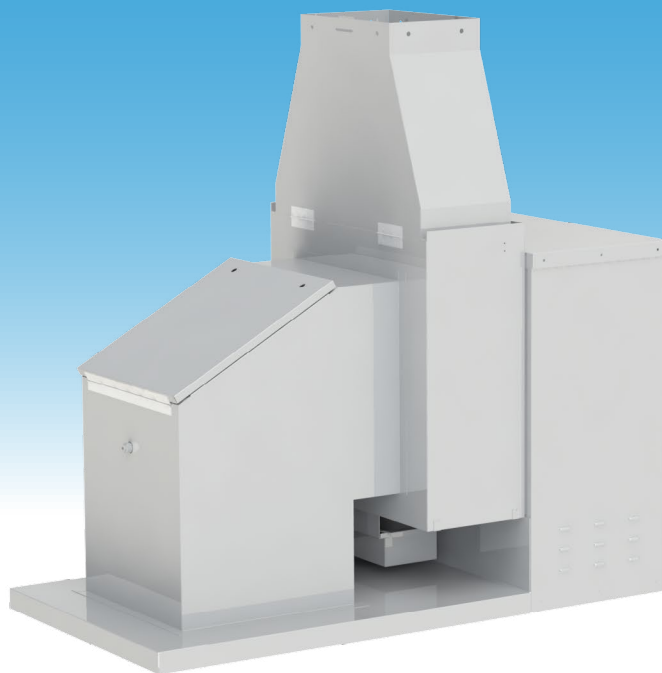


KEFB KEFD Exhaust Fans

Manual provides
Operation, Maintenance and Service Instructions



KEFB - Belt Drive
KEFD - Direct Drive

Halton

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Safety Information

The instructions contained in this manual have been prepared to aid you in learning the proper procedures for installing and servicing your unit.

Throughout this manual, safety precautions are identified through the use of the safety alert symbol and three signal words: DANGER, WARNING, and CAUTION. All safety alert information precedes the step(s) to which they apply. Suggested, recommended, or other noteworthy information is identified through the use of NOTES. Additionally, certain words are used to indicate a specific meaning or to add emphasis.

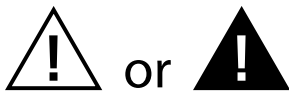
The following words are used as indicated throughout the manual:

Shall: understood to be mandatory.

Should: understood to be advisory.

May: understood to be permissive.

Will: indicates a future event/condition to occur.



(Safety Alert Symbol)

Used in conjunction with signal words (DANGER, WARNING, or CAUTION) to alert you of potential personal injury hazards, immediately preceding precautionary measures that pertain to subsequent step(s). Obey all safety messages that follow this symbol to avoid possible injury or death. Failure to adhere to safety precautions identified by the safety alert symbol may also void the warranty.



- Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. Use of this is limited to the most extreme situations.



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



- Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. Also used to alert against unsafe practices.



- When used without the safety alert symbol, CAUTION indicates a potentially hazardous situation which, if not avoided, may result in equipment/property damage, and void the warranty.

NOTE:

- Identifies suggested, recommended, or other noteworthy information.

Specific Safety Precautions

For your safety, please observe the following precautions when operating or servicing your KEF Exhaust Fan. Read the following important safety information to avoid personal injury and/or damage to the equipment.

DANGER

- Always disconnect the source of the main power before removing the service entrance box cover.
- Failure to ensure the Power switch is in the "OFF" position during servicing and when replacing filters could result in equipment damage, electrical shock and/or personal injury.
- Failure to comply with these **DANGER** notices will result in death or serious injury, equipment/property damage, and void the warranty.

WARNING

- DO NOT use or store flammable liquids or materials that produce flammable vapors in the vicinity of this or any other appliance!
- Consult a qualified electrician to ensure all electrical specifications have been met and the unit is properly grounded.
- Before installing or servicing this equipment, read the contents of this manual thoroughly.
- Improper installation, adjustment, alteration, service or maintenance could result in death or serious injury, equipment/property damage, and void the warranty.
- Failure to comply with these WARNING notices could result in death or serious injury and equipment or property damage.

CAUTION

- Exercise care when removing the wooden crating from around the unit.

