



Service & Installation Instructions

Keep this booklet for future reference

- BWU SERIES
- BWU-BCC SERIES
- BWU-RB SERIES

For Additional Copies Please Contact:

Barker Specialty Products by Hill PHOENIX
703 Franklin Street
P.O. Box 478
Keosauqua, Iowa 52565
Tel: 319/ 293-3777
Fax: 319/ 293-3776

Or Visit:
www.hillphoenix.com

Table of Contents

General Information

Case Descriptions	-3
Shipping Information	-3
Case Sections	
BWU-D Series	-4
BWU-R Series	-4
BWU-BCC Series	-5
BWU-P Series	-5
BWU-RB Series	-6
Mechanical View	-6

Installation Instructions

Location	-7
Crate Removal	-7
Compressor	-7
Drain, Electrical and Refrigeration	
Connections for remote Cases	-7
Shelf Installation	-7
Door Installation	-7
Cart Bumper Installation	-8

Refrigeration Information

Case Operation	-9
Typical Component Settings	-9
Refrigeration Loads	-9
Electronic Thermostat	-9

Electrical Information

Amperage Information	-11
Wiring Color Code	-11
Timers	-11
Ballast Information	-12

Maintenance Information

Cleaning	-13
Light Bulb Replacement	-13
Load Limits	-13

Service

Ballast Box Access	-14
Compressor Area Access	-14
Service Department	-15
Parts	-15

Warranty	-16
-----------------	------------

IMPORTANT!!
KEEP FOR FUTURE REFERENCE

General Information

This booklet contains information on:

BWU SERIES

Self-Service Refrigerated or Dry Bakery Wall Unit

BWU-RB Series

Dry Pastry Self-Service Merchandiser with Plexiglas Roll Bins

BWU-BCC Series

Combination Dry Pastry & Refrigerated Self-Service Merchandiser

The BWU Series has been approved for the following standards:



Shipping Information

IMPORTANT!

FOR YOUR PROTECTION PLEASE READ AND OBSERVE THE FOLLOWING INSTRUCTIONS:

Transportation companies assume all liability from the time a shipment is received by them until the time it is delivered to the consumer. Our liability ceases at the time of shipment.

All shipments leaving our plant have been carefully inspected. If a shipment arrives with the crating or packaging damaged, have the carrier note the condition on the receipt. Check as soon as possible for concealed damage.

If it is found that the shipment has been damaged in transit, please DO NOT return it to us, but notify and file

a claim with the carrier at once. **FAILURE TO FOLLOW THIS PROCEDURE WILL RESULT IN REFUSAL BY THE CARRIER TO HONOR ANY CLAIMS WITH A CONSEQUENT LOSS TO THE CONSUMER.**

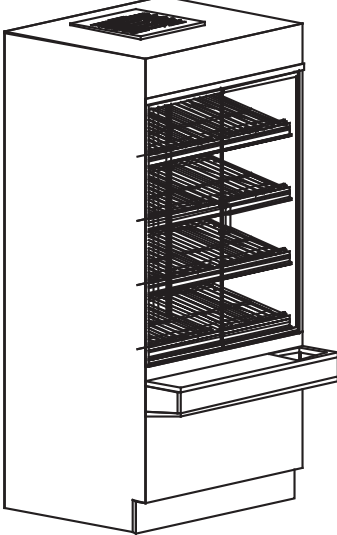
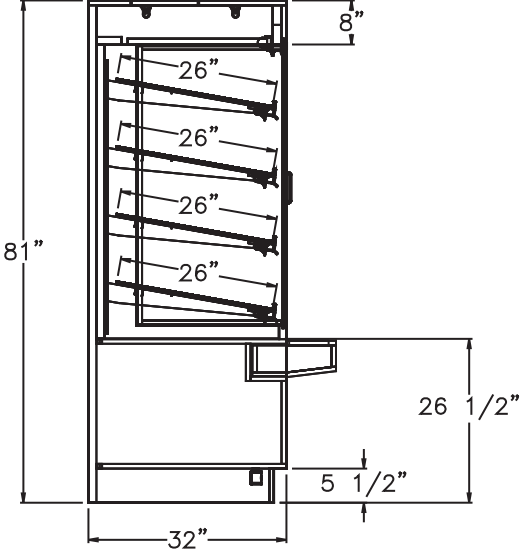
If a UPS shipment has been damaged, retain the damaged material and the carton and notify us at once.

WE will file a claim.

