

# INSTALLATION INSTRUCTIONS



# CONSOLE Air conditioners

**SILHOUETTE CONSOLES**

**SPLIT CONSOLES**

**CURTAIN WALL CONSOLES**

[www.defy.co.za](http://www.defy.co.za)

The Manufacturer strives for continuous improvements. For this reason, the text and illustrations in this book are subject to change without notice.

**Part Number 059 044**

## Installation notes.

To ensure optimum performance and customer satisfaction, please read these instructions carefully.

All Defy Console type air-conditioners are tested and rated using the standard Defy wall sleeve and louvre assembly. Units can safely operate up to 43°C outdoor temperature. They have been designed to produce the rated capacity at the lowest power consumption under International Standard Rating conditions.(ISO5151) at 27°C DB, 19°C WB indoor and 35°C DB, 24°C WB outdoor, at sea level and with a 230V 50Hz power supply.

To achieve this performance, the following should be noted:

- Smooth curved louvers are used to maximise the condenser airflow requirements.
- Air deflectors which guide the air leaving the unit away from the return air openings are fitted onto the condenser coil to minimise hot air re-circulation.
- Open cell foam strips are fitted to the condenser end plates and fit tight up against the louvre. These strips effectively prevent unwanted air from entering or leaving the compartments.
- To prevent rain water from entering via the wall sleeve, the bottom panel of the sleeve slants outwards . Weep holes at the lower edge allow rainwater to drain away freely.

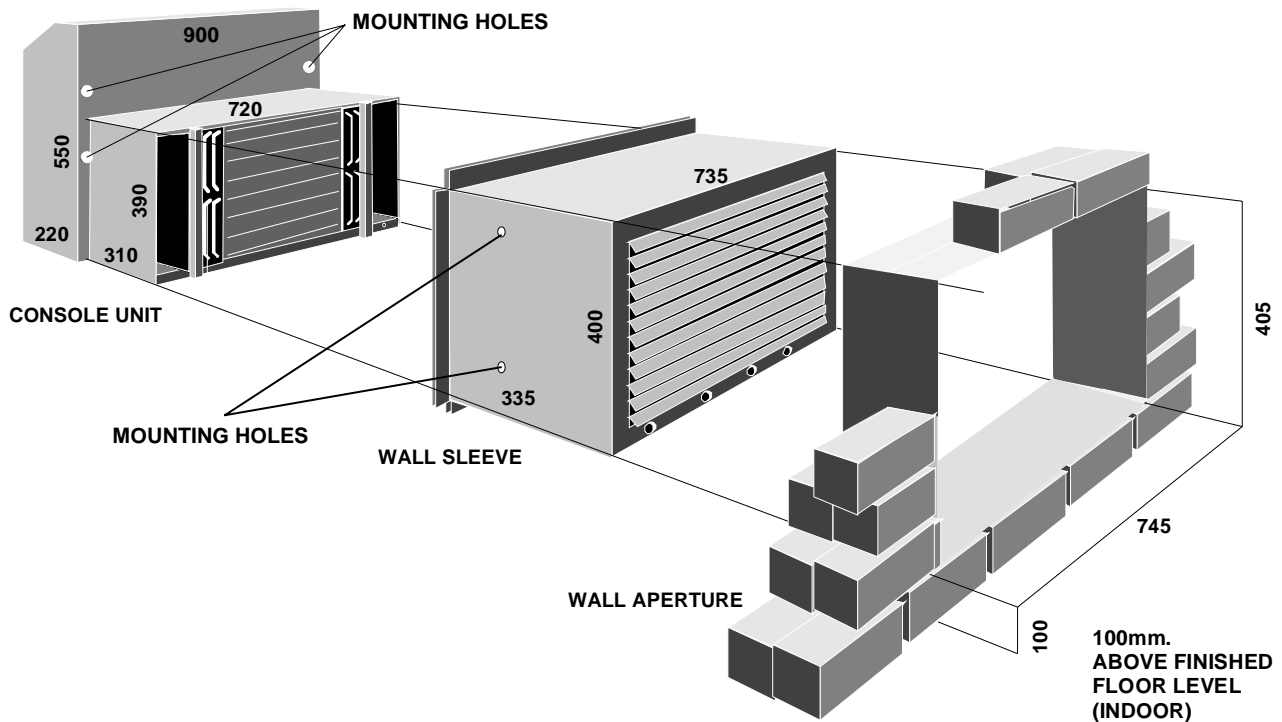
Architectural and aesthetic requirements often necessitate the use of non standard louver assemblies. As these could influence the performance of the units, we undertake to test, free of charge, any proposed designs in our calorimeter facility

