ALTO-SHAAM

Combitherm®
Combination Oven/Steamer



Shown with ExpressTouch Control

CT Express™

CTX4-10E

CTX4-10EVH

CTX4-10EC

• Installation

⚠ WARNING



To prevent personal injury, death or property damage:

Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

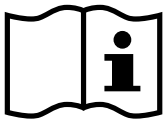
⚠ WARNING

Improper installation, alteration, adjustment, service, cleaning, or maintenance could result in property damage, severe injury, or death.

Read and understand the installation, operating and maintenance instructions thoroughly before installing, servicing, or operating this equipment.

W164 N9221 Water Street • P.O. Box 450
Menomonee Falls, Wisconsin 53052-0450 U.S.A.

PHONE: 262.251.3800 • 800.558.8744 U.S.A. / CANADA
FAX: 262.251.7067 • 800.329.8744 U.S.A. ONLY
www.alto-shaam.com



Consult instructions for operation and use.



Printed in the U.S.A.

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Delivery

This Alto-Shaam appliance has been thoroughly tested and inspected to ensure only the highest quality appliance is provided. Upon receipt, check for any possible shipping damage and report it at once to the delivering carrier. See Transportation Damage and Claims section located in this manual.

This appliance, including unattached items and accessories, may be delivered in one or more packages. Ensure all standard items and options have been received with each appliance as ordered. Save all the information packed with the appliance. Register the appliance online at *www.alto-shaam.com/en/support/warranty-registration* to ensure prompt service in the event of a warranty parts and labor claim.

This manual must be read and understood by all people using or installing the appliance. Contact the Alto-Shaam Tech Team Service Department if you have any questions concerning installation, operation, or maintenance.

1-800-558-8744; servicedept@alto-shaam.com

The serial number is required for all inquiries.

Always include both model and serial number(s) in any correspondence regarding the appliance.

Model: _____

Serial number: _____

Purchased from: _____

Date installed: _____ **Voltage:** _____

⚠CAUTION



Appliance and accessories may be heavy. To prevent serious injury, **always** use a sufficient number of trained and experienced workers when moving or leveling appliance and handling accessories.

Environmental Conditions

Operational Environmental Conditions

- Before use, appliance must acclimate to room temperature in the environment it is placed — 24 hours is recommended.
- Ambient temperature range of 60°F to 110°F (16°C to 43°C).
- Relative humidity of less than 95% non-condensation.
- Atmospheric pressure range of 50kPa to 106kPa.

Transportation Damage and Claims



All Alto-Shaam equipment is sold Free on Board (F.O.B.) shipping point, and when accepted by the carrier, such shipments become the property of the consignee.

Should damage occur in shipment, do not put the appliance into service until the damage has been inspected by an authorized Alto-Shaam service provider.

Shipping damages are a matter between the carrier and the consignee. In such cases, the carrier is assumed to be responsible for the safe delivery of the merchandise, unless negligence can be established on the part of the shipper.

1. Make an immediate inspection while the appliance is still in the truck or immediately after it is moved to the receiving area. Do not wait until after the appliance is moved to a storage area.
2. Do not sign a delivery receipt or a freight bill until a proper count has been made and inspection of all appliances are received.
3. Note all damage to packages directly on the carrier's delivery receipt.
4. Make certain the driver signs the delivery receipt. If the driver refuses to sign, make a notation of this refusal on the receipt.
5. If the driver refuses to allow inspection, write the following on the delivery receipt: **Driver refuses to allow inspection of containers for visible damage.**
6. Contact the carrier's office immediately upon finding damage, and request an inspection. Mail a written confirmation to the carrier's office with the time, date, and the person called.
7. Save any packages and packing material for further inspection by the carrier.
8. Promptly file a written claim with the carrier and attach copies of all supporting paperwork.

Alto-Shaam will continue our policy of assisting our customers in collecting claims which have been properly filed and actively pursued. Alto-Shaam cannot, however, file any damage claims, assume the responsibility of any claims, or accept deductions in payment for such claims.

Record the model and serial number of the appliance for easy reference. Always refer to both model and serial number in any contact with Alto-Shaam regarding this appliance.

Model: _____

Serial Number: _____

Date Installed: _____

Voltage: _____

Purchased From: _____

_____

_____

24•7
Your Service Hotline
1-800-558-8744

Alto-Shaam has established a twenty-four hour emergency service call center to offer immediate customer access to a local authorized service agency outside of standard business hours. The emergency service access is provided exclusively for Alto-Shaam equipment and is available throughout the United States through the use of Alto-Shaam's toll-free number. Emergency service access is available seven days a week including holidays.

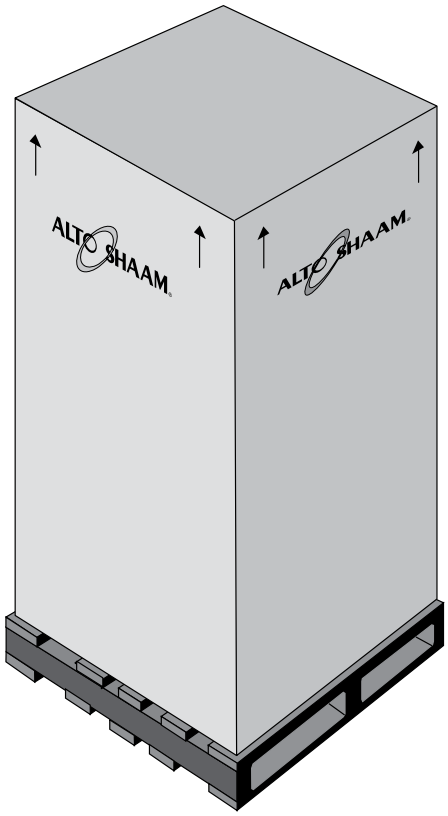
Unpacking

- Carefully remove the appliance from the carton or crate.

  NOTE: Do not discard the carton and other packaging material until you have inspected the appliance for hidden damage and tested it for proper operation.

  Do not discard this manual. This manual is considered to be part of the appliance and is to be provided to the owner or manager of the business or to the person responsible for training operators. Additional manuals are available from the manufacturer.

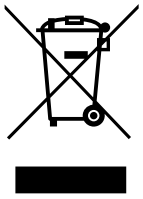
- Read all instructions in this manual carefully before installing this appliance, using the appliance or performing routine maintenance. Following procedures other than those indicated in this guide to use and clean the appliance is considered inappropriate and may cause damage, injury or fatal accidents, in addition to voiding the warranty and relieving Alto-Shaam of all liability.
- Remove all protective plastic film, packaging materials, and accessories from the appliance before connecting electrical power. Store any accessories in a convenient place for future use.



Safety Procedures

- The appliance is intended to cook, hold or process foods for the purpose of human consumption. No other use for this appliance is authorized and is therefore considered dangerous. The appliance must not be used to cook food containing flammable materials (such as food with alcohol). Substances with a low flash point can ignite spontaneously and cause a fire.
- The appliance is intended for use in commercial establishments where all operators are familiar with the purpose, limitations, and associated hazards of this appliance. Operating instructions and warnings must be read and understood by all operators and users. Alto-Shaam recommends regular staff training to avoid the risk of accident or damage to the appliance. Operators must also receive regular safety instructions.
- Any troubleshooting guides, component views, and parts lists included in this manual are for general reference only and are intended for use by qualified and trained technicians.
- This manual should be considered a permanent part of this appliance. This manual and all supplied instructions, diagrams, schematics, parts lists, notices, and labels must remain with the appliance if the item is sold or moved to another location.

NOTICE: For equipment delivered for use in any location regulated by the following directive: 2012/95/EC WEEE



Do not dispose of electrical or electronic equipment with other municipal waste.

Knowledge of proper procedures is essential to the safe operation of electrically and/or gas energized equipment. The following signal words and symbols may be used throughout this manual.

⚠ DANGER

Indicates a hazardous situation that, if not avoided, will result in death or serious injury.

⚠ WARNING

Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

⚠ CAUTION

Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

NOTICE: Indicates information considered important, but not hazard-related (e.g., messages relating to property damage).



Indicates that referral to operating instructions is a mandatory action. If not followed the operator could suffer personal injury.



Indicates that referral to operating instructions is recommended to understand operation of equipment.

- To prevent serious injury, death or property damage, the appliance should be inspected and serviced at least every twelve (12) months by an authorized service partner or trained technician.
- **Only** allow an authorized service partner or trained technician to service or to repair the appliance. Installation or repairs that are not performed by an authorized service partner or trained technician, or the use of non-factory authorized parts will void the warranty and relieve Alto-Shaam of all liability.
- When working on this appliance, observe precautions in the literature, on tags, on labels attached to or shipped with the appliance and other safety precautions that may apply.
- If the appliance is installed on casters, freedom of movement of the appliance must be restricted so that utility connections (including gas, water, and electricity) cannot be damaged when the appliance is moved. If the appliance is moved, ensure that all utility connections are properly disconnected. If the appliance is returned to its original position, ensure that retention devices and utility connections are properly connected.
- **Only** use the appliance when it is stationary. Mobile appliance racks, mobile plate racks, transport trolleys, and appliances on casters can tip over when being moved over an uneven floor or threshold and cause serious injury.
- **Always** apply caster brakes on mobile appliances or accessories when these are not being moved. These items could move or roll on uneven floors and cause property damage or serious injury.
- Be extremely careful when moving appliances because the food trays may contain hot fluids that may spill, causing serious injury.
- **Always** open the appliance door very slowly. Escaping hot vapors or steam can cause serious injury or death.
- **Never** place objects near the appliance exhaust vents. This area is hot and could be a potential ignition source for a fire.
- Do not allow objects to block or obstruct the area below the appliance base. This may result in fire, damage to the equipment or serious injury.
- Do not use the attached hand-held hose to spray anything other than the interior of the appliance compartment.
- Do not use the attached hand-held hose on the surface of a hot cooking compartment. The sudden temperature change can damage the appliance interior. Allow the appliance to cool to a minimum of 150°F (66°C). Failure to observe this precaution can void the warranty.

⚠ WARNING

This appliance 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 been given supervision concerning use of the appliance by person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

CAUTION



ALWAYS remove the electronic control boards BEFORE welding any stainless steel components on this appliance. Failure to do so will damage the control boards and may void the warranty.

⚠ WARNING

Improper installation, alteration, adjustment, service, cleaning, or maintenance could result in property damage, severe injury, or death.

Read and understand the installation, operating and maintenance instructions thoroughly before installing, servicing, or operating this equipment.

Installation Codes and Standards

The following codes and standards are required for installation of this appliance: air supply, electrical connections, water connections, and waste water discharge.

NOTICE: Where automatically operated appliances are vented through a ventilating hood or exhaust system equipped with a damper or with a power means of exhaust, provisions shall be made to allow the equipment to operate only when the damper is open to a position to properly vent the appliance and when the power means of exhaust is in operation. **IN ACCORDANCE WITH NFPA 54 COMMONWEALTH OF MASSACHUSETTS ONLY.**

Ventilation Requirements (does not apply to CTX4-10EVH)

A steam ventilation hood is mandatory for the operation of the appliance. Authorities having jurisdiction should be consulted as to the requirements for this equipment with respect to ventilation and fire extinguishing systems to ensure conformity with any Federal, State, or local installation codes.

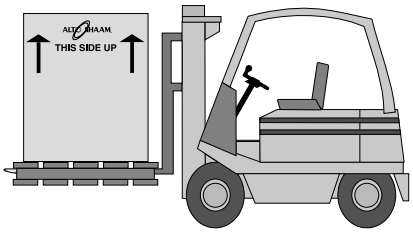
Sound Pressure Measurement

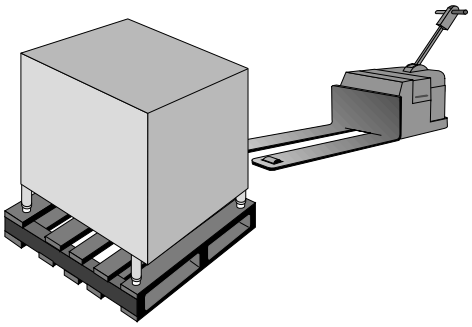
Microphone Position	Sound Pressure Level dBA	
	With ventless hood system operating	With ventless hood system not operating
Front	63.8	59
Right Side	67.5	58
Left Side	69.2	60
Rear	71.9	60

⚠WARNING

To prevent serious injury, death, or property damage:

- ***Always*** keep appliance on top of a pallet when using a fork lift or a pallet lift truck to move appliance.
- ***Always*** use a sufficient number of trained and experienced workers to place the appliance on floor, stand, or counter.





NOTICE:

- Note dimensions required for doorways and aisles for access of the appliance and pallet to the installation site. Transport the appliance in an upright and level position only. Do not tilt the appliance.
- To avoid equipment damage, observe attention label on appliance for area to avoid with lifting fork.

Positioning On Site

Place the Combitherm appliance on a stable, non-combustible, level horizontal floor.

It is strongly recommended that table top models be mounted on a factory supplied stand or a stand that is stable, open, and level. Recommended height is 32" (813mm). **Air supply vents are located at the bottom of the appliance and must not be blocked when mounted on a stand.**

To insure proper operation, the installation of this appliance must be completed by qualified technicians in accordance with the instructions provided in this manual. Failure to follow the instructions provided may result in damage to the appliance, building, or cause personal injury to personnel.

⚠WARNING



To prevent personal injury, death or property damage:

Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

Minimum Clearance Requirements	
Left Side	4" (102mm) minimum 18" (457mm) service access recommended
Right Side	4" (102mm)
Back	4" (102mm) for plumbing
Bottom	4" (102mm) for air movement
Top	20" (508mm) for air movement

NOTICE:

- Additional clearance is needed for service access. A minimum distance of 18" (457mm) is strongly recommended. If adequate service clearance is not provided, it will be necessary to disconnect the water and drain to move the appliance with a fork lift for service access. Charges in connection with inadequate service access is not covered under warranty.
- Do not install directly over a drain. Steam rising up out of the drain will adversely affect operation, interrupt cooling air circulation, and damage electrical and electronic components.

Installation

Lifting Instructions

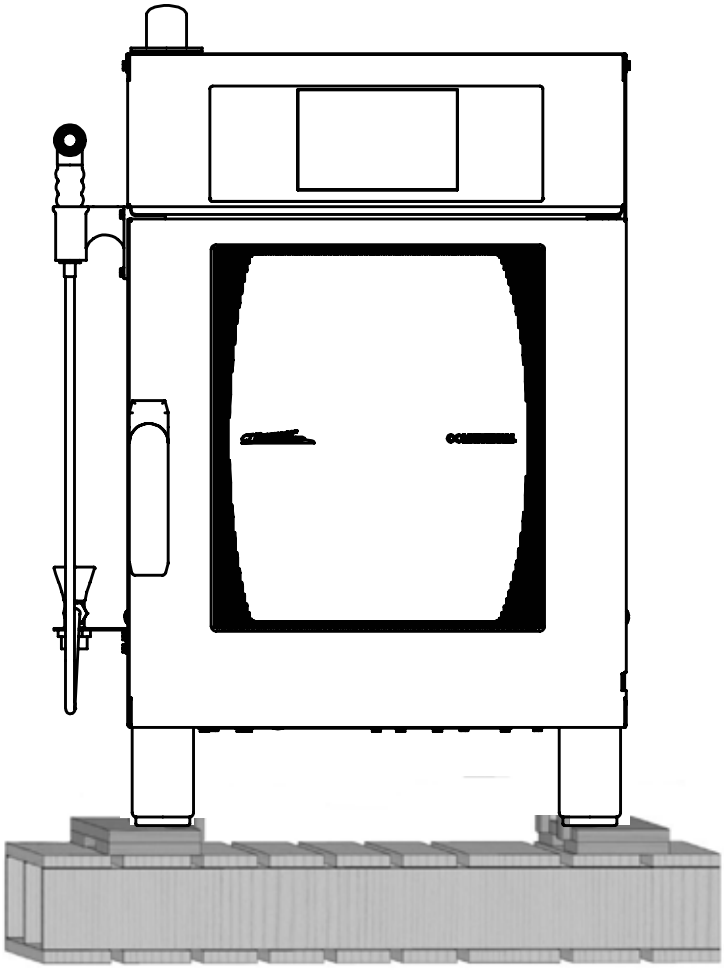
Remove banding before lifting. Lift the appliance from either side of the appliance, **never from the front or back**.

Adjust the forks so that they do not damage any of the components under the appliance. **Air intake vents are located in front of the legs and must not be damaged.**

The left and right fork should be located between the front and back legs and located as close to the legs as possible.

