



Operations Manual

VCC



Contents		Page
1	What is the Adande® System?	3
2	Adande® Explained	3
3	Ratings and Specifications	4
4	Safety symbols	5
5	General Warning and Safety Instructions	6
	5.1 Electrical	6
	5.2 Operational Use & Cleaning	6
	5.3 General	6
6	Installation Instructions	7
	6.1 Pre – Operation Checks	7
	6.2 Electrical Connection	7
	6.3 Location and Stability	8
7	Operating Adande® Controls	9
	7.1 The Display Temperature Controls	9
	7.2 Locking and Unlocking Display Panel	10
	7.3 Defrost	10
	7.4 Drawer Alarm	10
	7.5 Error Alarm	11
	7.6 Temperature Alarm	11
8	Drawer Maintenance	12
	8.1 Cleaning	12
9	Food Storage	13
10	Servicing & Warranty	13
11	EC Declaration of Conformity	14
12	Appendix 1: Contact Details	15

Welcome to Adande® Refrigeration

1 What is Adande®?

Adande® is a new method of cold storage developed as a series of refrigerated drawers that offer storage temperature flexibility in 1°C increments between –22°C and +15°C.

Each refrigerated drawer:-

- Provides stable temperature storage
- A removable container to act as temporary cool and safe product storage.
- Gives full plan area access providing space efficient storage.
- Is easily cleaned or replaced.

2 Adande® Explained

Adande® uses standard technology and refrigeration parts but in a completely new and patented way.

A dedicated fridge engine supplies refrigerant to an evaporator coil assembly. The evaporator coil assembly then supplies cooling to the insulated container and is sized to maintain up to 40kg of product at any set point temperature, in the range of –22°C to +15°C.









Figure 1: Front view of Adande® Compact Drawer

3 Ratings and Specifications

ADANDE				
Model	VCC			
Electrical Specifications				
The Adande V range of products is configured for the appropriate electrical supply and supplied with a fixed cordset for the appropriate region.				
Rating R404a	230V 50Hz (1.3 amps max per module)			
Rating R600a	230V 50Hz (1 amps max per module)			
Supply Lead	UK Moulded plug fitted with a 13A fuse C19 Socket 3 pole 250V 16A 1100mm in length in coiled condition			
Environmental				
Operating Temperature	15°C – 40°C (60°F – 100°F)			
Noise	70 dB Max			
Altitude	Maximum operating altitude 2000m (6560 ft.)			
Mechanical				
Dimensions – module only	Model	Height	Width	Depth
	VCC	785mm	450mm	800mm
Module weight without counterbalance weights	54kg (119lbs)			
Counterbalance weights on back & underneath of module	32.5kg (71lbs)			

4 Safety Symbols

The following safety symbols are used upon the product and throughout the product documentation.

<u>Meaning / Description</u>	<u>Symbol</u>
<p>Dangerous Voltage</p> <p>Electrical warning symbol To indicate hazards arising from High voltages.</p>	
<p>Protective Earth (Ground)</p> <p>To identify any terminal which is intended for connection to an external conductor for protection against electric shock in case of a fault, or the terminal of a protective earth (ground) electrode.</p>	
<p>Warning/Caution</p> <p>An appropriate safety instruction should be followed or caution to a potential hazard exists.</p>	
<p>Disposal of Hazardous Waste</p> <p>Disposal of Hazardous Waste The product contains hazardous waste which is harmful to the environment. Correct procedures in line with WEEE directive should be followed when disposing of the product, including removable/replaceable items like :-</p> <ul style="list-style-type: none"> a) Refrigerant Gas/oil b) Insulated container c) Controller 	
<p>Do Not Pressure Wash</p> <p>Do Not Pressure Wash the Modules.</p>	
<p>Heavy</p> <p>This product is heavy and reference should be made to the safety instructions for provisions of lifting and moving</p>	

5 General Warning and Safety Instructions

The following instructions provide information and guidance on the safe operation of the user and the equipment.

5.1 Electrical

- The operator/end user shall not remove ANY of the access panels.
- Disconnect the electrical supply before any maintenance or cleaning by removing the plug from the electrical socket.
- Ensure safe routing of the electrical cabling.
- Check Inlet Cables for damage before use. If damaged, isolate from the electrical supply and replace the cabling.
- Only the electrical cables supplied with the machine at the point of purchase, or by a qualified service engineer is to be used with this product.
- This product is to be installed in accordance with regional and local electrical codes.

