

HUSSMANN®



H1 Self Contained Multideck Case

Installation Manual

Reference: IM-1006

The following models are covered by this Manual
H1-10 & H1-14

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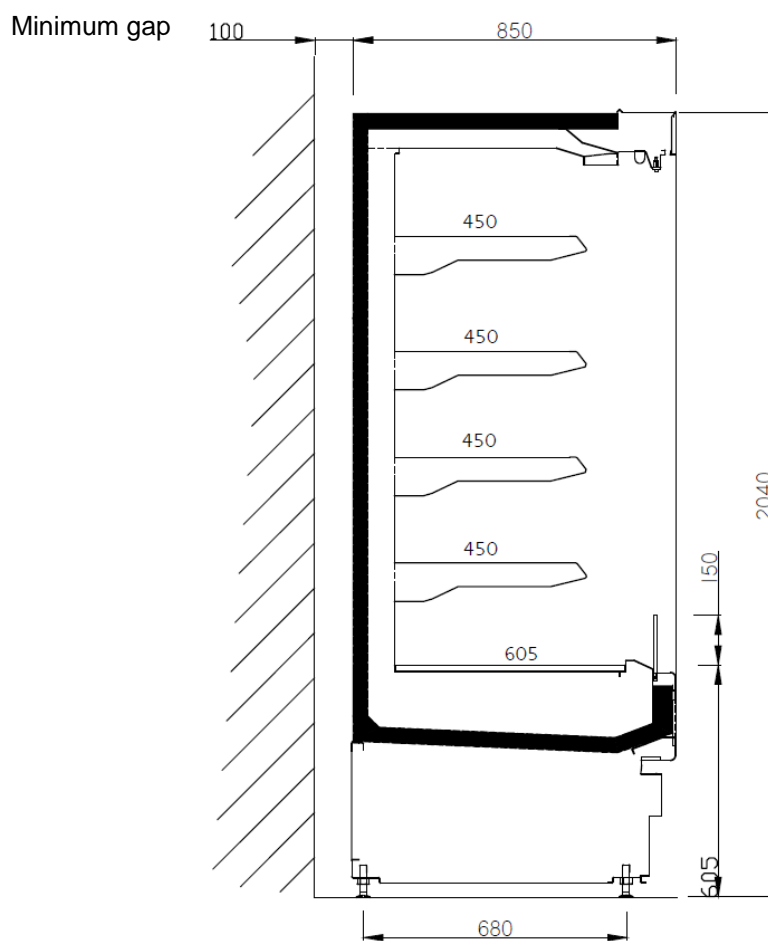
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Pre installation

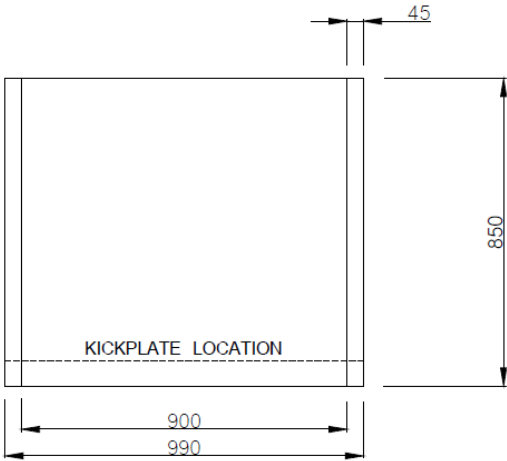
Warning!

All refrigeration, electrical and plumbing work must be carried out by licensed and appropriately trained mechanics

