

# ***STORER REFRIGERATION & CATERING MANUFACTURERS LTD***

***WALK-IN FREEZERS, CHILLERS  
AND DRY GOODS STORES***

## ***USER MANUAL***

***DESIGN REVIEWED BY: G W Storer***

### ***OPERATING INSTRUCTION FOR WALK-IN COLD ROOMS***

#### ***WALK-IN COLD ROOMS***

- 1 The cold rooms are pre-set to operate between 0°C to 5°C (chillers) and between -18°C to -22°C (freezers). This setting is controlled automatically by a Hawco micro-processor controller (see attached sheet) mounted on the control panel, which is normally fitted to the front of the coldroom. (May be mounted remotely in rare cases). This controller also controls the automatic defrost mechanism which will operate approximately every 4 hours. Defrost typically ranges from 10-30 minutes in duration. During defrost the air temperature in the room will inevitably rise, this is normal and is not a problem, product temperature will not be affected.***

- 2 *Large temperature fluctuations will be observed if the door to the cold room is left open excessively, this is quite normal and the temperature should stabilise after the door is closed. It is advisable to avoid frequent door opening and to ensure that the door is kept closed as much as possible.*
- 3 *It is very important that the cold room is not overstocked and that the stock is only stored on the shelving provided and not on the floor or in such a way as to block off or restrict the airflow from the evaporator. Care should also be taken when loading or unloading the cold room not to damage or disturb the temperature-sensing probe mounted at ceiling level near the door.*

*If the above precautions are not strictly adhered to serious temperature fluctuations may occur and failure of the refrigeration system may follow. Care should also be exercised when handling stock directly below the evaporator so as not to dislodge the condensate drainage pipe-work.*

*Failure to observe the above precautions may breach the terms of our guarantee and subsequent repair costs will be the responsibility of the user.*

- 4 *The cold room doors are fitted with safety release handles, which, when pushed, will override the door locks allowing the doors to be opened from the inside. To close the doors a degree of force may be required to overcome the restriction afforded by the spring catch.*
- 5 *Lighting for the cold room is operated by a manual on/off switch on the front of the cold room. Cold room control panels have on/off switches that isolate the electrical services to the cold room.*

*We have enclosed a fact sheet of the microprocessor, which gives a guide to its operation and how to reset the temperatures. Generally speaking all our cold stores are set for the correct operating temperatures and should not require any further adjustment.*

#### COLD STORE MAINTENANCE AND CLEANING

*Our cold rooms are clad with plastic coated steel which should be cleaned with a non-abrasive detergent and a damp cloth to remove food stains and other marks.*

*Storer cold room refrigeration systems are hermetically sealed and the operating temperature is electronically controlled and pre-set during testing at our works.*

---

#### IMPORTANT MAINTENANCE PLEASE READ!

*The most important piece of maintenance on your coldroom/freezer is cleaning the condenser, on the majority of coldrooms this will be situated remotely away from the room, either in a plant room or outdoors. However, it is possible that the unit is built in to the front insulated wall of the room. It is important for you to find out where your unit is situated, if you are not able to find the unit please contact STORER REFRIGERATION and we will be able to let you know where it is. On a built in (integral) room the condenser is behind a slanted grille at low level on the outside of the coldroom, this grille should be removed and the condenser which looks similar to a car radiator should be brushed down and then hoovered out, this should be done every few weeks. On an outdoor unit the condenser should be brushed down and checked for blockages (such as leaves, polythene bags and paper etc.) on a regular basis, the condenser is normally facing the wall of the building on an outdoor unit. Failure to clean the condenser on your room may invalidate the warranty and at least cost you the price of a repair if any breakdown is deemed to be caused by a blocked condenser.*

*In the event of a fault developing causing an increase or decrease in operating temperature within the cold*

room please contact Storer Refrigeration on 0115 9200329 as soon as the fault is discovered.

Do not attempt to adjust the temperature set buttons unless instructed by our engineering department.

Please note:

**DO NOT ATTEMPT TO REMOVE ICE BUILD UP AROUND THE FAN UNIT COOLER IN THE COLD ROOM. CONTACT STORER REFRIGERATION AND SEEK ADVICE FROM OUR SERVICE DEPARTMENT STAFF.**

### CLEANING INSTRUCTIONS

*FREQUENCY - Using a proprietary cleaner clean chillers weekly and freezers at defrost.*

### METHOD

*Chillers:-*

- 1 Remove all food from the chiller storing it in a cool/cold place.*
- 2 Make up a sanitising solution using hand hot water.*
- 3 Remove all shelves and soak in solution.*
- 4 Replace drip tray (if applicable).*
- 5 Wash interior walls with a cloth wrung out in solution and scrub floors.*
- 6 Scrub all shelves, rinse and dry.*
- 7 Replace all shelves.*
- 8 Replace food items.*

*Freezers:-*

- 1 Clean freezers when defrosting, cleaning all interior surfaces as described above.*

### REMEMBER

- Only replace food items after checking for freshness and date coding.*
- Clean as quickly as possible.*
- Check fans and covers are clean.*
- Check door seals, reporting any damage.*

### SPECIFICATION FOR COLD ROOM

*Our cold rooms are constructed from modular panels and are skinned with 200 microns of food-safe plastic with 0.6mm galvanised dipped steel. This is the highest standard available from British Steel.*

*All joints on the cold rooms are sealed with silicon that is mould resistant and affords a total seal between panels to stop moisture or bacteria penetration. The locking door systems are by kason. This allows for an operator to get out from inside the cold room even if the doors have been locked. This is by use of a push release mechanism operated from inside.*

*The lighting of the cold rooms are in a bulkhead fitting which is waterproof and double insulated to stop any electrical short circuit if sprayed by water. We also use a double insulated waterproof switch to*

operate the light.

