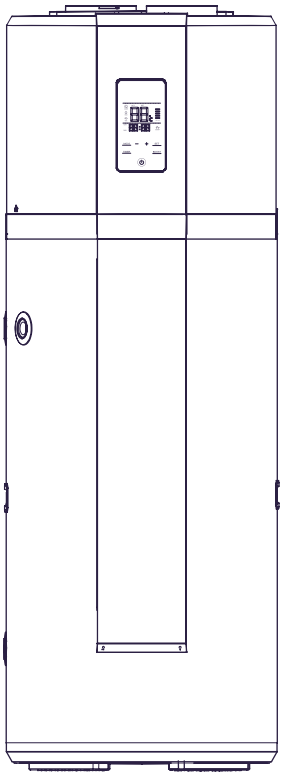
Heat Pump Water Heater

Operation and Installation Manual

Heat Pump Water Heater



Model
HP200M3
HP250M3K
HP250M3CK

Renewable Energy Ready

90% Recyclable Materials

B Energy Rating

Please read this manual carefully prior to your use of this water heater. The appearance of the water heater given in this manual is for reference only.

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Contents

Please read this manual carefully and follow the operation and safety instruction to ensure best installation and utilization of the product.

Product safety statement

1. This appliance can be used by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
2. Children shall be closely supervised to make sure they stay away from this product.
3. The T&P safety valve is installed according to SANS 10254.
4. The water may drip from the discharge pipe of the pressure relief device and this pipe must be left open to the atmosphere.

Safety instructions (to be followed at any time)

Interpretation of marks and symbols

Failure to respect these instructions may lead to serious malfunctions of the device and to risks for the user

Instructions with this warning mark shall be strictly followed during operation. They relate to product and body safety of users.

Information provided with this banning mark relates to activities that are definitely forbidden. Otherwise the machine may be damaged or users may risk personal danger.

Earthing

Safety instructions (to be followed at any time)

	The water heater shall be installed in strict accordance with local wiring regulations, and equipped with power, with an earthed power supply.
	Check wiring code for earth.
	The water heater shall not be installed at places where water drainage is unavailable or impossible.
	It is recommended that the water heater shall be installed outdoors. If installed outside the air inlet and outlet must have elbows fitted.
	This water storage tank must be equipped with a safety valve. Its installation position shall not be changed. To guarantee safe operation, it shall not be blocked at any time.
	While bathing, children must be under guidance of an adult person.
	The outlet water temperature of a water heater is typically higher than the temperature indicated on the display. Hot water shall not be pointed at the human body immediately after opening the hot water valve to avoid injury caused by hot water.
	The electrical supply to the heat pump must be via a double pole isolator.

Safety instructions (to be followed at any time)

	Install the water heater in strict accordance SANS 10254.
	If the power cord is damaged, it shall be replaced by qualified professionals to avoid hazards.
	Hands or other items shall not be put into the air grille to avoid injury or damage to the water heater.
	Maintenance shall be carried out according to the instructions specified on page 28 and 29.
	The water heater is intended to be permanently connected to the water mains and not connected by a hose-set.
	Do not install the water heater in the position where exposed to gas, vapours or dust.
	The inlet water pressure is between 100 and 600kPa. The inlet water temperature is suggested between 10-30°C.
	Water heaters shall be equipped with a dedicated power line and residual current circuit breakers. The leakage current shall not exceed 30 mA;

Safety instructions (to be followed at any time)

⚠	The appliance contains fluorinated greenhouse gases. Chemical name of the gas: R134a/ 0,9Kg Fluorinated greenhouse gases are contained in hermetically sealed equipment. Global Warming Potential(GWP) : 1430
⚠	If needed, please refer to the wiring diagram on page 24.

Instructions on Transportation and Storage

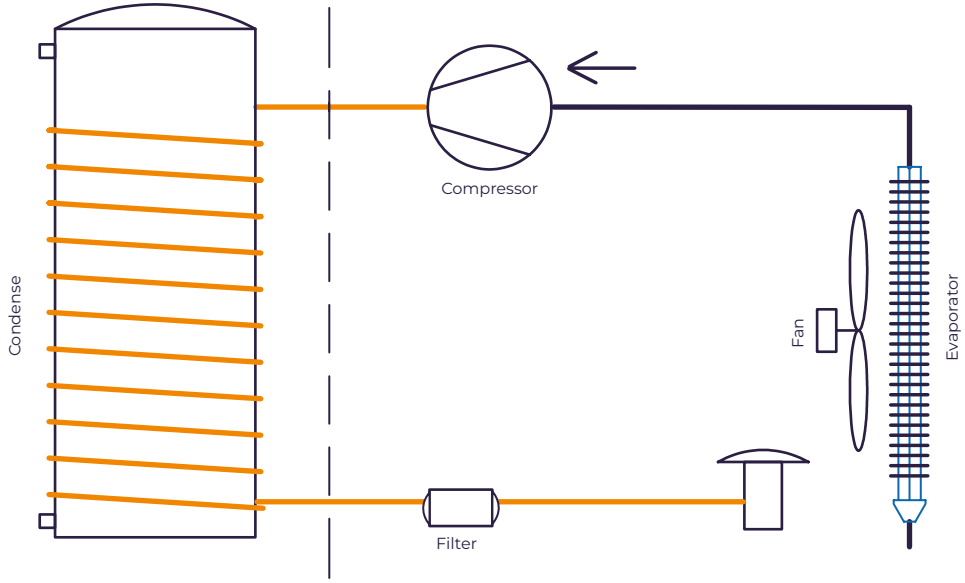
1. During transportation or storage, the heat pump water heater shall be packed in the undamaged package to avoid damage to appearance and performance of the product;
2. During transportation or storage, the heat pump water heater shall be in the upright position;
3. Under special conditions, this product may be laid down for a short time/ distance as per indication on the side of the package case. The heat pump water heater, after being laid down for a certain time, shall be kept at upright position for more than 4 hours before starting up.

⚠ The machine shall be kept in the upright position at any time for the best performance!

Functioning and Principles

A low-pressure liquid refrigerant is vaporized in the heat pump's evaporator and passed into the compressor. As the pressure of the refrigerant increases, so does its temperature.

The heated refrigerant runs through a condenser coil within the storage tank, transferring heat to the water stored there. As the refrigerant delivers its heat to the water, it cools and condenses, and then passes through an expansion valve where the pressure is reduced and the cycle starts over.



