rime

HEAT EXCHANGERS

REFRIGERATION

AIR CONDITIONING

CONTENT

Contact

For inquiries, consultations, or to learn more about our innovative refrigeration solutions, please get in touch with us:
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For customer support email us:
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WE ARE MANUFACTURERS OF FIN AND TUBE HEAT EXCHANGERS

At rime, we excel in crafting premium bespoke fin and tube heat exchangers for the worldwide HVAC&R sector. Our top-notch Condenser and Evaporator coils are engineered for challenging environments, emphasizing heavy-duty, precision, and industrial cooling applications. Renowned for our commitment to quality engineering, innovative product design, and continuous technical support.

We've established an excellent reputation in the refrigeration industry with our range of high-quality manufactured products, which includes condensing units, evaporators, rack systems, cold room doors, compressors, copper pipes, copper fittings, refrigerant gas cylinders, control panels, and all related HVAC/R accessories.

We partner with top brands like Bitzer, Castel, Danfoss, EBMPapst, and Embraco for quality components, maintaining our dedication to quality and customer satisfaction.

Our Mission

We strive to deliver high-quality, cost-effective refrigeration solutions with a focus on advanced manufacturing and assembly. Our goal is to provide superior products and exceptional service, that ensures a seamless customer experience and ongoing support.

Our Vision

To lead the HVAC and Refrigeration industry from the GCC to the global stage, setting the benchmark for cost-effective and innovative solutions. Through advanced manufacturing and assembly practices, we strive to pioneer cutting-edge technologies that optimize energy efficiency, minimize environmental impact, and make a significant, positive difference worldwide.

Core Values

Responsiveness: We value responsiveness in our interactions with clients, partners, and team members. We prioritize open communication and timely actions to address their needs efficiently.

Integrity: It is at the core of our business. We uphold ethical practices, transparency, and honesty in all our endeavors, building trust and long-lasting relationships with our stakeholders.

Mindfulness: Extends to our workplace culture. We are committed to fostering a supportive and inclusive environment where employees' well-being and personal growth are prioritized, ensuring a positive and collaborative work atmosphere.

Empowerment: We believe in empowering our team members to foster creativity, growth, and professional development. We encourage collaboration and foster an environment where everyone's ideas and contributions are valued.

PRODUCTS

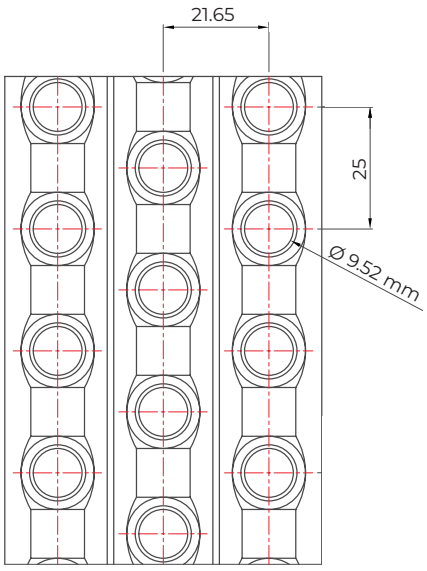
CONDENSER COILS

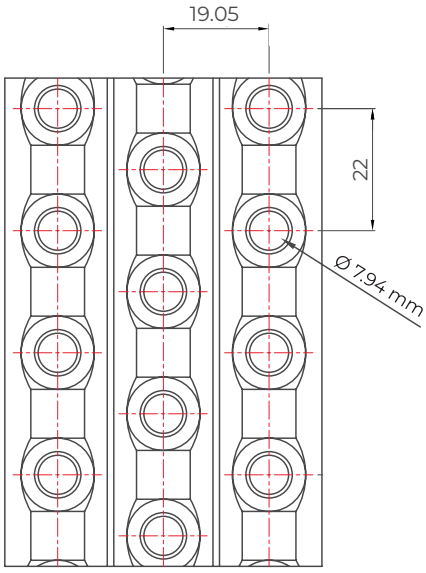
The Condenser coil or heat exchanger in the HVAC/R system plays a crucial role in cooling substances, such as refrigerants, and releasing latent heat from the system.

We meet various system requirements, whether for air conditioning, refrigeration, or industrial processes. We can customize circuiting to match heat transfer volume needs.

