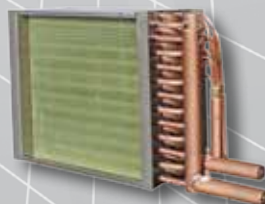


***Refrigeration Systems by***



***Cool You Can Count On!***

**[www.Ref-Sys.com](http://www.Ref-Sys.com)**

# Keeping Storage Cool...

Refrigeration Systems (RSI) has provided engineered cooling systems to agricultural refrigeration markets and vegetable processing facilities since 1974. RSI was the very first manufacturer to develop chilled water evaporative cooling equipment for large potato storage applications, refrigerated equipment for onion storages, and portable refrigeration equipment for raw product. Nearly four decades later, RSI remains a key player in the bulk produce storage markets. RSI cooling systems can be found throughout the United States, Canada, Mexico, Russia, and Asia.



## The 40-Year-Old Experts

Nearly forty years of designing and manufacturing these systems has made RSI the experts in the bulk produce storage field!



- Superior experience and application knowledge in refrigerated vegetable storage, air system design, and storage management practices.
- Innovative product lines for raw produce storage of potatoes, onions, carrots, garlic, cabbage and more!
- Distinguished dedication to providing our customers with the best equipment and technical support in the industry.

## About RSI

Refrigeration Systems (RSI) is a division of RAE Corporation, a manufacturer of engineered cooling and refrigeration systems and heat transfer coils. RAE Corporation is located in Pryor, Okla. with RSI headquarters in Boise, Idaho. At RAE Corporation, the corporate goal is to provide expertly designed cooling systems that meet the requirements of the most discerning customers. RAE Corporation manufactures products in four divisions: Century Refrigeration, RAE Coils, Refrigeration Systems and Technical Systems. For over 40 years, we have maintained a founding commitment to our customers and created a vision for our company to achieve excellence through our People, Products and Relationships.



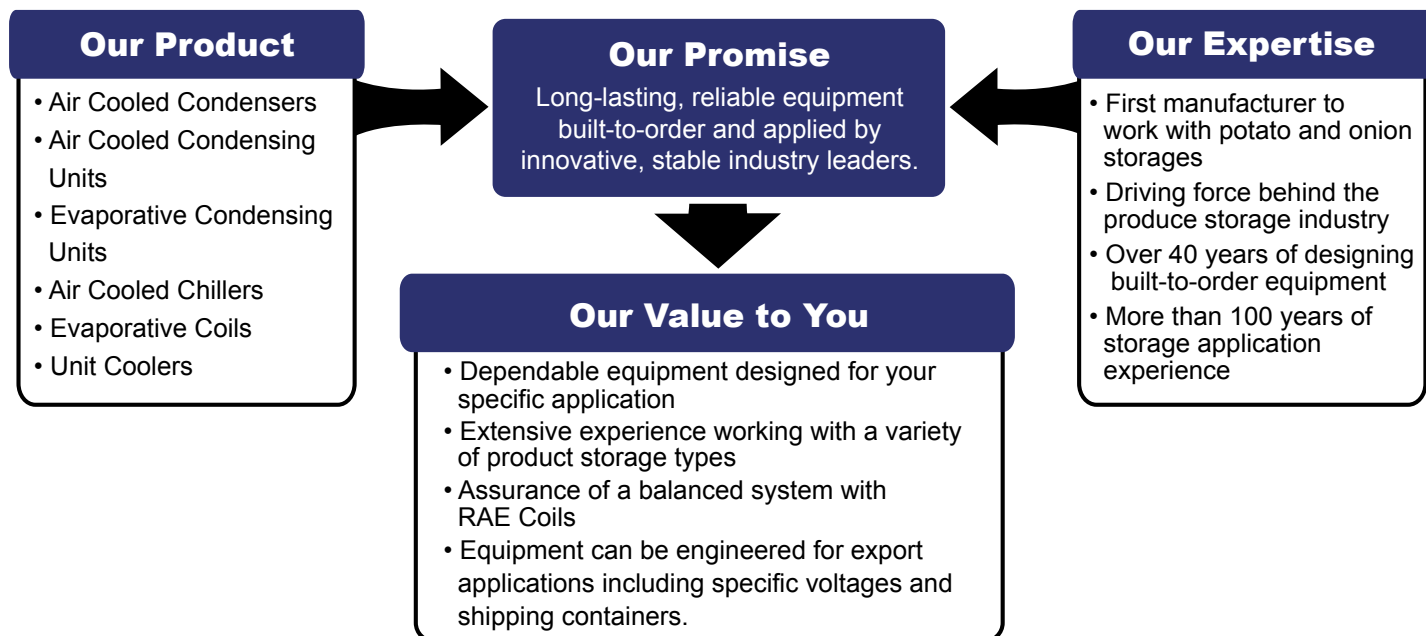
**RSI is the best choice when you need to keep  
your storage cool!**

