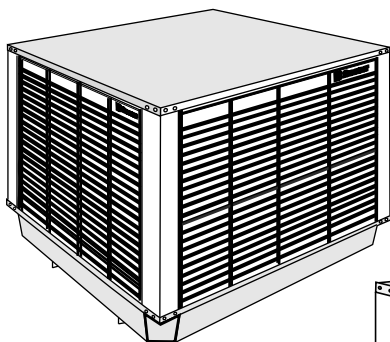




OWNER'S & INSTALLATION MANUAL

RPCQ / RPC

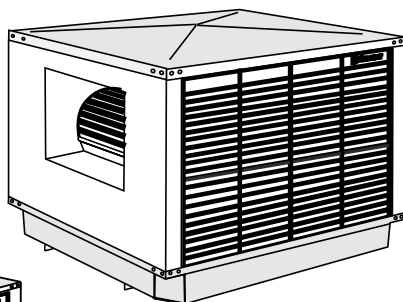
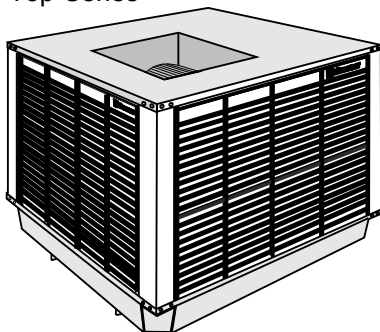
Evaporative Cooler



Down Series



Top Series



Side Series

COOLER DETAILS

IMPORTANT

As with any product that has moving parts or is subject to wear and tear, it is **VERY IMPORTANT** that you maintain the cooler and have it regularly serviced. It is a condition of warranty cover for your cooler that you comply with all of the maintenance and service requirements set out in the Owner's Manual. Compliance with these requirements will prolong the life of your cooler. Further, it is also a condition of warranty cover that each item in the Maintenance Schedule in the Owner's Manual is performed with the frequency indicated, by a qualified, licensed technician, and that the Maintenance Schedule is properly filled out (ie names, signature, date, and action taken) when the item is completed. **ANY FAILURE TO CARRY OUT THE REQUIRED MAINTENANCE AND SERVICING REQUIREMENTS, AND ANY FAILURE TO PROPERLY FILL OUT THE MAINTENANCE SCHEDULE, WILL VOID YOUR WARRANTY.**

When ever you need to contact your Dealer regarding Service or Warranty please quote the unit Model number and Serial number as shown below.

Model No..... Serial No.....

For your future reference:

Air conditioner purchased from.....

Air conditioner purchase date / /

Phone No

Air conditioner installed by.....

Air conditioner installation date / /

Phone No



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EMPLOYER AND EMPLOYEE RESPONSIBILITIES

The installation and maintenance of evaporative air conditioning units, particularly at height, has the potential to create Occupational Health and Safety issues for those involved. Installers are advised to ensure they are familiar with relevant State and Federal legislation, such as Acts, Regulations, approved Codes of Practice and Australian Standards, which offer practical guidance on these health and safety issues. Compliance with these regulations will require appropriate work practices, equipment, training and qualification of workers.

Seeley International provides the following information as a guide to contractors and employees to assist in minimising risk.

Risk Assessment:

A risk assessment of all hazardous tasks is required under legislation. A risk assessment is an essential element that should be conducted before the commencement of work. To identify and eliminate the risk of falls and other risks, or to minimise these risks by implementing control measures. This does not need to be a complicated process - it is a matter of assessing the job to be done and considering what action(s) are necessary so the person doing the job does not injure themselves.

This should be considered in terms of:

- What are the chances of an incident occurring?
- What could the possible consequences be?
- What can be done to reduce, or better still, eliminate the risk?

Contact Technical Support Centre for an example of a Risk Assessment Form

Some points to consider when working on or in a roof:

- Check State regulations regarding working at height.
 - What is the best and safest access to the roof and working areas?
 - What condition is the roof in? Should the roof structure and surface be checked?
 - Does the worker have appropriate footwear?
 - Are all power cables/extension leads safe and appropriately rated?
 - Are all ladders, tools and equipment suitable and in good condition?
- Where ladders are to be used, is there a firm, stable base for them to stand on? Can they be tied or secured in some way at the top?
- Is there a roof anchor to attach a harness and lanyard to? If so, instruction should be issued for the use of an approved harness or only suitably trained people used
 - Are all tools and materials being used, prevented from slipping and falling onto a person at ground level? Is the area below the work area suitably protected to prevent people entering this area?
 - Does the work schedule take into account weather conditions, allowing for work to be suspended in high winds, thunder storms/lightning or other types of weather giving wet, slippery surfaces?
 - Is there an on-going safety check system of harnesses, ropes, ladders and access/lifting equipment, and where they exist on roofs, anchor points before the commencement of work?
 - Is there a system which prevents employees from working on or in roofs if they are unwell or under the influence of drugs or alcohol?
 - Are there any special conditions to consider ie. excessive roof pitch, limited ground area, fragile roof, electrical power lines?
 - Use the appropriate lifting equipment.



Congratulations on choosing a new Braemar cooler. Your cooler is built from quality materials and engineered to provide many years of economical cooling.

Please take a few minutes to read these instructions so you have a full understanding of how to operate your cooler. Your installer should demonstrate the features and procedures set out in these instructions. The installer should also provide you with a Model and Serial Number which can be filled out in the section on the inside of the front cover.

Keep these instructions in a safe place.

All BRAEMAR air conditioners are operationally tested at the factory. Subject to normal handling in storage and transit, correct installation and operation, they will provide years of economical cooling with proper service and maintenance. Braemar air conditioners are designed for a range of installations and are readily adaptable to the following applications.

- a. for connection to multiple outlet duct system
- b. for connection to a duct system for central air plenum diffusion.

Installation Recommendations and Procedures.

To ensure only fresh air flows through the filter pads, locate the cooler a minimum distance away from;

- a. Solid fuel type chimneys or flues - 3 metres
- b. Gas Heater flues - 1.5 metres
- c. Sewer or breather vent pipes - 5 metres

Remember to check your local building code for the minimum distances in your area.

Position the unit to allow access to the reservoir for plumbing fixtures and servicing.

Thoroughly seal all roof penetrations, this will ensure storm water cannot enter the building as a result of the installation.

Effective Cooling Requirements.

To provide efficient cooling or ventilation your air conditioner must be operated with sufficient exhaust openings in the form of doors, windows, or other vents.

One square metre of open area is the minimum requirement for every 3000 cubic metres per hour of air delivery. (ie. A 6000 cubic metres per hr. air conditioner requires a minimum of 2 square metres of open exhaust areas).

For optimum cooling performance, windows opposite the prevailing wind conditions should be opened. The cool filtered air entering the building will flow toward the exhaust openings. Doors and windows should be set according to the airflow pattern desired.

Air should never be re-circulated back through the air conditioner.

When the design of the building or prevailing winds prevent effective airflow, consideration must be given to the use of some form of exhaust/extraction device.

Important !

Installation must be in accordance with Municipal Building Regulations, Relevant Electrical Wiring Regulations, and any other relevant Codes and Regulations.

