Garland

Induction Designer Series
RTCSmp® Built-In Line Dual Cook-Top Models

Installation, Operation and Maintenance Manual

This manual is updated as new information and models are released. Visit our website for the latest manual.

Part Number 4532285 1/15

Manitowoc

Safety Notices

DEFINITIONS

⚠ DANGER

Indicates a hazardous situation that, if not avoided, will result in death or serious injury. This applies to the most extreme situations.

⚠ 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).

NOTE: Indicates useful, extra information about the procedure you are performing.

DESCRIPTIONS OF SAFETY SYMBOLS AND WARNINGS ON UNIT

	This symbol alerts you to a hazardous situation that WILL or COULD cause serious bodily harm or death. Be alert and implement relevant safety precautions.
	DANGER - HIGH VOLTAGE This dangerous voltage warning symbol indicates a risk of electric shock and hazards from dangerous voltage.
	Electromagnetic Field

Warning

RISK OF FIRE OR ELECTRIC SHOCK! DO NOT OPEN!
To reduce the risk of fire or electric shock, do not remove or open cover. No user serviceable parts inside.
Refer servicing to qualified personnel.

CAUTION ATTENTION
DISCONNECT FROM SUPPLY CIRCUIT BEFORE OPENING

DISCLAIMERS

⚠ DANGER

Disregarding any safety instructions may cause harm to people, the surroundings, and the equipment. Garland is not responsible for any damages or personal injury caused by failure to observe any safety requirements. Risks involved when disregarding safety precautions include, but not limiting to:

- Death or injury caused by electric shock.
- Burn injury caused by contacting overheated cooking surface, cookware, or oil and grease.
- Damage to the equipment caused by using unsuitable cookware.

⚠ DANGER

This product has been certified as commercial cooking equipment and must be installed by professional personnel as specified.

⚠ DANGER

Do not install or operate equipment that has been misused, abused, neglected, damaged, or altered/ modified from that of original manufactured specifications.

⚠ DANGER

Contact Manitowoc Foodservice if you intend to make any changes on the equipment. For safety reasons, always use genuine parts and accessories approved by Manitowoc. Refer to the warranty documents for your equipment.

⚠ DANGER

Owners and operators are cautioned that maintenance and repairs must be performed by an authorized service agent using only genuine Garland replacement parts. Garland will have no obligation with respect to any product that has been improperly installed, adjusted, operated or not maintained in accordance with national and local codes and/or installation instructions provided with the product or any product that has its serial number defaced, obliterated or removed, and/or which has been modified or repaired using unauthorized parts or by unauthorized service agents.

⚠ DANGER

Improper installation, adjustment, alteration, service, or maintenance of this appliance or installation of a damaged appliance can result in DEATH, INJURY, EQUIPMENT DAMAGE, and void the warranty. NEVER install damaged appliances, equipment, or accessories.

ALWAYS have installation and service performed by trained and authorized personnel.

⚠ DANGER

All utility connections and fixtures must be maintained in accordance with local and national codes.

⚠Warning

Do Not Store Or Use Gasoline Or Other Flammable Vapors Or Liquids In The Vicinity Of This Or Any Other Appliance. Never use flammable oil soaked cloths or combustible cleaning solutions, for cleaning.

⚠Warning

Warning labels mounted directly on the equipment must be observed at all times and kept in a fully legible condition.

⚠Warning

Read this manual thoroughly before operating, installing or performing maintenance on the equipment. Failure to follow instructions in this manual can cause property damage, injury or death.

This manual must always be available for reference at the place of operation.

⚠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 a person responsible for their safety. Do not allow children to play with this appliance.

⚠Warning

This product contains chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm. Operation, installation, and servicing of this product could expose you to airborne particles of glass-wool or ceramic fibers, crystalline silica, and/or carbon monoxide. Inhalation of airborne particles of glass-wool or ceramic fibers is known to the State of California to cause cancer. Inhalation of carbon monoxide is known to the State of California to cause birth defects or other reproductive harm.

Notice

Routine adjustments and maintenance procedures outlined in this manual are not covered by the warranty.

NOTE: Proper installation, care and maintenance are essential for maximum performance and trouble-free operation of your equipment. Visit our website www.mtwkitchencare.com for manual updates, translations, or contact information for service agents in your area.

NOTE: Throughout this manual, the induction unit type indicated on the front cover is referred to as “induction unit” or “unit” or "equipment".

CODE

⚠Warning

Authorized Service Representatives are obligated to follow industry standard safety procedures, including, but not limited to, local/national regulations for disconnection / lock out / tag out procedures for all utilities including electric, gas, water and steam.

PERSONAL PROTECTION

⚠ DANGER

All utilities (gas, electric, water and steam) must be OFF to all equipment and locked out of operation according to national/regional, as well as company approved practices during servicing. Always allow unit to cool.

⚠ DANGER

Use appropriate safety equipment during installation and servicing.

⚠ DANGER

Never stand on the unit! They are not designed to hold the weight of an adult, and may collapse or tip if misused in this manner.

⚠ DANGER

Keep power cord AWAY from HEATED surfaces. DO NOT immerse power cord or plug in water. DO NOT let power cord hang over edge of table or counter.

⚠ DANGER

To avoid cardiac pacemaker malfunction, consult physician or pacemaker manufacture about effects of electromagnetic field on pacemaker.

⚠Warning

Use caution when handling metal surface edges of all equipment.

⚠Warning

Risk of burns from high temperatures. You may get burnt if you touch any of the parts during cooking. Surfaces close to the cooking surface including side panels may get hot enough to burn skin. Use extreme caution to avoid coming in contact with hot surfaces or hot grease. Wear personal protective equipment.

CORRECT DISPOSAL OF THIS PRODUCT

This marking shown on the product indicates that the product should not be disposed as household waste or regular commercial waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed correctly, you will help prevent potential harm to the environment or human health, which could otherwise be caused by inappropriate waste handling of this product.

For more detailed information regarding recycling of the product, please contact your local city office or your waste disposal service.

⚠ DANGER

Induction units, sent for disposal, can be brought back into operation and their use must be avoided.

NOTE: The unit is built with common electrical, electromechanical, and electronic parts. No batteries are used.

NOTE: The owner and operator are responsible for the proper and safe disposal of the unit.

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Section 1
General Information

Nomenclature and Model Numbers

Series	Style	Built-In	Power (Watt)	Model Number**
SH = Slim Hob	**DU** = Dual	**IN**	7000 (2x **3500**)	**SH/DU/IN 3500**
			10000 (2x **5000**)	**SH/DU/IN 5000**

** A "3500" dual unit consists of two 3500Watts coils; a "5000" dual unit consists of two 5000Watts coils.

Warranty Information

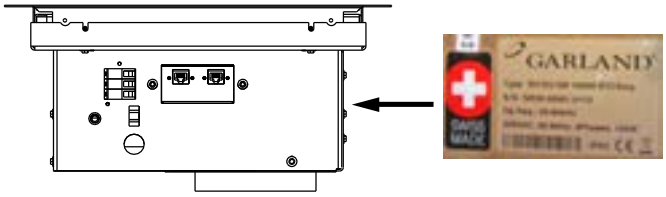
Visit www.garland-group.com to view and download a copy of your warranty.

Packing Slip

The packing slip attached to the shipment contains detailed information on all components. Please retain this packing slip for future reference.

Serial Plate Location

The serial plate is affixed to the side of the housing, near the electrical connectors at the front. Important information such as the unit's model number, serial number, and electrical specifications can be found on the serial plate.



Compliances

- **North American models**:

  ETL recognized* in compliance with UL 197, CSA C22.2 No.109, NSF-4. Complies with FCC part 18, ICES-001

  Intertek Intertek

  *see section *"Installation" on page 11*

- **CE models** comply with the latest European Norms:

  EN 60335-1, EN 60335-2-36, EN 62233 (EMC/EMV)

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Section 2
Installation

⚠Warning

Safety and Electrical Requirements

This appliance component requires additional features and components to comply with appliance and electrical standards.

It is the responsibility of the customer and installer to interpret and comply with all applicable national and regional health codes, safety and electrical standards in your jurisdiction.

This product requires the addition of:

- **A suitable non-flammable electrical enclosure; a means to conceal and protect components and wiring.**
- **Grounding and bonding to the enclosure.**
- **An appliance rating plate that includes end manufacturer information.**
- **Investigation by local electrical authority. Warning, caution labels and other markings required by electrical and safety standards could be provided by local authority.**

Depending on the application and configuration of this product(s), consider the addition of:

- **Field supply connection terminals (terminal block).**
- **Branch circuit protection (breakers).**
- **Fans, ventilation or cooling systems and controls.**

⚠Warning

Installation must be carried out by registered installation contractors only. The contractors are responsible for interpreting all instructions correctly and performing the installation in compliance with national and local regulations. The warning signs and serial plates on the equipment must strictly be followed.

⚠Warning

The unit is designed for custom built counter or island suite. Customers are responsible to provide proper installation mounting for the components.

Read ALL SECTIONS carefully, comply with all requirements listed and ensure inspection is done by qualified personnel.

⚠Warning

To avoid instability the installation area must be capable of supporting the combined weight of the equipment and product.

