

COMBITHERM®



ITEM NO. \_\_\_\_\_

12•20<sup>ES</sup>  
COMBIoven™



- Cook by internal product temperature or time with temperature variable steam, convection heat, or a combination of both to roast, steam, bake, or oven-fry in a single piece of equipment.
- Provides increased food quality and expands menu options while increasing production efficiency and speed by as much as 70-percent compared to conventional cooking methods.
- EcoSmart™ technology reduces energy cost by using less electricity and water during both normal operation and the cleaning function.
- Gold-n-Brown™ feature provides the operator with the ability to add additional product color.
- CombiClean™ feature uses scrubbing jets of water for fully automatic cleaning. Use either commercial-strength CombiClean Tablets or Combitherm Cleaning Liquid Spray.
- Standard and Deluxe control offers additional moisture injection, Delta-T cooking, multiple language display, and other features.
- Enhanced safety feature includes automatic steam venting immediately before cooking time expires. (U.S. Pat. 7,282,674)

MODEL 12•20ES DELUXE

CAPACITY OF TWENTY-FOUR (24) FULL-SIZE OR GN 1/1 PANS,  
TWELVE (12) FULL-SIZE SHEET OR GN 2/1 PANS

**SHORT FORM SPECIFICATIONS:**

Provide Alto-Shaam Combitherm® floor standing Model 12•20ES electric CombiOven designed with EcoSmart™ technology for reduced energy and water usage and include operational modes for steam, convection, and a combination of steam and convection heat. Standard features to include patented automatic steam venting; Gold-n-Brown™ browning function; and a self-adjusting, flush-mounted rotary door handle with a steam venting safety stop. Control to include 2-speed fan, cool-down function, and automatic decalcification. Oven is to be constructed of 18 gauge stainless steel, include an attached spray hose with backflow preventer, and automatic cleaning function. The oven is to accommodate up to 12 full-size sheet pans or 24 full-size hotel pans, include standard right-hand door hinging, and Roll-in pan cart with removable drip tray and cart handle.

**STANDARD CONTROL:** To include removable quick-connect internal product temperature probe in the oven interior.

**DELUXE CONTROL:** To include removable quick-connect internal product temperature probe in the oven interior and programming capability with Rapid-Touch™ operational quick-keys.

**S-CONTROL:** To include removable quick-connect internal product temperature probe in the oven interior as an option.

**MODELS:**

12•20ES: STANDARD

12•20ES: DELUXE

12•20ES: S-CONTROL

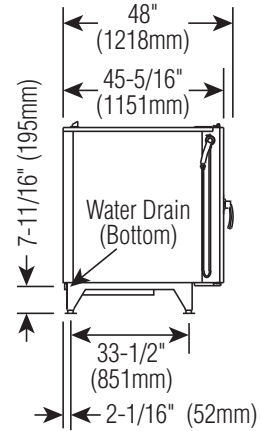
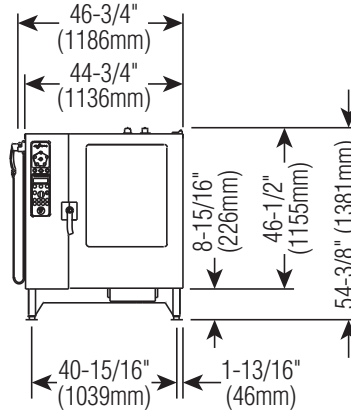
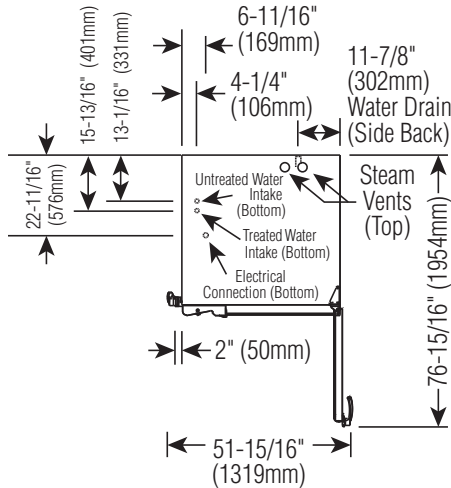
**STANDARD FEATURES AND ACCESSORIES**

