R&D
FIXTURES *by*
PIPER PRODUCTS

INSTALLATION AND OPERATING MANUAL

Salad Bars   Olive Bars   Food Prep Cases

Refrigerated Cases with Air-Over Displays
Refrigerated Cases with Coppered Cold Well Displays
Cases with Under-Counter Refrigerators

IMPORTANT!

This manual contains important safety information concerning the maintenance, use and operation of this product. Failure to follow these instructions could result in damaging equipment, voiding the warranty, serious injury or even death.

FOR PARTS & SERVICE
Contact: Piper Products, Inc.
Phone: (800) 544-3057
Ask for Service Department

Installation and Operating Manual

Refrigerated Cases with Air-Over Displays
Refrigerated Cases with Coppered Cold Pan Displays
Cases with Under-Counter Refrigerators

Inline and Island Salad Bars
Inline and Island Olive Bars
Inline, Island, Mobile Food Prep Cases

Table of Contents

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Location of the Food Bar

These merchandisers are designed for displaying products in air-conditioning stores where temperature is maintained at or below the ANSI/NSF-7 specified level and relative humidity is maintained at or below 55%.

Placing refrigerated units in direct sunlight, near hot tables or near other heat sources could impair their efficiency.

These merchandisers are sensitive to ambient air conditions. Air currents passing around the units will seriously impair their operation. Do Not allow air conditioning, electric fans, open doors or windows, etc. to create air currents around the merchandisers.

Safe Electrical Installation

- If the unit uses an electrical plug, always connect to a properly grounded electrical outlet of correct voltage, size and plug confirmation.

- If the unit requires an electrical line to be connected to an internal load center or junction box, have a qualified electrician perform the installation.

- Always follow local, state, federal, and NEC electrical and plumbing codes to ensure compliance.

- All servicing which requires access to non-insulated electrical components must be performed by a factory authorized technician.

- Do not operate the unit if the electrical components appear damaged.

- Check the rating label for electrical rating.

Safe Electrical Installation (Remote Units Only)

- Disconnect power before servicing or working on the unit.

- Consult an electrician for proper installation. **Caution—Risk of Electrical Shock.**

- Make the electrical connections after the sections of the counter have been physically secured together.

- Wherever two counter sections mate, one section will be provided with wires routed in conduit which terminate in a junction box. The other section will be provided with wires routed in conduit which either terminate in a junction box or extend approximately 6 in. (15.2 cm) from the end of the conduit.

- If the wires in both sections of the counter terminate in junction boxes, the provided fitting should be used to secure the two junction boxes together. The wires in one of the junction boxes should be routed through the fitting into the other junction box.

- If the wires in one of the sections do not terminate in a junction box, the wires that extend from the end of the conduit are to be routed through the opening provided into the junction box to the other section. The conduit is to be secured to the junction box with the provided fitting.

- The leads in the junction box are to be matched-up according to the identifying stickers on the lead ends.

- All electrical connections are to be made in the junction box.

- The junction box cover is to be secured in place.

Safe Plumbing Installation

- If the unit requires a drain, have a qualified plumber perform the installation.

- Some jurisdictions may require an approved air gap or other flow back prevention device in the drain.

Safe Refrigeration Installation (Remote units only)

- If the unit requires a remote condenser, have a qualified refrigeration technician connect the suction and liquid line to the facilities system. For units with two cold pans, there are two options:

  1) Run two suction and two liquid supply lines so each cold pan gets independently connected.

  2) Run a single suction and a single liquid supply line to a tee and connect each cold pan from the tee. Be sure the single suction and single liquid lines are large enough to accommodate both pans.

- Be sure to use the correct refrigerant and to have the solenoid value for each cold section/cold pan installed.

- Each cold section/cold pan has a thermostat that needs to be set correctly. See the Factory Settings table in the **Operations for Cold Food Units** section of this manual.

- Once the connections are made, the unit must be evacuated to -400 microns and hold for 1 hour.

- Have the technician perform a sniff and leak test to ensure the connection is complete.

Safe Cleaning and Maintenance

- To avoid injury, disconnect the unit from the power source or multiple power sources before performing any maintenance or cleaning. Do not clean while unit is still hot or cold.

