shaam Combitherm combination oven/steamer employs Ecosmart operating efficiencies in the design and application of all operating and programming functions. Ecosmart operational

characteristics include the use of a water barrier to close the oven compartment to the outside air. While maintaining a non-pressurized atmosphere, the primary purpose of the Ecosmart system is to prevent the steam and heat generated within the oven compartment from freely escaping to the outside.

The Ecosmart design displaces the air within the cooking compartment and achieves a higher level of steam saturation that offers quick-steaming at temperatures above 212°F (100°C).

This guide is provided as an operational aid with step-by-step instructions of the basic functions of the Combitherm oven, along with the many other additional features of the control.

## CLASSIC CONTROL

The CT Classic features a simple, push button control that commands all the oven functions. Whether you cook by time, or cook using the optional product probe, rest assured you will be able to bake, roast, steam, poach, grill, broil, proof, braise and oven fry with confidence.

**LED display** - Easy to read display indicates temperature settings, time remaining, and various instructions.



**STEAM MODE**



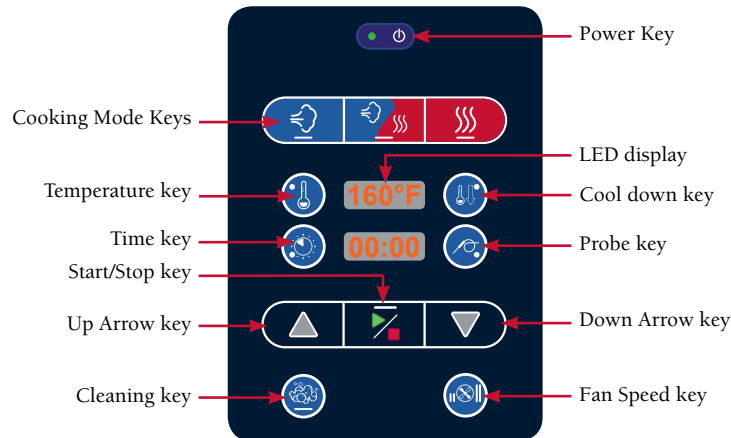
**COMBINATION MODE**



**CONVECTION MODE**

# OPERATING INSTRUCTIONS

## CT CLASSIC™ CONTROL PANEL IDENTIFICATION



The **Steam** mode provides the operator with the ability to steam, poach, blanch, or sous vide. This mode will automatically steam at the boiling point of water; quick-steam above the boiling point for faster cooking results; or low temperature steam, below the boiling point, for more delicate products such as pâté, mousse, seafood, or custard.

The **Combination** mode will prove to be the most versatile and widely used mode the Combitherm oven has to offer. It will produce the best possible results on the widest variety of products — all within the shortest period of time. The unique control function of this mode enables the operator to roast or bake with a combination of steam and convection heat. In addition to shorter cooking times, this combination of steam and heat offers less product shrinkage and more moisture retention than obtained in a standard convection oven.

The **Convection** mode operates with hot circulated air within a temperature range of 85°F to 575°F (29°C to 300°C). For many applications, better results may be achieved with the Combination mode; therefore, the operator may want to consider using the Convection mode on a more limited basis.

**NOTICE:** In the event of a power failure, the oven will not operate.

### Oven Cool Down Process:

- Cooking process must be inactive
- Press "Cool Down" button until LED lights (LED remains ON while in Cool Down mode)
- Press "Decrease Value" or "Increase Value" to adjust cool down temperature
- Cook temperature display area is used to display cool down temperature
- Display will show last valid cool down temperature
- Cool down temperature range is 85°F - 575°F (30°C - 300°C)
- Press "Start/Stop" until LED lights to accept cool down temperature and initiate cool down process
- Door must be open to start cool down process; Cook time display area will display "door" if door is not open
- Cook temperature display area will display set cool down temperature
- Cook time display area will display current cool down temperature

### Fahrenheit or Celsius Function - choose temperature format:

- Unit is not in a cooking or cleaning process
- Press "Set Cooking Temperature", "Decrease Value" and "Increase Value" buttons simultaneously for 1 second
- Cooking temperature display area will display last value "C" or "F"; Display will alternate between "C" and "F" every 2 seconds
- Press "Start/Stop" key when the display is showing the desired value ("C" or "F")