5.2 Operational Use and Cleaning

- All cleaning and servicing requires the equipment to be, switched off at the front/ isolated from the power source and disconnected.
- Ensure the drawers are kept shut between openings.
- Do not lean on the drawer when fully extended.
- Ensure foodstuffs that give out acidic odours like vinegar, onions, etc. are sealed before placing in the insulated container.
- Remove all foodstuffs from the drawer container before removing for cleaning.
- Do NOT drop the container into the container support cradle.

5.3 General

- The machine should be used as provided and in accordance with this manual.
- Adequate provision should be made for lifting and positioning the equipment in accordance with local policy codes.
- Do not overfill the drawer or exceed the maximum loading of 40kg per drawer.
- Do not sit, stand or apply additional downward pressure on an open drawer.
- Do not operate drawer with any panels removed.
- Do not clean drawer with any panels removed.
- When the machine is being transported it should be sat firmly on its castors with the brakes applied. The machine should be strapped upright to a flat pallet during transport.
- Ensure drawer is installed and maintained on a flat, clean and level surface.
- The room in which the drawer is kept should be dry and sufficiently ventilated.
- No obstructions should be placed directly in front of the condenser air outlet (vent underneath the unit).
- The machine should be regularly inspected and checked against the requirements of this Operations Manual.
- Should a fault occur with the product immediately isolate and disconnect the incoming power supply.
- Only Adande trained engineers are permitted to service or carry out repairs to this product.

6 Installation Instructions

The Adande is delivered as a complete unit. This machine is designed for indoor use only.

6.1 Pre Operation Checks (unpacking)



- Check the Adande® unit for transport damage and report any immediately to Adande® refrigeration.
- Remove all packaging material dispose of responsibly recycling where applicable.
- Ensure the Adande® units supply lead is firmly secured in place by the supplied P clip.
- Ensure the Adande® unit is positioned on a clean, level and stable surface.

6.2 Electrical Connection



- The Adande® unit should be connected to a 230V, single phase, 50 Hz supply.
- The drawer is connected to the mains supply with a detachable supply lead.
- The supply lead is a standard UK moulded plug fitted with a 13A fuse.
- The supply lead is connected to the Adande® drawer as shown in *figure 3* below.



Figure 3: Mains connection point

6.3 Location and Stability



It is important that the Adande® drawer is installed and maintained on a flat, clean and **level surface** to ensure correct operation.

The room should be dry and sufficiently ventilated to allow good airflow around the clearance stated above, and to minimize moisture intake.

Optimum performance is obtained at ambient temperatures between 16°C (60°F) and 40°C (100°F)

The air outlet grill MUST be kept clear at all times to maintain optimum performance.

The Adande® drawer has four castors, two of which have brakes which should be ON during normal use, as shown in *figure4*.

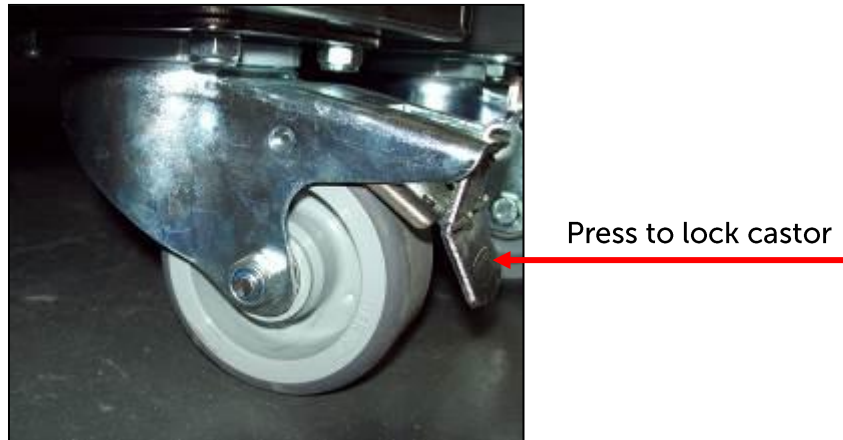


Figure 4: Lockable Castor



THE INSULATED CONTAINER SHOULD BE UNLOADED BEFORE MOVING

7 Operating Adande® Controls – Click [here](#) to see the video!



The Adande® temperature control system allows you to set and control the drawer within a temperature range of -22°C (-8°F) and +15°C (59°F).




