Blast Chiller
Installation & Operation Instructions

MCR/MCF – 33101
MCR/MCF – 33102
MCR/MCF – 33101PT
MCR/MCF – 33102PT

Master-Bilt Products
908 Highway 15 North
New Albany, MS 38652
Phone: (800) 684-8988

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INTRODUCTION

THANK YOU for purchasing a Master-Bilt® Blast Chiller. The Master-Bilt® Blast Chiller is designed for accurate and rapid field assembly.

⚠️ NOTICE
Read this manual carefully before you begin Blast Chiller installation or operation. Failure to do so could result in personal injury or damage to your Blast Chiller.

⚠️ NOTICE
This manual is a necessary and permanent part of your Blast Chiller. Always keep this manual accessible for installation and operation procedures.

This manual cannot cover every installation, use or operation situation. If you need additional information, call or write our customer service department for assistance.

MASTER-BILT Products
908 Highway 15 North
New Albany, MS 38652
Phone: 1-800-684-8988

If this manual or any of the warning labels on your Master-Bilt® Blast Chiller are marred or destroyed, contact Master-Bilt to replace them.

Locate the serial number plate on the Blast Chiller. Write the 10-digit serial number below. Your Master-Bilt dealer needs this number when you order parts.

Serial Number ______________________

"COPYRIGHT © 1994 BY: STANDEX INTERNATIONAL CORPORATION"
ABOUT THIS MANUAL

Please read this entire installation manual before you install your Master-Bilt® Blast Chiller. It provides information on installation and operation of the Blast Chiller. It is very important that you complete each step of installation in the order that the steps appear in the installation sections of this manual. Otherwise, you may find yourself unnecessarily disassembling and re-assembling parts.

The information and graphics in this manual are common to installation of all Master-Bilt® Blast Chillers. A customized print is provided specific to your order. Your print provides information specific to your design and installation. This manual indicates when you should refer to your site-specific drawings.

BLAST CHILLER MODELS

-All Blast Chiller electrical connections should be made per the wiring diagrams found in this manual for the electrical box and control panel.

-All Blast Chiller refrigeration connections should be made per the attached refrigeration diagrams and charts found in this manual according to the correct model. Refer to the correct air or water-cooled schematic per the condensing unit markings and labels.

-All Blast Chillers accept the same size rack.
WARNING LABELS AND SAFETY INSTRUCTIONS

RECOGNIZE SAFETY INFORMATION
This is the safety alert symbol. When you see this symbol on your equipment or in this manual be alert to the potential for personal injury or damage to your Master-Bilt® Blast Chiller.

Be sure you understand all safety messages and always follow recommended precautions and safe operating practices.

UNDERSTAND SIGNAL WORDS

Important safety information is presented in this section and throughout the manual. These signal words are used in the warnings and safety messages.

⚠️ DANGER
Severe injury or death will occur if you ignore the message.

⚠️ WARNING
Severe injury or death can occur if you ignore the message.

⚠️ CAUTION
Minor injury or damage to your Master-Bilt® Blast Chiller can occur if you ignore the message. CAUTION also calls attention to safety messages in this manual.

⚠️ NOTICE
This is important installation, operation, or maintenance information that you should pay special attention to. If you ignore this information, you may damage your Master-Bilt® Blast Chiller.
AVOID INJURY FROM HIGH VOLTAGE ELECTRICAL SHOCK

Disconnect power before cleaning or servicing the Blast Chiller. Do not spray with water or steam. Use a damp cloth to remove dirt.

Be sure Blast Chiller is grounded. Check ground connection. Do not use if unit is not grounded.

PREPARE FOR EMERGENCIES

Be prepared if a fire starts. Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital and fire department near your telephone.

WARNING TO EMPLOYERS
Never allow small children inside or around your blast chiller. They can become trapped inside and be injured or killed.
FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and safety signs on your equipment. Keep safety signs in good condition. Replace any missing or damaged safety signs.

Learn how to operate the equipment and how to use controls properly. Do not let anyone operate without instruction and proper training.

⚠️ NOTICE TO EMPLOYERS
It is the employers’ responsibility to make sure all persons around this equipment know where the inside latch is and how it works.

Keep your equipment in proper working condition. Unauthorized modifications to the equipment may impair the functions and/or safety and reduce equipment life.

OBSERVE SAFETY SIGNS

Your Master-Bilt® Blast Chiller requires two electrical supplies: an electrical supply for the blast chiller box, fan, controls, etc., and an electrical supply for the condensing unit.

ELECTRICAL CONNECTIONS

The wiring will be performed by a qualified and certified electrician.

Improper or faulty hook-up of electrical components of the walk-in can result in severe injury or death.

Installation of the refrigeration and electrical components of the walk-in must be performed only by a refrigeration mechanic or licensed electrician.

⚠️ NOTICE
Electrical connections must be done in accordance with all applicable local, regional, or national standards as well as the National Electrical Code.

⚠️ NOTICE
Installation and service of blast chiller must be performed by licensed refrigeration mechanic and/or licensed electrician.
INSTALLATION

PRE-INSTALLATION

Read and comply with the following information:

- Packing List
- Van Shipment (if applicable)
- Freight Claims
- Site Checklist

INSTALLATION

Special equipment needed for installation includes:

- Fork lift or hoist

Your envelope contains:

- Your Master-Bilt® Blast Chiller Installation and Operations Manual
- Customized drawings and diagrams for your specific order:
  - Installation diagram
  - Panel numbering diagram
  - Wiring diagram*

* 2 identical wiring diagrams are provided:
  One is included in the envelope for use at the installation site.
  One is a permanent part of your manual.

⚠️ NOTICE
Master-Bilt recommends you practice safe lifting and safe moving techniques.

AFTER INSTALLATION

Complete the Installation Data on pages 44 to 46.
Retain one copy.
Return one copy to Master-Bilt.
Leave one copy at the installation site.
PACKING LIST

Assure that all components on this packing list are included when unit arrives:

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>______</td>
<td>Insulated Wall Panels</td>
</tr>
<tr>
<td>______</td>
<td>Insulated Ceiling Panels Assembly</td>
</tr>
<tr>
<td>______</td>
<td>Control Box</td>
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<tr>
<td>______</td>
<td>Top Trim Panels</td>
</tr>
<tr>
<td>______</td>
<td>Top Trim Panel Mounting Strips</td>
</tr>
<tr>
<td>______</td>
<td>Evaporator Coil Assembly</td>
</tr>
<tr>
<td>______</td>
<td>Evaporator Fan Assembly</td>
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<tr>
<td>______</td>
<td>Interior Top Trim Panels</td>
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<td>______</td>
<td>Interior Side Trim Panels</td>
</tr>
<tr>
<td>______</td>
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</tr>
<tr>
<td>______</td>
<td>Blast Chiller Rack</td>
</tr>
<tr>
<td>______</td>
<td>Compressor/Condenser Unit</td>
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VAN SHIPMENT

If your Blast Chiller is shipped by van, it is not crated. Components are blanket wrapped and secured carefully in the van. Be sure to check your packing list (page 8) to be sure all parts are received.

If parts are missing or damaged:
- Make a notation to that effect on the driver's Bill of Lading
- Notify the van company at once

Since van shipped parts are not crated, handle and store them carefully before you begin installation.
FREIGHT CLAIMS

IMPORTANT

FREIGHT CLAIMS INSPECTION:

You are responsible for all claims. It is vitally important that upon arrival, all cartons and crates are inspected for visible damage. If at all possible, cartons and crates should be opened immediately to check for concealed damage within. All cartons and crates must be saved until the unit is completely removed from the carton so concealed damaged claims can be filed.

You, as the consignee, must file freight claims with the delivering truck line. If there is any question whatsoever regarding the condition of the equipment, this question should be noted on the bill of lading, which you sign as a delivery receipt.

All shortages must be noted on the bill of lading as the shipment is received. If a bill of lading is signed as complete for the delivering truck driver, there is virtually no way to secure a claim for shortages which are found later.

MASTER-BILT Products
908 Highway 15 North
New Albany, MS 38652

Phone: 1-800-684-8988
PRE-ASSEMBLY PROCEDURES

HANDLING AND SET-UP PRECAUTIONS

It is the responsibility of the installer to use safe unloading, handling, and construction practices. If you have any questions about proper installation of the unit or accessories, contact Master-Bilt.

⚠️ NOTICE
Use material handling procedures appropriate to the job you are doing. Failure to use proper loading or handling procedures or to follow manual instructions can cause bodily injury or damage to your blast chiller.

Forklifts used to handle skids or panels must have forks at least four feet long and set far enough apart to adequately support panels or skids (see Figure Below). Forklifts must have the capacity to support panels weighing two pounds per square foot each.

STORAGE

When the unit must be stored at the job site prior to set-up, it is very important that it be stored properly.

⚠️ NOTICE
The panels should be stored on a level area eliminating the risk of the panels falling and injuring someone. The panels being stored should not be stacked over 2 skids high.

Whenever possible store the unit indoors. Panels stored indoors may be stored in their original factory packaging. If it is necessary to store panels outdoors, stack them vertically on skids, with spacers between the panels. This protects the panel edges and provides proper ventilation. This method of stacking permits drain-off of moisture and guards against rust stains.

Panels should be covered with a waterproof covering to protect them from the weather. Master-Bilt recommends black polyethylene sheeting, which keeps sunlight out and eliminates the "greenhouse" condition, which occurs when clear plastic is used. In heavy traffic areas, it is advisable to place protective rails around stacks of panels to guard them from any possible damage.
SITE CHECKLIST

-Inspect the area where your Master-Bilt® Blast Chiller will be installed.
  1. Check to make sure the floor is level.
     a. The entire floor under the Blast Chiller must be level, clean, and smooth.

