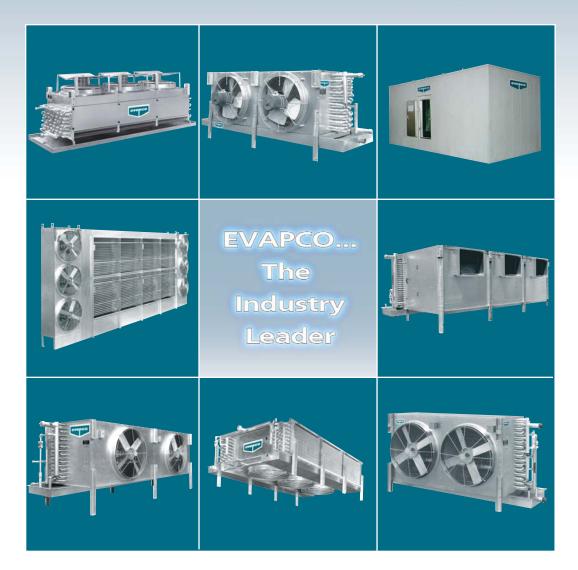
Bulletin 410-C 60 Hertz



NT SERIES Industrial Evaporators

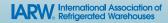


QUALITY

INNOVATION

SERVICE













Corporate Headquarters, Taneytown, MD

ince its founding in 1976, EVAPCO, Inc. has become a world-wide leader in supplying quality equipment to the Industrial Refrigeration HVAC and Process Cooling Industries.

EVAPCO's success has been the result of a continual commitment to product improvement, quality workmanship and a dedication to providing unparalleled service.

An emphasis on research and development has lead to many product innovations - a hallmark of EVAPCO through the years.

The ongoing R & D Program enables EVAPCO to provide the most advanced products in the industry - technology for the future, available today.



EVAPCO-INNOVATION, **PERFORMANCE**, **EXPERIENCE**

In 1993, EVAPCO introduced a full line of industrial air evaporators. Each evaporator incorporates the unique and patented Thermal-Pak[®] Finned Coil design - the result of a comprehensive research and development program



started in the early 1990's. The Thermal-Pak® Finned Coil is just one example of the commitment EVAPCO has made to research and development. With over 25 industry related U.S. patents and their foreign counterparts, EVAPCO's engineering expertise speaks for itself and continues to pioneer new, innovative product designs and features for the future.

Advanced Technology—Available Today

The EVAPCO Research & Development Center, located at the Corporate



Headquarters in Taneytown, MD has over 40,000 square feet dedicated to research and product development. Experienced R&D Engineers perform product and application research year round in four environmental test chambers.

The Research Center features the industry's largest low temperature, insulated environmental test chamber. The conditions in the test chamber are controlled by a fully functional ammonia refrigeration system

designed to operate at suction temperatures as low as -40° F.

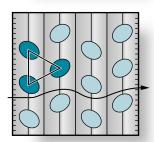
EVAPCO is committed to providing the most innovative products to meet today's stringent application needs and has dedicated the necessary resources to provide that technology today.

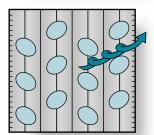


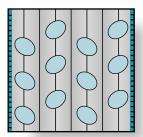
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INNOVATIVE FEATURES







Elliptical Tube

The unique elliptical tube is the largest nominal diameter tube (1.05 in.) in the industry and features the heaviest wall thickness at 0.060 nominal inches – increasing coil life. The elliptical shape of each tube and its orientation in the finned bundle minimizes the tube profile and reduces the air-side pressure drop allowing for less fan horsepower while increasing heat transfer efficiency.

Delta Design

The "Delta Design" signifies the Thermal-Pak® Finned Coil's equilateral triangle tube geometry and tube center spacing. The elliptical shape allows for tubes to be spaced closer together than other coils providing more tube surface in a given plan area. The "Delta Design" and large diameter elliptical tube combine to provide more primary (tube) surface area, more efficient secondary (fin) surface area for greater overall capacity and faster defrosts.

Rippled Fin

The rippled fin provides greater air turbulence and contact with all heat transfer surfaces within the finned bundle and minimizes air bypass. As evaporator heat transfer is primarily accomplished through convection, improved air contact with the tubes and fins increases heat transfer efficiency and overall thermal capacity.

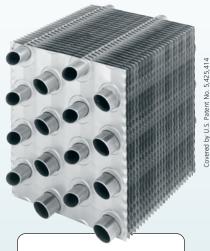
Crimped Edge

The Thermal-Pak® Finned Coil incorporates a crimped edge on both the air entering and leaving side of the coil. The crimped edge provides rigidity to the fin to withstand the temperatures and stress relief experienced during the galvanizing process. The end result is a uniform fin spacing pattern before and after galvanizing which improves air entry and exit.