- Never clean unit by immersing or spraying it with water.

- Do not store any combustible material or cleaner inside or around the unit.

- All surfaces should be cleaned by hand with a mild anti-bacterial detergent and cloth. Never use iron or steel wool, sharp or metal objects, acids, strong chemicals, oven cleaner, or abrasive or caustic cleaners as they will cause permanent damage including scratches and discoloration.

- Thoroughly clean the unit before first use.

- If the unit has a condenser, be sure to clean the fins of dust and debris every month.

- Be sure the unit is not located near a door to the outside or a heating/air conditioning vent.

Ambient Conditions Considerations

After installation this unit requires an initial adjustment procedure to find the correct settings that works with ambient conditions surrounding the equipment.

Setup time to determine optimal unit temperature will vary depending on ambient conditions. If conditions vary throughout the day, or from season to season, the unit's temperature settings will require adjustment to account for those changes.

Open air chilling mechanisms are impacted by surrounding air temperatures. Be sure the unit is not located near a door to the outside or a heating/air conditioning vent.

Operation Instructions for Cold Food Units

- Self-contained units should be turned on and allowed to cycle twice before adding product. See the section entitled: Dixell Settings for instructions on how to set temperature.

- Remote units should be turned on and allowed to cycle two times after super-heat is adjusted before adding product. See the section entitled: Dixell Settings for instructions on how to set temperature.

- On air-cooled units (air-over/air-under) with refrigerated display for packaged food:

  - containers should not be stacked more than 2 levels high.
  - product should be placed about 1" from the back wall and have about 1" spacing between each product container to allow cold air flow around all sides of product.

Product Containers
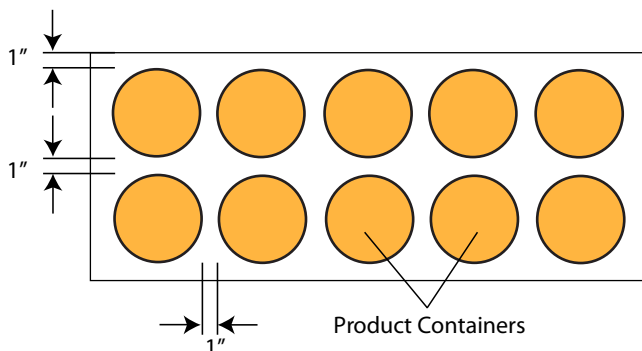
Temperature settings for Air-Over Display units:

R&D Fixtures' refrigerated units have two (2) different configurations.

1. On a unit with the temperature probe in the coil - sensing *coil temperature*:
   The SET point is 20° F.
   This allows the unit to produce a discharge air temperature @ 30°

2. On a unit with the probe in the discharge- sensing *discharge air temperature*:
   The SET point is 30° F.
   This allows the unit to maintain a product temperature of 36° to 38°.

The defrost settings on these units are identical. The defrost termination probe must be placed in the evaporator coil to be able to sense the coil temperature and allow the controller to bring the unit out of defrost when the coil has reached an ice free temperature.
The temperature settings may have to be slightly adjusted on individual units depending on the store's ambient air temperature and moisture level.

Remember that this unit is designed to *maintain* a product's temperature. It is not designed to bring a warm product's temperature to the required refrigerated level. All product placed in this unit must be at 38° or below for the unit to maintain a safe food temperature.

Never stack product in a way that blocks the air flow from the unit. Maintaining a good air flow allows this unit to run more efficiently. Blocking the return air grills on these units will cause a freeze up of the evaporator coil and voids the warranty.