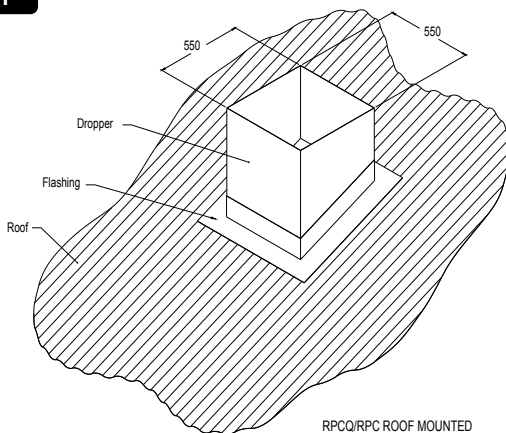
All installation work to be carried out by Authorized Persons only.

Mounting the Cooler

These units have been designed to be directly mounted on top of a suitably sized and strengthened metal duct. Fixing is by means of self drilling screws or rivets through the steel mount on the bottom of unit to metal duct.

Models RPCQ/RPC250, RPCQ/RPC320, RPCQ/RPC400 & RPCQ/RPC450 require a 550 x 550 square dropper.

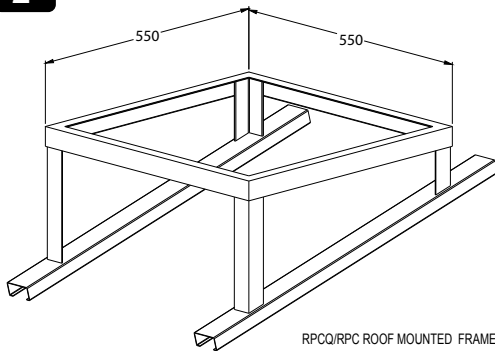
1



RPCQ/RPC ROOF MOUNTED
DROPPER DETAILS FOR **DOWN**
DISCHARGE MODELS.

RPQ/RPC "Side and Top" discharge units are required to be mounted onto a level platform and must be strong enough to support the unit under operating and prevailing conditions.

2



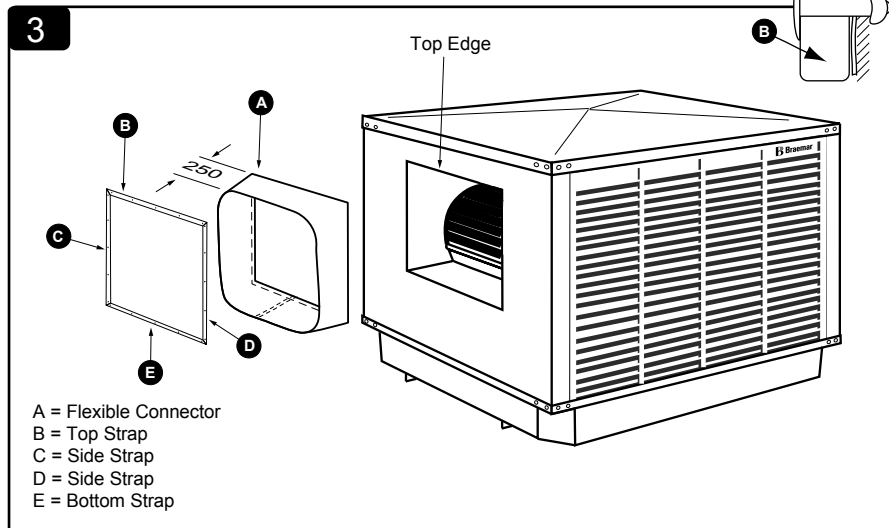
RPCQ/RPC ROOF MOUNTED FRAME
TYPE DETAILS FOR **"SIDE" & "TOP"**
DISCHARGE MODELS

Flexible Connector (Side & Top Series)

FITTING INSTRUCTIONS

The flexible connector has not been fitted at the factory. It is intended to be fitted on site to allow for better alignment to the ductwork.

1. Position the flexible connector (part A) with the seam to the bottom.
The corners of the skirt will need to be slit approximately 20mm to prevent bulging at the corners.
2. The aluminium straps B,C,D & E fit inside the skirt.
3. Using one of the aluminium straps, mark and drill the rivet holes.
Note - The bottom edge of the strap is intended to be level with the edge of the opening in the cooler.
4. Fit strap (part B) using the 5 of the rivets supplied, starting from the centre and working towards the ends.
The skirt must be tucked under the aluminium strap before riveting.
5. Fit Straps C & D before fitting strap E.
Seal with Silicone after completion.

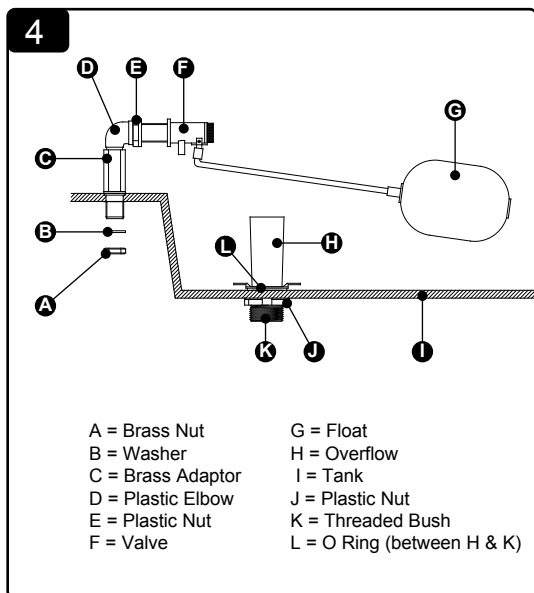


Water Supply

Mains connection is made to the float valve fitted in the reservoir. The float valve must be set to maintain the reservoir water level about 10 mm below the overflow level. (Fig. 5). The mains water supply should be fitted with a ball valve and connection to the unit from the stopcock be made with the appropriate copper pipe and fittings.

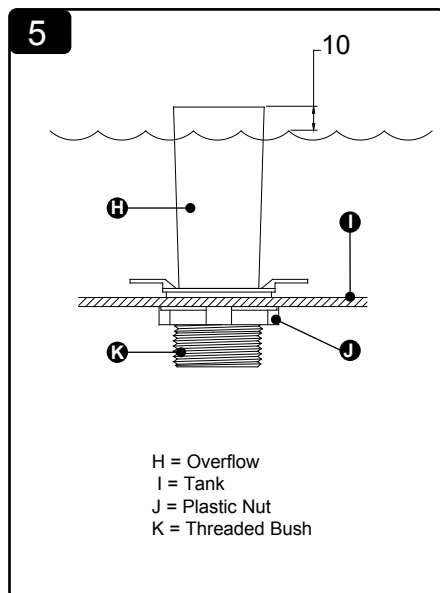
NOTE:

Flush the mains supply before connection to the unit to remove any foreign matter which may foul the valve seat. Remember to use a Pipe Cutter to cut copper pipe.



