

POLYCOOL



Portable Chest Refrigerator/Freezer

User Manual

[Revision 2.0 February 2017]

RETAIN THIS MANUAL FOR FUTURE REFERENCE
PLEASE READ THIS MANUAL CAREFULLY BEFORE USE

Safety

When using electrical appliances, basic safety precautions should always be followed, including the following:

Electric Shock / Electrocutation Warnings

- Do NOT touch exposed cables with your bare hands or handle cables or plugs with wet hands, especially when powering the appliance from an AC power source.
- When using the appliance in a vehicle or boat, ensure the power supply circuit is fuse protected.
- Do not substitute the supplied cables or any components.
- Ensure that the electrical supply voltage is within [specifications](#).
- Do NOT expose to, or immerse the appliance, power supply or electrical cables in water.
- The installation of a DC power source must be performed by qualified personnel only.
- Do not place any electrical devices inside the refrigerator

General Safety

- The appliance must be used on flat, level surfaces only, and keep away from edges.
- Provide a minimum 200mm (8") of clearance around rear of the appliance, and 100mm (4") to the right-hand side for ventilation.
- Do not use the appliance near sources of heat (ovens etc).
- Secure the appliance when being transported or used in a vehicle.
- Avoid moisture or humidity within the appliance, as this can form frost and reduce cooling efficiency.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge. All users should have adequate training in safely operating the product or be under supervision of a person responsible for their safety
- Any modifications or misuse of this product will void its warranty.

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Parts Identification



| No. | Name | No. | Name |
|-----|---|-----|----------------|
| 1 | Refrigerator / Freezer Unit (appearances may vary between different models) | 5 | AC Transformer |
| 2 | Control Panel | 6 | DC Input Cable |
| 3 | Electrical Input Connection and Fuse | 7 | AC Mains Cable |
| 4 | Lid (some models feature multiple lids) | | |

Operation



During operation, the appliance runs to reach and maintain the required temperature, however, ambient temperature, opening of the lid etc can affect its performance and efficiency.

Console and Functions

The appliance features a control console that activates as soon as the appliance is connected to the electrical supply and switched ON. Depending on model, there are two types of console.



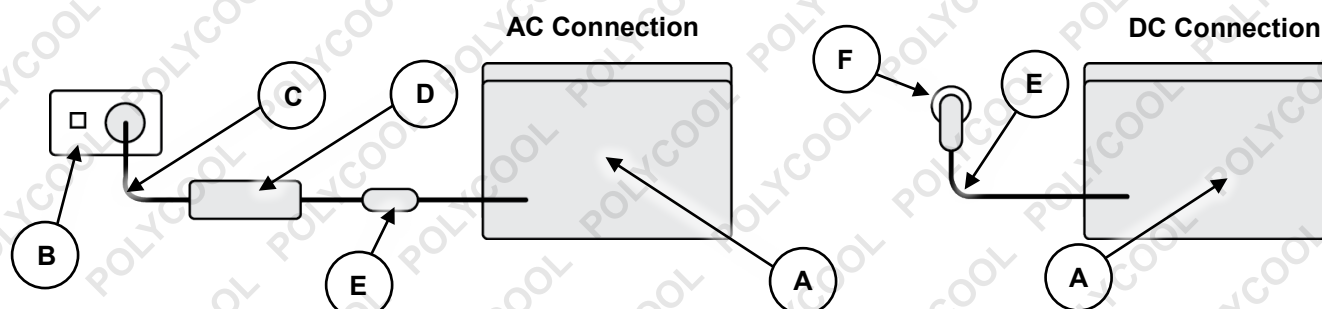
| Control | Description |
|---------|--|
| | Shows various information, such as the current internal temperature of the appliance. The display includes additional information; for example, cooling mode and battery status. |
| | ON / OFF – Press and hold for approximately 3 seconds to activate / deactivate the appliance. |
| | <p>Increase Temperature – Press to increase the internal temperature of the appliance by 1°C. Press and hold to more rapidly adjust the temperature setting. The display flashes and shows the target temperature setting for approximately 3 seconds, then returns to showing the current internal temperature.</p> <p>Note: If the appliance has more than one compartment, there may be separate temperature controls for each compartment; that is, "Right" and "Left".</p> |
| | <p>Decrease Temperature – Press to decrease the internal temperature of the appliance by 1°C. Press and hold to more rapidly adjust the temperature setting. The display flashes and shows the target temperature setting for approximately 3 seconds, then returns to showing the current internal temperature.</p> <p>Note: If the appliance has more than one compartment, there may be separate temperature controls for each compartment; that is, "Right" and "Left".</p> |
| | Lamps - Press to illuminate the control panel display and the appliance internal lamp. The lamps automatically switch off after 3 minutes. |
| | <p>Cooling Mode – Press to toggle between minimum and maximum compressor speed.</p> <ul style="list-style-type: none"> Max – Use for rapid cooling, particularly when initially cooling the appliance. This mode uses more energy. When the appliance is using a vehicle battery for power, it is recommended to have the vehicle engine running to prevent excessive battery discharge. When the required temperature is reached it is recommended to switch to minimum compressor speed. Depending on model, "Max" is shown on the display or indicated by a red lamp. Min / Eco – Use to maintain the current appliance temperature. This mode uses the least amount of energy. Use maximum compressor speed to reach the required temperature, then switch to minimum speed to maintain it. Depending on model, "Min" is shown on the display or indicated by a green lamp. |
| | Battery Protection - Press to cycle through and select a battery protection mode – see Using Battery Protection Functions . Some models have a separate switch for battery protection selection. |