The equipment must be level side to side and front to back.

⚠Warning

This equipment is intended for indoor use only. Do not install or operate this equipment in outdoor areas.

⚠Caution

This equipment must only be operated under an approved hood system in accordance with local regulations in force.

⚠Caution

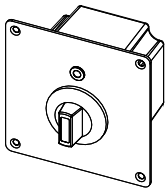
Consultants and designers must consult their conter-top suppliers when designing an appropriate support structure and clearance for the counter-top and installation.

Notice

Induction equipment that is not installed correctly will have warranty voided.

NOTE: Always maintain enough space between and around the equipment in the cabinet for maintenance and service.

Components

Induction Generator, RTCSmp Built-In Line Dual Cook-Tops (with Built-In Frame and Ceran Glass-Top)	
x1 7kW Unit (2x 3500Watts) or x1 10kW Unit (2x 5000Watts)	
Control Unit, Complete Assembly	
x2, one for each cook zone	
Included, two (2) RJ-45 Cables Each RJ-45 cable is 914mm or 36 inches long.	
Air Intake Kit for Built-In Dual Cook-Tops Unit	
Kit Part Number 95000020 x1 Silicone sealant is provided in the kit for installation.	

NOTE: Mains power supply cable not included.

Overview: Critical Information on Design and Installation

⚠Warning

The unit is designed for custom built counter or island suite. Customers are responsible to provide proper installation mounting for the components.

Read ALL SECTIONS carefully, comply with all requirements listed and ensure inspection is done by qualified personnel.

Typical Installation Procedure	Component to Install	Refer to the sections below for requirements
Step 1	Generator	Operating Conditions, Electrical Compartment, Location and Ventilation Requirements: *"Critical Requirements" on page 13*
		"Installation Clearance" on page 14
		Weights, Dimensions and Installation Instructions: *"Built-In SH/DU/IN Generator Installation" on page 17*
Step 2	Control Units	*"Installation Clearance – Components" on page 14*
		"Control Unit Installation" on page 19
Step 3	Air Intake Kit	Components and Installation Instructions: *"Air Intake Kit (P/N 95000020)" on page 21*
Step 4	Electrical	*"Electrical compartment" on page 13*
		"Electrical Specifications" on page 22
		"Electrical Installation" on page 22
Step 5	Test	*"Function Test" on page 24*

Critical Requirements

SUMMARY OF OPERATING CONDITIONS

Maximum Tolerance of Nominal Supply Voltage	+6 /-10 %
Supply frequency	50/60 Hz
Ingress Protection class	IP X0 (Protection by customer is required.)
Minimal Diameter of Induction Pan	5" (12cm)
Maximum Ambient Temperature	In Storage > -4°F to +158°F (-20°C to +70°C)
	In Operation >+ 41°F to +104°F (+5°C to +40°C)
Maximum Relative Air Humidity	In Storage > 10% to 90%
	In Operation > 30% to 90%
Clearance from Materials	Min. 1.18" / 30mm
Maximum Air Flow	70.63cfm/120m^3 per hour Minimum opening: total sum of 10.075in^2/6500mm^2 is required.

ELECTRICAL COMPARTMENT

For personal safety and to protect the induction unit and wiring, we recommend isolating the electrical components and wires in separate electrical compartments inside the cabinet (Figure B, below).

The illustration below shows a simplified representation of an installation.

Notice

To ensure reliability of the induction unit, the custom built counter / island suite / compartments must have sufficient ventilation for the exhaust.

The in-take air and exhaust air must not mix. Depending on the air path and the amount of natural air movement, it is highly recommended to install a fan or fans on the cabinet to pull hot exhaust air away from the electronic equipment, or to provide a separate exhaust air plenum.

Failure to provide adequate ventilation will cause the induction unit to overheat, to reduce power, or to shutdown.

Figure A

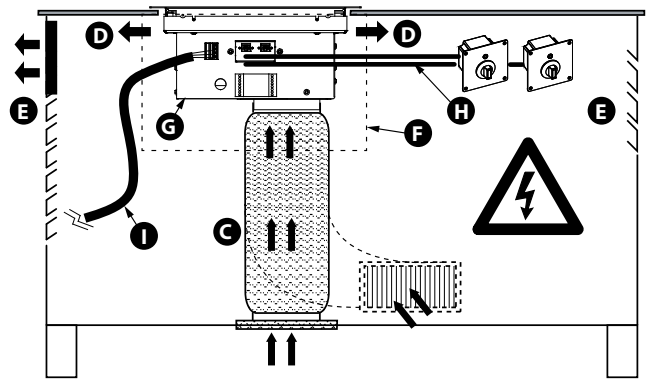
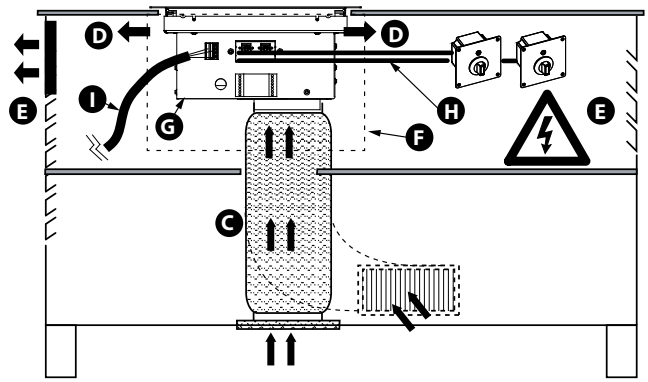


Figure B



A. (Figure A)

All components and exposed wires are protected inside one single enclosed compartment.

B. (Figure B)

The interior space of the cabinet is divided. The unit and wiring are protected inside the upper compartment. Extra storage space can also be created.

C. Fresh air supply through an air duct (Air intake kit provided).

D. Hot air exhaust openings.

E. Air exhaust vents/fans installed on the cabinet. NOTE: Additional fans and cooling controls are the responsibility of the customer and installer.

F. Clearance. See section *"Installation Clearance" on page 14*

G. Induction generator.

H. Power switch cable (x2), length= 914mm / 36inch, to connect the control unit (power switch) to the induction generator.

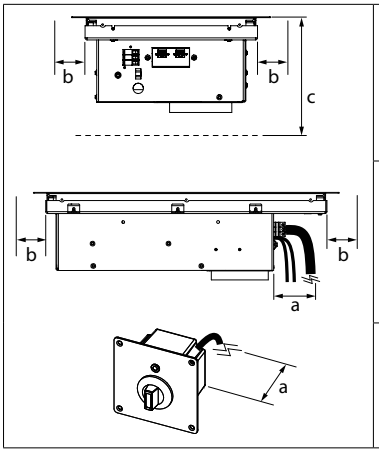
I. Main power cable (not provided).

INSTALLATION CLEARANCE

⚠ DANGER

Risk of fire/shock/equipment failure. All minimum clearances must be maintained. Do not obstruct vents or openings.

Installation Clearance – Components



	a Cable Bend / Connection Clearance (minimum)	b Air Vents Clearance (minimum)	c Clearance (minimum)
Induction Generator	73mm / 2.88"	30mm / 1.18"	204mm / 8.03"
Control Unit	63.5mm / 2.5"	-	-

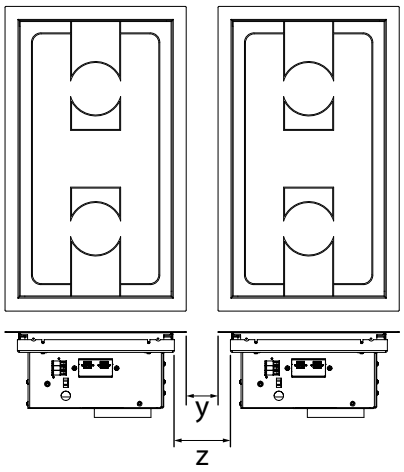
Installation Clearance – Parallel Installation

For parallel installation of multiple RTCSmp SH/DU/IN units, a minimum distance between units must be maintained to prevent any electrical interference and to ensure proper air ventilation.

Notice

The orientation of each unit in a parallel configuration will affect the ventilation requirements. Ensure the installation will meet all operating and ventilation requirements. Refer to *"Summary of Operating Conditions" on page 13 and "Ventilation Requirements" on page 16.*

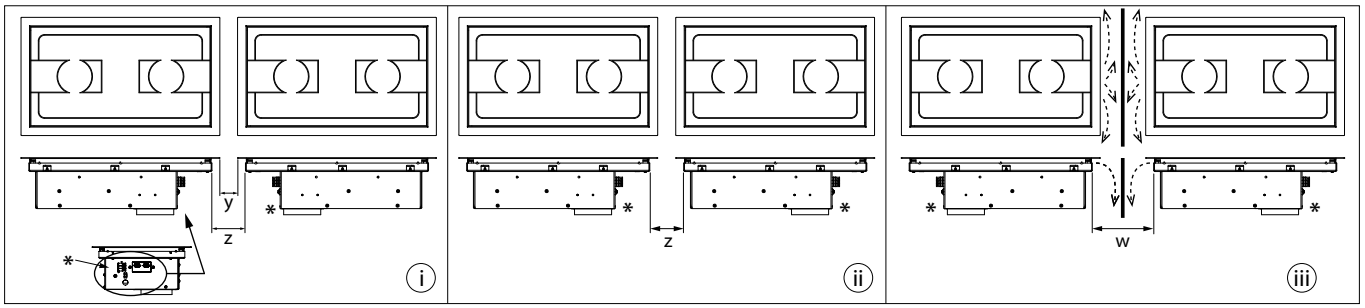
PARALLEL INSTALLATION - SIDE BY SIDE CONFIGURATION



Recommended distance between units:

- From flange to flange, y = minimum 12.7mm (0.5inch).
- From coil carrier to coil carrier, z = minimum 60mm 2.36inch.