Lift the appliance high enough to remove the wooden pallet. Have a second person hold the appliance to prevent appliance from shifting.

When moving the appliance, drive slowly, keep it low to the ground, and use extreme caution.



⚠CAUTION



Appliance and accessories may be heavy. To prevent serious injury, **always** use a sufficient number of trained and experienced workers when moving or leveling appliance and handling accessories.

Positioning Requirements

☐ In order to ensure proper ventilation, a minimum distance of at least 4" (102mm) must be kept from the sides of the appliance and any adjoining surfaces.

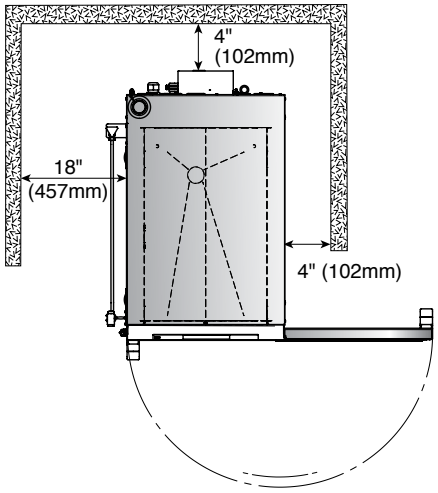
NOTE: Additional clearance is needed for service access. A minimum distance of 18" (457mm) is strongly recommended. If adequate service clearance is not provided, it will be necessary to disconnect the water, and drain to move the appliance with a fork lift for service access. Charges in connection with inadequate service access is not covered under warranty.

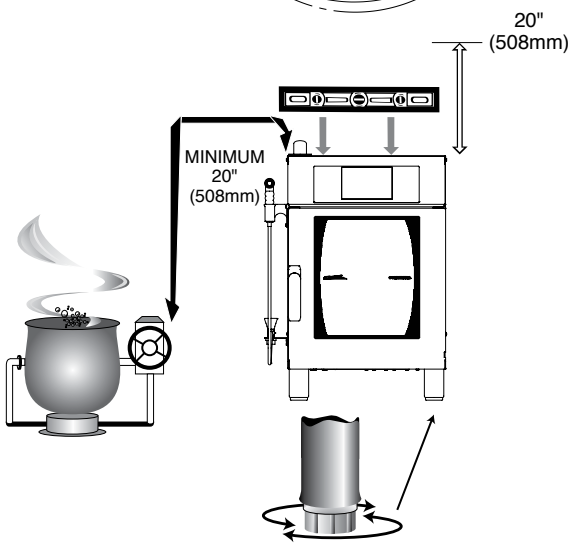
☐ Allow a minimum of 4" (102mm) from the right side of the appliance to allow the door to open to at least a 90° angle. Fully opened, the door will extend up to a 225° angle.

☐ Allow a minimum clearance of 4" (102mm) from the back of the appliance for plumbing connections.

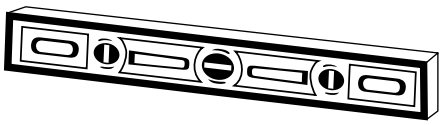
☐ Allow a 20" (508mm) clearance at the top of the appliance for free air movement and for the steam vent(s) located at the top.

☐ Do not install the appliance adjacent to heat producing equipment such as fryers, broilers, etc. Heat from such appliances may cause damage to the controls of the Combitherm. Minimum clearance recommended: 20" (508mm)





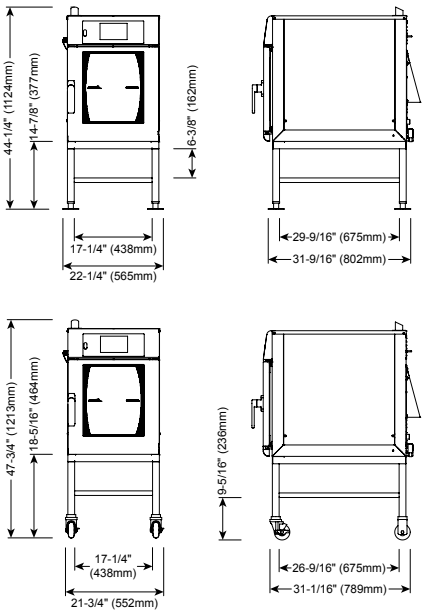
Place the Combitherm appliance on a stable, non-combustible level horizontal surface. For countertop models, the appliance stand must be level. Level from front-to-back and side-to-side by means of the adjustable legs. In addition, the overall height of the appliance should be positioned so the operating controls and shelves may be conveniently reached from the front.



Stand Installation

1) Remove the legs from the CT Express.
2) Carefully lift and set the CT Express on the stand.
3) Position the appliance to make sure the sides and back are positioned flush to the stand. Flush the sides and back of CT Express and stand.
4) Secure the CT Express to the stand in four places with screws and Lock Washers.

The stand has adjustable legs for leveling purposes. Stand legs must be bolted to the floor. Air supply vents are located at the bottom of the appliance and must not be blocked when mounted on a stand.



Installation

Accessories	
☐ Combitherm Cleaning Liquid — specially formulated for Combitherm appliances	
☐ Twelve (12) containers/case, 1 quart (c. 1 liter) each	CE-24750
☐ CombiClean® CombiTabs™ — specially formulated for CTX combitherm appliances	
☐ 90 (0.5 ounce) packets each container	CE-28892
CombiHood® Filters (CTX4-10EVH only)	
☐ Charcoal	FI-24114
☐ Grease	FI-24113
☐ Fry Basket, 12" x 20" (325mm x 530mm)	BS-26730
☐ Grilling Grate, 12" x 20" (325mm x 530mm)	SH-26731
☐ Poultry Roasting Rack: 6 chicken capacity — fits inside full-size pan: 1 rack per appliance	SH-23000
☐ Scale Free™ (citrus based, non-corrosive deliming product)	CE-27889
☐ Service start-up check available through an Alto-Shaam Fasteam Center	Specify As Required
☐ Shelf, stainless steel wire 12" x 20" (325mm x 530mm)	SH-2903
☐ Stacking Kit, mounting on top of a 750-S, 750-TH-II, 750-TH/III, 1000-S, 1000-TH-II, or 1000-TH/III	5019679
☐ Stacking Kit, mounting on top of Quickchiller™ QC2-3 or QC2-20 without backsplash	5015781
Stand, stainless steel (H x W x D)	
☐ Stationary with double shelf, for single appliances only (overall height without hood = 65-1/4" [1658mm]) 35-13/16" x 22-1/4" x 31-9/16" (910mm x 565mm x 802mm)	5014985
☐ Mobile with single shelf, for single units only (overall height without hood = 47-3/4" [1213mm]) 18-5/16" x 21-3/4" x 31-1/16" (464mm x 552mm x 789mm)	5014738
☐ Stationary with single shelf, ideal for two stacked units (overall height = 75-13/16" [1926mm]) 14-5/8" x 22-1/4" x 31-9/16" (371mm x 565mm x 802mm)	5014737
☐ Stationary with single shelf to hold 300-TH/III or 300-S, (overall height = 77-1/4" [1962mm]) 35-13/16" x 23-3/4" x 31-9/16" (910mm x 603mm x 802mm)	5014986
Wood Chips — bulk pack 20 lb (9 kg)	
☐ Apple ..... WC-22543 ☐ Cherry ..... WC-22541 ☐ Hickory ..... WC-2829 ☐ Maple WC-22545	



Fry Basket BS-26730



Grilling Grate SH-26731



Scale Free™ CE-27889

New Construction

Designer/Consultant Responsibilities: *Pre-Installation*	
	Complete water analysis to be conducted to ensure water quality meets manufacture specifications.
	Proper floor drain within 3' (914mm), not directly underneath, of where the appliance is to be installed.
	Minimum of one (1) 3/4" cold water supply line—two (2) recommended—with 3/4" shut off valve installed ahead of a minimum of two (2) 3/4" NPT connections.
	Gas appliances require one 3/4" line within 3' (914mm) of the appliance equipped with a manual shut off, and ready to be hooked to a 3/4" quick disconnect hose.
	Vent hood, and possible interconnection with gas supply as determined by local code.
	Proper electrical voltage, phase, wire size, breaker size, and disconnects are provided for hook ups within 3' (914mm) of the appliance.
	Exhaust air for gas appliances, exhaust hood, ventilation ceiling, chimney, spacing from top edge of appliance to lower edge of grease filters/ceiling.
	If floor is to be sloped then level surface must be provided for trolley/cart appliances.
	Confirm clearances of hallways, and doors to the installation area are sufficient for the model of the appliance being installed.
Installer Responsibilities: *Pre-Installation*	
	Pre-Installation check sheet has been properly filled out.
	Inspect, receive, deliver, uncrate, and set appliance in place.
Installer Responsibilities: *Installation*	
	Check that the appliance is level. Follow leveling instructions found in the installation manual.
	Make final water connections to both 3/4" cold water lines with required 30 psi minimum dynamic and 90 psi maximum static (2.1–6.3 bar) making sure treated and untreated are hooked up properly to the correct fittings.
	Hook up final electrical, check for proper voltage, phase, wire size, and breaker size. Ground fault or residual current protection device must accommodate a leakage current of 20mA. Report any issues to the designer / consultant.
	Plumb in the appliance drain per the required specifications found in the installation manual.
	Ensure gas pressure is above minimum and below maximum pressures listed in the installation manual for the corresponding gas type.
	Check that all accessories are unpackaged and set up for the end user.
	Ensure combi appliance is properly fastened to the ground, or has a restraint installed if on casters.
	Test that the CombiOven is fully operational, report any issues or manufacturing defects.
	Ensure most current software is installed.
	Pick up any packaging trash and debris from the installation.
	Clean and wipe down the outside of the appliance and make presentable to the end user.
	Take pictures of the installation verifying proper drain, water lines, and clearances are met.
ASA Responsibilities: *After Install*	
	Perform mechanical startup.
	Complete post installation check sheet.
	Pictures of the install's electrical connections, water, drain, and clearances should be taken and sent to: installation_program@alto-shaam.com
RSP/Dealer: *After Install*	
	Confirm installation is correct.
	Provide operational training and demonstration, and contact information for post installation support.
	Verify warranty registration documentation has been submitted.
Customer/End User	
	Complete and submit warranty registration documentation: www.alto-shaam.com/warranty
	Use the appliance only for its intended purpose.
	Follow cleaning and planned maintenance schedules to maximize the life of the equipment.

Installation

Retro Fit/Existing Kitchen

Designer/Consultant Responsibilities: *Pre-Installation*	
	Complete water analysis to be conducted to ensure water quality meets manufacture specifications.
	Proper floor drain within 3' (914mm), not directly underneath, of where the appliance is to be installed.
	Minimum of one (1) 3/4" cold water supply line—two (2) recommended—with 3/4" shut off valve installed ahead of a minimum of two (2) 3/4" NPT connections.
	Gas appliances require one 3/4" line within 3' (914mm) of the appliance equipped with a manual shut off, and ready to be hooked to a 3/4" quick disconnect hose.
	Proper vent hood is installed, and possible interconnection with gas supply per by local code.
	Proper electrical voltage, phase, wire size, breaker size, and disconnects are provided for hook ups within 3' (914mm) of the appliance.
	Exhaust air for gas appliances, exhaust hood, ventilation ceiling, chimney, spacing from top edge of appliance to lower edge of grease filters/ceiling.
	If floor is to be sloped then level surface must be provided for trolley/cart appliances.
	Confirm clearances of hallways, and doors to the installation area are sufficient for the model of the appliance being installed.
Installer Responsibilities: *Pre-Installation*	
	Pre-Installation check sheet has been properly filled out.
Installer Responsibilities: *Installation*	
	Inspect, receive, deliver, uncrate, set appliance in place, and check that appliance is level.
	Make final water connections to 3/4" cold water lines with required 30 psi minimum dynamic and 90 psi maximum static (2.1–6.3 bar) making sure treated and untreated are hooked up properly to the right fittings.
	Hook up final electrical, check for proper voltage, phase, wire size, and breaker size. Ground fault or residual current protection device must accommodate a leakage current of 20mA. Report any issues to the designer / consultant.
	Plumb in the appliance steam resistant drain per manufactures required specifications as found in the installation manual.
	Ensure gas pressure is above minimum and below maximum pressures listed in the installation manual for the corresponding gas type.
	Check that all accessories are unpackaged and set up for the end user.
	Ensure Combi appliance is properly fastened to the ground, or has a restraint installed if on casters.
	Ensure most current software is installed / uploaded.
	Verify installation meets the manufacture specifications per the installation manual.
	Test that the Combi appliance is fully operational, report any issues or manufacturing defects.
	Pick up any packaging trash and debris from the installation.
	Clean and wipe down the outside of the appliance and make presentable to the end user.
	Take pictures of the installation verifying proper drain, water lines, and clearances are met.
ASA Responsibilities: *After Install*	
	Perform mechanical startup.
	Complete post installation check sheet.
	Pictures of the install's electrical connections, water, drain, and clearances should be taken and sent to: installation_program@alto-shaam.com
RSP/Dealer: *After Install*	
	Confirm installation is correct.
	Provide operational training and demonstration, and contact information for post installation support.
	Verify warranty registration documentation has been submitted.
Customer/End User	
	Complete and submit warranty registration documentation.
	Use the appliance only for its intended purpose.
	Follow cleaning and planned maintenance schedules to maximize the life of the equipment.

Pre-Installation Checklist

Location Information

Location Name: _____ **Site Contact Name:** _____

Location Street Address: _____ **Site Contact Phone No.:** _____

Location City: _____ **Site Contact Email:** _____

Location State: _____ **Zip:** _____

Pre-Installation Company Information

Company Name: _____ **Technician Name:** _____

Mailing Address: _____ **Technician Phone No.:** _____

City: _____ **Contact Email:** _____

State: _____ **Zip:** _____

Number of combis to be installed							
Model number(s) of combi's to be installed							
Serial number of combi's to be installed							

Clearance								
Measure door/entry way clearance (smallest dimension)					PASS		FAIL	
Measure path clearance (smallest dimension)					PASS		FAIL	
Elevator opening, if applicable (smallest dimension)					PASS		FAIL	
Elevator interior dimensions, if applicable (HxWxD)					PASS		FAIL	
Appliance clearance	Right side				PASS		FAIL	
	Left side				PASS		FAIL	
	Rear				PASS		FAIL	
	Top				PASS		FAIL	
Based on the appliances designated spot in the kitchen, would the appliance be accessible for service?		YES			NO			
If NO, comment on the issue:								
Water Supply								
Is there at least one 3/4" cold water supply line within 3 feet of where each appliance will be installed?		PASS		FAIL: DESCRIBE ISSUE				
Do water supply line(s) have shut-off(s) exclusively for each oven?		PASS		FAIL: DESCRIBE ISSUE				
Do water supply line(s) provide a total two hookups per appliance, terminated with male NPT fitings?		PASS		FAIL: DESCRIBE ISSUE				
Is the dynamic water pressure from the 3/4" cold water supply line a minimum of 30 psi for each appliance?		PASS		FAIL		UNKNOWN		
Is the static water pressure from the 3/4" cold water supply line less than 90 psi for each appliance?		PASS		FAIL		UNKNOWN		
Is water treatment (RO blend system, filter, etc.) being used?		YES		NO		UNKNOWN		
	If YES - Note the system here:	BRAND NAME				MODEL		
Can the site contact provide evidence that a documented water analysis has been performed?		YES				NO		

Installation

Pre-Installation Checklist

Electrical								
What is the rated voltage and phase of the appliance(s) to be installed?	VOLTAGE				PHASE			
What is the measured voltage at the site?	L1-N		L2-N		L3-N		L1-L2	
	L2-3		L1-L3		PASS		FAIL	
What is the current draw of the appliance(s) to be installed?	AMP RATING							
What is the on-site breaker size supplying power to the appliance(s)?	SIZE				PASS		FAIL	
Is there a disconnect or junction box within 3' (914mm) of where the appliance(s) will be installed?	PASS		FAIL					
Comments:								
Gas								
What is the gas type for the appliance(s) to be installed?	NATURAL				PROPANE			
What is the gas type confirmed at installation site?	NAT		PRO		PASS		FAIL	
Is there a minimum of one 3/4" gas supply line within 3' (914mm) of where the appliance(s) will be installed?	PASS		FAIL					
On the gas line, is there a 3/4" NPT pipe connection with a shut-off valve within 3' (914mm) of where the appliance(s) will be installed?	PASS		FAIL					
Comments:								
Drain								
Is there a floor drain within 3' (914mm) of where the appliance(s) will be installed?	PASS		FAIL					
What is the actual distance to the floor drain from where the appliance(s) will be installed?	MEASUREMENT				PASS		FAIL	
Is the floor drain going to be located underneath the appliance(s) that will be installed? (The drain should **not** be located directly under the appliance — a No answer would = PASS)	PASS		FAIL					
Comments:								
Other Site Information								
Is there a proper ventilation hood installed above where the appliance(s) will be installed?	PASS		FAIL					
Does the designated location for the appliance have a level surface, i.e., no more than 1.5" (38mm) change in elevation from its highest to lowest surface point?	PASS		FAIL					
Is the site 100% ready for appliance(s) installation?	PASS		FAIL					
Is site action required?	PASS		FAIL					
Action Required:								
Comments:								