### REFRIGERATION SPECIFICATION

Refrigeration equipment is designed to give quick pull down of temperatures on all rooms. This is essential as many of the rooms are in constant use daily and the extra power will afford constant temperatures below  $-18^{\circ}\text{C}$  on freezer units.

The rooms are controlled by a micro-processor which gives automatic defrost complete with fan delay to stop any increase in temperature after defrost. The thermostat control has digital read out which is continually shown. It is factory set so it can only be adjusted within its design parameters.

### COLD ROOM SPECIFICATION

#### CHILLER APPLICATION

$-5^{\circ}\text{C}$  to  $+2^{\circ}\text{C}$  maximum temperature range. 80mm Modular panels are fastened together with camlocks which apply 250lbs per square inch pressure and lock the panels together.

The outer construction of the modular panels is 0.6mm galvanised steel with 200 microns of food safe white plastic bonded onto outer panels. The polyurethane is then foam injected into the panel giving a fully bonded panel. With our method of construction we are able to build panels to suit every shape and size required.

The door is also constructed from modular panels using kason door catches with easily replaceable door gaskets. The doors have an internal release and locking device that can be over-ridden from inside the cold room. All doors are fully rebated and have shelf closing door catch.

#### DEEP FREEZE APPLICATION

$-21^{\circ}\text{C}$  -  $-18^{\circ}\text{C}$  maximum temperature range.

Same specification as chillers with 80mm modular panels.

#### TECHNICAL SPECIFICATION

Insulated CFC free fire resistant polyurethane injected modular panels giving a total wall thickness of not greater than 80mm and U value not worse than 0.22 W/M<sup>2</sup>K.

#### COLD STRUCTURAL STRENGTH

Roof loading = 3m span 8.64 KN/M2.

### WALL CONSTRUCTION

Suitable for outside weather conditions. The white steel walls are of similar design to steel deck roofing as used for modular roofing in the construction industry.

Chiller design temp -5°C - +4°C.

Freezer design temp -21°C - -18°C.

Auto defrost.

Lighting bulkhead standard or as specified. Remote condensing units in weather proof galvanised houses.

Digital read out of temperature.

On/off switch house is white food safe control panel.

All joints are silicon sealed.

The floor is non-slip, Aluminium Checker Plate.

Fire rated to BS476 Part 7 Class 1 surface spread of flame classification.

### EQUIPMENT SPECIFICATION

#### CHILLER APPLICATION

Refrigeration equipment based on R404a refrigerant gas. A ceiling mounted multi fan louvre evaporator is used complete with electric defrost and fan delay. A embraco hermetic condenser is used complete with sight glass drier, metal unit house, low pressure switch and local isolator switch.

#### DEEP FREEZE APPLICATION

Refrigeration equipment based on R404A refrigerant gas. A ceiling mounted multi fan evaporator is used complete with electric defrost and fan delay. A l'unite hermetic condenser is used complete with sight glass drier, solenoid valve for gas pump down, low pressure switch, local isolator switch and metal unit house.

#### CONTROL PANEL

Electronic control panel complete with digital read out of temperature, auto time defrost, fan delay unit, defrost auto termination, on off isolation and electrical contactors for refrigeration equipment.

#### EXTRA EQUIPMENT

High Low alarms

Chart recorders

Lighting delay

Personnel trapped alarm.

#### COLD ROOM ROOF SPECIFICATION FOR OUTSIDE USE

All our outside cold rooms have a PVC tailored roof cover, purpose made to seal the entire area in one continuous sheet.

### Specification Details

- *Base fabric 1100 D/TEX High Tenacity Polyester.*
- *Coating - flexible plasticised PVC to both sides.*
- *Tensile strength - warp 2000, weft 1500 BS3424/5A.*
- *Tear strength - BS3224/7B.*
- *Coating adhesion - BS3424/9B.*
- *Cold crack - BS3424/10 -25°C.*
- *Colour - grey, green or white.*

*This roof cover system requires no maintenance and is designed to last the life time of the cold store. If any damage is caused to the roof a new sheet can simply be fitted without any disturbance to the cold room.*

### CONDENSER SPECIFICATION

*All our condensers work on R404A refrigerant. We use hermetically sealed units designed to work at 43°C maximum ambient. We use embraco condensing units. A purpose built unit house made from galvanised steel is provided for units that are sited outside together with local electrical isolation.*

### EVAPORATOR SPECIFICATION

*All our evaporators are LUVE made from copper and aluminium coils. The coils have a Turbofin Finning which gives a superior heat exchange coefficient 25% higher than traditional coils. Electric defrost is standard on all our evaporator applications.*

### CONTROL PANEL SPECIFICATION

*All our control panels are sprayed white to match the cold room. They have digital read out of temperature and an on/off isolation switch. The panels have the appropriate electrical controls to operate the condenser, evaporator and lighting to the cold rooms all in accordance with 17<sup>th</sup> Edition Electrical Regulations.*