Technical Parameters

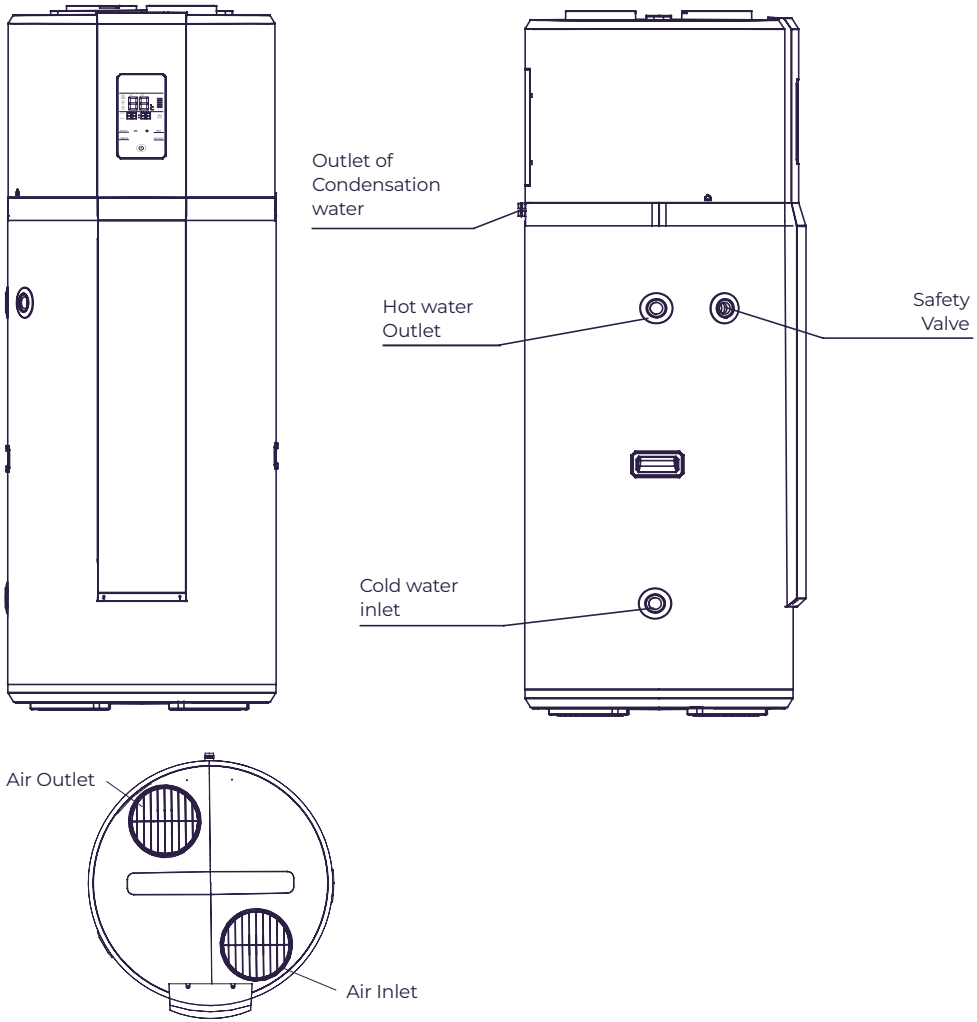
Tank	HP200M3	HP250M3K	HP250M3CK
Tank volume	194L	246L	240L
Rated valtage/ frequency	220V-240VAC/50Hz	220V-240VAC/50Hz	220V-240VAC/50Hz
Tank rated pressure	600kPa	600kPa	600kPa
Corrosion protection	Magnesium rod	Magnesium rod	Magnesium rod
Waterproof grade	IPX4	IPX4	IPX4
Performances			
Type of extraction	Ambient/Exterior	Ambient/Exterior	Ambient/Exterior

Technical Parameters

Power input by electrical element backup (optional extra)	1500W	1500W	1500W
Rated power input by heat pump	495W	495W	495W
Maximun power input by heat pump	865W	865W	865W
Maximum power input (with element)	2365W	2365W	2365W
Standby power input	27W	27W	27W
Default temperature setting	55°C	55°C	55°C
Temperature setting range (with optional element)	35°C - 75°C	35°C - 75°C	35°C - 75°C
Maximum length of air duct (180mm)	10m	10m	10m
Diameter of air duct connection	180mm	180mm	180mm
Max working pressure of refrigerant	0,8/2,8MPa	0,8/2,8MPa	0,8/2,8MPa
Refrigerant type/ weight	R134a/0,9kg	R134a/0,9kg	R134a/0,9kg
Sound power level	60dB	60dB	60dB
Operating temperature of the heat pump	-7°C - 45°C	-7°C - 45°C	-7°C - 45°C
Dimension and connections			
Water inlet and outlet connection	R3/4"F	R3/4"F	R3/4"F
T&P safety valve connection	R3/4"F	R3/4"F	R3/4"F
Product dimensions	(600*629*1692)mm	(600*629*1987)mm	(600*629*1987)mm
Packaging dimensions	(736*695*1810)mm	(736*695*2120)mm	(736*695*2120)mm
Net/Gross weight	91/103kg	102/115kg	119/132kg
*The noise level data was tested in Haier lab			

