Operations Manual

Blast Chiller

Contents

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 1ºC increments between –22ºC and +15ºC.

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.
- Can be supplied configured as a blast chiller.

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 –22ºC to +15ºC.

Figure 1: Front view of Adande® Single Drawer

3 EC Declaration of Conformity

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

The Machinery Directive 2006/42/EC.
The Low Voltage Directive 2006/95/EEC.
The Electromagnetic Compatibility Directive 2004/108/EC.
The Pressure Equipment Directive 97/23/EC.

Machinery Description: 1 Drawer Appliance for Chilled Storage.
Make: Adande®.
Type: Adande unitary drawer refrigeration
Manufactured by Adande Refrigeration Ltd.,
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.
EN 60335-2-89:2010 Household and Similar Electrical Appliances – Safety - Part 2 –89: Particular Requirements for commercial refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor.

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

Name: Ian Wood
Position: Managing Director
Who also signs on behalf of the manufacturer

ADANDE® REFRIGERATION
45 Pinbush Road
South Lowestoft Industrial Estate
Lowestoft
Suffolk
NR33 7NL.

4 Storage of Product

For the drawer to operate at full efficiency the heated seal should be maintained in good condition. It is essential that the product is not stored above the **"MAX FILL LEVEL"** line as this can damage the seal and affect the operation of the drawer.

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

Ensure that the product is never stacked above the **"MAX FILL LEVEL"** Label in the insulated container.

Do not place hot pans directly onto the plastic surface of the container, always use the metal cooling racks supplied, shown in *figure1.*

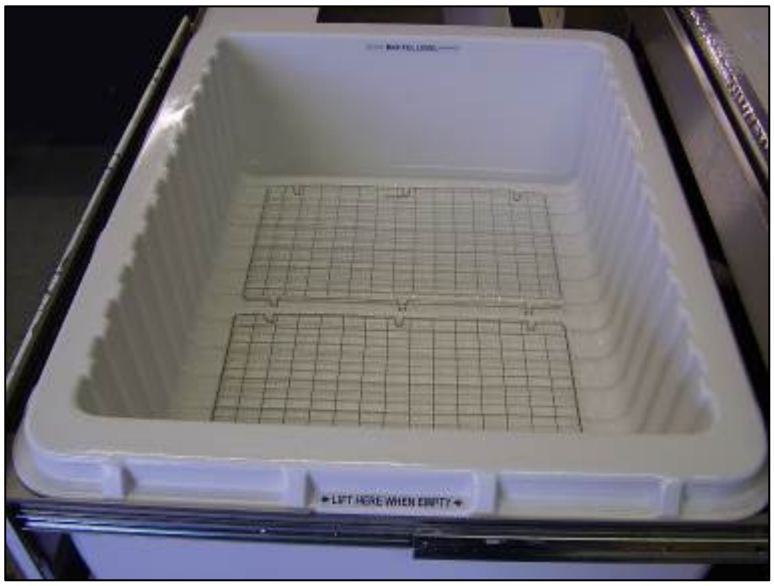

Figure 1

5 Operating Adande® - Temperature Settings

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). Blast chill models also give you the option to rapidly chill freshly cooked food. The four pre-set programmes provide the flexibility to rapidly chill most types of food without damage.

Temperature accuracy in the drawer will be maintained within ±2ºC of the set point.

Foods to be blast chilled should ideally be in shallow containers. Thin layers of food product will chill much faster than large joints of meat.

For best results, all food should be covered with a layer of cling film over the surface of the food.

5.1 The Display Controls

The front display panel is explained in *figure 2*. The important points to note are the blast chill cycle numbers and hold mode **"H"** highlighted in the display of the controller. The lights in the top left corner of the chequered flag button and program button indicate that a cycle or the hold mode is active.

