COMMERCIAL REFRIGERATOR

Salad cabinet

Installation and Operation Manual

SUR-28D1 SERIES
SUR-36D2 SERIES
SUR-48D2 SERIES
SUR-60D2 SERIES
SUR-72D2 SERIES
SUR-44D1 SERIES
SUR-67D2 SERIES
SUR-93D3 SERIES



Important:
For your safety read the manual carefully before installing or using this product. Save this manual for future reference.

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NOTICE

• This equipment 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 or instructions concerning the use of this equipment and the hazards involved by a person responsible for their safety.

• The special instructions for those persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, are not included in this manual and are not required to be included.

• Children shall not play with the appliance.

• Cleaning and user maintenance shall not be made by children without supervision.

This manual uses the following safety symbols. These safety symbols with the words of DANGER, WARNING or CAUTION alert users of the potential hazards that could cause injury or even death.	
	DANGER Indicates hazards of death or serious injury, if the instructions are not followed.
	WARNING Indicates dangers of death or serious injury, if the instructions are not followed.
	CAUTION Indicates risks of personal injury or material damage, if the instructions are not followed.

FOR HYDROCARBON REFRIGERATION UNITS

WARNING

This unit uses R-290 (propane) as a refrigerant. These hydrocarbon refrigerants are highly environmentally compatible but also are flammable and combustible. Please read this manual thoroughly before installing and operating the unit. Please take cautious measures to avoid risk of fire or explosion.

	DANGER - Risk of fire or explosion. Flammable refrigerant used. Do not use mechanical devices to defrost refrigerator.Do not puncture refrigerant tubing.
	DANGER - Risk of fire or explosion. Flammable refrigerant used.To be repaired only by trained service personnel.Do not puncture refrigerant tubing.
	CAUTION - Risk of fire or explosion. Dispose of properly in accordance with federal or local regulations. Flammable refrigerant used.
	CAUTION - Risk of fire or explosion. Flammable refrigerant used. Consult repair manual/owner's guide before attempting to service this product. All safety precautions must be followed.
	CAUTION - Risk of fire or explosion due to puncture of refrigerant tubing; follow handling instructions carefully. Flammable refrigerant used.
	WARNING - Keep ventilation openings, in the appliance enclosure or in the built-in structure, clear of obstruction. - Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer. - Do not damage the refrigerant circuit. - Do not use electrical appliances inside the food storage compartments of the appliance unless they are of a type recommended by the manufacturer.

WARNING

※Handle the unit with care in order to avoid any serious damage to the refrigeration system.

※The refrigerant tubing, condenser, and evaporator coils are easily prone to damage while handling, moving, installing, and cleaning the unit, which may lead to fire or even explosion.

※Refrigerant squirting out of the pipes could ignite or cause an eye injury. If a leak is detected, avoid any naked flames or potential sources of ignition and air the room in which the appliance is located.

※To avoid the creation of a flammable gas-air mixture from a leaking refrigerating circuit, the size of the room in which the appliance is placed depends on the amount of refrigerant used. The room must be 35.31ft³ (1m³) in size for every 0.28oz (8g) of R-600a refrigerant inside the appliance. The amount of refrigerant in your particular appliance is shown on the label inside the cabinet.



This appliance contains a small amount of propane (R-290) , a natural gas with high environmental compatibility, but it is also combustible. When transporting and installing the appliance, ensure that no part of the refrigerating circuit is damaged.

※ Never start up an appliance showing any signs of damage. When in doubt, contact a qualified service professional.

※In case of any hazardous activities such as fire or explosion, move the unit away from any source of ignition to a well ventilated area.

※Further service and repair must be done by a qualified technician who is familiar with the safety standards, and also has thorough understanding and knowledge of the flammable refrigerants.

※Any and all technicians handling these units must be equipped with proper personal protection and equipment and follow applicable safety measures and precautions to avoid risk of fire or explosion.