PARALLEL INSTALLATION - IN-LINE CONFIGURATION



* denotes the front, where the connectors are located.

--> Hot air exhaust

(i)	(ii)	(iii)
Front to Front In this configuration, the wirings can be managed together and the air intake apparatus (ducts, air filters) would be close together. Recommended distance between units: • y = minimum 25.4mm (1inch). • z = minimum 77.4mm (3.05inch).	**Front to Back** Strong exhaust from the back of one unit will blow into the other. A proper ventilation system is necessary to maintain proper ambient operating temperature to below 40°C / 104°F. Recommended distance between units: • y = minimum 25.4mm (1inch). • z = minimum 77.4mm (3.05inch).	**Back to Back** This configuration is not recommended unless the distance "w" in between the units is large enough for proper air circulation or an appropriate ventilation system is installed. In addition, consider to add a baffle (shown in illustration) in between the units to prevent exhaust air blowing directly into other units. Operating temperature below 40°C / 104°F must be maintained. Otherwise, hot exhaust air from both units in proximity may accumulate quickly, causing the units to reduce power or to switch-off.

LOCATION REQUIREMENTS

⚠ Caution

Do not position the air intake vent near steam or heat exhaust of another appliance.

- The induction unit must be installed securely in a suitable non-flammable electrical enclosure (closed counters).
- Allow easy access for service technicians to the unit and cable connections for maintenance and service.
- The unit must be level.
- Protect the induction unit from heat, steam and grease generated by other equipment, such as oven, deep fryer, pasta cooker, steamers, and water bath.
- Allow easy access to the control knobs and ensure the LED lights are not obstructed.
- Keep the induction unit away from combustible materials, vapors or liquids.

VENTILATION REQUIREMENTS

Proper cool air intake and ventilation is essential to the reliability and functioning of the induction unit. Please ensure all requirements listed below are met.

Notice

To ensure reliability of the induction unit, the custom built counter / island suite / compartments must have sufficient ventilation for the exhaust.

The in-take air and exhaust air must not mix. Depending on the air path and the amount of natural air movement, it is highly recommended to install a fan or fans on the cabinet to pull hot exhaust air away from the electronic equipment, or to provide a separate exhaust air plenum.

Failure to provide adequate ventilation will cause the induction unit to overheat, to reduce power, or to shutdown.

Notice

The maximum ambient temperature for the induction unit to operate must not exceed 104°F (40°C).

Notice

To allow hot exhaust air to escape, install in the cabinet an air exhaust vent that must be at least 1.5 times or greater than the air intake opening.

NOTE: Additional fans and cooling controls are the responsibility of the customer and installer.

- Meet all requirements listed in:

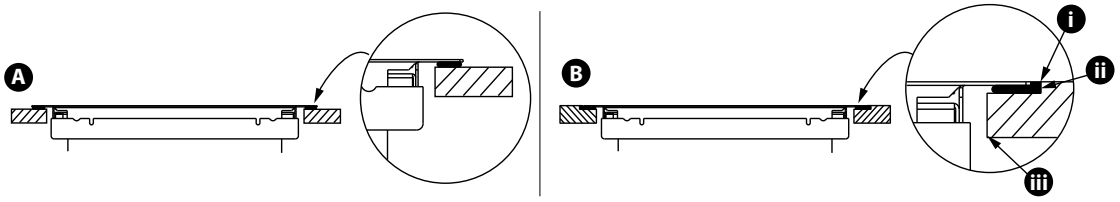
  "Summary of Operating Conditions" on page 13 and *"Installation Clearance" on page 14*
- An optimal fresh air intake must not be restricted by the installation.
- Ensure the induction unit does not take in hot ambient air or steam from another appliance, especially when the unit is installed close to heat generating equipment such as fryers or ovens.

Built-In SH/DU/IN Generator Installation

WEIGHTS

Model	Shipping Weight	Net Weight
7kW (2x 3500W)	25kg / 55.1lb	23kg / 50.7lb
10kW (2x 5000W)	27kg / 59.5lb	25kg / 55.1lb

TOP-MOUNT / FLUSH-MOUNT AND CUT-OUT DIMENSIONS

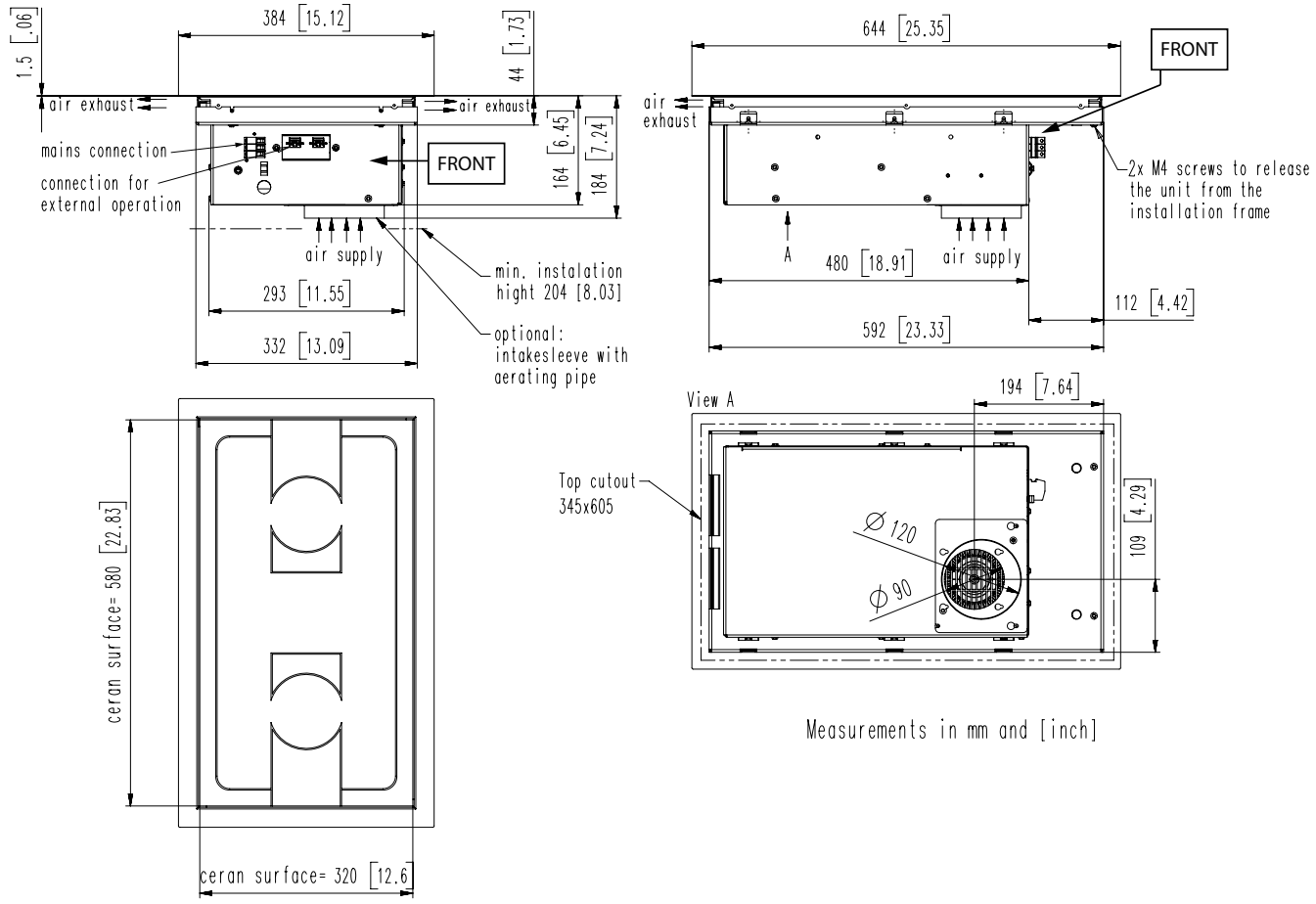


(A) Top-Mount
Cut-out dimensions on the counter surface:

345 x 605mm [13.58" x 23.82"]

(B) Flush-Mount
Cut-out dimensions on the counter surface:
(i) Opening for flange:
minimum– 384.5 x 644.5mm [15.14 " x 25.37"]
maximum– 385.6 x 645.6mm [15.18" x 25.41"]
(ii) Depth for flange: 2mm [0.079"]
(iii) Body clearance: 345 x 605mm [13.58" x 23.82"]

DIMENSIONS: SH/DU/IN



Measurements in mm and [inch]

INSTALLATION INSTRUCTIONS

Notice

To protect the induction unit from water penetration, you must apply and bond the silicone adhesive properly to create a water-tight seal.