Post-Installation Checklist

Location Information

Location Name: _____ **Site Contact Name:** _____

Location Street Address: _____ **Site Contact Phone No.:** _____

Location City: _____ **Site Contact Email:** _____

Location State: _____ **Zip:** _____

Post-Installation Company Information

Company Name: _____ **Technician Name:** _____

Mailing Address: _____ **Technician Phone No.:** _____

City: _____ **Contact Email:** _____

State: _____ **Zip:** _____

Model number(s) of combi's installed				
Serial number of combi's installed				

Clearance							
Appliance clearance	Right side			PASS		FAIL	
	Left side			PASS		FAIL	
	Rear			PASS		FAIL	
	Top			PASS		FAIL	
Is the appliance accessible for service?		YES		NO			
If NO, comment on the issue:							
Other comments:							
Water Supply							
Have all Y1/Y3 water lines been connected to water supply (treated/filtered line, if provided)?		PASS		FAIL			
Have all Y2/Y4 water lines been connected to water supply?		PASS		FAIL			
Do water supply line(s) have shut-off(s) exclusively for each appliance?		PASS		FAIL			
Is the dynamic water pressure from the 3/4" cold water supply line a minimum of 30 psi for each appliance?		PASS		FAIL		UNKNOWN	
Is the static water pressure from the 3/4" cold water supply line less than 90 psi for each appliance?		PASS		FAIL		UNKNOWN	
Is water treatment (RO blend system, filter, etc.) being used?		YES		NO		TYPE	
If YES - Note the system here:	BRAND NAME					MODEL	
Are all exterior water connections tight?		YES				NO	
Are all interior water connections tight prior to operation?		YES				NO	
Are there any exterior water leaks after operation?		YES				NO	
Are there any interior water leaks after operation?		YES				NO	
Comments:							

Installation

Post-Installation Checklist

Electrical								
What is the rated voltage and phase of the appliance(s) installed?	VOLTAGE				PHASE			
Is the wire size for the main incoming power to the appliance(s) in accordance with the minimum size listed in the specification sheet for this specific appliance?	PASS		FAIL					
What is the measured voltage at site?	L1-N		L2-N		L3-N		L1-L2	
	L2-3		L1-L3		PASS		FAIL	
What is the current draw of the appliance(s) to be supplied?	AMP RATING							
What is the on-site breaker size supplying power to the appliance(s)?	SIZE				PASS		FAIL	
Is there a disconnect or junction box within 3' (914mm) of where the appliance(s) will be installed?	PASS		FAIL					
Comments:								
Gas								
Does the gas supply match the information listed on the nameplate of the appliance(s)?	PASS		FAIL					
What is the rated gas supply type?	NAT		PRO					
What is the actual gas supply type?	NAT		PRO					
Is the gas supply piping, water hose lines, electrical support cord and/or receptacle routed away from the path of any hot combustion pipes or fumes?	PASS		FAIL					
Comments:								
Drain								
What type of material was used for the drain?								
Does the vertical drain vent extend above the appliance exhaust opening at the rear of the appliance?	PASS		FAIL					
Is there a vertical vent within 12" (305mm) of the appliance drain?	PASS		FAIL					
Is there an air gap installed at the end of the drain run?	PASS		FAIL		SIZE			
Is the drain piped with a positive descending slope?	PASS		FAIL					
If the appliance has a ventless hood (appliance model name ending in “EVH”), has the ventless hood drain been plumbed along with the appliance main drain.	PASS		FAIL					
Comments:								
Other Site Information								
Is there a proper ventilation hood installed above the location of the appliance(s)?	PASS		FAIL					
Is the appliance level according to leveling instructions in the installation manual?	PASS		FAIL					
Comments:								

Function Test Checklist

Wire Connections				
Behind the left side panel, check and tighten all electrical connections, and tighten all electrical screws.				
Behind the left side panel, check and tighten all electrical screws.				
Behind the control panel, check and tighten all connections on the control board.				
Behind the control panel, check and tighten all connections on the options board.				
Behind the control panel, check and tighten all connections on the interface board.				
Check that the SD card is fully inserted into the interface board.				
Comments:				
Gas Appliances				
With the burner on, check the following:				
Static gas pressure at gas valve must be less than 14" W.C.				
Dynamic gas pressure at gas valve must be greater than 5.5" W.C. for NG; 9" W.C. for propane				
CO_2 flue gas analysis				
Were burner adjustments required?	YES		NO	
If YES, Record CO_2 values				
CTP/CTC Appliance Function Test				
Cycle Y1 - Operation fill/Steam injection	YES		NO	
Dynamic water pressure with Y1	MEASURE			
Cycle Y2 - Operation condensate cooling valve	YES		NO	
Dynamic water pressure with Y2	MEASURE			
Cycle Y3 - Operation rinse solenoid valve	YES		NO	
Dynamic water pressure with Y3	MEASURE			
Cycle appliance in steam mode at 212° Fahrenheit (100° Celsius) for 10 minutes. Did the appliance perform correctly?	PASS		FAIL	
Record amperage at all phases:	L1		L2	
	L3			
During the cycle, check CTP motor rotation: 3 minutes clockwise - break - 3 minutes counter-clockwise	PASS		FAIL	
Cycle appliance in convection mode at 350° Fahrenheit (175° Celsius) for 10 minutes. Did it perform correctly?	PASS		FAIL	
Record amperage at all phases:	L1		L2	
	L3			
Cycle appliance in combination mode at 400° Fahrenheit (205° Celsius) for 10 minutes. Did it perform correctly?	PASS		FAIL	
Record amperage at all phases:	L1		L2	
	L3			
Check motor rotation for CTC models. Note: Arrows on the motor housing indicate proper rotation.	PASS		FAIL	
Check all lines and connections for leaks, both inside and outside of the combi appliance.	PASS		FAIL	

Installation

Function Test Checklist

Installation Complete				
Cleanup job site				
Wipe down and clean exterior of combi appliance				
Picture of screen displaying current software versions				
Picture(s) of complete drain run				
Picture of water connections at combi appliance				
Picture of gas line and connections at combi appliance				
Picture of appliance in place with surrounding equipment				
Are water supply lines 3/4" inside diameter?	YES		NO	
Size of treated water line:				
Size of untreated water line:				

CT Express™ Checklist

Use this list as a final check of appliance installation conformance.

Damage directly attributed to improper set up, installation, or cleaning can invalidate warranty claims.

Clearances:

Left: 4" (102mm) — 18" (457mm) recommended service access
8" (203mm) from heat or steam producing equipment

Right: 4" (102mm) non-combustible surfaces

Rear: 4" (102mm) for plumbing

Top: 20" (508mm) for air movement Bottom: 4" (102mm) for air movement

Are all clearance requirements met? ☐ Yes ☐ No

If no, explain: _____

_____

Water Supply And Drains:

Verify hook up of two (2) cold water lines: treated and untreated water with a 3/4" (19mm) G inside diameter connection supply line. Verify inlet water pressure is at a minimum of 30 PSI (200 kPa) dynamic. Maximum water pressure is not to exceed 90 PSI (600 kPa) static. Verify drain diameter of 1-1/2" (40mm) with a positive descending slope, and with a 2" (51mm) air gap which is free of obstructions before connection to the site drain. Verify 1/8" (3.2mm) pitch to 10' (305cm) of drain line. Materials must withstand temperatures up to 200°F (93°C).

Are both water supply lines properly connected? ☐ Yes ☐ No

If no, explain: _____

Is a filter system installed on this appliance? ☐ Yes ☐ No

Store has seen this recommendation: ☐ Yes ☐ No

Signature of store representative:

_____

NOTICE: Alto-Shaam has listed Water Quality Requirements in the installation manual for this equipment. It is the responsibility of the end user to have the water connected to this appliance tested to ensure these standards are met before putting the appliance into use. Failure to meet these standards will void the warranty if damage to the appliance is found to be related to water quality.

☐ Inspect water connections inside the combi.

☐ Check all lines and connections for leaks, both inside and outside the combi.

Electrical Connections:

Verify electrical power requirements for appliance.
Verify voltage at terminal block.
Check all terminals for tightness.

Voltage: _____

Phase: _____

Breaker size: _____

Line voltage at terminal block (to ground):

Line 1: _____ Line 2: _____ Line 3: _____

Line voltage (phase to phase): Line 1 to 2: _____

Line 2 to 3: _____

Line 3 to 1: _____

Electrical supply line size: _____

All electrical terminals tight: ☐ Yes ☐ No

Control Board Connections & Operation:

ExpressTouch: With the power on, press the Tool Box icon, then the Settings icon to access software version in the upper left corner.

Record software version: RB_____ DB_____

All board connections tight: ☐ Yes ☐ No

All functions are displayed: ☐ Yes ☐ No

All functions on control operate: ☐ Yes ☐ No

Appliance operates in all modes: ☐ Yes ☐ No

If no, explain: _____

_____

Physical Condition: *Reference installation instructions for complete information ✓

Bottom of appliance has been checked for damage due to improper positioning on site ..... ☐

Verify all gaskets and hoses are in place and function properly ..... ☐

Verify the installation of drip pans*, racks, shelves, drain screen, spray hose* ..... ☐

Verify the appliance is level and installed on a solid, water resistant surface ..... ☐

Service Agency:	Start-Up Date:
	Installation Name:
Model No.:	Serial No.:
Tech Signature:	Customer Signature:

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Mobile Equipment Restraint

Any appliance that is not furnished with a power supply cord but includes a set of casters, stand with casters, or a stacked configuration must be installed with a tether. Adequate means must be provided to limit the movement of this appliance without depending on or transmitting stress to the electrical conduit. The following requirements apply:

1. Casters must be a maximum height of 6" (152mm).
2. Two of the casters must be the locking type.
3. Such appliances must be installed with the use of a flexible connector secured to the building structure.
4. Each of the stacked appliances must be installed with the use of a flexible connector secured to the building structure. A single wall anchor may be used.

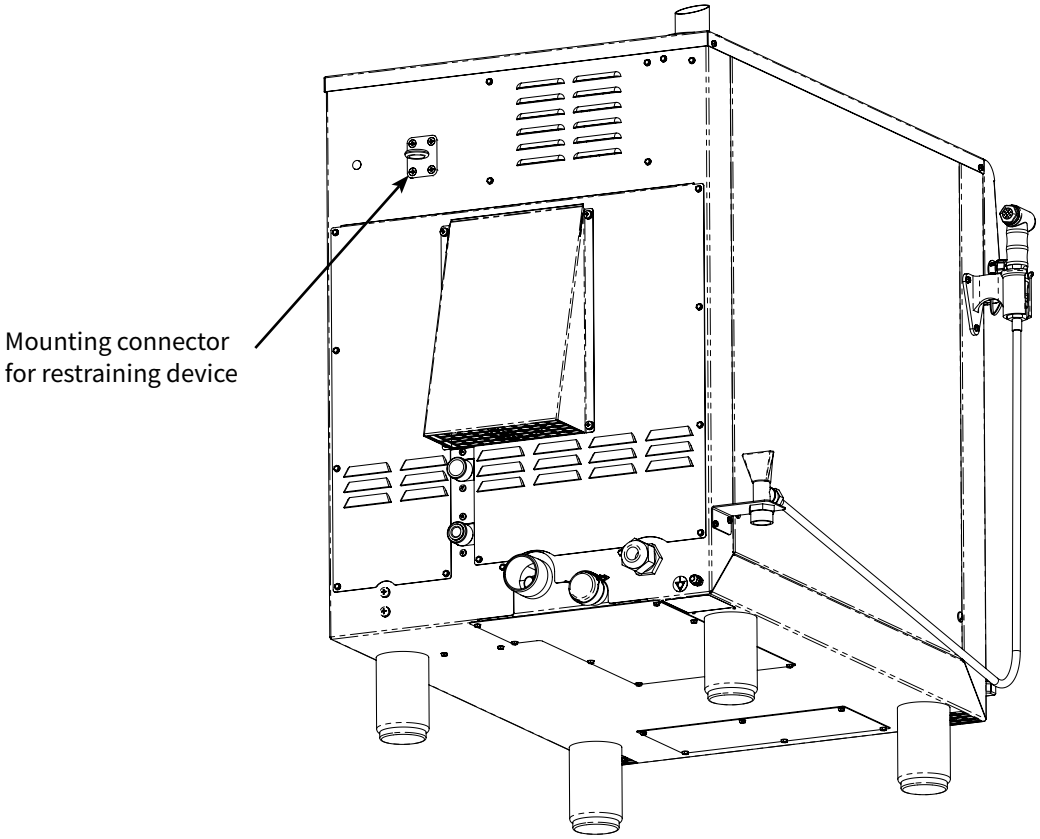
A mounting connector for a restraining device is located on the top right back panel of the appliance chassis or on an appliance stand, approximately 18" (457mm) from the floor. A flexible connector is not supplied by nor is it available from the factory.

⚠ WARNING



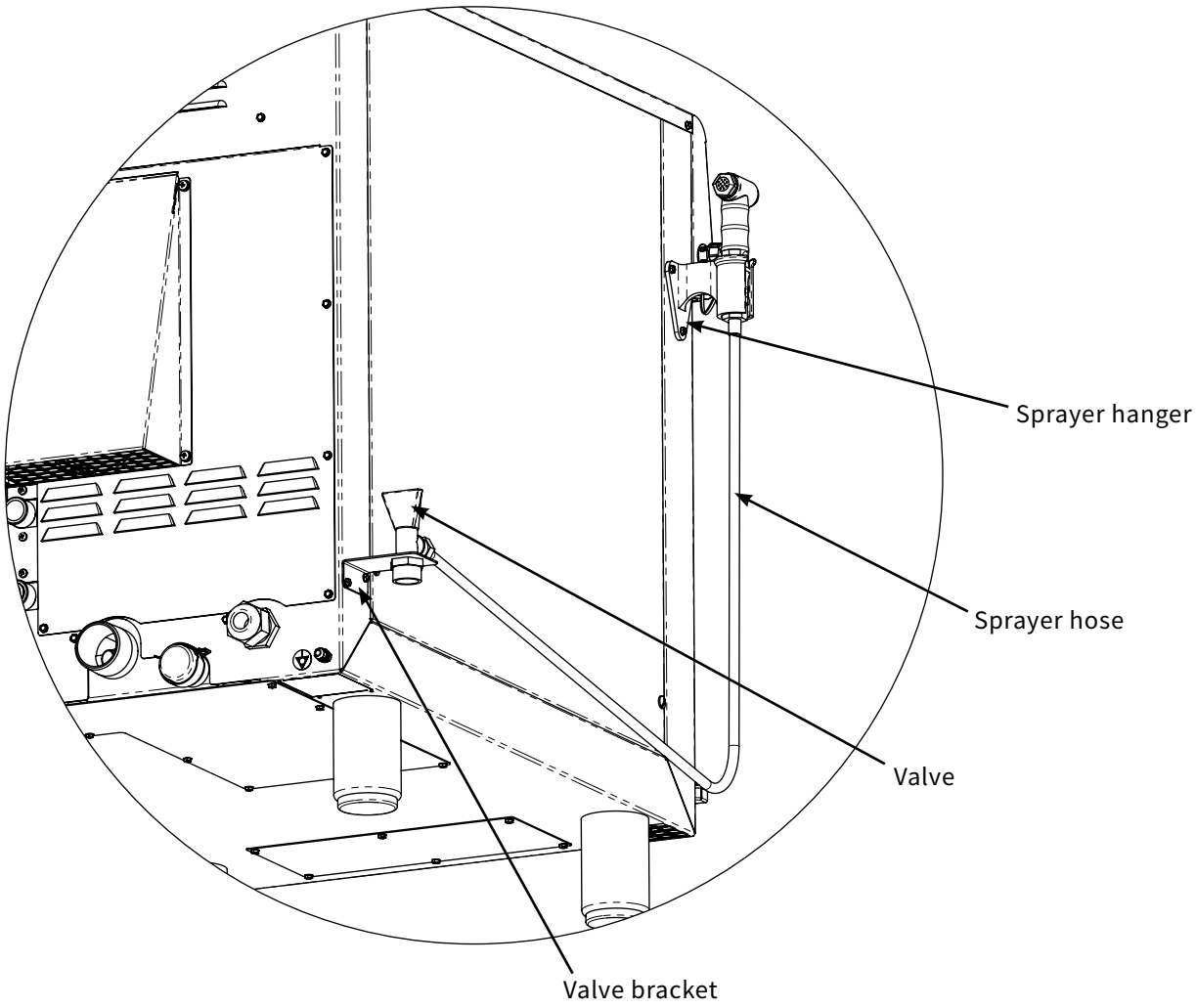
RISK OF ELECTRIC SHOCK.

