

ELECTRIC CHILLER

CS049 DIRECTIONS/WARRANTY 說明書 / 保證書

特點

1. 使用半導體制冷片，效能高
2. 非使用壓縮機。安靜，無污染
3. 溫控調整簡易
4. 安裝簡單
5. 適用淡水及海水
6. 60公升水溫降 $6\pm 1^{\circ}\text{C}$ 100公升降 $4\pm 1^{\circ}\text{C}$
7. 控制溫度 $22^{\circ}\text{C}\sim 30^{\circ}\text{C}$

Feature

1. USE thermoelectric cooler, energy efficient.
2. No refrigerant used. Super quiet operation.
3. Easy adjustable temperature.
4. Very easy to install.
5. Suitable for Freshwater and Marine.
6. 60 liters tank size $6\pm 1^{\circ}\text{C}$ 100 liters $4\pm 1^{\circ}\text{C}$.
7. Control the temperature $22^{\circ}\text{C}\sim 30^{\circ}\text{C}$



電
子
冷
卻
機

安全須知

SAFETY PRECAUTIONS



1. 產品使用前，請先詳閱說明書
1. Read the directions carefully before use.



2. 本產品禁止拆解、改造，以防止火災觸電情形發生
2. In order to avoid any fire hazard or electric shock, any disassembly or modification of this product is prohibited.



3. 禁止使用非配備內之電線、插頭
3. Do not use other electric wire and plugs than the attached.

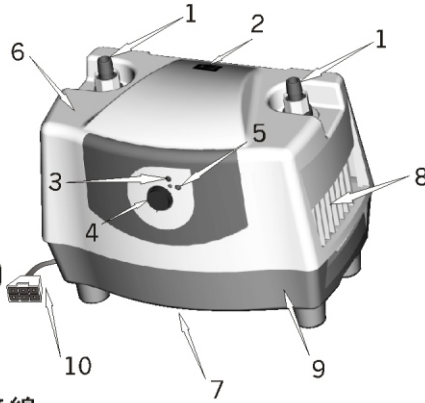


4. 嚴禁當本產品潮濕、手潮濕時，接觸電源，以防觸電
4. Do not touch the power source to prevent any electric shock when this product is wet, or with hands or in a sweat.

Name of Parts 各部名稱

冷卻機本體

1. 進/出水口
2. 中/強冷設定
3. 電源燈
4. 溫度調整鈕
5. 冷卻燈
6. 上蓋
7. 進風口(在下面)
8. 出風口
9. 下蓋
10. d.c 12V連接線

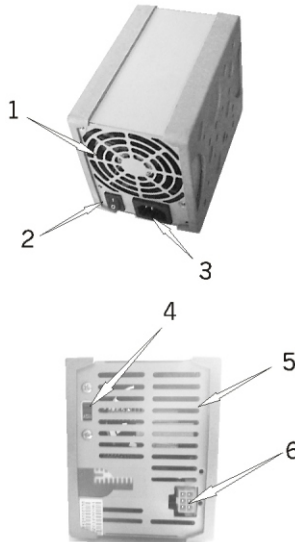


Chiller Body

1. Water inlet/outlet.
2. Medium/strong cool setup.
3. Power light.
4. Temperature adjuster
5. Cooling light.
6. Upper cover.
7. Air inlet(underneath).
8. Air outlet.
9. Lower cover.
10. d.c. 12V connecting wire set.

電源供應器

1. 散熱風扇
2. 電源開關
3. a.c 電源線插座
4. a.c輸入電壓
115V/230V
選擇設定開關
5. 散熱孔
6. d.c12V輸出插座

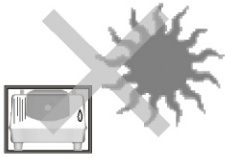


Switching Power Supply

1. Cooling fan.
2. Power source switch.
3. a.c. socket.
4. a.c. power source 115V/230V selector switch.
5. Radiator hole.
6. d.c. 12V socket.

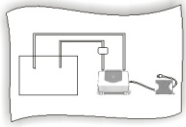
Cautions

注意事項



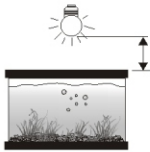
1. 本體必須放置於通風處，避免太陽直接照射，嚴禁放置在狹小密閉空間，以免效率下降。

1. This chiller must be placed in a place of good ventilation and to avoid exposed to direct sunshine. In order to prevent the efficiency from dropping, put it in a tiny and closed space is prohibited.