Bleed Control

To reduce the accumulation of salts and minerals in the cooler when running for long periods it is essential to bleed a certain amount of water. Increased flow of make up water reduces the salt content. The bleed rate will vary with the water supply quality, but should initially be set to the minimum recommended bleed rates as set out in Bleed System (page 7). If your water supply is of poor quality, higher bleed off rates are necessary to ensure reasonable pad life and cooler performance. Place the hose from the bleed tap into the overflow pipe. (Fig. 6) Connect suitable pipe work to bottom of the overflow bush so that water drains directly to waste. Drain plumbing must be in accordance with local regulations



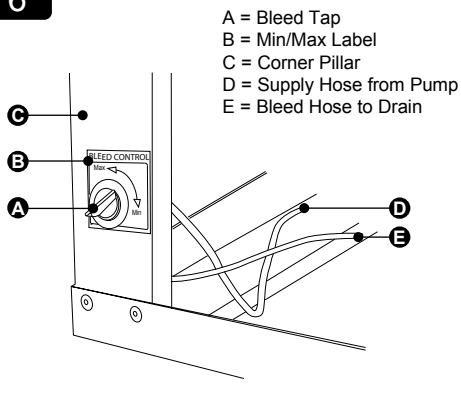
Bleed System

The bleed control tap is located externally on a corner pillar. Adjustment to the bleed rate is made by turning the black/red tap control to the desired setting. Check the bleed rate by running into a graduated container for a set time, say 10 minutes.

Recommended Bleed Rates

Model	lp10 min	lph
RPCQ\RPC250	1.2	7
RPCQ\RPC320	1.6	10
RPCQ\RPC400	2.0	12
RPCQ\RPC450	2.0	12

6



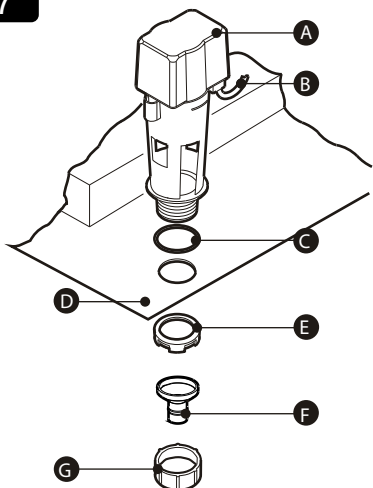
Water Management System (optional)

An optional Water Manager Kit, Part # 073392, can be supplied with the cooler or at a later date if required. The water manager, which is fully automatic, is controlled by the CPMD electronics combined with your Braemar wall control. The system is designed to ensure that the water is always fresh, maintains your cooler in good condition and ensures optimum cooling performance.

When the cooler is off for 72 hours, the drain valve will open automatically and empty water from the cooler. When the cooler is turned on again, fan operation will delay for a few minutes while the tank refills and the cooling pads are saturated again. At any time when the wall control is OFF, you can drain the cooler by pressing and holding ▲ and ▼ for 1 second. The display will show "dr" to confirm the operation has activated.

Note: For Two Speed Coolers use KIT 077444

7



ILL746-B

- A = Drain Valve
- B = Power Lead (plugs into control box)
- C = O-Ring
- D = Tank
- E = Nut
- F = Drain Adaptor
- G = Lock Nut

Electrical Connection

➤ **Mains Supply**

It is required that all units be connected to the mains supply through an independent circuit, suitably protected by fuse or circuit breaker. Ensure that the power supply is sufficient for the rating indicated on the serial plate. Wire the unit in accordance with all state and local regulations.

NOTE

Mains cable must be double insulated if both mains and control cables are run in the same conduit. Please ensure that the hole in the reservoir and any penetration through the roof are adequately sealed with an approved sealant.

➤ **Control Circuit Wiring**

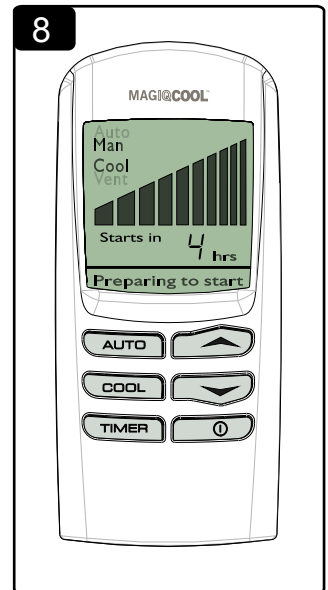
- Variable Speed - 20 metre Low Voltage cable supplied with cooler.
- Two Speed - Control circuit wiring is via a 240V 5 wire system. (not supplied)

➤ **Cooler Controls**

- Variable Speed - MagIQcool wall control with Auto/Manual
- Two Speed - 240V Clipsal switch plate pattern.

➤ **Cooler Control Location**

- Variable Speed - It is advisable to locate the controller about 1.5 metres above the floor level in the room that will be lived in most. Avoid positioning the control in direct sunlight, an outside wall or near any heat source (refrigerator etc.), do not position in direct line with a cooling outlet. Placing the controller near a heat source or cooling outlet will effect its temperature readings.
- Two Speed - Place the control switch in a room or area that is the most convenient for you.

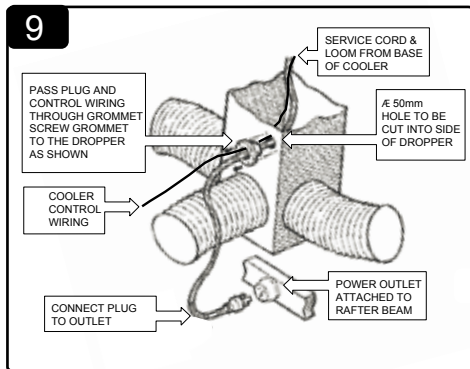


Electrical Connection

➤ Connection

• Down Discharge Units

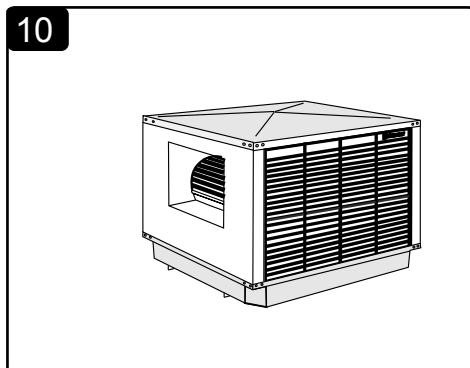
A hole is provided in the side of the blower housing for electrical entry. The mains lead and control cable are passed through this hole and wired to the control box. On installation pass the cables through the hole into the dropper and then into the roof cavity.



• Side Discharge Units

Knock outs are provided on the outlet panel for mains and control cable loom.

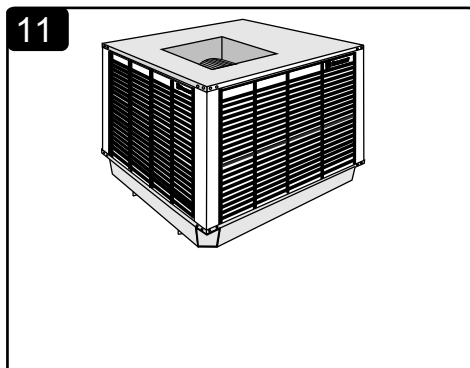
Alternatively, entry can be made to the unit from beneath. The entry must be on the flat raised centre section of the tank above the water line and directly below the blower housing. Use only water tight fittings and thoroughly seal all entry points.



• Top Discharge Units

Entry for mains and control cable loom can be made through the cabinet Top.