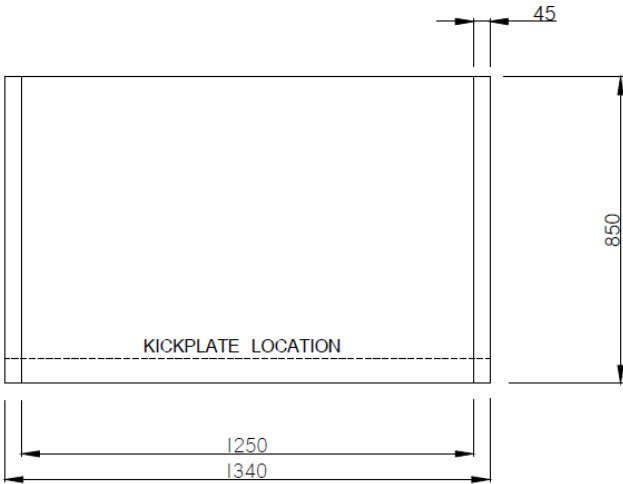
Case Services Dimensions



H1 Cross Section



H1-10 Foot Print



H1-14 Foot Print

figure 1 service layout

Group Installations

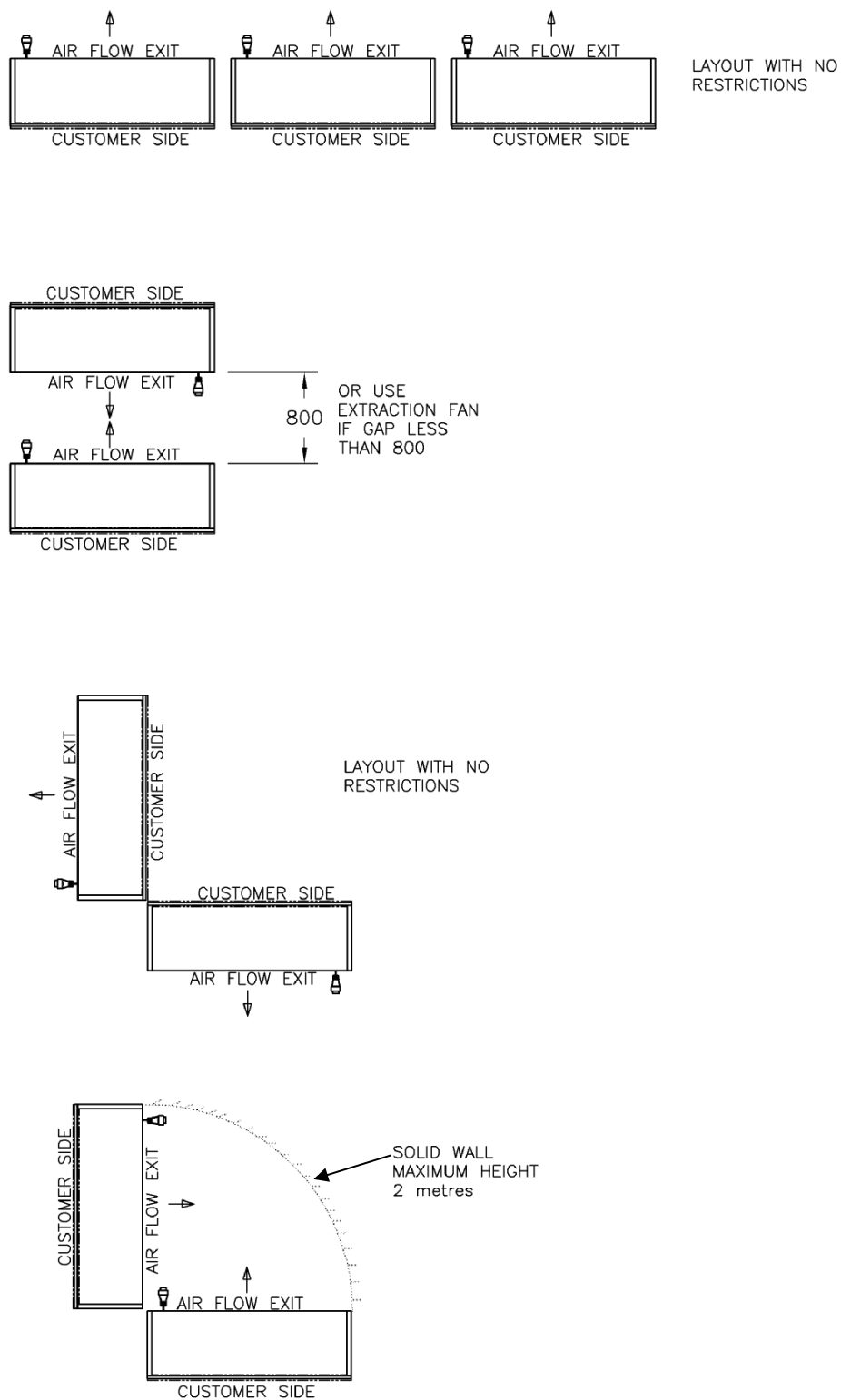


figure 2 acceptable group configurations

NOTE:

- Installing into an alcove is not recommended and will void the warranty
- This information is a reference only. Always refer to the latest **Product Engineering Data sheet (PED)**.