When specifying non standard louvers, please bear the following in mind:

Defy Appliances Limited, manufactures special wall sleeves without louvers. This sleeve is shorter than standard and thus minimises the gap between the condensing unit and the outside grille. Should the factory fitted foam strips not locate against the louver, insulated divider plates must be fitted to prevent hot air re-circulation. It is also recommended to remove the side deflectors from the condenser coil and reposition them directly behind the louvre.

Units installed with flush mounted louvers, need an insulated wall spacer collar to fill the gap between the indoor unit and the outside wall. In this instance part of the condensing section will protrude into the room. It is important therefore to insulate the condensing section and to ensure that there are no gaps where heat and noise from the compressor and condenser could enter the room.

# Silhouette Console Installation instructions



## PRIOR TO INSTALLATION

- Remove the filter assembly.
- Loosen the two screws at the bottom corners of the access cover and remove it.
- Loosen the two screws at either end of the fan deck.
- Disconnect the multi-plug and slide the fan deck out.
- Protect the deck against dust generated during the installation process.
- Secure the unit to the wall using at least four of the fixing holes provided. ( See sketch above )
- Ensure that the unit is properly and accurately fitted to the wall sleeve assembly.
- Should the factory fitted condenser coil foam seals not butt up to the louver assembly, insulated divider plates must be fitted to prevent hot air re-circulation back into the condenser section.
- It is also advisable to remove the side deflectors from the condenser coil and fit them directly behind the louvre.

## ELECTRICAL CONNECTION

- Ensure that the supply voltage is 230V 50 Hz
- This unit must be earthed and installed in accordance with local municipal safety standards.
- If necessary, ensure that a qualified electrician replaces the mains cable.

# Split Console installation instructions

## ELECTRICAL CONNECTIONS

- A 16A mains cable is connected to the indoor unit.
  - If this cable is too short, a qualified electrician should replace it.
  - An interconnecting cable complying with local wiring codes, should be connected between the indoor and outdoor units.
1. Connect the brown wire to terminal 1
  2. Connect the blue wire to terminal 2
  3. Connect the earth wire to the terminal marked

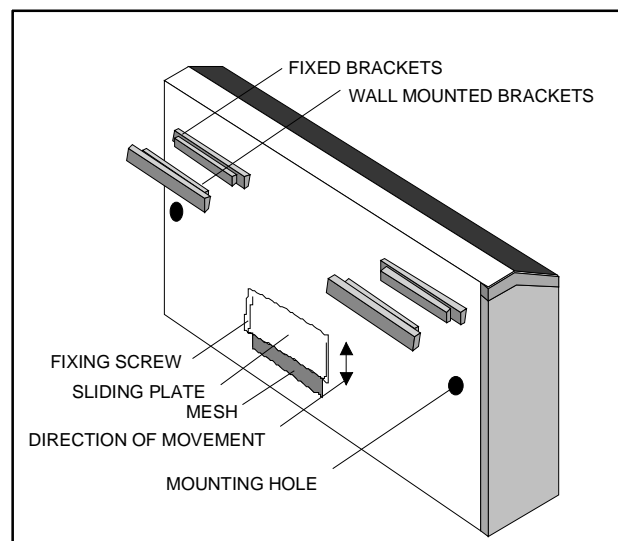


## NOTE.

- An electrical isolator must be installed close to the condensing unit.
- Ensure that the supply voltage is 230V 50 Hz.
- The unit must be earthed.
- Field wiring and connections must comply with local codes.
- Only connect one unit to a circuit and use only the recommended circuit breaker size.
- The evaporator and condenser must be connected through the same circuit breaker.
- Please consult a qualified electrician.