Temperature accuracy in the drawer will be maintained within $\pm 2^{\circ}\text{C}$ of the set point for R600a and $\pm 1^{\circ}\text{C}$ for R404a







Figure 5: Adande® Display Control Panel

7.1 The Display Temperature Controls








The set-point is factory set to 3°C, however should you need to adjust the temperature set point, *please follow the procedure below:*

- First press and hold the set temperature button  this will display the current set point.
- To adjust the set point simply keep the set temperature button held down and press the +  or –  button until the desired set point is displayed.
- Next release all buttons. The temperature is now set.


Display Control Keys	
Set Temperature/Scroll Menu	
Decrease Temperature/Manual Defrost	
Increase Temperature	
Manual Defrost	

7.2 Locking and Unlocking the Display Panel

The display panel's keypad can be locked to prevent accidental changing of the temperature set point. To lock or unlock the key pad *please follow the following procedure.*

- First press and release the set temperature button  six times until the LOC parameter is displayed 
- Next press and hold in the set temperature button  to display the parameter. YES  means the display is locked NO  means the keypad is unlocked
- To adjust this parameter simply keep the set temperature button held down and press the +  or –  button to change from YES to NO.
- Release all buttons to exit, the display will return to the main screen in 3-5 seconds.

7.3 Defrost

The refrigeration system automatically defrosts. If a manual defrost is required then press the manual defrost button on the control panel  for 3 seconds. During a defrost "DEF" will show up on the display panel. Once defrost has finished "REC" (recovery) will be displayed until the unit reaches its set point.

7.4 Drawer Alarm

If the drawer is open for more than 3 minutes, the Drawer Open alarm will be triggered, an audible alarm will sound and "DO" will flash on the display panel.

When the alarm has been activated, the Adande® drawer will alarm both visually and audibly.

To silence the audible alarm, press ANY button on the display, or close the drawer. The alarm light and flashing display will continue to show until the drawer has been fully closed.

NOTE: THERE IS NO COOLING TO THE INSULATED CONTAINER WHEN THE DRAWER IS OPEN.

7.5 Error Alarm

If display reads "E1" or "E2", a temperature probe has failed, and an engineer should be called.

The Adande® drawer will operate with a 5 minute on / 5 minute off cycle in the event of an "E1" failure. This will help to maintain the stored product at a safe temperature, but precise temperature control will be lost. "E2" will only affect defrosts, and these will be timed to maintain operation of the unit. An engineer should be called as soon as possible for either fault.

7.6 Temperature Alarm

If "HI" should appear on the display, the drawer temperature has exceeded its set point by 7°C and product core temperature should be checked. This alarm may also be triggered if the Adande® drawer has recently been turned on loaded with warm product or left open for a long period of time. If the temperature does not return to the set point temperature, an engineer should be called.

If "LO" should appear on the display, the drawer temperature has fallen below its set point by 7°C and product core temperature should be checked. This alarm may also be triggered if the Adande® drawer's temperature set point has recently been increased. If the temperature does not return to the set point temperature, an engineer should be called.

Contact the Adande service department:

Tel: 01502 537 135 option 1

Email: service@adande.com

8 Drawer Maintenance

The Adande drawer is virtually maintenance free other than periodic checking of the seal and cleaning.



DO NOT PRESSURE WASH EQUIPMENT, THIS CAN DAMAGE THE ELECTRICAL COMPONENTS.

8.1 Cleaning - [Click here to see the video!](#)



It is recommended that cleaning should be performed at minimum weekly or in accordance with local codes.



The airflow through the Adande drawer is designed to deposit grease and dirt on the **outside** surface of the insulated container and **internal** surfaces of the drawer housing.

The insulated container must be removed from the drawer to clean these surfaces.



Always isolate the unit before doing any cleaning or maintenance. The dirt and grease deposits should be removed weekly using the following procedures:

- Clean the heated seal with a damp, soaped cloth as shown in *figure 5.1* below.
- Always remove any contents from the containers before lifting from the supports.
- Clean the insulated container with an anti-bacterial cleanser.
- Brush any loose dirt from the condenser situated inside at the back of the drawer cavity as shown in *figure 5.2* below
- Clean the steel surfaces with an anti-bacterial cleaner, with the active ingredient that confers its antiseptic property being **chloroxylenol (C₈H₉ClO)**, comprising of 4.8% of the total admixture.
- Do not use steel pads, wire brushes, scrapers or chloride cleaners to clean the stainless steel, some parts have painted surfaces, these should be cleaned with a mild soap solution as previously instructed.