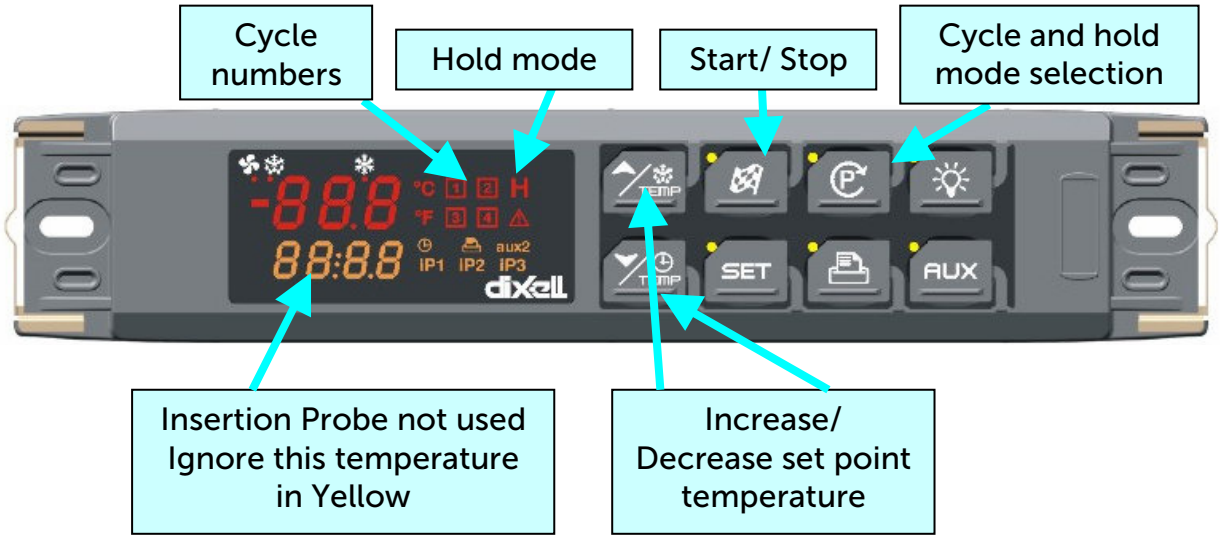

Figure 2

To Blast Chill

1. To stop the cycle push and hold the START/ STOP button  until the yellow light turns off.
2. Push and release the  button until the desired cycle is selected. The cycle number selected will be highlighted.

Cycle	Blast mode	1st Phase - Hard Chill		2nd Phase - Soft Chill		Total cycle duration (min)
		Duration (min)	Temperature (°C)	Duration (min)	Temperature (°C)	
1	Soft Chill			90	-1	90
2	Hard Chill	60	-15	30	-1	90
3	Soft Chill			120	-1	120
4	Hard Chill	80	-15	40	-1	120

3. Push and release the START/ STOP button  the yellow light will be switched on indicating that the blast chill cycle has started.

Normal Operation

To stop the cycle push and hold the START/ STOP button  until the yellow light turns off.

For **normal refrigeration or frozen storage** push  button until the **'H'** appears on the display and no cycle numbers are lit.

To change temperature push and release the  button this will show the current set point.

Then push and hold down the  button and the word **"SetH"** will flash 

Use the  and  buttons to either increase or decrease the set point temperature.

Push the  button again to store the new set point. If the set button is not pressed the temperature will revert back to previous setting.

Press  to activate the hold mode, the buttons  and  will be illuminated.

5.2 Defrost

The refrigeration system automatically defrosts. If a manual defrost is required then press the manual defrost button/temperature up button 

for 3 seconds.

5.3 Drawer Alarm

If the drawer is open for more than 10 minutes, the display in the control panel changes to **"DA"**.

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.

5.4 Error Alarm

If display reads **"rPF"** or **"EPF"**, a temperature probe has failed, and an engineer should be called.

The Adande® drawer will operate with a 15 minute on / 15 minute off cycle in the event of an **"rPF"** failure. This will help to maintain the stored product at a safe temperature, but precise temperature control will be lost. **"EPF"** will only affect defrosts, and these will be timed to maintain operation of the drawer. An engineer should be called as soon as possible for either fault.

5.5 Temperature Alarm

Should **"HA"** appear on the display, the drawer temperature has exceeded its set point by 7°C. Product core temperature should be inspected. If the Adande® drawer has recently been turned on, loaded with warm product or left open for a long period, this alarm could be displayed. If the temperature does not return to the set point temperature, an engineer should be called.

Should **"LA"** appear on the display, the drawer temperature has fallen below its set point by 7°C. Product core temperature should be inspected. If the Adande® drawer's temperature set point has recently been increased, this alarm could be displayed. If the temperature does not return to the set point temperature, an engineer should be called.