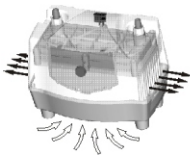
2. 本體必需配合馬達使用，其放置位置請參照安裝配置圖。

2. The chiller is operated with motor, the installation is shown on the layout drawing.



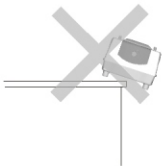
3. 使用照明器具，其照明器具發熱體會使本體效率下降，建議將照明器具發熱體，略離魚缸稍遠處，以減少影響。

3. The lighting equipment to be used will produce heat while in using, and will lower the efficiency of the chiller. To minimize the effect of the lighting equipment, place the heating body of the lighting equipment away from the tank.



4. 本體在冷卻時，會有熱量產生，注意本體進風口及排風口不得阻塞，並儘可能使風向流動順暢，可提高效能。

4. It will produce heat when the chiller is cooling, pay attention to the air inlet and outlet of the chiller which can not be blocked, make the air flow as smooth as possible to promote the efficiency.



5. 禁止傾倒、斜放、摔落等情形發生

5. No collapse, incline or fall down etc.

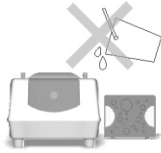
Cautions

注意事項



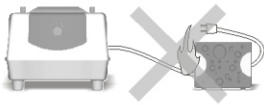
6. 限60公升以下水族箱使用，限室內使用。

6. Only 60 liters capacity of tank is recommended and for indoors use.



7. 電源供應器及冷卻機本體應避免被水淋濕。

7. Avoid the power supply and the chiller body to be wetted.



8. 電源線及d.c12V連接線務必確實插接正確，並確認是否牢靠，以免不正確插接造成接觸不良所產生之熱量，所造成的故障，及不可預期的危險。

8. In order to avoid heat caused by incorrect connection, or any trouble or unexpected dangers thereof, please make sure the connection of power cord and d.c 12V connecting wire set must be correct and firm.

Basic Installation 基本安裝



1.將進/出水口螺帽放鬆。

1. Loosen the nuts of water inlet and outlet.



2.將水管插入進/出水口到底部。

2. Insert the water pipe into the bottom of water inlet and outlet.

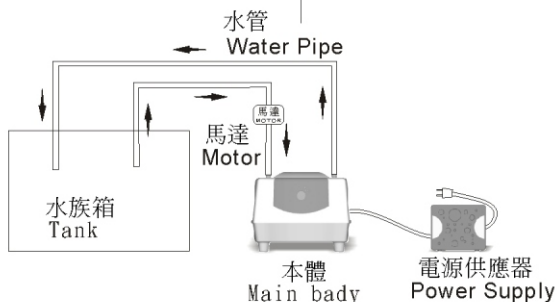


3.螺帽鎖緊。

3. Tighten the nuts.

4.配合適合馬達及水管請參照圖示組裝。

4. To match with the right motor and water pipe, please install it according to the attached drawing.



注意：插座上供應之電壓需與電源供應器，所需電壓一致。

Remarks : the voltage on the wall outlet should be as same as of the power supply.

Basic Installation 基本安裝



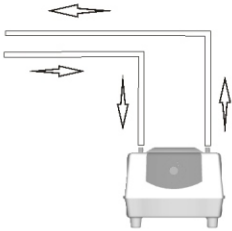
5. 冷卻機本體連接線接到電源供應器上的d.c. 12V輸出插座。

5. Connect the connecting wire set of the chiller to the d.c. 12V socket.



6. 電源供應器接上a.c. 電源線，在未確定電壓之前，請勿接上a.c. 電源。

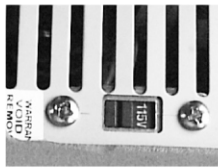
6. Put the power card to the socket of power supply before determine the voltage of a.c power, do not connect the a.c power cord.



7. 在基本安裝完成後先讓水流循環流動5分~10分鐘，需確定水管內空氣已完全排出，並確定水管各接頭處穩固不漏水方可通電使用。

7. After completion of basic installation, circulate the water 5~10 minutes, make sure that the air in the water pipe is completely expelled and the connections of water pipe are firm and no leakage then connecting the power.

