INSTRUCTION MANUAL

Matos Aria Refrigerators

Applicable Models

MATOS Aria 220 Eco, MATOS Aria 220 Cloud
MATOS Aria 300 Eco, MATOS Aria 300 Cloud
MATOS Aria 374 Eco, MATOS Aria 374 Cloud

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Contents

1. Safety Precautions

The manufacturer and distributor takes no responsibility for any damage which results from incorrect use of the unit or not following these instructions.

To guarantee your security and the longest life and working efficiency of the unit, please follow these guides:

1. **The unit cannot be installed:**
    - Outdoors
    - In damp places or places which can be easily flooded
    - Near flammable or volatile substances
    - Near acids or in corrosive environments
2. **You must not:**
    - Store flammable or volatile substances inside the unit
    - Touch live parts or connections of the unit
    - Operate the unit with wet hands
    - Put water vessels on the unit
    - Climb on or put any heavy objects on the unit
    - Touch the compressor and condenser whilst the unit is connected to the mains
    - Overload the shelves
3. **You should:**
    - Always check that the door remains closed
    - Use only mains power with an earth to avoid electric shocks
    - Handle the power cable using the protective cover and not the cable itself
    - Disconnect the unit from the mains before undertaking any repairs or maintenance work
    - Protect the power cable and the plug from damage
    - Disconnect the power plug before moving the unit
    - Disconnect the power plug if you are not going to use the unit for a long period of time
    - Disconnect the power plug and prevent it from being reconnected if it has any visual faults

2. Installation Instructions

When you first unpack the unit, check the overall condition and any accessories that are present. Any damage during transport or incomplete accessories should be reported immediately.

Whilst carrying or moving the unit, do not tilt it to one side more than 45° from the upright position as there is the possibility of damaging the compressor. If it is necessary to tilt the fridge when moving, such as to fit under a door frame, please wait 12 hours before powering the unit on to ensure all oils have drained into their correct place.

The installation location should meet the following conditions:

- Ambient temperature between 10°C and 28°C
- Low relative humidity of the ambient air below 60%
- Do not use in highly dusty environments
- The unit should be placed on a stable, level surface
- The unit should be placed at least 100mm away from the wall
- The height of the room should be at least 300mm greater than the height of the unit
- If the unit is an under-bench model, the bench should be at least 100mm from the unit and the bench should be vented for airflow
- The unit should not be exposed to direct sunlight
- The unit should be kept away from heat sources
- The unit is not designed to be built in without adequate ventilation
- The unit should be plugged into a surge protector to protect against over-voltage and damaging power spikes

If you don't comply with the above recommendations, the unit will not run optimally and you may affect the overall life of the unit. You may also lose your warranty.

If it is not possible to locate the unit in a place that fully complies with the above conditions, make sure that at least the following points are followed:

- If the room temperature is higher than recommended, monitor the temperature in the room using an additional temperature sensor. If the room temperature exceeds 45°C, a thermal protection switch will activate to protect the compressor against mechanical or thermal damage.
- If the room temperature is lower than the recommended limit, under no circumstances should you turn the refrigerator on as this may damage the compressor.
- In highly humid or tropical environments, manual defrosting of the evaporator and chamber walls often is recommended.

Note: After positioning, secure it by locking the castor wheels (if they are provided on your model) or extending the adjustment screw feet located underneath the front of the unit.

2.1 Placement of the Contents

To provide optimal air circulation and stable conditions for the contents, please follow the following recommendations:

- The max height of the contents should not exceed 1/3 of the space below the shelves.
- The contents should be placed in such a way that the horizontal surface between the containers does not exceed 1/3 of the width and height of an empty shelf.
- The space between the contents, and the contents and the wall, should be more or less equal.

2.2 Internal Moisture Accumulation

In normal operation, water may accumulate on the bottom of the chamber. This is usually a result of condensation of the water vapour in the air if the set temperature is considerably lower than the ambient air temperature.

The amount of water depends on the following factors:

- Differences between ambient and set temperatures
- Number and frequency of door openings
- Surface Temperature of contents
- High Ambient Humidity

Note: If water gathers, use a dry cloth to wipe the bottom of the chamber.

Do not use any cardboard boxes, sponges and other hygroscopic materials for storing the contents since they may increase the relative humidity in the chamber.

2.3 Environmental Protection and Disposal

The packaging protects the unit from any damage during transportation. Most of the packaging can be recycled. Please handle it according to local environmental protection regulations and dispose of it appropriately. The unit itself can also be recycled at end of life to save resources.

Please help us to protect the environment.