As a member of the agricultural industry, you may take chances with the weather, the soil, or even your crop rotation. But, one thing you can't afford to take a chance on is the dependability of your storage's refrigeration system. Eliminate the risk, and let RSI provide you with a complete refrigeration system built for your specific needs! Our expansive knowledge of all things produce storage coupled with our ability to design and manufacture long-lasting, dependable equipment will leave you with....

# COOL

## You Can Count On

*Brought to you by...*



# Product Features

## RSI Builds to Your Specifications

### Capacity Control

- Dual compressors models come with completely independent circuits allowing 50% capacity reduction per condensing unit.
- For capacity reduction options for single circuit equipment and further reduction on multiple circuit units, compressors unloading is available.



### Structural Steel Welded Base

- Handles rough roads in rural areas and more stable for unit lifting.

### Engineered System

- System level submittals are provided for each project.
- Each system is cross plotted to ensure performance is met as a matched system.



### Compressor Orientation

- Compressors can be placed on one side of the unit for preferred serviceability.

### PLC capabilities

- Allows our units to communicate with a building automated system if required

#### Available Protocols

- **Bac Net**  
MSTP  
IP over ethernet
- **Mod Bus**  
RTU  
TCP/IP



### Low Fin Spacing on Condenser

- Wider fin spacing along with our coil access panels allows thorough cleaning of the condenser coil ensuring a long operating life of efficient operation.

### High Ambient Models

- RSI designs our equipment to operate at high ambient in lieu of derating equipment that was designed to operate at lower temperatures.
- Ensures the most efficient operation for the system and extends the life of the components reducing the life cycle costs.



## Air Cooled Condensing Units

RSI's "RCU Series" outdoor air cooled condensing units are designed to meet the demands of multiple load applications required for agricultural and raw storage applications. "RCU Series" condensing units are made to operate in adverse conditions and meet the needs of each customer with minimal changes to the basic design. "RCU Series" condensing units utilize Bitzer™ or Copeland™ compressors. "RCU Series" condensing units arrive completely pre-piped and pre-wired to reduce field installation costs and additional labor before installation. These units also utilize a unique horizontal condenser and coil design and high volume condenser fans. Each unit is provided with a separate sub-cooling circuit to maximize unit performance. The "RCU Series" condensing unit is suitable for mounting at ground or rooftop levels



### Product Features

- 3.5 to 126 Tons
- Designed for refrigerant R-404a and R-507, contact factory for alternative refrigerants
- Direct drive condenser fans
- Fan motor contactors
- Poly-coated fan guard
- Liquid receiver with relief valve
- Receiver inlet and outlet ball valves
- Refrigerant charging valve
- Compressor contactors
- Compressor overload protection
- Crankcase heater
- Compressor service valves
- Separate sub-cooling circuit
- Fan motor overload protection
- Oversized, NEMA 3R control panel (to facilitate field-added electronic system controls) with hinged door
- Pre-wired electrical controls
- High pressure safety
- Low pressure operating control
- Rigging holes
- Electronic oil failure control
- Run/Pumpdown switch
- 12 FPI condensing surface
- Oversized high-efficiency condensers
- Condenser coil cleanout access
- Wiring raceway



# RUI/RUO Series

## Air Cooled Condensing Units



RSI's RUI and RUO Series air cooled condensing units are designed for smaller agricultural and raw storage applications. These units utilize a vertical condenser coil design along with a high volume condenser fan to maximize unit performance. Additionally, the RUI/RUO Series units utilize high-efficiency scroll compressors. These units arrive completely pre-piped and pre-wired and feature a low profile design and horizontal air discharge. RUO Series condensing units are suitable for mounting at ground level or rooftop. The RUI Series units are suitable for indoor mounting.