Operation Setup 操作設定



1. 檢查電源供應器上
a. c 電源輸入電壓
設定 115V/230V，
請選擇正確電壓。

1. Inspect the voltage setup 115V/230V of the power supply, choose the right voltage.



2. 電源線插入插座。

2. Power plug-in wall outlet.

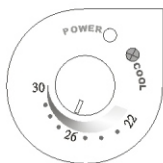
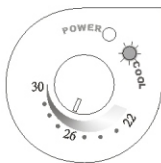
3. 電源開關切入，綠燈亮冷卻機運轉時，電源供應器上之散熱風扇風量較大冷卻機停止時，電源供應器上之散熱風扇風量較小

3. Put on the switch, green light lightened, when the chiller running, the blast volume of the cooling fan of the power supply become larger, while stop, the blast volume become smaller.

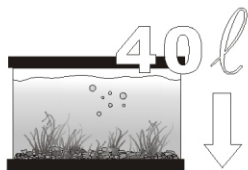


4. 將旋鈕設定在所要溫度刻度上即可。
當水溫高於設定溫度時橙燈亮，冷卻機啓動進行冷卻動作，散熱風扇啓動。
當水溫低於設定溫度時橙燈暗，冷卻機停止動作，散熱風扇停止動作。

4. Turn the temp adjuster on the desired temperature position. When water temperature is higher than the setting temperature orange light on, the chiller start to cool down, and the cooling fan starts running. When water temperature is lower than the setting temperature, orange light off, the chiller and the cooling fan stop running.



Operation Setup 操作設定



5. 設定強冷或中冷

(— : 強冷 0 : 中冷)

容量較小(40公升以下)的水族箱可使用中冷設定(約120 W)，較省電。

5. Set strong cool or medium cool (—:strong cool 0 : medium cool)

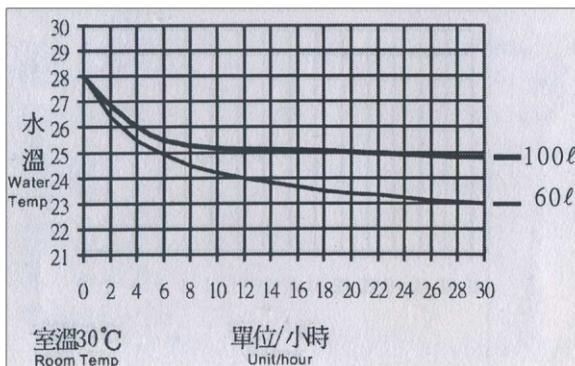
If the capacity of the tank is smaller than 40 liters, it can use medium cool (about 120W) for power saving.

6. 冷卻能力(強冷)

60公升水量，室溫30°C時下降5°C約需24小時~36小時(圖示僅供參考，實際效率須視水族箱週遭環境而定。)

6. Cooling ability (strong cool)

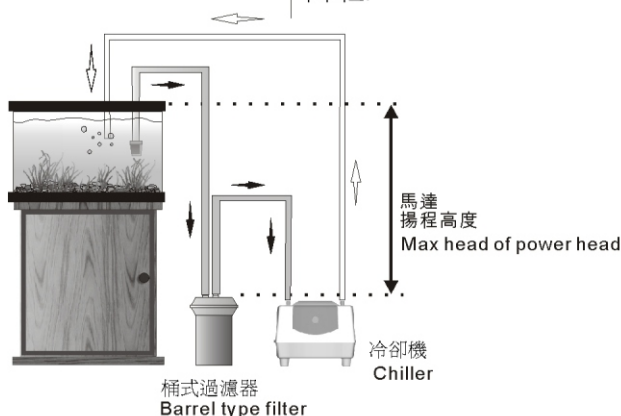
For 60 liters water at room temperature 30°C, it will take 24 to 36 hours to pulldown 5°C (the chart is for reference only, actual efficiency will depend on the surroundings of the tank)



Actual Application Examples 各種應用實例

一. 桶式過濾器水管配置圖 (冷卻效率較高)

冷卻機出水口至魚缸內之
管路不宜過長，以免效率
降低。



注意：

1. 配置過濾器及冷卻機位置不得低於馬達揚程高度，否則無法使管內水流動。
2. 安裝位置高度差建議在馬達最大揚程高度之50%以內，（假設馬達揚程最大高度為100cm，則建議冷卻機與魚缸最高處之最大高度差在50cm以內）。

1. Pipe Layout of Barrel Type Filter (Higher Cooling Efficiency)

In order to avoid low efficiency, the length of water pipe between chiller and the fish tank should not be too long.