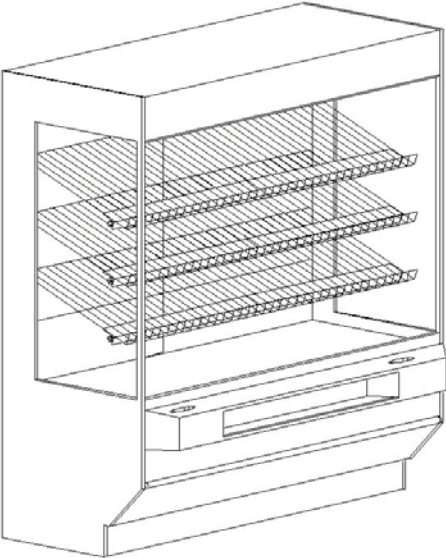
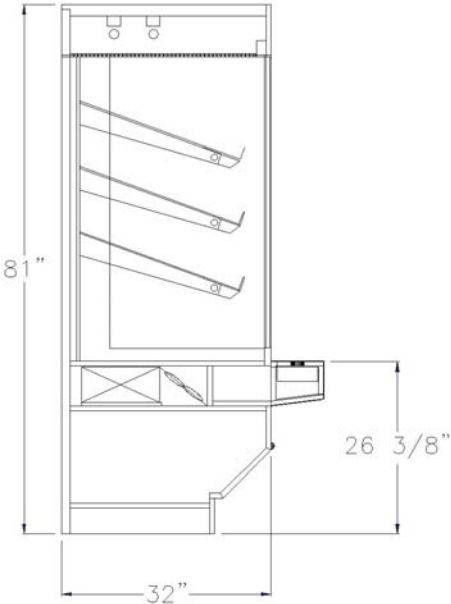
GOODS SHOULD NOT BE RETURNED FOR CREDIT UNLESS AUTHORIZED BY OUR SALES DEPARTMENT.

Case Drawings

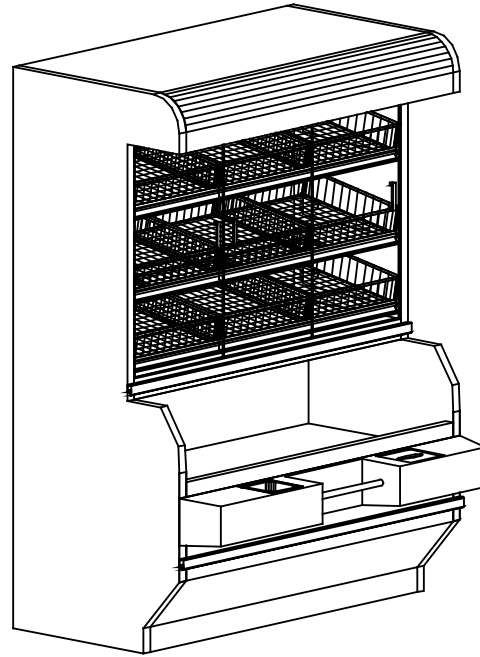
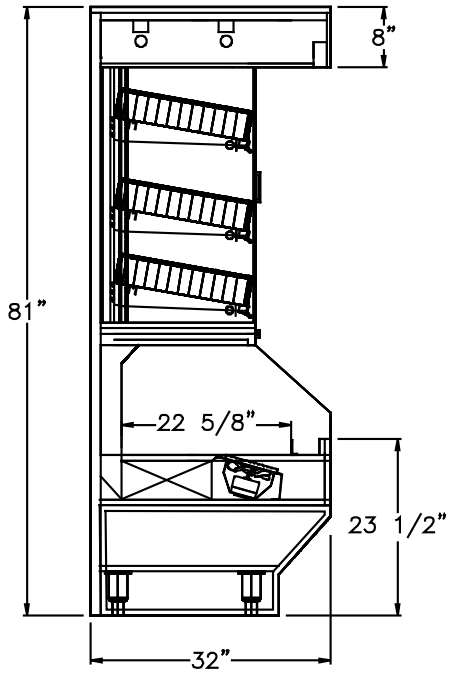
BWU-D Series