Air Over/Air Under Drop-In Cold Pan Positions

NOT RECOMMENDED	OPTIMAL POSITION	REQUIRES MORE ENERGY
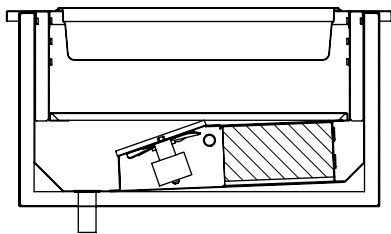
TOP POSITION:
In upper position there is no cold air flow OVER the product. In this postion more stirring is required to keep product cold.
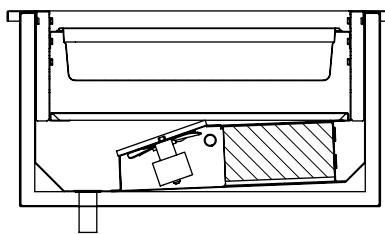
MIDDLE POSITION:
In the middle position there is optimal cold air flow both over and under the pan.
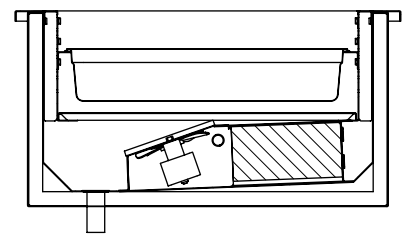
LOWER POSITION:
In lower position there is more cold air flow over the top of the product but it requires more energy to cool.

Flat well air-over cold pans do not function properly in an angled position. If an angled position is preferred, a separate, angled, air-over cold well is available for factory installation.

Dixell Settings
Copper Cold Well Displays:

If the probes are both in the Evaporator coil please use the following settings
(these are factory settings):

SET = 15°   This is the temperature setting.
HY = 2   This is the temp differential.
Ot = 0   This is probe calibration 0 unless adjusted by trained tech.
P2P = n   This signifies the defrost termination probe is not present.
AC = 3   This is the anti short cycle setting for a self-contained system. 3 minutes between starts.
            (AC = 0 on Remote Systems)
rES = in   This is a resolution setting and should not be changed.
tdF = EL   This is the setting for type of defrost. EL is electric and uses the fans to defrost.
dtE = 42   This is the defrost termination setting. At 40° the unit comes out of defrost.
IdF = 6   This is the interval between defrost - 6 being every 6 hours.
MdF = 30   This is the Max. Defrost length - 30 being 30 minutes.

These settings may need to be modified for specific store environments. Ideal length of the defrost cycle will vary depending on the ambient conditions. If the humidity level in the store is high, more ice will form in the cold pans and defrost time/sequence will need to be changed from the factory settings.

To fine tune defrost cycles we encourage you to call our service line and speak to our technician.
Service/Support: 888-827-6820 ext. 240

Temperature setting:
To set the temperature,
first press and release the SET button. This will show the current set point.

To adjust the temperature,
press and hold the SET button until the display shows the set point. Once the current set point is visible, use the up or down arrows to change the setting.

When the new set point has been reached, press the SET button one more time.

Parameter set point changes:
   • Access the parameter settings by pressing SET and the Down arrow at the same time
      until HY appears.
   • Press the SET button again to go to the setting for HY.
   • By pressing SET the label appears, then the set point.
   • If a change is made to a set point, press SET - when the set point flashes,
      move to the next label.
   • When the last change has been made, wait about 10 seconds and the controller will move
      back into the operation mode.

!! Important Notes !!

- **Cold Food units are intended to MAINTAIN product temperature**, not to bring a warm product down to holding temperature. Food should be below 40° (F) when placed into the food pans or refrigerated display area.

- Always put food into the inset pans. DO NOT place food directly into the cold well.

- **Do not over-fill the pans.** The level of the food in the pans should not exceed the depth of the inset pan. Mounting food above the rim of the pan will cause the food on top to not be chilled properly and the temperature could rise above health department temperature limits.

- Stir food items every 30 minutes (or more depending on local health department guidelines) to keep contents uniformly chilled.

- **Temperature test pan contents at regular intervals using a sanitized probe thermometer fully inserted into the food.** Temperature above 40° (F) allows bacteria to grow and will not pass local health inspection guidelines. Food temperature must be checked throughout the day to assure correct holding temparature is achieved and maintained. Check with your local health department for temperature testing guidelines.

- Use local health department guidelines to determine maximum time food may remain in the unit.

- **DRAINS ARE FOR CONDENSATE WATER ONLY!** Do not pour chemicals, oils, or liquids from food down the cold wells or drains. Units with condensate pans evaporate water by using heat. Pouring anything other than condensate water down the Condensate Pan drain creates a fire hazard and voids the warranty.

TERMS AND CONDITIONS

SHIPMENTS	Orders, except those for non-stocked buy-outs, are shipped F.O.B. , Mt. Juliet, Tennessee. Non-stocked buy-outs are shipped F.O.B. source of supply. Unless otherwise specified on the order, method of shipment will be common carrier. Freight is prepaid on all orders and added to the invoice, except those which are C.O.D will be shipped freight collect.
FREIGHT CLAIMS	All claims must be made directly with the carrier. "ALL DAMAGE MUST BE NOTED ON THE BILL OF LADING AND R&D FIXTURES MUST BE NOTIFIED WITHIN 24 HOURS"
RETURN GOODS	Written authorization is required before any item will be accepted. Send written requests to R&D Fixtures within 60 days after receipt of fixtures. A restocking charge of 25% of the sale price plus freight and tax will be charged on all returns and must be paid prior to a return authorization being issued.

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PIPER PRODUCTS, INC. LIMITED WARRANTY

All Piper products are warranted to be free of defects in material and workmanship for a period of 12 months from date of purchase on all parts and labor.

Piper Products, Inc. warrants to the original purchaser that its equipment will be free from defects in the materials and/or parts for a period of 12 months from date of shipment and reported to the factory.
The purchaser is responsible for having equipment properly installed, operated under normal conditions with proper supervision and to perform periodic preventative maintenance. Equipment failures caused by inadequate water quality, improper cleaning, harsh chemicals, or acids are not covered under warranty.

The manufacturer's obligation under this warranty shall be the replacement or repair of defective parts within the warranty period. Excessive labor (more than 1/2 hour) required to access Piper equipment built into cabi¬nets, tables or structures by others, is NOT covered under labor warranty. Example: Piper multiple- or single-well food wells. All labor shall be performed during regular working hours. Overtime premium will be charged to buyer. After thorough examination, the decision of the Piper Products Service Department shall be final.

Any defective parts to be repaired or replaced must be returned to Piper Products, Inc., 300 South 84th Avenue, Wausau, WI 54401, transportation charges prepaid, and they must be properly packed and tagged. The serial and model number of the equipment and date of original installation of such equipment must be given. However, after one year we will not assume any responsibility for any expenses (including labor) incurred in the field incidental to the repair or replacement of equipment covered by this warranty. Our obligation hereunder to repair or replace a defective part is the exclusive remedy for breach of this warranty; and we will not be liable for any other damages or claims, including consequential damages.

If, upon inspection by Piper Products, Inc. or its Authorized Service Agency, it is determined that this equipment has not been properly installed or has not been used in an appropriate manner, has been modified, has not been properly maintained, the warranty will be void. Also, if the nameplate or other identifying marks have been removed, defaced or changed or the unit has been repaired or altered by persons other than expressly approved by Piper Products, Inc., the warranty will be void. If the equipment has been subjected to misuse or misapplica-tion, neglect, abuse, accident, damage during transit or delivery, fire, flood, riot or acts of God, then this warranty shall also be void. When any situation occurs which voids the warranty the manufacturer shall not be liable for any damage to any person or any property which may result from the use of the equipment thereafter.

Warranty is limited to Piper manufactured products only and does not apply to other equipment which may be connected to or installed within.

No representative, dealer, distributor or any other person is authorized or permitted to make any other warranty or obligate Piper Products, Inc. to any liability not strictly in accordance with this policy.

This warranty is in lieu of all other warranties expressed or implied, including any warranty of merchantability, and fitness for a particular purpose. Piper Products does hereby exclude and shall not be liable to purchaser for any consequential or incidental damages including but not limited to damages to property, damages for loss of use, loss of time, loss of profits or income, resulting from any breach of warranty.

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Food Holding Temperature Work Sheet

Date: _____

Time_____ Set Point setting_____ Temperature Setting_____ Product temp._____

Time_____ Set Point setting_____ Temperature Setting_____ Product temp._____

Time_____ Set Point setting_____ Temperature Setting_____ Product temp._____

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