Description of Parts and Components

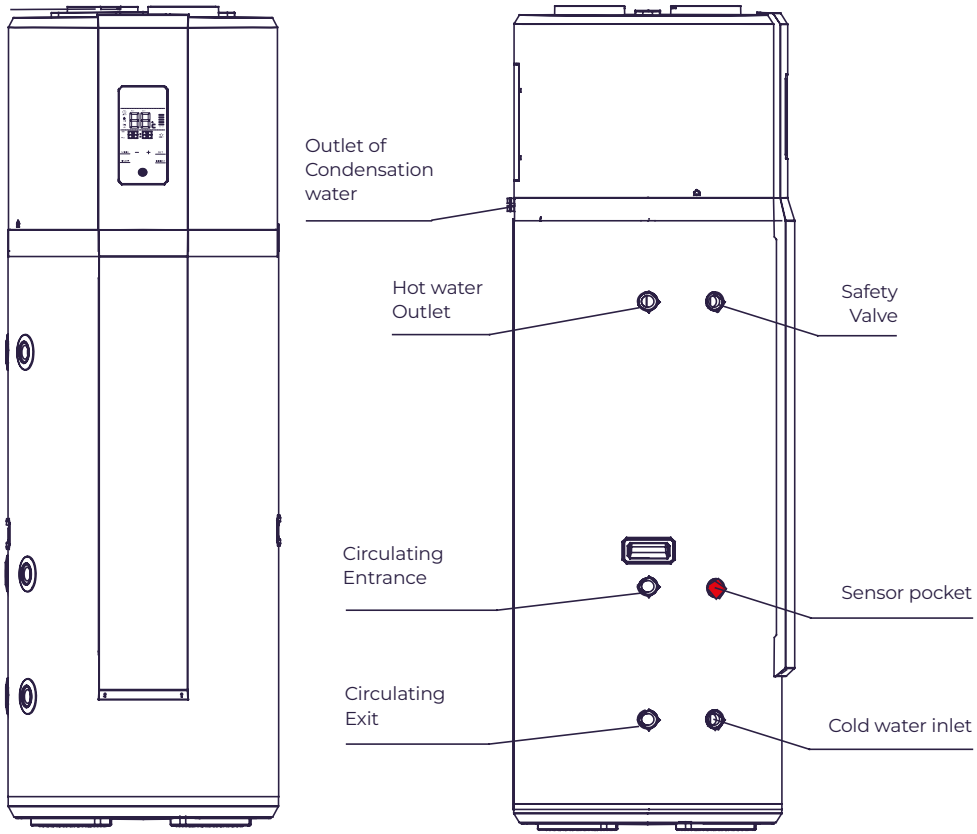
Heat Pump Structure

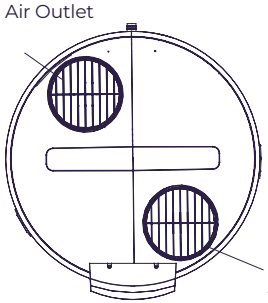


HP200M3/HP250M3K

Description of Parts and Components

Heat Pump Structure



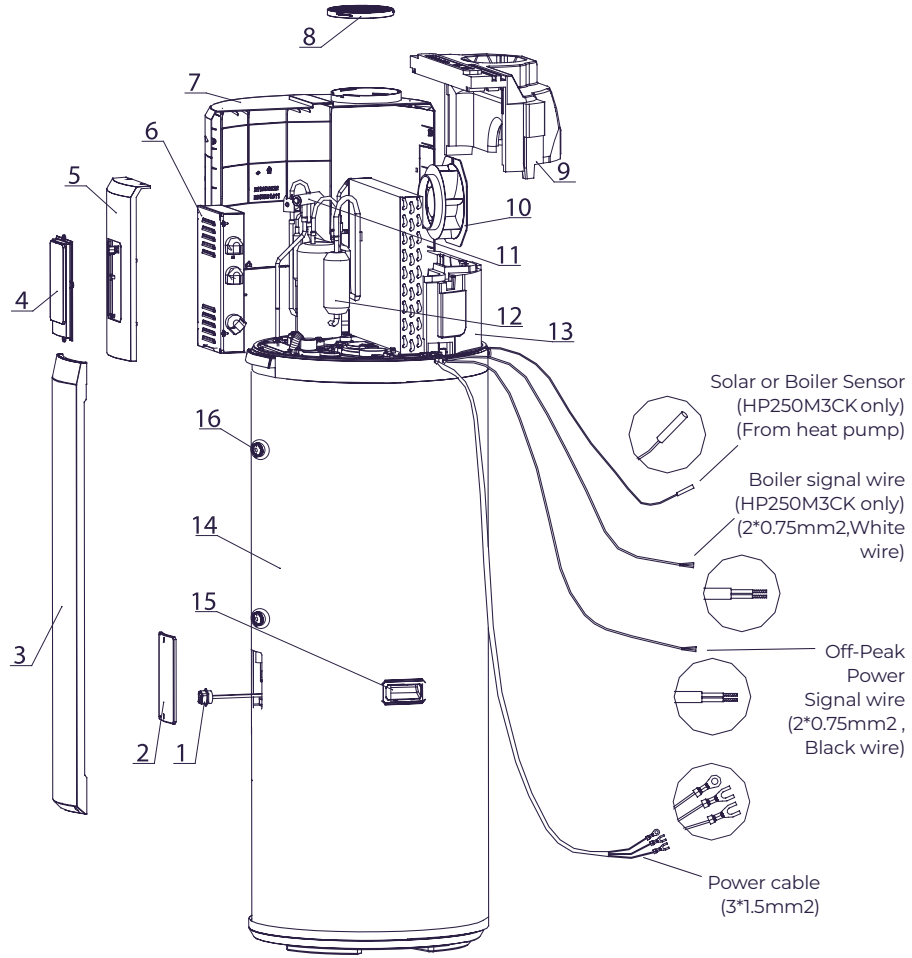


Accessories					
Part Name	Heat Pump Water Heater	Fiber Washer	Drainage Pipe for Condensate Water	Instruction Manual	Dielectric Connection
Quantity	1	5	1	1	2

HP250M3CK

Description of Parts and Components

Exploded view



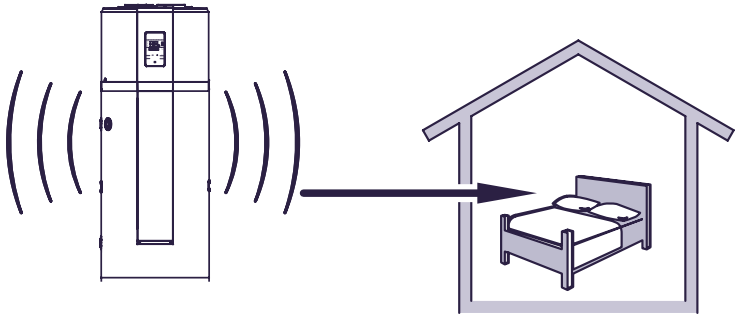
1. Electrical element (optional)
2. Electric cover
3. Front cover - lower
4. Display panel
5. Front cover - upper
6. Control box
7. Top cover
8. Air grille
9. Air channel - upper
10. Fan
11. Four-way valve
12. Compressor
13. Air channel - lower
14. Outer casement
15. Handle
16. Sensor pocket