CAUTION

- DO NOT operate the unit unless you fully understand the components and their intended function.
- Failure to comply with these CAUTION notices may result in minor or moderate injury, equipment or property damage, and void the warranty.
-

NOTE:

- If upon receipt, the palletized unit shows any signs of damaged, immediately inspect the entire Fan and the included accessories, and promptly notify the freight company of any damages.
- To aid the electrician, an electrical wiring diagram is included with this manual. Refer to the wiring diagram during installation or servicing. A wiring diagram may be obtained from the factory by calling Halton at 270-236-5600

- Comply with all appropriate state and/or local health regulations regarding the cleaning and sanitation of equipment.
- Always ensure the unit is electrically grounded and installed in accordance with local codes, or in the absence of local codes, in accordance with the National Electrical Code ANSI/NFPA No. 70-1984.

! CAUTION

- Use suitable equipment to lift the fan and carefully move it away from the pallet. Take precautions not to damage to the fan. It is advisable to rig and lift the fan from the duct elbow. Do Not lift from the wheel or motor shaft.
- Exercise care when removing the wooden framing from around the unit.
- Failure to comply with these CAUTION notices may result in minor or moderate injury, equipment or property damage, and void the warranty.

! CAUTION

- **DO NOT MODIFY, ALTER OR ADD ATTACHMENTS TO THIS EQUIPMENT**

General Instructions

This fan is to be installed in accordance with NFPA Standard 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations. Refer to NFPA 96 for required clearances to combustibles, roof and building components and air intakes and property lines.

Handling/Unpacking/Inspection

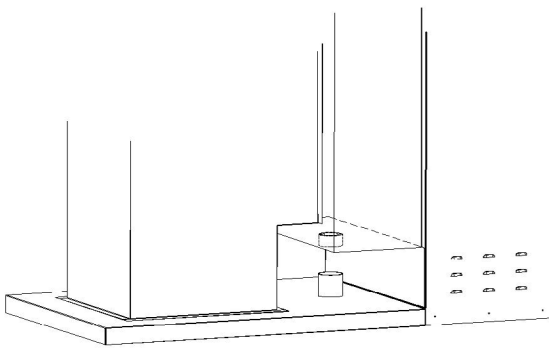
If upon receipt, the palletized unit shows any signs of damaged, immediately inspect the entire Fan and the included accessories, and promptly notify the freight company of any damages. Halton will not accept responsibility for any shipping damage. All systems are thoroughly inspected before leaving our factories, however Halton will assist in filing a claim if needed.

General Installation

It is the responsibility of the installing contractor to see that the system installation is completed in accordance with the project plans and specifications and that it meets all specific requirements of local code officials. The local authority having jurisdiction could over rule some of the installation details written in this manual. The installation shall be in accordance with NFPA-96. All electrical systems shall be installed following local and national codes. The owner and/or operator should be instructed in the proper operation, care and maintenance of the system. If questions or complications should arise during the installation of the Halton hood (s) that cannot be solved using the instructions provided please contact the Halton office at **1-800-442-5866, or (1-800-4-HALTON)**.

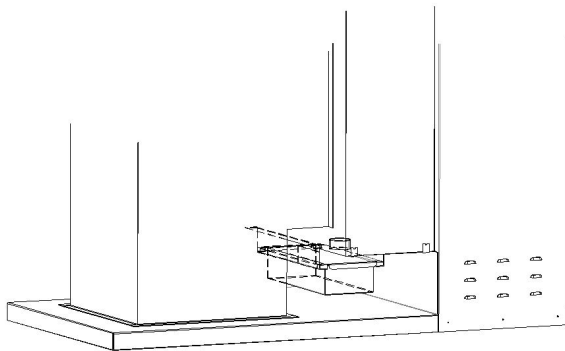
3 Styles of Grease Collection

B STYLE
GREASE DRAIN



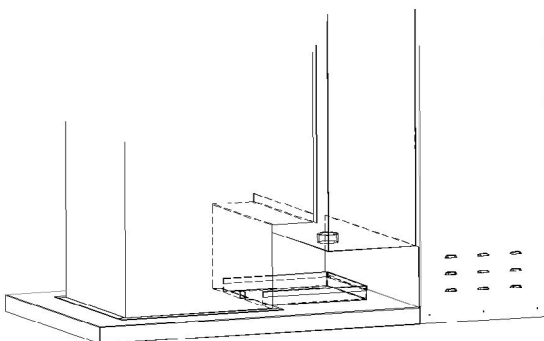
The grease drain allows the collection of grease from the fan to be directed into a dedicated drain pipe. This pipe is separate from the exhaust duct and delivers the collected grease into a code approved receptacle.