Alternatively, entry can be made to the unit from beneath. The entry must be on the flat raised centre section of the tank above the water line and directly below the blower housing. Use only water tight fittings and thoroughly seal all entry points.



Commissioning The Electronics Module (Variable Speed only)

We recommend that you have a short test lead on hand for Coolers with a hard wired control system. You can then take the wall control to the roof and control the cooler from there. This will save you a lot of time. The short test looms are available from your Seeley spare parts distributor (P/No. 831534).

Power up the cooler using the on / off switch on the Electronics control module. Test motor and pump operation. Look at the front of the module where two light emitting diodes (LEDs) are situated. The left LED is "Tricolour" and can glow green, red or amber. The right LED is red only. If the LED (fig 12 item G) is double flashing, everything is ok, this is normal operation.

The following information allows quick diagnostics at start up. For more detailed information, consult the CPMD service guide.

➤ The "Tricolour LED"

- acts as a general diagnostic indicator, and will function as follows.

Green double flash every 2 seconds indicates the control is running normally.

If it does not glow at all, then there is no power to the electronics module. (Check isolating switch, circuit breaker, plug and socket connection), or a failure has occurred.

Red flashing indicates one or more of the following faults is present.

1 red flash indicates..... Fault code #1 - Communication failure

2 red flashes indicate..... Fault code #2 - Failure to detect water probes. (only for coolers with Solenoid, Probes and Drain Valve).

4 red flashes indicate..... Fault code #4 - Failure to clear probes during drain. (only for coolers with Solenoid, Probes and Drain Valve).

7 red flashes indicate..... Fault code #7 - Incorrect Supply Frequency

➤ The "Red" LED

- indicates the status of the Water Manager measurement circuit and will function as follows.

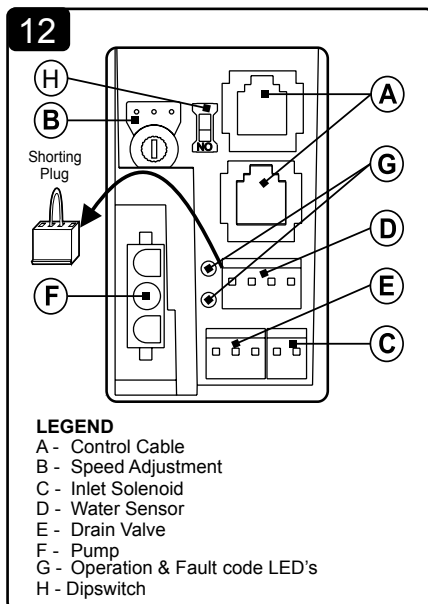
1 flash indicates..... Water manager is operating and the measured salinity is below the set point.

2 flashes indicate..... Water manager is operating and the measured salinity is above the set point.

3 flashes indicate..... The salinity control method = Drain every 65 minutes.

4 flashes indicate..... Incorrect salinity control method selected.

Continuously On indicates..... The probes are in open circuit, or measured salinity is less than 20us/cm (the water is very pure, ie. has very little salt in it).



Setting The Motor Current

Important! The motor pulley and belt tension need to be adjusted to ensure that the motor is running at its rated capacity.

If the current is set to low, the cooler will not perform to its optimum capacity, and the motor speed control may not work effectively.

The RPC two Speed units need to have full load amps checked on high and low speeds.

Before setting the current please ensure that;

- The electronics module is fitted securely, and all leads have been connected correctly.
- All ducting and registers are in place.
- Windows and doors in rooms are opened sufficiently, and
- All pad frames except the ones on the motor side and pulley side are in place.

1..... Run the motor at maximum speed by operating the cooler with the wall control set to MANUAL mode, maximum fan speed, ventilation only. **WARNING!** Ensure that the pump is not running.

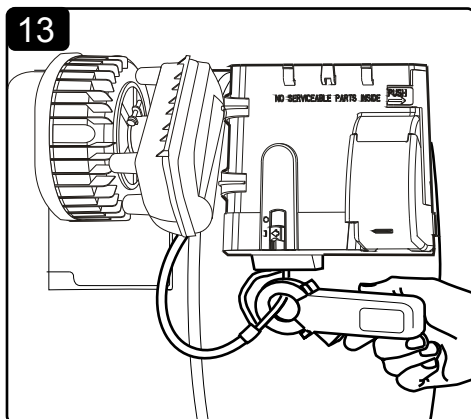
2..... Continue running the motor for ten minutes (warms up the motor) before proceeding with the current measurement. During this period carry out general system checks including airflow, etc.

3..... Measure the motor current with a clamp meter. Attach the clamp meter around one of the motor cables as shown (fig 13).

Compare the measured current with the rated current located on the motor. If the measured current is less than, or greater than the rated current, the adjustable pulley should be altered accordingly. Refer heading Pulley Adjustment.

The measured current should be equal to, or within half an amp below that of the rated current. It must never be more than the rated current.

Replace all covers and switch off clamp meter when adjustments are made.



Pulley Adjustment

All RPC\RPCQ units are fitted with a variable pitch pulley so that the full potential of the motor can be utilised. The pulley is set at the factory to approximate the full motor load with the unit at free delivery. When installed and operating against system resistance, (with doors and windows open fully) adjustment may be made to the pulley in order that all the available power is utilised.

➤ Method of Pulley Adjustment

Important! Never attempt this adjustment with the cooler operating. Pulley adjustment is made with the Cooler power isolated at the Electronics Module.

1..... Remove the drive belt.

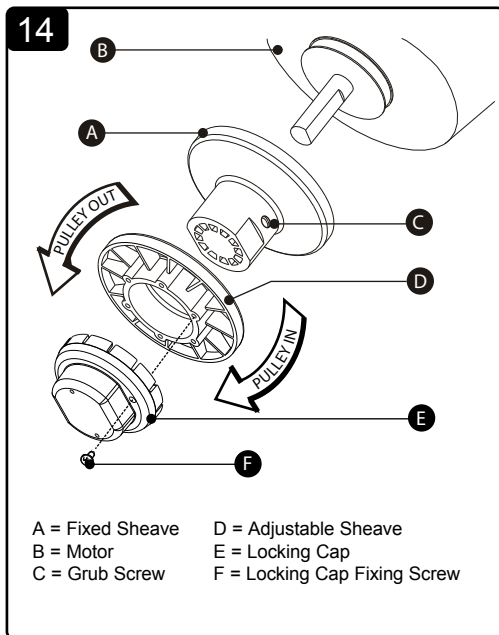
2..... To adjust the pulley; Remove the securing screw that holds the locking cap in place. The adjustable half of the pulley is free to be adjusted by rotating it on its thread. (fig 14)

3..... To increase the blower speed and therefore increase the motor amps, the two halves of the pulley must be closer together, ie. turn the adjustable half clockwise (pulley in).

4..... To decrease the blower speed and therefore decrease the motor amps, the two halves of the pulley must be further apart, ie. turn the adjustable half of the pulley anti-clockwise (pulley out).