⚠️ NOTICE
The existing surface must be level before the blast chiller is installed. If it is not, leveling must be performed to insure proper installation.
If the floor area under the Blast Chiller is not level and smooth, have the area grouted.

2. Check the ceiling height above the Blast Chiller area:
   a. Refer to the enclosed print specific to this project.
   b. The top area of the Blast Chiller must be accessible for servicing.
   c. Make sure proper clearance is allowed.

3. Assure a drain is located near the Blast Chiller.
   a. Make sure the drain is located relative to the enclosed Blast Chiller print.
   b. Measure and locate where the drain will exit the Blast Chiller box.

4. Assure electrical supply is near the Blast Chiller.
   a. Review the enclosed Blast Chiller print to determine the best location for the (customer supplied) electrical disconnects for the two electrical supplies required.
      i. On an adjacent wall for blast chiller.
      ii. At condensing unit.
   b. Measure and locate where the electrical supply will be located.
   c. Review the enclosed Blast Chiller prints for voltage, amperage, and phase and location.

5. Assure adequate clearance is allowed for the door to the Blast Chiller to swing open.
BLAST CHILLER BOX INSTALLATION

STEP 1

In this step you will prepare the floor and install either the wall angles, or optional floor pan or optional floor.

WALK-INS WITHOUT FLOORS

- Locate the Blast Chiller print sent with the unit.
- Mark the floor with the inside dimensions.
- Check the marked area for:
  1. Level surface
     a. Floor must be completely level around wall parameter.
     b. Add grout as needed
  2. Surface condition
     a. Surface must be smooth.
     b. Add grout as needed
  3. Cleanliness
     a. Sweep and clean area to assure surface is free of dirt, debris, water, oil, and grease.
  4. Adequate space.
     a. Allow for insulated panel thickness if the Blast Chiller location is against a wall or partition.
     b. Measure between the inside flange and the wall to assure adequate space is allowed.
     c. Refer to the Blast Chiller print (the standard Master-bilt panel is 4” thick)

-Correct any of the above problems with the floor BEFORE proceeding with Blast Chiller installation

-On floorless-type walk-ins you may use 1-1/2" x 1-1/2" floor angles with which to attach the bottom of all wall sections or screeds to the existing floor.
-Attach the floor angles to the existing floor before the wall panels are installed.
-Make sure that the angles are fastened to the floor straight and square, and that they are spaced so that the wall panels can be placed on top of the angle flange attached to the floor.
-Seal with NSF approved sealant as shown.

If you are not sure about any of the above conditions, STOP.
Call Master-bilt at 1-800-647-1284.
WALKINS WITH FLOOR PAN

-Locate the Blast Chiller floor pan.
-Move the floor pan into position (wear heavy gloves).
-Scribe the floor pan location.
-Move the floor pan aside.
-Check the scribed area for:
  1. Level surface:
     a. Floor must be completely level.
     b. Add grout as needed.
  2. Surface condition:
     a. Surface must be smooth (capable of having vinyl tile/carpet laid)
     b. Add grout as needed.
  3. Cleanliness
     a. Sweep and clean area to assure surface is free of dirt, debris, water, oil, and grease.
  4. Adequate space
     a. Allow for insulated panel thickness if the Blast Chiller location is against a wall or partition.
     b. Measure between the inside flange and the wall to assure adequate space is allowed.
     c. Refer to the Blast Chiller print (the standard Master-bilt® panel is 4" thick)

-Correct any of the above problems with the floor BEFORE proceeding with Blast Chiller installation.

If you are not sure about any of the above conditions, STOP. Call Master-bilt at 1-800-984-8988.

- Carefully stand the floor pan up on one end against a stable wall.
-Apply NSF approved clear silicone to the floor pan.
  1. Around the perimeter of the floor pan.
     a. Locate the bead about 4" in from the floor pan edge.
     b. Use a uniform bead of about 3/8".
  2. To the center of the floor pan (surfaces that contact the floor).
     a. Crisscross the floor pan center until the floor pan is completely covered with silicone. This prevents any air trapped under the installed floor pan from creating an "oil canning" effect and also any condensation that may appear on the other side of the floor pan.

-With the aid of helpers, carefully lower the floor pan into position for installation.
-Carefully walk on the floor pan to remove trapped air.
-Check to make sure the silicone properly coats the floor pan perimeter.

WARNING
Install Blast Chiller floor pans on concrete floors only.
WALK-INS WITH FLOORS

- Locate the Blast Chiller floor panels.
- Lay out all floor panels in sequence as shown on assembly drawings.
- Scribe floor around floor panels.
- Move floor panels out of scribed area.
- Check the scribed area for:
  1. Level surface:
     a. Floor must be completely level.
     b. Add grout as needed.
  2. Surface condition:
     a. Surface must be smooth.
     b. Add grout as needed.
  3. Cleanliness
     a. Sweep and clean area to assure surface is free of dirt, debris, water, oil, and grease.

-Correct any of the above problems with the floor BEFORE proceeding with Blast Chiller installation.

If you are not sure about any of the above conditions, STOP. Call Master-bilt at 1-800-684-8988.

-Caulk panels as shown with NSF approved caulking.
- Fasten these panels as evenly as possible to each other to provide a square and level base for the wall panels.
- Using wrench provided tighten the cam fasteners all the way so that the panels are evenly aligned and fit snugly.
- Caulk around outer perimeter with NSF approved caulking.
  1. This prevents condensation that may appear on the other side of the floor panel.

STEP 3

In this step you install the insulated wall panels

INSTALL INSULATED WALL PANELS
- Refer to the enclosed panel print customized for your order.
- Locate and arrange panels according to the panel print.
- Hold the first panel in place.
  1. Position the panel to cause it to seat with the floor, floor pan, or floor angle.
  2. Apply NSF approved clear silicone to the bottom of the panel.
  3. Refer to the print to position the panel and cause it to seat with the floor, floor pan, or floor angle.
-Hold the first panel in place
-Place the second panel in place.
  1. Position the panel to cause it to seat with the floor, floor pan, or floor angle.
  2. Apply NSF approved clear silicone to the outside of the V joint of the side panel and to the bottom.

-Lock these panels together using internal cam locks.
  1. Locate cam lock wrench provided.
  2. Insert wrench onto the hex head pin in the cam lock opening.
  3. Rotate the cam lock clockwise until the lock hooks with the adjoining panel.
  4. Continue rotating until the lock pulls the panel together snugly as shown above.

⚠️ **NOTICE**
Occasionally, a cam fastener will not operate because an operating hex pin is broken or rounded off during assembly. If one cam on a panel fails to fasten, the remaining cam fasteners provide adequate support and alignment for assembly of the chiller.

⚠️ **NOTICE**
The stainless steel panels are covered with a protective sheet of plastic. Remove the protective plastic covering from the wall panels as each area is completed.

-Continue to erect the sides and back of the chiller box.
  1. Insure the panels are even at the top.

⚠️ **WARNING**
Perform the following installation steps now. The area is not accessible after the evaporator and fan assemblies are installed.

-Apply a small bead of silicone at the joint of the floor pan flange and the chiller wall.
-Check all remaining cam locks.
  1. Tighten or re-tighten as needed.
-Press the cam lock covers (plug covers) into the holes with your hands.

⚠️ **NOTICE**
DO NOT INSTALL THE DOOR PANEL AT THIS POINT. The door panel is installed after the coil assembly is installed. All panels except the door panel and ceiling panels must be complete before the evaporator coil assembly is installed.
STEP 4

In this step you will install the evaporator and fan assemblies and drain piping.

INSTALL EVAPORATOR AND FAN ASSEMBLIES
- Refer to your project-specific print for proper positioning of the evaporator and fan assemblies.
- Carefully unpack evaporator and fan assemblies.
  1. Remove all protective plastic from the stainless parts.
  2. Keep the assembly in a vertical position during positioning.
  3. Move these assemblies with care.
- Refer to the drawing on the next page to assure the proper installation sequence is followed:
  1. Slide the evaporator assembly in place.
  2. Slide the fan assembly in place.

⚠️ NOTICE
You must slide the fan assembly in with a straight-on approach. The evaporator drain pan and the fan assemblies drain pan overlap so they carry water to the drain opening together. The evaporator and fan assemblies fit into position with a tight clearance.

1. Use a level to plumb the evaporator and fan bank, shim as required for a tight level fit.
2. Mark location of evaporator assembly.
3. Slide the fan assembly temporarily into the opposite corner.
- Mark hole location for drain piping.
  1. Locate drain piping on Blast Chiller Drawing and compare with drain at site location.
     a. With evaporator assembly in its correct location and correct drain location identified measure for drain line exit location and mark the side panel for a 1 ½” hole penetration.
     b. Depending on location of drain will determine if you will need to run the piping through the predrilled holes in the evaporator and fan assembly’s.
     c. Double check hole location before drilling.
  2. Drill a 1 ½” hole for drain line.
     a. Evaporator assembly may have to be moved to allow access to drill.

⚠️ WARNING
Beware of others on the opposite side of the panel when drilling through the wall.

⚠️ CAUTION
Do not drill holes through the evaporator or fan assemblies use the pre-drilled holes.

3. Move evaporator and fan assembly’s back into place and check hole location using pipe.
4. Move units back away from wall.
5. Apply NSF approved clear silicone to side and back flanges (full perimeter) of drip pan (see diagrams below).
6. Push the assemblies back into place.
7. Use a level to plumb the evaporator and fan bank, shim as required for a tight level fit.
- Remove the access covers on the lower front of the evaporator and fan banks.
- Install the drain piping:
  1. Connect piping to the 90E elbow(s) at the bottom of the evaporator drain pan(s).
     a. Use a non-permanent thread sealer because drain lines must be capable of being removed for future servicing.
- Seal the inside drain pipe hole with NSF approved silicone sealant.
- Seal the remainder of drainpipe hole in blast chiller wall with foam insulation.
  1. This will stop any airflow around the pipe
STEP 5

In this step you position the ceiling panels.