- Roll-in pan cart completely interchangeable with QC-50 QuickChiller™ and 12•20 CombiMate® companion holding cabinet with:
  - Twelve (12) non-tilt pan support rails
  - 21-1/16" (535mm) horizontal width between rails
  - 2-5/8" (65mm) vertical spacing between rails
  - Six (6) stainless steel shelves
  - Removable drip tray and cart handle
- Four (4) adjustable legs
- One (1) hand-held shower with backflow preventer PATENT PENDING
- One (1) flush-mounted rotary door latch with steam venting position
- Single-point detachable temperature probe (OPTIONAL ON S-CONTROL MODELS)



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**DIMENSIONS: H x W x D**

<b>EXTERIOR:</b>	54-3/8" x 46-3/4" x 48" (1381mm x 1186mm x 1218mm)
<b>EXTERIOR WITH RETRACTABLE DOOR:</b>	54-3/8" x 50-3/4" x 48" (1381mm x 1288mm x 1218mm)
<b>INTERIOR:</b>	54-3/8" x 26-1/4" x 32-11/16" (983mm x 667mm x 830mm)

**INSTALLATION REQUIREMENTS**

Oven must be installed level.  
Hood installation is required.  
Water supply shut-off valve and back-flow preventer.

**WATER REQUIREMENTS**

**TWO (2) COLD WATER INLETS - DRINKING QUALITY**

ONE (1) TREATED WATER INLET: 3/4" NPT\*  
ONE (1) UNTREATED WATER INLET: 3/4" NPT\*  
LINE PRESSURE: 30 to 90 psi 2.8 to 6.2 bar  
**WATER DRAIN: 1-1/2" CONNECTION WITH AIR GAP**  
\* Can manifold off of one 3/4" line.

**WATER QUALITY MINIMUM STANDARDS**

USING A WATER SUPPLY NOT MEETING ALTO-SHAAM'S MINIMUM WATER QUALITY STANDARDS WILL VOID THIS WARRANTY. It is the responsibility of the purchaser to ensure that incoming water supply is compliant with the specifications listed through adequate treatment measures. Installation of the CombiGuard™ Water Filtration System is recommended, but this system may not address all water quality issues present.

Contaminant	Inlet Water Requirements (untreated water)
Free Chlorine	Less than 0.1 ppm (mg/L)
Hardness	Less than 3 gpg (52 ppm)
Chloride	Less than 30 ppm (mg/L)
pH	7.0 to 8.5
Alkalinity	Less than 50 ppm (mg/L)
Silica	Less than 12 ppm (mg/L)
Total Dissolved Solids (tds)	Less than 60 ppm

**CLEARANCE REQUIREMENTS**

**LEFT: 6" (152mm) PLUS SERVICE ACCESS: 18" (457mm) RECOMMENDED 20" (508mm) FROM HEAT PRODUCING EQUIPMENT**

**RIGHT: 4" (102mm) TOP: 20" (508mm) FOR AIR MOVEMENT**

**BACK: 4" (102mm) BOTTOM: 5-1/8" (130mm) FOR LEGS**

**ELECTRICAL (DEDICATED CIRCUIT REQUIRED)**

	VOLTAGE	PHASE	CYCLE/HZ	AWG	AMPS	kW
208-240	at 208	3	60	3 Wire plus ground	75.6/ph	27.2
	at 240			AWG 2	87.0/ph	36.1
380-415	at 380	3	50	4 Wire plus ground	41.4/ph	27.2
	at 415			AWG 6	36.1/ph	36.1
440-480	at 440	3*	60	3 Wire plus ground	36.0/ph	27.2
	at 480			AWG 6	43.5/ph	36.1

\* ELECTRICAL SERVICE CHARGE APPLIES

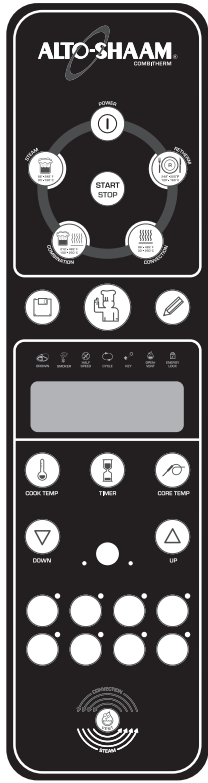
WEIGHT		CAPACITY	
NET	665 lb (302 kg)	FULL-SIZE PANS:	20" x 12" x 2-1/2"
SHIP	891 lb (404 kg)	GN 1/1:	530 x 325 x 65mm
CRATE DIMENSIONS: (L x W x H)	53" x 53" x 87" (1346 x 1346 x 2210mm)	GN 2/1:	650 x 530 x 65mm
		FULL-SIZE SHEET PANS:*	18" x 26" x 1"
		ON WIRE SHELVES ONLY	
288 lb (131 kg) MAXIMUM			
VOLUME MAXIMUM: 180 QUARTS (228 LITERS)			

\* ADDITIONAL WIRE SHELVES REQUIRED FOR MAXIMUM CAPACITY

## Deluxe Control

(PICTURED)

The Combitherm deluxe control includes all the operational functions of the standard control and adds a programming function. Program memory can accept up to 250 procedures, each with up to 20 steps in any combination of cooking modes. The deluxe control also features a set of 8 Rapid-Touch™ keys to assign frequently used programs to cook at the touch of a single button.



