

Installation and Operating Manual

# F200 Merchandising Freezer & C200 Merchandising Refrigerator



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## Phononic F200 Merchandising Freezer / C200 Merchandising Refrigerator

Phononic is changing the paradigm of cold storage for food and beverage merchandising with a new line of refrigerators and freezers. Your new F200 Merchandising Freezer / C200 Merchandising Refrigerator enables countertop, shelf and other point of sale retail placements not previously accessible using compressor based systems because of their bulky size, and the noise, vibration & heat exhaust they produce.

The Phononic family of freezer and refrigeration solutions dramatically modernizes cold storage technology for food and beverage placement, merchandising and sales effectiveness. Together we are helping suppliers and retailers define the Store of the Future and how to best meet consumer needs and preferences.

Thank you for using the most advanced refrigeration technology available.

## Unpacking Your Phononic F200 Freezer / C200 Refrigerator



Please take a moment to inspect your new freezer for damage that may have occurred during shipping. Contact Phononic Customer Care with any concerns: [Support@Phononic.com](mailto:Support@Phononic.com), or +1.844.476.4202.

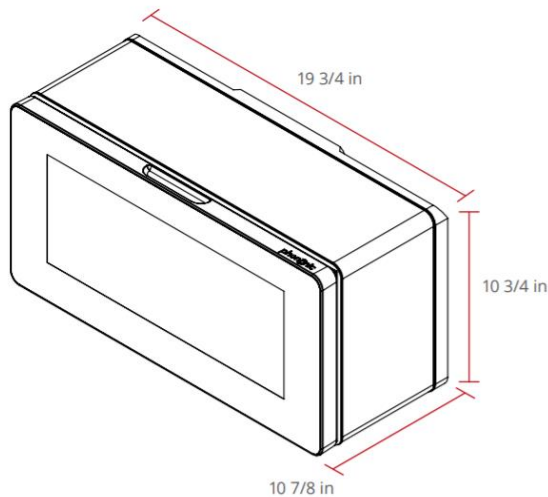
Your freezer was built, inspected, tested and packaged with extreme care. Please follow the directions provided to unpack your new product safely and easily.

## Unboxing and Locating

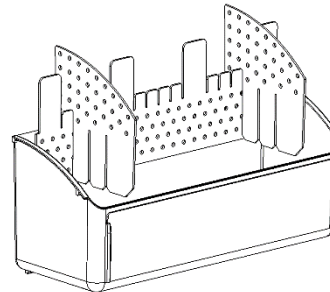
We recommend you move the box as close as possible to its final location before unpacking. It is recommended that two people move and remove the freezer from the packaging by lifting the freezer at its base. To remove the bottom foam protectors, carefully tip the unit to one side and remove the opposite side's foam piece [repeat for other side].

## Identifying All Parts

Phononic F200 Freezer /  
C200 Refrigerator

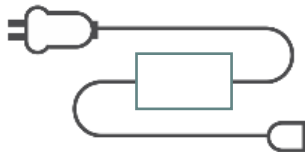


Configurable Bin Dividers



Removable Storage Bin

Power Supply & Cord



Quick Start Guide

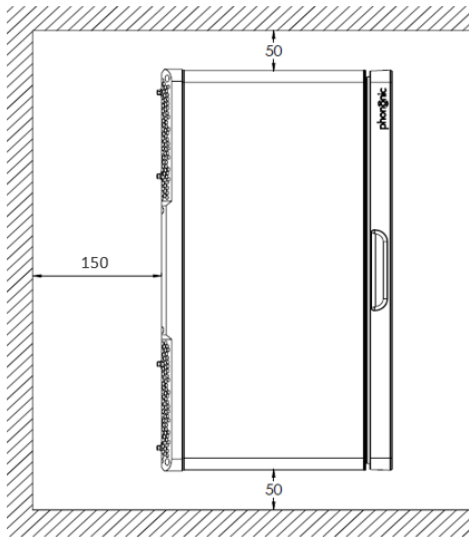


Note: The Power Supply may already be pre-installed to the rear of the C200/F200.

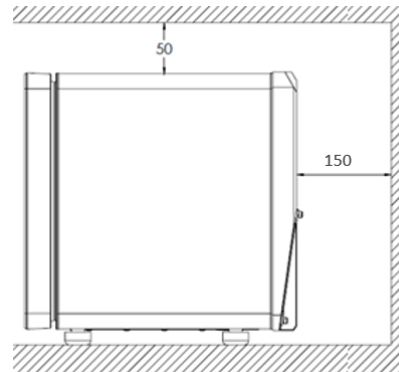
## Placement

To install the Phononic F200 Freezer / C200 Refrigerator, simply place the unit on a flat countertop or durable shelf capable of supporting the unit's weight. The unit should be placed on a clean, flat surface for operation.