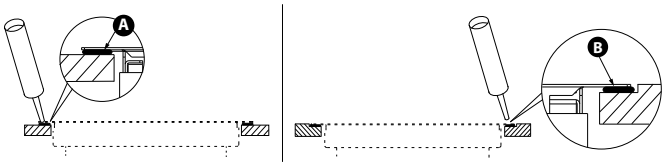
Before you begin the installation, it is very important to use isopropyl alcohol (minimum 70%) or equivalent to clean any surface areas where the silicone adhesive will be applied.

NOTE: Please pay attention to the orientation of the unit. All electrical connectors are located at the front of the unit.

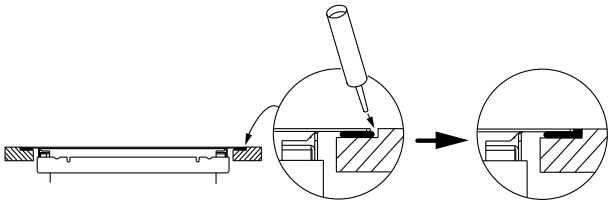
1. Apply silicone adhesive PACTAN (Part Number 70000015, provided in the Air Intake Kit) to:

   (**A**) TOP-MOUNT: The top of the counter surface where the built-in frame will sit on.

   (**B**) FLUSH-MOUNT: The top of the support step where the built-in frame will sit on.



2. Carefully lower the induction unit into the opening and press the frame into the silicone, allowing a complete water tight seal between the unit and the counter.
3. Ensure the countertop and the hob(s) are leveled.
4. FLUSH-MOUNT ONLY. Apply silicone adhesive to fill the gap completely between the flange and the counter surface. Carefully wipe up any excess silicone.



Control Unit Installation

- One control unit is provided for each cook zone.

NOTE: Install the operating unit in an UPRIGHT position.

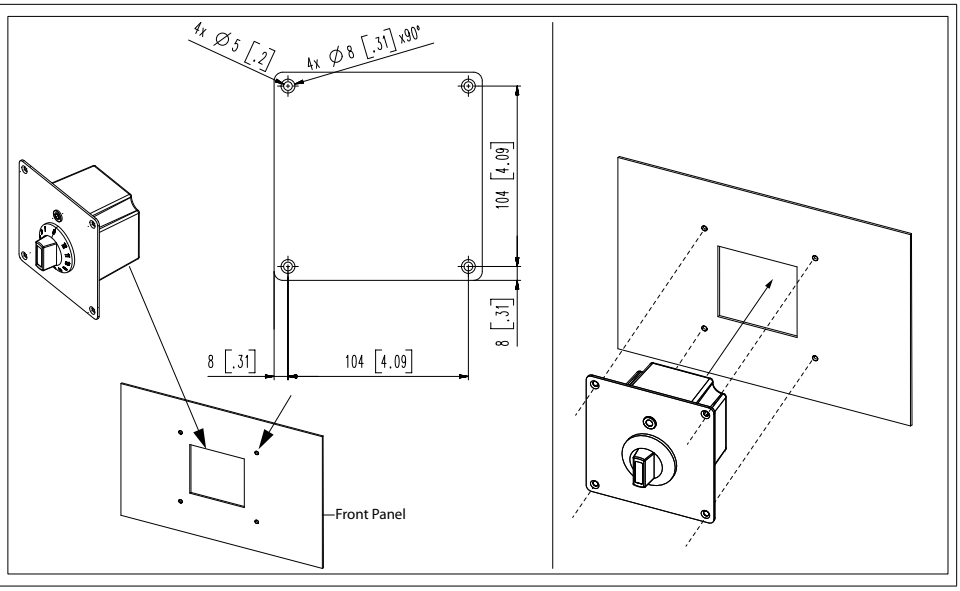
NOTE: **DO NOT dis-assemble the control unit or remove / loosen any screws on the control unit.**

FRONT-MOUNT METHOD

To mount the control unit onto the front of the panel:

1. Use the dimensions provided or the actual unit as a template, create holes for screws and the body of the control unit.
2. Fasten the control unit to the panel (fasteners not provided).

Illustration: Measurements in mm and [inch].



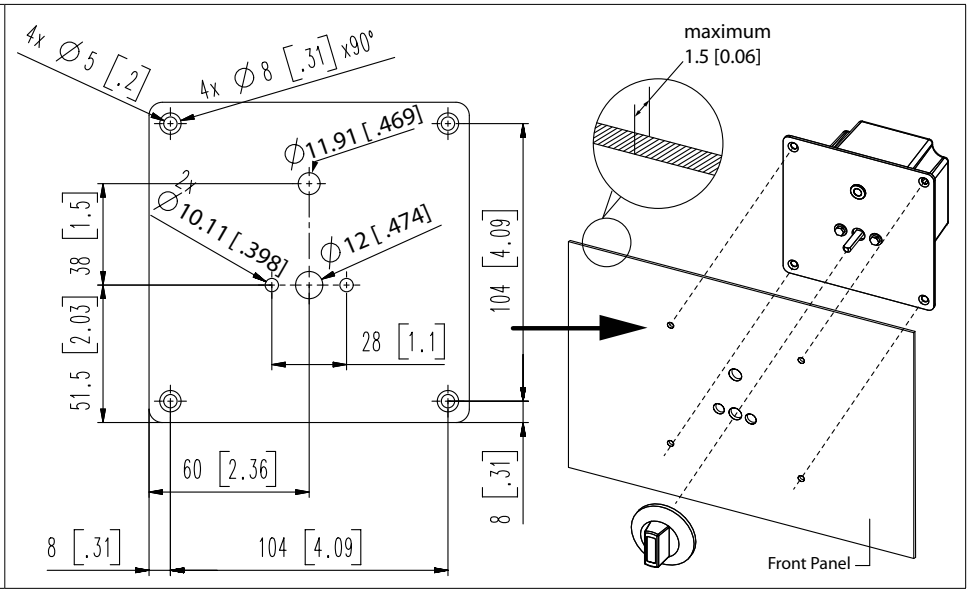
BACK-MOUNT METHOD

NOTE: For this type of installation, the maximum thickness of the panel must not exceed 1.5mm or 16 gauge. This restriction ensures a proper grip on the knob and the LED light will not be obstructed.

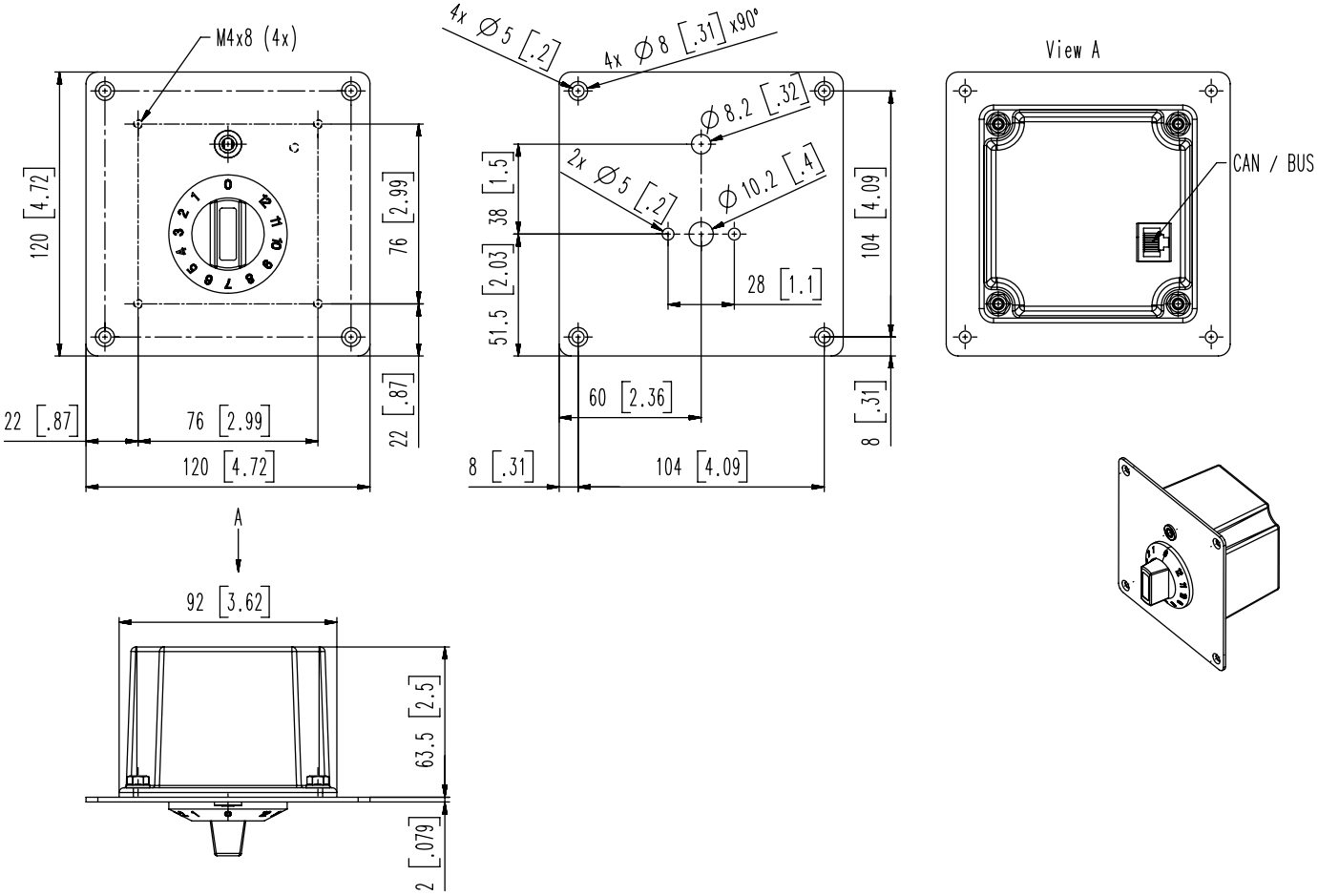
To mount the control unit onto the back of the panel:

1. Use the dimensions provided (left), create on the panel all the holes indicated.
2. Remove the plastic knob from the control unit and fasten the control unit to the panel (fasteners not provided).

Illustration: Measurements in mm and [inch].



DIMENSIONS: CONTROL UNIT



(measurements in mm and [inch])

Air Intake Kit (P/N 95000020)

Notice

- The maximum length of the air duct must not exceed 96"(244cm).
- The Air Intake Filter should be in visible view, easily accessible, and labeled. Operators have to inspect and clean the air filter(s) regularly. A blocked filter can cause electronic damage to the induction unit.

COMPONENTS

A. Air Intake Filter

B. Air Filter Holder with Front Plate

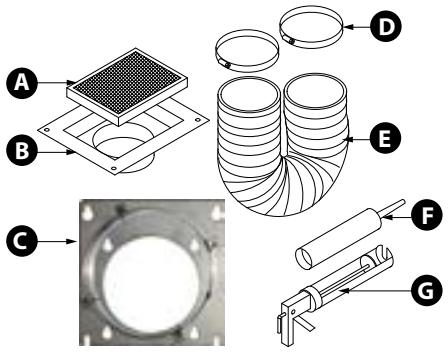
C. Air Duct Flange

D. Hose Clamp (x2)

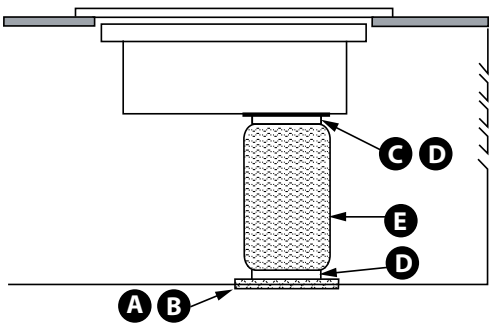
E. Flex Aluminum Air Duct

F. Silicone Adhesive (PACTAN)

G. Caulking Gun

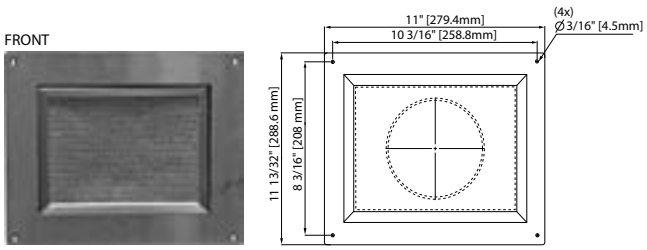


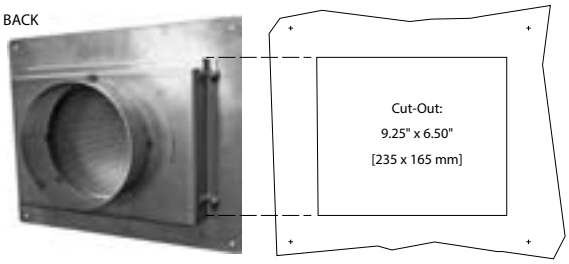
Example of an air intake kit connected to a built-in unit



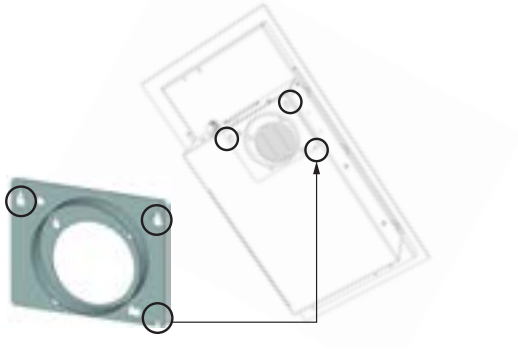
INSTALLING THE AIR INTAKE KIT

1. Cut-out Dimension for the Filter Holder:





2. Mount the air filter holder with front plate onto the cabinet.
3. Fasten the air duct flange onto the bottom of the Generator with three (3) screws. Use M4 screws with either countersunk or flat heads.



4. Use the hose clamps to attach the air duct to the filter holder (Step 2) and the air duct flange (Step 3).
5. Insert the air intake filter and label the location of the filter for the kitchen staff. Frequent inspection and cleaning of the filter is required.

Electrical Installation

⚠ DANGER

All electrical connections must be carried out by a certified electrical contractor, who is responsible for the correct rating and installation of the induction unit. The contractor has to comply with all legal safety regulations and all applicable national and local electrical codes.

⚠Warning

This appliance must be grounded and all field wiring must conform to all applicable local and national codes. Refer to rating plate for proper voltage. It is the responsibility of the end user to provide the disconnect means to satisfy the authority having jurisdiction.

⚠Warning

This equipment must be positioned so that the plug is accessible unless other means for disconnection from the power supply (e.g. circuit breaker or disconnect switch) is provided.

⚠Warning

Observe all safety and warning signs and markings on the unit.

⚠Warning

If ground fault current protective switches are used, they must be provided with selective activation and designed for a minimum fault current of 30mA. Multiple generators with a mains connection must not be connected to a single fault current protective switch.

Notice

Ensure the supply voltage and the line current match the specifications given on the serial plate affixed to the unit. A stable mains supply must be provided.

Wrong voltage will damage the induction unit. Follow strictly the specifications on the serial plate on the unit.

Notice

All cables must be routed, protected and tension free.

Notice

The electrician must equip the generator with a mains cable in accordance with the applicable regulations. Ensure the mains cable connection is absolutely correct.

ELECTRICAL SPECIFICATIONS

Notice

Due to continuous improvement, this information is for reference only. Always refer to the serial plate on the unit to verity the electrical data. Serial plate information overrides information listed on this page.

Power	Voltage	Conductor Size
7000W (2x 3500W) / 22A	208 V AC / 3Ph / 60Hz	AWG 10
7000W (2x 3500W) / 11A	400 V AC / 3Ph / 50Hz	1.5mm^2
7000W (2x 3500W) / 10A	440 V AC / 3Ph / 50Hz	1.5mm^2
10000W (2x 5000W) / 30A	208 V AC / 3Ph / 60Hz	AWG 8
10000W (2x 5000W) / 16A	400 V AC / 3Ph / 50Hz	2.5mm^2
10000W (2x 5000W) / 15A	440 V AC / 3Ph / 50Hz	2.5mm^2

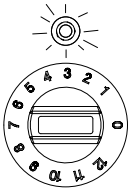
Operating Conditions

Maximum Tolerance of Nominal Supply Voltage	+6 /-10 %
Supply frequency	50/60 Hz

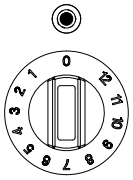
CONNECTING THE COMPONENTS

1.

> **⚠Warning**
>
> Ensure the control knobs are in the 0 (OFF) position BEFORE connecting the unit to the electrical supply.



ON-Position
Any position other than "0" is pointing to the LED indicator light. The LED is on.

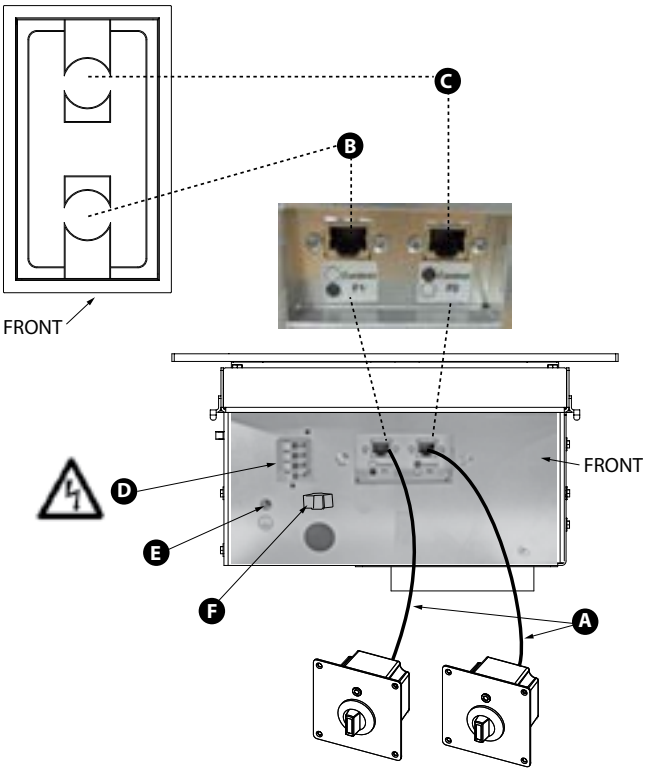


OFF-Position
"0" is pointing to the LED indicator light. The LED is off.