Electrical Connection

The appliance can be set-up to use either a low voltage DC supply (generally, when used in a vehicle or boat) or a domestic AC mains electrical supply.

For AC connections, connect the appliance (A) to a standard AC mains electrical outlet (B) using the AC mains cable (C), AC transformer (D) and DC input cable (E).

For DC connections, connect the appliance (A) to a standard vehicle 12VDC electrical outlet (F) using the DC input cable (E).



For DC connections, the length of connecting cables between the appliance and battery must not be more than a maximum permissible length to avoid voltage drops that may affect appliance performance. The cross-sectional area of the connecting cable determines the maximum length – the greater the cross-sectional area, the longer the cable can be. Use the following as a guide:

| Cable Cross-Sectional Area | Maximum Cable Length 12V | Maximum Cable Length 24V |
|------------------------------|--------------------------|--------------------------|
| 2.5mm ² (13 AWG) | 2.5m (8') | 5.0m (16') |
| 4.0mm ² (11 AWG) | 4.0m (13') | 8.0m (26') |
| 6.0mm ² (10 AWG) | 6.0m (20') | 12.0m (39') |
| 10.0mm ² (07 AWG) | 10.0m (33') | 20.0m (66') |

General Usage

General use and set-up is as follows (it is assumed that the items to be cooled are in the appliance):

1. Connect the appliance to the electrical supply.
2. Switch the appliance ON.
3. Set the required temperature using the console temperature controls.



For models that have 2 compartments, the left-side compartment can only be set to a temperature equal to or greater (warmer) than the right-side compartment. This means that it is not possible to use the left-side compartment for freezing if the right-side compartment is used for refrigerating.

4. Set the compressor to "MAX" speed. This is recommended for initial cooling. When powering the appliance from a vehicle battery, it is recommended to have the vehicle engine running.
5. When the required temperature is reached, set the compressor to "MIN" or "ECO" speed. This is recommended for maintaining the internal temperature using the least amount of energy.
6. Set the battery protection level, if required.


Using Battery Protection Functions

Battery protection is a safety feature that helps prevent accidental discharge of the vehicle battery by the appliance (it must be powered from a vehicle battery for this feature to function). The appliance detects the available battery voltage, and automatically stops the compressor when the battery voltage drops below a set level. Similarly, once the available battery voltage is at a set level, the compressor restarts automatically and so on. There are 3 levels that can be selected:







- **LOW** – Suitable for dual battery systems, where it is generally safe to have the appliance running off a secondary battery as there is the primary battery for starting the vehicle engine.
- **MED** – Suitable for average single battery systems, where the battery will be maintained with sufficient charge to start the vehicle engine.
- **HIGH** – Suitable for average single battery systems, where the battery will be maintained with full charge. Generally, the vehicle engine must be running when using this setting.

The following table shows the battery voltages required for the automatic switch OFF and ON functions:

| Setting | 12V OFF Voltage | 12V ON Voltage | 24V OFF Voltage | 24V ON Voltage |
|-------------|-----------------|----------------|-----------------|----------------|
| LOW | 10.2V | 11.2V | 21.6V | 23.0V |
| MED | 10.7V | 11.7V | 22.6V | 24.0V |
| HIGH | 11.7V | 12.7V | 24.6V | 26.0V |

Battery protection can be selected from the console  button on some models, and on other models, by a switch next to the electrical input connector.

On some models that feature a battery voltage indicator on the console, the approximate indicated voltages are:

| | |
|---|---------------|
|  | 10.7V / 22.6V |
|  | 11.2V / 23.0V |
|  | 11.7V / 24.0V |
|  | 12.2V / 24.5V |
|  | 12.7V / 26.0V |
|  | 13.2V / 26.5V |

DC12/24V



DC12/24V



If you find that the compressor is switching off earlier than expected, battery protection may be set too high – try a lower battery protection setting, or run the vehicle engine when using the appliance.