Appliance must be secured to building structure. Failure to observe this precaution may result in damage to the equipment and severe personal injury.



Installation

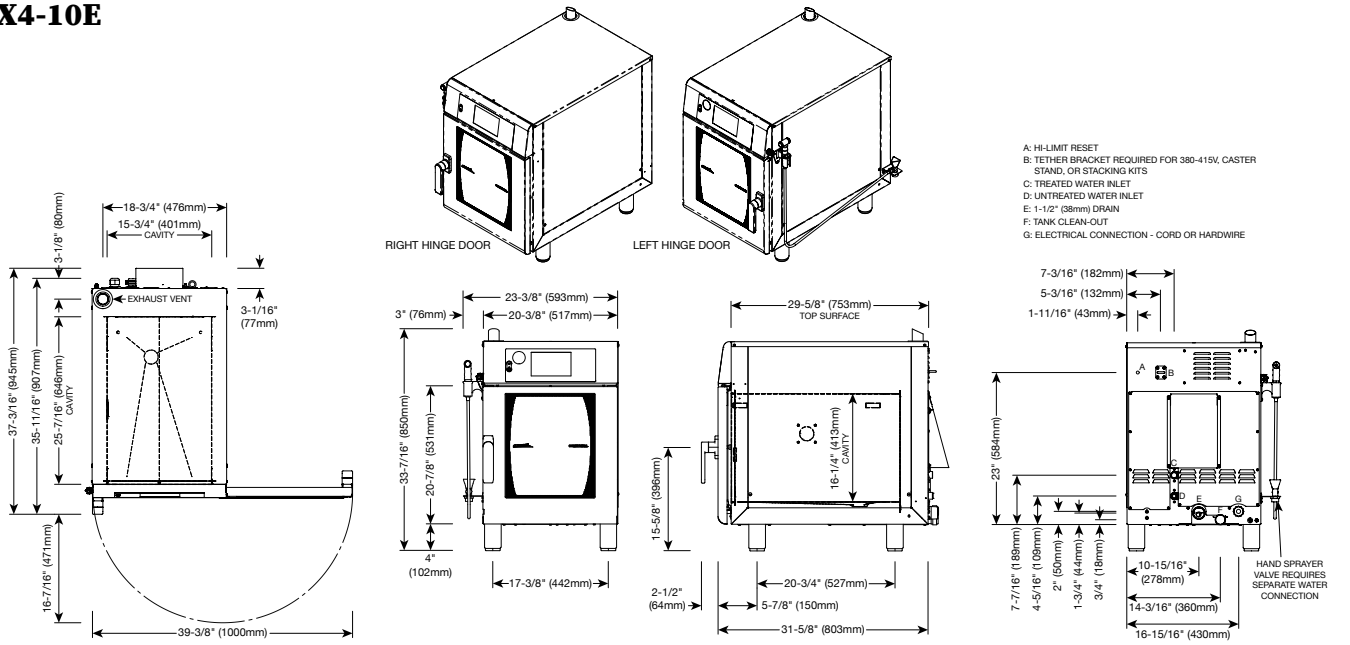
Hand-Held Spray Hose



Installation

1. Two pre-drilled holes with screws in place are located at the lower rear side of the appliance (same side as door opening). Remove screws, position valve bracket and attach using the 2 supplied screws.
2. Three pre-drilled holes with screws in place are located at the upper front side of appliance (same side as door opening). Remove screws, position sprayer hanger and fasten using the 3 supplied screws.
3. Connect the sprayer hose to the valve and place the sprayer in the hanger.
4. Continue to connect an incoming water supply line to the valve.

CTX4-10E



c UL us LISTED
COOKING APPLIANCE 584m

ANSI/NSF 4

IP X4

DIMENSIONS: H x W x D

EXTERIOR:
33-7/16" x 20-3/8" x 37-3/16" (850mm x 517mm x 945mm)

EXTERIOR WITH HAND-HELD SPRAYER:
33-7/16" x 23-3/8" x 37-3/16" (850mm x 593mm x 945mm)

WATER REQUIREMENTS

THREE (3) COLD WATER INLETS - DRINKING QUALITY

ONE (1) TREATED WATER INLET: 3/4" G-style

TWO (2) UNTREATED WATER INLET: (1) 3/4" G-style; (1) 3/4" GHT for hand-held sprayer

LINE PRESSURE: 30 psi minimum dynamic and 90 psi maximum static (200 to 600 kPa)

WATER DRAIN: 1-1/2" (40mm) CONNECTION WITH A VERTICAL VENT TO EXTEND ABOVE THE EXHAUST VENT. MATERIALS MUST WITHSTAND TEMPERATURES UP TO 200°F (93°C).

CLEARANCE REQUIREMENTS

LEFT:	4" (102mm)	18" (457mm) RECOMMENDED SERVICE ACCESS	
RIGHT:	4" (102mm) NON-COMBUSTIBLE SURFACES		
TOP:	20" (508mm) FOR AIR MOVEMENT		
REAR:	4" (102mm)	**BOTTOM:**	4" (102mm) FOR AIR MOVEMENT

INSTALLATION REQUIREMENTS

- Appliance must be installed level.
- Hood installation is required.
- Water supply shut-off valve and back-flow preventer when required by local code.

WATER QUALITY STANDARDS

It is the sole responsibility of the owner/operator/purchaser of this equipment to verify that the incoming water supply is comprehensively tested and if required, a means of "water treatment" provided that would meet compliance requirements with the published water quality standards shown below. Non-compliance with these minimum standards will potentially damage this equipment and/or components and void the original equipment manufacturer's warranty. Alto-Shaam recommends using OptiPure® [www.optipurewater.com] products to properly treat your water.

Contaminant	Inlet Water Requirements
Free Chlorine	Less than 0.1 ppm (mg/L)
Hardness	30–70 ppm
Chloride	Less than 30 ppm (mg/L)
pH	7.0 to 8.5
Silica	Less than 12 ppm (mg/L)
Total Dissolved Solids (tds)	50–125 ppm

ELECTRICAL (DEDICATED CIRCUIT REQUIRED)

✎ GROUND FAULT OR RESIDUAL CURRENT PROTECTION DEVICE MUST ACCOMMODATE A LEAKAGE CURRENT OF 20mA

MODEL	VOLTAGE	PH	HZ	AMPS	kW	AWG	CORD & PLUG	CombiSmoker® Additional kW
CTX4-10E	✎ 208	1	60	22.5	4.68	—	NEMA L6-30P - US ONLY	+ .52 kW
	240	1	60	25.5	6.12	8	NO CORD OR PLUG	+ .69 kW
	208 – 240	3	60	15.0 – 18.0	5.4 – 7.48	10	NO CORD OR PLUG	+ .69 kW
	208 – 240	1	50	22.5 – 25.5	4.68 – 6.12	—	8/3 CORD, NO PLUG	+ .69 kW
	220 – 240	1	50/60	24.0 – 25.5	5.28 – 6.41	8	NO CORD OR PLUG	+ .69 kW
	380 – 415	3	50/60	9.0 – 10.0	6.3 – 7.48	10	NO CORD OR PLUG	+ .69 kW

EAC CE

WEIGHT			PAN CAPACITY		STANDARD MODEL	WITH COMBISMOKER® OPTION
NET	180 lb EST	82 kg	FULL–SIZE:	20" x 12" x 2-1/2"	Five (5)†	Four (4)
			GN 1/1:	530 x 325 x 65mm	Five (5)†	Four (4)
SHIP	310 lb*	141 kg*	GN 1/1:	530 x 325 x 20mm	Ten (10)†	Eight (8)
			**HALF–SIZE SHEET:	18" x 13" x 1"	Ten (10)†	Eight (8)

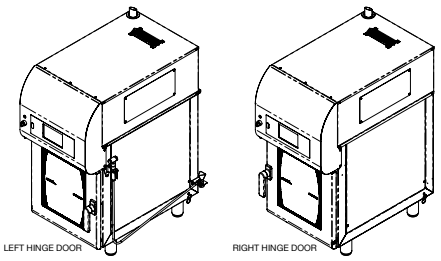
SHIP DIMENSIONS	PRODUCT CAPACITY	
(L x W x H) 37" x 42" x 45"*	PRODUCT MAXIMUM	48 lb (22 kg)
(940 x 1067 x 1143mm)*	VOLUME MAXIMUM	30 quarts (38 liters)

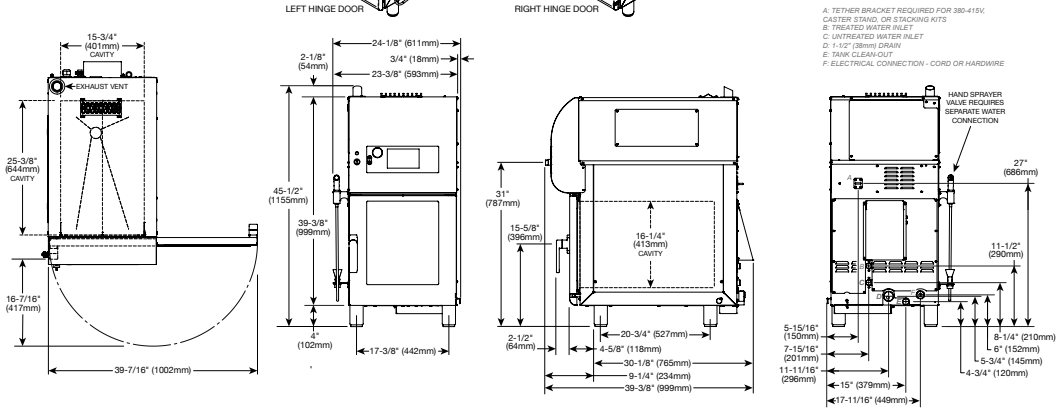
*DOMESTIC GROUND SHIPPING INFORMATION. CONTACT FACTORY FOR EXPORT WEIGHT AND DIMENSIONS.

**ON WIRE SHELVES ONLY. ADDITIONAL WIRE SHELVES REQUIRED FOR MAXIMUM CAPACITY
†CAPACITY WITHOUT BROILER ELEMENT OPTION

Dimensions

CTX4-10EVH





c UL us LISTED — COOKING APPLIANCE WITH INTEGRAL SYSTEMS FOR LIMITING THE EMISSION OF GREASE LADEN AIR 1exa

ANSI/NSF 4

IP X4

DIMENSIONS: H x W x D
EXTERIOR: 45-7/16" x 20-1/2" x 39-5/16" (1155mm x 519mm x 998mm)
EXTERIOR WITH HAND-HELD SPRAYER: 45-7/16" x 23-3/8" x 39-5/16" (1155mm x 594mm x 998mm)

WATER REQUIREMENTS

THREE (3) COLD WATER INLETS - DRINKING QUALITY

ONE (1) TREATED WATER INLET: 3/4" G-style
TWO (2) UNTREATED WATER INLETS: (1) 3/4" G-style; (1) 3/4" GHT for hand-held sprayer
LINE PRESSURE: 30 psi minimum dynamic and 90 psi maximum static (200 to 600 kPa)
WATER DRAIN: 1-1/2" (40mm) CONNECTION WITH A VERTICAL VENT TO EXTEND ABOVE THE EXHAUST VENT. MATERIALS MUST WITHSTAND TEMPERATURES UP TO 200°F (93°C).

CLEARANCE REQUIREMENTS

LEFT:	16-1/4" (413mm) FOR HOOD FILTER SERVICE	18" (457mm) RECOMMENDED SERVICE ACCESS	
RIGHT:	4" (102mm) NON-COMBUSTIBLE SURFACES		
TOP:	20" (508mm) FOR AIR MOVEMENT		
REAR:	4" (102mm)	**BOTTOM:**	4" (102mm) FOR AIR MOVEMENT

INSTALLATION REQUIREMENTS

- Appliance must be installed level.
- Water supply shut-off valve and back-flow preventer when required by local code.

WATER QUALITY STANDARDS

It is the sole responsibility of the owner/operator/purchaser of this equipment to verify that the incoming water supply is comprehensively tested and if required, a means of "water treatment" provided that would meet compliance requirements with the published water quality standards shown below. Non-compliance with these minimum standards will potentially damage this equipment and/or components and void the original equipment manufacturer's warranty. Alto-Shaam recommends using OptiPure® [www.optipurewater.com] products to properly treat your water.

Contaminant	Inlet Water Requirements
Free Chlorine	Less than 0.1 ppm (mg/L)
Hardness	30–70 ppm
Chloride	Less than 30 ppm (mg/L)
pH	7.0 to 8.5
Silica	Less than 12 ppm (mg/L)
Total Dissolved Solids (tds)	50–125 ppm

ELECTRICAL (DEDICATED CIRCUIT REQUIRED)

✎ GROUND FAULT OR RESIDUAL CURRENT PROTECTION DEVICE MUST ACCOMMODATE A LEAKAGE CURRENT OF 20mA

MODEL	VOLTAGE	PH	HZ	AMPS	kW	AWG	CORD & PLUG
CTX4-10EVH	✎ 208	1	60	23.4	4.87	—	NEMA L6-30P - US ONLY
	240	1	60	26.3	6.31	8	NO CORD OR PLUG
	208 – 240	3	60	15.9 – 18.8	5.59 – 7.67	10	NO CORD OR PLUG
	208 – 240	1	60	23.4 – 26.3	4.87 – 6.31	—	8/3 CORD, NO PLUG
	220 – 240	1	50/60	24.9 – 26.3	5.47 – 6.60	8	NO CORD OR PLUG
	380 – 415	3	50/60	9.8 – 10.8	6.49 – 7.67	10	NO CORD OR PLUG

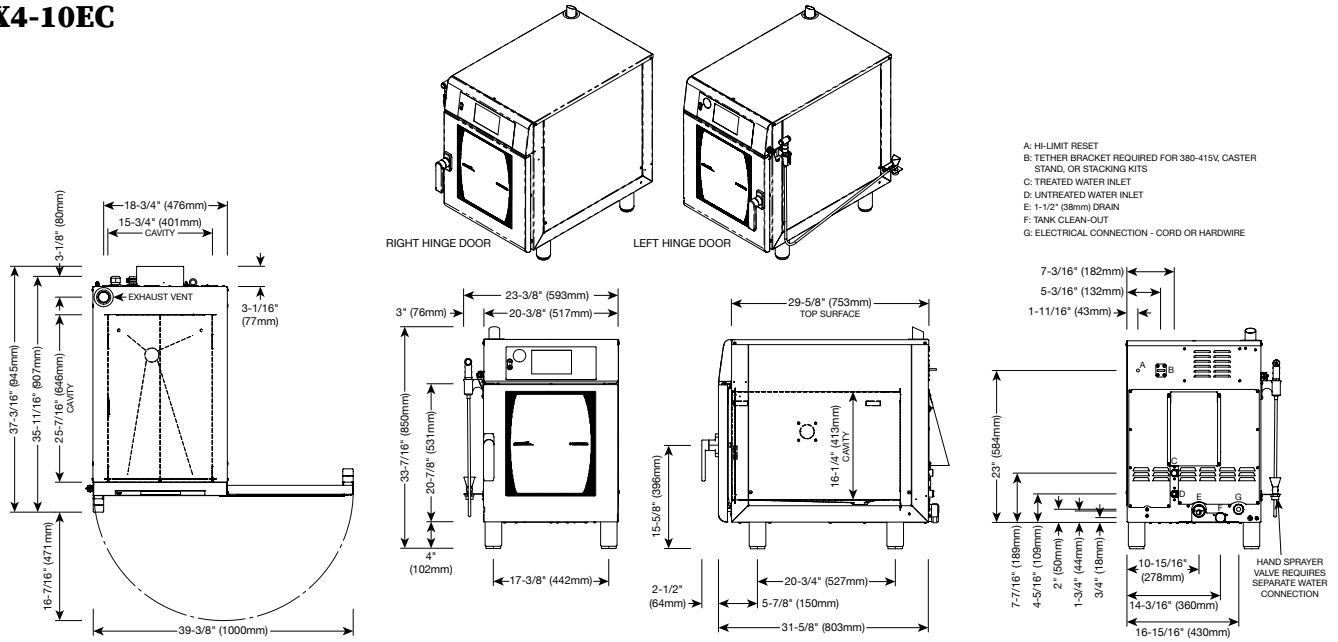
WEIGHT			PAN CAPACITY	STANDARD MODEL
NET	260 lbs EST	118 kg	FULL–SIZE: 20" x 12" x 2-1/2"	Five (5)
			GN 1/1: 530 x 325 x 65mm	Five (5)
SHIP	415 lbs*	188 kg*	GN 1/1: 530 x 325 x 20mm	Ten (10)
			**HALF–SIZE SHEET: 18" x 13" x 1"	Ten (10)

SHIP DIMENSIONS	PRODUCT CAPACITY	
(L x W x H) 43" x 31" x 58"*	PRODUCT MAXIMUM	48 lb (22 kg)
(1092 x 787 x 1473mm)*	VOLUME MAXIMUM	30 quarts (38 liters)

*DOMESTIC GROUND SHIPPING INFORMATION. CONTACT FACTORY FOR EXPORT WEIGHT AND DIMENSIONS.