## INSTALLATION OF THE INDOOR UNIT.

- Select the most suitable position for uniform air distribution, and one that requires the shortest interconnecting tubing and condensate drain pipe. When the required interconnecting piping is longer than 9m, an additional 20g/m of refrigerant should be added. The maximum recommended pipe length is 16 m. For longer lengths please refer to the pipe sizing manuals.
- The unit must be installed at least 100mm above floor level. Ensure that the return air outlet underneath the unit is not obstructed.
- The unit is supplied with 2 loose and two fixed brackets for wall mounting. The brackets at the rear may be removed and there are mounting holes behind the fan assembly or optional mounting feet are available for free standing installations, if wall mounting is not a suitable option.
- Two openings are provided for the refrigerant piping and condensate drain tube. Both openings are on the right hand side of the unit and cater for rear or bottom entry.
- The copper tube connections are situated behind the fan deck assembly. To remove the assembly please proceed as follows:-
  - (a) Disconnect the unit from the electrical power supply.
  - (b) Remove the filter and the front access panel by removing the two screws at the bottom of the panel.
  - (c) Pull the 4 pin connector plug apart without unscrewing the electrical connections. Remove the four screws securing the fan assembly and pull the assembly out carefully.
  - (d) The liquid and suction lines will now be visible. The copper tubes should be fitted with flare nuts and stoppers.
  - (e) Measure and prepare the interconnecting piping prior to removing the stoppers. Ensure that the interconnecting pipes are fully insulated. After connecting, insulate the fittings with non drip tape to prevent sweating. **NOTE: The unit has been pumped down after testing and only a small holding charge of R22 refrigerant will be in the indoor unit. Please take precautions when removing the stoppers.**
  - (f) Connect a 19mm (internal diameter) drain pipe to the drain connection. Insulate the drain pipe where sweating could cause damage. Ensure the drain pipe is slanted to allow easy flow. Do not use traps for the condensate drain.
  - (g) For service and warranty purposes a duplicate serial sticker is located on the control panel door.



# Installation of the Outdoor unit

- Ensure that the voltage is 230V 50Hz. Also check that the model and capacity matches those of the indoor unit.
- Select a position for the outdoor unit which allows for the shortest possible unobstructed pipe length. Ensure that the air intake and discharge are unobstructed and that there is enough room for servicing.
- Provide a concrete base or sturdy mounting plate and bolt the unit down using anti-vibration pads to reduce vibration and noise.
- Due to the use of resilient, rubber compressor mountings, it is no longer necessary to remove the outer cover and loosen the compressor mounting nuts.
- Two service valves are provided for ease of installation and servicing. They have gauge ports and Schrader valves.
- Connect, evacuate and charge the unit in the following manner:-
  - (a) Connect the piping between the indoor and outdoor units. Use a drop of refrigerant oil when forming the flares and ensure that they are without burrs and are of the correct shape and size.
  - (b) Connect the suction and discharge gauges to the gauge ports and evacuate the piping and the indoor unit using a good vacuum pump.
  - (c) When a low vacuum has been achieved, close the valves and the gauge manifolds and fully open the liquid and suction service valves with an allan key.
  - (d) Test for leaks before operating the unit.

**NOTE:- The condensing unit has a full gas charge of R22 refrigerant which should be sufficient for a back-to-back installation with 1/4" and 1/2" copper tubing. When the required interconnecting piping is more than 9m, an additional 20g/m of refrigerant must be added.**
  - (e) The additional refrigerant can be added either immediately after evacuation of the system or in vapour form when the unit is running.
  - (f) **Start up of the unit:** Set the thermostat to the coldest position with the fan on maximum and push the Heating / Cooling button. A 2.5 to 3.0 minute time delay will be experienced before the compressor starts.
  - (g) Run the unit and observe the pressures and temperatures.