APPLICABLE REFRIGERANTS
R134a · R404A · R407C · R410A
R1234ze · R1234yf · R290 · R32

GEOMETRICAL CONFIGURATIONS for **CONDENSER** COILS





Tube diameter	**3/8" (9.52mm)**
Fin Pattern	**25 × 21.65 mm**
Fin Spacing	**Min. 1.6 - Max. 4.2 mm**
Fin Thickness	**100-150 micron**
Tube arrangement	**Staggered**
Fin Type	**Louvered – Sine wave**
Coating	**Bare / Epoxy (Blue Fin)**
Fin Material	**Aluminium** **Copper**

Tube diameter	**5/16" (7.94mm)**
Fin Pattern	**22 × 19.05 mm**
Fin Spacing	**Min. 1 - Max. 4 mm**
Fin Thickness	**100- 200 micron**
Tube arrangement	**Staggered**
Fin Type	**Louvered – Sine wave**
Coating	**Bare / Epoxy (Blue Fin)**
Fin Material	**Aluminium** **Copper**

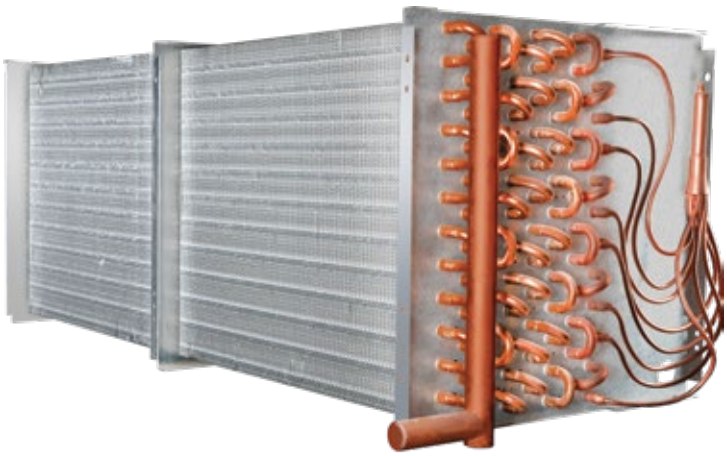
PRODUCTS

EVAPORATOR COILS

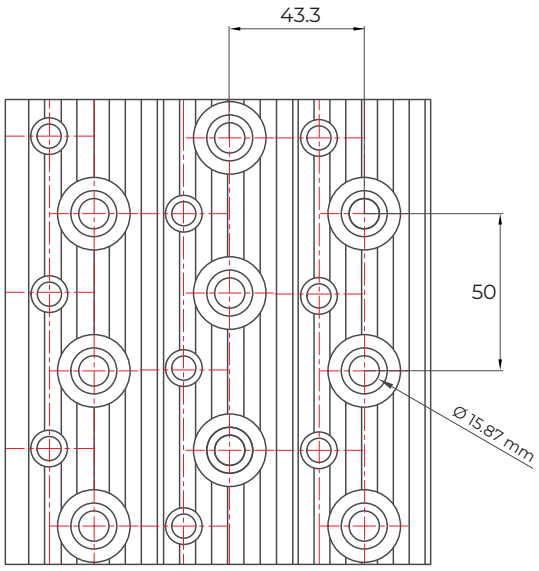
Rime excels in crafting precise evaporator coils tailored to diverse temperature requirements, spanning all applications for HVAC and refrigeration.

Our evaporator coils adeptly absorb warm air from enclosed spaces in the air conditioning system.

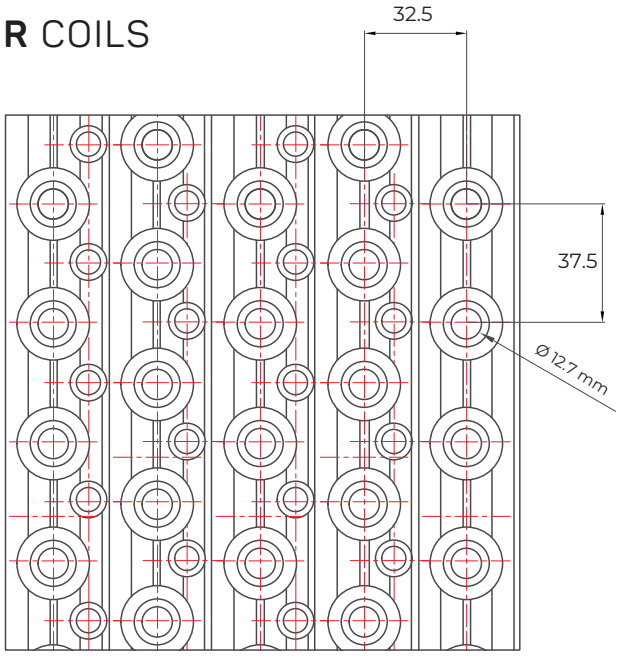
We ensure optimal air freshness by utilizing a sophisticated interplay of blowers and refrigerants.