**ON WIRE SHELVES ONLY. ADDITIONAL WIRE SHELVES REQUIRED FOR MAXIMUM CAPACITY

CTX4-10EC



c UL us LISTED
COOKING APPLIANCE WITH INTEGRAL SYSTEMS FOR LIMITING THE EMISSION OF GREASE LADEN AIR 1046

ANSI/NSF 4

IP X4

DIMENSIONS: H x W x D

EXTERIOR:
33-7/16" x 20-3/8" x 37-3/16" (850mm x 517mm x 945mm)

EXTERIOR WITH HAND-HELD SPRAYER:
33-7/16" x 23-3/8" x 37-3/16" (850mm x 593mm x 945mm)

WATER REQUIREMENTS

THREE (3) COLD WATER INLETS - DRINKING QUALITY

ONE (1) TREATED WATER INLET: (1) 3/4" G-style

TWO (2) UNTREATED WATER INLET: (1) 3/4" G-style; (1) 3/4" GHT for hand-held sprayer

LINE PRESSURE: 30 psi minimum dynamic and 90 psi maximum static (200 to 600 kPa)

WATER DRAIN: 1-1/2" (40mm) CONNECTION WITH A VERTICAL VENT TO EXTEND ABOVE THE EXHAUST VENT. MATERIALS MUST WITHSTAND TEMPERATURES UP TO 200°F (93°C).

CLEARANCE REQUIREMENTS

LEFT:	4" (102mm)	18" (457mm) RECOMMENDED SERVICE ACCESS	
RIGHT:	4" (102mm) NON-COMBUSTIBLE SURFACES		
TOP:	20" (508mm) FOR AIR MOVEMENT		
REAR:	4" (102mm)	**BOTTOM:**	4" (102mm) FOR AIR MOVEMENT

INSTALLATION REQUIREMENTS

- Appliance must be installed level.
- Water supply shut-off valve and back-flow preventer when required by local code.

WATER QUALITY STANDARDS

It is the sole responsibility of the owner/operator/purchaser of this equipment to verify that the incoming water supply is comprehensively tested and if required, a means of "water treatment" provided that would meet compliance requirements with the published water quality standards shown below. Non-compliance with these minimum standards will potentially damage this equipment and/or components and void the original equipment manufacturer's warranty. Alto-Shaam recommends using OptiPure® [www.optipurewater.com] products to properly treat your water.

Contaminant	Inlet Water Requirements
Free Chlorine	Less than 0.1 ppm (mg/L)
Hardness	30–70 ppm
Chloride	Less than 30 ppm (mg/L)
pH	7.0 to 8.5
Silica	Less than 12 ppm (mg/L)
Total Dissolved Solids (tds)	50–125 ppm

ELECTRICAL (DEDICATED CIRCUIT REQUIRED)

GROUND FAULT OR RESIDUAL CURRENT PROTECTION DEVICE MUST ACCOMMODATE A LEAKAGE CURRENT OF 20mA

MODEL	VOLTAGE	PH	HZ	AMPS	kW	AWG	CORD & PLUG
CTX4-10EC	208	1	60	23.6	4.91	—	NEMA L6-30P - US ONLY
	240	1	60	26.6	6.38	8	NO CORD OR PLUG
	208 – 240	3	60	16.1– 19.1	5.63 – 7.75	10	NO CORD OR PLUG
	208 – 240	1	60	23.6 – 26.6	4.91 – 6.38	—	8/3 CORD, NO PLUG
	220 – 240	1	50/60	25.1 – 26.6	5.53 – 6.66	8	NO CORD OR PLUG
	380 – 415	3	50/60	11.1 – 12.3	6.53 – 7.75	10	NO CORD OR PLUG

WEIGHT			PAN CAPACITY		STANDARD MODEL
NET	180 lbs EST	82 kg	FULL–SIZE:	20" x 12" x 2-1/2"	Five (5)†
			GN 1/1:	530 x 325 x 65mm	Five (5)†
SHIP	310 lbs*	141 kg*	GN 1/1:	530 x 325 x 20mm	Ten (10)†
			**HALF–SIZE SHEET:	18" x 13" x 1"	Ten (10)†

SHIP DIMENSIONS	PRODUCT CAPACITY	
(L x W x H) 37" x 42" x 45"*	PRODUCT MAXIMUM	48 lb (22 kg)
(940 x 1067 x 1143mm)*	VOLUME MAXIMUM	30 quarts (38 liters)

*DOMESTIC GROUND SHIPPING INFORMATION. CONTACT FACTORY FOR EXPORT WEIGHT AND DIMENSIONS.

**ON WIRE SHELVES ONLY. ADDITIONAL WIRE SHELVES REQUIRED FOR MAXIMUM CAPACITY
†CAPACITY WITHOUT BROILER ELEMENT OPTION

Electrical Connection

⚠ WARNING



Appliances without a cord provided by the factory must be equipped with a cord of sufficient length to permit the appliance to be moved for cleaning.

Always use the correct AWG wire size based on the electrical requirements for the appliance.

⚠ CAUTION



Power source must match voltage identified on appliance rating tag. The rating tag provides essential technical information required for any appliance installation, maintenance or repairs. Do not remove, damage or modify the rating tag.

1. An electrical wiring diagram is located behind the control panel on the left side of the appliance. 3-phase appliances must be branch circuit protected with proper ampacities, in accordance with the wiring diagram. A dedicated 30 Amp breaker is required.
2. Ground fault or residual current protection device must accommodate a leakage current of 20mA.
3. Wire size for the main incoming power to the appliance must match the minimum size listed in the specifications. For supply connections, locate the wire size posted on the label located on the electrical control box cover, behind the service panel.
4. When connecting to a Delta-B (wild leg) on a 3-phase system, the wild leg must be connected to line 3. Install wiring with a strain relief.
5. Before operating the appliance, check all cable connections in the electrical connection area for tightness since connections can loosen during transport.

NOTICE: After both water and electrical connections have been completed, operate the appliance in any cooking mode for a period of 15 minutes and recheck the main power connections at the terminal block to make certain they remain tight.

⚠ WARNING



To prevent serious injury, death, or property damage:

All electrical connections must be made by a qualified and trained service technician in accordance with applicable electrical codes.



This appliance must be adequately grounded in accordance with local electrical codes or, in the absence of local codes, with the current edition of the National Electrical Code ANSI/NFPA No. 70. In Canada, all electrical connections are to be made in accordance with CSA C22.1, Canadian Electrical Code Part 1 or local codes.



CE-approved appliances include an equipotential-bonding terminal marked with the symbol shown on the left. Provisions for earthing are to be made in accordance with IEC:2010 60335-1 section 27 or local codes.

⚠ WARNING

Improper installation, alteration, adjustment, service, cleaning, or maintenance could result in property damage, severe injury, or death.

Read and understand the installation, operating and maintenance instructions thoroughly before installing, servicing, or operating this equipment.

Hard wired models:

Hard wired models must be equipped with a country certified external allpole disconnection switch with sufficient contact separation.

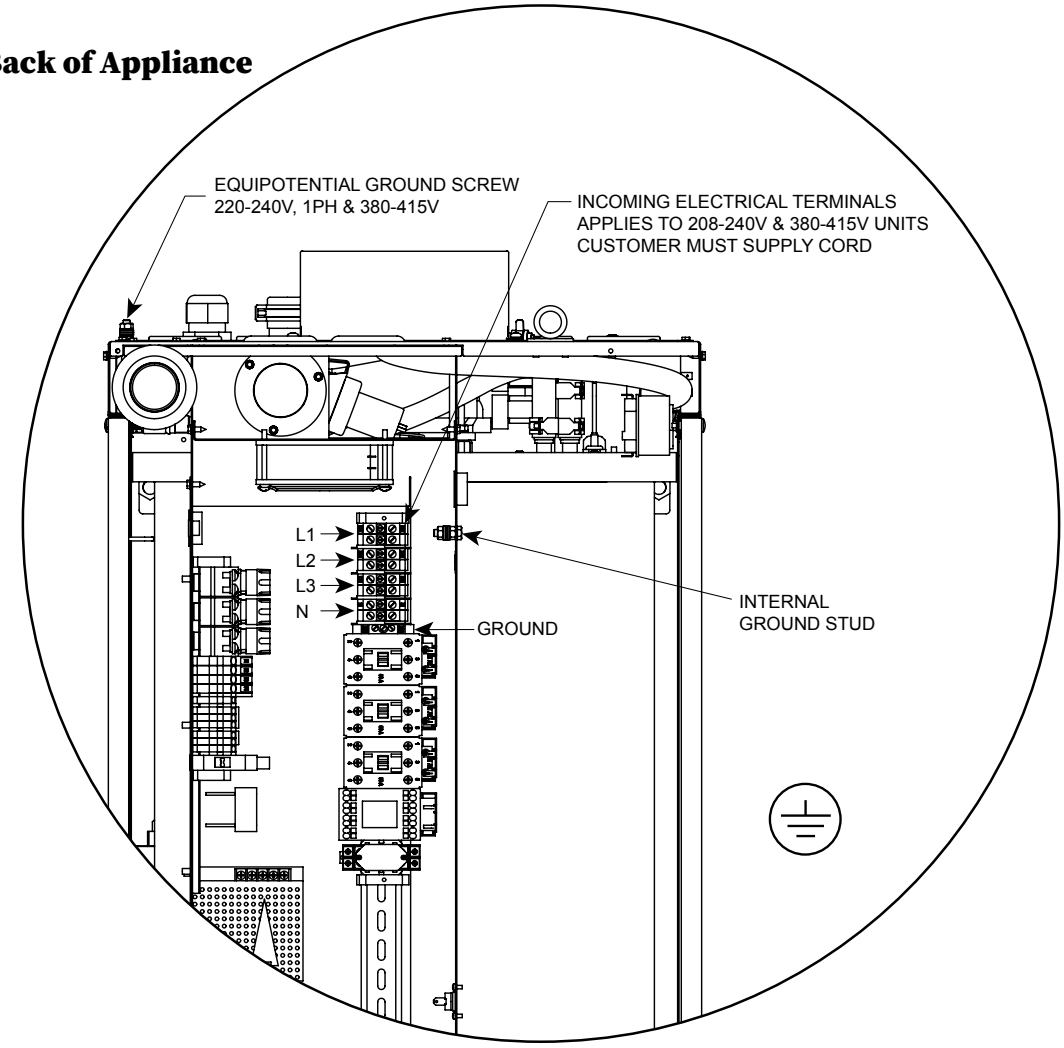
If a power cord is used for the connection of the product an oil resistant cord like H05RN or H07RN or equivalent must be used.

WARNING

To prevent SERIOUS INJURY, DEATH or PROPERTY DAMAGE:

All electrical connections must be made by a qualified and trained service technician in accordance with applicable electrical codes.