Warning

1. The location of filter and chiller shall not be lower than Max head of power head, otherwise the water inside the pipe can not flow.
2. Suggest that the difference of height of installation should be within 50% of Max head of power head. (For example, if Max head of power head is 100cm, then the maximum height difference between on the highest position of the tank and the chiller should be within 50 cm).

Actual Application Examples 各種應用實例

二. 沉水式過濾器水管配置圖



注意：

1. 冷卻機及配管位置，不得高於馬達最大揚程高度，否則無法使管內水流動。

Warning:

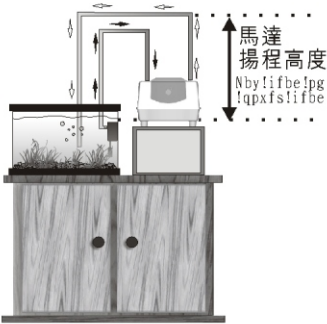
1. The location of chiller and pipe layout can not be higher than Max head of power head, otherwise the water inside the pipe can not flow.

2. 安裝位置高度差建議在馬達最大揚程高度50%以內（假設馬達最大揚程高度為100cm，則建議冷卻機配管與水面最高之最大高度差在50cm以內）

2. Suggest that the difference of height of installation should be within 50% of Max head of power head (For example, if Max head of power head is 100cm, then the maximum height difference between chiller's pipe layout and the height point of water surface should be within 50cm.)

3. 如將本體位置放在低於魚缸適當的位置，可不需考慮揚程高度

3. If put the chiller in a proper place lower than the location of the tank, then it is unnecessary to consider Max head of power head.



Actual Application Examples 各種應用實例

三.上部式過濾器 水管配置圖

注意：

1. 冷卻機及配管位置，不得高於馬達最大揚程高度，否則無法使管內水流動。

2. 安裝位置高度差，建議在馬達最大揚程高度之50%以內。（假設馬達最大揚程高度為100cm，則建議冷卻機配管位置與水面最高處之最大高度差在50cm以內）。

3. 如將本體位置放在低於魚缸適當的位置，可不需考慮揚程高度

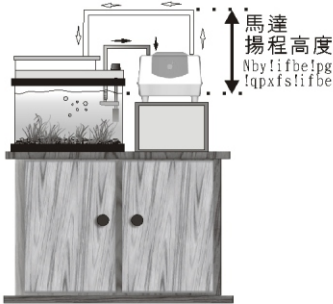
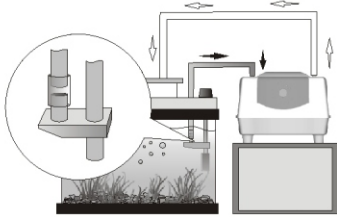
3. Pipe Layout of Upper Type Filter

Warning:

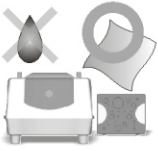
1. The location of chiller and pipe layout can not be higher than Max head of power head, otherwise the water inside the pipe can not flow.

2. Suggest that the difference of height of installation should be within 50% of Max head of power head. For example, if Max head (of power head is 100cm, then the maximum height difference between chiller's pipe layout and the height point of water surface should be within 50cm.)

3. If put the chiller in a proper place lower than the location of the tank, then it is unnecessary to consider Max head of power head.



Maintenance 保養



1. 本體外部，不得水洗，可用乾布擦拭，本機不得自行拆解。

1. Do not wash the chiller body with water, but wipe it with dry cloth instead. Do not disassemble the chiller by yourself.



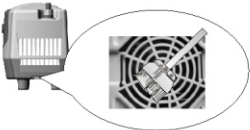
2. 水管各接頭處，需定期檢視，有無漏水。

2. Inspect the pipe joints periodically to check the possible leakage.



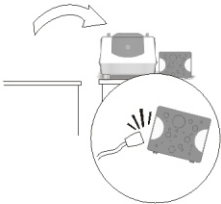
3. 水管內部有污穢時，需不定期清除或更新，可延長本體產品壽命。

3. Clean the interior of the water pipe or replace it with a new one if find some dirt inside the pipe, so it will extend the life of the chiller.