5.6 Electrical Connection

The Adande® drawer should be connected to a 230V, single phase, 50 Hz, standard socket outlet supply. The drawer is connected to the mains supply with a detachable supply lead, one end of which is fitted with a standard 13 amp 3 pin plug (fused at 13A). The other end of the supply lead, fitted with an appliance plug, is connected to the Adande® drawer as shown in *figure 3a* below.

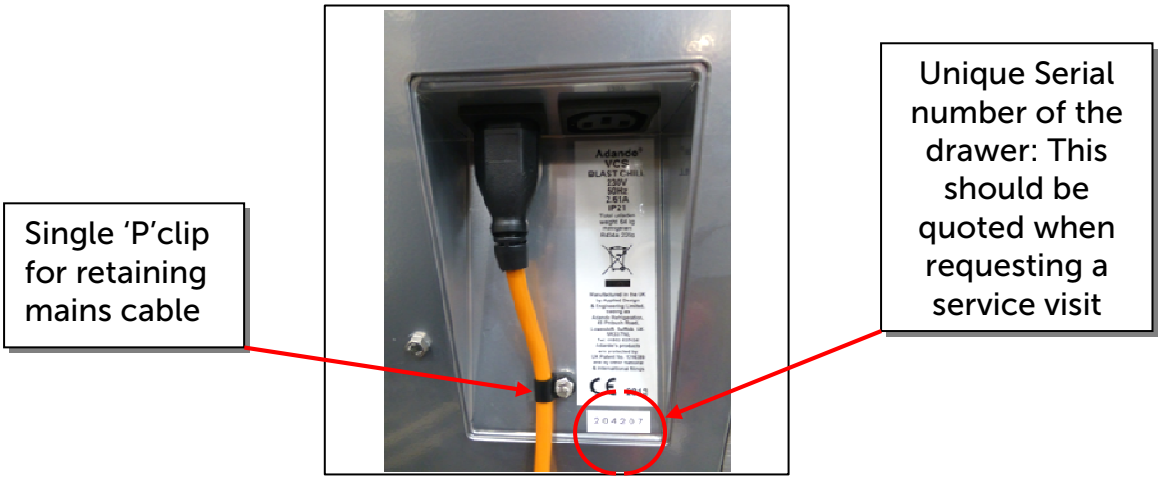

Figure 3a: Mains connection point

The unused socket on the right hand side in *figure 3a* can be used to provide a mains supply to additional Adande® drawers as shown in *figure 3b* below.