IMPORTANT SAFETY INFORMATION

SAFETY PRECAUTIONS

To avoid any risk of fire, explosion, electric shock, personal injury, material damage or incorrect use of the appliance, be sure to observe the following safety precautions. (After reading these owner's manual instructions, please keep the manual booklet in a safe place for reference. Remember to hand it over to any subsequent owners).



WARNING

※The unit must be installed and located in accordance with the manufacturer's installation instructions.

※ Installation work must be performed in accordance with the National Electric Code by qualified and authorized personnel only.

※Repairs and replacement work must be performed by a qualified and authorized service professional only using genuine replacement parts (Component parts shall be replaced with like components).

※ Do not use an extension cord or an adapter plug. Because of the potential safety hazards under certain conditions, we strongly recommend against any use of an extension cord or an adapter plug.

※Do not, under any circumstances, cut or remove the ground prong from the power cord. For personal safety, this appliance must be properly grounded.

※ Do not store volatile and flammable substances in the refrigerator. The storage of benzene, thinner, alcohol, ether, LP gas, or other explosive substances may cause an explosion.

※ Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this appliance as well as any other appliances.

※The appliance is not intended for use by children without supervision.

※ Do not allow children to climb, stand, or hang on the refrigerator doors or shelves in the refrigerators. They could damage the refrigerator and seriously injure themselves.

※ To prevent suffocation and entrapment hazards to children, remove the doors and seals from the refrigerator before disposing of it or discontinuing its use.

INSTALLATION & USAGE

WARNING

※ Do not install the unit in a damp place where it could be splashed with water. Incorrect insulation of the electrical parts may cause fire or electric shock.

※Do not plug several appliances into the same sockets. This could cause fire due to overheating.

※ Keep the power plug away from the rear of the cabinet. A damaged power plug may cause fire due to overheating.

※Do not spray water directly to the interior or exterior of the appliance. There is a risk of fire or electric shock.

※Do not place any containers filled with water on top of the appliance. If the water spills onto any electrical parts, it may lead to fire or electric shock.

※Do not attempt to repair, disassemble or alter the appliance. It may cause fire or abnormal operations which may lead to injury.

※Unplug the refrigerator before making repairs, replacing a light bulb, or cleaning.

※Plug into a grounded 3-prong outlet. Do not remove the ground prong.

CAUTION

※Do not store too much food in the appliance. When you open the door, an item may fall out and cause personal injury or material damage.

※Do not put bottles or any kind of glass in the freezer. The container may break and cause personal injury.

※Do not disconnect the power cord by pulling on it. This may disconnect a wire and cause a short circuit.

INSTALLATION & USAGE

CAUTION

※There is a risk of death from suffocation if a child puts the packing materials on his or her head.

※Do not store any articles on top of the appliance. Articles may fall while opening or closing the door, and could cause personal injury or material damage.

※Do not store pharmaceutical products, scientific materials or other temperature-sensitive products in the refrigerator. Products that require strict temperature controls must not be stored in the refrigerator.

※Do not let children hang on the door.

※Do not touch any cold surfaces or food containers in the freezer with damp or wet hands. Skin may stick to these extremely cold surfaces and may cause frostbite.

※Remove any foreign matter from the power plug pins. Otherwise, there is a risk of fire.

※Do not insert your hand into the bottom area of appliance. Any sharp edges may cause personal injury.

※After unplugging the appliance, wait at least five minutes before plugging it back in. Abnormal operation of the freezer may cause material damage.

※If the appliance is not used for a long period of time, unplug it from the power supply. Any deterioration in the insulation may cause fire.

※ Do not let children touch or play with the control panel on the front of the appliance.
- Do not allow children to play with this appliance.

- Do not stand or lean on the base panel, pull-out parts, or doors.

- Repairs and maintenance of the appliance should only be performed by a qualified technician. Incorrect repairs done by an unqualified person may be a potential source of danger that could have critical consequences for the user of the appliance.

- Never put ice cubes or ice pops straight from the freezer into your mouth.
The low temperature may cause cold burns.

PROPER DISPOSAL OF OLD APPLIANCE



For environmental purposes, refrigeration appliances must be properly disposed. This applies to your old appliance, and at the end of its service life, for your new appliance as well.



WARNING

Before disposing of old appliances, make them inoperable. Remove plug from mains,severe the power cable, and remove or destroy any snap or latch closures.This eliminates the danger of any children locking themselves into the appliance (danger of suffocation) or placing themselves into other life-threatening situations.

※ The appliance may not be disposed of with domestic waste or bulky refuse.

※ The refrigerant circuit, especially the heat exchanger at the back of the appliance, may not be damaged.

※ Information concerning collection schedules or locations can be obtained from the local disposal authorities.



CAUTION

The refrigeration used in refrigerator/freezer and the gases in the insulation material require special disposal procedures. Ensure that none of the pipes on the back of the appliance are damaged prior to disposal.

BEFORE YOU CALL FOR SERVICE

Before contacting our Service Department, review the detailed troubleshooting tips in the Owner's manual.

1. Try to remedy the problem. Please read the "Troubleshooting Guide" section.

2. Restart the appliance to check whether the fault repeats. If the malfunction persists, switch off the appliance and try again after an hour.

3. If the malfunction still persists, then contact our Customer Service, specifying:
   ※The nature of the problem

※The appliance model number and serial number
※Your full address, telephone number and area code

SPECIFICATIONS

SOLID DOOR UNIT

MODEL	Rating Temp.(° F)	Operating Temp. (° F)	V/Hz	REFRIGERANT	AMPS
SUR-44D1	33~39℉	<100℉	110~120V/60Hz	R-290	1.86A
SUR-67D2	33~39℉	<100℉	110~120V/60Hz	R-290	1.86A
SUR-93D3	33~39℉	<100℉	110~120V/60Hz	R-290	2.41A
SUR-28D1	33~39℉	<100℉	110~120V/60Hz	R-290	
SUR-36D2	33~39℉	<100℉	110~120V/60Hz	R-290	
SUR-48D2	33~39℉	<100℉	110~120V/60Hz	R-290	
SUR-60D2	33~39℉	<100℉	110~120V/60Hz	R-290	
SUR-72D3	33~39℉	<100℉	110~120V/60Hz	R-290	

DRAWER UNITS

MODEL	Rating Temp.(° F)	Operating Temp. (° F)	V/Hz	REFRIGERANT	AMPS
SUR-44D2	33~39℉	<100℉	110~120V/60Hz	R-290	1.86A
SUR-67D3	33~39℉	<100℉	110~120V/60Hz	R-290	1.86A
SUR-67D4	33~39℉	<100℉	110~120V/60Hz	R-290	2.41A
SUR-93D4	33~39℉	<100℉	110~120V/60Hz	R-290	2.41A
SUR-93D5	33~39℉	<100℉	110~120V/60Hz	R-290	2.41A
SUR-93D6	33~39℉	<100℉	110~120V/60Hz	R-290	2.91A
SUR-28D2	33~39℉	<100℉	110~120V/60Hz	R-290	2.91A
SUR-36D3	33~39℉	<100℉	110~120V/60Hz	R-290	2.91A
SUR-36D4	33~39℉	<100℉	110~120V/60Hz	R-290	
SUR-48D3	33~39℉	<100℉	110~120V/60Hz	R-290	
SUR-48D4	33~39℉	<100℉	110~120V/60Hz	R-290	
SUR-60D3	33~39℉	<100℉	110~120V/60Hz	R-290	
SUR-60D4	33~39℉	<100℉	110~120V/60Hz	R-290	
SUR-72D3	33~39℉	<100℉	110~120V/60Hz	R-290	
SUR-72D4	33~39℉	<100℉	110~120V/60Hz	R-290	
SUR-72D5	33~39℉	<100℉	110~120V/60Hz	R-290	
SUR-72D6	33~39℉	<100℉	110~120V/60Hz	R-290	