4. 進氣口定期清除灰塵雜物。

4. Clean the air inlet periodically.



5. 移動本體或電源供應器時，應先拔掉電源線。

5. When move the chiller or power supply, unplug the power cord first.

Maintenance 保養



6. 定期檢視電源插頭，是否因受潮而有氧化之現象，尤其d.c12V 電源連接線，有高達18A電流通過，更需注意保養，若發現因熱產生高溫使連接器有變形的現象發生時，請立即送修。

6. Inspect the plug periodically to see whether there is any phenomenon of oxidation due to wetness, especially the connecting wire set of d.c. 12V which will load a current of 18A should pay more attention for maintenance, if there is any deform of the connector due to high temperature, repair it at once.

Technical Specifications 技術規格

技術規格

名稱	電子冷卻機
型號	CS049
冷卻方式	半導體致冷片
電壓、頻率 (電源供應器)	輸入：a.c 115V/230V, 50Hz/60Hz (選用) 輸出：d.c 12V 18A
功率	平時：約5W以下 冷卻中：強冷180W ±5% 中冷120W ±5%
冷卻能力	60公升水量、水溫降低5±1℃ (視冷卻機及水族箱周遭環境而定)
控制溫度	22℃~30℃ ± 2℃。
適用水量	60公升水溫降6±1℃ 100公升降4±1℃
使用環境溫度、濕度	10℃~40℃ 10RH~90RH
尺寸 (寬x高x深) mm	冷卻機 : 270x200x170 電源供應器 : 91x116x146
重量 (Kg)	3.5
連接管尺寸(口徑)	內徑 12mm 外徑 16mm ※另購
附件	a.c電源線

Technical Specifications

Name	Electric Chiller
Model	CS049
Cooling Method	Thermoelectric Cooler
Voltage Frequency (Power Supplier)	Input: a.c. 115V/230V, 50Hz/ 60Hz(option) Output: d.c. 12V 18A
Power	Ordinary time: <5W Cooling time: strong cool 180W±5% medium cool 120W±5%
Cooling Ability	Lower 5℃±1℃ of the temperature of 60 liters water (depending the surroundings of the chiller and the tank)
Temperature Control	22℃~30℃ ±2℃
Applicable Quantity of Water	60 liters tank size 6±1℃ 100 liter 4±1℃
Temperature and Humidity of Surroundings	10℃~ 40℃ 10RH~90RH
Dimensions (Width X Height X Deep)mm	Chiller: 270 x 200 x 170 Power Supply: 91 x 116 x 146
Weight (Kg)	3.5
Dimensions of Connecting pipe (dia)	Inside dia 12 mm Outside dia 16mm ※ purchase demand
Accessory	A.C. Power cord

故障排除

故障排除

項次	故障症狀	可能故障原因	排除
1	冷卻機無動作 POWER燈不亮	1.無電源	1.電源插頭未插上a.c 插座，請插上 2.電源供應器ON/OFF開關ON 3.d.c 12V連接線接頭脫落或未接上，請接上
		2.電路故障	送修
2	水溫無法下降 *註	1.進風口阻塞	1.清除進風口
		2.冷卻機放置在密閉空間 或通風不良處	1.請放在通風非密閉空間的位置
		3.冷卻水管配置過長， 影響冷卻效率	1.縮短水管長度
		4.受其他熱源影響	1.改善其他熱源位置(如水族燈位置)
		5.水族箱太大	建議水族箱60公升以下(因水量愈多，冷卻效果愈差)。
		6.冷卻水沒有循環	1.冷卻機位置不當(超過馬達揚程高度) 2.水管阻塞(請清除阻塞物，或更換水管) 3.水管內有空氣，或沉水馬達內有空氣， 使馬達空轉，請將空氣排除掉 4.冷卻機內部阻塞，送修 5.馬達故障，請自行更換馬達
		7.感溫體故障	送修
		8.水箱內水沒有流動造成 水族箱內冷熱不均勻	讓水族箱內部水流動
		9.散熱風扇故障	送修
		10.冷卻機放置位置室溫過高	請放在通風良好，室溫較低處
3	冷卻燈亮、散熱風扇 沒轉動	散熱風扇故障	送修
4	循環出水量減少	水管或幫浦濾網阻塞	將幫浦方入有添加管路清洗劑(鋁潔劑)的，插電循環約10分鐘再用清水循環10分鐘即可。(管路清洗劑一般冷凍材料行可購買)