5..... When an adjustment is made; Replace the locking cap, aligning the screw hole with the nearest hole in the adjustable sheave. Lock it in place with the securing screw. Refit the drive belt (ensure tension is correct, ie. no slipping and not too tight, as this effects the motor current (fig 15) then check the amps

6..... Smaller adjustments should be made each time you approach the desired setting. Refer heading Belt Tension



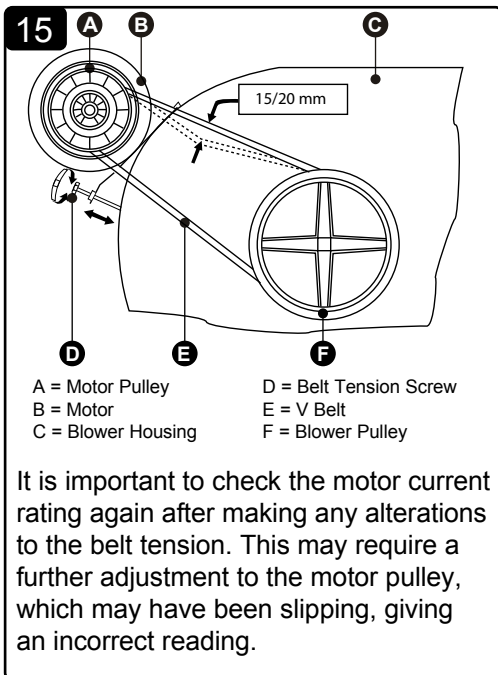
Belt Tension

Note! This adjustment must be done immediately after the motor current adjustment has been completed.

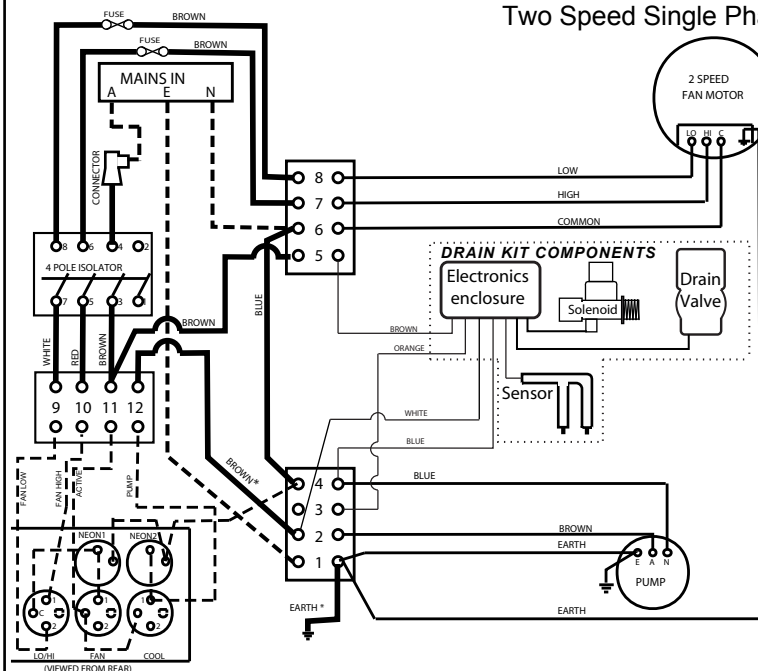
Belt tension is important, if it is too tight there will be excessive belt and bearing wear. If belt tension is too loose there will be belt slip and excessive wear, accompanied with noise and loss of cooler performance.

Note! Adjusting belt tension is not the correct way to alter motor current, The current can only be altered by adjusting the motor pulley.

The belt tension should be adjusted so that the maximum deflection is 15mm to 20mm when a reasonable force (approx..... 1.5kg) is applied.



Two Speed Single Phase Wiring Diagram



WIRING INSTRUCTIONS

1. THE INCOMING MAINS POWER MUST BE TAKEN DIRECTLY TO THE COOLER.
2. 5 WIRES ARE REQUIRED BETWEEN THE COOLER AND THE WALL SWITCH.
3. FOR DRAIN KIT 077444 WIRING INSTRUCTIONS SEE MANUAL SUPPLIED IN KIT OR VISIT OUR WEB SITE www.braemar.com.au

ALL FIELD WIRING IS SHOWN AS

Motor Low Speed Setting (Variable Speed Only)

RPCQ coolers fitted with the Electronics Module and Variable Speed Wall Control, will function across a wide speed range. The minimum speed has been factory set, and should not require any adjustment under normal circumstances. However, some adjustment may be necessary to suit specific installations.

After you have set the motor current and belt tension correctly, check the speed variation of the cooler. When the control is changed from maximum to minimum settings, there should be an easily recognizable difference in fan speed.

If not, check the following;

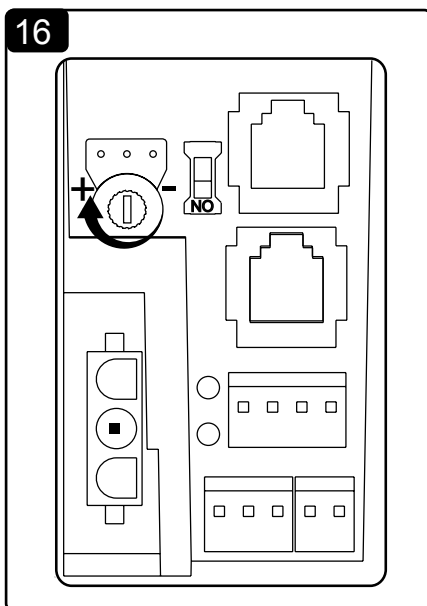
1.... That windows and doors are open.
Rule of thumb is to have 2 times the area of the outlet grille open for exhaust in each room.

2..... The weather damper is able to move freely (where fitted).

If the above are all correct then proceed as follows.

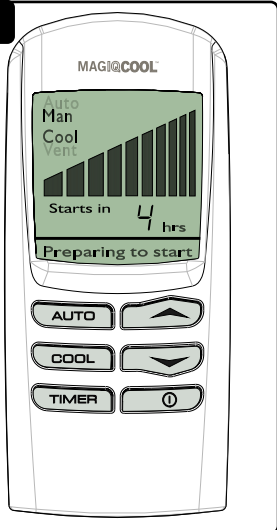
3..... Set the fan speed to minimum using the wall control, so that only one bar is displayed.

5..... Turn the minimum speed adjustment knob clockwise or anti-clockwise, until the belt is running at approximately one revolution per second (this equates to a fan speed of approximately 600 rpm). The fan will give a burst on start up to open the weather damper (where fitted). Switch the fan off then on again, to ensure that the fan spins fast enough to open the weather damper and keep it open. It is important to allow the cooler to run for a while on minimum speed, to ensure the weather damper remains in the fully open position.



Mounting the Variable Speed Wall Control

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When selecting a position for the wall control, avoid the following locations:

- Direct sunlight
- An outside wall
- Any heat sources
(eg. refrigerator, heater etc.)

A position in direct line of a cooling outlet

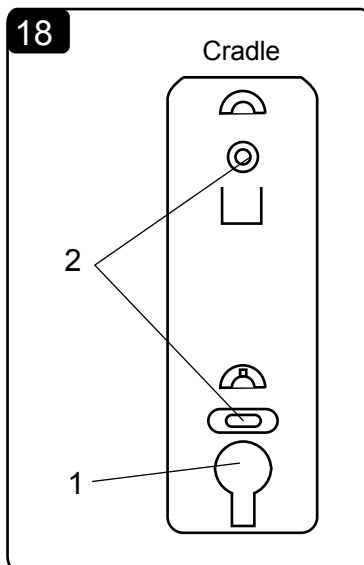
Mounting the wall control in a position near any heat source or cooling outlet will affect its ability to control temperature.