## Providing Ventilation



F200 Top View (mm)



F200 Side View (mm)

Your Phononic F200 Freezer / C200 Refrigerator is equipped with a ventilation area on the rear panel of the unit. Do not block or cover the venting area as this can impact performance.

To avoid potential impact to performance, it is recommended that the back of the F200 freezer be placed no less than 150mm from a solid wall and have open air clearance of no less than 50mm above the top and to the sides of the unit.

For the C200 Refrigerator, the minimum recommended clearance for best performance is 50mm on all sides, top and rear of the unit.



The rear fans operate at intervals of variable speeds as needed. Please refer to the Periodic Product Maintenance section on how to clean and troubleshoot fans for more information.



Rear View



Do not locate or store your freezer / refrigerator outdoors. This model is designed for indoor use only; violation of this will void the terms of your warranty.



Warning: The fan has moving parts, uninsulated electrically live parts and hot parts. To avoid damaging the unit, do not remove back cover or insert objects into the fan screens. Do not remove the top panel or attempt repairs. For any operating issues please contact Phononic Customer Care: [Support@Phononic.com](mailto:Support@Phononic.com), or +1.844.476.4202.

## Powering On and Power Cord Guidelines

1. Use only the power cord provided with your F200 Freezer or C200 Refrigerator.
2. Do not attempt to remove the power cord from the back of the unit.
3. Position the unit where you intend to locate it, taking care to provide proper cord clearance, and use only a grounded three-prong receptacle. This outlet must be within reach to disconnect the power source. The power cord may be stored either loose on the counter, underneath the counter in an openly vented area, or mounted to a shelf of the undercabinet wall.
4. Gently plug the power cord into the power brick, and then into the wall receptacle.
5. **There is no on/off switch.** Once plugged in, the freezer or refrigerator is automatically operational.



Take care if the unit is plugged into a power outlet controlled by a wall switch. This could result in accidentally switching off the unit operation. To function properly the unit must continually receive power.



Caution: risk of electrical shock. If the cord or plug becomes damaged, replace with only a cord and plug of the same type and rating.

**Note:** The electrical safety of this product may become impaired if the user disregards the power safety steps listed above.

## Set Point Temperature

When you first power on the unit, the fan will run and the system will work to reach the default set point.

Default set point for the F200 Freezer is -18°C / 0°F.

Default set point for the C200 Refrigerator is 3.3°C / 38°F.

## Loading Products for the First Time

After you power on your unit, monitor the temperature with a thermometer or by watching for signs of condensation/frost on the interior walls.

At an ambient temperature of 24°C / 75°F, the F200 freezer will reach the default set point of -18°C / 0°F in approximately 6 hours. Do not load frozen products before this time.

At an ambient temperature of 24°C / 75°F, the C200 refrigerator will reach the default set point of 3.3°C / 38°F in approximately 2 hours. Do not load non-shelf stable refrigerated products before this time.



Do not load product until the set point temperature is reached.



Always provide adequate clearance around air ventilation.

# Getting to Know Your Product

## Product Exterior



The door of the Phononic F200 Freezer & C200 Refrigerator is designed to provide consumers with a visible and clear look at the product inside. Interior LED lighting illuminates the product for sale. Consumers access the product by pulling the door open using the finger holds at the top-center of the door and by accessing the frozen product in the bin that comes forward.

## Interior Components

- Product storage bin
- Bin dividers
- Air temperature sensors
- Display LED lighting strip





## Periodic Product Maintenance

### Condensation / Frost Management

With cold wall refrigerators like the Phononic C200, condensation may form on the interior of the cabinet and may require periodic wipe-down with an absorbent cloth.

For the F200 Freezer, frost may form on the walls and door hardware over time to a point where it can affect proper door function. At that point, a manual defrost of the F200 freezer may be needed. Frequency of manual defrost will depend on ambient humidity and frequency of door openings.

To perform a manual defrost, unplug the F200 Freezer and place in a safe location for the frost to melt and drain with the door open. If defrost must be performed in place of install, please follow these directions to minimize chance of water build up on surfaces and floor that could be hazardous in high traffic areas.