3. General Characteristics

Our refrigerators and freezers are used to store a variety of samples in various temperatures. Our refrigerators are pre-programmed for medical and pharmaceutical temperatures from +2°C to +8°C. The units can be equipped with a power failure alarm with battery backup. The housings are made of painted steel sheet and interior components are moulded plastic/aluminium.

The insulation layer is made of polyurethane foam. Shelves inside the cabinet are made of polyethylene-coated steel wire and have adjustable heights on some models. The refrigerator models can all be ordered with solid or glass doors. A microprocessor controller is located within the front left of the unit under the lid.

4. Description of the Unit

4.1 Refrigerator Units

1. Electronic Controller with LCD display
2. Key lock
3. MATOS Override Indicator Lights - (Cloud Models Only)
4. Internal Light
5. Chamber fan
6. Rating Sticker
7. Wire Shelf
8. Door Handle
9. Temperature Probe
10. Adjustable Feet
11. Ethernet LAN Socket (Cloud Models Only)
12. Fuse(s)
13. Auxiliary Alarm Connection
14. Override Toggle Switch (Cloud Models Only)

5. Operating the Unit

5.1 Start-Up and Shut Down

To start-up the unit, plug it in to the wall AC supply.

If the unit has been tested by Rollex Medical or an approved reseller, the parameters will have already been set to international vaccine and medication fridge standard settings.

The time after which the unit will reach the set temperature, depends on the difference between the set temperature, the current temperature inside the chamber, and the medium's heat capacity. (For a brand new empty fridge this medium is the internal air within the chamber. If the fridge has product stored in it, especially large amounts of liquid, the temperature will take longer to reach its set point as the mass within the fridge will be cooled concurrently.)

Switching off the unit

To switch off the MATOS Aria fridge, simply switch off the fridge at the wall plug and then remove the plug from the socket. The fridge will retain its settings due to inbuilt non-volatile memory.

5.2 Temperature Control

The unit has been adjusted and calibrated by the manufacturer. Any further calibration by Rollex Medical or an approved service agent is carried out in accordance with the manufacturer's procedures and instructions using instruments which are inspected regularly.

The fridge Temperature is measured by a sensor mounted inside the chamber and its value is displayed on the control panel. The unit is normally calibrated in such a way that the display shows the temperature in the approximate middle of the chamber.

6. How to Operate the Controller

6.1 Control Panel

The control panel is used to check the current temperature inside the chamber as well as to program and set-up the parameters of the unit. Any alarm or status messages are also displayed here.

6.2 Description of the controller and symbols

MATOS Aria fridges utilise a variant of the Carel IR33+ controller.

Top Row left to right: Alarm Mute, Light on/off, Set Key, Maximum Temperature, Standby Power

Bottom Row left to right: Defrost, Aux Key, Programming Key, Minimum Temperature, Standby Power

Displayed Symbols:

 Compressor Active

 Light Active

 Fan Management Active

 Error/Service Warning

 Defrost Active

 Alarm Active

6.3 Unit Settings

To access the ‘F’ type (frequent) parameters, please press and hold the ‘alarm mute’ key. Press the ‘Set’ button when you see ‘0’ appear on the display to enter the ‘F’ type parameter list.

Use the up and down keys to navigate the menu, use ‘Set’ to enter a parameter and ‘mute’ to move back a step.

6.4 F (Frequent) Type Parameter List

Parameter Name	Abbreviation	Description	Default
Set Point	St	Temperature Set Point	3.5
Differential	rd	Relative Differential/Hysteresis	2.0
Min/Max Monitoring Duration	rt	Total time in hours since Min/Max cycle was started/reset	N/A
Maximum Temperature Read	rH	Maximum temperature reached since monitoring cycle started	N/A
Minimum Temperature Read	rL	Minimum temperature reached since monitoring cycle started	N/A
Power Restore	rST	This will appear when the fridge is first switched on and is able to be cleared using the alarm mute key	N/A
Time Between Defrosts	dI	Elapsed time between consecutive defrosts (h)	8
End Defrost Temperature	dT1	Maximum temp before defrost cut-off	8
Max Defrost Duration	dP1	Maximum time elapsed before defrost cut-off	6
Dripping Time after Defrost	dd	Standing time after defrost – fans/compressor off	0
High Alarm Bypass after Defrost	d8	Alarm bypass time after defrost cycle or door opening	1
Low Temperature Alarm	AL	Low temperature alarm threshold	2.0
High Temperature Alarm	AH	High temperature alarm threshold	8.0
Alarm Delay	Ad	Time delay (m) before temperature alarm activation	10

Please contact your provider for any further information on parameters.