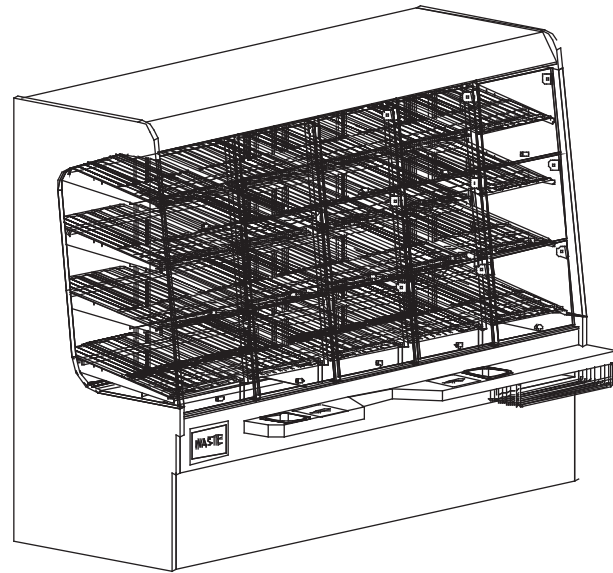
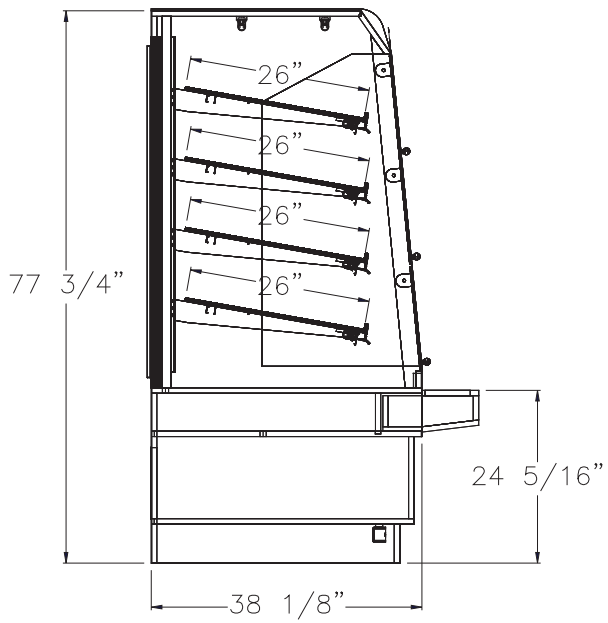
BWU-R Series



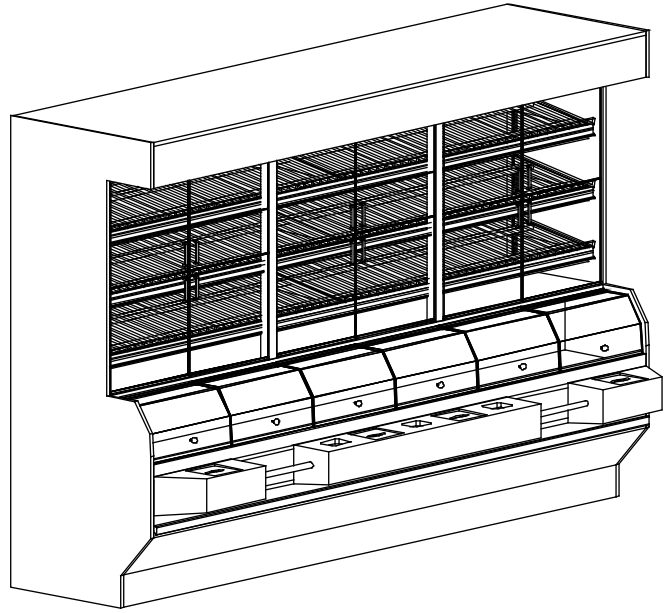
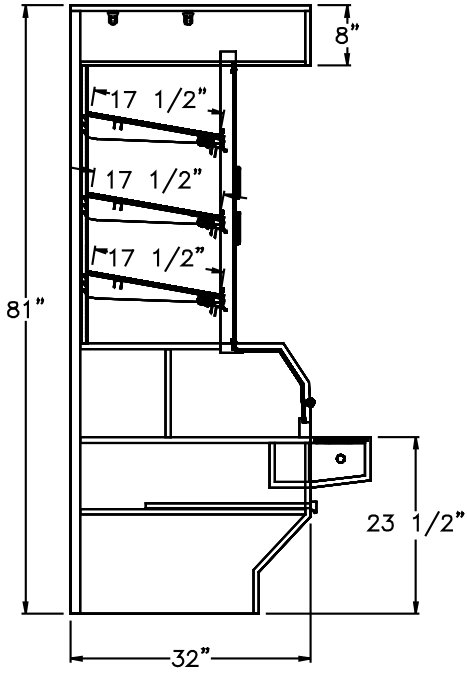
BWU-BCC Series



BWU-P Series



BWU-RB Dry Series



Installation Instructions

Crate Removal

Move case as close as possible to its location. Loosen the plastic dust cover from the pallet, but leave cover over the case to protect it while removing the case from the pallet. Carefully lift case up and off pallet being careful that leveling pads clear the pallet. Slide pallet from under case. Shipping blocks are attached to pallet and do not need to be removed. Note: Locate the horizontal supports underneath of unit before removing from pallet, damage to the finished metal will occur if correct lift points are not identified prior to removal.