Installation Introduction

Installation Precaution

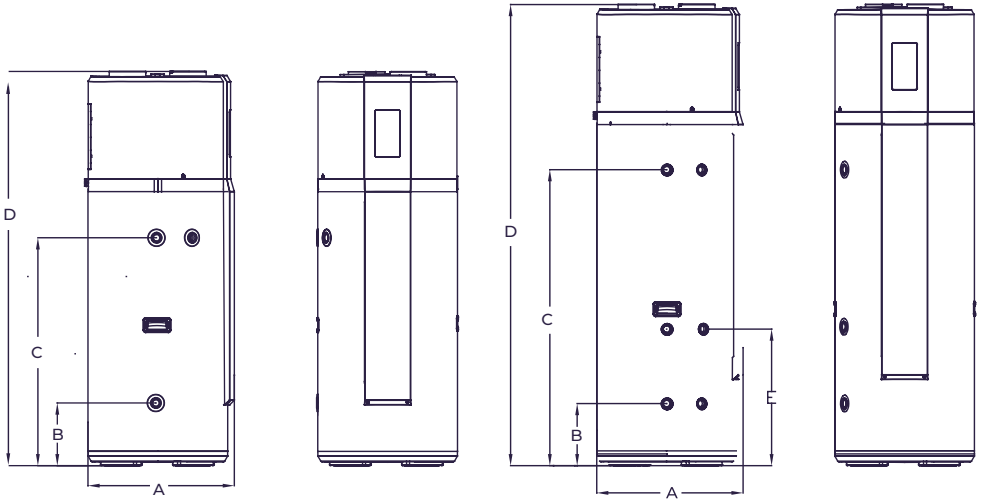
- Do not install the water heater in the position where exposed to gas, vapours or dust.
- Install the appliance on a flat, solid surface. The surface can support the machine weight and the condensate water can be drained freely.
- Select a position where the noise doesn't bother the neighbours.
- Make sure there is sufficient space left for installation and maintenance.
- There is no strong electromagnetic interference around that may affect control functions.
- There is no sulphur gas or mineral oil existing at the installation place, which may cause corrosion of the machine and the fittings.
- The water pipe for the water heater used at temperatures below 0°C shall be insulated.
- It shall not be set in rooms where a heating system is used so that heating supply to the room will not be affected.
- It shall not be set inside a totally-enclosed space.
- Shall not be installed in a dusty environment.
- Install the appliance in a dry, frost-free room.
- Temperature of the ambient air or of the air taken in by the heat pump for optimum running: from 2°C to 35°C.
- Shall be installed in a space with adequate ventilation.

Keep an adequate distance between the working heat pump and the bedroom.