Clean Tube and Fin Pattern

Each element above combined with a continuous fin sheet through the coil results in EVAPCO's "Clean Tube and Fin Pattern". The continuous fin sheet eliminates internal seams, which in other designs collects dirt, bacteria, and frost leading to reduced coil performance and cleanability. The consistent fin configuration provided by the crimped edge allows for more uniform frost build patterns, even air flow distribution across the face of the coil, and reduced maintenance time (easier to clean). Other coils suffer from inconsistent fin spacing leading to frost bridging, higher air pressure drops, and particulate entrapment for reduced capacity and increased maintenance.

EVAPCO EVAPORATORS



Featuring the Exclusive Thermal-Pak[®] Finned Coil

Proven performance resulting in:

- Lower Horsepower
- Greater Capacity
- Compact Design
- Thermal Performance Guaranteed.
- Highest Tube-to-Fin Surface Area Ratio in the Industry for Increased Efficiency and Quicker Defrosts.
- 0.060 Inch Tube Wall Thickness for Increased Coil Life, (Up to 90% Greater Wall Thickness Than Other Manufacturers).
- Entire Coil Designed to Meet the Strength Requirements of ASME/ANSI B31.5. Pressure Tested Under Water to 350 PSIG.
- Charged with Nitrogen Prior to Shipment to Prevent Entry of Moisture and Contamination.
- Improved Clean Tube and Fin Pattern Ideal for Food Freezing Applications.
- CRN Coil Design Available in all Canadian Provinces



STANDARD CONSTRUCTION FEATURES

Heat Transfer Coil



All EVAPCO evaporators feature the patented Thermal-Pak® Finned Coil inside. The coil is constructed with elliptically shaped steel tubes staggered and pitched in the direction of air-flow in an equilateral triangle geometry. A heavy 0.060" nominal thick steel tube has been incorporated for maximum strength and longevity with steel fins –

all hot dipped galvanized after fabrication. Coils are available in 3, 4 or 6 fins per inch and 4, 6, 8, or 10 rows deep. Coils can be arranged for liquid recirculated, flooded, or thermal expansion feed for ammonia or halocarbon refrigerants. All coils are charged with nitrogen for shipment.

Fans

Direct drive axial fans are constructed of steel sheet metal for the NTW and NTX models and cast aluminum for the NTM, NTL, and NTP models. Fans screens are heavy gauge PVC coated steel, which conform to OSHA standards. NTC models feature heavy-duty galvanized steel forward curved centrifugal fan blower wheels mounted to a rugged tubular steel fan shaft with forged journal ends. The NTC fan shaft is supported by heavy-duty self-aligning bearings.

Unit Casing

The unit casing is constructed with heavy gauge, G235 mill galvanized steel – the heaviest galvanized specification in the industry for maximum corrosion protection. The fan panel is a spun venturi-type orifice designed for maximum fan efficiency and reduced air pressure drop. Fan cells are individually segmented to prevent air bypass or reverse fan cycling and allow for independent fan operation. Type 304 stainless steel is available as an option, and is standard on all NTW style units.

Drain Pan

All drain pans are constructed of G235 mill galvanized steel inside and out for maximum corrosion protection and are insulated with a minimum two inch thick closed cell polyurethane foam insulation as standard. All drain pans are sloped end to end with a bottom outlet drain to insure complete drainage. Type 304 stainless steel is available as an option for the outer pan cover, and is standard on all NTW style units. All standard pans are shipped mounted.

Motors/Electrical Wiring

All evaporators are supplied with totally enclosed air over motors (TEAO) with sealed bearings and low temperature grease (if required). NTW and NTX models feature fractional horsepower motors ranging from 1/4 to 3/4 horsepower are



230/460 volt, three phase, 1140 rpm with automatic thermal overload (ATO) protection built in. Fractional horsepower motors are mounted and supported by the fan screen. The motor junction box for each motor is easily accessible for field wiring.

NTC centrifugal fan units feature motors ranging from 1 to 50 horsepower, 230/460 volt, three phase and 1750 rpm. The motor is mounted on a unique motor base designed for easy belt tensioning. The motor is located inside the unit casing to eliminate cumbersome belt guards and facilitate unit cleaning. The motor is factory pre-wired to a NEMA 4X junction box located on the unit exterior.



