

Ranco A22-4506

Ranco A22-4506 Ice Harvest Control User Manual

Model: A22-4506

1. INTRODUCTION

This manual provides essential information for the Ranco A22-4506 Ice Harvest Control. It is designed to assist users in understanding the product's function, specifications, and general guidelines for installation, operation, and maintenance. This control is a critical component in ice machine systems, regulating the ice harvest cycle.

2. PRODUCT OVERVIEW

The Ranco A22-4506 is an ice harvest control unit manufactured by Ranco Controls / Invensys. It is specifically designed for use in ice machines to manage the ice harvesting process, ensuring efficient and reliable operation. This control unit typically monitors temperature or pressure to initiate and terminate the ice release cycle from the evaporator.



Figure 1: The Ranco A22-4506 Ice Harvest Control. This image displays the control module, which is a compact metal box with mounting screws, and an attached coiled capillary tube, which is typically used for sensing temperature or pressure within the ice machine system.

3. SPECIFICATIONS

The following table outlines the key specifications for the Ranco A22-4506 Ice Harvest Control:

Specification	Detail
Brand Name	Ranco
Model Number	A22-4506
Part Number	A224506
Item Weight	1 pound
Product Dimensions	4 x 5 x 2.63 inches

Specification	Detail
Certification	UL
National Stock Number	5930-00-984-4976
Batteries Required?	No
Date First Available	May 20, 2010

4. SETUP AND INSTALLATION

Installation of the Ranco A22-4506 Ice Harvest Control should only be performed by a qualified technician or service professional. Incorrect installation can lead to equipment damage, malfunction, or safety hazards. Always refer to the specific ice machine's service manual for detailed wiring diagrams and mounting instructions.

- **Safety First:** Ensure the ice machine is completely disconnected from power before beginning any installation or service work.
- **Location:** Install the control in the designated location within the ice machine, typically near the evaporator or where the capillary tube can accurately sense the required temperature/pressure.
- **Wiring:** Connect the control according to the ice machine manufacturer's wiring schematic. Verify all connections are secure and properly insulated.
- **Capillary Tube:** Carefully route and secure the capillary tube to the sensing point without kinking or damaging it.
- **Testing:** After installation, restore power and perform functional tests as outlined in the ice machine's service manual to ensure the control operates correctly.

5. OPERATING PRINCIPLES

The Ranco A22-4506 Ice Harvest Control functions by monitoring specific conditions (e.g., temperature or pressure) within the ice machine's refrigeration system. When these conditions indicate that the ice is ready to be harvested from the evaporator, the control activates the necessary components (e.g., hot gas valve, water pump) to initiate the defrost and ice release cycle. Once the ice has fallen into the bin, the control senses a change in conditions and terminates the harvest cycle, allowing the machine to return to the ice-making phase.

There are no user-adjustable settings on this specific control model; its operation is automatic based on its factory calibration.

6. MAINTENANCE

The Ranco A22-4506 Ice Harvest Control is a sealed electronic component and generally requires no routine maintenance itself. However, its proper function depends on the overall cleanliness and operational integrity of the ice machine. Regular maintenance of the ice machine, as recommended by its manufacturer, will help ensure the longevity and reliability of the harvest control.

- **Keep Clean:** Ensure the area around the control and its capillary tube is free from dirt, dust, and debris.
- **Inspect Connections:** Periodically check electrical connections for tightness and signs of corrosion.
- **Avoid Physical Damage:** Protect the control and its capillary tube from physical impact or bending,

especially the tube, as this can affect its sensing accuracy.

7. TROUBLESHOOTING

If an ice machine equipped with the Ranco A22-4506 is experiencing issues with its ice harvest cycle, the problem may not always be directly with the control itself. Many components work in conjunction. Below are general troubleshooting steps; always consult a qualified technician for diagnosis and repair.

- **No Ice Harvest:**
 - Verify power supply to the ice machine.
 - Check for proper refrigerant charge in the system.
 - Inspect the hot gas valve (if applicable) for proper operation.
 - Ensure the capillary tube is correctly positioned and not damaged.
- **Premature or Delayed Harvest:**
 - This could indicate an issue with the sensing element (capillary tube) or the control unit itself.
 - Verify ambient conditions are within the ice machine's operating range.
- **Continuous Harvest Cycle:**
 - Check for proper water flow and ice formation on the evaporator.
 - The control may not be sensing the completion of the harvest cycle, possibly due to a faulty sensor or control unit.

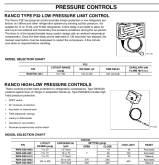





If the control unit is suspected to be faulty, it typically requires replacement as it is not designed for field repair.