Electrical Connection – access from rear of case. Plug and lead is coiled up underneath the case, next to bottom electrical box.



figure 3 rear view of case with electrical plug

Operating Environment

Cases have been factory tested to AS1731, 25°C at 60% RH. For a better performance and having operating safety margin, store condition is recommended to be operating at or below 24°C at 50% RH. Otherwise an “air ventilation kit” may be required to avoid under or rear cabinet sweating

Air circulation gaps between the wall and the back of the case are shown in Figure 1 & 2, but reference should be made to the PED for the latest, up to date information.

Cases must not be positioned in areas that may be subject to heat or air currents such as ventilation ducts, open doors or windows, direct sunlight, electric fans or ovens, etc. Otherwise the cabinet may show poor temperature performance or the operating life is affected. If fitted within a gondola run refer to appendix 2



NOTE

Refer to product MSDS for all hazardous substances used during installation in relation to their application, PPE, first aid, disposal and emergency management.
Refer page 20 (Risk Analysis)

For MSDS sheet contact your Hussmann Representative

Handling and Transporting cases

Case dimensions can be found in the product engineering data sheets.
(This manual is a guide only. Always refer to the latest case information available from Hussmann Customer Service)

Always ensure that the moving device is of a suitable type, and has sufficient lifting capacity for the case weight and dimension. Always lift cases from the underside.

Refer to and follow the manual handling policies of your Company when moving cases.

**CAUTION**

Care must be taken to avoid damage to drainage outlets and electrical equipment mounted under or at the rear of cases.

Shipping Damage and Shortages

If possible, it is recommended that packaging be removed from the cases before they are moved into the store.

After removing packaging, inspect the case for any shipping damage and ensure that all case inclusions, such as trims etc are accounted for. Immediately report any shipping damage to the carrier and inform Hussmann of any short supplies.

Installation**NOTE**

Information in this manual is to be followed in conjunction with specifications, work practices and regulations of the customer, installing company and relevant industry.

Positioning and Levelling**CAUTION**

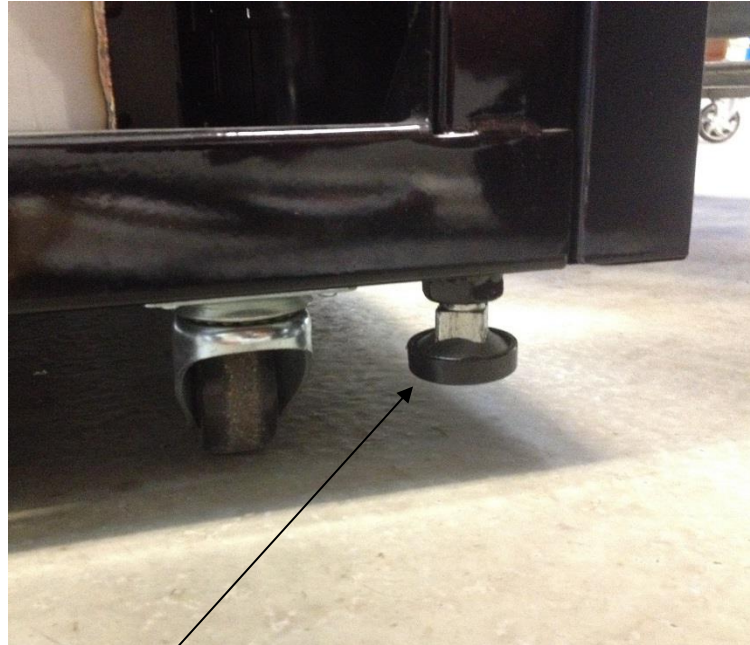
Ensure the lifting capacity of the trolley, etc if used is sufficient for the case. Refer to the product engineering data tables at the front of this manual for case weights and Risk Analysis (page 14).

To position the cases:

Once case is in position adjust the feet so the case is fully supported by the feet and level (Ensure the case is level to **within +/- 1.5mm** from front to back and side to side and chassis of case is **NOT twisted**).