GEOMETRICAL CONFIGURATIONS for **EVAPORATOR** COILS



Tube diameter	**5/8 "(15.87 mm)**
Fin Pattern	**50 × 43.3 mm**
Fin Spacing	**Min. 4.5 - Max. 12 mm**
Fin Thickness	**200-350 micron**
Element Hole	**8 mm**
Fin Type	**Corrugated**
Coating	**Bare / Epoxy (Blue Fin)**
Fin Material	**Aluminium** **Copper**



Tube diameter	**1/2 " (12.7 mm)**
Fin Pattern	**37.5 × 32.5 mm**
Fin Spacing	**Min. 5 - Max. 11 mm**
Fin Thickness	**200-350 micron**
Element Hole	**8 mm**
Fin Type	**Corrugated**
Coating	**Bare / Epoxy (Blue Fin)**
Fin Material	**Aluminium** **Copper**

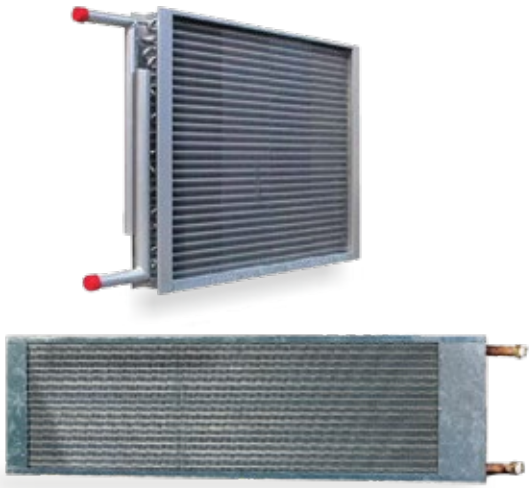
sales@rimegroup.com

PRODUCTS

AIR & FAN COOLING UNITS

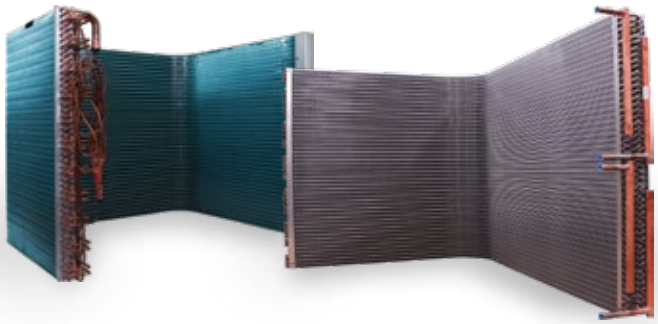
Chilled water coils | Direct expansion (DX) coils

Standard coils feature copper tubes and aluminum fins, with hydrophilic aluminum and copper fins available for enhanced durability. We offer an optional anti-corrosive coating for added protection. Each coil is equipped with copper headers and brass threaded male adaptors and connectors, ensuring reliable installation. Based on our product range chart, the coils can be designed and manufactured in various sizes, allowing rime engineers to select the optimal capacity to meet specific customer need



CURVED COIL

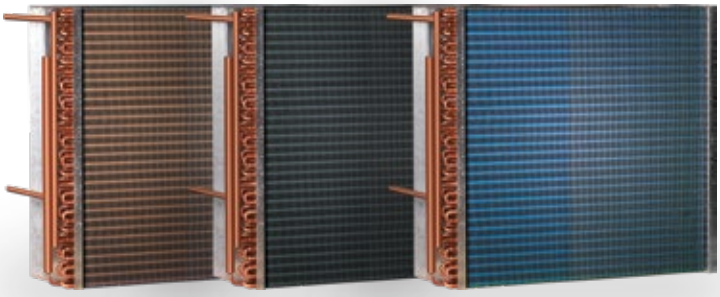
Our manufacturing capabilities allow for the production of high-quality curved coils with one, two, or three bends, including longer sizes to meet your business needs.



OEM

Rime manufactures custom fin and tube heat exchangers for HVAC&R applications, delivering energy-efficient, durable products. Our innovative coil patterns and high-quality coatings ensure resilience. With advanced manufacturing and global logistics, we guarantee timely deliveries and excellent service worldwide.