1. Remove stored contents and place in a suitable location
2. Unplug the F200/C200 unit
3. Remove the storage bin and leave the door open.
4. Place three sponges [or other high absorbent material] in the base of the cabinet and against the rear wall and each side wall. This will collect the melting frost and prevent water spilling onto the supporting surface.
5. Place an absorbent cloth or towel along the front base of the unit under unit near the door. This will capture melting frost built up on the door and gasket. Note: Keep the door open during defrost.
6. Wait 1 hour for frost to melt and collect.
7. Remove the sponges/cloth and wipe unit clean of any remaining moisture
8. Reinsert the storage bin
9. Plug unit in and run empty until set temp is reached before re-stocking with product [Approximately 6 hours for F200, and 2 hours for C200]

### Suitable products for cleaning interior/exterior

The interior may be cleaned, when needed, using a mild detergent and a damp cloth.



Avoid the use of chlorides [cleaners with bleach] as well as abrasive cleaners and scrubbers such as steel wool. They will degrade the protective coating and leave it vulnerable to rust.

### Cleaning around ventilation area and precautions

Periodically inspect and monitor the ventilation area just above the door for dust accumulation. It may be cleaned with a duster or vacuum cleaner with a dust attachment.



Do not remove the top cover. Do not attempt to clean the power supply located below the fan assembly. You could damage your unit.

**DO NOT** use any spray or liquid cleaner in, on or around the display area.

## Frequently Asked Questions

### How does this solid-state refrigeration technology work?

Phononic freezers and refrigerators are built on solid state refrigeration technology. It uses a non-toxic, non-hazardous refrigerant embedded in the walls to absorb and channel heat energy to an internal, solid-state heat pump; this component replaces the compressor in a typical freezer. The heat pump cools the refrigerant material when it channels the heat energy out of the system and into the ambient environment.

### How reliable is the system?

Our strenuous life-testing studies indicate a 10-year life expectancy of the cooling system. Phononic thermal systems have no internal mechanical parts, are easy to operate and require minimal maintenance.

### Can you guarantee performance?

Our thermal management solutions are tested according to the most demanding consumer and industrial product safety and reliability standards. The heat pump meets or exceeds Telecordia and JEDEC electronic performance, testing and certification standards. In addition, the heat pump is a NRTL recognized component. Our cooling system contains very few mechanical parts [only fans], eliminating the most common point of failure.

### How long before I can use the product?

In a normal ambient environment, your F200 freezer should pull down to the target set point within a 6 hours. It is common industry practice to monitor the unit over 48 hours to ensure it is holding the set point temperature. For the C200 Refrigerator, the target set point should be reached within 2 hours.

### Why is there condensation building up on the walls?

Condensation is completely normal in a cold wall refrigeration system and may require periodic wipe-down with an absorbent cloth. Condensation occurs when humid air comes in contact with the cold walls and excess water vapor condenses on the walls as droplets as it cools. You may see excess condensation during the initial cool down period or if there are frequent door openings in a high humidity conditions.

### Where can I find the serial number?

You can find your product serial number, model number and regulatory approvals on the stickers on the rear side of the unit as well as inside the freezer chamber. The product serial number can also be found on the shipping label [on the shipping box].

### What kind of maintenance is required?

As a complete solid-state refrigeration system, there are no internal moving parts to be serviced. Occasionally you will want to check the external fans for dust build-up and clean as necessary.

Periodically check for internal condensation to be wiped out or for internal frost build up on the interior walls and perform a manual defrost as needed. Otherwise, there is no maintenance required to keep the system working at peak performance.