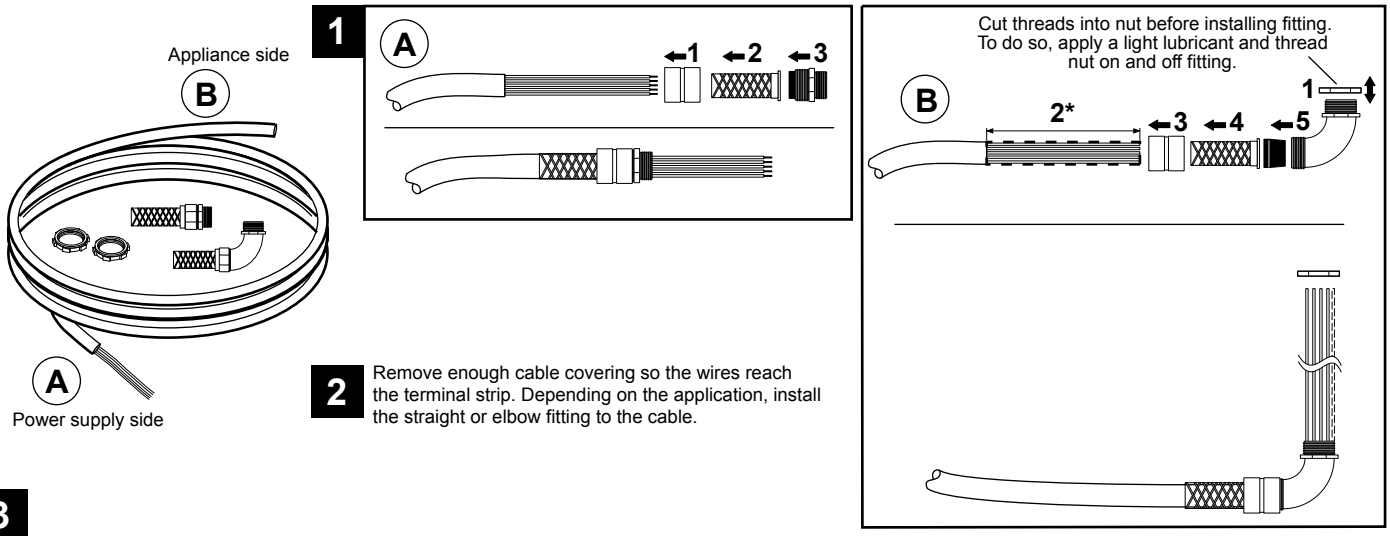
Top/Back of Appliance



Electrical Connection

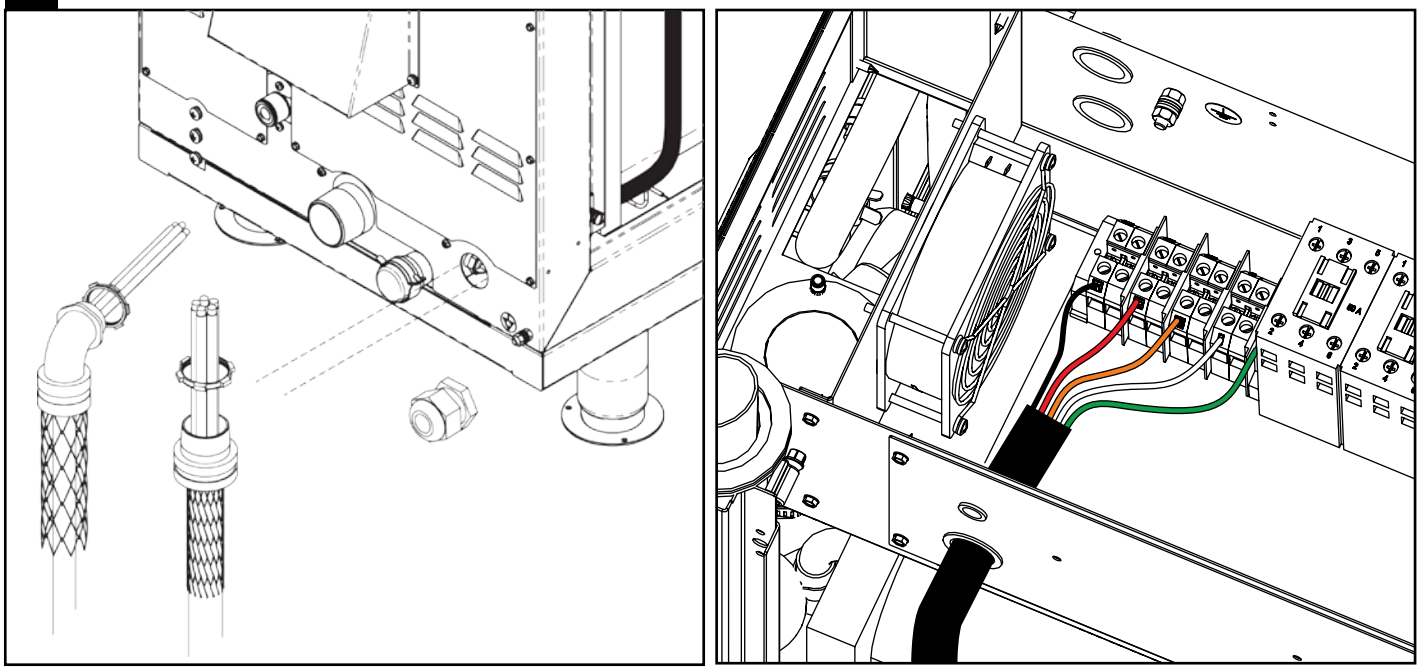
Electrical Kit Installation - 50 Hz

International Applications

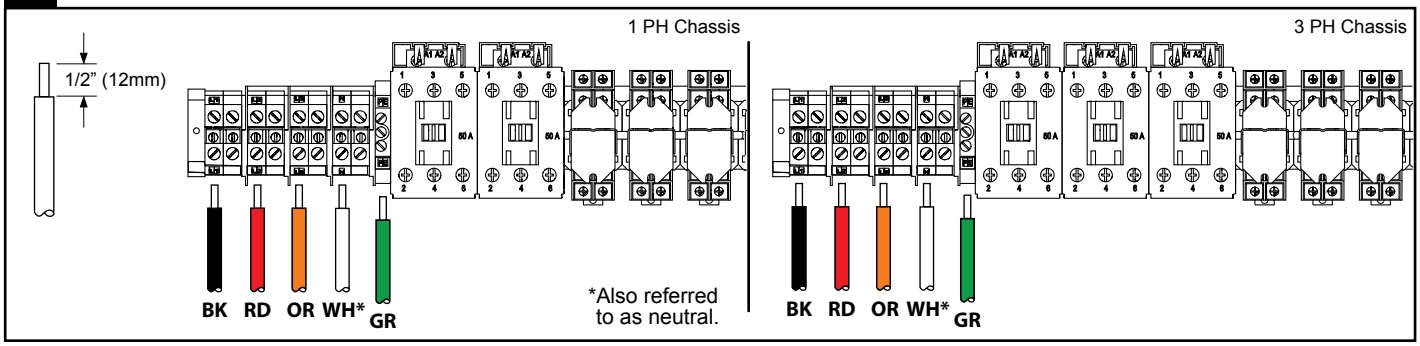


2 Remove enough cable covering so the wires reach the terminal strip. Depending on the application, install the straight or elbow fitting to the cable.

3

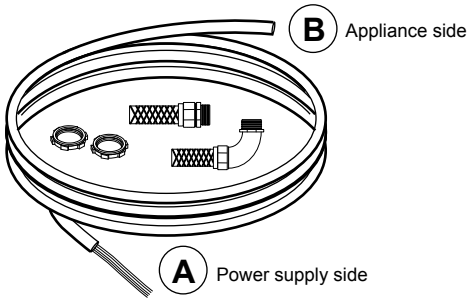


4

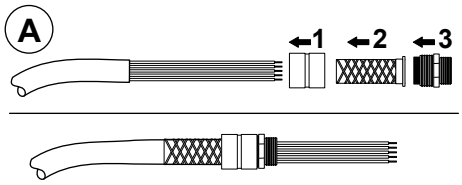


Electrical Kit Installation - 60 Hz

Applications for the Americas

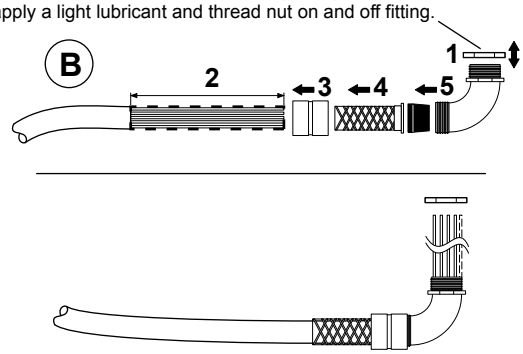


1

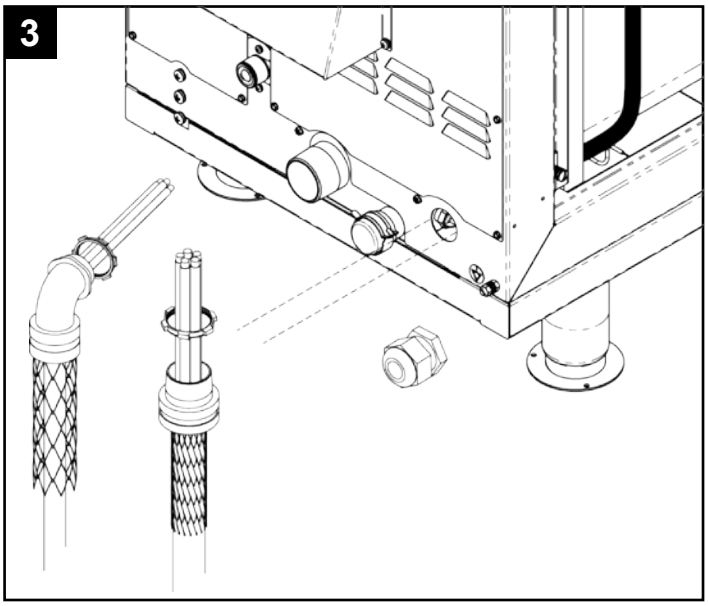


2 Remove enough cable covering so the wires reach the terminal strip. Depending on the application, install the straight or elbow fitting to the cable.

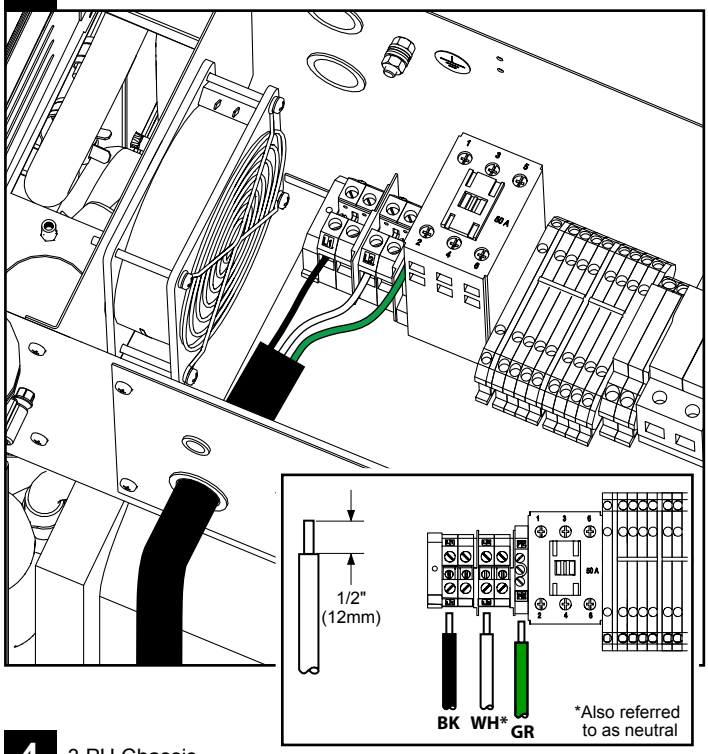
Cut threads into nut before installing fitting. To do so, apply a light lubricant and thread nut on and off fitting.



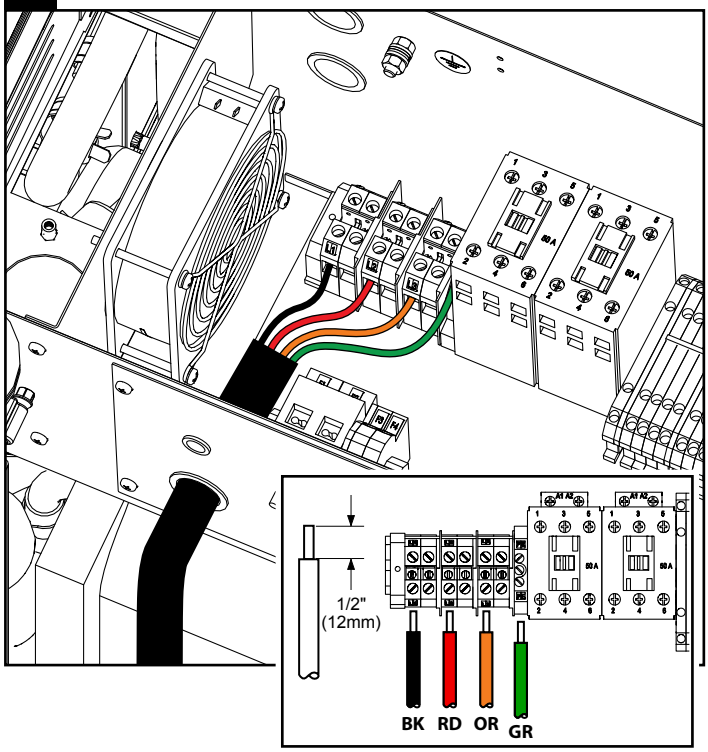
3



4 1 PH Chassis



4 3 PH Chassis



Water Inlet Connection

Water Quality Requirements

Use a drinking quality, cold water supply only.

WARNING

Significant damage to the appliance cavity, elements, or heat exchanger could result from improper water quality. Failure to meet the water quality requirements and observe this precaution will void the warranty.

Water quality is of critical importance when installing steam producing equipment of any kind, particularly high temperature steam producing equipment. Water that is perfectly safe to drink is composed of chemical characteristics that directly affect the metal surfaces of steam producing equipment. These chemical characteristics differ greatly from region to region throughout the U.S. and the world. Varying combinations of pH; alkalinity; hardness; chlorides; total dissolved solids; and other chemical characteristics, when subjected to high temperatures, will cause water to have a tendency to either scale or corrode.

Alto-Shaam has consulted with people who understand the properties of water in order to provide water quality standards that meet the broadest possible range of acceptable water quality requirements to help protect your investment.

We strongly urge water testing to ascertain the water quality on site prior to the installation of any steam producing equipment. Since water quality is an important issue, Alto-Shaam is committed to provide as much information as possible to help protect the investment made in this equipment.

A water filtration system, when properly installed, maintained, and combined with the required levels of steam producing equipment maintenance, will help lessen the affect water has on metal surfaces. It will not, however, provide complete protection against all water damage from region to region.

Due to the complexity of water chemistry, it is important to understand that water quality plays a significant role in the longevity of steam producing equipment. Water quality and required maintenance of steam generating equipment is the direct responsibility of the owner/operator. Damage incurred as a direct result of poor water quality and/or surfaces affected by water quality is also the responsibility of the owner/operator. Damage due to water quality that does not meet the minimum standards shown below is not covered under the Alto-Shaam Combitherm warranty.

It is the sole responsibility of the owner/operator/ purchaser of this equipment to verify that the incoming water supply is comprehensively tested and if required, a means of "water treatment" provided that would meet compliance requirements with the published water quality standards published at right. Non-compliance with these minimum standards will potentially damage this equipment and/or components and VOID the original equipment manufacturer's warranty. Alto-Shaam recommends using OptiPure® [www.optipurewater.com] products to properly treat your water.

Alto-Shaam will continue our efforts to provide viable solutions to ease the impact of water quality as it relates to heat producing equipment.

Alto-Shaam Combitherm Water Quality Standards

Contaminant	Inlet Water Requirements (Untreated Water)
Free Chlorine	Less than 0.1 ppm (mg\L)
Hardness	30-70 ppm
Chloride	Less than 30 ppm (mg\L)
pH	7.0 to 8.5
Silica	Less than 12 ppm (mg\L)
Total Dissolved Solids (tds)	50-125 ppm

⚠ WARNING



To prevent water pipes from bursting, incoming water supply should be turned off when the appliance is not in use.

⚠ WARNING

Water supply must be open when cleaning program is activated.

Verify water supply before starting cleaning program.

Water Supply & Installation

WATER REQUIREMENTS

THREE (3) COLD WATER INLETS - DRINKING QUALITY

ONE (1) TREATED WATER INLET: 3/4" G-style

TWO (2) UNTREATED WATER INLET: (1) 3/4" G-style; (1) 3/4" GHT for hand-held sprayer

LINE PRESSURE: 30 psi minimum dynamic and 90 psi maximum static (200 to 600 kPa)

WATER DRAIN: 1-1/2" (40mm) CONNECTION WITH A VERTICAL VENT TO EXTEND ABOVE THE EXHAUST VENT. MATERIALS MUST WITHSTAND TEMPERATURES UP TO 200°F (93°C).

WATER QUALITY STANDARDS

It is the sole responsibility of the owner/operator/purchaser of this equipment to verify that the incoming water supply is comprehensively tested and if required, a means of "water treatment" provided that would meet compliance requirements with the published water quality standards shown below. Non-compliance with these minimum standards will potentially damage this equipment and/or components and void the original equipment manufacturer's warranty. Alto-Shaam recommends using OptiPure® [www.optipurewater.com] products to properly treat your water.

Contaminant	Inlet Water Requirements
Free Chlorine	Less than 0.1 ppm (mg/L)
Hardness	30–70 ppm
Chloride	Less than 30 ppm (mg/L)
pH	7.0 to 8.5
Silica	Less than 12 ppm (mg/L)
Total Dissolved Solids (tds)	50–125 ppm

NOTICE: Both treated and untreated water connections must be connected for proper operation of the oven. All connections can be treated water, but should never be connected to only untreated water.

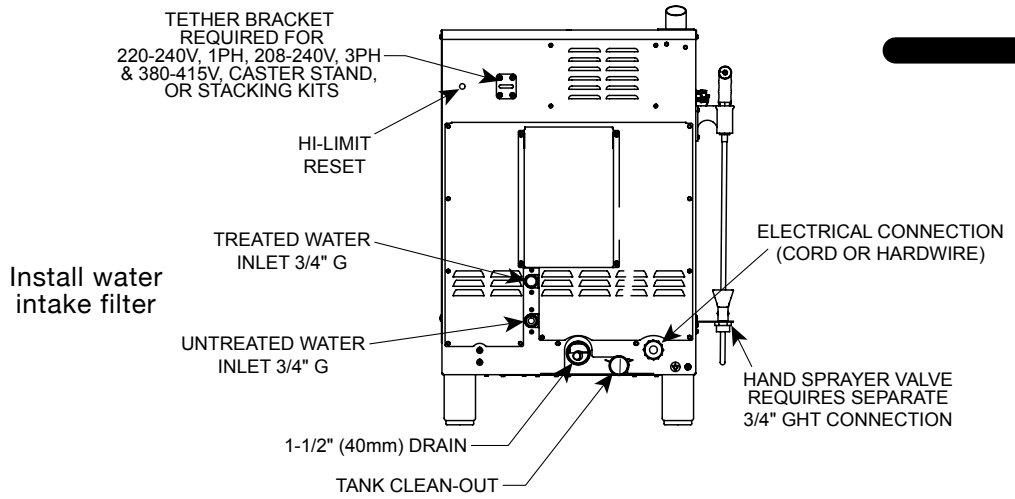
Unions or flexible lines should be used to allow for oven movement when being serviced or cleaning is needed.

WARNING

Significant damage to the appliance cavity, elements, or heat exchanger could result from improper water quality. Failure to meet the water quality requirements and observe this precaution will void the warranty.

- Flush the water line at the installation site.
- Backflow Prevention — The appliance must be installed with a check-valve or other anti-backflow/ anti-siphon device on all inlet water lines in accordance with and as required by national, state, and local health, sanitation and plumbing codes.
- **Pipe sealing tape (Teflon®) must be used at all connection points.** The use of a pipe sealing compound is not recommended.
- Install a manual water shut-off valve between the main cold water supply line(s) and Combi supply lines.





Water Drain Connection

Water Valve

NOTE: The shut-off valve must be in the open position when the appliance is being used.