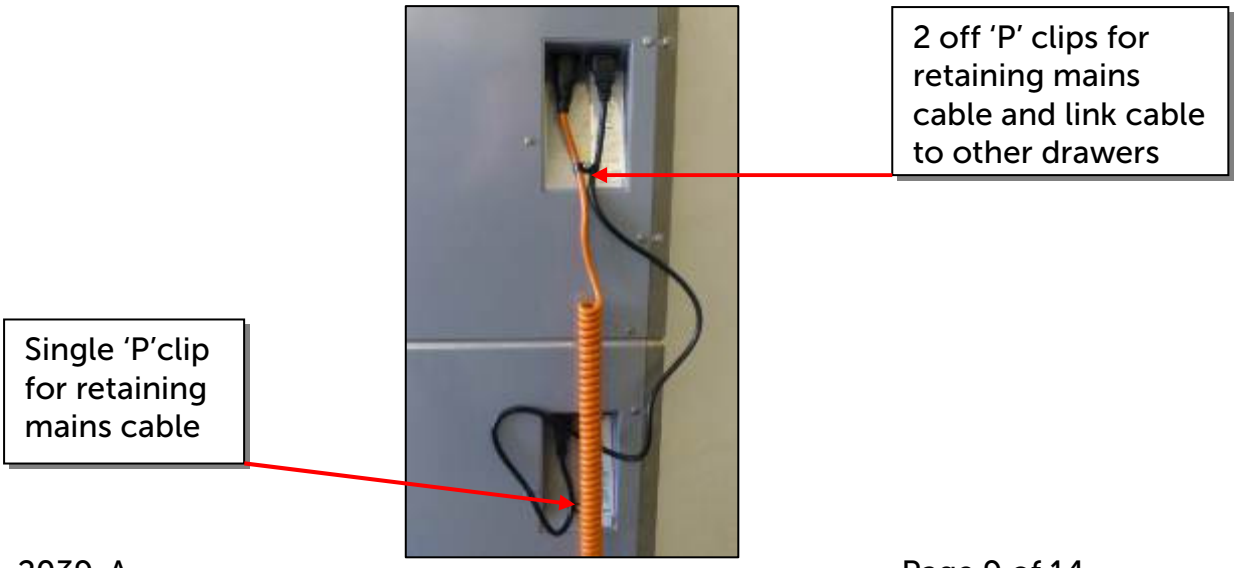

Figure 3b: Mains connection point

DO NOT REMOVE ACCESS PANELS WITH THE ELECTRICAL SUPPLYCONNECTED.

5.7 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.

Optimum performance is obtained at ambient temperatures between +16ºC (60ºF) and +38ºC (100ºF).

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

The Adande® drawer can be mounted on rubber feet, rollers or castors. When mounted on a castor base, the front two castors should have their brakes ON during normal use as in figure 4.

Figure 4: Lockable Castor

If the Adande® drawer is mounted on two rollers at the rear and rubber feet at the front, then to move the drawer either lift the front as shown in *figure 5* and push or pull into position, or use an open drawer as a lever to lift as in *figure 6,* this method may be preferable if drawers are stacked more than one high.

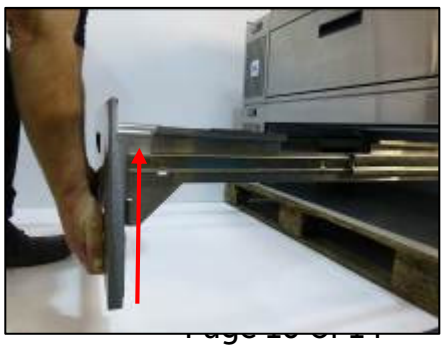

Figure 5 *Figure 6*

THE INSULATED CONTAINER SHOULD BE UNLOADED BEFORE MOVING

5.8 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. Failure to do so may invalidate the warranty. Your particular attention is drawn to the requirements of sections 6 and 7 of this document.

ACCESS PANELS MUST NOT BE REMOVED BY UNTRAINED PERSONNEL

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.

6 General Warning and Safety Precautions

6.1 Electrical

- Untrained personnel should not remove any of the access panels.
- The access panels should not be removed with the electrical supply connected.
- To disconnect the electrical supply, remove the plug from the electrical socket.

6.2 Operational Use and Cleaning

- Use only a soft cloth, water or mild soap solutions to clean the drawer.
- Do not use hard brushes or other items for cleaning.
- Remove any food which may have accidentally dropped from the food preparation surface into an open drawer or drawer runners.
- Do not leave drawers open for longer periods of time than necessary.
- If drawers are stacked, avoid opening more than one drawer at a time.
- Ensure products that give out acidic odours like vinegar, onions, etc. are sealed before placing in the insulated container.

6.3 General

- Do not exceed the maximum fill level or 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.

- Ensure drawer is installed and maintained on a flat, clean and level surface.
- If mounted on a castor base, ensure brakes are applied to the front two castors.
- 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.
- The drawer should be regularly inspected and checked against the requirements of this Operations Manual.

7.0 Drawer Maintenance

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.

These dirt and grease deposits should be removed weekly using the following procedures:

1. Clean the heated seal on a **weekly** or daily basis if required with a solution of warm water and mild detergent.

2. The insulated container can be totally removed from the drawer for deep cleaning. Clean the insulated container with an anti-bacterial cleanser.

NOTE: DO NOT USE SHARP UTENSILS

3. Brush any loose dirt from the condenser Situated inside at the back left of the drawer.	
4. Clean the steel surfaces with a polish cleaner. **NOTE:** **DO NOT USE STEEL PADS, WIRE BRUSHES, SCRAPERS OR CHLORIDE CLEANERS TO CLEAN STAINLESS STEEL, PAINTED SURFACES SHOULD BE CLEANED WITH MILD SOAP SOLUTIONS.**	
	

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

8 Appendix 1: Contact Details

Contact us

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