6.5 Min/Max Recording and Viewing

The Aria controller includes Min/Max temperature recording functionality.

To reset the recorded min/max air temperatures:

MINIMUM TEMPERATURE

Push and hold the MIN button and the flashing reading displayed will represent the Minimum recorded air temperature since the last reset.

MAXIMUM TEMPERATURE

Push and hold the MAX button and the flashing reading displayed will represent the Maximum recorded air temperature since the last
reset.

MIN/MAX RESET

To reset the recorded min/max air temperatures, Press and Hold the MIN and MAX buttons together for 3 seconds until 'rES' is displayed on the screen. Once "rES" is displayed this is confirmation the MIN/MAX recordings have been reset.

Note: the number displayed before "rES" appears is the total number of samples recorded.

6.7 Alarms

The Aria controller includes provisions for various alarm conditions:

1. High temperature limit
2. Low temperature limit
3. Door open timer
4. Probe error
5. Other – contact provider

Alarms may be acknowledged at any time by pressing the 'alarm mute' key. This will silence the current alarm, but leave the alarm active and displayed on the LCD screen.

To clear the active alarm, press the 'alarm mute' key once alarm conditions have been restored to normal. i.e. temperature back within operating range.

Sort of event	**Audible alarm**	**How to clear**	**Displayed message**
Temperature sensor fault	Yes	Replacing of temperature sensor/reconfiguration	E1
High Temperature Alarm	Yes	Temperature decrease till within range	AL Hi
Low Temperature Alarm	Yes	Temperature increase till within range	AL Lo
Open door alarm	Yes	Closing door or pressing any button	DOOR

Default Alarm Config	**Setting**	**Delay**	**Displayed message**
High Temperature Alarm	8.0	10 Min	AL Hi
Low Temperature Alarm	2.0	10 Min	AL Lo
Open door alarm	Yes	60 Sec	DOOR

Note that upon the activation of an alarm condition, the auxiliary alarm terminals located on the back of the unit will activate. This will stay active until the alarm is cleared via the controller.

7. Operation of the Cooling System & Defrosting

If the unit is operating in low temperatures the evaporator within the chamber may get covered with a layer of ice. One symptom of too much ice on the evaporator is lower cooling efficiency of the unit, which will have an adverse effect on performance and overall lifespan. To ensure proper operation of the unit, you should follow these principles:

1. In temperatures above +8°C, the chamber air automatically defrosts the ice cover, defrosting is self-operating.
2. In temperatures below +8°C, the evaporator may be covered in ice and the unit will be automatically defrosted. This occurs by default 3 times a day as a 'passive' defrost. i.e. the unit waits a predetermined length of time before running the compressor again allowing the temperature to rise slightly higher than normal operation.
3. If excessive ice levels build up within the chamber, please switch off the unit and manually defrost by leaving the door ajar for 12 hours. Be sure to wipe up any excess moisture within the chamber before switching the unit back on.
4. Always make sure the door has been closed quickly and properly to avoid rapid ice appearing!

8. Cleaning and Maintenance of the Unit

Note: Before cleaning the unit, it must be disconnected from the power supply!

When cleaning your MATOS Aria unit check the cleaning agent used is not harsh to plastics or aluminium.

Wipe down the chamber from top to bottom ensuring all residues and moisture is collected. Some cleaning agents may cause staining to occur on the plastic, be sure to select the right cleaning product.

We recommend a mild citrus based cleaner for use on the plastic interiors. Detergent and water will make for a good alternative.

Note: When cleaning products with dedicated cleaning solutions, you should always pay attention to specific instructions of the cleaning solution.

8.1 Exterior Cleaning

1. The exterior of the unit should be cleaned at least once a week depending on the working conditions.
2. The exterior and door should be cleaned carefully using a soft cloth dampened with water.
3. Only mild cleaning products should be used to clean the unit.
4. Electrical parts should not get in contact with water or detergent.
5. Clean the cooling unit and condenser (Heat Exchanger) on a regular basis clean with a vacuum cleaner. These are located at the rear part of the unit. Not doing so may damage the compressor over time. It is recommended the dust is removed from the condenser monthly.

8.2 Interior Cleaning

1. The chamber should be emptied of any product/samples before cleaning.
2. Open the door of the unit and wait for any frost to melt and remove the shelves.
3. Only use water or mild detergent/citrus cleaner for cleaning.
4. During cleaning, make sure not to damage the temperature sensor built into the chamber.
5. When finished cleaning, allow the unit to dry before reinstalling shelves and restarting.