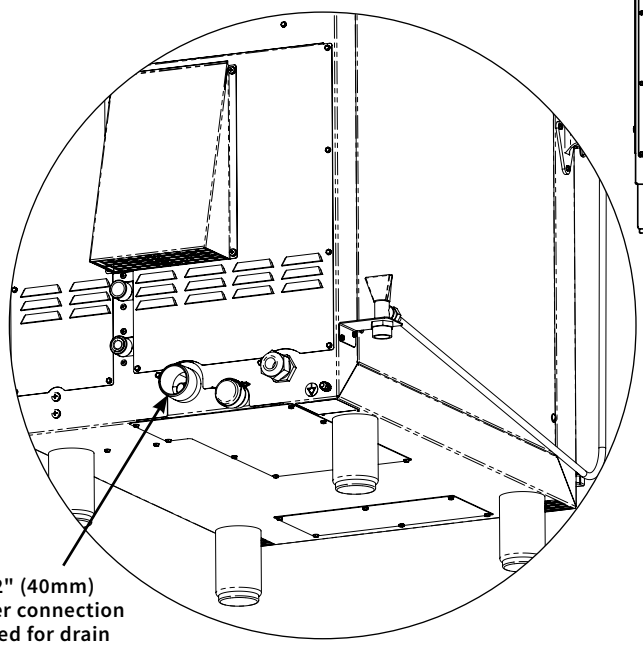
Water Drainage

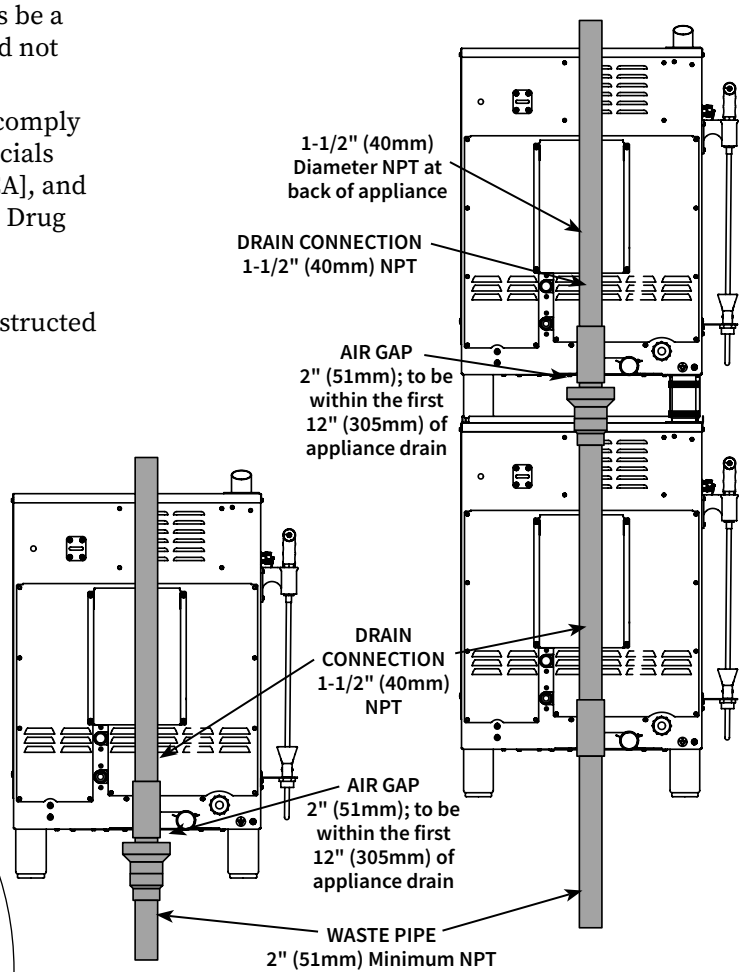
The appliance must discharge through an indirect waste pipe by means of an air gap. The drain fitting is supplied with a 1-1/2" (40mm) NPT thread.

A union is required. Install a 1-1/2" (40mm) diameter connection, drain line and clamp into place. The drain line must always be a positive gradient away from the Combitherm appliance and not more than 12" (305mm) before an air gap.

NOTICE: In the U.S.A., this equipment is to be installed to comply with the Basic Plumbing Code of the Building Officials and Code Administrators International, Inc. [BOCA], and the Food Service Sanitation Manual of the Food & Drug Administration [FDA].

If several units are to be connected to one drain pipe, the dimensions of the pipe must be sufficient to allow an unobstructed water drain system.





Ventless Hood Model

The Ventless Hood option is factory installed directly on the top of the Alto-Shaam Combitherm appliance. The hood is designed to vent clean air back into the kitchen, filtering vapors and grease. A high-power fan draws steam and fumes into the hood intake and out the top surface exhaust vent. Fumes and vapors are circulated through filters. An activated charcoal filter cleans the air before venting it out the top of the hood.



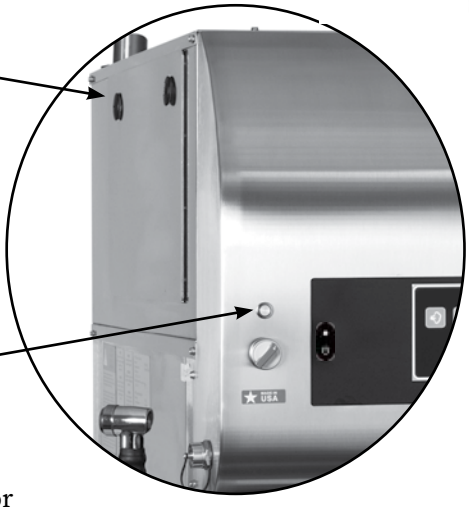
Operation

1. Turn the ventless hood power knob ON.
2. Indicator light will illuminate.
3. Wait five seconds, then press the Combitherm appliance power ON.

Filter Door Latch

Using a coin or screwdriver, turn to open; reverse procedure to close and latch.

Hood and oven will not operate unless this is closed properly.



Indicator Light

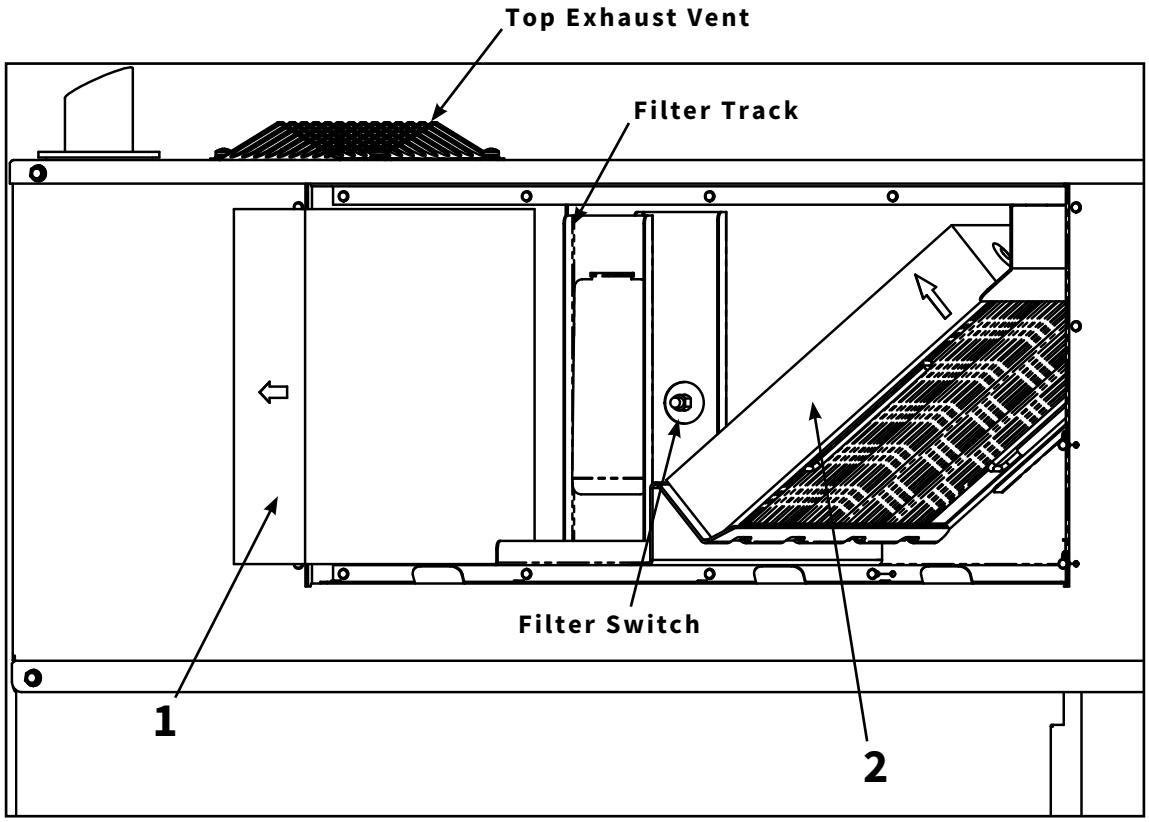
If the indicator light does not illuminate, the filters may be missing or not properly aligned. Check them for proper positioning. Ventless hood and oven will not operate unless the hood is closed properly.

Timed Latching Mechanism: In order to evacuate steam and grease-laden air from the oven interior, this mechanism prevents the operator from fully opening the oven door for 20 seconds. Longer wait times can be programmed into the control. The mechanism automatically disengages at the end of a pre-set time allowing full door extension.

Emergency Latch Release: This release is to be used **ONLY** if the timed latch mechanism is not working or in the event of a power outage. Repeated use of the emergency release may damage the switching mechanism. The latch is located on the right side of the appliance, toward the back.

Operation

Ventless Hood Model



1. **Charcoal Filter:** The charcoal filter should be inspected for contaminant's on a regular basis. Replacement must be made at a minimum of three month intervals — more often if heavy contaminant's are visible or if the filter no longer controls odors.

   To remove the charcoal filter, pull and slide out. When replacing the filter, ensure that the filter clip is in place at rear of the filter. Make certain the air flow arrow(s) point toward the hood fan (back of the appliance), and that the filter is replaced using the filter track in the metal back plate provided with the hood.

   FI-24114

2. **Grease Filter:** Cleaning frequency should be based on appliance usage with a maximum of two weeks between cleaning if the appliance is used for non-grease laden products or steam applications only. Grease laden products require cleaning frequency of at least once a week.

   Remove the grease filter by pulling it straight out of the housing. Place the filter in the dishwasher or wash separately by placing in hot, soapy water until all grease and particles have been removed. Rinse thoroughly. Allow the filter to air dry before reinstalling.

   To replace the grease filter, the metal handles on the filter casing should be facing toward the front of the appliance.

   FI-24113

CT Express™ Checklist - Daily

More frequent preventative maintenance inspection/service is required when cooking large quantities of fatty foods. The acids and related compounds found in fat, particularly chicken fat, accumulate over time and can damage appliance components. Failure to regularly inspect and maintain the appliance may result in void of warranty, property damage, or personal injury.

Unit Information

Business Name: _____ **Serial Number:** _____

Model Number: _____ **Daily Inspection Start Date:** _____

Daily Inspection Checklist

Inspect & clean:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Product probe (thermometer)							
Door gasket (inner door seal)							
Inner door glass							
Front drip tray							
Screen & overlay (inspect for cracks, peeling, moisture, etc.)							
Execute automatic wash cycle (with approved cleaning chemical ONLY)							
Employee initials							

Component Failure & Replacement

List details of the failure(s) next to the day they occurred. Leave blank if components are working properly.	
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

Cleaning and Preventative Maintenance

CT Express™ Checklist - Weekly

More frequent preventative maintenance inspection/service is required when cooking large quantities of fatty foods. The acids and related compounds found in fat, particularly chicken fat, accumulate over time and can damage appliance components. Failure to regularly inspect and maintain the appliance may result in void of warranty, property damage, or personal injury.

Unit Information

Business Name: _____ **Serial Number:** _____

Model Number: _____ **Weekly Inspection Start Date:** _____

Weekly Inspection Checklist

Inspect - Oven cavity lamp	
Inspect - Oven cavity for signs of grease/carbon buildup	
Inspect - Behind the fan panel inside the oven cavity for signs of grease/carbon buildup	
Inspect - Behind the fan panel inside the oven cavity for signs of scale buildup	
G Inspect - The heat exchanger for any signs of major deformation. If yes, ***immediately*** remove from service and take corrective action steps.	
G Inspect - The heat exchanger for any loose/disconnected pipes or flanges. If yes, ***immediately*** remove from service and take corrective action steps.	
E Inspect - Convection elements for signs of cracking, deformation, or damage	
Clean ventless hood grease filters	
Employee initials	

G Gas units only E Electric units only

Component Failure & Replacement

List details of the failure(s) next to the day they occurred. Leave blank if components are working properly.	
Week 1	
Week 2	
Week 3	
Week 4	

CT Express™ Checklist - Monthly

More frequent preventative maintenance inspection/service is required when cooking large quantities of fatty foods. The acids and related compounds found in fat, particularly chicken fat, accumulate over time and can damage appliance components. Failure to regularly inspect and maintain the appliance may result in void of warranty, property damage, or personal injury.

Unit Information

Business Name: _____ **Serial Number:** _____

Model Number: _____ **Monthly Inspection Start Date:** _____

Monthly Inspection Checklist

Inspect/Test - Proper draining of the oven cavity	
Inspect - All drain lines for leaks or clogs	
EB Descale the steam generator	
Inspect - Oven cavity for any signs of scale buildup	
Descale the oven interior	
Inspect ventless hood paper filter (replace as needed)	
Test ventless hood drain for proper drainage and signs of leaking	
Employee initials	

EB Electric boiler units only

Component Failure & Replacement

Summarize any component failure(s) that may have occurred during this month.

Cleaning and Preventative Maintenance

CT Express™ Checklist - 12 Month

More frequent preventative maintenance inspection/service is required when cooking large quantities of fatty foods. The acids and related compounds found in fat, particularly chicken fat, accumulate over time and can damage appliance components. Failure to regularly inspect and maintain the appliance may result in void of warranty, property damage, or personal injury.

Unit Information

Business Name: _____ **Serial Number:** _____

Model Number: _____ **12-Month Inspection Start Date:** _____

12-Month Inspection Checklist

Replace - Steam bypass hose	
Inspect - Cleaning pump hose	
Inspect/Test - Proper draining of the oven cavity	
Inspect - All drain lines for leaks or clogs	
Inspect - All solenoid hoses (both ends)	
Inspect - Upper browning valve hose	
Inspect - Low pressure relief valve & hose	
E Inspect - Convection element seal (from the electrical compartment)	
G Inspect - Gas heat exchanger seal (from the electrical compartment)	
Inspect - N6 oven temperature probe seal	
EB Descale the steam generator	
EB Remove & Inspect - Steam generator elements	
Inspect - Hand shower hose	
Inspect - Hand shower handle	
Inspect - Product probe	
Inspect - Water injection tube	
Inspect - Oven cavity for any signs of scale buildup	
Inspect - Oven cavity lamp	
Inspect - Oven cavity for signs of grease/carbon buildup	
Inspect - Behind the fan panel inside the oven cavity for signs of grease/carbon buildup	
Inspect - Behind the fan panel inside the oven cavity for signs of scale buildup	

EB Electric boiler units only **G** Gas units only **E** Electric units only

CT Express™ Checklist - 12 Month

Unit Information

Business Name: _____ **Serial Number:** _____

Model Number: _____ **12-Month Inspection Start Date:** _____

12-Month Inspection Checklist

G Inspect - The heat exchanger for any signs of major deformation. If yes, ***immediately*** remove from service and take corrective action steps.	
G Inspect - The heat exchanger for any loose/disconnected pipes or flanges. If yes, ***immediately*** remove from service and take corrective action steps.	
G Inspect & Ensure - Exhaust pipes are exiting the oven cavity	
G Inspect - Heat exchanger flange gasket (replace as needed)	
G Inspect & Tighten - Heat exchanger flange bolts	
G Inspect & Tighten - Heat exchanger burner flange hardware & gasket (replace as needed)	
G Inspect & Tighten - Heat exchanger igniter flange hardware & gasket (replace as needed)	
G Inspect - Heat exchanger exhaust pipes (ensure they are exiting out past the oven cavity ceiling flange) - ESG models only	
G Inspect - Oven cavity ceiling flange & flange gasket - ESG models only	
G Tighten - Burner flange bolts	
G Tighten - Igniter flange bolts	
Inspect - Heat exchanger weep holes to ensure they are free of obstructions (if the hole is obstructed, immediately remove oven from service and replace the heat exchanger) - Not applicable to CTP/CTC models	
E Inspect - Convection elements for signs of cracking, deformation, or damage	
Replace - Oven lamp cover(s) & gasket(s)	
Descale the oven interior	
Inspect - Door gasket (replace as needed)	
Wipe down the inner door glass	
Inspect - Front drip tray (clean as needed)	
Inspect - Front drip tray hose	
Inspect - Control overlay	
Inspect & Tighten - All electrical connections	
Inspect & Tighten - All cooling fans for proper operation	

EB Electric boiler units only **G** Gas units only **E** Electric units only

Cleaning and Preventative Maintenance

CT Express™ Checklist - 12 Month

Unit Information

Business Name: _____ **Serial Number:** _____

Model Number: _____ **12-Month Inspection Start Date:** _____

12-Month Inspection Checklist

Inspect & Tighten - Door hinges	
Inspect & Tighten - Door handle	
Review - Error code history	
Note the software version (update if not current)	
Record - Water pressure (static & dynamic)	
Record - Line voltage across all lines	
Record - Line voltage to ground on each line	
Record - Amperage across all three legs (when heating)	
Function test all components (list components)	

Component Failure & Replacement

Summarize any component failure(s) that may have occurred during this month.