**NOTE**

It is important that all cases are level for correct case operation.



Make sure **all** adjusting feet, NOT just the ones at the end of the case, are adjusted firmly to ensure case does not sag

Figure 6 Case levelling

Mounting fixtures

Replace any racks and shelves etc that may have been removed during installation, to store requirements

**NOTE**

Incorrect shelf configurations may compromise case performance.

Commissioning

Cleaning case

- Remove the PVC protective coating on stainless steel, where applicable
- Remove any residue, silicon or tape marks with a cloth moistened with rubbing alcohol
- Remove all debris from in and around the case

- Wipe case with a clean, damp cloth, if necessary

Starting up

- Check supply power is ready and correct voltage. (by Licensed Person)

Turn case power on

Start up checks – by qualified persons only

Check that all fans and lights are working correctly.

Check and set if necessary expansion valves as per Product Engineering Data – Available from Hussmann.

Approximately 24 hours after start-up, check that the case is at correct operating temperature (refer the Product Engineering Data).

Decommissioning

Plan and risk assess the decommissioning process to include the following:

Isolate the case.

Removal of the case is to be in the reverse order of installation listed previously.

Disposal

Case disposal is to be carried out by the following:

Metal component removed and recycled

Remaining by commercial waste management

Maintenance

General

- Do not use abrasive, solvent, ammonia or oil based cleaners,
- Do not use steam or high pressure systems to clean the case as they may reduce the life and alter the performance of the case
- The case does not have a floor drain. **Do not** bucket more than 2 litres into the case during cleaning.
- Avoid contact between cleaning products and electrical components. Keep electrical connections dry at all times.
- Wear protective gloves to prevent scratches or cuts
- Wear safety glasses when there is a risk of splashing from water and cleaning solutions

Daily

Case should be cleaned and inspected by store staff on a daily basis

Inspection

- If an alarm system is not part of the refrigeration installation, the temperature of each case should be checked on a daily basis via the thermometer that is installed

The case temperature should be within the following ranges

1°C – 5°C unless on defrost

If it is consistently outside the above temperature ranges, contact your service provider.

- Visually check the case for damage or spills and take appropriate remedial action.

Clean

- **Do not use hot water on cold glass surfaces as the glass may shatter and cause serious injury.**
- **When flushing the waste drain, do not use high-pressure water hoses and be careful not to introduce water faster than the waste outlet/drain can drain it. The case does not have a floor drain. Do not bucket more than 2 litres into the case during cleaning**



CAUTION

Do not climb in or on the case as this may result in personal injury and/or case damage.

1. Remove stock from the case and store below 5 °C
2. Turn off power to the case (electrical)
3. Remove all price tickets and any foreign materials from the case. Particularly the air return grill and defrost pan.
4. Remove shelves and clean with a sponge, warm water and mild detergent, then rinse and wipe dry
5. Remove the base trays, wash with mild soapy water and rinse.
6. Carefully flush the waste drain with a bucket of water and allow the base to drain.
7. Clean the drain area with a soft brush and warm water.
8. Clean the inside of the case (paying particular attention to the perforations in the rear panels) with a clean soft cloth, warm water and mild detergent.
9. Clean glass or mirrored surfaces with a clean soft cloth and mild glass cleaner.
10. Wipe LED lamps with a dry cloth.
11. Clean bumpers and other plastic parts with a soft cloth and mild detergent, then wipe dry with a clean cloth
12. Clean the outside of the case with warm water and a disinfectant solution.
13. Replace base trays and shelves and turn on power.
14. Allow the case to attain correct working temperature (approximately 30 minutes) and restock the shelves.

NOTE: After cleaning, make sure to clean the area around the case to prevent slips and falls

Monthly

A thorough condenser clean and maintenance check should be carried out on a **monthly** basis by qualified and approved refrigeration and electrical engineers. The following procedures should be undertaken as a **minimum**.

Cleaning

1. Clean the condenser unit with a soft brush or a vacuum cleaner. The dust and fluff obstructs the good air circulation. To reach the condenser unit, remove the protection grill, clean it very carefully (avoid touching other components) and put the grill back in its place.