9. Storing the Unit for a Long Period of Time

1. Remove all objects from the chamber.
2. Disconnect the unit from the power supply.
3. If the unit has worked in low temperatures, please wait until any frost melts.
4. Clean and dry the chamber.
5. Leave the door open to air.
6. Store at a temperature between 0°C and 30°C and relative humidity below 70%.

10. Troubleshooting

PROBLEM	REASON	SOLUTION
The appliance does not work	A gap in the electric system circuit	1. Make sure the plug is properly inserted into the socket 2. Make sure the socket is not faulty 3. Make sure the power supply cord is not damaged
	The compressor hardly ever activates	1. Check to see if the ambient temperature is below +10C
The temperature inside the appliance is not low enough (the compressor operates continuously)	The door doesn't shut tight or is opened too often	1. Rearrange the products so they don't hamper the door 2. Shorten the time the door is open for
	The ambient temperature is above that which has been outlined in the product specification (page 6)	1. Check that the appliance is operating at an ambient temperature that meets the product specification
	Air circulation at the back of the appliance is hampered	1. Move appliance further away from the wall
	The appliance is placed such that it is subject to constant sunlight, or another heat source e.g. Radiator	1. Move the appliance to a different place away from heat sources or direct sunlight
Water collects at the bottom part of the refrigerator	The contents touch the back wall of the cabinet	1. Move the products so they aren't in contact with the back wall
	The drain opening is clogged	1. Take the cleaning plug and unclog the condensate opening
The appliance makes too much noise	The appliance is not level	1. Place the appliance on an even surface or use adjustable feet
	The appliance is touching another object	1. Reposition the appliance so it is detached from any other objects

11. Technical Details:

MODEL			MATOS Aria 220 R	Matos Aria 300 R	Matos Aria 374 R	MATOS Aria 220 R/G	Matos Aria 300 R/G	Matos Aria 374 R/G
Temperature range		°C	+1 <-> +10					
External Dimensions	Width	mm	595	595	595	595	595	595
	Height	mm	1310	1640	1840	1310	1640	1840
	Depth	mm	640	640	640	640	640	640
Internal Dimensions	Width	mm	505	505	505	505	505	505
	Height	mm	1025	1355	1555	1025	1355	1555
	Depth	mm	462	462	462	462	462	462
	Volume net/gross	l	190/215	269/290	345/372	190/215	269/290	345/372
Gross Weight		**kg**	**58**	**65**	**70**	**65**	**74**	**81**
Shelves (default)			3	4	5	3	4	5
Shelf load capacity		kg	10	10	10	10	10	10
Maximum allowed load of the unit		kg	58	68	74	58	68	74
Power Supply		V/Hz	230/50 (60 Optional)					
Power Consumption		KW/24 Hr	2.7	2.9	4.3	3.5	3.6	4.8
Refrigerant	Type HFC		R134a	R134a	R134a	R134a	R134a	R134a
	Quantity / T	kg	0.0165	0.02	0.02	0.0165	0.02	0.02
	Potential GWP		235.95	235.95	286	286	286	286
Quantity of Doors			1	1	1	1	1	1

12. Rating Plate

The rating plate is located on the left wall of the unit, in the upper left corner inside the chamber.

Below is an example of a rating plate:

1. Model
2. Climate class
3. Operating Voltage
4. Operating Frequency
5. Power (Wattage)
6. Capacity (Gross)
7. Power Consumption
8. Operating Current
9. Refrigerant Details
10. Lamp Wattage
11. CE/Certification Markings
12. Serial Number

13. Certificate of Compliance - EU

EMC Technologies
Global Product Certification
EMC-EMF Safety Approvals

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Test Report to EN 60335-2-89:2010
in conjunction with
EN 60335-1:2012 + A11:2014

Report No. S180110_S

Manufacturer: Rollex Group Australia (2009) Pty Ltd
Test Sample Name: Refrigerator Appliance
Model: USS 220 DTK (Matos Aria Eco 220 R/G), USS 300 DTK (Matos Aria Eco 300 R/G) & USS 374 DTK (Matos Aria Eco 374 R/G)
Serial No.: 100000259021, 100000259055, 100000259133 respectively

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Test Report to AS/NZS 60335.2.89:2010 including its Amendments nos. 1 & 2 in conjunction with and AS/NZS 60335.1:2011 including its Amendments nos. 1, 2, 3 & 4

Report No. T170928_S

Manufacturer:	Rollex Group Australia (2009) Pty Ltd
Test Sample Name:	Refrigerator Appliance
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14. Alternative Manual Location

A digital copy of this manual will be available for free download in the following locations:

www.rollexmedical.co.nz/support/

www.rollexmedical.com.au/support/