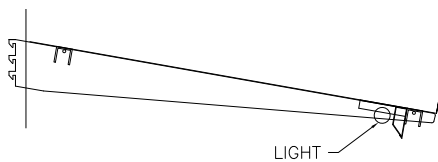


Compressor

All Self-Contained cases are equipped with a shipping block under the compressor. This block must be removed upon installation. Failure to remove the block will result in excessive noise, refrigeration leaks and will void warranty protection. Loosen all four nuts on the compressor hold down screws. Lift or pry the compressor up and remove the shipping block. Do not retighten screws, as the compressor should be left free to float on the spring mounts.

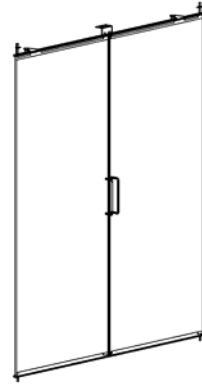
Shelf Installation

1. Install all shelf brackets first to determine height preference and to align chords with plugs.
2. Install supports beginning with the back support. Supports should straddle screws on the brackets.
3. Middle supports have a clip on them. Install so clip faces backwards and support straddles screws.
4. Install light bar across front of shelf bracket. Place chords in chord holders.



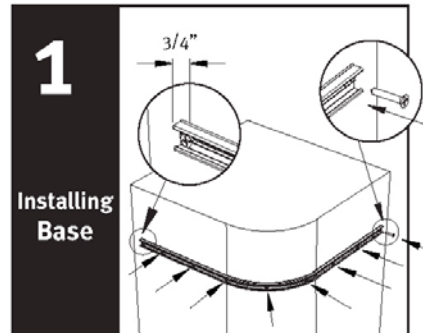
Door Installation

1. Install doors, top going in first.
2. Place steel bearing set on the bottom hinge, let the door down slowly into the black bushing.
3. Remove nut from door, pull out closer arm and attach to door. Install washer and nut.
5. Check and see if door swings freely.

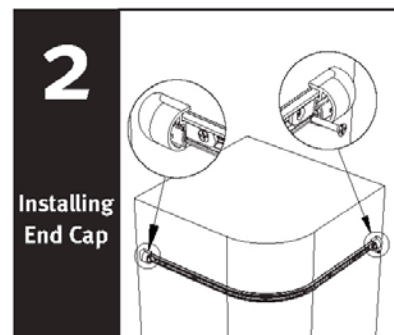


Cart Bumper Installation

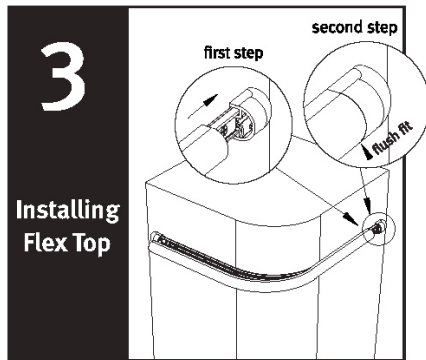
Note: If merchandiser is ordered with cart bumper, step 1 & 2 are completed at the factory.



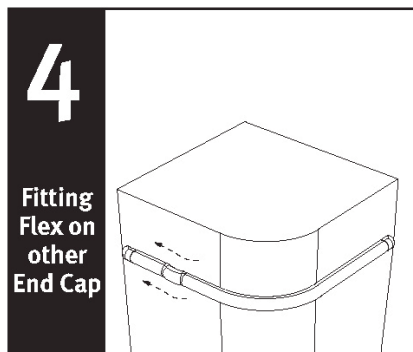
Cut plastic base to desired length of fixture. When using end caps be sure to cut base 3/4" short of fixture edge. When using corners, be sure to cut base so that it is flush with fixture edge. secure base to fixture with screws every 4" on center. Make sure to put a screw 3/8" away from the cut end of base.



SNAP end caps or corners onto the base extrusion. Secure with #8 flat head phillips screws.



When installing flexible bumper top, the cut ends need to be as straight as possible. To mount on a curved or flat surface, start at one end and attach bumper to base by hooking bumper top onto track, then snap bottom portion into place and slide bumper against the end cap for a flush fit. Continue to hook bumper onto base track with your hand or using a rubber mallet until you reach other end cap. NOTE: Cover mallet with a cloth to prevent marring the bumper finish.



Mark and cut tail end of flexible bumper at least 1/8" longer than beyond the end cap position. NOTE: Make sure the end cut is straight and square for proper fit. Slightly retract the bumper in order to feed cut end into the end cap as you finish hooking the top and bottom edges of the bumper onto the base track. You should feel and hear the bumper snap into place for a snug fit.