Care and Maintenance

- When finished using the appliance, clean the internal surfaces using a damp cloth. If necessary, use a small amount of sodium bicarbonate dissolved in water. Allow the internal surfaces to defrost, if necessary, before cleaning. Thoroughly dry the internal surfaces before storage.
- If there has been a food or liquid leak, ensure that the compartments are defrosted/thawed before cleaning.
- Do not use sharp objects, abrasives or solvents for cleaning or removing frost.
- Allow hot food to cool before storing.
- Do not over-fill the appliance. If the unit has two separate compartments, note that the left-side compartment can only be set to a temperature equal to or greater (warmer) than the right-side compartment.
- If storing the appliance for extended periods, it is recommended to ensure that the compartment lids are not fully closed. This helps prevent mould or odours developing in the compartments.

Fuse Maintenance

The appliance features a 15A fuse to protect it from voltage surges etc. The fuse type is a common "blade" type vehicle fuse. The fuse is located next to the electrical input connection. To check / change the fuse:

1. Switch the appliance OFF and disconnect it from the electrical supply.
2. Pull the fuse from the fuse holder.
3. Inspect the fuse – if the connection between the blades is broken or damaged, replace the fuse – ensure it is of the correct type and rating.
4. Insert the fuse fully into the holder, then use appliance as normal.



Troubleshooting



Some maintenance activities described may be beyond the scope of some users. For procedures that you are not comfortable with or have the tools or experience for, have the unit serviced by a service centre or qualified technician.

The following information may assist in identifying a problem and rectifying it.

Appliance will not switch on.

| Possible Fault | Action |
|----------------------|---|
| No electrical supply | For AC connections, check that mains electricity is available and the appliance is properly connected to it and switched ON. For DC connections, check the available battery voltage is within limits and the appliance is properly connected to it and switched ON. Check that battery protection setting is suitable for the battery condition and draw on it. |



| | |
|------------|---|
| Blown fuse | Check the condition of the fuse and replace if necessary. |
|------------|---|

Poor cooling or refrigeration performance.

| Possible Fault | Action |
|-----------------------------|---|
| Temperature set incorrectly | Check that appliance temperature is correctly set and is not too high or too low. |



| | |
|------------------------------------|---|
| Battery protection set incorrectly | Ensure adequate ventilation space around the rear (minimum 200mm) and right-hand side (minimum 100mm) of the appliance. |
|------------------------------------|---|



| | |
|------------------------|---|
| Inadequate ventilation | Ensure adequate ventilation space around the rear (minimum 200mm) and right-hand side (minimum 100mm) of the appliance. |
|------------------------|---|



| | |
|------------------------------|---|
| Ambient temperature too high | Move appliance to cooler area, if possible. Ensure appliance is not in direct sunlight or being operated in an enclosed area that is subject to high temperatures (for example, in a car boot). |
|------------------------------|---|



| | |
|-------------|---|
| Over-filled | Reduce the amount of food in the appliance. Spread the food evenly in the compartment. If there are 2 compartments, even out the distribution of food items, if possible. |
|-------------|---|



| | |
|--------------------------------|---|
| Lids not closed or seal faulty | Check that lids are closed and can close properly and that the seal fits all the way around the lid. If the seal is faulty, replace it. |
|--------------------------------|---|



| | |
|----------|--|
| Food hot | Hot food has been placed in appliance. Allow food to cool before storing in appliance. |
|----------|--|

Contents freezing.

| Possible Fault | Action |
|-----------------------------|---|
| Temperature set incorrectly | Check that appliance temperature is correctly set and is not too low. |

Appliance is noisy.

| Possible Fault | Action |
|---------------------|---|
| Appliance not level | Check that appliance is mounted on a flat and level surface and that surrounding objects are not touching it and vibrating. Note that movement of refrigerant within the compressor can make some water-like noises – this is normal. |

"E 1" showing on console display.

| Possible Fault | Action |
|--------------------------|---|
| Battery protection error | Current battery voltage is over the battery voltage protection setting – this causes the battery protection function to stop. Check that battery protection setting is suitable for the battery condition and draw on it. |

"E 2" showing on console display.

| Possible Fault | Action |
|----------------|-----------------------------------|
| Fan fault | Have unit inspected and repaired. |

"E 3" showing on console display.

| Possible Fault | Action |
|--|--|
| Cooling system fault – blockage or pressure differential | Disconnect appliance from power supply and wait several minutes before reconnecting to power and switching on. Have unit inspected and repaired. |