INSTALL CEILING PANELS

NOTICE
Master-bilt recommends safety be your first priority at all times. Use either a forklift or a properly designed panel-lifting device to lift the ceiling panels.

DANGER
DO NOT LIFT PANEL AT THE OUTER EDGES.

- Place a protective padding material between the lift and the ceiling panel.

- Carefully lift the ceiling panels into place.

- Refrigerant line location.
  1. Some Blast Chillers have refrigeration tubing extending out of the top of the chiller box.
  2. Care must be taken to prevent damage to refrigerant lines when lowering ceiling panels onto box.
  3. Refrigerant line size and location will depend on the blast chiller and condensing unit purchased, see the Condensing Unit and Refrigeration Unit Installation section in this manual to determine the correct location and hole sizes.
  4. Drill holes required.

WARNING
Beware of others on the opposite side of the panel when drilling through the wall.

CAUTION
Do not drill holes through the evaporator or fan assemblies.
STEP 6

In this step you install the door panel(s).

INSTALLATION OF DOOR PANEL

After all the wall and ceiling panels are in place and aligned straight and square, you are ready to install the door and frame.

- Attach the ceiling panels to the wall panels and verify unit is square and panels align correctly.

**NOTICE**
The evaporator coil grill cover(s) must be removed to tighten the wall-to-ceiling cam locks located behind the coil and fan assemblies.

- Loosen the cam fasteners on the ceiling panel above the doorframe and on the wall panels on each side of the door so that there is enough room for movement to set doorframe in place.
- Remove the shipping brace from the bottom of the doorframe.
- Place door panel into wall opening and position.

**CAUTION**
Support the door evenly when handling the door. Prevent the door from swinging open during handling.

1. Place a carpenter's level against the doorframe leg (inside door opening) to ensure that it is correctly aligned vertically, and latch the doorframe to the adjoining wall panel.
2. Place a carpenter's level against the face of the door frame to ensure correct vertical alignment and latch the door frame to the ceiling panel while holding level in place.
3. Retighten the cam fasteners on the adjoining ceiling and wall panels.

- Attach the optional threshold plate if provided.
  1. Apply a bead of caulking around the perimeter of the door threshold.
  2. Set the threshold in the door opening to maintain the opening width.
  3. Secure the threshold to the building floor and doorjambs with anchor kit.
  4. Caulk each joint to seal against moisture.
  5. Adjust the bottom wiper gasket of the door so that it sweeps when the door is closed.
     a. Do not adjust the wiper gasket so far down that it prevents the door from closing properly.
-Adjusting Door:

1. If adjustment is necessary, all swing doors have adjustable back-up plates in the door for hinge adjustment.
2. Place shims under door.
3. Loosen but do not remove the screws that attach the hinge blade to the door.
4. Shim under door as necessary to provide a 1/4" space between top of door and the doorframe to ensure square fit.
5. Tighten screws attaching the hinge blade to the door.
6. After adjusting the hinges, remove shims and check the space at the top of the door for proper alignment.

STEP 7

In this step you install the interior trim.

INSTALL INTERIOR TRIM

-Install snap-on cover caps on the door panel cam locks.
-Use a level to plumb the evaporator and fan bank.
-Use the flange as a template to mark the screw hole placement with a marking pen to make sure the evaporator and fan banks are installed plumb.
-Line drill through the holes in the flange using a 3/16" (#18) drill.
-Insert size 1/4" x 3/4" long self-threading screws (included).
-Fasten the fan bank and evaporator bank modules to the Blast Chiller interior as follows:
   1. Install stainless steel trim pieces to the Blast Chiller interior above the fan and evaporator banks.
   2. This provides a neat finished appearance and promotes easy cleaning.
STEP 8

In this step you route the temperature sensors

ROUTE TEMPERATURE SENSOR & MOUNT CONTROL PANEL

-Standard Control Panel:
  1. Select a convenient location for the control panel. Remove the cover to gain access to the mounting holes. Position the control panel so that the top conduit connection box is completely above the walk in top. Secure the control panel to the walk-in with #10 self-tapping screws

⚠️ WARNING
Beware of others on the opposite side of the panel when drilling through the wall.

⚠️ CAUTION
Do not drill holes through the evaporator or fan assemblies. Cover wiring and controls to prevent drill shavings remaining in the control panel.
STEP 9

In this step you route the electrical control wiring

CONTROL WIRING

⚠️ NOTICE
A qualified and certified electrician should only perform this work.

⚠️ NOTICE
The Blast Chiller wiring has been completely pre-assembled by the manufacturer.

⚠️ NOTICE
The control wiring, with watertight conduit, is pre-cut and ready to connect.

⚠️ WARNING
Beware of others on the opposite side of the panel when drilling through the walls and ceiling.

⚠️ CAUTION
Do not drill holes through the evaporator or fan assemblies.

- Control panel is pre-wired.
- Check all conduit and wire connections to insure they remained secure during shipping.
- Mount the optional door switch(s) if provided.
  1. Switch is mounted outside the box
- Install the door, light, and heater conduit.
  1. Drill hole through the ceiling above the electrical box located inside the chiller by the light fixture for the flexible conduit to feed through.
  2. Feed the flexible conduit labeled "Door Light and Heater" through the hole in the ceiling panel.
  3. Connect wires.
- Connect the fan bank power.
  1. Remove the fan assembly grill.
  2. Drill hole through the ceiling above the fan tower assembly.
  3. Feed the flexible conduit labeled "Fan" through the ceiling (as indicated in the graphic on the opposite page) to the Blast Chiller Fan Assembly.
  4. Connect the wires.
  5. Assure the conduit watertight connection on the top of the fan bank is secure.
  6. Apply wire nut connectors (included).
  7. Check fans and insure all blades turn freely.
  8. Replace the fan assembly grill.
-Place refrigeration solenoid valve close to refrigeration liquid line before it enters the box.

⚠️ NOTICE
The solenoid valve/power is pre-wired by Master-bilt.

1. Remove electrical solenoid from valve before it is installed on refrigeration line.
   a. Keep away from heat during installation.
2. Replace electrical solenoid onto valve after valve is installed.

-Connect junction box to the front control panel.
  1.Flexible conduit is provided pre-wired.
  2. Connect numbered wires to corresponding terminals.
-Connect the incoming power to the terminals in the junction box (see wiring diagram).
  1. Ensure the power includes a neutral and a ground.
  2. Ensure the power/voltage supply matches the Blast Chiller Data Plate.

⚠️ WARNING
Replace fuses with appropriate rated fuse.

STEP 10
In this step you install the exterior trim

⚠️ NOTICE
If the model you are installing has a "C" suffix (Correctional Model) please skip this step.

INSTALL EXTERIOR TRIM

- Locate the top trim channels and offset strips (if provided)

- Locate 8-32 hex head screws

- Locate the numbered trim channels and numbered offset strips

- Locate the pre-formed corner fillers provided for each corner

- Determine the proper location on the Blast Chiller for each trim channel and offset strip

- Mount and secure all top trim
  1. Align top trim channels with the ceiling panels
  2. Secure with 8-32 x 1/2" long size hex head screws
STEP 11

In this step you check for drain leaks

CHECK THE DRAIN FOR LEAKS

- Pour a small amount of water (about 1 gallon) into the drain pan underneath
- Inspect the floor area for water leaks
- Replace the evaporator coil and fan base cover panels

STEP 12

In this step you check the door swing

CHECK DOOR SWING

- Check the Blast Chiller door swing for proper opening and closing operation
- Observe the clearance from the door to the Blast Chiller door frame
  1. Clearance should be even around the perimeter of the door
  2. If even clearance is not observed, adjust the door hinges
STEP 13

In this step you inspect the equipment as delivered

NOTICE
Please read this section prior to installing your Blast Chiller Condensing Unit. This information is based on good refrigeration practice and should be used as a guide for installation and operation of your equipment.

DELIVERY INSPECTION

- Check for damages when the carrier delivers the equipment
  1. Refer to Freight Claims, page 10

- Indicate damages on the carrier's Bill of Lading so a claim may be filed

NOTICE
To minimize damage to the unit housing, it is recommended that the crate not be removed until the unit is moved to its final location.

* Follow the installation instructions included with the Condensing Unit.

INSTALLATION DATA

EQUIPMENT REQUIRED

- Pans and lids
  1. Hold food during blast chill operation
  2. Hold food for refrigerated storage

- Thermometer to check food temperature (0-200°F)
CONTROL OPERATION AND PROGRAMMING

The blast chiller is operated by an electronic control which can manage both Temperature-Controlled, and Time by hard or soft blast chilling and freezing cycle. The controller has three main modes HOLD, CHILL CYCLE, and FREEZE CYCLE. Every operating cycle can be preceded by pre-cooling the blast chiller the box. In addition, there is a favorite list (Star keys), which may be programmed for a specific operating mode depending on the options selected by the operator.

The following operating statuses exist:
- The “off” status (the device is not powered)
- The “stand-by” status (the device is powered and is off)
- The “on” status (the device is powered, is on and is in stand-by for the start-up of an operating cycle)
- The “run” status (the device is powered, is on and an operating cycle is in progress).

Hereon, the term "device switch-on" means the passage from the "stand-by" status to the "on" status. The term "switch-off" means passage from the "on" status to the "stand-by" status.

If a power cut OFF occurs during the "stand-by" status or during the "on" status, the device will re-propose the same status when the power supply is restored.