Finally, check for proper fit and attachment along the entire length of bumper which is either on the wall or a fixture. Make sure you have a smooth and flush fit against the end caps. NOTE: Clean any dust or debris with a cloth and non abrasive cleaner.

Helpful Hints:

- Set the uncoiled flexible vinyl at room temperature 24 hours prior to installation.
- Over cut the flexible vinyl and compression fit. Adding the additional material will compensate for stretching which occurs during installation.
- Use a clean, dry cloth and any mild household cleaner or soap solution; spray and wipe clean

For Refrigerated Cases

Location

This refrigerated display case has been designed for displaying and the storage of perishable food product. It is engineered for air-conditioned stores with a maximum ambient of 75° F and 50% relative humidity.

When selecting the location for placement of this case, avoid the following conditions:

Excessive air movement

- Doors
- Air-conditioned vents
- Other air sources

Excessive heat

- Windows
- Sun
- Flood lamps 8 feet or less from the product
- Other heat sources

NOTE: A 12" clearance is necessary for condenser coil to run correctly. Do not block.

Drain, Electrical and Refrigeration Connections on Remote Cases

NOTE: Barker remote units are shipped with a dry nitrogen charge of approximately 10 lbs. pressure in the evaporator coil. During installation if nitrogen charge is not present, leak check accordingly

1. Connect drains to existing floor drains.
2. Electrical connections are made through the power supply box of each case (see mechanical plans for each case).
3. Refrigeration connections will be made through the refrigeration stub up (see mechanical plans for each case). For proper refrigeration performance, Product must not be placed in a position where it may affect the air curtain.

Refrigeration Information

Case Operation

Refrigeration

The refrigeration in this case is thermostatically controlled. The case refrigerates until the cut out point on the thermostat is reached. The thermostat opens, cutting power to the liquid line solenoid. The compressor continues to run, the system pumps down causing the pressure switch to open, cutting power to the compressor. Note: Some cases may be ordered with EPR valves to control case temperature.

Defrost

Cases have two different types of defrost; hot gas and off cycle.

The hot gas defrost system is time initiated; temperature and time terminated. The defrost timer energizes the defrost solenoid and de-energizes the liquid line solenoid. When the temperature in the case reaches 40°, the defrost terminator thermostat de-energizes the hot gas solenoid. The system pumps down and the pressure switch cuts power to the compressor. The unit stays in off cycle defrost until the defrost timer re-energizes the liquid solenoid.

NOTE: The evaporator fan runs continuously.

On the off cycle defrost system, the timer cuts the power to the liquid solenoid causing the compressor to pump down to the cut out point on the pressure switch. The unit stays in off cycle defrost until the defrost timer re-energizes the liquid solenoid.

NOTE: The evaporator fan runs continuously.

Typical Component Settings

1. Thermostat cut out: 26°-28°, 6° differential
2. CRO valve:

404A	75°
134A	N/A
5. TXV: 10° Superheat
6. Pressure switch:

404A	Low - 20 lb/ 55 lb	High - 350 lb
134A	Low - 7 lb/ 25 lb	High - 225 lb

NOTE: The above settings are approximate and will vary slightly with product load, lighting, store ambient conditions, etc. Evaporator fans run constantly.

Refrigeration Loads

Model	BTU Lin/Ft	Evap Temp	Defrost
BWU SERIES			
BWU-40	1400	+20°	20"/4hr.
BWU-48	1400	+20°	20"/4hr.
BWU-59	1400	+20°	20"/4hr.
BWU-78	1400	+20°	20"/4hr.
BWU-96	1400	+20°	20"/4hr.
BWU-116	1400	+20°	20"/4hr.
BWU-120	1400	+20°	20"/4hr.
BWU-144	1400	+20°	20"/4hr.

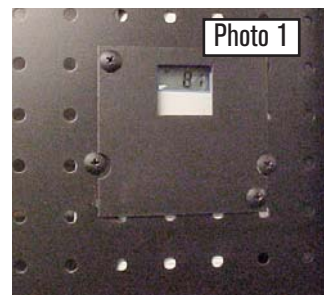
BWU-BCC SERIES

BWU-40 BCC	650	+20°	20"/4hr.
BWU-48 BCC	650	+20°	20"/4hr.
BWU-59 BCC	650	+20°	20"/4hr.
BWU-77 BCC	650	+20°	20"/4hr.
BWU-96 BCC	650	+20°	20"/4hr.
BWU-116 BCC	650	+20°	20"/4hr.
BWU-120 BCC	650	+20°	20"/4hr.