Customer Signature: _____

Technician Signature: _____

Error Codes

If the Alto-Shaam® unit is not operating properly, check the following before calling an Authorized Alto-Shaam Service Agent:

- Check that the appliance is receiving power. Is the circuit breaker turned on?

NOTICE

This section is provided for the assistance of qualified and trained service technicians only and is not intended for use by untrained or unauthorized service personnel. Do not attempt to repair or service the appliance beyond this point. Contact Alto-Shaam for the nearest authorized service agent. Repairs made by any other service agents without prior authorization by Alto-Shaam will void the warranty.

When the appliance malfunctions, an error code will appear in the display.

 Press the Start icon to acknowledge the error.

When the appliance error notification has been acknowledged, the appliance will attempt to return to normal operation.

Error Code	Error Call Out in Display	Description of Error	Possible Causes
E01	Low Water Boiler	Low water level in boiler	— Water supply is shut off. — Low water pressure. — Generator drain cap/hose missing or leaking. — Generator drain pump is defective. — Generator drain pump elbow leaking. — Fill solenoid not energized. — Fill solenoid faulty. — Wiring or connection error at the solenoid or the relay board. — Water level probe connection/wiring error at probe or relay board. — Water level probe requires descaling and/or replacement.
E02	Control Temperature High	Relay board surface temperature too high	— Cooling fan(s) not being energized. — Cooling fan(s) faulty. — Wiring/connection error at cooling fan(s). — Faulty relay board.
E03	Convection Fan Motor Error	Convection fan motor failure	— Motor VFD not energized. — No input signal to VFD from relay board. — Motor VFD faulty, not outputting to motor after input signal received. — Motor fan wheel blocked/obstructed. — Connection/wiring error at VFD, motor, hall effect sensor, relay board. — Faulty motor.
E04	Lower Convection Fan Motor Error	Lower convection fan motor failure on 20-20 unit	— Motor VFD not energized. — No input signal to VFD from relay board. — Motor VFD faulty, not outputting to motor after input signal received. — Motor fan wheel blocked/obstructed. — Connection/wiring error at VFD, motor, hall effect sensor, relay board. — Faulty motor.

Continued on next page

Error Codes

Error Code	Error Call Out in Display	Description of Error	Possible Causes
E11	Convection Temperature High	Oven cavity temperature N6 too high	— Convection element contactor stuck closed/on. — Faulty oven temperature probe connection at relay board. — Faulty N6 oven temperature probe. — Faulty relay board.
E13	Boiler Temperature High	Steam generator temperature too hot	— Immersion element is not submersed in water due to scale build up on the water level probe/inside the tank. — Immersion element contactor stuck closed. — Faulty B4 steam generator temperature probe connection at relay board. — Faulty B4 temperature probe.
E15	Condensor Temperature High	Condensor water temperature too high	— Untreated water supply line is disconnected or shut off. — Cooling solenoid is not being energized when B3 probe is above set point. — Faulty B3 condensate temperature probe connection at relay board. — Faulty B3 condensate temperature probe.
E20	HACCP Only - B11 Core Temperature Probe Single Point Fault Error E20 is not shown in display. Instead a probe sign with "?" is shown as popup window. In case the customer cooks in time mode during first step and during second step switches to probe mode but has no probe in place, the error E20 will be shown in the error code list and HACCP list.	Single point core temperature probe defect or disconnected	— Probe not installed inside oven. — Faulty B11 Single Point Core Temperature probe receptacle connection at relay board. — Faulty B11 single point core temperature probe. — Debris buildup on probe receptacle pins inside of the oven.
E21	N6 Oven Cavity Temperature Probe Fault	N6 probe "open"	— Faulty N6 oven cavity temperature probe connection at relay board. — Faulty N6 oven temperature probe.
E22	B10 Core Temperature Probe Multipoint Fault	Multipoint core temperature probe defect or disconnected	— Faulty B10 multipoint core temperature probe connection at relay board. — Faulty B10 multipoint core temperature probe.
E23	B4 Boiler Probe Fault	B4 probe "open"	— Faulty B4 boiler temperature probe connection at relay board. — Faulty B4 boiler temperature probe.
E24	B5 Bypass Probe Fault	B5 probe "open"	— Faulty B5 steam bypass probe connection at relay board. — Faulty B5 steam bypass probe.
E25	B3 Condensor Probe Fault	B3 probe "open"	— Faulty B3 condensor probe connection at relay board. — Faulty B3 condensor probe.
E26	N8 Immersion Element Safety Probe Fault	N8 probe "open"	— Faulty N8 safety temperature probe connection at relay board. — Faulty N8 safety temperature probe.

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Error Codes

Error Code	Error Call Out in Display	Description of Error	Possible Causes
E27	N8 Immersion Element Temperature Too High	Immersion element too hot	— Scale buildup inside steam generator and/or on water level probe. — Immersion element contactor stuck closed. — Faulty N8 safety temperature probe.
E34	Steam Generator Drain Pump Fault	Water level in steam generator does not drop during cleaning program	— Scale buildup inside the steam generator and/or water level probe. — Obstruction on inlet side of steam generator drain pump. — Boiler steam generator pump not being energized. — Steam generator drain pump defective.
E36	Steam Temperature High	Oven cavity temperature is too high when operating in steam mode or combination mode	— Water supply is not connected or shut off. — Low water pressure. — Y1 solenoid valve not energized on a call for steam. — Y1 solenoid faulty. — Flow restrictor obstructed. — Water injection pipe obstructed. — Steam bypass hose obstructed. — B5 steam bypass probe dirty or faulty.
E51	No Water In Boiler	Steam generator fill error	— Water supply is disconnected or shut off. — Low water pressure. — Boiler drain cap leaking or missing. — Boiler drain pump defective. — Drain pump elbow leaking. — Fill solenoid not energized. — Fill solenoid faulty. — Connection/wiring error at the solenoid or the relay board. — Water level probe connection/wiring error at probe or the relay board. — Water level probe requires descaling and/or replacement.
E53	Fan Motor High Temperature	Fan motor high limit	— Faulty motor high limit connection at relay board. — Obstructed fan wheel. — Faulty convection motor.
E54	Lower Fan Motor High Temperature (20-20 unit size only)	Fan motor high limit	— Faulty motor high limit connection at relay board. — Obstructed fan wheel. — Faulty convection motor.
E55	Vent Not Open	Browning valve does not open	— Browning valve vent motor not being energized. — Alignment issue between motor cam and vent motor safety switch (micro switch). — Faulty connection at vent motor, vent motor switch or relay board. — Fault vent valve safety switch (micro switch). — Faulty vent motor.

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Error Codes

Error Code	Error Call Out in Display	Description of Error	Possible Causes
E57	No Rinse Water	During rinse no water flow is detected through solenoid valve	— Water supply is shut off. — Low water pressure. — Check wiring to all components mentioned below. — Flow switch is dirty or defective. — Double water solenoid valve defective (Y3.) — Relay board, high voltage, defective.
E92	Communication Error, RB Does Not Properly Respond	Communication error between display board and relay board	— Faulty ribbon cable connections between boards. — Faulty ribbon cable. — Relay board, low voltage, connector defective. — Display board connector defective.
E93	Communication Error, FROM Display Board	Communication error between display board and low voltage relay board	— Faulty ribbon cable connections between boards. — Faulty ribbon cable. — Relay board, low voltage, connector defective. — Display board connector defective.
E94	Communication Error, TO Display Board	Communication error between display board and low voltage relay board	— Faulty ribbon cable connections between boards. — Faulty ribbon cable. — Relay board, low voltage, connector defective. — Display board connector defective.
E98	RB is in Celsius and DB is in Fahrenheit	Change the unit configuration in the setup menu	— Control programming issue. — Ribbon cable defective. — Relay board, low voltage, connector defective. — Display board connector defective.
E99	RB is in Fahrenheit and DB is in Celsius	Change the unit configuration in the setup menu	— Control programming issue. — Ribbon cable defective. — Relay board, low voltage, connector defective. — Display board connector defective.
E100	DB version is not equal to RB version. Error generated by DB.	Software update may have failed.	— Perform software update. — Ribbon cable defective. — Faulty compact flash card. — Relay board, low voltage, connector defective. — Display board connector defective. — Software may need to be updated again.

Continued on next page

Error Codes

Error Code	Error Call Out in Display	Description of Error	Possible Causes
E101	DB version is not equal to RB version. Error generated by RB.	Software update may have failed.	— Perform software update. — Ribbon cable defective. — Faulty compact flash card. — Relay board, low voltage, connector defective. — Display board connector defective. — Software may need to be updated again.
E102	Ventless Hood Fault — Filters Not Present	Filter safety switches are not properly activated.	— Grease and/or charcoal filter not installed. — Faulty filter switch. — Poor connection at safety switch or relay board.
E103	Ventless Hood Fault — Pressure Failure	Ventless hood operation failure.	— Hood power switch not turned to the on position. — Hood power switch defective. — Hood fan not operating. — Filter(s) clogged/need replacement. — Pressure switch tube plugged or disconnected. — Faulty pressure switch or connection error/failure. — Hood fan turning in the wrong direction.
E104	Ignition Failure	Attempt for ignition.	— Gas supply disconnected or turned off. — Gas supply pressure too low/too high. — Gas valve not being energized by ignition control. — Ignition control not creating a spark. — Faulty spark wire and/or igniter. — Faulty flame sense wire or sensing wire connection. — Faulty ignition control. — Blocked or obstructed flue pipe(s).
E105	Low Water Pressure	Low or no water pressure to oven.	— Water supply not connected or turned off. — Water pressure too low. — Solenoid valve not being energized. — Solenoid valve not opening. — Pressure switch faulty. — Poor connection at pressure switch and/or relay board.
E106	Cleaning Pump Fault	Cleaning pump is not running.	— Cleaning pump motor not being energized. — Cleaning pump faulty. — Poor connection at pump motor and/or relay board. — Hall effect sensor wiring/connection error/failure.
E107	Boiler Drain Pump Fault	Boiler drain pump is not running.	— Boiler drain pump motor not being energized. — Boiler drain pump faulty. — Poor connection at pump motor and/or relay board. — Hall effect sensor wiring/connection error/failure.

Error Codes

When the appliance malfunctions, an error code will appear in the display.

 Press the Start icon to acknowledge the error.

When the appliance error notification has been acknowledged, the appliance will attempt to return to normal operation.

Error Code	Display Shows	Model		Mode			
		ES	ESG ESI	Steam	Combination	Convection	Retherm
E01	Low Water Boiler	Yes	No	No	No	To 365°F/185°C	No
E02	Control Temp High	Yes	Yes	No	No	No	No
E03	Fan Motor Error	Yes	Yes	No	No	No	No
E04	Fan Motor 2 Error	Yes	Yes	No	No	No	No
E11	Convection Temperature High	Yes	Yes	BOILER UNITS ONLY	No	No	No
E13	Boiler Temperature High	Yes	No	No	No	Yes	No
E15	Condenser Temperature High	Yes	Yes	No	No	To 356°F/180°C	No
E20	B11 Core Temperature Probe Single Point Fault - HACCP only	Yes	Yes	No	No	No	No
E21	N6 Cavity Probe Fault	Yes	Yes	BOILER UNITS ONLY	No	No	No
E22	B10 Core Temp Probe Fault	Yes	Yes	BY TIME ONLY	BY TIME ONLY	BY TIME ONLY	BY TIME ONLY
E23	B4 Boiler Probe Fault	Yes	No	No	No	No	No
E24	B5 Bypass Probe Fault	Yes	Yes	No	No	Yes	No
E25	B3 Condenser Probe Fault	Yes	Yes	Yes	No	To 356°F/180°C	No
E26	N8 Boiler Safety Temperature Probe Fault	Yes	No	No	No	No	No
E27	Boiler Element Temperature High	Yes	No	No	No	Yes	No
E34	Steam Generator Drain Pump Fault	Yes	No	No	No	No	No
E36	Steam Temperature High	Yes	No	No	No	Yes	No
E51	No Water in Boiler	Yes	No	No	No	Yes	No
E53	Fan Motor High Temperature	Yes	Yes	No	No	No	No
E54	Fan Motor 2 High Temperature	Yes	Yes	No	No	No	No
E55	Vent Not Open	Yes	Yes	Yes (NO BROWNING)	Yes (NO BROWNING)	Yes (NO BROWNING)	Yes (NO BROWNING)
E57	No Rinse Water	Yes	Yes	Yes	Yes	Yes	Yes
E93	Communication Error FROM Display Board	Yes	Yes	No	No	No	No
E94	Communication Error TO Display Board	Yes	Yes	No	No	No	No

Limited Warranty

Alto-Shaam, Inc. warrants to the original purchaser that any original part that is found to be defective in Alto-Shaam, Inc. warrants to the original purchaser that any original part that is found to be defective in material or workmanship will, at Alto-Shaam's option, subject to provisions hereinafter stated, be replaced with a new or rebuilt part.

The labor warranty remains in effect one (1) year from installation or fifteen (15) months from the shipping date, whichever occurs first. Alto-Shaam will bear normal labor charges performed by an authorized Alto-Shaam service agent during standard business hours, excluding overtime, holiday rates or any additional fees.

The parts warranty remains in effect for one (1) year from installation or fifteen (15) months from the shipping date, whichever occurs first. An optional extended warranty is available but must be purchased with the original equipment order. Please consult the factory for net pricing options and details.

This warranty does not apply to:

1. Replacement of wear parts, including light bulbs, door gaskets, and/or the replacement of glass due to damage of any kind.
2. Equipment damage caused by accident, shipping and handling, improper installation or alteration of any kind.
3. Equipment chassis or component/system damage as a result of inadequate routine maintenance and cleaning. Required maintenance and cleaning of steam generating equipment is the responsibility of the owner/operator.
4. Equipment used under conditions of abuse, neglect, misuse, carelessness or abnormal conditions including, but not limited to, equipment subjected to non-approved or inappropriate chemicals including, but not limited to, compounds containing chlorine, chlorides or quaternary salts, or equipment with missing or altered serial numbers. Damage caused by use of any cleaning agent other than Alto-Shaam's Combitherm® Oven Cleaner including, but not limited to, damage due to chlorine, bleach, quaternary salts, souring powders or other harmful chemicals. Use of Alto-Shaam's Combitherm® Cleaner on Combitherm appliances is highly recommended.
5. It is the sole responsibility of the owner/operator/purchaser of this equipment to verify that the incoming water supply is comprehensively tested and if required, a means of "water treatment" provided that would meet compliance requirements with the published water quality standards published at right. Non-compliance with these minimum standards will potentially damage this equipment and/or components and VOID the original equipment manufacturer's warranty. Alto-Shaam recommends using OptiPure® products to properly treat your water.
6. Any losses or damage resulting from malfunction, including loss of product or consequential or incidental damages of any kind.
7. Equipment damage resulting from modification in any manner from original model, substitution of parts other than factory authorized parts, removal of any parts including legs, or addition of any parts.

COMBITHERM WATER QUALITY MINIMUM STANDARDS

CONTAMINANT	INLET WATER REQUIREMENTS
Free Chlorine	Less than 0.1 ppm (mg\L)
Hardness	30-70 ppm
Chloride	Less than 30 ppm (mg\L)
pH	7.0 to 8.5
Silica	Less than 12 ppm (mg\L)
Total Dissolved Solids (tds)	50-125 ppm

This warranty is exclusive and is in lieu of all other warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. In no event shall Alto-Shaam be liable for loss of use, loss of revenue or profit, or loss of product, or for any indirect, incidental or consequential damages.

No person except an officer of Alto-Shaam, Inc. is authorized to modify this warranty or to incur on behalf of Alto-Shaam any other obligation or liability in connection with Alto-Shaam equipment.

Warranty effective January 1, 2014

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