SERIAL NUMBER

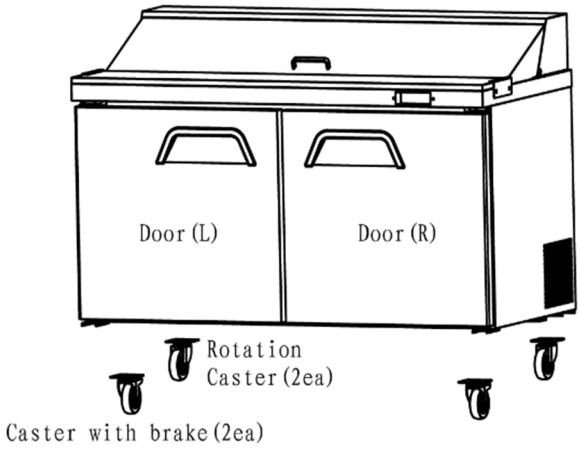
The serial number is located on the back of the product.
Please retain the unit's serial number for service purpose.

NOTUCE TO CUSTOMER

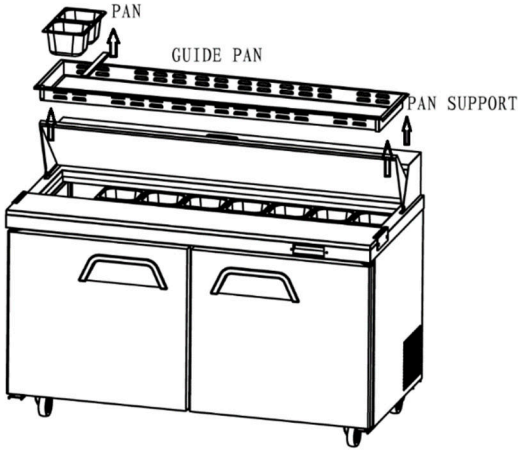
Loss or spoilage of products in your refrigerator/freezer is not covered by warranty.
In addition to following recommended installation procedures, you must run the refrigerator/freezer 24 hours prior to usage.

INSTALLATION OF CASTER AND CASTER BRAKE

Screw the caster (rear side) and the caster brakes (front side) by using caster wrench .



HOW TO CLEAN THE PAN SUPPORTER



CLEANING

Before cleaning, unplug the unit and disconnect the power.

Wipe and clean the inside and outside of appliance with a damp cloth.

1. CLEANING THE INTERIOR AND EXTERIOR

- The interior and exterior of the unit can be cleaned using warm water and soap.
- Do not use an abrasive cleaner because it will scratch the surface.

2. CLEANING THE CONDENSER COIL

- To maintain proper refrigeration performance, the Condenser coil must be free of dust, dirt, and grease. This will require periodic cleaning. Condenser coil should be cleaned at least every three months (90 days) or as needed.

- To clean the condenser, unplug the power cord. Condenser can be cleaned with vacuum, brush, or CO2 (high pressure air).

3. CHECK AFTER CLEANING

1) Check the unit again for safety.

2) Plug unit back in and turn on power switch.
3) Check that the unit is operating properly.

CONTROLLER OPERATION

1. COPELAND TEMPERATURE CONTROLLER

1) CONTROLLER DISPLAY

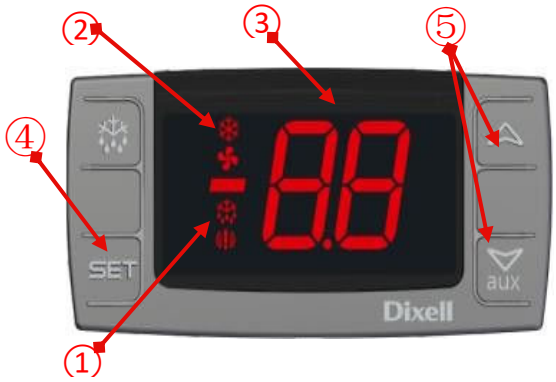
①Defrosting light

②Compressor operation light

③Digital thermostat

④Programming key (not accessible to the user) Selection key

⑤Temperature modification keys



2)SET POINT CHANGE

How to see the set point

①Push and immediately release the SET key, the set point will be showed;

② Push and immediately release the SET key or wait about 5s to return to normal visualization.

How to change the set point

①Push the SET key for more than 2 seconds to change the set point value;

② The value of the set point will be displayed and the "℉" starts blinking;

③To change the set value push the UP or DOWN arrows within 10s.

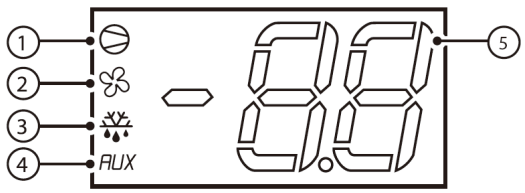
④To memories the new set point value push the SET key again or waits 10s.

3) ALARM SIGNALLING

MESS.	CAUSE	OUTPUTS
"P1"	Room probe failure	Compressor output according to "Cy" and "Cn"
"P2"	Evaporator probe failure	Defrost end is timed
"HA"	Maximum temperature alarm	Outputs unchanged
"LA"	Minimum temperature alarm	Outputs unchanged
"EA"	External alarm	Outputs unchanged
"CA"	Serious external alarm	All outputs OFF
"dA"	Door Open	Compressor and fans restarts

2. CAREL TEMPERATURE CONTROLLER

1) CONTROLLER DISPLAY



index	function	normal operation			Start up
		ON	OFF	blink	
1	compressor	on	off	request	on
2	fan	on	off	request	on
3	defrost	on	off	request	on
4	aux	output on	output off	-	on
5	digit	2 digit LED display with sign (-99 to 99) and decimal point			

Table of functions activated by the buttons



2) SET POINT CHANGE

Fixed settings

- Minimum compressor ON time is 1 minute;
- If there is no defrost relay, the compressor will be shut down for defrost;
- Freeze the display when defrost, it returns when the temperature reaches the set point;
- Alarm is bypassed 1 hour after defrost;

Setting the set point (desired temperature)

- press for 1 s, the set value will start flashing after a few moments;
- increase or decrease the value using or ;
- press to confirm the new value.

Switching the device ON/OFF

press for more than 3 s. The control and defrost algorithms are now disabled and the instrument displays the message"OFF" alternating with the temperature read by the set probe.

Manual defrost (only for models C/Y)

press down for DOWN more than 3 s (the defrost starts only the temperature conditions are valid).

Show defrost probe temperture(only for models C/Y)

press and together.

Access and setting type F (frequent) and type C (configuration) parameters

- press for 3 s (the display will show "PS");
- to access the type F and C parameter menu, enter the password "22" using / ;
- to access the F parameter menu only, press (without entering the password);
- scroll inside the parameter menu using / .

To display/set the values of the parameter displayed, press , then / and finally to confirm the changes (returning to the parameter menu).
To save all the new values and exit the parameter menu, press for 3 s;
To exit the menu without saving the changed values (exit by timeout) do not press any button for at least 60 s.

3) TABLE OF ALARMS

Alarm code		LED	Description	Parameters involved
E0		ON	probe 1 error = control	-
E1(*)		ON	probe 2 error = defrost	[d0 = 0 / 1]
dr(*)		ON	open door alarm	
Lo		ON	low temperature alarm	[AL] [Ad][A0]
HI		ON	high temperature alarm	[AH] [Ad][A0]
EE		ON	unit parameter error	-
EF		ON	operating parameter error	-

DEFROSTING

This equipment belongs to stop defrost, please manually defrost at least once a month.

Note: The cycle starts from the time the appliance is initially powered up.

To manually defrost the appliance:

1. Press and hold the DEFROST button for 5 seconds

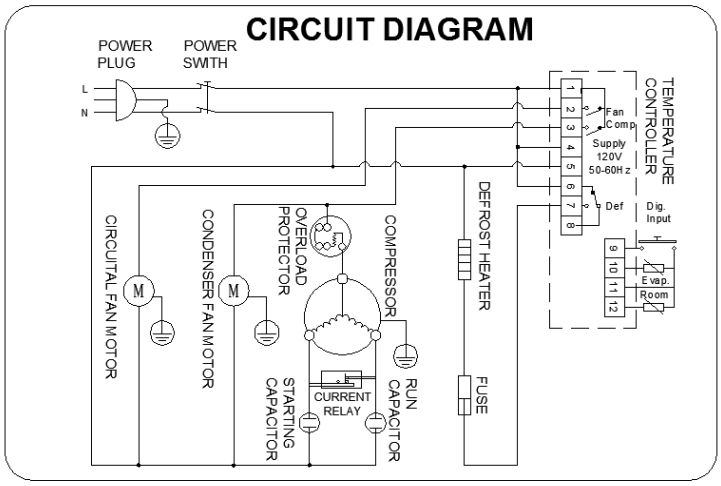
2. The defrost cycle will start immediately and the Defrost LED illuminates. The defrost will last

20 minutes.

Note:Starting a manual defrost also resets the automatic defrost timer. The next automatic defrost will start 12 hours after the manual defrost has finished.

CIRCUIT DIAGRAM

COPELAND TEMP. CONTROLLER



TROUBLESHOOTING

SYMPTOMS	Probable Cause	SOLUTIONS
Cooler is freezing food.	※Thermostat set too cold.	※Turn the thermostat setting to a higher temperature position.
The unit does not refrigerate at all.	※There is a power connection failure problem.	※Check the power cord and plug in correctly.
The unit does not refrigerate well.	※The unit is in sunlight or near a heating device. ※The unit contains hot food or too much food. ※The unit door is opened too frequently or left open too long. ※The temp. dial is not on the correct position. ※The condenser is clogged.	※Check the installation location. ※ Check the condition of stored food. ※Check the position of the temp control dial.
There is a loud noise.	※The floor is too weak or the leveling feet are set incorrectly. ※The backside of the unit is too close to the wall.	※Check the installation.
There are dewdrops on the unit exterior.	※ High-moisture air can produce dewdrops during rainy seasons.	※Wipe with a dry cloth.
There are dewdrops on the unit interior.	※The door is opened too frequently or left open too long. ※ Damp food is stored.	※Keep the door closed to remove dewdrops.
The door does not close tightly.	※ The door is bent. ※The unit is not leveled off. ※ The door gasket has come off.	※ Level the unit again. ※Reposition the gasket.

The following points are not malfunctions:

- **A water-flowing sound can be heard when the compressor stops. This is the sound of REFRIGERANT flowing.**
- **The compressor does not run during the defrost cycle.**

Note: Formation of condensation on and around the edge of the door and the front side of the cabinet is normal. Gurgling noises inside the refrigerating circuit are normal.

STAINLESS STEEL EQUIPMENT CARE AND CLEANING

CAUTION : Do not use any steel wool, abrasive or chlorine based products to clean stainless steel surfaces.

There are three basic things which can break down your stainless steel's passivity layer and allow corrosion to occur.

1) Scratches from wire brushes, scrapers, and steel pads are just a few examples of items that can be abrasive to stainless steel's surface.

2) Deposits left on your stainless steel can leave spots. You may have hard or soft water depending on what part of the country you live in. Hard water can leave spots. Hard water that is heated can leave deposits if left to sit too long. These deposits can cause the passive layer to break down and rust your stainless steel. All deposits left from food prep or service should be removed as soon as possible.

3) Chlorides are present in table salt, food, and water. Household and industrial cleaners are the worst type of chlorides to use.

8 steps that can help prevent rust on stainless steel:

1. Using the correct cleaning tools

Use non-abrasive tools when cleaning your stainless steel products. The stainless steel's passive layer will not be harmed by soft cloths and plastic scouring pads. Step 2 tells you how to find the polishing marks.

2. Cleaning along the polish lines

Polishing lines or "grain" are visible on some stainless steels. Always scrub parallel to visible lines on some stainless steels. Use a plastic scouring pad or soft cloth when you cannot see the grain.

3. Use alkaline, alkaline chlorinated or non-chloride containing cleaners

While many traditional cleaners are loaded with chlorides, the industry is providing an ever increasing choice of non-chloride cleaners. If you are not sure of your cleaner's chloride content, contact your cleaner supplier. If they tell you that your present cleaner contains chlorides, ask if they have an alternative. Avoid cleaners containing quaternary salts as they can attack stainless steel, causing pitting and rusting.

4. Water Treatment

To reduce deposits, soften the hard water when possible. Installation of certain filters can remove corrosive and distasteful elements. Salts in a properly maintained water softener can be to your advantage. Contact a treatment specialist if you are not sure of the proper water treatment.

5. Maintaining the cleanliness of your food equipment

Use cleaners at recommended strength (alkaline, alkaline chlorinated or non-chloride). Avoid build-up of hard stains by cleaning frequently. When boiling water with your stainless steel equipment, the single most likely cause of damage is chlorides in the water. Heating nay cleaners containing chlorides will have the same damaging effects.

6. Rinse

When using chlorinated cleaners you must rinse and wipe dry immediately. It is better to wipe standing cleaning agents and water as soon as possible. Allow the stainless steel equipment to air dry. Oxygen helps maintain the passivity of the film on stainless steel.

7. Hydrochloric acid (muriatic acid) should never be used on stainless steel.

8. Regularly restore/passivate stainless steel.

Recommended cleaners for certain situation/environments of stainless steel:

A) Soap, ammonia and detergent medallion applied with a cloth or sponge can be used for routine cleaning.

B) Arcal 20, Lac-O-Nu Ecoshine provides barrier film for fingerprints and smears.

C) Cameo, Talc, Zud First Impression is applied by rubbing in the direction of the polished lines for stubborn stains and discoloring.

D) Easy-off and De-Grease it oven aid are excellent for removals on all finishes for grease-fatty acids, blood and burnt-on foods.

E) Any good commercial detergent can be applied with a sponge or cloth to remove grease and oil.

F) Benefit, Super Sheen, Sheila Shine are good for restoration/passivation.

WARRANTY INFORMATION

The appliance and the components we produce are guaranteed for 1 year from the date of consignment and any part or parts thereof, which are shown to the company’s satisfaction to be defective, will be replaced free of charge.

Any such faults shall not, however, be considered if due to incorrect use of the product resulting from the instructions given in this handbook not having been followed.

Charges for labor, travel and carriage are not covered by the warranty. Material replaced under.

COMPLIANCE

Parts have undergone strict product testing in order to comply with regulatory standards and specifications set by international, independent, and federal authorities.

ALL THE RESPONSIBILITY FOR THE FAILURE TO RESPECT THE EXISTING LECAL STATUTES ARE THE RESPONSIBILITY OF THE OWNER.

ALL TYPES AND MODELS ARE SUBJECT TO CONTINUOUS IMPROVEMENT AND MANUFACTURER THEREFORE RESERVES THE RIGHT TO MAKE MODIFICATIONS TO THE SHAPE, EQUIPMENT AND TECHNOLOGY.