Electronic Thermostat

The electronic thermostat is located in the inside back (see photo 1) or behind the front toe-kick (see photo 2). The thermostat is equipped with a liquid crystal display providing a constant readout of the sensed temperature.

NOTE: The LCD display will be blank during defrost. A touch keypad that allows the users to select the set point temperature, differential and the heating/cooling modes.



Programming Steps for the ETC, Electronic Temperature Control

All thermostats are pre-set and cycle checked at the factory.

- STEP 1: Press the set key once to access the Fahrenheit/Celsius mode. The display will display either **F** degrees Fahrenheit or **C** for degrees Celsius. Press the **up** arrow or the **down** arrow so the display indicates **F**.
- STEP 2: Press the set key again to gain access to the set-point. The LCD will display the current Set-point and the **S1** will be blinking. Press the **up** arrow to increase or the **down** arrow to decrease the temperature setting.
- STEP 3: Press the set key again to gain access to the differential. The LCD will display the current differential and the **DIF 1** will be blinking. This should be set at 2°F.
- STEP 4: Press the set key again to gain access to the cooling or heating mode. The LCD will display the current mode. Press either the **up** arrow or the **down** arrow to set the display in the **C1**, cooling mode.
- STEP 5: Press the set key once more and the programming is complete. Set the lock to keep the set point.

STEP	DISPLAY INDICATION	DESCRIPTION
1.	F or C	Fahrenheit or Celsius Scale
2.	S1 (blinking)	Set-point Temperature
3.	DIF (blinking)	Differential Temperature
4.	C1/H1	Cooling or Heating Mode

Electrical Information

Remote Case Data - Electrical 120 Volt

Model	Evap Fans	Cornice Lts	Shelf Lts	Anti-Sweat Heater
BWU SERIES				
BWU-40	0.43	NA	0.92	NA
BWU-48	0.43	NA	0.92	NA
BWU-59	0.86	NA	0.92	NA
BWU-78	0.86	NA	1.5	NA
BWU-96	1.29	NA	1.84	NA
BWU-116	1.72	NA	1.84	NA
BWU-120	1.72	NA	2.76	NA
BWU-144	1.72	NA	2.76	NA

BWU-BCC SERIES

BWU-40 BCC	0.43	0.92	0.76	NA
BWU-48 BCC	0.43	0.92	0.76	NA
BWU-59 BCC	0.43	0.92	0.76	NA
BWU-77 BCC	0.43	0.98	0.76	NA
BWU-96 BCC	0.86	1.84	1.52	NA
BWU-116 BCC	0.86	1.84	1.52	NA
BWU-120 BCC	1.29	1.84	1.52	NA

Additional Loads for Self-Contained Units

HP	Voltage	RLA/LRA	Cond Fan	Pan Heater
3/4	120-1-60	9.8/65	1.7	8.3
3/4	120-1-60	9.8/65	1.7	8.3
1	120-208 1-60	5.7/40	0.85	4.8
1 1/2	120-208 1-60	6.9/55	0.85	4.8
2	120-208 1-60	9/55	0.85	4.8
2	120-208 1-60	9/55	0.85	7.2
2	120-208 1-60	8.7/58	1.7	7.2
2	120-208 1-60	8.7/58	1.7	7.2

1/3	120-1-60	5.6/29	0.72	6.6
1/3	120-1-60	5.6/29	0.72	6.6
1/2	120-1-60	9.3/51	1.4	6.6
1/2	120-1-60	9/51	1.3	6.6
1	120-1-60	11.8/66	1.7	8.3
1	120-1-60	11.8/66	1.7	8.3
1	120-208 1-60	5.7/40	0.85	4.8

DRY CASES - USE LIGHTING SPECIFICATIONS FROM REMOTE CASE DATA

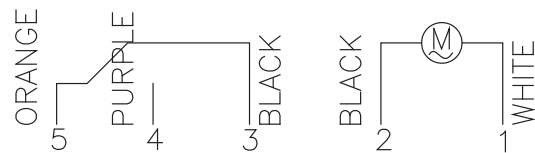
Wiring Color Code

Green	Ground
Black	Hot
White	Neutral
Red	208/220 Only
Brown	Interlock System
Orange	Thermostat
Orange	Liquid Solenoid
Purple	Hot Gas Defrost
Purple	Defrost Terminator
Gray	Light Switch
Black/White	Pressure Switch