## Standard Control

The Combitherm standard control includes all operational functions shown to steam, bake, and roast by time or internal product temperature. The control features the Gold-n-Brown™ automatic browning function, a Retherm Mode for plate regeneration, plus a wide variety of auxiliary functions and operational settings. This control is offered for operators that do not require programming capability.



## S-Control

The Combitherm S-Control includes all basic combination oven operational modes with the use of rotary dials. The S-Control also features the Gold-n-Brown™ automatic browning function, an automatic cleaning setting, an oven cool-down function, and a half-speed fan position. S-Control models can also be furnished with a Core Temperature option package.



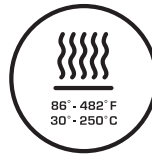
### Steam Mode

Automatic steaming at 212°F (100°C)  
Quick steaming between 213°F and 248°F (101°C and 120°C)  
Low temp steaming between 86°F and 211°F (30°C and 99°C)



### Combination Mode

Steam and convection cooking with a temperature range of 212°F to 482°F (100°C to 250°C)



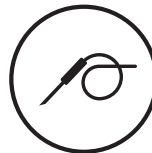
### Convection Mode

Cooking without steam at a temperature range of 86°F to 482°F (30°C to 250°C)



### Retherm Mode

Food or plated meal reheating with automatic steam injection at a temperature range of 248°F to 320°F (120°C to 160°C)



### Core Temperature Mode

Cooking by sensing internal product temperature in any selected cooking mode



### Gold-n-Brown™

An automatic browning function to be set or programmed as needed to add additional product color in the combination or convection mode of operation.



**FACTORY INSTALLED OPTIONS**

(MAY REQUIRE ADDITIONAL LEAD TIME)

**Recessed Door**

INCREASES OVEN WIDTH BY 4" (102mm)

**Single-point removable temperature probe** (PATENT PENDING)

INCLUDED ON STANDARD AND DELUXE OVENS

OPTIONAL ON S-CONTROL OVENS [5005679]

**Multi-point, hard-wired internal product temperature probe** [5005678]

NOT AVAILABLE ON OVENS WITH S-CONTROL

**Security Devices** FOR CORRECTIONAL FACILITY USE

EXCLUDES TEMPERATURE PROBE

**Additional Security Options**

ANTI ENTRAPMENT DEVICE [5011081]

CONTROL PANEL SECURITY COVER [5011080]

HASP DOOR LOCK (PADLOCKS NOT INCLUDED) [5011079]

TAMPER-PROOF SCREW PACKAGE FOR OVEN [5011082]

**Computer Software Options** [5005676]

*Not available on S-Control Models.*

REFER TO HACCP SPECIFICATION SHEET #9015

FOR APPLICABLE PART NUMBERS

**HACCP Documentation**

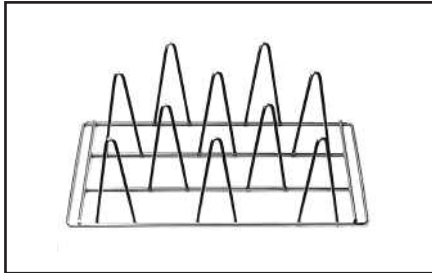
**HACCP Documentation with Kitchen Management**



**Wireless HACCP Documentation with Kitchen Management**



IEEE 802.11b STANDARDS



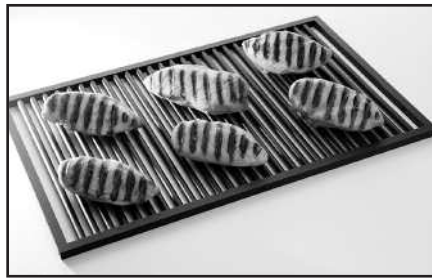
Ten (10) Chicken Roasting Rack  
SH-22634