It is advisable to locate the wall control about 1.5 metres above the floor level in the room that is used or most lived in.

Plaster Board

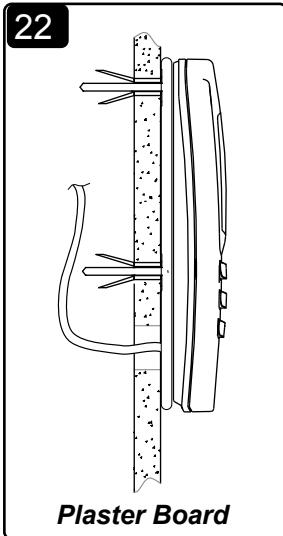
To mount the wall control on a plaster board wall, use the controller cradle as a template, and drill a 16mm hole (Fig 18-1) for the low voltage cable and 2 5mm holes (Fig 18-2) for the wall plugs.

18

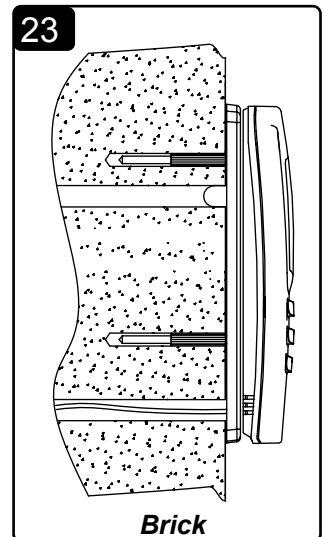
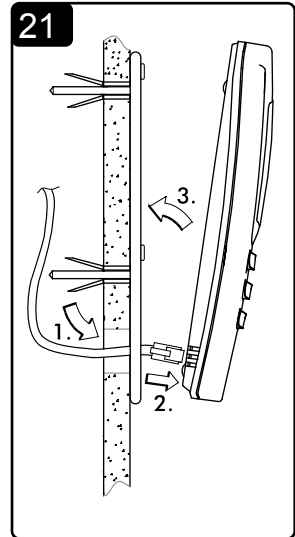


Mounting the Variable Speed Wall Control


Pull the low voltage cable through the large hole and plug it into the wall control.
Feed the excess cable back into the hole and seal.
Slide the wall control over the protruding bracket tabs.
Pull the wall control down so that the bracket tabs engage with the keyway slots on the back of controller



To mount the wall control on a brick wall, follow the previous instruction using the wall plugs and screws provided. Note that the wall plugs require a 6mm hole.




Starting Your Cooler

The **POWER** button turns the cooler on and off. 



There are two modes of operation to choose from, Automatic mode or Manual mode. When the cooler is turned on, it will start in the mode of operation it was in when last turned off.

Whenever you select **AUTO** mode or **COOL** in **MANUAL** mode, the cooler will take a few minutes to start as it fills with water and saturates the cooling pads. The time will be decreased if the tank is full or the cooler has only recently been turned OFF. During this time "Preparing to Start" will flash on the display.

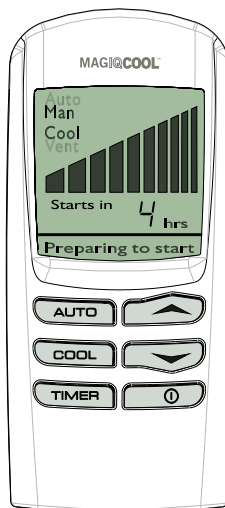
Automatic Mode

To select the **AUTO** mode press the  button until **AUTO** is shown on the display.

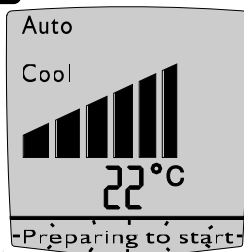
When the cooler is turned on, it will read the temperature and set the cooler operation accordingly. If the temperature increases at the wall control, then fan speed will increase. As the temperature decreases the fan speed will decrease until the cooler turns off.

In **AUTO** mode the cooler will remember the last setting used. Press the  button if you require more cool air or the  button if you require less. Don't alter the setting however, until the room temperature has stabilised.

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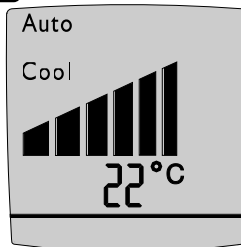


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Manual Mode

With the wall control switched ON, press the **AUTO** button until MAN is shown on the display.

You may then press the **COOL** button to switch between COOL and VENT (where fresh air is being delivered but not cooled).





Once COOL or VENT has been selected, the wall control will maintain a constant fan speed. This is indicated by the bar graph shown on the display. To increase or decrease the fan speed required, press either the  or  button.

Delayed Start or Stop

The cooler can be programmed to start at a specific time or stop at a specific time.

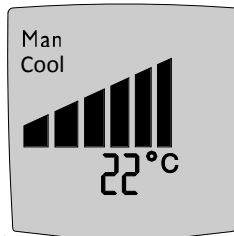
The delayed start time can only be programmed when the cooler is OFF. To program the cooler to start in a certain amount of hours use the following sequence:

Programming In Manual Mode

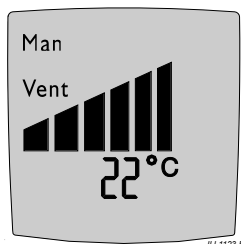
- (1)..... Press the **TIMER** button
 - (2)..... Press the **AUTO** button until MAN is displayed on the screen.
 - (3)..... Press the  or  button until the desired fan speed is displayed by the bars in the middle of the screen.
 - (4)..... Press the **COOL** button to set either COOL or VENT.
 - (5)..... Press the **TIMER** button and the 'starts in' time will start flashing.
- Use the  and  buttons to select the desired time.
- (6)..... Press **TIMER** again.

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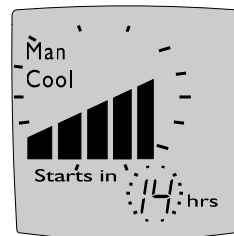
MANUAL MODE DISPLAY





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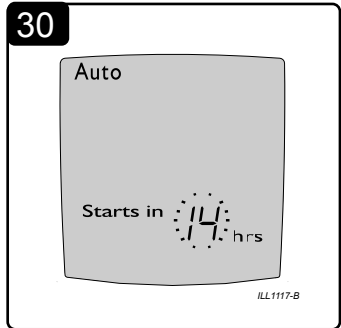


Programming In Auto Mode

- (1)..... Press the **TIMER** button
- (2)..... Press the **AUTO** button until AUTO is displayed on the screen.
- (3)..... Press the **TIMER** button and the 'starts in' time will start flashing.
Use the  and  buttons to select the desired time.
- (4)..... Press **TIMER** again.

The delayed stop time can only be programmed once the cooler is ON. This is ideal if you are going to bed but don't want to turn the cooler off straight away. To program the delayed time in which you want the cooler to stop use the following sequence:

- (1).....Select the **TIMER** button and the 'stops in' time will start flashing.
Use the  and  buttons to select the desired off time.
- (2).....Press again.