Installation Introduction

Installation Dimensions



HP200M3/HP250M3K

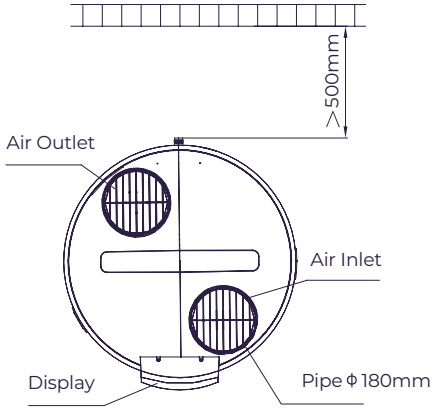
HP250M3CK

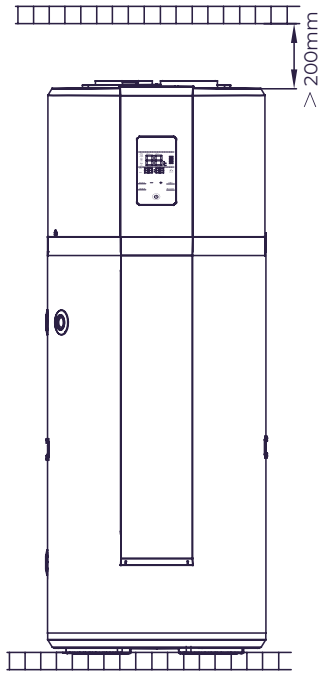
Unit:mm

Model	A	B	C	D	E
HP200M3	629	270	980	1692	
HP250M3K	629	270	1275	1987	
HP250M3CK	629	270	1275	1987	590

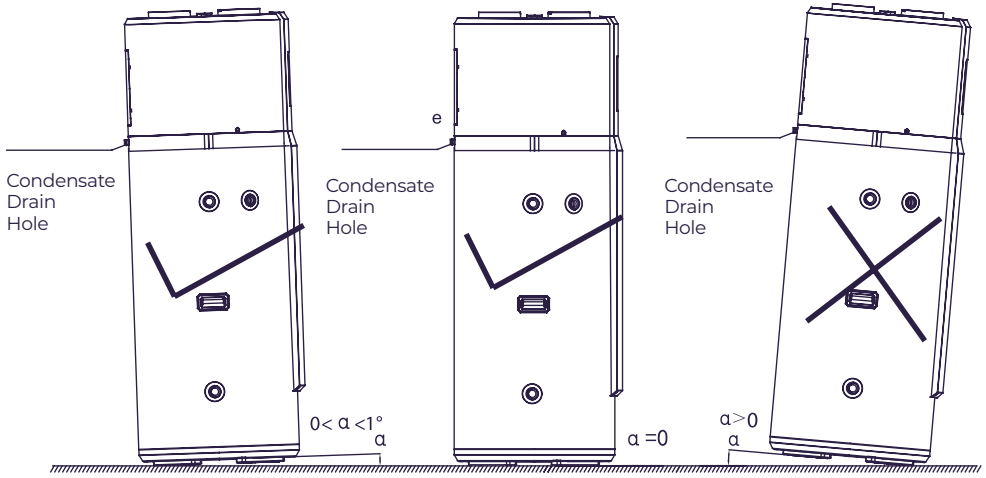
Installation Introduction

Installation Dimensions



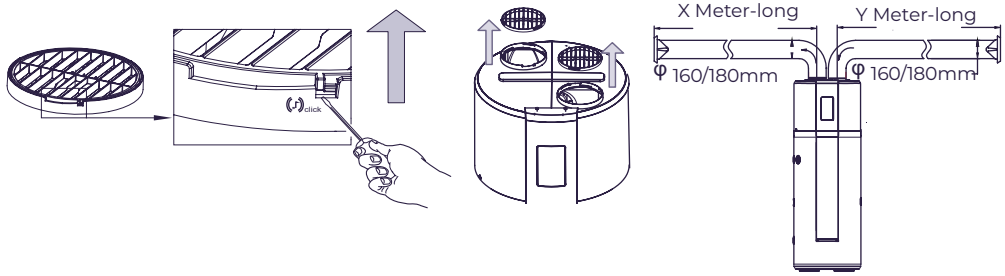


Installation angle refer to the following diagrams



Installation Introduction

Air Connection



Available pressure 65 Pa		φ 160mm		φ 180mm	
		Drop Pressure (Pa)	Equivalent 1m-long	Drop Pressure (Pa)	Equivalent 1m-long
	Smooth tube	1.9/1 meter	1	1.6/1 meter	1
	Bellows	3.6/1 meter	2	3.2/1 meter	2
	Elbow	7.0/unit	4	6.3/unit	4
	Air grid	9.0/unit	5	8.0/unit	5

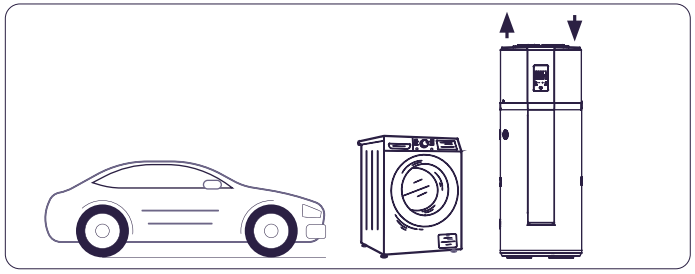
Installation suggestions: 160mm	**Installation suggestions:** 180mm
x + y < 17 m (Smooth tube)	x + y < 20 m (Smooth tube)
x + y < 8 m (Bellows tube)	x + y < 10 m (Bellows tube)

- Pressure drops from duct must be lower than or equal to the static pressure of the fan.
- If the pressure drops out of range, the performance of the appliance will be impaired.

The sum of the maximum length of the air duct is 10m (Diameter of air connection 180 mm). The sum of the Maximum length of the air duct is 8m (Diameter of air connection 160 mm).
It is recommended that an air grille with a mosquito net be installed at the air inlet of the air guide duct. Ventilation area not less than 150cm.

Installation Introduction

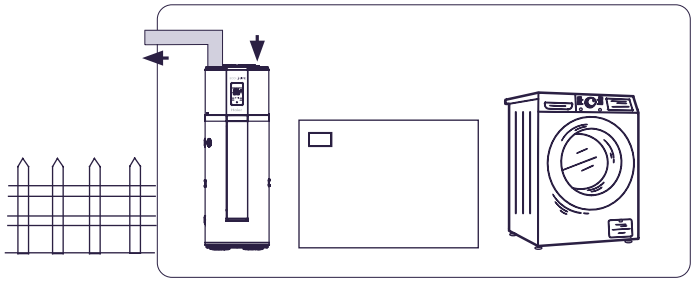
Advised Positions



Garage or laundry room:

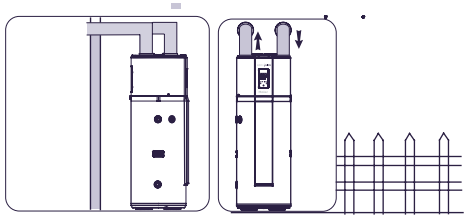
(Without ducts - the machine's performance may be affected)

1. Unheated room.
2. Enables recovery of the free energy released by your vehicle's engine when switched off after use or by household appliances in operation.



Laundry room (with one duct):

1. Unheated room.
2. Enables recovery of the free energy released by your vehicle's engine when switched off after use or by household appliances in operation.
3. Referring installer menu (page 28), adjust the fan speed.



Habitable room or outside air (with two ducts):

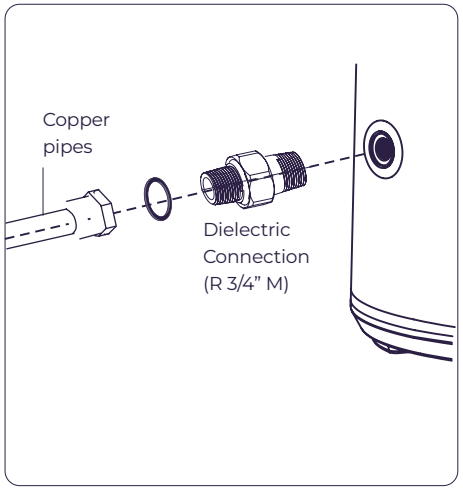
1. Can obtain free heat from the garage.
2. If the outside air temperature is too low,connection to the outside air may lead to overconsumption of electricity.
3. Referring installer menu (page 28), adjust the fan speed.
4. Avoid refreshing heated room.

Installation Introduction

Installation Caution

When making the connections, you should respect the standards and local directives.

- Before making the connection, rinse the water inlet pipes and water tank
- Select exchanger (HP250M3CK), in order not to introduce metal or other particles into the tank.
- Select copper pipes for pipeline connection.
- The working pressure is 600kPa. A SANS 198 approved 600kPa pressure control valve must be installed on the cold water inlet
- The inlet water pressure is between 100 - 600kPa. If lower than 100kPa, a booster pump can be added at the water inlet; if higher than 600kPa, a pressure control valve shall be added at the water inlet.
- The inlet water temperature is suggested between 10°C-30°C.
- Outdoor water pipeline and valves should be proper insulated.
- An approved 600kPa temperature and pressure (TP) valve must be installed (supplied)
- Never block the outlet of the safety valve or its drain line for any reason.



Do not connect the cold water inlet and hot water outlet directly to the copper pipes in order to avoid iron/ copper galvanic couples (risk of corrosion).

The cold water inlet and hot water outlet must be fitted with a dielectric connection .

R 3/4" dielectric connection and pipe fittings must be used.
Do not use G 3/4" thread.

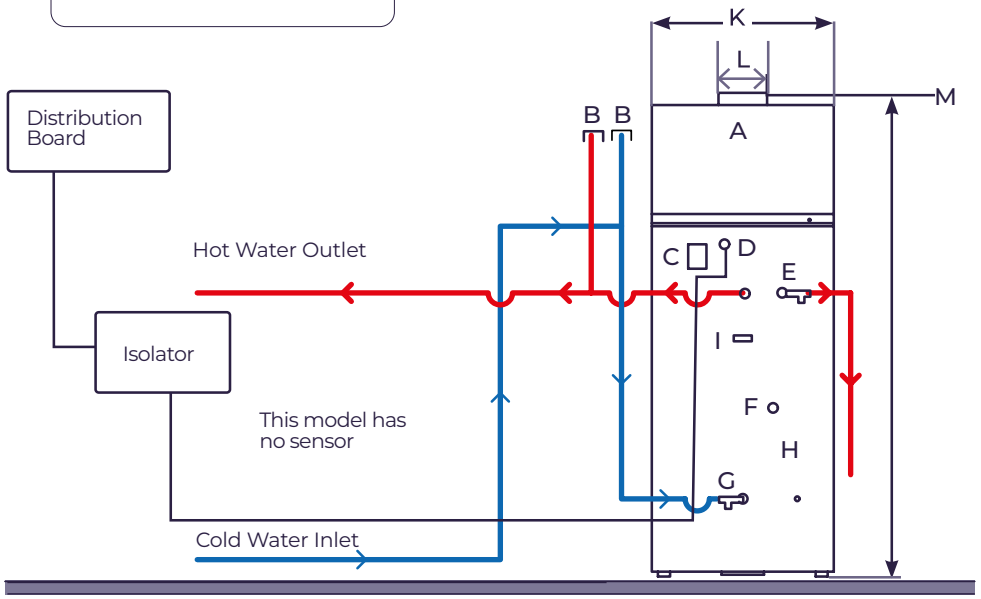
Installation Introduction

Pipeline Installation Diagram

Installation A

A Air Inlet
B Vacuum Breaker
C Key Pad
D Electric wire
E Safety Valve
F Temp. Sensor
G Drain Cock
H Condensate Water

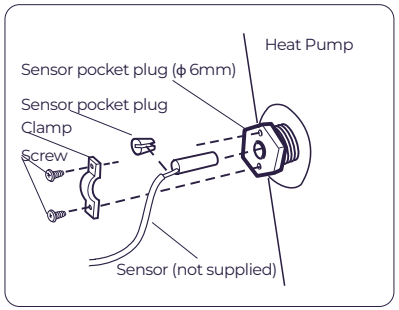
Circuit Breaker:
3.6kW - 4.5A - 15A



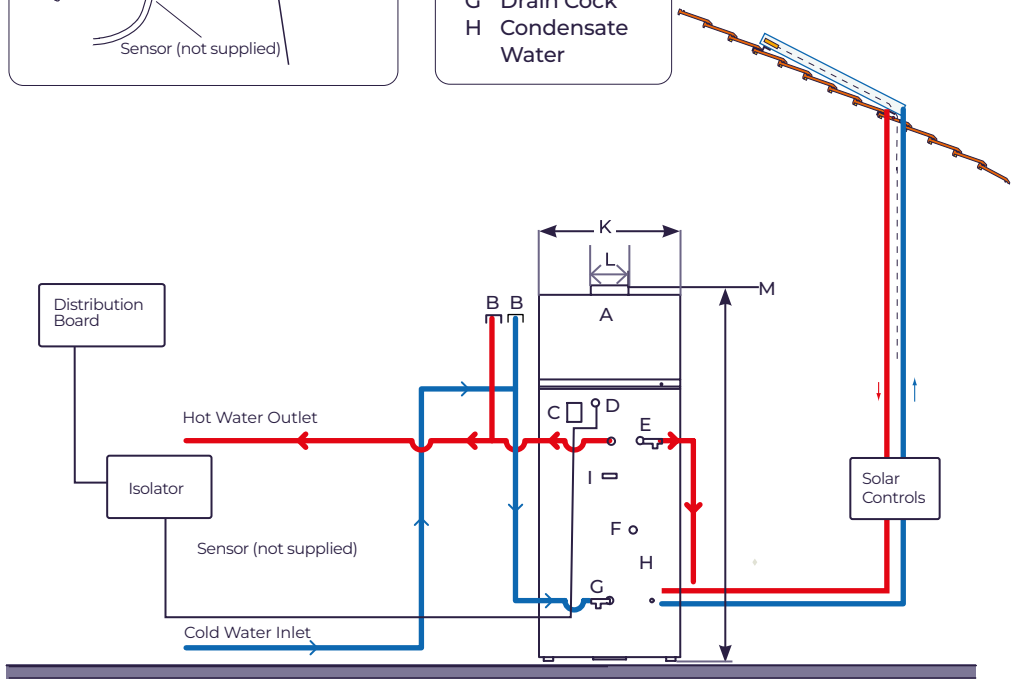
Installation Introduction

Connection to Solar Collectors (Version HP250M3CK)

Installation of Sensor (Solar Controller):



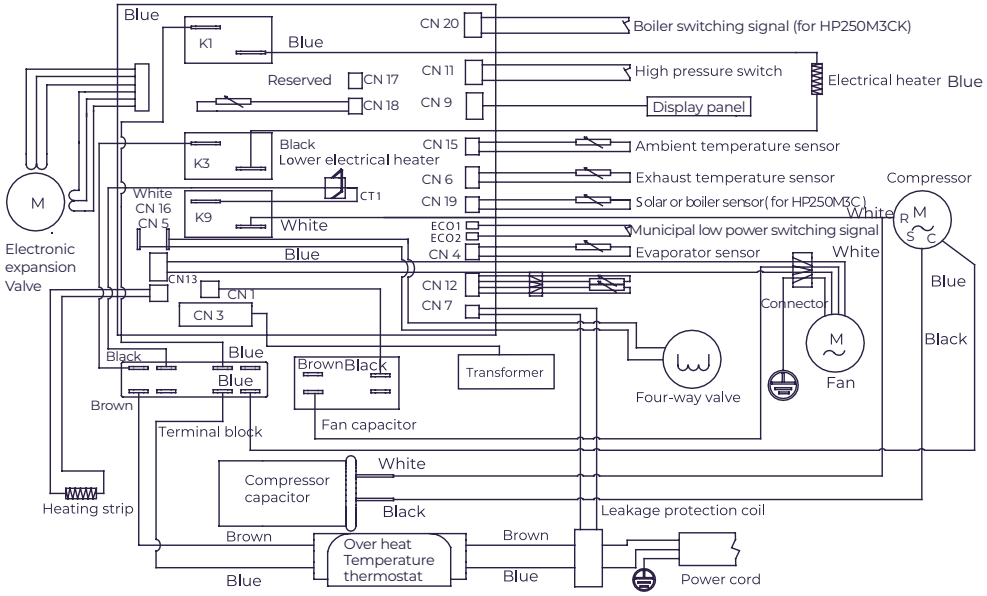
A Air Inlet
B Vacuum Breaker
C Key Pad
D Electric wire
E Safety Valve
F Temp. Sensor
G Drain Cock
H Condensate Water



Warning - Plumber Be Aware:
Using boiler auxiliary heating, please make sure that the heat pump water tank temperature does not exceed 85°C.

Installation Introduction

Wiring Diagram



Commissioning

Installers shall use checking list for trial operation of water heaters as per the user manual and make √ in ☐.

- ☐ Electrical wires are fixed securely?
- ☐ Water drain pipes are connected correctly?
- ☐ Ground wires are connected securely?
- ☐ Supply voltage conforms to relevant electric codes?
- ☐ The control panel works well?
- ☐ All noises are normal?
- ☐ The water tank has been connected with dedicated pressure control valve
- ☐ Materials for hot/cold water pipes conform to requirements of use of hot/cold water?
- ☐ After the water system is completed, the water tank is filled with water? Is there water?
- ☐ After the water pipe of the water system is filled, check the whole water pipeline. Are there leaks?
- ☐ The drain valve, drain pipe and pressure relief valve drain pipe of the water tank have been connected to the sewage system and the drainage can be carried out well?

Operation and Functions

Display

Functions and Protections

1. **Electrical leakage protection**
   The control system of this machine features an electricity leakage protection function.
2. **3-minute protection**
   When starting the machine after electricity input, the system will start after approximately 3 minutes ,which is considered to be normal.
3. **10-minute protection**
   When restarting the machine immediately after shutdown, the system goes into the protection mode and starts after approximately 10 minutes, which is considered to be normal.
4. **Automatic defrosting function**
   The defrosting mode is automatically activated if the outdoor temperature is too low and after the compressor already runs continuously for a certain period.
5. **Overload protection**
   The working load of the compressor will be heavy if temperature is high in summer. In order to meet hot water requirements of users and to lengthen service life of the compressor, this product automatically adjusts the fan speed to ensure reliable operation of the compressor.
6. **Anti-freezing function**
   The heat pump starts heating to avoid freezing of the water tank if the temperature in the water tank is too low.
7. **The default temperature setting is 55°C.**

Description of the Pictogram

Symbol	Description
	Power ON/OFF switch
MODE	Working mode selection
SET	Confirm button
TIMER	Timer adjust
BOOST	Boost mode. Heat pump and auxiliary power are activated at the same time, if the element is fitted. (optional)
 AUTO	**Auto mode** · Optimised management of the heat pump and the electrics, if the element is fitted. (optional) for guaranteed comfort; · Prior using heat pump; · If compressor works more than the default 8 hours , start the auxiliary power, if the element is fitted. (optional); · The compressor maximum continuous working time can be adjust in the installer settings.
 ECO	**ECO (off-peak) mode** · In this mode ,priority using heat pump; · Starts the heat pump to provide hot water in energy saving mode and can be managed in two ways depending on the “LP” parameter: LP=1, Operation only within a time programme (L1-L2) LP=2, Operation conditioned by an external signal (ECO1, ECO2)
 VAC	**Holiday mode** · According to the vacation dates in advance to prepare hot water; · For example, you leave home for vacation on January 1st and return home on January 5th. The date shall be set as (5-1) = 4 days, and corresponding temperature shall also be set. · The heat pump will start heating on 00:00 o’clock of January 4th automatically.
	· Anti-legionella · Anti-legionella function will be activated every 7 days to heat the tank to 65°C automatically, if the element is fitted. (optional)
	Hot water volume display

Attention:
If you choose to switch off the Anti-Legionella function (AL=OF), hot water cannot be prepared automatically when you return from Vacation.

Operating Functions

Installer Settings

- To open the installer settings, press ⏻ switch off the system, then press + and SET at the same time for 10 seconds.
- When menu is open, press − or + to change the value of the settings.
- Press SET to confirm the settings.
- Press ⏻ to close the menu.

Parameters	Description	Factory setting	Adjustment range
LL no,nc	**Off-peak signal range** When you use off-peak time clock control, first determine the type of signals,Only allow professional installers to operate · -NO corresponds to Normally Open Signal. · NC corresponds to Normally Close Signal.	NO	NO, NC
LP 01, 02	**Off-peak logic type** · In two ways using heat pump,should set in the installer settings · 01 manually set off-peak time; · 02 switch signals by power companies.	01	01, 02
AL on, of	**Anti-legionella** · This parameter is used to activate the legionella protection mode, if the element is fitted. (optional) · Once every 7 days, all domestic hot water us heated to 65	ON	ON, OFF
AH 1, 2, 3	**Auxiliary Heating, if the element is fitted. (optional)** · 1 corresponds to electrical back-up. · 2 corresponds to electrical and boiler back-up. · 3 corresponds to electrical and solar back-up.	1	1, 2, 3
AA 5-10	**Boiler output signal type** · NO corresponds to boiler Normally Open Signal. · NC corresponds to boiler Normally Close Signal.	NO	NO, NC

Operating Functions

Installer Settings

Parameters	Description	Factory setting	Adjustment range
F5 1, 2, 3	**Fan speed** • 1 Corresponds to water heaters without ducts. • 2 Corresponds to semi-ducting, with a single duct installed. • 3 Corresponds to ducts on both the inlet and the outlet.	1	1, 2, 3
AA 5-10	**Compressor maximum continuous working time** • If the maximum continuous working time of the compressor more than Set Time, start auxiliary power.	8H	5-10h

Checking and Maintenance

- Installation and maintenance of the appliance must be done by a qualified professional.
- Before working on the appliance,Shut down the machine and cut off the power supply .
- Do not touch with wet hands.
- Maintenance operations are important to guarantee optimum performance and extend the life of the equipment.

Checking of the Safety valve

Checking of the hydraulic circuit

- Check the water tightness of the water connections.

Cleaning of the fan

- Check the cleanliness of the fan one time per year.

Operating Functions

Installer Settings

Checking of the evaporator

- Because the evaporator fins is very sharp. Risk of injury on your finger.
- Do not damage the fins. Avoid affecting the performance.

- It is recommended that the evaporator be cleaned every two years. It is recommended to clean the evaporator with a soft brush. If required, water can be used. But it is not recommended to use cleaning agents.

Checking of the condensates discharge pipe

- An obstruction may cause poor condensate draining and an accumulation of water in the heat pump's drainage base

Checking of the Magnesium rod

- The magnesium anode should be replaced in time, avoid tank corrosion.
- Checking magnesium anode once every 2 years. For the water with higher hardness then 200mg/L of CaCO3 (20 degresF). Please check 1 time par year.
- HP200M3 and HP250M3K have two magnesium rods, which are located at the top of the water tank. However, HP250M3CK has three magnesium rods. In addition to the two at the top of the water tank, there is a third magnesium rod, which is located next to the electric auxiliary heating element.

Drain the water tank to empty

- Cut off power supply and shut down water inlet valve, then drain the water tank to empty via the sewage outlet. Please stay away from the sewage outlet if there is hot water inside the water tank to avoid injury.

Faults and Protection

Fault type	Action	Digital Indication	Release
Compressor protection	Operating temperature protection	F2	After fault is solved, switch on power supply for reset
	Air exhaust temperature protection	F3	
	Evaporation high temperature protection	F5	
Compressor over-current protection	Over-current protection	F6	
Electricity leakage alarming	The system will automatically cut off power supply if any line fault occurs	E1	After fault is solved, switch on power supply for reset
Over temperature alarming	The actual water temperature≥85 °C	E2	
Fault of the inner temperature sensor	If short circuit or circuit break occurs to the sensor	E3	
Fault of the ambient temperature sensor	If short circuit or circuit break occurs to the sensor	E4	
Fault of the evaporation temperature sensor	If short circuit or circuit break occurs to the sensor	E5	
Fault of the exhaust temperature sensor	If short circuit or circuit break occurs to the sensor	E6	
Fault of the air intake temperature sensor	If short circuit or circuit break occurs to the sensor	ED	After fault is solved,switch on power supply for reset
Communication fault	Communication of main control panel and display panel is abnormal	E7	
Communication of main control panel and display panel is abnormal	Action of the pressure switch at the exhaust outlet	E8	

Faults and Protection

Ambient temperature protection	Ambient or outdoor temperature <-7°C or >45 °C	E9	After fault is solved, switch on power supply for reset
Fault of the Solar or boiler temperature sensor	If short circuit or circuit break occurs to the sensor (for HP250M3CK)	EE	
Fault of the Off-peak power switching signal	If not received the Off-peak signal when selecting switch signals by power companies	EF	

This symbol on the product or on its packaging indicates that this product is not to be treated as regular household waste. Instead, it must be taken to a recycling collection point for electrical and electronic equipment.

By properly disposing of this product, you are contributing to the preservation of the environment and the wellbeing of your fellow citizens. Improper disposal is hazardous to health and environment. You can obtain further information on how to recycle this product from your municipality, your waste management service or the shop where you purchased it.

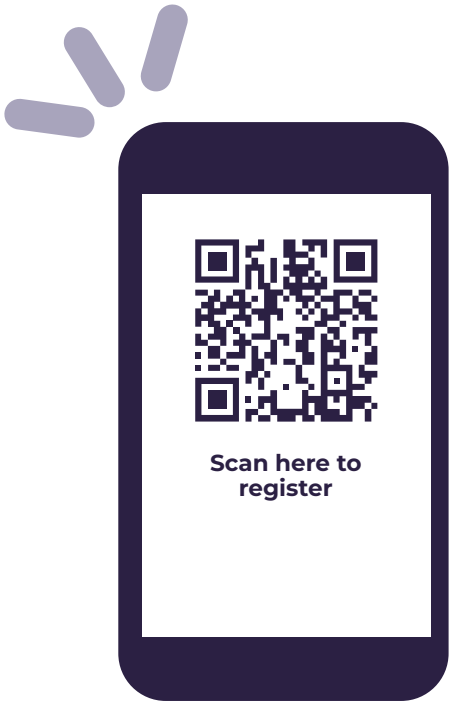
Product Fiche

Model		HP200M3	HP250M3K	HP250M3CK
Power supply	Ph/V/Hz	AC220-240V, 50Hz	AC220-240V, 50Hz	AC220-240V, 50Hz
The water heating energy efficiency (wh)	%	119	117	117
Water heating energy efficiency class	-	B-rated	B-rated	B-rated
Annual energy consumption (AEC)	kWh/ annum	895	913	906
The sound power level (indoors)	dB	60	60	60
Mixed water at 40°C	L	224	311	332
Manufacturer	Qingdao Economic & Technology Development Zone Haier Water-Heater Co.,Ltd.			
Address	3 Aberdeen rd, Benoni			
Denomination	Heat pump water heater			
Intended use	Hot water			
Assembly type	Single package			
Refrigerant	R134a/900g			

To Validate the Warranty
(Please register online)

Kwikot has taken a significant step towards enhancing their customer service by introducing new Water Care product registrations. Through this new process, customers and installers can register their water heaters and water care products by scanning the product registration QR code via a smart phone or manually entering information on **www.kwikot.com**

This registration process enables service agents to access product information promptly, allowing for more efficient handling of warranty claims and a convenient experience for customers. This initiative reflects our unwavering commitment to delivering exceptional service to our valued customers.



Notes

Notes

KWIKOT
powered by Haier

www.kwikot.com

Support

Warranty and Service Support
za_insure@kwikot.com
0861 594 568

Admin, Marketing and Product Queries
kwikot.marketinginfo@kwikot.com

Sales and Payment Queries
za_salesorders@kwikot.com
011 897 4600

Technical Queries
technical.info@kwikot.com

Branches

Gauteng
3 Aberdeen Road,
Industrial Sites,
Benoni

Western Cape
15 Purdey Road,
Sheffield Business Park,
Phillippi, Cape Town

KwaZulu-Natal
814 Peter Close,
Springfield Park,
Durban

Eastern Cape
39-41 Leadwood Crescent,
Fairview,
Port Elizabeth

CE SABS IEC 60335-5-2-21 IPX4 PLEASE RECYCLE

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