C STYLE
GREASE CUP



The grease cup collects the grease from the fan into a removable, cleanable cup at the fan location.

I STYLE
GREASE TRAY



The grease tray collects and directs the grease from the fan into the ductwork where it will drain back towards the hood. Grease from the fan, ductwork and hood is collected at the hood's grease cup for disposal.

Discharge Extension

Discharge extensions are available to raise the discharge point of the fan in order to comply with NFPA Standard 96 requirements for clearance to combustibles, roof and building components, air intakes and property lines.

Standard extension heights are offered at 36" and 72". Halton does not provide bracing needed to keep extension stable to prevent wind damage for instance.

Rigging And Lifting

Use suitable equipment to lift the fan and carefully move it away from the pallet. Take precautions not to damage to the fan. It is advisable to rig and lift the fan from the duct elbow. Do Not lift from the wheel or motor shaft.

Mechanical Connections

See the Duct Options illustration on page 10 for inlet duct connection. The fan can be supplied with flanged inlet collar and roof curb. Clearances to structures must comply with IMC and NFPA 96. The fan inlet duct can be either continuously welded to the fan collar or if the duct is listed, the connection is made per the manufacturer instructions and the terms of the duct's listing. Clearance reduction can be made per NFPA 96 and subject to approval by the Local Authority Having Jurisdiction (LAHJ).

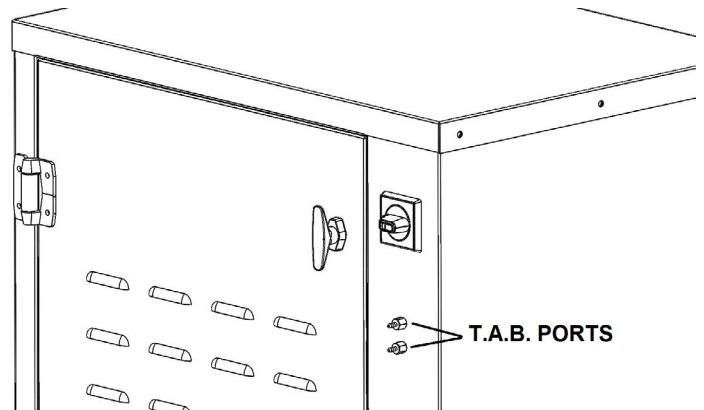
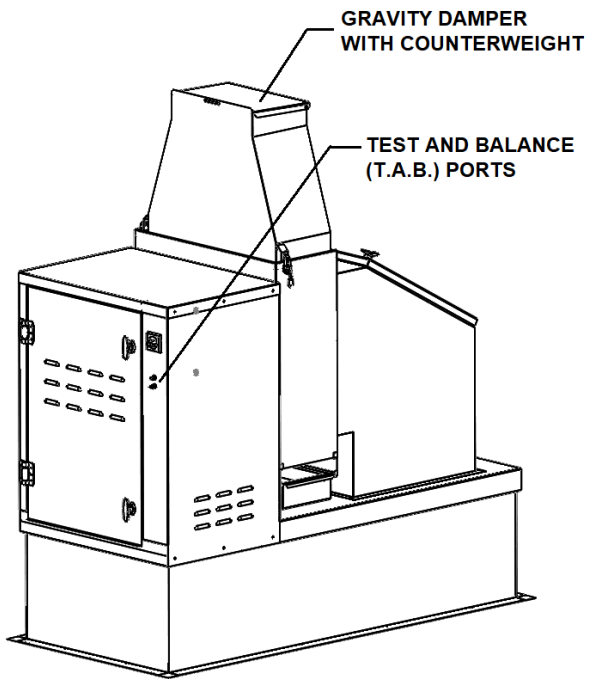
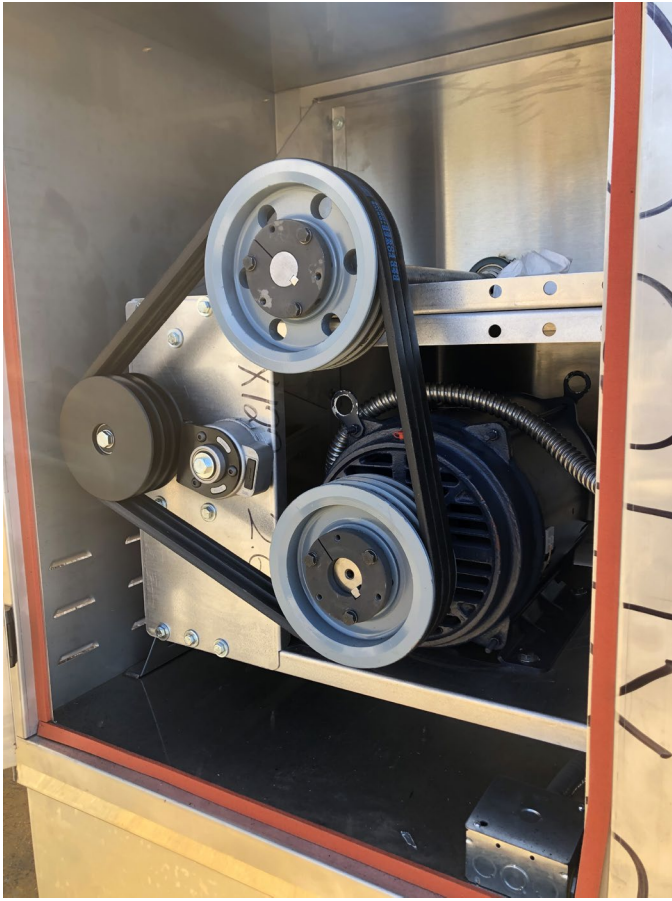
Start Up

CAUTION

Before energizing the fan, make sure the exhaust duct leading to the fan inlet is not blocked or obstructed and that all balancing dampers if provided for hoods served by the fan are wide open.

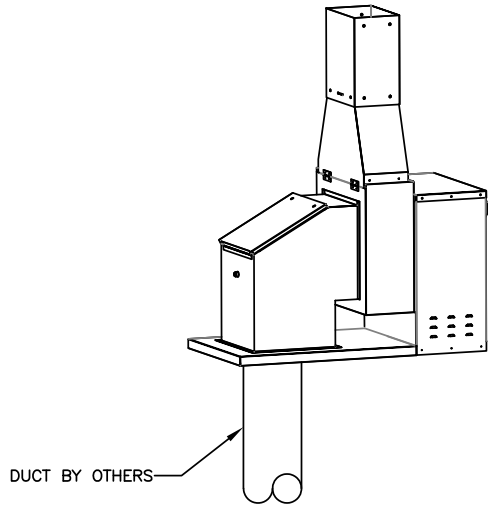
Look over the fan nameplate information. The nameplate can be found on the outside or inside of the motor compartment. Confirm proper voltage at fan disconnect prior to energizing motor. Confirm proper fan rotation. Check for air leaks where duct meets fan. Correct if detected.

1. Open the motor compartment and check the belt tension. The fan is supplied with automatic belt tensioner however, it is best practice to make sure the belt is not loose and that the correct size belt is used as specified.
2. If a speed controller or VFD is employed to drive the motor, set the dial or speed setting at the lowest speed.
3. Turn on the disconnect switch to energized the fan and adjust motor speed slightly above the rest speed until the motor starts to turn. Confirm that the rotation is as indicated on the motor compartment.
4. Close the motor compartment and run the fan at full speed.
5. Measure and record the pressure differential at the T.A.B. ports. The curve of pressure differential versus exhaust flow is shown on the inside surface of the motor compartment door. Adjust motor speed to most nearly match the design flow of the system as specified.

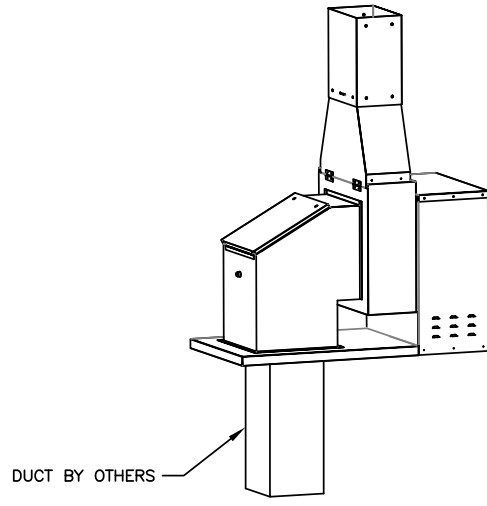


DUCT OPTIONS

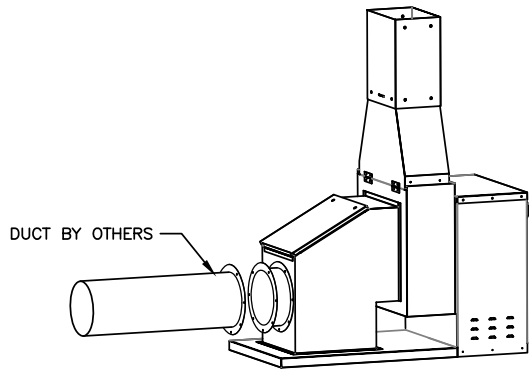
VERTICAL DUCT - ROUND



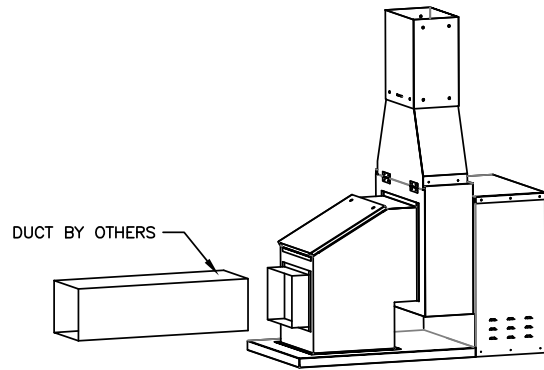
VERTICAL DUCT - RECTANGLE



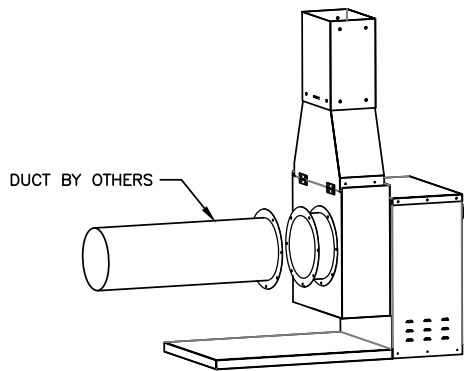
HORIZONTAL DUCT - ROUND



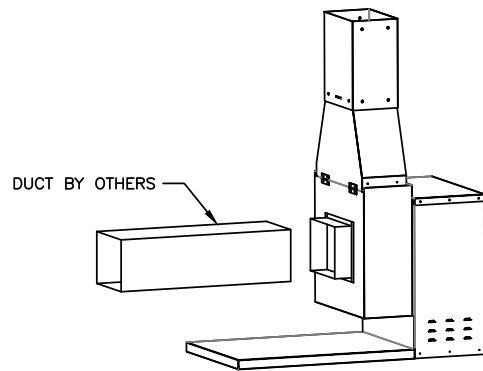
HORIZONTAL DUCT - RECTANGLE



HORIZONTAL DUCT - ROUND



HORIZONTAL DUCT - RECTANGLE

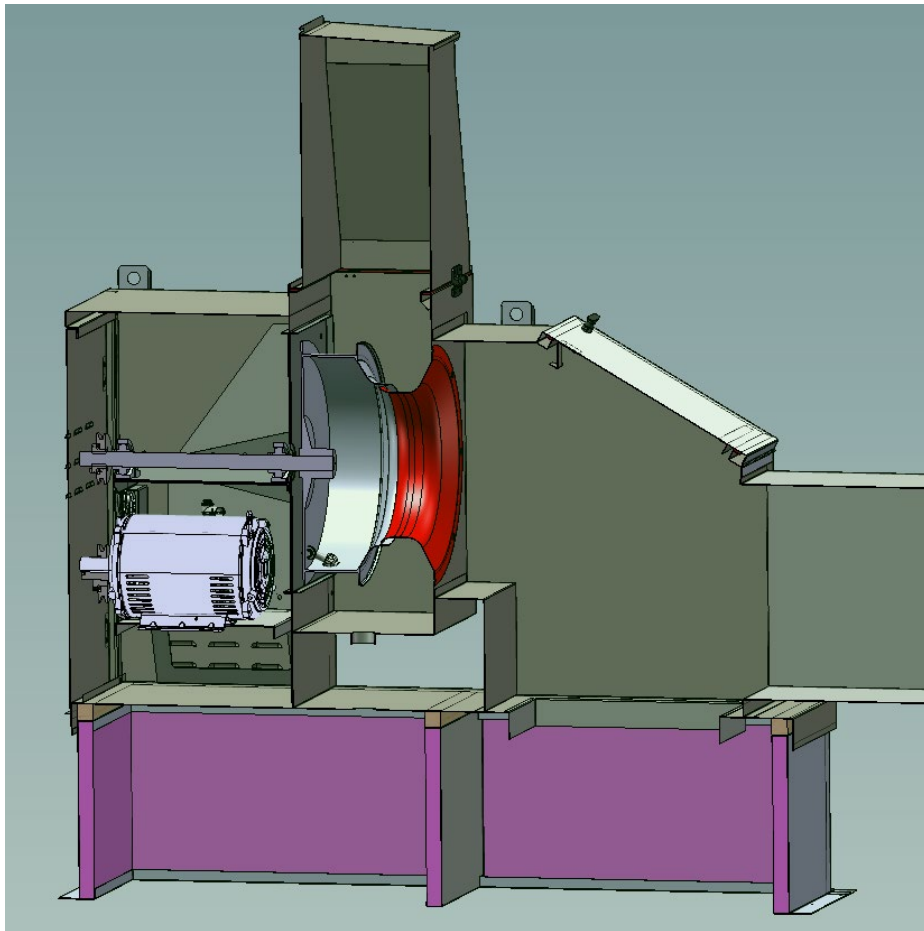


Typical Fan To Curb Installation

The Halton KEF exhaust fans are designed to prevent grease or contaminated water from reaching the roof or storm water system. The fan design provides duct access for cleaning and inspection without removing the fan from the curb or hinging the fan body. The fan is to be permanently sealed to the curb. Hinged doors on the fan provide access to the fan wheel and connecting duct.

Follows are typical installation instructions. Best practices should be followed. All local and national codes must apply to installation. These instructions are not definitive, but are typical. Installer is responsible for integrity of assembly and installation.

The fan is to be sealed to the curb using a 400 degree silicone caulk. Prior to applying caulk pre-drill (2) 3/16" holes on quarters along each side and (1) in the center of each end of the fan counter flashing. The proper way to caulk is to cut the threaded button that seals the tube. Do not use a caulk tip. This provides approximately a 1/4" thick bead of silicone that will seal the base of the fan to the top of the curb and duct. Seal the full perimeter and all four sides of the top duct plate. Use generous amounts of caulk to be sure any irregularities in the sheet metal surfaces are filled. With the caulk in place and the fan installed on the