Using The Cooler

Now that you have read these instructions, press the POWER button to turn your cooler on. If the cooler has not operated for a while "Pre Cool Cycle" will flash on the display. The "Pre Cool Cycle" will begin and will take only a few moments to complete. After this time, the fan will come on automatically, and you can enjoy the comfort of cool fresh air.

Air Too Cold

With the cooler running in automatic mode, you may find that you are too cold or that the cooler is blowing too much air. Press ▼ to lower the automatic temperature setting and reduce the amount of cooling.

If you are to cold with the cooler running in Manual mode, then press ▼ to reduce the fan sped. You can also circulate uncooled fresh air by pressing COOL until "Vent" displays.

Air Not Cold Enough

You may find that with the cooler running in Automatic mode, that you are not cool enough. Simply press ▲ to increase the cooling rate.

If you are not cool enough with the cooler running in Manual mode, then press ▲ to increase the fan speed. Ensure that cooled air is circulating by pressing COOL until "Cool" is displayed.

Two Speed Control

- Turn on the water at the source and ensure that any shut off valve is open.
- Turn on the electrical supply and the mains isolator at the air conditioner.
- Wait for the tank to fill with water.
- Turn on the pump by switching the Cool switch on the wall control to Cool.
- Wait 2 - 5 minutes for the pads to saturate with water.
- Select either High or Low fan speed.
- Turn on the fan by switching the Fan switch to ON.



Installation Checklist

TO BE COMPLETED BY
THE COMMISSIONING AGENT

- | | | |
|--|--------------------------|----------------------------|
| 1. Unit level on mounting platform / dropper. | <input type="checkbox"/> | Tick box
when completed |
| 2. Unit correctly flashed to prevent water damage. | <input type="checkbox"/> | |
| 3. Check operation of weather damper (where fitted). | <input type="checkbox"/> | |
| 4. Tong test completed..... Amps _____ | <input type="checkbox"/> | |
| 5. " V " belt alignment and tension checked | <input type="checkbox"/> | |
| 6. Minimum speed correctly set. (variable speed only) | <input type="checkbox"/> | |
| 7. Unit wired in accordance with regulations and operating correctly. | <input type="checkbox"/> | |
| 8. Water main flushed before connection to unit. | <input type="checkbox"/> | |
| 9. Float valve set correctly. | <input type="checkbox"/> | |
| 10. Water flow adequate to all pads. | <input type="checkbox"/> | |
| 11. Bleed rate set and bleed hose positioned in overflow (drain valve where fitted). | <input type="checkbox"/> | |
| 12. Filter pads checked. | <input type="checkbox"/> | |
| 13. Water distribution through pads uniform. | <input type="checkbox"/> | |
| 14. Variable Speed Controller tested. | <input type="checkbox"/> | |
| Pump only running | <input type="checkbox"/> | |
| High Speed Fan only | <input type="checkbox"/> | |
| High Speed Fan and Pump running | <input type="checkbox"/> | |
| Low Speed start-up | <input type="checkbox"/> | |
| Low Speed running | <input type="checkbox"/> | |
| 15. Unit tested for maximum current. | <input type="checkbox"/> | |
| 16. Air flow from duct outlets correctly set. | <input type="checkbox"/> | |
| 17. Adequate exhaust openings provided. | <input type="checkbox"/> | |

Dealer Name

Commissioned By

Date/...../.....

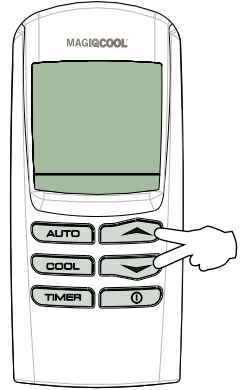
Testing The Cooler

Once you are satisfied that the Cooler is installed and commissioned correctly, it is important to run the cooler and ensure that everything is working as it should.

Check that the unit runs quietly and with an even distribution of air to all outlets.

Make sure there are no water leaks. Where fitted, initiate a drain of the tank by pressing the ▲ and ▼ buttons together for 1 second when the controller is OFF. The signal "dr" will display to confirm the drain has activated.

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Clean Up The Site

Clean up and tidy the premises, removing or recycling all rubbish. Your aim should be to have the customer not even aware that you have been there, apart from having their new Braemar installed to enjoy.

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Show Customer Their New Cooler

This is a good time to explain the features and principles of Evaporative Ducted Cooling to the new owner. Explain the wall control operation, how to exhaust the premises, and how to best run their cooler.

Please take a few moments to explain to the customer:

- How far windows need to be opened.
- How to turn the unit On.
- Explain the preparing to start mode.
- How to operate the cooler manually.
- How to operate the cooler in vent mode.
- How to operate the cooler in Auto mode.
- How to drain the cooler (where fitted with drain valve).
- How to turn the power and water off.
- Explain maintenance requirements, including the Maintenance Schedule.

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Present the customer with their warranty card for their attention.

Present the customer with this manual, and encourage them to keep it for future reference.

End of Season Maintenance

- Turn off the water supply.
- Remove filter pad frames.
- Turn off the power at isolating switch inside cabinet.
- Hose both sides of the filter pad frames to remove dust, salts pollen etc.
If pads are deteriorating replace as required.
- Check and clean the water distributor channels.
- Empty the water reservoir through the outlet provided. Thoroughly clean the reservoir. Do not replace the outlet.
- Ensure that water is not carrying over onto the motor.
- Check Pulleys and Belts for wear. Check alignment and tensioning.
Replace or adjust if necessary.
- Switch on Isolating switch and refit pad frames.

Pre-Season Maintenance

- Remove the filter pad frames.
- Turn off the Isolating switch
- Replace drain outlet removed at the end of the season maintenance.
- Turn on the water supply. Check the float valve assembly for correct operation and setting of water level (refer to fig. 5).
- Switch on the Isolating switch.
- Refit the pad frames.
- Run air conditioner for a period of time, check pads for an even saturation of water.
- Check the bleed off rate and set using rates on page 7 as a guide.

Lubrication

Bearings on blower shafts, electric motors and water pumps are sealed for life and do not require lubrication.

Health Regulations

Please note that some State and Territory Regulations require that Evaporative Air Conditioners used for Commercial purposes are to be serviced at specific Intervals. (ie. It may be required more frequently under those Regulations than the required intervals set out in the Owner's Manual.)

Owners of Commercial Air Conditioners should contact the Health Authority in their state for servicing guidelines.

Replacing the Filter Pads

If, during your Pre-Season or End of Season maintenance you determine that the filter pads need replacing, you will be able to purchase replacements from your local Dealer.

Replacing the pads is as follows.

- Switch off the air conditioner.
- Remove the pad frames from the air conditioner by turning the black latch at the top of the pads, tilting the pad forward and lifting.
- *Chillcel® Pads* - On a suitable work surface area, remove the rivets from the top of the frame, lift off the top frame, the water tray and pad will lift out.
- *Wood wool Pads* - On a suitable work area, remove the rivet(s) securing splash guard to top of pad frame, open the wire frame and remove the pad.
- Using a high pressure spray nozzle on a garden hose, wash any dirt and salt deposits from the louvre grille and frames.
- Place the new pad into the frame and secure as before. When replacing pads with wood wool, ensure that the wood wool is distributed evenly throughout the frame and any protruding strands are pushed back in. Particular attention should be paid to the corners and edges so that air cannot bypass the pad.
- Spray the assembly with water to rinse any dust or loose material from the frames, then install into air conditioner. DO NOT USE HIGH PRESSURE.
- Switch the COOL control "ON", and check that the trough in the upper part of the pad is filling, and allowing the water to drain through the holes in the trough.