Six monthly

A thorough cleaning and maintenance check should be carried out on a **six monthly** basis by qualified and approved refrigeration and electrical engineers. The following procedures should be undertaken as a **minimum**.

Inspection

1. Check that all case panels and trims are secure and undamaged
2. Check for rust and paint damage
3. Ensure all cable connections, including screw terminals, earth leads and straps are secure
4. Ensure insulation to all electrical components including solenoid valves, fans, heaters, controls, earth terminals and lights are sound
5. Carry out electrical safety tests, including earth continuity and insulation resistance
6. Check the defrost water dissipater tray heater is de-activated. When empty the water level is below the sensor tip.
7. Ensure that there are no refrigerant leaks.
8. Check that all fans, valves, lights and controls are working

Clean



CAUTION

The case does not have a floor drain. Do not bucket more than 2 litres into the case during cleaning.

1. Remove stock from the case and store below 5 °C
2. Turn off power to the case
3. Remove shelves and clean with a sponge, warm water and mild detergent, then rinse and wipe dry
4. Remove and clean the base trays with a sponge, warm water and mild detergent, then rinse and wipe dry
5. Remove any foreign material from the base of the case
6. Clean the evaporator coil and check it for damage

7. Remove honeycomb vents and wash in warm soapy water (All water must be removed from the honeycomb cells before placing it back in the case). A vacuum cleaner may also be used to clean the honeycomb.
8. Wipe LED lamps with a dry cloth.
9. Carefully flush the waste drain and drain trap with a bucket of water and allow the base to drain.
10. Clean the waste drain/trap with a soft brush and warm water.
11. Wipe down the inside of the case, including the perforated air delivery panels and air return grill with a clean soft cloth, warm water and mild detergent.
12. Clean glass or mirrored surfaces with a clean soft cloth and mild glass cleaner.
13. Clean the condenser unit with a soft brush or a vacuum cleaner. The dust and fluff obstructs the good air circulation. To reach the condenser unit, remove the protection grill, clean it very carefully (avoid touching other components) and put the grill back in its place.
14. Clean the dissipater tray - To reach the dissipater tray, remove the protection grill, slide out the tray, remove the lid, clean (avoid touching other components) and replace in backward order ensuring the drain is over the lid entry point of the tray
 - a. General clean with a sponge, warm water and mild detergent, then rinse and wipe dry.
 - b. Clean any rust, salt or deposits on and around the water level sensor assembly. There should not be any deposits that cause conductance to the sensor and activate the heater.
15. Clean the outside of the case with warm water and a disinfectant solution.
16. Clean bumpers and other plastic parts with a soft cloth and mild detergent, then wipe dry with a clean cloth
17. Replace base trays and shelves and turn on case power
18. Reload stock after 30 minutes.

Yearly

It is recommended that the dissipater tray sensor tip assembly be replaced

Servicing

No servicing of Hussmann cases, including the replacement of LED lamps, is to be undertaken by store staff. Please contact your service provider for all maintenance queries.

Trouble shooting

issue	possible reason	remedial action
Product temperature is higher than requirement	Store condition is warmer or more humid than climate class 3 (25°C/60%RH).	Check store air conditioner operation.
	Refrigeration plant is not running or operating at inappropriate settings or conditions.	Check for compressor unit if it is running. If unit is running and other possible reasons are eliminated then call refrigeration mechanic to check plant operation.
	Evaporator pressure is not set correctly.	Check suction pressure settings at the case and if required adjust as per case specification.
	Insufficient or no air flow appears at the case air curtain.	Check if case fans are turned on or operating correctly. If any doubt of fan operation contact technician.
		Check if coil is frozen up. If frozen then check defrost settings as per the manufacturers guideline or set to suite the store operating condition. A colder store may require longer defrost duration. A humid store may need more frequent defrost.
	Case shelf arrangement has been deviated significantly from original specified setup.	Re-do the shelf arrangement as per the original specification.
	Air Return is blocked by merchandise.	Remove merchandise to behind the load limit labels.
	None of above.	Contact Hussmann.
Products are freezing up.	Store condition is too cold compared to design climate class 3.	Check store air conditioner operation. If store condition cannot be lifted, then adjust cabinet evaporator pressure and defrost strategy to suite.
	Case evaporator pressure is lower than specification.	Adjust cabinet evaporator pressure to suite.
Cabinet exterior is sweating.	Store humidity is high.	Check store air conditioner operation.
	Insufficient ventilation.	Check case ventilation under and at rear of the case. A fan kit may be needed. KITS: (Option Extra – ref Page 17) Case to Wall: 2500: 96A15-035 3750: 96A15-036
	Icon Controller settings (if fitted).	Check settings.
	Case SST.	SST set too low.
LED Lights are not working.	No power supply.	Check supply is “on” and light switch is working.
	LED Lamp failed.	Replace lamp.
Water spill on the floor.	The dissipater tray is full or leaking.	Contact service provider.
	Store humidity is too high. Boiling system is not functioning.	Check controller, wiring, level sensor and heater
The compressor doesn't start after 2 minutes.	The supply cables is disconnected.	Reconnect plug.