If a power cut OFF occurs during the "run" status, the device will operate as follows when this is restored:
- If a temperature-controlled blast chilling or deep freezing operation was in progress, these will be started again from the beginning
- If a timed-controlled blast chilling or deep freezing operation was in progress, these will be started again from the moment the power supply was cut-off
- If storage was in progress, this will be re-proposed.
### DESCRIPTION OF THE USER INTERFACE

<table>
<thead>
<tr>
<th>PART</th>
<th>DESCRIPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ON/OFF key, herein called also “ON/STAND-BY key”</td>
</tr>
<tr>
<td>2</td>
<td>options key, hereon call &quot;MENU key&quot;</td>
</tr>
<tr>
<td>3</td>
<td>pre-selection key, hereon call &quot;HOME key&quot;</td>
</tr>
<tr>
<td>4</td>
<td>annul key, hereon call &quot;ESCAPE key&quot;</td>
</tr>
<tr>
<td>5</td>
<td>cycle start/cycle cut-off key, hereon called &quot;START/STOP key&quot;</td>
</tr>
<tr>
<td>6</td>
<td>interactive keys 1-3</td>
</tr>
<tr>
<td>7</td>
<td>display</td>
</tr>
<tr>
<td>8</td>
<td>interactive keys 4-6</td>
</tr>
<tr>
<td>9</td>
<td>jumper for the insertion of the terminating resistor of the user interface-control module communication port and of the RS-485 serial port</td>
</tr>
<tr>
<td>10</td>
<td>RS-485 serial port with MODBUS communication protocol and communication port with control module (signal and power supply)</td>
</tr>
</tbody>
</table>
QUICK OPERATION GUIDE

The following operating statuses exist:
- The “off” status (the device is not powered)
- The “stand-by” status (the device is powered and is off)
- The “on” status (the device is powered, is on and is in stand-by for the start-up of an operating cycle)
- The “run” status (the device is powered, is on and an operating cycle is in progress).

If a power cut occurs during the "run" status, the device will operate as follows when this is restored:
- If a temperature-controlled blast chilling or deep freezing operation was in progress, these will be started again from the beginning
- If a timed-controlled blast chilling or deep freezing operation was in progress, these will be started again from the moment the power supply was cut-off
- If storage was in progress, this will be re-proposed.

1. Connect the device power supply, the device will display the “MASTER-BILT” splash screen for 10 seconds, after which it will go to the “stand-by” status.

2. Press and release the ON/STAND-BY key (1) and then press the highest interactive key on the left (2) to LOCK / UNLOCK the keyboard.

3. Press and release the ON/STAND-BY key (1) to power up the display.

*With the on status, the device will display the cabinet temperature, real time and date. Real time and date can be set in parameter settings.*
MANUAL DEFROST MODE

1. Make sure the device is in the "on" status, which pre-cooling or storage cycle is in progress.
2. Make sure that the keyboard is not locked and that no procedure is in progress.
3. Press and release the key (1), press and release the key (2) and then press and release the START/STOP.

PRE-COOLING START-UP

Operate as indicated to start pre-cooling:
1. Make sure the device is in the "on" status.
2. Make sure that the keyboard is not locked and that no procedure is in progress.
3. Press and release the key (1) and then press and release the START/STOP key (2).
4. Press and release the START/STOP key.
   Parameter r120 establishes the work set-point during pre-cooling. When the cabinet temperature reaches that established with parameter r12, pre-cooling continues and the buzzer is activated for 2 s.

**Every operating cycle can be preceded by pre-cooling.

SWITCHING ON UV LIGHT FOR STERILIZATION CYCLE

Operate as follows:
1. Make sure that parameter u11 is set at 2.
2. Make sure the device is in the "on" status and that the door is closed, i.e. the door micro switch is not active.
3. Make sure that the keyboard is not locked and that no procedure is in progress.
4. Press and release the key (1), press and release the key (2) and then press and release the START/STOP key (3). The device will display the residual time of the UV light switch-on duration and the cabinet temperature.

SILENCING THE BUZZER

1. Make sure no procedures are in progress.
2. Press and release any key.
NEEDLE PROBES MANAGEMENT

The device can manage "multipoint" needle probes up to three sensors.
Parameter P3 establishes the number of needle probe sensors as indicated:
- If parameter P3 is set at 0, the needle probe will not be enabled
- If parameter P3 is set at 1, there will be one sensor (needle probe 1)
- If parameter P3 is set at 2, there will be 2 sensors (needle probe 1, and needle probe 2)
- If parameter P3 is set at 3, there will be 3 sensors (needle probe 1, needle probe 2, and needle probe 3).

For parameter P3 is set at values different to 0, the temperature-controlled cycles will be preceded by a test to verify the correct insertion of the needle probe.

HEATING THE NEEDLE PROBE

Operate as follows:
1. Make sure the device is in the "on" status or storage is in progress and that the door is open, (if the door micro switch is active).
2. Make sure that the keyboard is not locked and that no procedure is in progress.
3. Press and release the key (1), press and release the key (2) and then press and release the START/STOP key (3). The device will display the temperature detected by the needle probe and the cabinet temperature.

Output K6 is activated at maximum for the time established with parameter u8 or until the temperature detected by the needle probe reaches that established with parameter u7; closing the door, if the deactivations of the door micro switch input causes heating to be cut-off.
The buzzer is activated for 2 seconds to indicate of completed heating.

OPERATING MODES

The device can manage the following operating cycles:
A1 – Temperature-controlled blast chilling & storage.
A2 – Temperature-controlled hard blast chilling & storage
A3 – Time-controlled blast chilling & storage
A4 – Time-controlled hard blast chilling & storage
A5 – Continuous blast chilling
A6 – Temperature-controlled deep freezing & storage
A7 – Temperature-controlled soft deep freezing & storage
A8 – Time-controlled deep freezing & storage
A9 – Time-controlled soft deep freezing & storage
A10 – Continuous deep freezing

*Every operating cycle can be preceded by pre-cooling
A1 – Temperature-controlled blast chilling & storage.

The temperature-controlled blast chilling and storage cycle is divided into the following two phases:
- Blast chilling
- Storage.

**Operate as indicated to start the cycle:**
1. Make sure the device is in the "on" HOME status.
2. Make sure that the keyboard is not locked and that no procedure is in progress.
3. Press and release the key (1) press and release the key (2) and then press and release the key (3). the device will display the blast chilling end temperature and the work set-point during blast chilling.

4. Press and release the MENU key and then press and release the key UP or the key DOWN to select the blast chilling end temperature and the work set-point during blast chilling.
4.1 Press and release (+) key or the (-) key to modify these values and then the ESCAPE key to memorize them; these values can also be memorized through parameters r3 and r7 in program parameter mode.

5. Press and release the START/STOP key (1): the test to verify the correct insertion of the needle probe will be started.
5.1 If the test is completed successfully, the cycle will be started
5.2 If the test is not completed successfully, the buzzer will be activated for 5 s every 60 s and the cycle will be started with timed-control.

During blast chilling the device displays the temperature detected by the needle probe, the cabinet temperature, the program name (if named) and the time passed since the start of blast chilling.

If the temperature detected by the needle probe reaches the blast chilling end temperature within the maximum blast chilling duration, it means that blast chilling has been completed successfully, the device will automatically pass to storage and the buzzer will be activated to indicate that the cycle has completed.

If the temperature detected by the needle probe does not reach the blast chilling end temperature within the maximum blast chilling duration, blast chilling will not be completed successfully but it will continue and the buzzer will be activated. When temperature detected by the needle probe reaches the blast chilling end temperature; the device automatically passes to storage in the same way as illustrated previously.

**The system can be stop at any time during the cycle by press and release the START/STOP KEY**
A2 – Temperature-controlled hard blast chilling & storage

The temperature-controlled hard blast chilling & storage cycle is divided into the following three phases:
- Blast chilling hard phase
- Blast chilling
- Storage.

Operate as indicated to start the cycle:
1. Make sure the device is in the "ON" HOME status.
2. Make sure that the keyboard is not locked and that no procedure is in progress.
3. Press and release the key (1), press and release the key (2) and then press and release the key (3) and finally press and release the key (4): the device will display the blast chilling end temperature and the work set-point during blast chilling.
4. Press and release the MENU key and then press and release the key UP or the key DOWN to select the blast chilling end temperature and the work set-point during blast chilling.
4.1 Press and release the (+) key or the (-) key to modify these values and then the ESCAPE key to memorize them; these values can also be memorized through parameters r3 and r7.
5. Press and release the START/STOP key (1): the test to verify the correct insertion of the needle probe will be started.
5.1 If the test is completed successfully, the cycle will be started.
   The maximum blast chilling duration count is started on condition that the temperature detected by the needle probe is below that established with program parameter r15.
5.2 If the test is not completed successfully, the buzzer will be activated for 5 s every 60 s and the cycle will be started with timed-control.

During hard blast chilling phase the device displays the temperature detected by the needle probe, the cabinet temperature, the program name (if named) and the time passed since the start of blast chilling.

If the temperature detected by the needle probe reaches the blast chilling end temperature within the maximum blast chilling duration, it means that blast chilling has been completed successfully, the device will automatically pass to storage and the buzzer will be activated to indicate that the cycle has completed.

If the temperature detected by the needle probe does not reach the blast chilling end temperature within the maximum blast chilling duration, blast chilling will not be completed successfully, but the system will continue and the buzzer will be activated. Press and release any key to silence the buzzer. When the temperature detected by the needle probe reaches the blast chilling end temperature, the device automatically passes to storage in the same way as illustrated previously.

** The system can be stop at any time during the cycle by press and release the START/STOP KEY **
A3 – Time-controlled blast chilling & storage

The time-controlled blast chilling and storage cycle is divided into the following two phases:
- Blast chilling
- Storage.

Operate as indicated to start the cycle:
1. Make sure the device is in the "on" HOME status.
2. Make sure that the keyboard is not locked and that no procedure is in progress.
3. Press and release the key (1) and then press and release the key (2): the device will display the blast chilling duration and the work set-point during blast chilling.
4. Press and release the MENU key and then press and release the UP key or the DOWN key to select the blast chilling duration and the work set-point during blast chilling.
   4.1 Press and release the key or the key to modify these values and then the ESCAPE key to memorize them; these values can also be memorized through parameters r1 and r7.
5. Press and release the START/STOP key: the cycle will be started.

During blast chilling the device displays the residual blast chilling time, the temperature of the cabinet, the name of the program (if named) and the time passed from the start of blast chilling.

When the time expired for the blast chilling duration, the device automatically passes to storage mode and the buzzer is activated to indicate the time cycle has been completed.

** The system can be stop at any time during the cycle by press and release the START/STOP KEY
**A4 – Time-controlled hard blast chilling & storage**

The time-controlled hard blast chilling and storage cycle is divided into the following three phases:
- Blast chilling hard phase
- Blast chilling
- Storage.

**Operate as indicated to start the cycle:**
1. Make sure the device is in the "ON" and HOME status.
2. Make sure that the keyboard is not locked and that no procedure is in progress.
3. Press and release the key (1), press and release the key (2), and then press and release the key (3); the device will display the blast chilling duration and the work set-point during blast chilling.

4. Press and release the MENU key and then press and release the UP key or the DOWN key to select the blast chilling duration and the work set-point during blast chilling.

4.1 Press and release the (+) key or the (-) key to modify these values and then the ESCAPE key to memorize them; these values can also be memorized through parameters r1 and r7.

5. Press and release the START/STOP key (1): the cycle will be started.

**During hard blast chilling the device displays the residual blast chilling time, the temperature of the cabinet, the name of the program (if named) and the time passed from the start of blast chilling.**

6. The cycle can be stop at any time by press and release the START/STOP key (1).

When the time expired for the blast chilling duration, the device automatically passes to storage mode and the buzzer is activated to indicate the time cycle has been completed.
A5 – Continuous blast chilling

Operate as indicated to start the cycle:

7. Make sure the device is in the "ON" HOME status.
8. Make sure that the keyboard is not locked and that no procedure is in progress.
9. Press and release the key (1), press and release the key (2) and then press and release the key (3) twice. The device will display the work set-point during blast chilling.

10. Press and release the MENU key and then press and release the UP key or the DOWN key to select the work setpoint during blast chilling.

10.1 Press and release the (+) key or the (-) key to modify this value and then the ESCAPE key to memories it; this value can also be memorized through parameters r1 and r7.
11. Press and release the START/STOP key (1): the cycle will be started.

During blast chilling the device displays the temperature of the cabinet, the program name (if named) and the time passed since the start of blast chilling.

12. The cycle can be stop at any time by press and release the START/STOP key (1).
A6 – Temperature-Controlled Deep Freezing and Storage

The temperature-controlled deep freezing and storage cycle is divided into the following two phases:
- Deep freezing
- Storage.

Operate as indicated to start the cycle:
1. Make sure the device is in the "ON" HOME status.
2. Make sure that the keyboard is not locked and that no procedure is in progress.
3. Press and release the key (1), press and release the key (2) and then press and release the HARD key (3) and finally press and release the key (4): the device will display the deep freezing end temperature and the work set-point during deep-freezing.
4. Press and release the MENU key and then press and release the UP key or the DOWN key to select the deep freezing end temperature and the work set-point during deep freezing.
4.1 Press and release the (+) key or the (-) key to modify these values and then the ESCAPE key to memories.
5. Press and release the START/STOP key (1): the test to verify the correct insertion of the needle probe will be started.
5.1 If the test is completed successfully, the cycle will be started.
The maximum deep freezing duration count is started on condition that the temperature detected by the needle probe is below that established with parameter r15.
5.2 If the test is not completed successfully, the buzzer will be activated for 5s every 60s and the cycle will be started with timed-control; see "A8 – Time-controlled deep freezing and storage".

During deep freezing the device displays the temperature detected by the needle probe, the cabinet temperature, the program name (if named) and the time passed since the start of deep freezing.

6. The cycle can be stop at any time by press and release the START/STOP key.

If the temperature detected by the needle probe reaches the deep freezing end temperature within the maximum deep freezing duration, it means that deep freezing has been successfully completed, the device will automatically pass to storage and the buzzer will be activated to indicate that the cycle ended.

If the temperature detected by the needle probe does not reach the deep freezing end temperature within the maximum deep freezing duration, deep freezing will not be completed successfully but will continue and the buzzer will be activated. Press and release a key to restore normal display and to silence the. When the temperature detected by the needle probe reaches the deep freezing end temperature, the device automatically passes to storage in the same way as illustrated previously.
A7 – Temperature-controlled Soft Deep Freezing and Storage

The temperature-controlled soft deep freezing and storage cycle is divided into the following three phases:
- Deep freezing soft phase
- Deep freezing
- Storage.

Operate as indicated to start the cycle:
1. Make sure the device is in the "on" status.
2. Make sure that the keyboard is not locked and that no procedure is in progress.
3. Press and release the key (1), press and release the key (2) and then press and release the key (3). The device will display the deep freezing end temperature and the work set-point during deep-freezing.

4. Press and release the MENU key and then press and release the UP key or the DOWN key to select the deep freezing end temperature and the work set-point during deep freezing.
4.1 Press and release the (+) key or the (-) key to modify these values and then the ESCAPE key to memories them; these values can also be memorized through parameters r4 and r8.
5. Press and release the START/STOP key (1): the test to verify the correct insertion of the needle probe will be started; "Test for verification of the correct insertion of the needle probe".
5.1 If the test is completed successfully, the cycle will be started. The maximum deep freezing duration count is started on condition that the temperature detected by the needle probe is below that established with parameter r15.
5.2 If the test is not completed successfully, the buzzer will be activated for 5 s every 60 s and the cycle will be started with timed-control; "Time-controlled soft deep freezing and storage".

During the soft deep freezing phase the device displays the temperature detected by the needle probe, the cabinet temperature, the program name (if named) and the time passed since the start of deep freezing.

6. The cycle can be stop at any time by press and release the START/STOP key.
When the temperature detected by the needle probe reaches the end temperature of the soft deep freezing phase, the device automatically passes to deep freezing. If the temperature detected by the needle probe reaches the deep freezing end temperature within the maximum deep freezing duration, it means that deep freezing has been completed successfully, the device will automatically pass to storage and the buzzer will be activated for the period of time established with parameter AA to indicate that the cycle has been completed.

If the temperature detected by the needle probe does not reach the deep freezing end temperature within the maximum deep freezing duration, deep freezing will not be completed successfully but will continue and the buzzer will be activated. Press and release a key to restore normal display and to silence the buzzer. When the temperature detected by the needle probe reaches the deep freezing end temperature, the device automatically passes to storage in the same way as illustrated previously.
A8 – Time-controlled Deep Freezing and Storage

The time-controlled deep freezing and storage cycle is divided into the following two phases:
- Deep freezing
- Storage.

Operate as indicated to start the cycle:
1. Make sure the device is in the "ON" status.
2. Make sure that the keyboard is not locked and that no procedure is in progress.
3. Press and release the key (1), press and release the key (2) and then press and release the key (3). The device will display the duration of deep freezing and the work set-point during deep-freezing.

4. Press and release the MENU key and then press and release the UP key or the DOWN key to select the deep freezing duration and the work set-point during deep freezing.
4.1 Press and release the (+) key or the (-) key to modify these values and then the ESCAPE key to memories them; these values can also be memorized through parameters r2 and r8 setpoint.
5. Press and release the START/STOP key (1): the cycle will be started.

*During blast chilling the device displays the residual deep freezing time, the temperature of the cabinet, the name of the program (if named) and the time passed from the start of deep freezing.*

6. The cycle can be stop at any time by press and release the START/STOP key.

When the time expired deep freezing duration, the device automatically passes to storage mode and the buzzer is activated for the time period established with parameter AA to indicate that the cycle has been completed.
Press and release a key to silence the buzzer.
A9 – Time-controlled soft Deep Freezing and Storage

The time-controlled soft deep freezing and storage cycle is divided into the following three phases:
- Deep freezing soft phase
- Deep freezing
- Storage.

**Operate as indicated to start the cycle:**
1. Make sure the device is in the "ON" status.
2. Make sure that the keyboard is not locked and that no procedure is in progress.
3. Press and release the key (1), and then press and release the key (2): the device will display the duration of deep freezing and the work set-point during deep-freezing.

4. Press and release the MENU key and then press and release the **UP** key or the **DOWN** key to select the deep freezing duration and the work set-point during deep freezing.
4.1 Press and release the (+) key or the (-) key to modify these values and then the ESCAPE key to memories them; these values can also be memorized through parameters r2 and r8 setpoints.
5. Press and release the START/STOP key (1): the cycle will be started.

*During soft deep freezing phase, the device displays the residual deep freezing time, the temperature of the cabinet, the name of the program (if named) and the time passed from the start of deep freezing.*

6. The cycle can be stop at any time by press and release the **START/STOP** key.

When the time expired soft deep freezing phase duration, the device automatically passes to deep freezing. During deep freezing the device displays the residual deep freezing time, the temperature of the cabinet, the name of the program (if named) and the time passed from the start of deep freezing.