NOTE. New filter pads can take some time to become conditioned and uniformly saturated when water is first applied. A characteristic odour of wet timber may be experienced during this period.

Service

To ensure that your Braemar Evaporative Air conditioner remains in first class working condition for many years, it should be thoroughly serviced twice a year. These Services should be performed at the end of the summer season and prior to the commencement of the next summer season, by an authorised Braemar Service Agent. Refer to the above sections on End of season Maintenance and Pre-Season Maintenance, and to the Maintenance Schedule at the back of this book.

Service phone number is on the back of this book.

PROBABLE CAUSE



SUGGESTED REMEDY



• *Inadequate Cooling*

Insufficient air discharge openings.	Make sure adequate openings are provided to exhaust the incoming cool air.
Inadequate exhaust for area being cooled, causing high humidity and discomfort.	Open windows, doors etc.
Undersized air conditioner.	Replace with larger Model.
Ducts blocked or collapsed	Repair Ducts
Clogged or dirty filter pads.	Clean or replace pads.
Dry pads or lack of water while the air conditioner is operating.	Check water distribution system for obstructions. Check pump is operating.
Excessive Ambient Humidity. (see also top of page)	During summer when the humidity is high, the unit will not work as effectively. Turn the pump off and run in vent mode
Fan running too slowly.	Check motor amps. If below rating plate specification, adjust motor pulley to increase fan speed
Belt slipping.	Tighten belt. Replace if worn.

• *Fan Fails To Start*

Circuit breaker tripped or fuse blown.	Reset or replace.
Overload tripped.	Reset & check motor amps and adjust if necessary.
Power not turned ON	Turn power ON
Loose electrical connections.	Check all connections.
Faulty control switch.	Replace.
Motor burned out.	Replace.

• *Motor Overheats & Trips Overload.*

Low supply voltage.	Consult with local Electrical Authority.
Incorrect settings on current overloads.	Reset overloads to correct setting.
Wrong motor size.	Fit correct size motor.
Fan speed too high.	Adjust motor pulley until the motor current is equal or below that specified on motor rating plate

• *Belt Slipping / Wearing Excessively*

Belt loose.	Tighten belt.
Pulleys out of line.	Align pulleys.
Worn belts.	Replace belts.
Worn pulleys.	Replace pulleys.

• *Pump runs but does not circulate water or pads lack water*

Insufficient water in tank causing pump to cavitate.	Adjust float level to increase water depth.
Pump strainer clogged or dirty.	Clean strainer.
Blocked water supply tubing.	Clean out water trough.

PROBABLE CAUSE



SUGGESTED REMEDY



• *Continuous overflow of water*

Incorrect float valve setting.	Adjust float valve
Inlet valve not sealing	Replace valve

• *Pump Fails To Operate*

Pump motor failure.	Replace complete pump.
Incorrect wiring of pump.	Correct pump wiring.
Loose electrical connections.	Tighten connections.
Pump control switch faulty.	Replace pump control switch.

• *Noisy Air Conditioner.*

Fan rubbing on housing.	Reposition fan.
Fan out of balance due to dirt, bent blade etc.	Clean fan, adjust blades if possible: Replace fan.
Air conditioner delivering more air than required.	Adjust any baffles or balance air to reduce airflow.
Belt "squelching".	Adjust alignment of motor and pulleys.
Belt "squealing".	Tighten belt by adjusting motor platform: Replace belt.
Inadequate sized ducts or grilles.	Increase grille size.
Loose water distribution connections.	Tighten all connections.

• *Formation of white deposits in tank and on pads.*

High mineral content in water supply.	Increase the bleed rate.
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• *Unpleasant odour.*

Air conditioner located near the source of unpleasant odour.	Relocate the air conditioner or remove the odour source.
New Pads fitted	Will go after short time.
Algae in tank.	Drain tank and clean thoroughly, fill with clean water and install new pads.
Pad remains wet after shutdown.	Allow fan to run for further 10 minutes after pump has been shut off.
Break in water distribution system.	Replace any cracked or broken tubing.

• *Water being thrown into area being cooled.*

Filter pads not properly installed into pad frames, or sagging.	Ensure filter pads are correctly installed.
Old filter pads have developed "thin" spots.	Replace with new filter pads.
Filter pad fibre sticking through netting causing water to be sucked off pad.	Remove any fibres protruding through netting.
Too much water to pads.	Check restrictor tap setting and adjust if required. Blocked Pads

[illegible]

It is a condition of your warranty cover that the items in the Schedule below are checked (and action taken as required) two (2) times a year from the date of installation by a qualified, licenced technician, and that the Schedule is properly filled out (ie names, signature, date, and action taken). Even after the warranty period expires, please continue to have the product maintained two (2) times a year as per the items in the Schedule. This will help to prolong the life of the product and keep it running efficiently.

C = clean R = replaced
A = adjust ✓ = check

	1st service	2nd service	3rd service	4th service
Electrical	Electrical wiring			
	Fan Motor / alignment			
	PCB's, contactors and boxes			
	Drain valve (if applicable)			
	Water solenoid (if applicable)			
	Pump			
Water distribution system	Pad and retaining wire			
	Water distribution hoses			
	Water distributors			
	Water distribution tap settings			
	Water float valve / level			
	Water probes (where applicable)			
	Bleed rate (where applicable) record setting	lt/pm	lt/pm	lt/pm

General operation	Belt tension / condition				
	Bearings				
	Start up and run sequence				
	Control operation				
	Motor Amps high speed				
	Motor Amps low speed				
Cabinet and components	Bleed hoses correctly installed / operating				
	Cabinet				
	Pad frames				
	Tank				
	Fan, fan blades and alignment				
	Shaft and alignment				
General installation	Pulleys and alignment				
	Electrical connections				
	Water connections				
	Duct condition				
	Roof penetrations				
	General installation				
	Access				

To owner/user: please note that as explained in your Warranty Card, installation is not covered by the warranty (for example, ductwork, roof penetrations, and electrical and water connections to the Braemar Evaporative Air Conditioner). However, we still require that you have these things checked, because they can affect the performance (and/or safety) of the product. This is why we have included them in the Maintenance Schedule.

1st Service	Technician	Company	Date
2nd Service	Technician	Company	Date
3rd Service	Technician	Company	Date
4th Service	Technician	Company	Date



SERVICE: 1300 650 644

For all your Braemar warranty and service needs.

Or

Contact your local Braemar direct dealer.

TECHNICAL SUPPORT CENTRE: 1300 650 399

For technical support regarding
the installation of this product

SALES: 1300 650 141

For all your sales enquiries

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Seeley International Pty Ltd ACN 23 054 687 035

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Manufacturers and Designers of Technically Advanced Quality Heating and Cooling Products



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