## SERVICE TIP

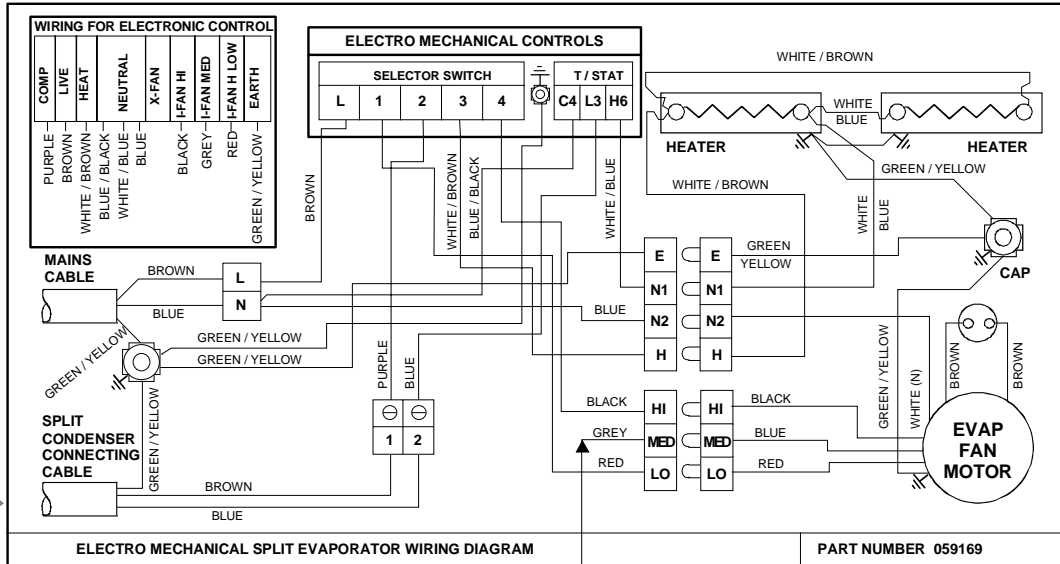
- The condensing temperature should be approximately 16°C to 18°C higher than the outdoor ambient temperature. The above should not be used as a charging method and is only a guide for new air-cooled split systems and air-cooled units with clean condensers and an unrestricted airflow.
- Operate the unit using all functions i.e.; fan only, heating, cooling and at various fan speeds. Ensure that the unit operates efficiently and quietly. Disconnect the gauges and check that all the screws that were removed have been replaced.
- Advise the customer how to operate the unit and explain the various features.



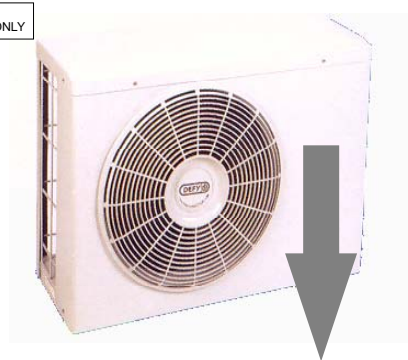
# Electrical Installation

“This appliance must be earthed and the manufacturer and the seller do not accept responsibility for any damage due to incorrect installation or electrical connection.”