## Troubleshooting

Troubleshooting Problems	Customer Resolution
<b>Unit doesn't power on</b>	<p>Check for proper installation of the power plug. The power connector is keyed with the product. It also has a locking feature to prevent accidental pull out. The polarization key and flat surface of the connector barrel should be facing away from the unit during plugging.</p> <p>To unplug the connector, hold the cable while pulling down on the connector barrel outer sleeve. This releases the connector locking feature. Forcing the connector can damage the product.</p> <p>A strain relief clamp secures the power supply to the rear of the product. The clamp should not be removed. Instead, power should be disconnected from the wall plug.</p>
<b>I have frost forming on the walls</b>	<p>Is the door being opened frequently? If so, the cooling system is working hard to maintain the set point temperature and water vapor may freeze on the walls. Frost build up is normal for manual defrost cold wall freezers like the F200. Water vapor from the air enters the product during use and frost accumulates on interior surfaces. Unplug the freezer to melt the frost if desired.</p> <p>If the frost is appearing on the interior walls of your C200 Refrigerator, make sure the door is completely shut with no gaps in the door seal gasket.</p>
<b>Door doesn't close/closes incorrectly</b>	<p>Check to make sure something isn't blocking it from closing completely.</p> <p>Make sure the plastic bin is fully seated into the bin holder on the door so that the four tabs on the bottom of the bin are aligned and seated into the four slots on the bin holder.</p> <p>If frost buildup prevents proper door sealing, unplug the freezer and perform a manual defrost by placing in a safe location for the frost to melt and drain with the door open.</p>
<b>Door won't open all the way</b>	<p>Make sure the plastic bin is fully seated into the bin holder on the door.</p>
<b>I can't hear any noise from the unit</b>	<p>Is the power on? Once the freezer reaches its set point temperature then it will be very quiet during normal operating conditions.</p>
<b>I hear more fan noise than normal</b>	<p>Has the temperature risen recently? Is the rear free &amp; clear for proper ventilation? If the door was recently open for an extended period or if the ambient temperature is &gt;28C, then fan speeds will increase while the unit is recovering to its set point temperature.</p>

## Product Specifications

		F200 Freezer	C200 Refrigerator
Basics	Model	PFF004SGA	PFR004SGA
	Materials	Painted Steel, Aluminum, Plastic, Tempered Glass	Painted Steel, Aluminum, Plastic, Tempered Glass
	Power Input	100-240VAC 50Hz-60Hz	100-240VAC 50Hz-60Hz
	Power Cord	1.8 Meter, NEMA 5-15/CEE 7-7/BS 1363 Grade Plug	1.8 Meter, NEMA 5-15/CEE 7-7/BS 1363 Grade Plug
	Internal Lighting	Yes	Yes
Performance	Temperature Set-point	-18 °C / 0°F	3.3 °C / 38 °F
	Temperature Uniformity	< 3 °C	< 3 °C
	Temperature Stability*	< 1 °C	< 1 °C
	Noise Level	39 dBA	39 dBA
	Energy	3.7 kWh/day @ 24°C ambient	1.2 kWh/day @ 24°C ambient
Safety	Rated Amps	3.5 Amps	3.5 Amps
	Refrigerant	R744 [CO2]	R744 [CO2]
	Certifications	UL 471, FCC, NSF7	UL 471, FCC, NSF7
	Internal Volume	0.4 cu Ft.	0.4 cu Ft.
	Storage Bin	Clear Polycarbonate	Clear Polycarbonate
Dimensions	Internal Dimensions	16.9" W x 6.2" D x 7.0" H; 429mm W x 157mm D x 179mm H	16.9" W x 6.2" D x 7.0" H; 429mm W x 157mm D x 179mm H
	External Dimensions	19 3/4" W x 10 7/8" D x 10 3/4" H; 501mm W x 276mm D x 273mm H	19 3/4" W x 10 7/8" D x 10 3/4" H; 501mm W x 276mm D x 273mm H
	Minimum Clearance Requirement	50mm top / 150mm back	50mm top and back
Warranty	Heat Pump	10 years	10 years
	Full Parts and Labor	1 year	1 year

## F200 / C200 Accessories

Description	Part Number
Datalogger Kit	PAXXXSXA-001
F200/C200, Rubber Feet [qty 4]	PAX004SXA-001
F200/C200, Suction Cup Feet [qty 4]	PAX004SXA-002
F200/C200, Power Cord, [US/CAN]	PAX004SXA-003
F200/C200, Power Cord, Right Angle, [US/CAN]	PAX004SXA-004
Configurable Bin Dividers	PAX004SXA-011

For any questions on accessories or spare parts, please refer to the F200/C200 Service Manual or contact Phononic Customer Care at: [Support@Phononic.com](mailto:Support@Phononic.com), or +1.844.476.4202.

## General Caution and Warnings



### Attention

For Class B - Unintentional Radiators:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: [1] this device may not cause harmful interference and [2] this device must accept any interference received, including interference that may cause undesired operation.



### Warning

Hazardous voltages are present: To reduce the risk of electric shock and danger to personal health, follow the instructions provided in this manual.



### Attention

ICES-003 Class B Notice—Avis NMB-003, Class B

This Class B digital apparatus complies with Canadian ICES-003.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.