When the time expired deep freezing duration, the device automatically passes to storage mode and the buzzer is activated for the time period established with parameter AA. Press and release a key to silence the buzzer.
A10 – Continuous Deep Freezing

Operate as indicated to start the cycle:
1 Make sure the device is in the "ON" status.
2 Make sure that the keyboard is not locked and that no procedure is in progress.
3 Press and release the key (1), press and release the key (2) and then press and release the key (3) twice. The device will display the work set-point during deep freezing.

4 Press and release the MENU key and then press and release the UP key or the DOWN key to select the work setpoint during deep freezing.
4.1 Press and release the (+) key or the (-) key to modify this value and then the ESCAPE key to memories it; this value can also be memorized through parameter r8 setpoint.
5 Press and release the START/STOP key (1): the cycle will be started.

During deep freezing the device displays the temperature of the cabinet, the program name (if named) and the time passed since the start of deep freezing.

6 The cycle can be stop at any time by press and release the START/STOP key.
PRE-COOLING STAR-UP

Every operating cycle can be preceded by pre-cooling.

Operate as indicated to start pre-cooling:
1. Make sure the device is in the "ON" status.
2. Make sure that the keyboard is not locked and that no procedure is in progress.
3. Press and release the key (1) and then press and release the START/STOP key (2).
4. The cycle can be stop at any time by press and release the START/STOP key.

Parameter r120 establishes the work set-point during pre-cooling. When the cabinet temperature reaches that established with parameter r12, pre-cooling continues and the buzzer is activated for 2s to indicate that the pre-cooling cycle has been completed.

SWITCHING ON UV LIGHT FOR STERILIZATION CYCLE (if available)

Operate as follows:
1. Make sure that parameter u11 is set at 2.
2. Make sure the device is in the "ON" status and that the door is closed, the door switch is not active.
3. Make sure that the keyboard is not locked and that no procedure is in progress.
4. Press and release the key (1), press and release the key (2) and then press and release the START/STOP key (3). The device will display the residual time of the UV light switch-on duration and the cabinet temperature.

The UV light is switched on for the time period established by parameter u6; opening the door i.e. the activation of the door micro switch cause the light to switch off.
HEATING THE NEEDLE PROBE (if available)

Operate as follows:
1. Make sure the device is in the "ON" status or storage is in progress and that the door is open, i.e. the door micro switch is active.
2. Make sure that the keyboard is not locked and that no procedure is in progress.
3. Press and release the key (1), press and release the key (2) and then press and release the START/STOP key (3). The device will display the temperature detected by the needle probe and the cabinet temperature.

Output K6 is activated at maximum for the time established with parameter u8 or until the temperature detected by the needle probe reaches that established with parameter u7; closing the door, i.e. the deactivation of the door micro switch input causes heating to be cut-off. The buzzer is activated for 2s to indicate the needle heating process completed.

SAVE / MEMORISATION OF A PROGRAM

1. Make sure that the keyboard is not locked and that no procedure is in progress.
2. Press and release the key (1) before starting an operating cycle that desires. The device will display the number of first program available.
3. If the key is pressed and released before starting an operation cycle, the device will memorize the settings.
4. Press and release the key UP (1) or DOWN key (2) to select the program number then press SET key (3) in order to associate a name.
5. Press UP/DOWN/LEFT/RIGHT key to select character.
6. Select {END} and press SET to finish
7. To exit press ESCAPE or the control will time out in 60 seconds.
# Blast Chiller Default List of configuration parameters

The following table illustrates the meaning of the configuration parameters.

<table>
<thead>
<tr>
<th>PAR</th>
<th>Description</th>
<th>Unit</th>
<th>Range</th>
<th>°C</th>
<th>°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA1</td>
<td>Cabinet probe offset</td>
<td>°C/°F</td>
<td>-25 to 25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CA2</td>
<td>Need probe offset</td>
<td>°C/°F</td>
<td>-25 to 25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CA3</td>
<td>Evaporator probe offset</td>
<td>°C/°F</td>
<td>-25 to 25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CA4</td>
<td>Condensor probe offset</td>
<td>°C/°F</td>
<td>-25 to 25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CA5</td>
<td>Needle probe offset 2</td>
<td>°C/°F</td>
<td>-25 to 25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CA6</td>
<td>Needle probe offset 3</td>
<td>°C/°F</td>
<td>-25 to 25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>P0</td>
<td>Probe type:</td>
<td></td>
<td>… 0 / 1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>P2</td>
<td>Temperature unit of measurement</td>
<td></td>
<td>… 0 / 1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>P3</td>
<td>Number of needle probe sensor</td>
<td></td>
<td>… 0 / 3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>P4</td>
<td>Enabling the evaporator probe</td>
<td></td>
<td>… 0 / 1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>P5</td>
<td>Enabling condenser probe</td>
<td></td>
<td>… 0 / 1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>P8</td>
<td>Orientation of the display Visualization</td>
<td></td>
<td>… 0, 1</td>
<td>1</td>
<td>1</td>
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</table>

## Operation Parameters

<table>
<thead>
<tr>
<th>PAR</th>
<th>Description</th>
<th>Unit</th>
<th>Range</th>
<th>°C</th>
<th>°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>r0</td>
<td>Temperature differential (r7 – r12)</td>
<td>°C/°F</td>
<td>1 – 15</td>
<td>5/7</td>
<td>5/7</td>
</tr>
<tr>
<td>r1</td>
<td>Duration of Time-Controlled blast chilling</td>
<td>Min</td>
<td>1 – 500</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>r2</td>
<td>Duration of Time-Controlled blast Freezing</td>
<td>Min</td>
<td>1 – 500</td>
<td>240</td>
<td>240</td>
</tr>
<tr>
<td>r3</td>
<td>Temperature-controlled blast chilling &amp; soft deep freezing temperature</td>
<td>°C/°F</td>
<td>-99 – 99</td>
<td>3</td>
<td>37</td>
</tr>
<tr>
<td>r4</td>
<td>Temperature-controller deep freezing temp. (see also r6)</td>
<td>°C/°F</td>
<td>-99 – 99</td>
<td>-18</td>
<td>0</td>
</tr>
<tr>
<td>r5</td>
<td>Max duration of Temperature-controlled blast chilling (see also r3)</td>
<td>Min</td>
<td>1 – 500</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>r6</td>
<td>Max duration of Temperature-controlled deep freezing (see also r4)</td>
<td>Min</td>
<td>1 – 500</td>
<td>240</td>
<td>240</td>
</tr>
<tr>
<td>r7</td>
<td>Box temperature set-point for blast chilling &amp; soft deep freezing</td>
<td>°C/°F</td>
<td>-99 – 99</td>
<td>0</td>
<td>32</td>
</tr>
<tr>
<td>r8</td>
<td>Box Temperature setpoint during deep freezing (see also r0)</td>
<td>°C/°F</td>
<td>-99 – 99</td>
<td>-26</td>
<td>-15</td>
</tr>
<tr>
<td>r9</td>
<td>Box Temperature setpoint during HARD blast chilling (see also r0)</td>
<td>°C/°F</td>
<td>-99 – 99</td>
<td>-4</td>
<td>25</td>
</tr>
<tr>
<td>r10</td>
<td>Box Temperature setpoint post blast chilling STORAGE (see also r0)</td>
<td>°C/°F</td>
<td>-99 – 99</td>
<td>2</td>
<td>36</td>
</tr>
<tr>
<td>r11</td>
<td>Box Temperature setpoint post deep freezing STORAGE (see also r0)</td>
<td>°C/°F</td>
<td>-99 – 99</td>
<td>-18</td>
<td>0</td>
</tr>
<tr>
<td>r12</td>
<td>Box Temperature setpoint during Pre-Cooling (see also r0)</td>
<td>°C/°F</td>
<td>-99 – 99</td>
<td>5</td>
<td>41</td>
</tr>
<tr>
<td>r13</td>
<td>Hard blast chilling end temperature setpoint (needle probe)</td>
<td>°C/°F</td>
<td>-99 – 99</td>
<td>15</td>
<td>59</td>
</tr>
<tr>
<td>r14</td>
<td>Time-control hard blast chilling &amp; Soft deep freezing</td>
<td>%</td>
<td>10 – 100</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>r15</td>
<td>Temperature below which count the max blast chilling &amp; deep freezing</td>
<td>°C/°F</td>
<td>-99 – 99</td>
<td>65</td>
<td>149</td>
</tr>
<tr>
<td>r16</td>
<td>Type of operating cycle that can be selected</td>
<td></td>
<td>… 0 – 2</td>
<td>0 / 2</td>
<td>0 / 2</td>
</tr>
<tr>
<td>r17</td>
<td>Min temperature difference between needle probe and box temperature</td>
<td>°C/°F</td>
<td>0 – 99</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>r18</td>
<td>Duration of second phase test for correct insertion of needle probe</td>
<td>Second</td>
<td>1 – 99</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>r19</td>
<td>Reserved</td>
<td></td>
<td>…</td>
<td>…</td>
<td>…</td>
</tr>
</tbody>
</table>
### Compressor Protection parameters