	The circuit breaker has tripped.	Contact service provider.
	The unit is damaged	Contact service provider
It has increased noise	The condenser is dirty	Contact service provider
	The evaporator is blocked with ice	
	The compressor is damaged	
The dissipater heater is on despite the tray water level being low	Level controller faulty	Contact service provider
	Rust, salt or other deposits bridging the sensor input signal	
	The sensor tip(s) short circuited	
The compressor never stops	The condenser is dirty	Contact service provider
	The fluid is missing	
	The digital control unit is not regulated or is damaged	
	The evaporator is blocked with ice	

Table 1 Troubleshooting

Appendixes

Appendix 1 **Wiring diagrams** – Supplied with each new case.

Appendix 2 **Warranty**

The information in this manual is for “Qualified Persons Only”. It is **NOT** an Installation Guide for **“NON Qualified Persons”**.

To obtain warranty information or other support, contact your nearest Hussmann representative.

Please include the following:

Customer site location.

Cabinet model & serial number of product.

Reason for warranty.

Appendix 3 Risk analysis

Hazard	Control Measures
Electrical - Replacement of electrical components	Request a service call. Electrically isolate cases before works
Ergonomic - Moving/ positioning/ adjusting cases	Staff must be trained in the correct procedures for setting up cases and ergonomic practices. PPE must be worn
Falling - Checking wiring during servicing	Use of barriers & fall arrest systems as appropriate & in accordance with State & Territory Legislation. Safe working at heights
Entanglement - Contact with fans when cleaning	Electrically isolate cases before work is carried out. Staff training,
Cuts and stabbing - Potential for cuts from broken fluorescent tube or during tube replacement	Electrically isolate cases. Staff not to replace tubes. Call service provider. PPE must be worn.
Electrical - Potential for electric shock when cleaning electrical fittings and components	Electrically isolate cases before work is carried out. Staff training, RCD. Keep electrical connections dry at all times.
Falling - Climbing on shelves	Staff must be trained in OH&S procedures. MUST not climb on shelves or cases.
Crushing - Hands or fingers may become pinched or crushed during the positioning of base trays, shelves & stock	Staff must be trained in the correct procedures for setting up cases and ergonomic practices
Slipping - Drain may leak or become blocked causing water spillage	Visual Inspection and regular maintenance. Request service call when necessary.
Cuts and stabbing - Potential for cuts caused by damaged or missing parts	Visual Inspection and regular maintenance. Request service call when necessary. PPE must be worn when handling broken or damaged parts.
Ergonomic - Stretching during the cleaning of the case and positioning of stock and shelves leading to strains and sprains	Staff must be trained in the correct procedures for cleaning cases & ergonomic practices. Cleaning tools which reduce the need for stretching should be used.
Slipping - Surfaces may become slippery due to spillage from the case during operation or cleaning	Visual Inspection. Appropriate remedial action.
Cuts and stabbing - Potential for cuts caused by sharp edges & evaporator coil during cleaning	PPE must be worn by staff
Cuts and stabbing - Cleaning cold glass surfaces with hot water	Staff must be trained in the correct procedures for cleaning cases and ergonomic practices
Crushing - fingers, hands or body between product trays	Operators to always lift product trays using finger pulls provided, ensuring the area is clear of other persons.
Electrical - electrical connections in cases	Electrically isolate cases before work begins. Must be carried out by a service provider. Staff training.

Table 2 Risk analysis