### Attention

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

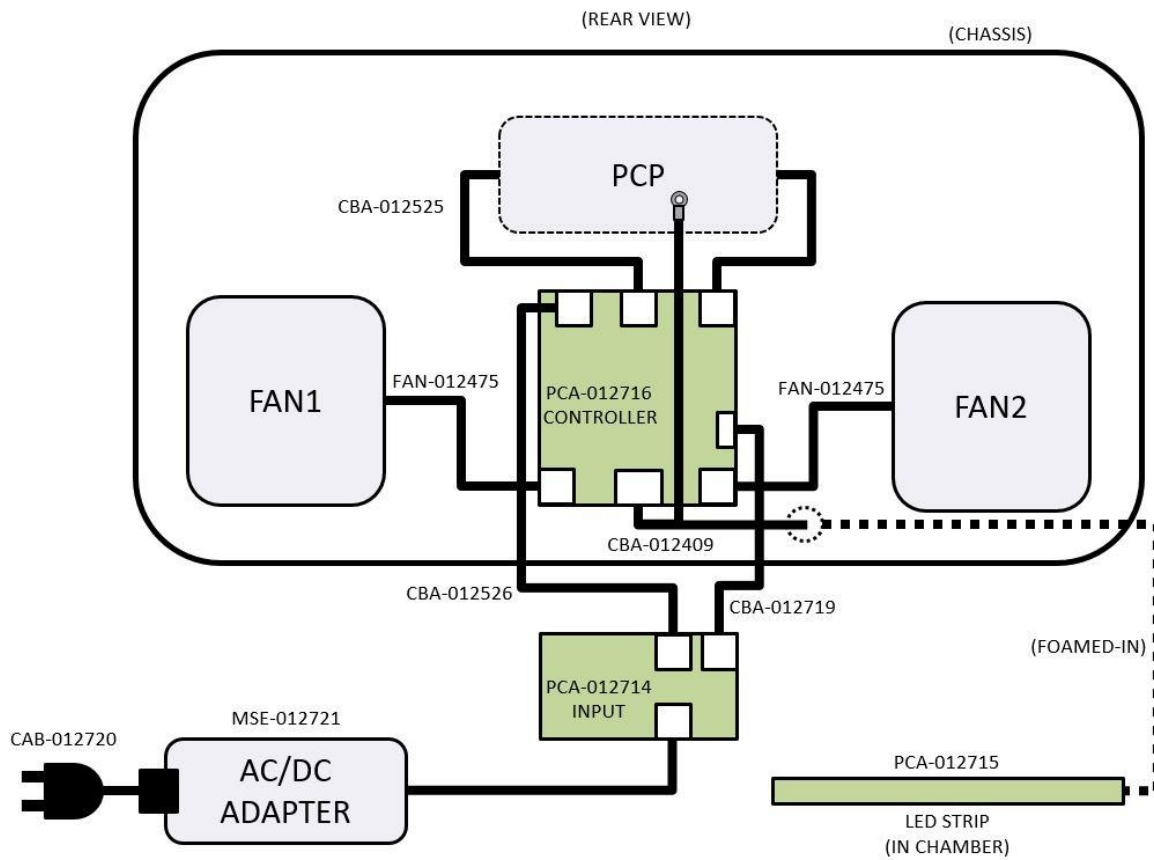


### Warning

Hazardous voltages are present: To reduce the risk of electric shock DO NOT remove the rear cover on this product. There are no user serviceable parts inside. Please refer service to qualified personnel.

## Wiring Diagram

Provided for informational purposes only. For repairs or operating issues, please contact Phononic Customer Care: Support@Phononic.com, or +1.844.476.4202.



## Safety Precautions

All electrical appliances present some risk of injury. Your Phononic freezer or refrigerator is designed to meet safety standards.

Take care to carry and move your freezer with caution. Do not place it where it can fall, be dropped, or where the electrical connection can be submerged into water or other liquids.



Refer to Unpacking your Phononic F200 Freezer / C200 Refrigerator for details on handling and moving the unit.



There are no user-serviceable parts within the Phononic F200 Freezer / C200 Refrigerator.

## Symbols Used in This Manual



Used to indicate an electrical shock hazard.



Used when advice is given to prevent malfunction or injury.



Used to prohibit flammable items.



Used to advise not proceeding with an action.

## Electrical Components



Do not remove the top cover or operate unit with top cover removed. Removal of the rear cover can result in electrical shock. Service only by a factory authorized service person.