Figure 5.1



Figure 5.2

9 Food Storage

For the drawer to operate at full efficiency the heated seal should be maintained in good condition. It is essential that the container is not overfilled as this can damage the seal and affect the operation of the drawer.

The drawer is capable of storing any pre-packaged food product. However, foodstuffs that may give off acidic odours like vinegar, onions, etc. should be suitably sealed. Adande® also recommends storage containers with liquid food products be stored with lids.

10 Servicing & Warranty

Service personnel must be suitably trained in refrigeration and experienced in servicing Adande® products. Only use Adande® Approved and Registered Service Engineers which can be supplied on request.

Your Adande drawer should be regularly inspected and checked against the requirements of this Operations Manual.

The Location of the unique serial number for your Adande drawer is located at the rear of the unit near the supply inlet below pictured in figure 6 below.

Advice and help can be obtained to resolve any problems that may occur during operation or servicing, by contacting the Adande® technical support line, refer to Appendix 1 at the back of this manual.

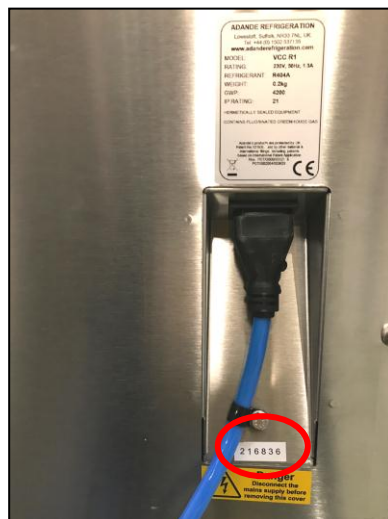


Figure 6

11 EC Declaration of Conformity

We declare that the following machinery complies with the essential health and safety requirements of:-

The Machinery Directive 2006/42/EC
The Low Voltage Directive 2006/95/EC
The Electromagnetic Compatibility Directive 2004/108/EC
The Pressure Equipment Directive 97/23/EC
The Eco-design Directive 2009/125/EC and Commission Regulation (EU) 2015/1094 of 05/05/2015
The Energy Labelling Directive 2010/30/EU and Commission Delegated Regulation (EU) 2015/1094 of 05/05/2015

Machinery Description: 1 Professional Refrigerated Storage Cabinet for Multi-use Operating Temperatures

Make: Adande®.

Type: Adande® Refrigeration Units

Manufactured by Adande® Refrigeration,

45 Pinbush Road, South Lowestoft Industrial Estate, Lowestoft, Suffolk NR33 7NL

The following transposed harmonised European Standards have been used:

EN ISO 12100 parts 1 & 2 Safety of Machinery – Basic concepts, general principles for design
EN ISO 13857 Safety of Machinery – Safety distances to prevent danger zones being reached by the upper and lower limbs.

EN ISO 13732-1: 2006 **Ergonomics of the thermal environment -- Methods for the assessment of human responses to contact with surfaces -- Part 1: Hot surfaces**

EN 1672-2 Food processing machinery – Basic concepts – Part 2 : Hygiene requirements

EN 61000-6-3:2001, Electromagnetic compatibility (EMC) - Part 6-3: Generic standards; Emission standard for residential, commercial and light- industrial environments

EN 61000-6-1 Generic Immunity Standard; Residential commercial and light industrial environments.

EN 60335-2-24 The Safety of Household and Similar Electrical Appliances – Part 2 –24: Particular Requirements for Refrigerating Appliances and Ice Makers.

PrEN 16825:2015 Refrigerated storage cabinets and counters for professional use – Classification, requirements and test conditions.

The technical file for this machinery will be prepared on demand by :-

Name: Ian Wood

Position: Managing Director

Who signs on behalf of the manufacturer

ADANDE® REFRIGERATION

45 Pinbush Road

South Lowestoft Industrial Estate

Lowestoft

Suffolk

NR33 7NL

12 Appendix 1: Contact Details

Contact us

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