SPECIAL COATING



We offer various external treatments for our copper exchangers, including paint powder, cataphoresis, electrolytic tinning, epoxy-based hydrophobic coating, and copper nano-coating.

DESIGNED WITH UNILAB SOFTWARE

Unilab, the best and most accurate software for calculating fin and tube heat exchangers, is used by the rime technical team to design any required heat exchangers. It is an advanced tool for estimating the performance of fin and tube heat exchangers.

PRODUCT DETAILS

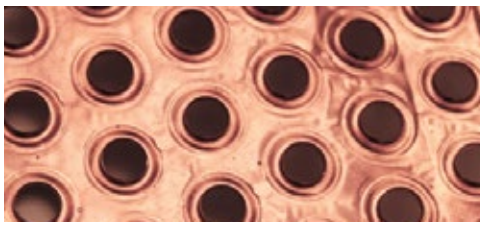
FIN MATERIAL

Aluminum

Heat exchanger fins are made of 8011 aluminum plates, which have high wettability and excellent corrosion resistance. 8011 aluminum is also lightweight and easy to shape.

Copper

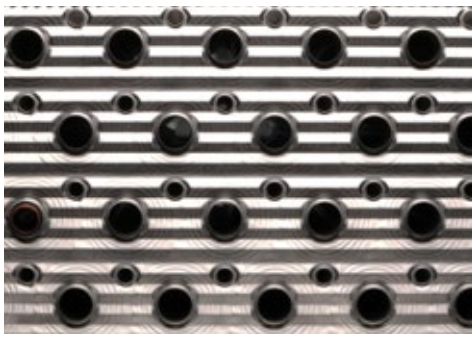
Copper plays a crucial role in ensuring optimal performance and longevity in solar thermal systems with high thermal conductivity. This is due to its corrosion resistance in various environments, and robust mechanical strength.



FIN SHAPE

Louvered

Using louvered fins is a widely recognized technique to enhance the heat-transfer capacity in various applications. This is because such fins create air turbulence that reduces the boundary layer on the surface of the fins. However, this comes at a cost of increased air pressure drop across the coil.



Corrugated

Compared to louvered fins, corrugated fins offer better airflow due to reduced resistance. However, they have a slightly lower capacity to enhance the heat transfer factor.

Sine Wave

Sine wave fins exhibit superior heat transfer capabilities compared to their corrugated fin counterparts while maintaining a similar level of airflow resistance. This observation suggests that using sine wave fins could lead to an improved heat transfer.

PRODUCT DETAILS

TUBE MATERIAL

Copper

Copper tubing is used in manufacturing for its excellent thermal and conductivity properties. The copper tubes are ASTM B-280 certified copper, ensuring the highest quality and performance standards. The tubing is available in a range of sizes, including 3/8, 5/16, 5/8, and 1/2 inches, thus catering to diverse requirements of different applications.

*Additional Tube materials are available upon request.

TUBE SHAPE

Smooth

Diameters mm/inch	Common Uses
15.87mm/ 5/8" 12.70mm / 1/2" 9.52mm / 3/8" 7.94mm/ 5/16"	Condensers and evaporators for increased capacities

Inner Grooved

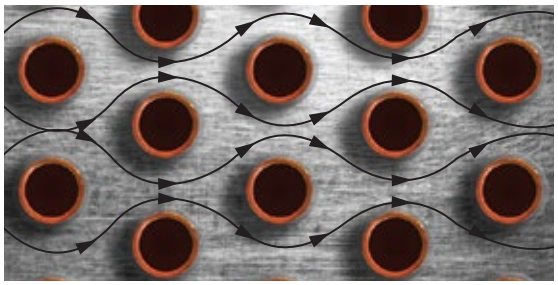
Diameters mm/inch	Common Uses
15.87mm / 5/8" 12.70mm / 1/2" 9.52mm / 3/8" 7.94mm/ 5/16"	Standard in all coils

Tubes Bending Capability

Our manufacturing unit has exceptional tube bending capabilities for crafting intricate and efficient fin and tube heat exchangers with optimal performance and durability through precise and uniform bends.

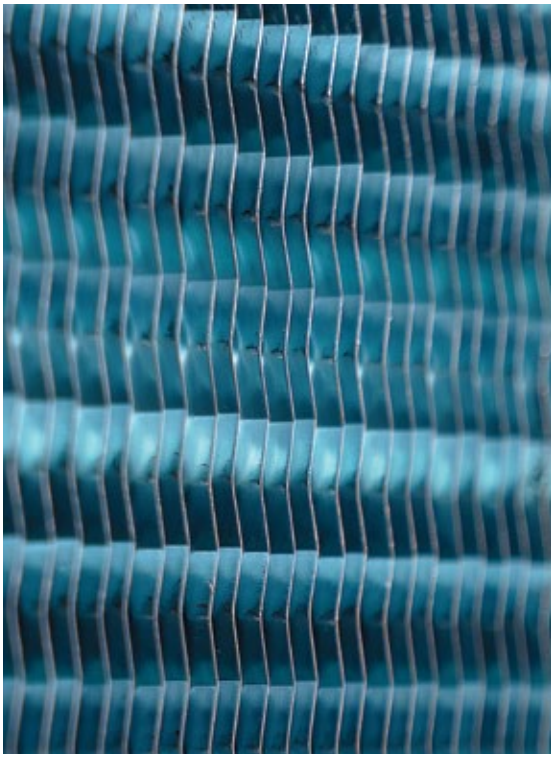
PRODUCT DETAILS

STAGGERED TUBE DESIGN



The extent of airflow in contact with the tubes within the coil directly correlates to the level of performance achieved from the available surface area. The staggered tube geometry toward the in-line design allows the tubes to be spaced closer together, resulting in a more compact coil providing higher capacities.

COATING BLUE FIN TECHNOLOGY



In Blue Fin Technology, resin material called epoxy coats condenser coils or fins, which makes the coils appear blue.

As a hydrophilic compound, epoxy has several exceptional properties. Due to its weather resistance, epoxy protects coils from corrosion and humidity in hot and salty environments.

Blue Fin coating on the coils has a low surface tension, meaning the friction between the water and the coating is minimal. As a result, any water droplets or moisture will not remain on the coils, preventing the breeding of bacteria, fungi, or viruses.

Epoxy is non-reactive to acids and atmospheric salts, which prevents the accumulation of salts, acidic materials, minerals, or other impurities in the atmosphere. As a result, fins remain unclogged, and the airflow remains unobstructed.

PRODUCT RANGE CHART

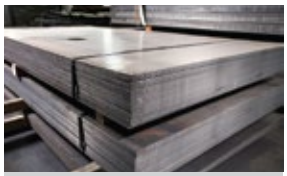
Tube OD (inch)	**3/8**	**5/16**	**5/8**	**1/2**
Tube Spacing (mm)	**25**	**22**	**50**	**37.5**
Row Spacing (mm)	**21.65**	**19.05**	**43.3**	**32.5**
Fin Thickness (micron)	**100-150**	**100-200**	**200-350**	**200-350**
Fin Spacing (mm)	**1.6-4.2**	**1-4**	**4.5-12**	**5-11**
Max Fin Length(mm)	**3940**	**3940**	**3940**	**3940**
Fin Type	**Louvered / Sine wave**	**Louvered / Sine wave**	**Corrugated**	**Corrugated**
Fin material	**Al/Cu**	**Al/Cu**	**Al/Cu**	**Al/Cu**
Fin Coating	**Bare / Epoxy**	**Bare / Epoxy**	**Bare / Epoxy**	**Bare / Epoxy**