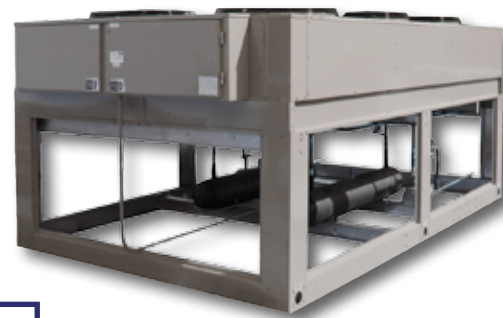
### Product Features

- 0.7 to 9.5 Tons
- Designed for refrigerant R-404a and R-507, contact factory for alternative refrigerants
- Dependable high-efficiency scroll compressor
- Direct drive condenser fans
- Liquid receiver with relief valve
- NEMA 3R weatherproof electrical panel
- Liquid injection kit (on XL models only)

# RC Series

## Air Cooled Condensers

RSI's RC Series air cooled condensers are specifically designed for agricultural and raw storage applications. These units arrive completely pre-piped and pre-wired and feature a low profile design and vertical air discharge. The RC Series utilizes a unique horizontal condenser coil design along with high volume condenser fans. The RC Series is for outdoor applications and is design to be unaffected by wind direction or extreme weather conditions.



### Product Options

- 1,757 to 2,246,523 BTUH
- Designed for refrigerant R-404a and R-507, contact factory for alternative refrigerants
- Copper fin coils
- Epoxy coating or Acrycoat 3 fin coating
- Multiple circuiting
- Fused fan motor contactor
- Fused or non-fused disconnect switches
- Circuit breakers
- VFD-duty fan motors

## Packaged Air Cooled Chillers



RSI's RCH Series Chillers have been designed to give you flexibility, efficiency and reliability. We can even include a hydronics package providing you with a complete "plug and play" system. With our comprehensive chiller line, we have a "cool" solution to meet your specific needs. These units are designed to be shipped to the customer as a complete factory assembled package and fully factory run tested before shipment. This ensures a minimum field labor cost for installation and a much greater system reliability. No matter which form of "green" you are into - the environment, your produce or saving money, we want to be your single source for your mechanical equipment needs!

### Product Features

- Capacities of 5 to 400 tons
- Bitzer or Copeland Compressors
- Shell & Tube or Braze Plate Evaporator
- Direct Drive Condenser Fans
- Liquid Line Shut Off Valve with Charging Port
- Separate Sub-Cooling Circuit for increased efficiency
- Fan staging head pressure control +20°F
- NEMA 3R Weatherproof Electric Panel
- ETL Certification and UL 508 Electrical Panel

## RPCH/RVPC Series

### Product Coolers

RSI's RHPC/RVPC Series product coolers are designed for product storage (above 32°F), processing rooms, ripening rooms, and bulk/palletized storages. These units are designed for floor and/or suspended platform mounting. The RHPC/RVPC Series has centrifugal fans and cover a wide range of capacity in applications where the room design is above freezing temperature.



### Product Features

- 1,700 to 20,600 BTUH per °F TD
- Designed for refrigerant R-404a and R-507, contact factory for alternative refrigerants
- 54 models to choose from
- 4,000 to 31,300 CFM
- Direct expansion and glycol coils
- Air defrost

# RSI Provides Complete Systems!

## System Layout Diagram

### 1. Compressor

As the heart of your refrigeration system, RSI understands the importance of having a durable, high-quality compressor. For this reason, we only use the best compressors on the market from manufacturers like Copeland and Bitzer.

### 2. Oil Separator

### 3. Condenser Coil

Every coil in RSI's cooling equipment is manufactured in the same facility as the rest of your system. With a variety of tube thicknesses, fin sizes, and special materials available, you can be sure that we can meet all of your project requirements!

### 4. Receiver Inlet Valve

### 5. Receiver

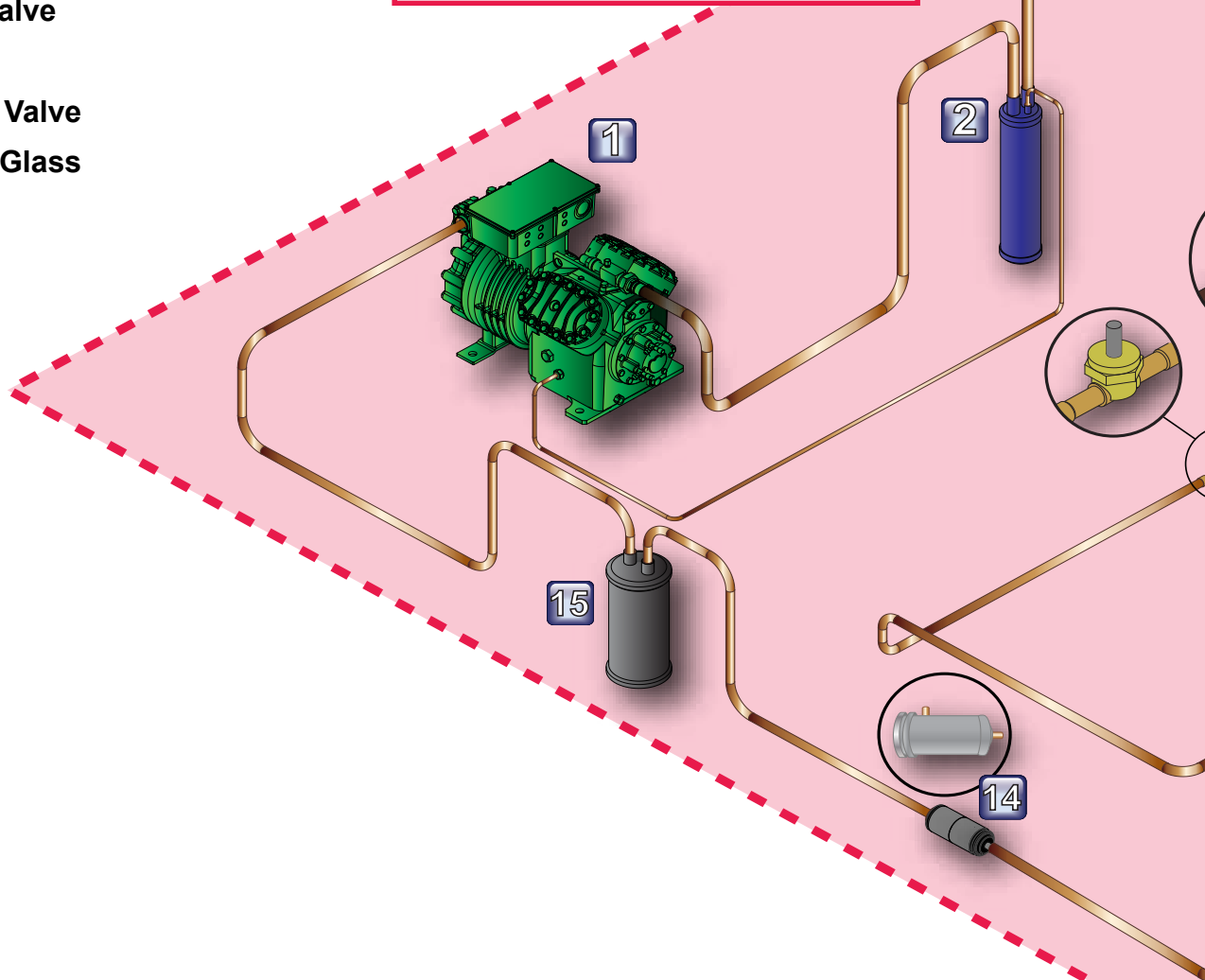
### 6. Receiver Outlet Valve

### 7. Charging Sight Glass

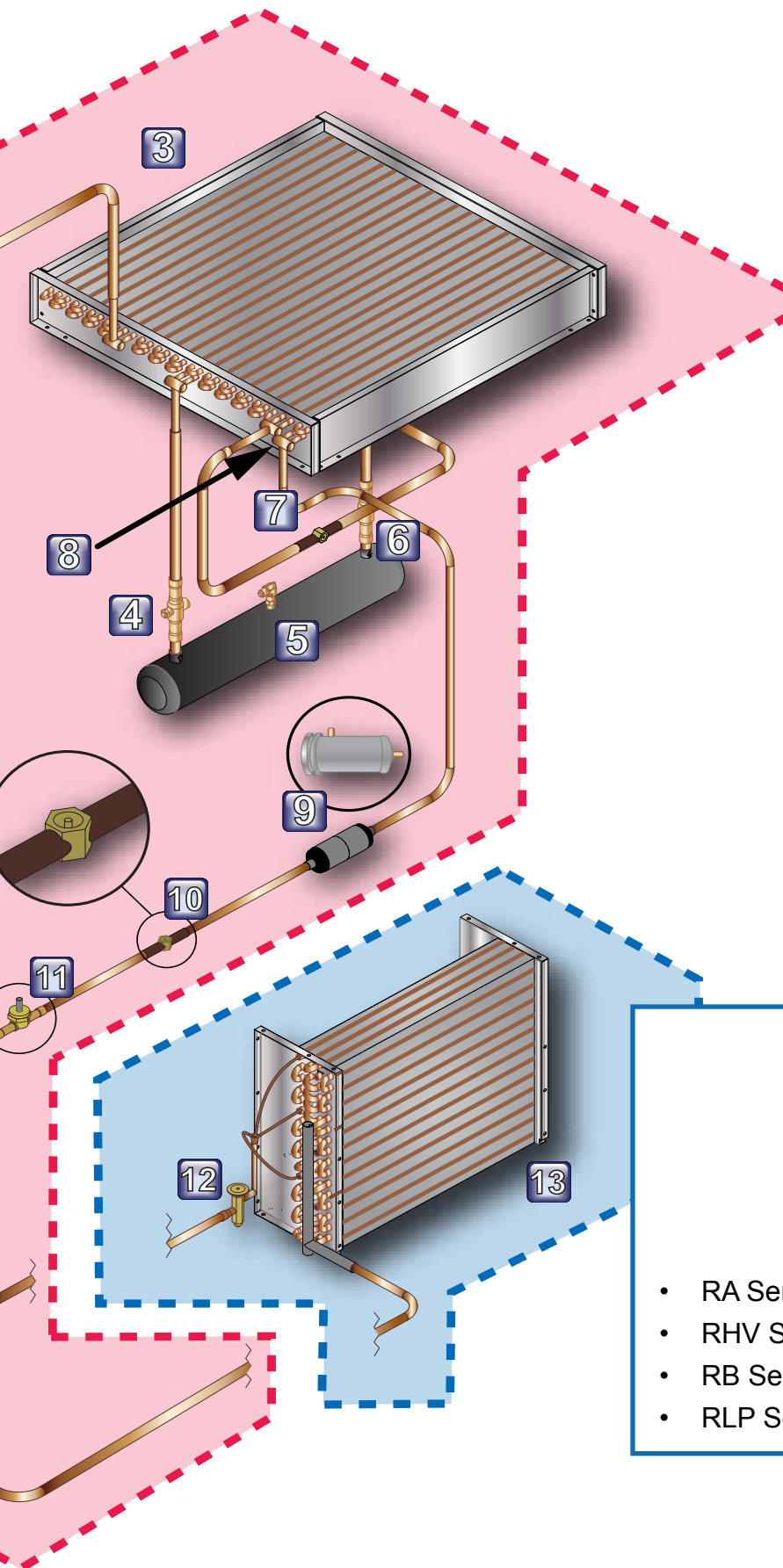


#### Condensing Unit Models:

- RUI/RUO Series
- RCU Series







### 8. Subcooling Circuit

The unique design of RSI's subcooling circuits lowers the liquid temperature in your systems and allows for an overall boost in system capacity.

### 9. Liquid Drier

RSI offers sealed liquid line driers as well as replaceable core driers.

### 10. Sight Glass

### 11. Liquid Line Solenoid *(shipped loose or mounted)*

### 12. TXV *(shipped loose or mounted)*

### 13. DX Coil

Each RSI coil is leak tested underwater at 400 psig to ensure the quality of your coil, and in turn, your system.

### 14. Suction Filter

RSI offers sealed suction filters as well as replaceable core filters.

### 15. Suction Accumulator



### Unit Cooler Models:

- RA Series
- RHV Series
- RB Series
- RLP Series
- RLV Series
- RBF Series
- RBR Series
- RXB Series

# Fluid Coils

## Chilled Water, Hot Water, and Glycol Coils

RSI offers a complete line of chilled water, hot water, and glycol coils. Whether standard or custom engineered, Refrigeration Systems heat transfer coils offer the optimum in efficiency, long life, and quality design. Because we manufacture a complete line of condensing unit products on site, we are uniquely qualified to understand the many factors surrounding proper coil installation in a system. From cooling your heels to warming your tootsies, RSI Fluid Coils can meet the most demanding needs with on-time selections and drawings for the most difficult applications.



### Product Options

- 3/8", 1/2" or 5/8" copper tubes up to .020" tube thickness
- 16-gauge G-90 galvanized sheet steel casing
- 4 to 14 fins per inch with heights up to 52.5" in a single fin
- Vertical tube, vertical airflow, or offset condensate connection options available
- Leak tested underwater to 400 PSI

# Evaporator Coils

## DX (Direct Expansion) Coils



RSI Evaporator Coils are designed and built to meet your most challenging needs. From comfort cooling to product storage, RSI has the expertise and capabilities to exceed your requirements. With RSI manufacturing a complete line of condensing units and unit coolers, we truly do understand the many factors surrounding a proper application. From critical fin spacing to utilizing today's new refrigerants, RSI will exceed your expectations!

### Product Options

- 3/8", 1/2" or 5/8" copper tubes up to .020" tube thickness
- 16-gauge G-90 galvanized sheet steel casing
- Fin spacing from 4 to 20 fins per inch
- Aluminum, copper, and Acrycoat aluminum fin materials
- Leak tested underwater to 400 PSI

## Medium Profile Unit Coolers



RSI's RA Series medium profile unit coolers are designed for larger walk-in coolers and freezers as well as warehouse cooler and freezer applications for product pull down. The RA Series unit coolers are constructed of a heavy gauge smooth finish aluminum cabinet with a copper tube, aluminum plate fin coil. The RA Series features permanently lubricated ball bearing fan motors with inherent thermal protection. These draw-through units are designed for ceiling mounting and are available in air defrost, electric defrost and hot gas defrost configurations.

### Product Features

- 10,089 to 161,520 BTUH depending on defrost model chosen
- Air, electric, and hot gas defrost models available
- Fin spacing at 4, 5, 6, or 8 fins per inch depending on defrost model chosen
- 60 to 70 feet air throw (up to 50% more with optional extended throw nozzle)
- Glycol circuiting available on air defrost models
- Heated and insulated drain pan and adjustable defrost termination/fan delay is standard on electric defrost models
- Heated (with hot gas loop) and insulated drain pan, sideport connection on the distributor, one (1) check valve for TXV bypass (shipped loose) and adjustable defrost termination/fan delay are standard on hot gas defrost models

# RHV Series

## High Capacity, Low Velocity Unit Coolers

RSI's RHV Series low velocity unit coolers are designed for use in any application requiring low air velocity over product or high humidity and low TD. The RHV Series is a blow through configuration with two-way air throw designed for flush ceiling mounting, leaving no surfaces above the unit to be cleaned.

These units are constructed of a heavy gauge smooth finish aluminum cabinet with copper tube, aluminum plate fin coil, and permanently lubricated fan motors with inherent thermal protection. The RHV Series units also have a hinged drain pan arrangement.



### Product Features

- 16,100 to 152,080 BTUH depending on defrost model chosen
- Air, electric, and hot gas defrost models available
- High efficiency fan motors
- VFD (variable frequency drive) fan option
- Mounted electronic expansion valves
- Glycol unit cooler coils at 4, 5, 6, or 8 FPI

# RB Series

## Large Profile Unit Coolers

RSI's RB Series unit coolers are designed for larger storages that require more capacity and longer air throw. These units have an approximate 100 foot air throw that can be increased with the use of optional "throw cones" which help to increase the distance the air can travel. The units come in varying capacities by changing the fin spacing and the coil height. The smooth finish aluminum housing gives a nice appearance and is easily cleaned. The coil fin materials can be changed from aluminum to copper or coated fin as well as a variety of coatings for different applications.



### Product Features

- 61,921 to 366,183 BTUH depending on defrost model chosen
- Air, electric, and hot gas defrost models available
- Fin spacing at 4, 5, 6, or 8 fins per inch depending on defrost model chosen
- 95 to 105 feet air throw (up to 50% more with optional extended throw nozzle)
- Glycol circuiting available on air defrost models
- Heated and insulated drain pan and adjustable defrost termination/fan delay is standard on electric defrost models
- Heated (with hot gas loop) and insulated drain pan, sideport connection on the distributor, one (1) check valve for TXV bypass (shipped loose) and adjustable defrost termination/fan delay are standard on hot gas defrost models

# RLP Series

## Low Profile Unit Coolers

RSI's RLP Series low profile unit coolers are designed for walk-in coolers and freezers, beverage boxes, and produce storage with low ceilings. The RLP models are a flush ceiling mount design so there are no surfaces above the unit coolers to be cleaned. These units are constructed of a heavy gauge smooth finish aluminum cabinet with a copper tube, aluminum plate fin coil, permanently lubricated ECM fan motors with inherent thermal protection, and low noise level fans for high, medium, and low temperature refrigeration applications. The RLP Series also features a hinged drain pan arrangement.



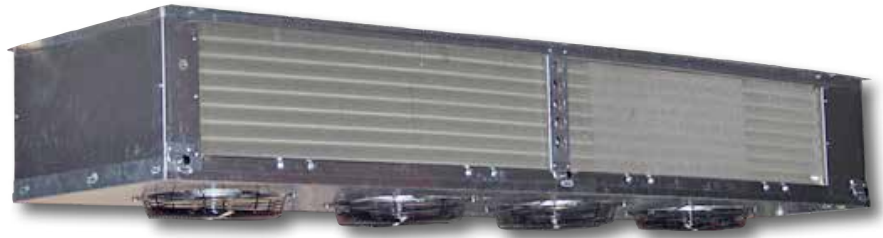
### Product Features

- 6,200 to 42,600 BTUH depending on defrost model chosen
- Air and electric defrost models available
- ECM fan motors
- Easy access to controls, motors, and wiring
- Low noise level fans
- Glycol unit cooler coils at 4, 5, 6, or 8 per inch
- 115 and 230 volt motors available
- 230 and 460 volt heaters available



## Low Velocity Unit Coolers

RSI's RLV Series low velocity unit coolers are designed to be used for any application requiring low air velocity over product or high humidity - low TD such as meat processing and cutting areas, florist boxes, or holding and packaging rooms. These units are constructed of a heavy gauge smooth finish aluminum cabinet with copper tube, aluminum plate fin



coil, and permanently lubricated ECM fan motors with inherent thermal protection. RLV Series units are a blow-through design with two-way air throw and are designed for flush ceiling mounting with no surfaces above the unit to be cleaned. They are available in air defrost and electric defrost configurations. The RLV Series features a hinged drain pan arrangement.

### Product Features

- 5,000 to 33,000 BTUH
- ECM fan motors
- 950 to 4,500 CFM
- Air or electric defrost configurations
- Glycol circuiting available
- 4, 5, 6, or 8 fins per inch

# RBR Series

## “In Between the Rails” Unit Coolers



The RBR Series unit coolers are designed for use in any application requiring two-way air flow from the unit with temperatures at or above 0°F. The RBR is a draw-through design with the air discharging vertically into a “V” air diffuser to direct the airflow horizontally from the unit. These units are designed to be ceiling mounted and are constructed of heavy gauge smooth finish aluminum cabinet material with a copper tube, aluminum plate fin coil. The RBR Series utilizes permanently lubricated fan motors with inherent thermal. The RBR units are available in air defrost, electric defrost and hot gas defrost configurations.

### Product Features

- 24 models from 23,800 to 166,000 BTUH
- 4,830 to 25,960 CFM
- Pre-wired controls
- Adjustable defrost termination/fan delay switches on electric and hot gas defrost units
- 4 and 6 fins per inch coil configurations
- Glycol circuiting available

# RXB Series

## Ultra Large Profile Unit Coolers



RSI's RXB Series unit coolers are designed for the rigors of freezer and cooler applications. The RXB Series units utilize a configuration of fans, motor horsepower, coil circuiting, and blade configuration that provides a wide range of unit coolers to meet your specific project needs. The RXB Series unit cooler cabinets are designed with corrosion resistant G-90 mill galvanized sheet metal. These units are designed for ceiling or stacked floor mounting. The RXB Series is supplied with high efficiency, custom circuited heat transfer coils that are manufactured with copper tubes and aluminum fins. Each unit is specifically circuited to optimize coil performance and capacity.

*\*Extended nozzle throw optional*

### Product Features

- 83,851 to 424,704 BTUH
- 14,024 to 65,127 CFM (with 0" external static pressure)
- Galvanized housing
- Air defrost
- Insulated and hinged drain pan
- ODP motors
- Hinged end-access panels
- Electric defrost on most models

# RBF Series

## Blast Freezers/Coolers



The RBF Series blast freezer unit coolers are designed for blast chilling and freezing applications requiring high RBF air volume and external static pressures capability. The units feature a draw-through configuration which provide enhanced air throw for freezer applications. The RBF Series is available in air, electric and hot gas defrosts.

### Product Features

- 56,100 to 276,300 BTUH
- Designed for refrigerant R-404a and R-507, contact factory for alternative refrigerants
- 24 models to choose from
- 7,900 to 34,400 CFM
- Available with air defrost, electric defrost, and hot gas defrost
- Ceiling-hung or floor-mounted
- Galvanized housing

## RSI did it FIRST!



*Inside a typical potato storage*

In the early 1970's, an entrepreneur by the name of Jarrell Brewer saw a need and sought out to fix it. He discovered several agricultural companies in Idaho that were faced with problems when it came to refrigerating and storing their product: millions of pounds of potatoes.

After the Idaho potato farmers would harvest their crops in the summer, they did not have a good way of refrigerating and storing the produce until it could make its way to your local supermarket. Therefore, when the outside temperatures would rise too high, all of the potatoes would spoil. Because of this, the potato farmers and distributors were being forced to shut their plants down until a new crop of potatoes could grow. By May, most grocery stores would run out of potatoes. If the consumer was lucky enough to stumble across this produce, it was outrageously expensive.

Brewer and his team of refrigeration experts gained knowledge about this issue in 1973 when Ore-Ida Foods came to them for help. Ore-Ida needed a specialized refrigeration system that would be large enough to cool and store their potatoes year-round. With his interest piqued, Brewer agreed to meet with Ore-Ida's facility manager to determine what type of system Ore-Ida would need. After some trial and error and a few late nights, Brewer and his team developed a never-before-seen refrigeration system that worked...perfectly.

Thrilled by what he and his team had done, Brewer asked a contractor friend of his to take him for a plane ride across Idaho to see how many potato farms there really were. It was in the air that he saw the number of potato storages covering the area, and realized the enormous business potential that lay before him. In that moment, Jarrell Brewer made the decision to turn this one-off business deal into a prospering market for his new company. In 1974, Brewer opened up an office in Idaho and that is where Refrigeration Systems, Incorporated was born.

Now nearly four decades later, RSI is the best at what they do. Not only because they were the very first company to design and build bulk produce storage equipment, but because they have always specialized in taking care of their employee and customer relationships. Another of RSI's cofounders, Gerald Salcher stated, "We have always felt that no matter what the technology, people always do business with people. So we tried to maintain good relationships with suppliers, reps, and customers. I think that's worked well over the years and we still do that."

RSI and their employees have always put their customers first. They are dedicated to providing their customers with the best equipment and technical support in the industry. They do this by having superior experience and application knowledge in refrigerated vegetable storage, air system design, and storage management practices.



*An RSI Technician works on an installed unit*





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