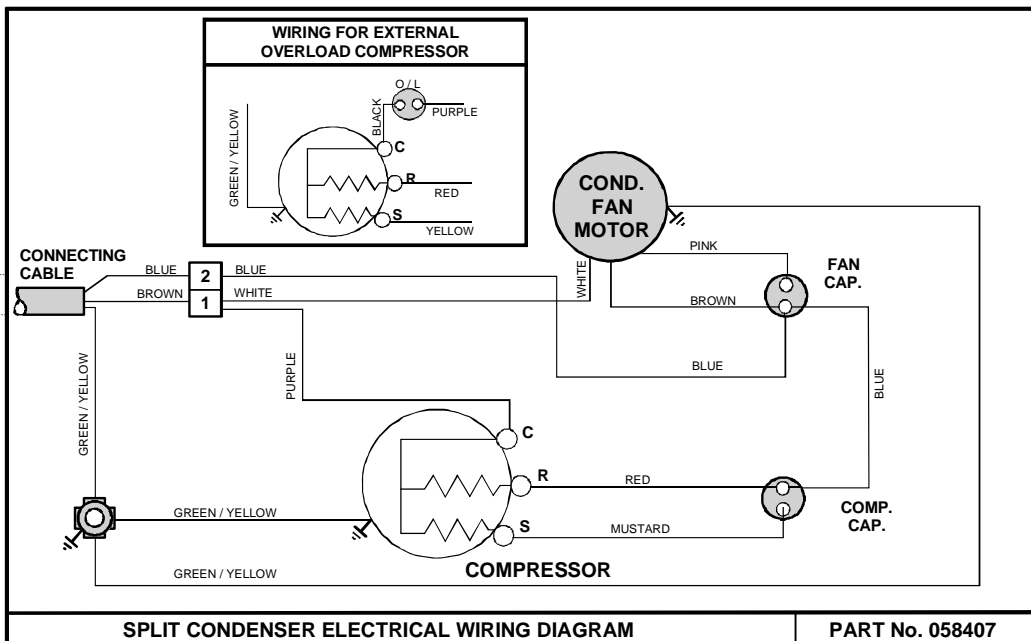
INTER CONNECTING WIRING DIAGRAM FOR SPLIT EVAP AND CONDENSER SECTION



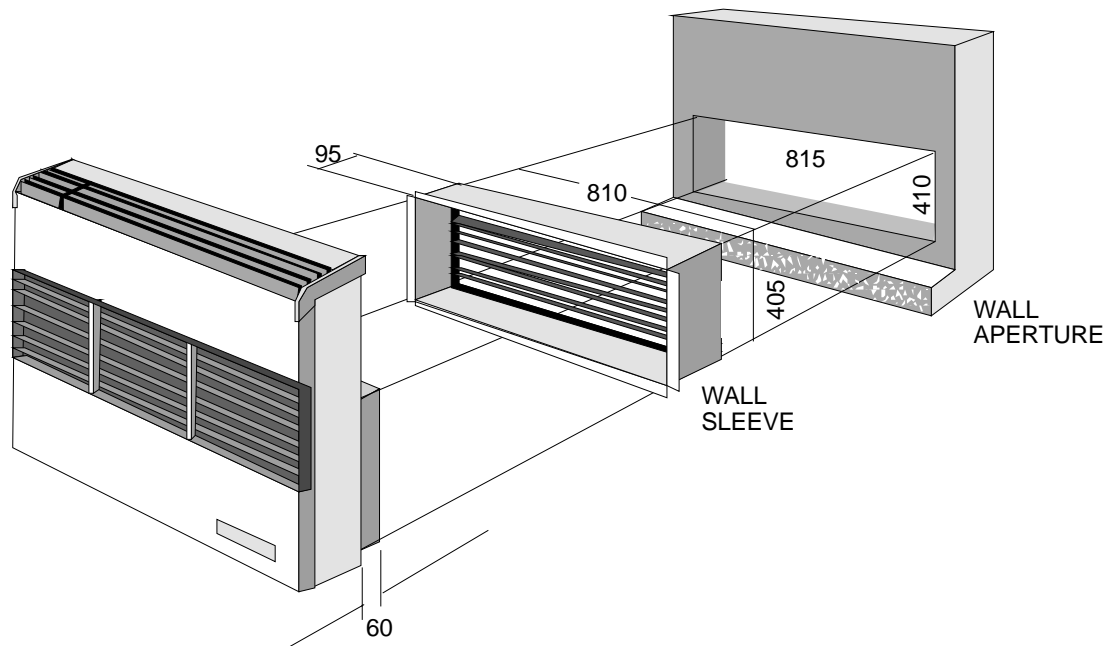
MED FAN SPEED LEAD USE ON ELECTRONIC MODULE ONLY



**WARNING: DISCONNECT THE UNIT FROM THE MAINS BEFORE SERVICING**

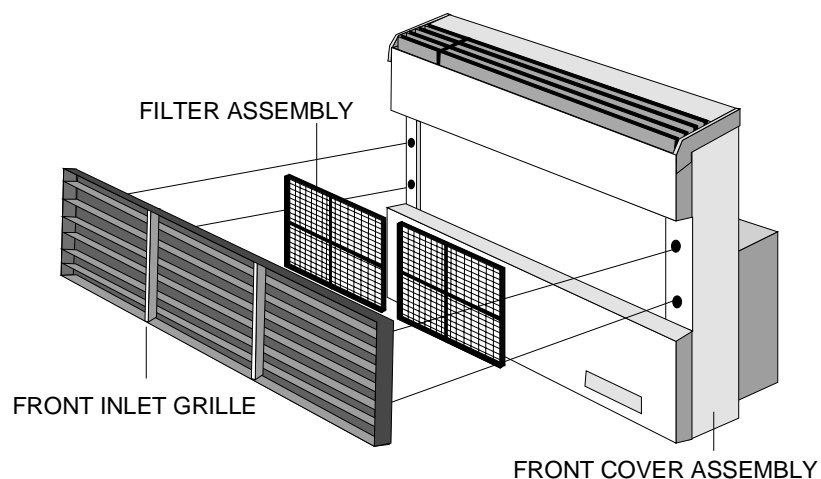


# Curtain Wall Console Installation Instruction



## PRIOR TO INSTALLATION

- Remove Front Inlet Grille and store in a safe place.
- Remove both Filter Assemblies and store with the front inlet grille.
- Remove the two screws securing the Front Cover assembly to the Chassis Assembly.
- Remove the Front Cover assembly
- Two mounting holes, located on the Condenser Back Cover, are now exposed and clearly visible.
- Isolate the area and be sure not to contaminate the Electrical components with dust.