Off Cycle Timer

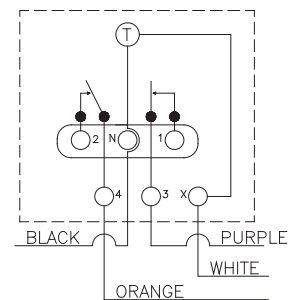
Grasslin

1. White - Neutral
2. Black - Hot
3. Black -
4. Orange - Liquid Solenoid



Parragon

1. White - Neutral
2. Black - Hot
3. Black -
4. Orange - Liquid Solenoid

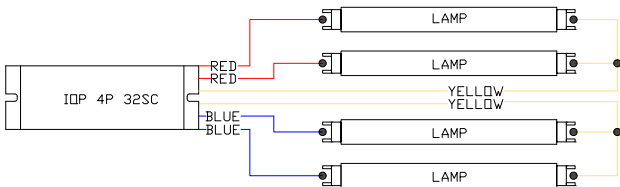
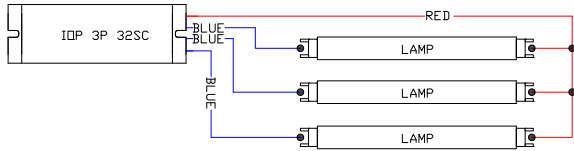
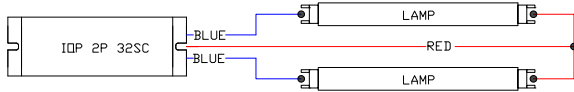


Ballast Wiring

Red -----Lights
 Yellow -----Lights
 Blue-----Lights

SEE BALLAST DIAGRAM FOR EACH CASE

NOTE: Case must be grounded



Ballast Information

Model	Ballast Type
BWU-40	(1) IOP-3P32SC 35TM
BWU-48	(1) IOP-3P32SC 35TM
BWU-59	(2) IOP-3P32SC 35TM
BWU-77	(2) IOP-4P32SC 35TM
BWU-96	(4) IOP-4P32SC 35TM
BWU-116	(4) IOP-3P32SC 35TM
BWU-120	(4) IOP-3P32SC 35TM
BWU-40	(2) IOP-3P32SC 35TM
BWU-48	(2) IOP-3P32SC 35TM
BWU-59	(2) IOP-3P32SC 35TM
BWU-77	(2) IOP-4P32SC 35TM
BWU-96	(3) IOP-4P32SC 35TM
BWU-116	(4) IOP-3P32SC 35TM
BWU-120	(4) IOP-3P32SC 35TM

Maintenance Information

Cleaning

Case Exterior

Clean surfaces frequently with warm water and mild detergent. Do not use strong alkali solutions, steel wool, or abrasive cleanser.

Plexiglas

Use Novus® 1 and Novus® 2 to clean. Use Brilliance® to polish. Contact factory to order. DO NOT use strong alkali solutions, steel wool, or abrasive cleanser.

Evaporator Coil

Clean as needed.

Condenser Coil

Clean condenser coil every three months or as needed with a whisk broom or vacuum. DISCONNECT POWER WHEN SERVICING. FINS ON CONDENSER COIL ARE SHARP!

Condensate Heater

Add scale remover to condensate heater pan once every three months or as needed. Heater is designed for 75° and 50% relative humidity. The condensate pan may overflow if design limits are exceeded.

Glass Door Maintenance

All door closers should be periodically inspected for the following:

1. All screws should be tighten securely.
2. There should not be any Hydraulic Fluid leaking.
3. Closers should be properly adjusted for correct speed of closing.

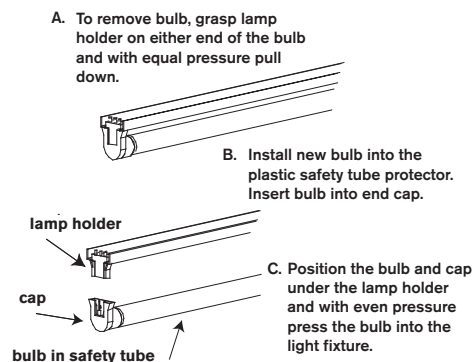
Load Limits

DO NOT place product above load limits or in such a way that the discharge or return air grill are blocked. This will effect the performance of the case and effect the defrost system.

Light Replacement

The fluorescent lights in this case are furnished with plastic safety shields and end caps. When replacing fluorescent lamps, be certain to reinstall safety shield and caps. (See illustration). If the bulb is not fully seated the lights will not operate. **BE SURE BULBS ARE FULLY SEATED.**

The light switch is mounted to the left side of the ceiling. See mechanical drawing for ballast box location.



Caution: Failure to install bulb fully into light socket will cause premature bulb life and may cause damage to light fixture

Service

WARNING!

DISCONNECT THE ELECTRICAL POWER WHEN SERVICING OR REPLACING ANY ELECTRICAL COMPONENT.