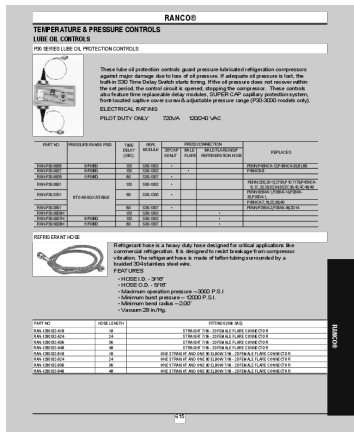
8. WARRANTY AND SUPPORT

For warranty information regarding the Ranco A22-4506 Ice Harvest Control, please refer to the documentation provided at the time of purchase or contact the original seller or Ranco Controls directly. Warranty terms typically cover manufacturing defects for a specified period.

For technical support, installation assistance, or replacement parts, it is recommended to contact a certified HVAC/Refrigeration technician or the authorized distributor from whom the product was purchased. Ranco Controls may also provide support resources on their official website.

Contact Information: Please refer to the Ranco Controls official website or your product supplier for the most current contact details.

	<p>Ranco, Johnson Controls, and Danfoss Refrigeration Controls Catalog</p> <p>Comprehensive catalog of Ranco, Johnson Controls, and Danfoss temperature and pressure controls, including low pressure limit controls, high-low pressure controls, electronic controls, defrost controls, and accessories for refrigeration systems.</p>
	<p>Ranco ETC Two Stage Electronic Temperature Control - NEMA Type 4X Installation Data</p> <p>Installation data, specifications, operation, and troubleshooting for the Ranco ETC Two Stage Electronic Temperature Control, NEMA Type 4X. This control is designed for commercial HVAC and refrigeration, offering dual-stage temperature control, LCD display, keypad programming, and a NEMA 4X watertight enclosure for outdoor use.</p>
	<p>Ranco Single Pressure Control Installation Data</p> <p>Installation data for Ranco single pressure controls (010, 011, 016, 020). Covers description, application, installation, wiring, and control settings for various refrigerants and pressure ranges.</p>
	<p>Ranco O10/O11/O16/O20 Single Pressure Control Installation Data</p> <p>Comprehensive installation data, wiring, settings, and specifications for Ranco O10, O11, O16, and O20 single pressure controls used in commercial refrigeration and air conditioning systems. Includes mounting instructions, capillary care, control wiring, adjustment procedures, and detailed specifications.</p>
	<p>Ranco Bottom Dump Trailer Operation, Maintenance & Parts Manual</p> <p>Comprehensive guide for Ranco Bottom Dump Trailers covering operation, maintenance, parts, electrical, air brake, and suspension systems. Essential for proper use and upkeep.</p>
	<p>Filtri Essiccatori Ranco: Descrizione, Specifiche Tecniche e Ricambi</p> <p>Guida completa ai filtri essiccatori Ranco per sistemi HVAC/refrigerazione commerciale. Dettagli su descrizione, caratteristiche, vantaggi, specifiche tecniche, compatibilità refrigeranti e informazioni sui ricambi.</p>

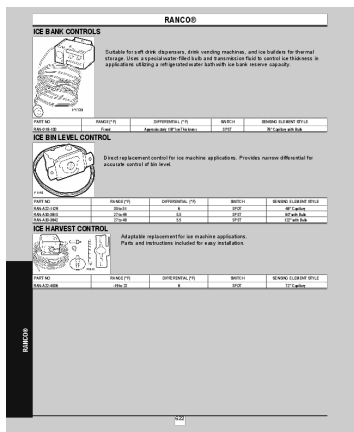


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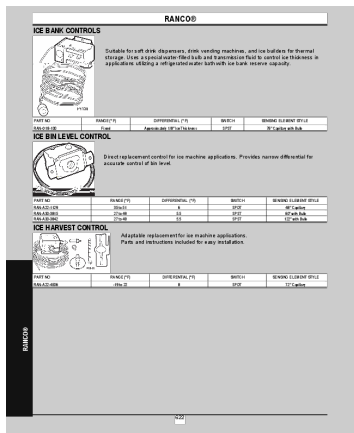


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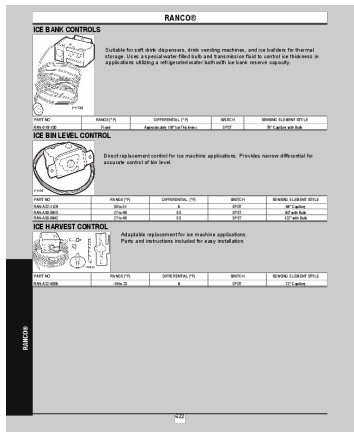
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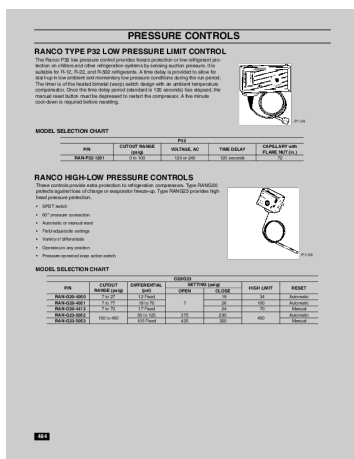


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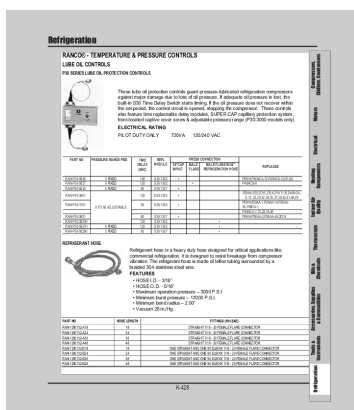
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[Ranco, Johnson Controls, and Danfoss Refrigeration Controls Catalog](#)

Comprehensive catalog of Ranco, Johnson Controls, and Danfoss temperature and pressure controls, including low pressure limit controls, high-low pressure controls, electronic controls, defrost controls, and accessories for refrigeration systems.

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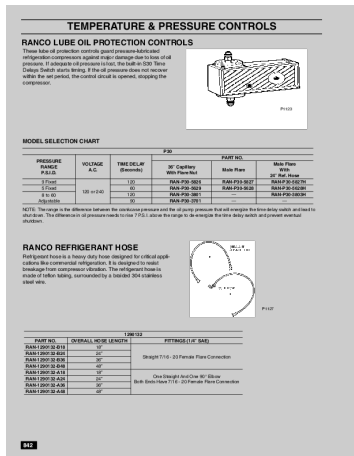


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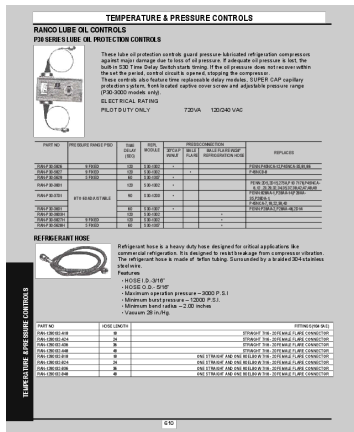
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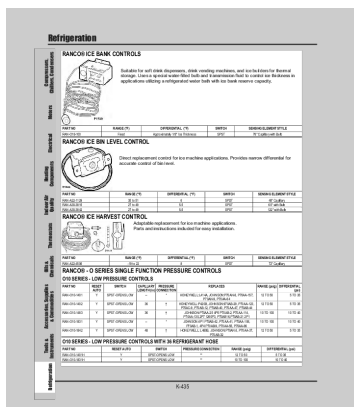
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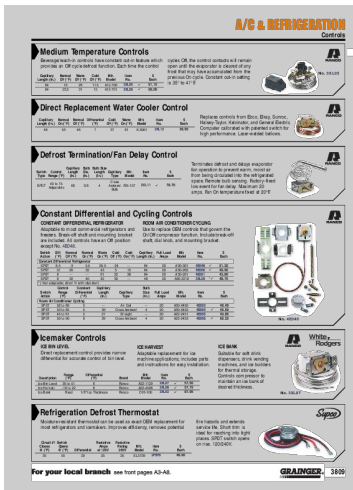
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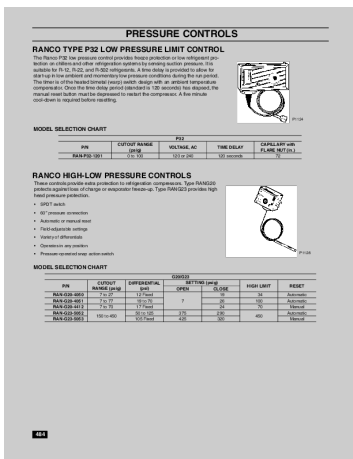


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A/C REFRIGERATION Controls Medium Temperature Controls Beverage/reach-in controls have constant ... e machine applications; includes parts and instructions for easy installation. Mfr. Model A22-1129 **A22-4506** O18-100 Item No. 3XL07 3XL08 3XL02 Each 57.50 57.75 87.95 ICE BANK Suitable for soft d...

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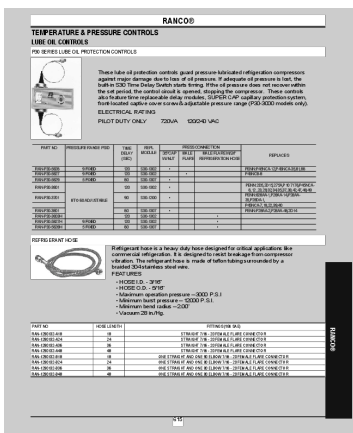
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