## ELECTRICAL CONNECTION

- Ensure that the supply voltage is 230V 50 Hz
- This unit must be earthed and installed in accordance with local municipal safety standards.
- If necessary, ensure that a qualified electrician replaces the mains cable.

## Defy branch

## Sales

## Parts

	Phone	Fax	Phone	Fax
<b>JOHANNESBURG</b>	011 621 0200	011 621 0399	011 621 0200	011 621 0396
<b>PRETORIA</b>	_____	_____	012 377 0061	012 377 0398
<b>BLOEMFONTEIN</b>	051 400 3900	051 400 3950	051 400 3900	051 400 3951
<b>DURBAN</b>	031 460 9649	031 460 9631	031 460 9712	031 460 9988
<b>CAPE TOWN</b>	021 551 8314	021 551 8228	021 551 8314	021 551 8342
<b>PORT ELIZABETH</b>	041 401 6400	041 401 6501	041 401 6400	041 401 6499
<b>NAMIBIA</b>	09264 61 216162	09264 61 216134	_____	_____
<b>BOTSWANA</b>	09267 306476	09267 359705	_____	_____
<b>SWAZILAND (AGENT)</b>	09268 518 6527	09268 518 4318	_____	_____

## Warranty

Defy Appliances (“the Company”) warrants to the purchaser to whom the product was sold by the dealer appointed by the company to distribute its products (“authorized dealer”) and in respect of which no prior sale of the product was made (“original purchaser”) that the Defy Air conditioning unit (“product”) sold with this certificate is free of defects in material of workmanship under normal use and service for a period of 2 years from the date of purchase thereof. The warranty period of 2 years for console air conditioners is subject to a signed service and maintenance agreement between a Defy authorized contractor and the end user for the full warranty period. Without a service/maintenance agreement the warranty period of 1 year applies. The warranty is subject to the following conditions:

1. This warranty shall apply to the product, provided the product is still owned by the original purchaser and provided that it was purchased in and is retained for use in the Republic of South Africa, Swaziland, Lesotho, Botswana and Namibia.
2. The Company undertakes to, within 2 years from date of the invoice issued to the original purchaser, through an authorized dealer appointed by its regional office in its discretion, replace or repair, free of charge, any parts of the product, which may be faulty.
3. It is a condition of this warranty that the Company shall not be responsible for any transportation, labour, material or any other costs not specified in the clauses contained herein.
4. The product shall be serviced regularly by an authorized dealer (which intervals shall not exceed 6 months) and failure to comply with this condition shall render the warrant null and void.
5. The Company shall not be responsible for damage to the product resulting from incorrect voltage or fault in the electrical power supply system, general misuse or abuse of the product, failure to use the product for the purpose for which it was designed, fire, flood, war, civil disturbances, strikes, lockouts, acts of God, acts of Government, or quasi-Government, or any other cause beyond the reasonable control of the Company.
6. The Company shall not accept any responsibility or liability (whether in contract and / or delict and / or otherwise), for any loss suffered by or damage of any kind caused to the original purchase or any other person by or due to failure of operation or malfunction of the product or for consequential damage of whatsoever nature, whether such loss, damage or consequential damage was suffered by the original purchaser or any other person.
7. Should the product be worked on by anyone other than a Regional Office service representative or authorised service dealer or be found to contain any component parts or accessories other than product component parts of accessories, this warranty will become null and void.
8. The defacement or removal of the nameplate and or serial number from the product will render the warranty null and void.
9. The warranty does not apply to filters, external cables and plugs, nor to any parts where the length of life depends on the amount of use and care given. Transport and handling damages are not covered by this warranty.
10. Save as set out in this warranty, no terms, conditions, provisions, representations or statements (whether express or implied) shall be of any force or effect whether made prior to, on, or subsequent to the date of original purchase, unless the same shall have been confirmed in writing by the Company.
11. The product has been designed for normal use. If the product is used for abnormal applications i.e. operation outside its design conditions, operation with restrictive louvers, which have not been approved by Defy Appliances Ltd., extreme high or low temperatures, dusty and / or highly polluted areas or any other similar or related purpose, the warranty shall be rendered null and void.