To Access the Ballast Box

1. Remove screws on front toe kick and pull toe kick panel off case.
2. Ballast box is located behind the front toe kick on the customer left side of the case.
3. Remove the screws on the front panel of the box marked Ballast box.
4. Pull ballast out of box.



To Access Compressor Area:

It is helpful to determine air flow to determine the best direction to access the compressor area by. If the air flow is front to front, access through the front panel. If it is back to back, access through the back panel, etc. The CI may be accessed through any side.

Then remove 6 screw from one side of compressor area under case.

Barker Specialty Products Service Department

IMPORTANT INFORMATION!

FOR PROMPT SERVICE WHEN CONTACTING THE FACTORY FOR SUPPORT, BE SURE TO HAVE CASE MODEL AND SERIAL NUMBER HANDY.

(THIS INFORMATION IS LOCATED ON THE DATA TAG ATTACHED TO THE CASE. SEE BELOW FOR DATA TAG LOCATIONS)

For any warranty or service issues not covered by this manual, for tech support, or for warranty service calls, please contact the Barker Specialty Products Service Department at:

(319) 293-3777

Parts

Ordering Procedure

1. Contact the Service Parts Department
Melissa Marshall
703 Franklin Street
PO Box 478
Keosauqua, IA 52565
Tel: 319-293-8323
Fax: 319-293-8377
melissa.marshall@hillphoenix.com
2. Provide the serial number of the case containing the part.
To locate the serial number look on the data tag located on the customer left, outside back of the case, the customer left, inside top of the case, or contact the factory for location.
3. If parts are to be returned for credit, contact the Parts Department. Do not send parts without authorization.



BEFORE SERVICING

**ALWAYS DISCONNECT ELECTRICAL
POWER AT THE MAIN DISCONNECT
WHEN SERVICING OR REPLACING
ANY ELECTRICAL COMPONENT.**

WARRANTY

HEREINAFTER REFERRED TO AS MANUFACTURER

FOURTEEN MONTH WARRANTY. MANUFACTURER'S PRODUCT IS WARRANTED TO FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP UNDER NORMAL USE AND MAINTENANCE FOR A PERIOD OF FOURTEEN MONTHS FROM THE DATE OF ORIGINAL SHIPMENT. A NEW OR REBUILT PART TO REPLACE ANY DEFECTIVE PART WILL BE PROVIDED WITHOUT CHARGE. PROVIDED THE DEFECTIVE PART IS RETURNED TO MANUFACTURER. THE REPLACEMENT PART ASSUMES THE UNUSED PORTION OF THE WARRANTY.

WARRANTY CLAIMS: All claims should include: the serial number of the cabinet, proof of purchase, date of installation, and all pertinent information supporting the existence of the alleged defect. Any action for breach of these warranty provisions must be commenced within one (1) year after that cause of action has accrued.

All warranty service work must be pre-authorized by Barker Specialty Products (800-814-0446). Barker Specialty Products reserves the rights to designate the service provider, time in which labor is to be performed and specify amount of time per warranty problem.

This warranty does not include labor or other costs incurred for repairing, removing, installing, shipping, servicing or handling of either defective parts or replacement parts.

The fourteen month warranty shall not apply:

1. To any unit or any part thereof which has been subject to accident, alteration, negligence, misuse or abuse, operation on improper voltage, or which has not been operated in accordance with the manufacturer's recommendation, or if the serial number of the unit has been altered, defaced, or removed.
2. When the unit, or any part thereof, is damaged by fire, flood, or other act of God.
3. Outside the continental United States.
4. To labor cost for replacement parts, or for freight, shipping expenses, sales tax or upgrading.
5. When the operation is impaired due to improper installation
6. When installation and startup forms are not properly complete or returned within two weeks after startup.

THIS PLAN DOES NOT COVER CONSEQUENTIAL DAMAGES. Manufacturer shall not be liable under any circumstances for any consequential damages, including loss of profit, additional labor cost, loss of any delay in its performance hereunder due to causes beyond its control. The foregoing shall constitute the sole and exclusive remedy of any purchases and the sole and exclusive liability of Manufacturer in connection with this product.

The Warranties are Expressly in Lieu of All Other Warranties, Express of Implied and All Other Obligations or Liabilities on Our Part. The Obligation to Repair or Replace Parts or Components Judged to be Defective in Material or Workmanship States Our Entire Liability Whether Based on Tort, Contract or Warranty. We Neither Assume Nor Authorize any Other Person to Assume for Us Any Other Liability in connection with Our Product.

Mail **approved** warranty claims to the address listed below: