



HEAT PUMP CYLINDER SERVICE

DATASHEET

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Checking and maintenance



- Installation and maintenance of the appliance must be undertaken 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 optimal performance and extend the life of the appliance.

Checking of the TPR valve

- Operate the TPR valve at least once every six months to check if it is running correctly. Otherwise check for blocking and replace the safety valve if necessary.

Checking of the hydraulic circuit

- Check the watertightness of the water connections.

Cleaning of the fan

- Check and clean the fan annually.

Checking of the evaporator



- The evaporator fins are sharp and can cause injury or cuts to hands.
- Avoid damaging the evaporator fins as this can affect the performance of the appliance.

- It is recommended that the evaporator is cleaned every two years.
Clean the evaporator with a soft brush and water if required. Do not use cleaning agents to clean the evaporator fins.

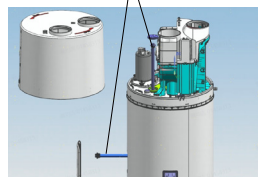
Checking of the condensates drain

- Check the pipe cleanliness .
- An obstruction may cause poor condensates flow or even a risk accumulation of water in the heat pump base.

Checking of the anode

- To avoid irreversible corrosion of the cylinder, it is recommended to check the anode every two years. If degraded, replace the anode.
- Checking magnesium anode once every 2 years.

Magnesium anode



Drain the water tank to empty

- Cut the power supply and shut down water inlet valve, then drain the cylinder. Please avoid the hot water inside the water tank to avoid injury.

Faults and protection

Water Quality

Water supply from an unfiltered water source that may be highly conductive or have a high mineral content may void the system warranty.

Therefore, to ensure water quality guidelines are met, the following characteristics should not be exceeded.

Total Dissolved Solids (TDS)	
Water Properties	Acceptable Level
Total hardness	200 mg/litre or ppm
Total Dissolved Solids(TDS)	600 mg/litre or ppm
Chloride	200 mg/litre or ppm
Magnesium	10 mg/litre or ppm
Sodium	150 mg/litre or ppm
pH	Min 6.5 to Max 8.5
Electricity conductivity	850 µS/cm

In areas of poor water quality, it is recommended that a softener, conditioner or similar device be fitted to the water supply.



WARNING

A breach of this condition may void the warranty in the event of damage caused by water quality exceeding these characteristics.

ANODE

The vitreous enamel lined cylinder of the water heater is only covered by the warranty when the total dissolved solids (TDS) content in the water is less than 2500 mg/L and when the correct colour coded anode is used. If an incorrect colour coded anode is used in the water heater, any resultant faults will not be covered by the warranty. In addition, the use of an incorrect colour coded anode may shorten the life of the water heater cylinder.

The correct colour coded anode is as shown in the following table:

Total Dissolved Solids	Anode colour code
0 – 40 mg/L	Green
40 – 150 mg/L	Green or Black
150 – 400 mg/L	Black
400 – 600 mg/L	Black or Blue
600 – 2500 mg/L	Blue
2500 mg/L +	Blue (no cylinder warranty)

Faults and protection

Fault type	Action	Digital indication	Release
Compressor protection	Operating temperature protection	F2	After fault is solved, Automatic release.
	Air exhaust temperature protection	F3	After fault is solved, restart or switch on power supply for release.
	Evaporation high temperature protection	F5	
Electricity leakage alarming	The system will automatically cut off power supply if any line fault occurs.	E1	
Over temperature alarming	The actual water temperature $\geq 85^{\circ}\text{C}$	E2	After fault is solved, Automatic release.
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 air 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	
Communication fault	Communication of main control panel and display panel is abnormal	E7	
Ambient temperature protection	Ambient or outdoor temperature $< -7^{\circ}\text{C}$ or $> 45^{\circ}\text{C}$.	E9	
Fault of the Off-peak power switching signal	If not received the Off-peak signal when selecting switch signals by power companies.	EF	
Fault of the external heat source temperature sensor	If short circuit or circuit break occurs to the sensor.	Lb	
Pressure switch protection	Action of the pressure switch at the exhaust outlet.	E8	After fault is solved, restart or switch on power supply for release.
Fault of the fan	Fan blade is stuck or fan and control panel communication failure.	L7	
Wi-Fi communication fault	The communication between the display board and the WiFi module fails when the wifi module is in configuration mode.	F0	After fault is solved, Automatic release.

Faults and protection

Fault type	Action	Digital indication	Release
Variable frequency side fault	Compressor phase current hardware transient overcurrent.	P1	After fault is solved, restart or switch on power supply for release.
	Compressor phase current software instantaneous overcurrent.	P2	After fault is solved, Automatic release.
	IPM temperature anomaly.	P3	
	Current overload.	P4	
	Under voltage protection.	P5	
	Overvoltage protection.	P6	
	The communication between the main control and driver is faulty.	P7	After fault is solved, restart or switch on power supply for release.
	The current detection circuit on the frequency conversion side is abnormal.	P8	
	Out of step detection.	PB	
	Software transient overcurrent on the rectifier side.	PD	After fault is solved, Automatic release.
	The hardware on the rectifier side is overcurrent.	PF	After fault is solved, restart or switch on power supply for release.



The  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.



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