2. Remove all objects from the glass-top and check that the glass-top is neither cracked nor broken.

> **⚠Caution**
>
> Do not continue if the glass-top is cracked or broken. Contact an authorized service agency for assistance.

3. To connect the components:



A. Use the RJ-45 cables provided to connect the control units to the generator.

B. The control unit connected to the LEFT connector will control the FRONT heating zone, as indicated by the black solid circle on the sticker.

C. The control unit connected to the RIGHT connector will control the REAR heating zone, as indicated by the black solid circle on the sticker.

D. Connect a proper mains cable (not provided) to:

- L1,L2,L3: 3-Pole terminal block for 208V;
- L1,L2,L3,PE: 4-Pole terminal block for 400/440V.

E. Ground connection for voltage version 208V. Use M6 screw: M6 x10mm recommended; M6 x15mm maximum.

F. Cable tie anchor. Tension relief for the mains cable.

4. Connect the mains cable from "D" to power supply.
5. To ensure the unit is working, follow instructions in *"Function Test" on page 24*

Function Test

⚠Warning

Before you start, read carefully and understand all safety and operational requirements in sections "*Safety Notices*" and "*Operation*".

⚠Warning

Never Leave An Empty Pan On Cook-Top

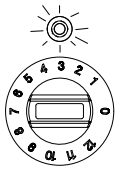
Induction units heat up empty pans very quickly.

Never operate the unit with an empty pan on a cook-top; always put food products, water or oil into the pan before turning the unit on. Failure to do so will result in irreparable damage.

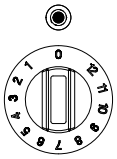
Notice

You must use induction suitable cookware, having a bottom diameter of at least 12cm or 5-inch.

1. Put some water in an induction cooking pan and place it in the center of the cook zone.
2. Turn the control knob to a position between 1 and 12. The LED lamp illuminates and the water is heated.



ON-Position
Any position other than "0" is pointing to the LED indicator light. The LED is on.



OFF-Position
"0" is pointing to the LED indicator light. The LED is off.

3. Remove the pan away from the cook zone.

   NOTE: When power transmission to the pan bottom stops, the indicator lamp blinks.

4. Place the pan back on the cook zone. The heating process resumes.

   NOTE: The LED lamp illuminates continuously again when energy is being transferred to the pan.

5. Turn the control knob to the OFF/"0"-position. The heating process stops; the indicator lamp goes off.

If the induction unit does not function as expected despite using quality induction pans, refer to section "*Troubleshooting*".

To test the efficiency of a pan for induction cooking, refer to section "*Troubleshooting*".

Section 3
Operation

DISCLAIMER

⚠ DANGER

The on-site supervisor is responsible for ensuring that operators are made aware of the inherent dangers of operating this equipment.

DANGEROUS ELECTRICAL VOLTAGE

⚠ DANGER

If any part of the unit is cracked or broken, **Stop and Immediately Turn Off the unit**. Only if it is possible and safe, disconnect the unit from main power supply. Do not touch any parts inside the unit.

Failure to disconnect the power at the main power supply disconnect could result in serious injury or death. The power switch DOES NOT disconnect all incoming power.

Contact an authorized service agency for assistance.

⚠ DANGER

Do not operate any appliance with a damaged cord or plug. All repairs must be performed by a qualified service company.

⚠ Warning

All covers and access panels (of cabinet) must be in place and properly secured, before operating this equipment.

PERSONAL AND EQUIPMENT PROTECTION

Notice

Induction units are more powerful, heat up pans quicker, and cook food faster than conventional cooking equipment. Your induction unit will require different use and care than other conventional equipment.

Do not operate the equipment without reading this manual and understanding all safety requirements.

⚠ Warning

Never Leave An Empty Pan On Cook-Top

Induction units heat up empty pans very quickly.

Never operate the unit with an empty pan; always put food products, water or oil into the pan before turning the unit on. Failure to do so will result in irreparable damage.

⚠ Warning

Short Cook Time

Induction unit offers short cooking time. To avoid overheating and burning, check the cooking process frequently. Never leave the unit unattended during operation.

Notice

Broil-Dry Protection

Each cook zone is monitored by multiple temperature sensors. The sensors can detect overheating at the base of a cooking pan. When an overheated pan (overheated oil, empty pan) is detected, the unit stops energy transfer to the pan immediately. You must turn the unit off and let it cool down before re-starting the unit.

⚠ Caution

Do Not Touch Overheated Unit

To avoid burn injuries, do not touch the unit when a pan is overheated and take all the necessary precautions when removing the overheated pan.

⚠ DANGER

To avoid cardiac pacemaker malfunction, consult physician or pacemaker manufacture about effects of electromagnetic field on pacemaker.

Notice

Use Only Induction Suitable Cookware

Use only induction suitable cookware with proper sizes and made of proper material. The induction suitable cookware must be in good condition without any uneven, arched or partially detached bottoms.

Using unsuitable cookware on the induction unit can cause the unit to fail prematurely, void your warranty, or incur high service costs.

⚠ Caution

Do Not Touch Cook-Top During Operation

During operation, the cookware will heat up the glass-top. To avoid burn injuries, do not touch the glass-top during operation.

Notice

The reliability of the unit can only be guaranteed when it is used properly. The unit must always be operated within the limits / operating conditions provided in this manual.

⚠Caution

Metallic objects are heated up very quickly when placed on the unit when the unit is in use. To avoid injury, DO NOT place any objects such as closed cans, aluminum objects (aluminum foils), cutlery, jewelry, or watches on the unit.

DO NOT place any object such as paper, cardboard, or cloth in between the cookware and the cooking surface, as this creates a fire hazard.

DO NOT place credit cards, phone cards, tapes, or any objects sensitive to magnetism on the unit.

DO NOT use the unit for storage. DO NOT place any paper products, cooking utensils, cutlery, plastic vessels or food on the unit when not in use.

⚠Warning

This equipment is intended for indoor use only. Do not install or operate this equipment in outdoor areas.

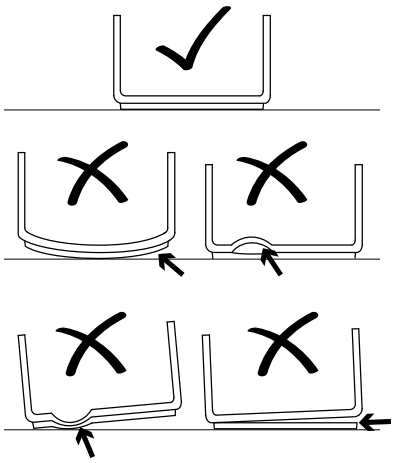
⚠Warning

Steam can cause serious burns. Always wear some type of protective covering on your hands and arms when removing lids or pans from the unit. Lift the lid or pan in a way that will direct escaping steam away from your face and body.

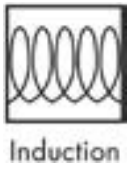
Proper Induction Cookware

CONDITION OF COOKWARE

Pans with layer separation (outward and inward bubbles), arching or partially detached bottoms must be replaced. When these pans are used, the sensors under the glass-top cannot detect temperature correctly. These pans will overheat the sensors and eventually will damage the sensors and the generator. Illustration below shows examples of good and bad pans in cross-sections.



MATERIAL OF COOKWARE



Use cookware made of conductive and magnetic materials. If the pan bottom attracts a magnet, the pan is suitable for induction cooking. Look for cookware that is labeled "suitable for induction" or with an induction compatible symbol.

BOIL TEST: PERFORMANCE OF COOKWARE

For procedure and guideline, refer to *"Boil Test: Performance of Cookware" on page 33*

SIZE OF COOKWARE

A. Minimum size: The bottom of the cookware must have a diameter of at least 5" (12cm). This is indicated by dotted line circle A.

B. Optimal size: The bottom of the pan fits the edged perimeter on the glass as shown. This is indicated by dotted line circle B.