MANUFACTURING PROCESS

MATERIALS

Copper Coil

Aluminum Roll



Ga/AL Sheet

SL Copper Tube

PARTS MANUFACTURE

Hairpin Bender

Fin Press

Laser Machine

Flute Punch

Hairpin

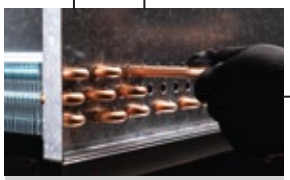
Fin

Bending Machine

T Drill

ASSEMBLY

Expander Machine



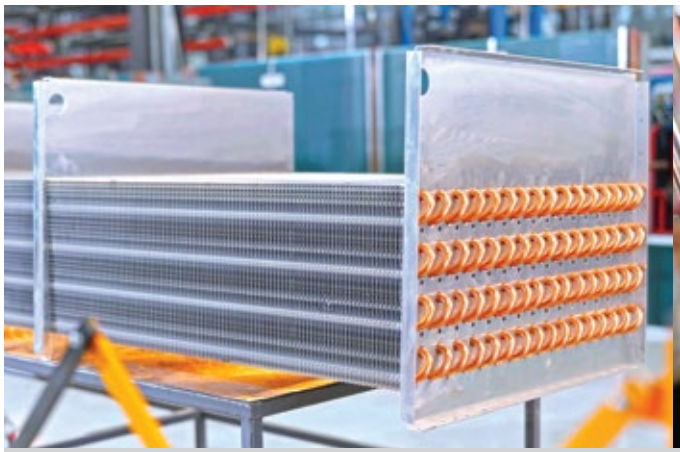
ASSEMBLY

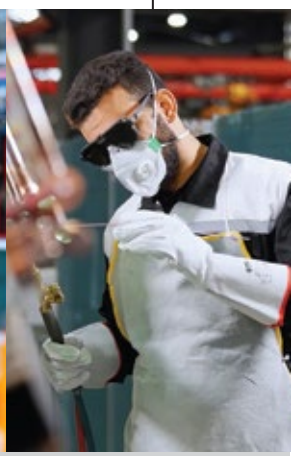
Tube Sheet

End forming

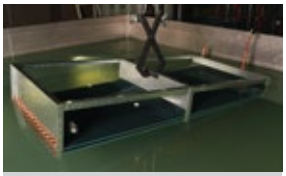
TESTING

Automatic Brazing





ASSEMBLE Coil & Collector + Brazing



Leakage Test

FINAL STAGE

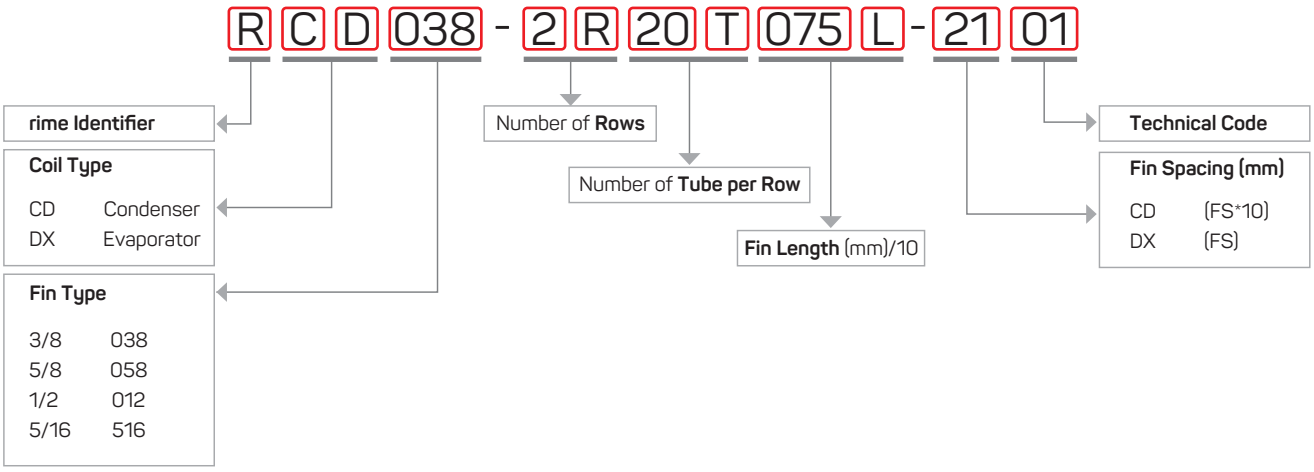
Quality Control

Pack & Store

Deliver

COILS NOMENCLATURE

Following nomenclature has been used for defining rime condensing units



APPLICATIONS	INDUSTRIES			
	Industrial	Commercial	Military	Institutional
Air Handlers	✓	✓	✓	✓
Chillers	✓			
Data Centers	✓	✓	✓	✓
Industrial A/C Systems	✓			
Laser	✓			
Laundry Services	✓			
Process Cooling	✓			
Product Driers	✓			
Refrigeration Systems	✓			
Transit Cooling Systems	✓			
Chilled Water Systems		✓		✓
Clean Rooms		✓		
Dehumidification Systems		✓		✓
District Heating		✓		
Window Air-Conditioning Systems		✓		
Comfort HVAC			✓	
Data Cooling			✓	
Electronics Cooling			✓	
Ground Support Systems			✓	
HVAC			✓	
LCAC Oil Coolers			✓	
Portable ECUs			✓	
Refrigeration			✓	
Transformer Cooling			✓	
Central Heating				✓

Talk To A Member Of Our Sales Team
We'll help up find the right products and pricing for your business.

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MANUFACTURED FOR SUCCESS

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