※註：冷卻水沒有循環之故障產生後，有可能會使冷卻機內部，有局部結冰現象造成阻塞，在故障排除後，若無法使水流循環流動，建議先切掉電源後，約30分鐘等冰塊溶解後，再行使用。

Trouble Shooting

Trouble Shooting

Item	Trouble	Possible Reason	Resolution
1.	Chiller no action No power light	1.No power	1.Be sure the plug is on 2.ON/OFF switch of power supply turn on "ON" position 3.d.c. 12V connecting wire set fallen down or unconnected, fit it.
		2.Circuit breakdown	Repair
2.	Water temperature can not pulldown. *Remarks	1.Air inlet blocked	1.Clean the air inlet
		2.The chiller is installed in a closed space or a place of bad ventilation.	1.Adjust the location of the chiller
		3.Cooling water pipe too long, minimize the cooling efficiency.	1.Shorten the length of water pipe
		4.Affected by other heat sources.	1.Adjust the position of other heat sources (as the position of aquarium lamp)
		5. Too big tank	Suggest the volume of tank be less than 60 liters, because the more the water, the less the efficiency.
		6.No circulation of the chilling water	1.Improper position of the chiller, higher than Max head of power head. 2. Water pipe blocked, clean and replace it. 3.Air in the water pipe or in the sinking motor, which makes the motor idle running, get rid of the air. 4.Chiller inside blocked, need repair. 5.Power head breakdown, repair or replace it

Trouble Shooting

Trouble Shooting

Item	Trouble	Possible Reason	Resolution
		7.Sensor breakdown	Needs repair
		8.No flow inside the water tank, which makes the inside temperature of the tank non- homogeneous.	Keep the water inside the tank flow
		9.Cooling fan breakdown	Needs repair
		10.Place the chiller in the high room temperature.	Place it in a place of good ventilation and lower room-temperature
3.	Cooling light is on, but the cooling fan does not run.	Cooling fan breakdown	Needs repair
4.	Small amount of circulation water	Water pipe or pump filter blocked	Put the pump into the tank with pipe clean agent(AI clean agent) and circulate 10 minutes, then circulate 10 minutes with clean water(pipe clean agent is available at refrigeration store)

Remarks: If there is no circulation problem of the cooling water, it will be possible to have partial frozenness inside the chiller and will create blockage. So if there is no way to make the water circulate after the problem is solved. Suggest to unplug the power cord first, and operate it again after waiting about 30 minutes when the ice dissolved.

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附記

1. 在正常使用下，如發生故障，自購買日起保證一年，換修材料免費。
2. 因使用錯誤，導致故障，需換零件時，應繳付材料費。
3. 如故障請送原經銷店。
4. 本卡無購買日期或未蓋經銷售店章者無效。

GUARANTEE

THIS PRODUCT IS WARRANTED FOR ONE YEAR FROM THE DATE OF PURCHASE AGAINST ELECTRICAL & MECHANICAL & DEFECTS IN MATERIAL & WORKMANSHIP.

IF FOR ANY REASON THIS APPLIANCE SHOULD NOT OPERATE SATISFACTORILY, TEST THE SOCKET WHICH THIS APPLIANCE HAS BEEN CONNECTED TO WITH ANOTHER APPLIANCE.

ALSO MAKE SURE THE PRONGS OF PLUG ON APPLIANCE ARE IN GOOD CONTACT WITH THE WALL OUTLET. IF YOU ARE SURE THE APPLIANCE IS DEFECTIVE. RETURN IT, TO APPLIANCE SERVICE STATION, FOR REPAIR OR REPLACEMENT WITHOUT CHARGE AT THE MANUFACTURER'S OPTION.

IF REPAIRS ARE NECESSARY AFTER GUARANTEE PERIOD A NOMINAL CHARGE WILL BE MADE.

DAMAGE TO APPLIANCE BY REASON OF ABUSE OR TAMPERING IS NOT COVERED BY THIS GUARANTEE. THIS GUARANTEE DOES NOT INCLUDE THE INSIDE OR OUTSIDE COVERING. WITH PROPER CARE THE COVERINGS SHOULD LAST INDEFINITELY.

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