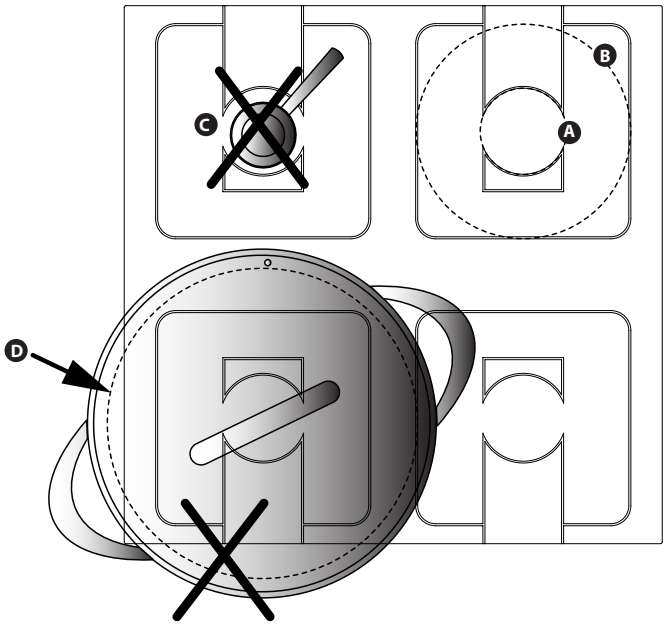
C. When the bottom of pan has a diameter less than 5" (12cm), the sensors will not detect the pan properly and the pan will not be heated.

D. Oversized pans:

Notice

Do not use oversized pans on the induction unit. The bottom of the pan must fit the glass.

When a hot, oversized pan covers the silicone joint underneath, the heat from the pan may dry out the silicone overtime and cause this water tight seal to break. The induction unit may fail eventually due to penetration of liquid through the cracked seal.



(A quad cook-top with round coils shown as an example.)

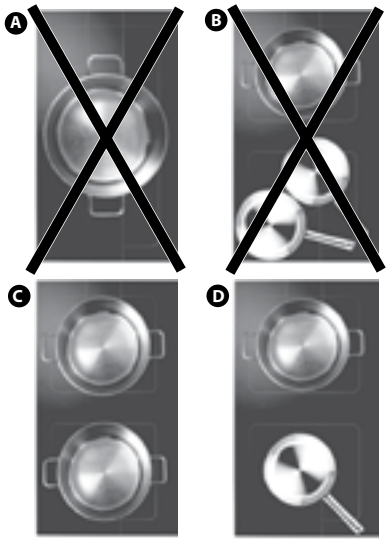
Proper Placement of Cookware on Dual/Quad Cook-Tops

Each cook-zone of a RTCSmp induction unit is equipped with the latest RTCSmp sensor technology that enables temperature controls in realtime.

NOTE: To obtain the optimal results from the sensors, you must always place the pan in the center of the cook zone, which is indicated by the markings on the glass.

Notice

Pans and pots must not cover more than one cook zone. Otherwise, electronic components of the induction unit can be damaged.



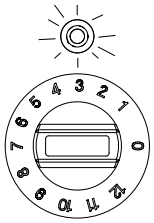
(A): **DO NOT** place one pan over two cook-zones.

(B): **DO NOT** place multiple pans on a single cook-zone.

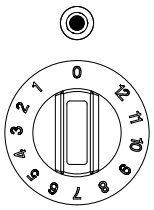
(C) and (D):
DO place one pan on each cook zone.
DO place pan in the center of the cook zone.

Power Control

Set the desired power level by turning the control knob and the unit is immediately ready for operation. When the green indicator lamp lights up continuously, energy is being transferred to the cookware.



ON-Position
Any position other than "0" is pointing to the LED indicator light. The LED is on.



OFF-Position
"0" is pointing to the LED indicator light. The LED is off.

Set and adjust the power level by turning the control knob:

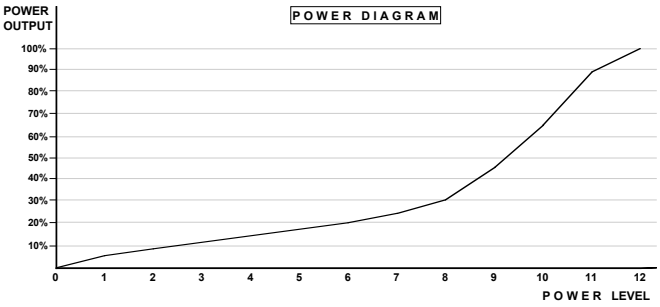
- Position (1) indicates minimum power.
- Position (12) indicates maximum power.

POWER DIAGRAM

The following Power Diagram shows the difference in power output between two higher power levels is much larger than that between two lower power levels.

The settings from (1) to (9) span the lower 50% of the total Power Output; the settings from (10) to (12) cover the 50% to 100% output range.

This power level and output relationship provides a fine simmer-rate control in the low power range, and instant response in the high power range.



No Pan No Heat

When a temperature is chosen, the induction unit only transmits energy when a pan is placed in the heating zone. If you remove the pan from the heating zone, power transfer to the pan stops immediately. If the pan is put back in the heating zone, power is transferred to the pan again.

Note the signals given by the green indicator lamp:

- The green indicator lamp flashes when the unit is ON but without any pan placed on the hob; the unit is in pan detection mode.
- As soon as a pan is put on the hob, the heating process is engaged and the indicator lamp stops flashing and remains bright. However, the indicator lamp will keep flashing if the unit is unable to detect the pan or an unsuitable pan is placed on the glass-top.

NOTE: Pan with a bottom diameter smaller than 5"(12 cm) is not detected by the system.

When Unit Is Idle

Best Practice:

If the induction unit is not in use, ensure the control knob is in the 0 (OFF) position.

Notice

Switch the unit OFF if you take the cookware away for a while. This will prevent the heating process to start automatically and unintentionally when a pan is placed back on the heating area. If any person needs to use the induction unit, he/she will have to turn the unit ON intentionally.

Section 4
Maintenance

DISCLAIMER

⚠ DANGER

It is the responsibility of the equipment owner to perform a Personal Protective Equipment Hazard Assessment to ensure adequate protection during maintenance procedures.

⚠ Warning

A good maintenance of the unit requires regular cleaning, care and servicing. The site-supervisor and the operator must ensure all components relevant to safety are in perfect working order at all times.

DANGEROUS ELECTRICAL VOLTAGE

⚠ DANGER

Do not open the unit. Maintenance and servicing work other than cleaning as described in this manual must be done by an authorized service personnel.

⚠ DANGER

If any part of the unit is cracked or broken, **Stop and Immediately Turn Off the unit**. Only if it is possible and safe, disconnect the unit from main power supply. Do not touch any parts inside the unit.

Failure to disconnect the power at the main power supply disconnect could result in serious injury or death. The power switch DOES NOT disconnect all incoming power.

Contact an authorized service agency for assistance.

⚠ DANGER

NEVER use a high-pressure water jet for cleaning or hose down or flood interior or exterior of units with water. DO NOT allow any liquid to penetrate inside the unit.

CLEANING AND MAINTENANCE

⚠ Warning

Allow heated equipment to cool down before attempting to clean, service or move. Unit must be cool to touch and disconnected from power source.

⚠ Caution

Do not use caustic cleaners on any part of the equipment. Use mild, non abrasive soaps or detergents, applied with a sponge or soft cloth.

⚠ Caution

Ensure to remove all residues of cleaning agents from the cooking surfaces. Use a clean moist cloth to wipe off any such surfaces.

Important Rules on Maintenance

Notice

Follow these rules to ensure reliable and repeatable performance of your induction unit:

- Keep kitchen temperature below 105°F (40°C).
- Never place your induction units next to any grease generating or heat generating equipment.
- Clean the intake filter at least once a week or as often as required.
- Use only pans that fits the glass, do not use oversized pans.
- Never pre-heat the pan. Place the pan on the cooking area only when you are ready to cook.
- Do not use dented pans; it will cause damages to the electronics.

Daily Cleaning and Maintenance

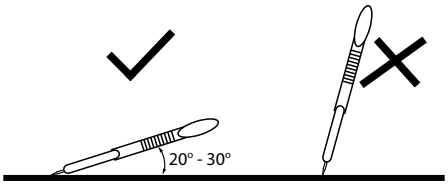
Glass Cleaning

NOTE: The cleaning of Ceran glass is identical to cleaning other similar glass surfaces. You may use any regular glass cleaning products available from a hardware store.

NOTE: Cleaning tools and supplies are not provided.

1. You may use a razor blade scraper or a non-scratching sponge to remove all residues on the glass.

   When scraping, ensure you angle your razor blade scraper at about 20° to 30° from the glass.



2. Wipe the glass clean with a damp cloth.

Stainless Steel Housing

1. For any unit with stainless steel housing/flange, clean the stainless steel surface using a soft cloth with a mild detergent and/or a food-safe liquid cleaner designed to clean stainless steel.
2. Wipe dry with a soft clean cloth.

Visual Inspection of Silicone Seal

Inspect the silicone seal around the glass perimeter or the joint between the unit and the counter surface. Call for service immediately if you notice:

- Cracks on silicone seal.
- The silicone seal comes away from the glass/housing or moves when you press down on the seal.

⚠Warning

When the silicone seal is broken, water penetration could cause the unit to fail, and any malfunction could cause personal harm.

Weekly Cleaning and Maintenance

Notice

Inspect and Clean Air Intake Filter

A dirty, blocked air intake filter blocks the air vent and will cause damages to the electronic components. Ensure to clean the filter at least once a week or as often as required.

The filter is inserted into the air filter holder mounted onto the cabinet. Garland's Air Intake Filter is dishwasher-safe.

Wipe the filter dry before inserting it back into the filter holder.

REMOVING THE AIR INTAKE FILTER

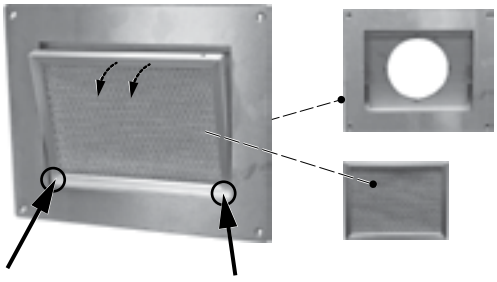
Air Filter Holder for Compact Line SH/DU/IN/CL Models:

- Simply slid out the filter for cleaning.

Air Filter Holder for Built-In Line SH/DU/IN models:

- The filter is pressure fitted into the holder.

- The filter pops out when you press down on its corners as shown. If the filter doesn't move, try the opposite corners.



Yearly Maintenance

Best Practice: Have the induction unit examined once a year by an authorized technician.

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Section 5
Troubleshooting

DANGEROUS ELECTRICAL VOLTAGE

⚠ DANGER

Disconnect electric power at the main power disconnect for all equipment being serviced.

Failure to disconnect the power at the main power supply disconnect could result in serious injury or death. The power switch DOES NOT disconnect all incoming power.

⚠ DANGER

Do not open the unit. Maintenance and servicing work other than cleaning as described in this manual must be done by an authorized service personnel.

PERSONAL PROTECTION

⚠ Warning

Allow heated equipment to cool down before attempting to clean, service or move. Unit must be cool to touch and disconnected from power source.

Common Causes for Induction Unit Failure

One or more of the following conditions may affect the function or contribute to the failure of an induction unit:

- Using unsuitable cookware such as non-induction pans, oversized pans, or damaged pans.
- High ambient temperature.
- Inadequate ventilation causing hot air to re-enter through the air intake slots.
- Dirty air intake filter.
- Empty pan is left on the hob when the unit is ON.

Symptoms

- When a malfunction occurs, the induction unit may be in one of the following states:
    - The induction unit stops working immediately.
    - The induction unit continues to work in a power reduction mode.
    - The induction unit continues to work as usual.
- For any unit equipped with an indicator lamp or a digital display, see section *Troubleshooting Chart With Error Code / Indicator Lamp Flash Code*
- For any unit without an indicator lamp or a digital display, see section *Troubleshooting Chart Without Error Code / Indicator Lamp Flash Code*
- NOTE:

  The cooling fan starts when the ambient temperature in the control area exceeds 130ºF/55ºC.

  At heat sink temperature higher than 160ºF/70ºC, the controller automatically reduces power to keep the unit in normal operating conditions. The cooker runs in a non-continuous mode. This mode can be heard.

Boil Test: Performance of Cookware

(Test for 3.5kW or 5.0kW Coil)

Perform a boil test to verify the performance of a pan for induction cooking.

- Add one liter of cold water into the pan (optimal when use pan with bottom diameter of 24cm) and bring it to boil. Compare the total boil time to the guideline below:
    - 3.5kW Coil, approx. 140 seconds
    - 5.0kW Coil, approx. 85 seconds

If time to boil exceeds the above guideline, then the pan is not suitable for achieving optimal efficiency. Please contact your supplier to purchase suitable induction pans.

If the induction unit does not function as expected despite using quality induction pans, refer to the troubleshooting charts.

NOTE: If a problem arises during operation of your induction unit, follow the chart below before calling service. Routine adjustments and maintenance procedures are not covered by the warranty.

Troubleshooting Chart Without Error Code / Indicator Lamp Flash Code

Symptom	Possible Cause	Corrective Action
Pan does not heat up, LED lamp is OFF (dark).	No power supply.	Check incoming power supply, e.g. power cable plugged into the wall socket.
	Control knob is in OFF-position.	Turn control knob to an ON-position.
	Defective induction unit.	Ensure knob is in OFF-position and if possible and safe, disconnect the unit from the power supply. Contact your authorized service agency.
Pan does not heat, green LED lamp blinks continuously. If LED lamp blinks at intervals, see next section.	Pan is too small.	Use a suitable pan with bottom diameter larger than 5" (12cm).
	Pan is not placed in the center of the hob; pan is not detected by sensor.	Move the pan to the center of the hob.
	Unsuitable pan.	Select proper cookware for induction cooking.
	Defective induction unit.	Ensure knob is in OFF-position and if possible and safe, disconnect the unit from the power supply. Contact your authorized service agency.
Poor heating, green LED lamp is ON	Air-cooling system is obstructed.	Verify that air inlet and outlet are not obstructed. Ensure the Intake Air Filter is clean.
	Unsuitable pan.	Select proper cookware for induction cooking. Then compare the results.
	Ambient temperature is too high; the cooling system is not able to keep the induction unit in normal operating conditions.	Verify that no hot air is sucked in by the fan. Reduce the ambient temperature. The intake air temperature must be lower than 104°F (40°C).
	One phase is missing (for units with three phase supply only).	Check incoming power supply, e.g. power cable plugged into the wall socket.
	Defective induction unit.	Ensure knob is in OFF-position and if possible and safe, disconnect the unit from the power supply. Contact your authorized service agency.
Unit does not react to control knob positions	Defective control switch.	Ensure knob is in OFF-position and if possible and safe, disconnect the unit from the power supply. Contact your authorized service agency.
Power/heating level seems to be reduced, fan is working	Air-cooling system is blocked. Internal fan is dirty.	Verify that air inlet and outlet are not obstructed. Ensure the Intake Air Filter is clean. Contact your authorized service agency.
Power/heating level seems to be reduced, fan does not work	Defective fan or fan control.	Ensure knob is in OFF-position and if possible and safe, disconnect the unit from the power supply. Contact your authorized service agency.
After a long period of continuous operating time, Power/heating level seems to be reduced	Overheated induction coil; cooking area is too hot. Overheated oil in pan. Pan is empty.	Switch the unit off. Safely remove pan. Wait until the heating zone has cooled down before turning the unit ON again.
Small metallic objects (e.g. spoon) are heated up on the cooking area.	Pan detection circuit is defective.	Ensure knob is in OFF-position and if possible and safe, disconnect the unit from the power supply. Contact your authorized service agency.

Troubleshooting Chart With Error Code / Indicator Lamp Flash Code

- **Unit equipped with an indicator lamp:**

  The indicator lamp flashes to signal a specific problem area. Counting the number of short flashes after each long flash will give the possible cause. Example: "— …. — …." The LED lamp gives a long flash for 0.6 seconds. Then it gives 4 short flashes (indicated by the dots in the example). The sequence repeats unit the error is canceled.

- **Unit equipped with a digital display:**

  The display may show an error code such as E04.

Number of Flashes (Unit with Indicator Lamp)	Error Code (Unit with Digital Display)	Possible Cause	Corrective Action
.....		Normal Operation.	Normal Operation.
1 "— . — . — ."	E01	Unsuitable induction cooking pan. Cooking pan is not placed in the center of the heating zone. Internal wiring/coil connection malfunction. (3)	Check pan material. Check pan placement on cooking area. Contact your authorized service agency.
2 "— .. — .. — .."	E02	Unsuitable induction cooking pan. Internal software overcurrent. (3)	Check pan material. Contact your authorized service agency.
3 "— ... — ... — ..."	E03	Air-cooling system obstructed. Internal heat sink overheated. (1)	Let unit cool down. Verify that air vents are not obstructed. Check and clean air filter. Contact your authorized service agency.
4 "— .... — .... — ...."	E04 / E41 / E42 / E43 / E44 / E45 / E46	Overheated cooking zone. Sensor unit failure. (1) Overheated or defective sensor. (1)	
5 "— ..... — ..... — ....."	E05	Error on rotary power switch. (1)	Contact your authorized service agency.
6 "— ..... — ..... — ....."	E06 / E30	Ambient temperature too high (the cooling system is not able to keep the induction unit in normal operating conditions). Internal component overheated. (1)	Let unit cool down. Verify that air vents are not block. Check and clean air filter. Verified that no hot air is sucked in by the fan. Reduce the ambient temperature. The intake air temperature must be lower than 104°F (40°C). Contact your authorized service agency.
7 "— ..... — ..... — ....."	E29	Warning from cooking empty sensor or coil connection failed. (1)	Check food in the pan or empty pan. Contact your authorized service agency.
8 "— ..... — ..... — ....."	E21 / E24	Sensor error, internal board or heat sink. (1)	Contact your authorized service agency.
10 "— ..... — ..... — ....."	E10	Internal electronic failure. (1) or (2)	Contact your authorized service agency.
no flash code	E12	Warning of high heat sink temperature. Fan failure. (2)	Let unit cool down. Verify that air vents are not obstructed. Check and clean air filter. Verified that no hot air is sucked in by the fan. Reduce ambient temperature. The intake air temperature must be lower than 104°F (40°C). Contact your authorized service agency.
no flash code	E20	Warning of high internal temperature. (2)	

(1) The induction unit stops working immediately.

(2) The induction unit continues to work in power reduction mode.

(3) The induction unit continues to work as usual.

Wearable Parts List

Photo	Part Number	Description
	70000015	Silicone Seal PACTAN 7076, 310ml. For installation and water-tight seal.

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