<table>
<thead>
<tr>
<th>PAR</th>
<th>Description</th>
<th>Unit</th>
<th>Range</th>
<th>°C</th>
<th>°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>C0</td>
<td>Minimum time between restoring power from power cut-off compressor Min</td>
<td>Min</td>
<td>0 – 240</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>C1</td>
<td>Minimum time between two consecutive compressor switch-on</td>
<td>Min</td>
<td>0 – 240</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>C2</td>
<td>Minimum time between compressor switch-off and switch-on</td>
<td>Min</td>
<td>0 – 240</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>C3</td>
<td>Compressor switch on minimum time duration</td>
<td>Second</td>
<td>0 – 240</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C4</td>
<td>Duration Comp. switch-off cabinet storage probe error“Pr1” (C5, C9)</td>
<td>Min</td>
<td>0 – 240</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>C5</td>
<td>Duration Comp. switch-on post blast chilling storage probe error“Pr1”</td>
<td>Min</td>
<td>0 – 240</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>C6</td>
<td>Condenser Temp. above which the blocked condenser alarm “COH” °C/°F</td>
<td>°C/°F</td>
<td>0 – 199</td>
<td>80</td>
<td>176</td>
</tr>
<tr>
<td>C7</td>
<td>Condenser Temp. above which block compressor alarm “CSd” °C/°F</td>
<td>°C/°F</td>
<td>0 – 199</td>
<td>90</td>
<td>194</td>
</tr>
<tr>
<td>C8</td>
<td>Block compressor alarm delay</td>
<td>Min</td>
<td>0 – 15</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>C9</td>
<td>Duration Comp. switch-on post deep freezing storage probe error“Pr1”</td>
<td>Min</td>
<td>0 – 240</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

### Defrost Parameters

<table>
<thead>
<tr>
<th>PAR</th>
<th>Description</th>
<th>Unit</th>
<th>Range</th>
<th>°C</th>
<th>°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>d0</td>
<td>Defrost interval  (0 = no defrost)</td>
<td>Hrs</td>
<td>0 – 99</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>d1</td>
<td>Type of defrost:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0 = Electric defrost (fan off)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Hot Gas (fan off)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Air (fan on)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 = air with door open (fan on)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d2</td>
<td>Defrost termination Temperature (coil) (also see d3) °C/°F</td>
<td>°C/°F</td>
<td>-99 – 99</td>
<td>7</td>
<td>45</td>
</tr>
<tr>
<td>d3</td>
<td>Defrost Duration (0 = defrost will never activate)</td>
<td>Min</td>
<td>0 – 99</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>d4</td>
<td>Defrost Start-up of blast chilling and deep freezing cycle (1 = yes)</td>
<td></td>
<td>0, 1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>d5</td>
<td>Defrosting delay on start-up</td>
<td>Min</td>
<td>0 – 99</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>d7</td>
<td>Drip time duration</td>
<td>Min</td>
<td>0 – 15</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>d15</td>
<td>Minimum duration of compressor switch-on activation of defrost</td>
<td>Min</td>
<td>0 – 99</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>d16</td>
<td>Duration of pre-dripping</td>
<td>Min</td>
<td>0 – 99</td>
<td>0</td>
<td>0</td>
</tr>
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</table>

### Temperature Alarm Parameters

<table>
<thead>
<tr>
<th>PAR</th>
<th>Description</th>
<th>Unit</th>
<th>Range</th>
<th>°C</th>
<th>°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Cabinet temp below setpoint which the minimum temp alarm activated</td>
<td>°C/°F</td>
<td>0 – 99</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>A2</td>
<td>Enabling of minimum temperature alarm</td>
<td>…</td>
<td>0, 1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>A4</td>
<td>Cabinet temp above setpoint which the maximum temp alarm activated</td>
<td>°C/°F</td>
<td>0 – 99</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>A5</td>
<td>Enabling of maximum temperature alarm</td>
<td>…</td>
<td>0, 1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>A7</td>
<td>Temperature alarm DELAY</td>
<td>Min</td>
<td>0 – 240</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>A8</td>
<td>Maximum temperature alarm DELAY</td>
<td>Min</td>
<td>0 – 240</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>A10</td>
<td>Duration power cut-off alarm memorized</td>
<td>Min</td>
<td>0 – 240</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>AA</td>
<td>Duration buzzer activation on End blast chilling &amp; deep freezing cycle</td>
<td>Second</td>
<td>0 – 240</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>A11</td>
<td>Parameter A1 &amp; A4 differential</td>
<td>°C/°F</td>
<td>0 – 99</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>A13</td>
<td>Memorization of Temp-Control blast chilling, deep freezing un-finish</td>
<td>…</td>
<td>0, 1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>A14</td>
<td>Reserved</td>
<td>…</td>
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<td>…</td>
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</table>
### Fan Operating Parameters

<table>
<thead>
<tr>
<th>PAR</th>
<th>Description</th>
<th>Unit</th>
<th>Range</th>
<th>ºC</th>
<th>ºF</th>
</tr>
</thead>
<tbody>
<tr>
<td>F0</td>
<td>Evaporator Fan during Pre-Cooling Blast chilling and deep freeing</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>0 = OFF with digital control signal K3</td>
<td></td>
<td>0, 1, 2, 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = ON, with digital control signal K3 see F16, F17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Parallel to the compressor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 = with analogue control signal (fan speed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1</td>
<td>Evaporator temperature above which evap fan is off during storage</td>
<td>ºC/ºF</td>
<td>0 – 199</td>
<td>7</td>
<td>45</td>
</tr>
<tr>
<td>F2</td>
<td>Evaporator Fan activity during storage</td>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>0 = OFF; 1 = ON; 2 = Parallel with comp.; 3 = ON, see F1</td>
<td></td>
<td>0, 1, 2, 3</td>
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<tr>
<td>F3</td>
<td>Duration of evaporator fan stand still</td>
<td>Min</td>
<td>0 – 15</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>F8</td>
<td>F1, F16, &amp; F17 parameter differential</td>
<td>ºC/ºF</td>
<td>0 – 15</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>F9</td>
<td>Evaporator fan switch-off delay from compressor switch off (parallel)</td>
<td>Second</td>
<td>0 – 240</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>F11</td>
<td>Condensor temp above which condenser fan switch on</td>
<td>ºC/ºF</td>
<td>0 – 99</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td>F12</td>
<td>Condensor fan switch-off delay from compressor switch-off</td>
<td>Second</td>
<td>0 – 240</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>F15</td>
<td>Evaporator fan delay from door closure</td>
<td>Second</td>
<td>0 – 240</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>F16</td>
<td>Evap temp above which evap fan is off during pre-cooling both cycles</td>
<td>ºC/ºF</td>
<td>-99 – 99</td>
<td>20</td>
<td>68</td>
</tr>
<tr>
<td>F17</td>
<td>Box temp above which evap fan is off during pre-cooling both cycles</td>
<td>ºC/ºF</td>
<td>-99 – 99</td>
<td>90</td>
<td>194</td>
</tr>
<tr>
<td>F18</td>
<td>Evaporator Fan Speed 1</td>
<td>%</td>
<td>0 – 100</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>F19</td>
<td>Evaporator Fan Speed 2</td>
<td>%</td>
<td>0 – 100</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>F20</td>
<td>Evaporator Fan Speed 3</td>
<td>%</td>
<td>0 – 100</td>
<td>60</td>
<td>60</td>
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<tr>
<td>F21</td>
<td>Evaporator Fan Speed 4</td>
<td>%</td>
<td>0 – 100</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>F22</td>
<td>Evaporator Fan Speed 5</td>
<td>%</td>
<td>0 – 100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>F23</td>
<td>Evaporator fan speed on during blast chilling 1=20%.....5=100%</td>
<td>...</td>
<td>1, 2, 3, 4, 5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>F24</td>
<td>Evaporator fan speed on during Deep Freezing 1=20%.....5=100%</td>
<td>...</td>
<td>1, 2, 3, 4, 5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>F25</td>
<td>Evaporator fan DELAY from compressor switch-on</td>
<td>Min</td>
<td>0 – 30</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Digital Inputs Parameters

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<thead>
<tr>
<th>PAR</th>
<th>Description</th>
<th>Unit</th>
<th>Range</th>
<th>ºC</th>
<th>ºF</th>
</tr>
</thead>
<tbody>
<tr>
<td>i0</td>
<td>Effect by opening the door</td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>0 = NO Effect</td>
<td></td>
<td>0, 1, 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Comp &amp; Evap fan OFF; Cabinet light ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Evap fan OFF; Cabinet light ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i1</td>
<td>Type of door switch input contact 0 = normal open; 1 = normal close</td>
<td></td>
<td>0, 1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>i2</td>
<td>Door alarm signal delay</td>
<td>Min</td>
<td>-1 – 120</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>i5</td>
<td>High pressure input</td>
<td></td>
<td>0, 1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>i6</td>
<td>High pressure input 1 (0 = normal open; 1 = normal close)</td>
<td></td>
<td>0, 1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>i7</td>
<td>High pressure alarm delay</td>
<td>Second</td>
<td>-1 – 240</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>i8</td>
<td>Low pressure input 1 (0 = normal open; 1 = normal close)</td>
<td></td>
<td>0, 1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>i9</td>
<td>Low pressure alarm delay</td>
<td>Second</td>
<td>-1 – 240</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>i10</td>
<td>Type of compressor circuit breaker protection</td>
<td></td>
<td>0, 1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>i11</td>
<td>Compressor circuit breaker alarm delay</td>
<td>Second</td>
<td>-1 – 240</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>i12</td>
<td>Reserved</td>
<td></td>
<td>...</td>
<td>...</td>
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</tr>
</tbody>
</table>
### Digital Outputs Parameters

<table>
<thead>
<tr>
<th>PAR</th>
<th>Description</th>
<th>Unit</th>
<th>Range</th>
<th>°C</th>
<th>°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>u1</td>
<td>Utility managed by output K8 (0 = pump down valve; 1 = alarm)</td>
<td></td>
<td>0, 1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>u5</td>
<td>Cabinet temperature over which door heater OFF</td>
<td>°C/°F</td>
<td>-99 – 99</td>
<td>6</td>
<td>43</td>
</tr>
<tr>
<td>u6</td>
<td>Switching on UV light for sterilization cycle duration</td>
<td>min</td>
<td>1 – 240</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>u7</td>
<td>Needle probe heating Temperature</td>
<td>°C/°F</td>
<td>-99 – 199</td>
<td>40</td>
<td>104</td>
</tr>
<tr>
<td>u8</td>
<td>Maximum duration of needle probe heating</td>
<td>min</td>
<td>1 – 240</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>u9</td>
<td>Needle probe heating on open door (0 = no; 1 = yes)</td>
<td></td>
<td>0, 1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>u11</td>
<td>Utility managed by the output K7 (0 = cabinet light; 1 = UV light)</td>
<td></td>
<td>0, 1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>u12</td>
<td>Pump down valve deactivate delay from compressor off</td>
<td>Second</td>
<td>0 – 999</td>
<td>10</td>
<td>10</td>
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</tbody>
</table>

### Communication Parameters

<table>
<thead>
<tr>
<th>PAR</th>
<th>Description</th>
<th>Unit</th>
<th>Range</th>
<th>°C</th>
<th>°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>L0</td>
<td>Reserved</td>
<td></td>
<td>...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L1</td>
<td>Recording interval during cycle</td>
<td>Min</td>
<td>0 – 240</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>L2</td>
<td>Recording interval during store</td>
<td>Min</td>
<td>0 – 240</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>LA</td>
<td>Device address</td>
<td></td>
<td>1 – 247</td>
<td>247</td>
<td>247</td>
</tr>
<tr>
<td>Lb</td>
<td>Baud rate</td>
<td></td>
<td>0, 1, 2, 3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>0 = 2,400 baud</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = 4,800 baud</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = 9,600 baud</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 = 19,200 baud</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LP</td>
<td>Parity</td>
<td></td>
<td>0, 1, 2, 3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>0 = none</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = odd</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = even</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Various Parameters

<table>
<thead>
<tr>
<th>PAR</th>
<th>Description</th>
<th>Unit</th>
<th>Range</th>
<th>°C</th>
<th>°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>E8</td>
<td>Keyboard lock function mode</td>
<td></td>
<td>0, 1, 2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>0 = disable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Manual with permanent effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = manual with temporary effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E9</td>
<td>Splash Screen display from “off” status to the &quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Please contact Factory for more details on control setting*

**DATA LOGGING & INFORMATION RELATIVE TO HACCP ALARM FUNCTIONS**

This control electronically logs data at all times when operating in the CHILL and Store Mode at a rate of 1 to 240 minutes intervals that can defined by the parameters L1, L2. This log is accessible through downloading information HACCP to view with your computer for printing and records.

1. Make sure the device is in the “Stand-by” status.
2. Insert an USB drive in the UBD serial port.
3. Press and release key (1) to select “DOWNLOAD HACCP”. Use Key (2) or Key (3) to set the day and time from with the information records, then press and release the START/STOP key (4); it will automatically started the writing into the USB drive in CSV format. The writing procedure can take some minutes.
To set the kind of information to be downloading operated as follows:

3.1 Make sure the device is in the “ON” status.
3.2 Make sure the keyboard is not Locked and no procedure is in progress.
3.3 Press and release HOME key (1), press and release the MENU key (2), then press and release the key (3) to select “HACCP ALARMS”

3.4 Press and release the key (4), then press and release key (5) to select “SETUP RECORDING”.
3.5 Press and lease the “SET” key, press and release “UP” or “DOWN” key to select the information, then press and release the (+) or (-) to add or remove it.
3.6 To exit press and release “ESCAPE” key or left alone for 60 seconds.

4. To end of the download simply remove the USB drive from the USB port.
PLACE FOOD IN PANS FOR CHILLING AS IT IS PRODUCED

Temperature of food should be above 140EF.

No attempt should be made to cool food before blast chilling (some cooling does occur, however, as the food is placed in pans and while the rack is loaded).

**WARNING**
Do not use disposable metal or aluminum foil pans since they lack the handling stability needed for chilled foods. Chilled foods are not rigid like frozen foods.

Pans used for all procedures (including blast chilling, tray assembly, and/or bulk rethermalization) should be:

- Suitable for blast chilling
  1. Stainless steel or aluminum permanent ware
     a. 12” x 20” x 2-1/2” pans
     b. Also 18” x 26” or fractional size pans can be used with wire shelves

- Lids or covers of any kind are NOT used during blast chilling

- Cover foods AFTER blast chilling

- Label food pans
  1. Include type of food and date of production (see your Cook-Chill Training Manual)

- Stored under normal refrigeration conditions
PLACE PANNED FOOD ON RACK FOR CHILLING

Rack should be:

Fully loaded with pans of food before it is moved into the Blast Chiller

| NOTICE |
| Partial loads of food do not reduce the effectiveness of the Blast Chiller. |

Pan placement:

- There is no requirement for specific placement of foods on the rack
- All locations are equally exposed to the flow of super-cooled air within Blast Chiller.

CHILLING RATES FOR BLAST CHILLER

Chilling rates are dependent upon food:

- Density
- Mass
- Input temperature

Example:
Blast chilling rates vary:
- Light density foods (such as eggs) may require 12-15 minutes of blast chilling time
- High-density foods such as stews or roasts may require up to 90 minutes of blast chilling time
- Pans of poached, scrambled, or fried eggs cool to 36-40°F more quickly than pans of beef stew
- Check food temperature with an accurate hand-held thermometer

| NOTICE |
| See your Cook-Chill Training Manual for suggested chilling times. |

LEAVE FOODS UNCOVERED DURING BLAST CHILLING

- Pans of food should not be covered during blast chilling
  1. Covers:
     a. Shield food
     b. Cause slow foods surface cooling
     c. Increase the food cooling time

- Covers should be used after blast chilling.
BLAST CHILLER START UP AND OPERATIONAL CHECK

Perform the final check list

PERFORM THE FINAL CHECKLIST

- Check the high-low pressure control settings on the condenser unit. Set the low-pressure control to cut out at 10 lbs. on pump down.

- Check and record operating pressures, see installation data sheet

- Check the electrical requirements of the condensing unit. Check the electrical requirements of the blast chiller box, fans, controls, etc. Record on installation data sheet.

- Compare the requirements against the following:
  1. Power supply
  2. Amperage draw

- Set the temperature control for the desired temperature range
  1. Locate the thermostat inside the control box (see drawing on opposite page)
  2. Holding temperature should be 37 °F
  3. Blast Chilling temperature should be 35°F
  4. Blast freezing temperature should be -10°F

- Check the superheat setting of the thermostatic expansion valve for proper operation

- Check the sight glass for proper refrigerant charge

- Check the compressor oil level

- Check the condensing units for vibrating or rubbing tubing
  1. Dampen or clamp as needed

- Replace all service valve caps and latch unit covers

- Do not let the condensing unit run in a vacuum
CLEANING

To clean usual food stains and spills:
- Use a clean cloth
- Dampen cloth in soap or detergent water
- Clean the surface
- Follow with a clean cloth dipped in hot water
- Avoid excessive amounts of water
- Clean food stains and spills immediately to reduce the cleaning effort

DANGER
Avoid electrical shock hazard:
- Flip "Master" switch to the OFF position
- Do not spray with water or steam

CAUTION
Only use cleaners for stainless steel or aluminum:
Fantastic, Formula 409, Scotch-Brite, dishwashing detergent, or ammonia-based products are recommended. Follow all directions for safe use of these products.

IMPORTANT

Do not use metal tools to clean any part of the Blast Chiller

CAUTION
Do not use steel wool. Do not use cleaners containing lye or chlorine. These products may damage the finish of the Blast Chiller.

Exterior cleaning:
- Refer to "Cautions" above when preparing and using cleaning solutions.
- Dip towel in the cleaning solution. Wipe down the cabinet. Allow surfaces to dry.
- Wipe surfaces with towel and stainless steel polish (or towel and lemon oil). Polish with a clean, soft cloth.
INSTALLATION DATA

Complete the following data. Three copies are enclosed:
1. Retain one copy for your records
2. Return one copy to Master-bilt, 908 Highway 15 North; New Albany, MS 38652
3. Leave one copy at the installation site

Model # ________________________________

Company/Organization: ________________________________

Street Address: _______________________________________

City/State: ___________________________________________

Date System Installed: _________________________________

Name and Address of Blast Chiller Installer: ______________

   Phone: ______________________________

Compressor/Condensing Unit(s):

   Electrical: _______ Volts: _______ Phase: _______

   Model #(s)______________________________

   Serial #(s)______________________________

Thermostat Setting:

   Electrical:        Volts        Phase

   Holding   _____EF   _____EF   _____EF   _____EF

   Chilling    _____EF   _____EF   _____EF   _____EF

Operating Pressure:

   Suction: ______psig    Liquid: ______psig
INSTALLATION DATA

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Company/Organization: _____________________________________________

Street Address: _____________________________________________________

City/State: _________________________________________________________

Date System Installed: ______________________________________________

Name and Address of Blast Chiller Installer: _____________________________

        Phone: _________________________________

Compressor/Condensing Unit(s):

Electrical: ___________ Volts: ___________ Phase: ___________

Model #(s)_______________________________________________________

Serial #(s)_______________________________________________________

Thermostat Setting:

<table>
<thead>
<tr>
<th></th>
<th>Volts</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holding</td>
<td>_____EF</td>
<td>_____EF</td>
</tr>
<tr>
<td>Chilling</td>
<td>_____EF</td>
<td>_____EF</td>
</tr>
</tbody>
</table>

Operating Pressure:

Suction: ___________ psig  Liquid: ___________ psig
INSTALLATION DATA

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Model #(s)____________________________________

Serial #(s)____________________________________

Thermostat Setting:

Electrical: Volts Phase

Holding _____EF _____EF _____EF _____EF

Chilling _____EF _____EF _____EF _____EF

Operating Pressure:

Suction: ___________ psig  Liquid: _________ psig