curb, press the fan down firmly to assure good contact. While holding the fan firmly in place, drive 5/16" screws through the predrilled holes in the counter flashing into the curb cap. This will hold the fan securely in place. The caulk is the preferred method as it will seal between the irregularities between the sheet metal surfaces. With the fan operating you should feel no air being sucked into the fan where the fan counter flashing meets the curb cap.



Maintenance

- Cleaning frequency shall at a minimum comply with NFPA 96. Annex B of NFPA 96 describes cleaning of exhaust systems beginning in Section B.11.3 Inspection for Grease Buildup. The entire exhaust system shall be inspected for grease buildup by a properly trained, qualified, and certified person(s) acceptable to the authority having jurisdiction and in accordance with Table B.11.3. (NFPA 96, Rev. 2017) See this section of NFPA 96 for complete cleaning directives.

Table B.11.3 Schedule of Inspection for Grease Buildup	
Type or Volume of Cooking	Inspection Frequency
Systems serving solid fuel cooking operations	Monthly
* Systems serving high-volume cooking operations	Quarterly
Systems serving moderate-volume cooking operations	Semiannually
† Systems serving low-volume cooking operations	Annually
* High-volume cooking operations include 24-hour cooking, charbroiling, and wok cooking.	
† Low-volume cooking operations include churches, day camps, seasonal businesses, and senior centers.	

- Do not remove fan from curb to access duct. Use fan duct access door.
- Belt drive fans: Check belts periodically and adjust or replace as needed. Check bearings and grease as needed using a lithium based grease. At minimum grease annually.
- Heavy use decreases intervals between maintenance.

Troubleshooting

Motor not running:

- Verify correct voltage to motor
- Check disconnect switch
- Check contactor/coil
- Check VFD (if equipped)

Smoke in kitchen-motor running:

- Check belt tension (if belt drive)
- Check drive and driven sheaves for proper adjustment
- Check proper wheel/inlet spacing
- Check for blockages in hood and ductwork
- Check VFD setting (if equipped)
- Check shaft/bearings
- Check fan wheel spin direction to ensure motor isn't turning the wrong direction (wired in correct)

Grease on roof:

- Check discharge outlet gasket for proper seal/missing gasket
- Check drain tray, grease cup for overflow (if equipped)

Replacement Parts

Wheel Inlet Cone

Shaft Bearing Kit

Motor

Gaskets

Belt

To order replacement parts please call Halton Service Network at US (270) 237-5600 or Canada (905) 624-301. Email: parts.us@halton.com

When contacting Service Department be prepared to provide Model of fan and/or Serial Number from product nameplate.

Warranty Form

This form must be completed and returned to Halton in order for your warranty to be valid.

Job & Location Information:

Job Name: _____

Street Name: _____

City: _____ State: _____ Zip Code: _____

Equipment Start-Up Date: _____ Product Serial Numbers: _____

Contact Information:

Contact Name: _____

Title: _____

Chef, Kitchen Mgr/Facility Mgr/Property Mgr/etc.

Facility Management Company Name (if applicable): _____

Email: _____

Phone Number: _____ Cell Number: _____

Fax completed form to:
Halton Company
Attention: Service Department
Fax: (270) 237-5700

Halton Indoor Climate Systems
Attention: Service Department
Fax: (905) 624-5547

OM074-07-2024/rev2/EN

HALTON LIMITED WARRANTY

Halton ("Manufacturer"). Warrants only to its direct purchasers and to no others, that all products manufactured by the Manufacturer shall be free from defect in materials and workmanship for a period of twelve (12) months from the date of the original installation and start-up or eighteen (18) months from date of shipment, whichever occurs first. All products sold but not manufactured by Manufacturer will be warranted for a period of twelve (12) months from date of shipment.

For products manufactured by the Manufacturer we agree to pay any reasonable labor costs necessary to repair or replace, at Manufacturers option, defective parts or materials for a period of twelve (12) months from date of original installation and start-up or eighteen (18) months from date of shipment, whichever occurs first. All labor costs subject hereto shall be performed during standard work hours at straight-time rates.

For products sold but not manufactured by the Manufacturer we agree to pay any reasonable labor costs necessary to repair or replace, at Manufacturers option, defective parts or materials for a period of (90) days from date of original installation and start-up or (12) months from date of shipment, whichever occurs first. All labor costs subject hereto shall be performed during standard work hours at straight time rates.

All warranty claims that include labor requires pre-approval by Halton. Halton, at its discretion, will authorize field warranty work through its own service network or certified third party. No claims for labor charges will be approved for payment if work commences without prior authorization by Halton.

Purchaser shall pay incurred premium labor charge, including overtime, weekends and holidays. Travel time, service charges, miscellaneous tools, material charges, and labor charges resulting from inaccessibility of equipment will not be paid by Manufacturer.

This LIMITED WARRANTY SHALL APPLY ONLY to products that have been installed and maintained in accordance with the installation and Care Instruction Manuals. Purchaser shall be solely responsible for adhering to the instructions and procedures set forth in the said instruction manuals.

This LIMITED WARRANTY SHALL NOT BE APPLICABLE to any damage or defect resulting from fire, flood, freezing or any Act of God, abuse, misuse, accident, neglect or failure to adhere to all instructions set forth in the installation and Care Instruction Manuals. Furthermore, this limited warranty shall not apply to any product that has been altered, unless such alteration has been approved in writing by a duly authorized representative of the manufacturer. In no event shall the manufacturer be liable for any loss, expense, personal injury or consequential damage, of any kind or character, as may result from a defect in material, and/or workmanship, however caused.

EXCEPT AS IS EXPRESSLY SET FORTH IN THIS LIMITED WARRANTY, MANUFACTURER MAKES NO WARRANTY OF MARKETABILITY FOR FITNESS OR ANY PARTICULAR PURPOSE. NEITHER DOES MANUFACTURER MAKE ANY WARRANTY, EXPRESSED OR IMPLIED, WITH RESPECT TO PRODUCTS SOLD BY MANUFACTURER OR AS TO THE USE THEREOF.

Continuous product improvement is a Halton policy, therefore specifications and design are subject to change without notice.