Six (6) Chicken Roasting Rack  
(PAN NOT INCLUDED) SH-23000



Fry Basket BS-26730



Grilling Grate SH-26731



Roll-In Pan Cart  
UN-27968



OPTIONS & ACCESSORIES	
<input type="checkbox"/> <b>CHICKEN GREASE TRAY WITH DRAIN: 1-1/2" (38mm) DEEP</b>	4758
<input type="checkbox"/> <b>CHICKEN GREASE TRAY WITH DRAIN: 2-3/4" (70mm) DEEP</b>	14475
<b>CHICKEN ROASTING RACKS:</b>	
<input type="checkbox"/> 6 CHICKEN CAPACITY — FITS FULL-SIZE PAN: 6 RACKS PER OVEN	SH-23000
<input type="checkbox"/> 8 CHICKEN CAPACITY — FITS FULL-SIZE PAN: 8 RACKS PER OVEN	SH-23619
<input type="checkbox"/> 10 CHICKEN CAPACITY — FITS IN SIDE RACKS: 8 RACKS PER OVEN	SH-22634
<input type="checkbox"/> <b>COMBIGUARD™ TRIPLE-GUARD WATER FILTRATION SYSTEM (INCLUDES 1 CARTRIDGE)</b>	FI-23014
<input type="checkbox"/> <b>COMBIGUARD™ REPLACEMENT FILTER</b>	FI-26356
<input type="checkbox"/> <b>COMBITHERM CLEANING LIQUID</b> — SPECIALLY FORMULATED FOR COMBITHERM OVENS ➔ TWELVE (12) CONTAINERS/CASE, 1 QUART (C. 1 LITER) EACH	CE-24750
<input type="checkbox"/> <b>COMBICLEAN™ TABLETS</b> — SPECIALLY FORMULATED FOR COMBITHERM OVENS ➔ 90 PACKETS EACH CONTAINER - MUST BE ORDERED IN EVEN QUANTITIES OF TWO (2) OR MORE	CE-28892
<input type="checkbox"/> <b>FRY BASKET, 12" x 20" (325mm x 530mm)</b>	BS-26730
<input type="checkbox"/> <b>GRILLING GRATE, 12" x 20" (325mm x 530mm)</b>	SH-26731
<input type="checkbox"/> <b>PREHEAT SEALING STRIP (TO PREHEAT RIGHT HAND UNITS WITHOUT ROLL-IN TROLLEY)</b>	1010739
<input type="checkbox"/> <b>PREHEAT SEALING STRIP (TO PREHEAT RECESSED DOOR UNITS WITHOUT ROLL-IN TROLLEY)</b>	1010752
<input type="checkbox"/> <b>ROLL-IN PAN CART:</b> (H x W x D): 48-13/16" x 28-15/16" x 35-3/16" (1240mm x 734mm x 892mm) INTERCHANGEABLE WITH 12•20 COMBIMATE HOLDING CABINET AND QC-50 QUICKCHILLER	UN-27968
<input type="checkbox"/> <b>ROLL-IN PAN CART — SECURITY OPTION:</b> INCLUDES TAMPER-PROOF SCREWS AND WELDED HANDLE (H x W x D): 48-13/16" x 28-15/16" x 35-3/16" (1240mm x 734mm x 892mm) INTERCHANGEABLE WITH 12•20 COMBIMATE HOLDING CABINET AND QC-50 QUICKCHILLER	5010365
<b>ROLL-IN PLATE CART:</b> (H x W x D): 48-3/4" x 28-15/16" x 36-7/8" (1238mm x 734mm x 937mm) INTERCHANGEABLE WITH 12•20 COMBIMATE HOLDING CABINET AND QC-50 QUICKCHILLER	
<input type="checkbox"/> 52 PLATE CAPACITY — PLATE SIZE 10" TO 12" DIAMETER (254mm TO 305mm) PLATES; 3-3/4" (95mm) SPACING	UN-28456
<input type="checkbox"/> 70 PLATE CAPACITY — PLATE SIZE 10" TO 12" DIAMETER (254mm TO 305mm) PLATES; 2-3/4" (70mm) SPACING	UN-27969
<input type="checkbox"/> <b>SCALE FREE™ (CITRUS BASED, NON-CORROSIVE DELIMING PRODUCT)</b>	CE-27889
<input type="checkbox"/> <b>SERVICE START-UP CHECK</b> AVAILABLE THROUGH AN ALTO-SHAAM FASTEAM CENTER	SPECIFY AS REQUIRED
<input type="checkbox"/> <b>SHELF, STAINLESS STEEL WIRE</b>	SH-22473