"E 4" showing on console display.

| Possible Fault | Action |
|-------------------------------|--|
| Compressor running too slowly | Disconnect appliance from power supply and wait several minutes before reconnecting to power and switching on. Have unit inspected and repaired. |

"E 5" showing on console display.

| Possible Fault | Action |
|------------------------|--|
| Compressor overheating | Disconnect appliance from power supply and wait several minutes before reconnecting to power and switching on. Have unit inspected and repaired. |

Specifications

32 Litre

| | |
|-----------------------------------|---|
| Capacity | Approximately 32l |
| Input Voltage | 100 to 240VAC / 50 to 60Hz 12 / 24VDC |
| Power | 45W |
| Average Energy Consumption | 0.13kWh / 24h |
| Temperature Range | -30 to +10°C |
| Refrigerant | R134a 45g |
| Weight | Approximately 16kg |
| Dimensions | 710mm (L) x 410mm (D) x 450mm (H) |

42 Litre

| | |
|-----------------------------------|---|
| Capacity | Approximately 42l |
| Input Voltage | 100 to 240VAC / 50 to 60Hz 12 / 24VDC |
| Power | 45W |
| Average Energy Consumption | 0.15kWh / 24h |
| Temperature Range | -30 to +10°C |
| Refrigerant | R134a 45g |
| Weight | Approximately 17.5kg |
| Dimensions | 715mm (L) x 410mm (D) x 532mm (H) |

52 Litre

| | |
|-----------------------------------|---|
| Capacity | Approximately 52l |
| Input Voltage | 100 to 240VAC / 50 to 60Hz 12 / 24VDC |
| Power | 50W |
| Average Energy Consumption | 0.16kWh / 24h |
| Temperature Range | -30 to +10°C |
| Refrigerant | R134a 45g |
| Weight | Approximately 18.5kg |
| Dimensions | 710mm (L) x 410mm (D) x 600mm (H) |

60 Litre

| | |
|-----------------------------------|---|
| Capacity | Approximately 60l |
| Input Voltage | 100 to 240VAC / 50 to 60Hz 12 / 24VDC |
| Power | 50W |
| Average Energy Consumption | 0.15kWh / 24h |
| Temperature Range | -30 to +10°C |
| Refrigerant | R134a 45g |
| Weight | Approximately 25.5kg |
| Dimensions | 730mm (L) x 580mm (D) x 650mm (H) |

80 Litre

| | |
|-----------------------------------|---|
| Capacity | Approximately 80l |
| Input Voltage | 100 to 240VAC / 50 to 60Hz 12 / 24VDC |
| Power | 70W |
| Average Energy Consumption | 0.25kWh / 24h |
| Temperature Range | -30 to +10°C |
| Refrigerant | R134a 45g |
| Weight | Approximately 30kg |
| Dimensions | 930mm (L) x 570mm (D) x 560mm (H) |



Some experts believe the incorrect or prolonged use of almost any product could cause serious injury or death. For information that may reduce your risk of serious injury or death, consult the points below and additionally, the information available at www.datastreamserver.com/safety

- | | |
|---|--|
| <ul style="list-style-type: none"> • Consult all documentation, packaging and product labelling before use. Note that some products feature online documentation which should be printed and kept with the product. • Check product for loose / broken / damaged / missing parts, wear or leaks (if applicable) before each use. Never use a product with loose / broken / damaged / missing parts, wear or leaks (if applicable). • Products must be inspected and serviced (if applicable) by a qualified specialist every 6 months assuming average residential use by a person of average weight and strength, above average technical aptitude, on a property matching average metropolitan specification. Intended use outside these guidelines could indicate the product is not suitable for intended use or may require more regular inspection or servicing. • Ensure all possible users of the product have completed an industry recognized training course before being given access to the product. | <ul style="list-style-type: none"> • The product has been supplied by a general merchandise retailer that may not be familiar with your specific application or your description of the application. Be sure to attain third-party approval for your application from a qualified specialist before use regardless of prior assurances by the retailer or its representatives. • This product is not intended for use where fail-safe operation is required. As with any product (take an automobile, aircraft, computer or ball point pen for example), there is always a small chance of technical issues that needs to be repaired or may require replacement of the product or a part. If the possibility of such failure and the associated time it takes to rectify could in any situation inconvenience the user, business or employee then the product is not suitable for your requirements. This product is not for use where incorrect operation or a failure of any kind, including but not limited to a condition requiring product return, replacement, service by a technician or replacement of parts could cause a financial loss, loss of employee time or an inconvenience requiring compensation. • If this item has been purchased in error after considering the points above, simply contact the retailer directly for details of their returns policy, if required. |
|---|--|



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