NTM, NTL, and NTP models include motors ranging from 1 to 7.5 horsepower, 230/460 volt, three phase and available in 870, 1160, or 1750 rpm. Fan motors



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are supported by a heavy-duty pipe motor mount with a fully welded heavy gauge sheet metal base plate to reduce vibration and minimize air pressure drop. Each motor is prewired through the fan panel to a NEMA 4X junction box mounted on the unit exterior for easy access to field wiring.



OPTIONAL FEATURES



Unit with Series flow Hot Gas Coil and Pan

Defrost Arrangements

- Air Defrost
- Hot Gas Coil Only
- Hot gas coil and drain pan series or parallel flow with check valve prepiped at the factory
- Water defrost includes oversized drain pan and drain outlet connection





NTP with Distribution Plenum

• 90 Degree down-blow – NTM, NTL, and NTC models

Air Discharge Arrangements

Long throw adapters – NTM and NTL models 45 Degree down-blow – NTM and NTL models

(Galvanized or Stainless Steel)

- 1,2,3, or 4 way discharge distribution plenum NTP models
- Single or bi-directional discharge louvers NTM, NTL, NTC, NTP models





90° Downblow Penthouse Unit



Bi-directional Discharge Louver

Materials of Construction

- Type 304 stainless steel drain pan cover with galvanized steel unit housing and inner pan
- Type 304 stainless steel unit housing and drain pan cover with galvanized inner pan
- Aluminum tube / aluminum fin heat transfer coil
- "Easyclean" construction For NTW models only (without hot gas drain pan)

Electrical Prewiring

- All motors to a terminal strip in a common NEMA 4X junction box NTW and NTX models
- All motors to a common NEMA 4X non-fused disconnect NTW and NTX models
- Each motor to an individual NEMA 4X non-fused disconnect NTM, NTL, and NTC models
- All motors to a common NEMA 4X fused disconnect with thermal protection provided for each motor- NTM and NTL models
- All motors to a common NEMA 4X fused disconnect with single magnetic starter and thermal protection provided for each motor - NTM and NTL models
- All motors to a NEMA 4 control panel with fused disconnect switch and individually wired IEC starter(s) for each fan motor - NTP models



Prewired Motors w/Common NEMA 4X Fused Disconnect



NTP Motor Control Panel

Additional NTP Model Options

- Insulated enclosure and/or insulated bottom panel
- Pitched unit base to match roof slope
- Defrost timer, ammonia detector, interior service lights, and/or 115 v service receptacle

Other Options-All Models

- Reheat coil
- 0 Variable fin spacing
- 0 Heat traced outer pan cover
- Full coverage or oversized drain pan -Standard for NTW and NTX
- Premium efficient, inverter duty, or 0 two speed fan motors
- Extended unit legs or support base Not 0 available for NTP
- Alternate voltage and 50 hertz fan motors



TFC CUSTOM PRODUCT CAPABILITIES

E VAPCO offers a broad range of unit configurations along with the engineering expertise and manufacturing capability to design and build virtually any type of non-cataloged custom coil or special unit, some of which are featured below.

All custom units are designated as "TFC" – **T**hermal-Pak® **F**inned **C**oil - in the model number nomenclature to not only distinguish the unit as a custom product, but to also highlight the patented coil design and superior performance that only EVAPCO can provide. We welcome the opportunity to meet with you and discuss your custom coil applications – please call your area representative or the factory for assistance.



Low Profile Evaporator



Blast Freezer Evaporator







Stacked Blast Freezer Evaporator



Draw Through Unit with Inlet Air Filters



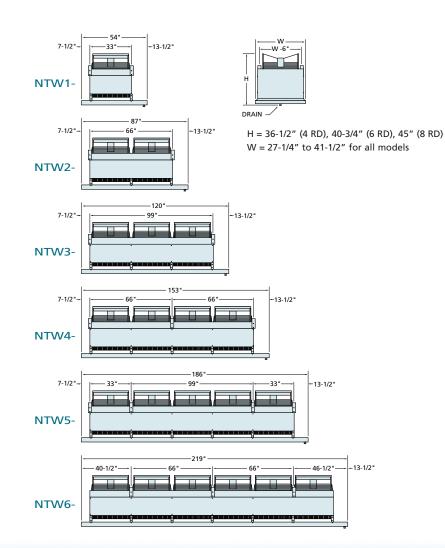
NTW MODELS

Low Air Velocity Coolers for Process Room Applications

Standard Construction Features:

- Type 304 Stainless Steel Housing
- Heavy-duty sheet metal fan blades 20, 24, or 28" diameter
- Heavy Wall Galvanized Steel Coil
- 4, 6, or 8 Rows Deep; 3, 4, or 6 fpi
- 1140 rpm, Totally Enclosed Fan Motors with Internal Overload Protection
- Heavy-Duty PVC Coated Fan Screens
- Individually Compartmentalized Fan Sections
- Removable Side Panels for Easy Access
- Rugged Air Deflector Provides 360° Air Discharge Pattern

NTW DIMENSIONAL DATA





Model	Tons *	CFM **
NTW1	1.4 – 3.7	3014 – 5418
NTW2	2.8 – 7.4	6028 – 10836
NTW3	4.2 – 11.0	9042 – 16254
NTW4	5.6 – 14.7	12056 – 21672
NTW5	7.0 – 18.4	15070 – 27090
NTW6	8.4 – 22.1	18084 – 32508

* Capacity range for 4 fpi frosted coil at 10°F TD

** CFM range equals 625 fpm face velocity or less

NOTES:

- 1. Right hand models shown.
- 2. All dimensions are for reference and should not be used for prefabrication of piping or supports.
- 3. For water defrost, add 10" to height.
- 4. Hanger holes are for 1/2 inch diameter threaded rod.
- 5. Allow 5" clearance above unit for removal of fan and motor.

NTX MODELS

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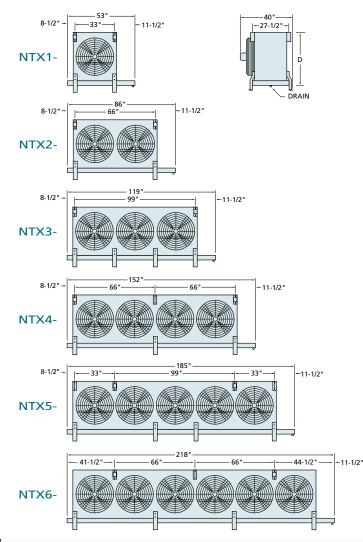
Small to Medium Size Coolers and Dock Units

Standard Construction Features:

- Heavy Gauge G-235 Galvanized Steel Housing
- Heavy-duty sheet metal fan blades 20, 24, or 28" diameter
- Heavy Wall Galvanized Steel Coil
- 4, 6, or 8, Rows Deep; 3, 4, or 6 fpi
- 1140 rpm, Totally Enclosed Fan Motors with Internal Overload Protection
- Heavy-Duty PVC Coated Fan Screens
- Individually Compartmentalized Fan Sections



NTX DIMENSIONAL DATA



Model	Tons *	CFM **	D (INCHES)
NTX1	1.4 – 3.6	3199 – 5270	29-3/4 – 44
NTX2	2.9 – 7.2	6398 – 10540	30-1/4 – 44-1/2
NTX3	4.3 – 10.9	9597 – 15810	30-3/4 – 45
NTX4	5.8 – 14.5	12796 – 21080	31-1/4 – 45-1/2
NTX5	7.2 – 18.1	15995 – 26350	31-3/4 – 46
NTX6	8.7 – 21.7	19194 – 31620	32-1/4 – 46-1/2

* Capacity range for 4 fpi frosted coil at 10°F TD

** CFM range equals 625 fpm face velocity or less

NOTES:

- 1. Right hand models shown.
- 2. All dimensions are for reference and should not be used for prefabrication of piping or supports.
- 3. For water defrost, add 6" to height.
- 4. 13/16" holes are located in each mounting bracket and support leg

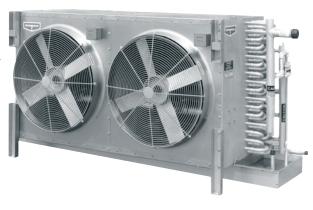


NTM/NTL MODELS

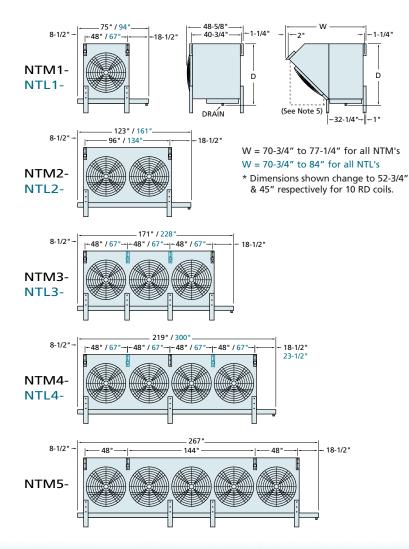
Medium and Large Size Freezers and Coolers

Standard Construction Features:

- Heavy Gauge G-235 Galvanized Steel Housing
- Heavy Duty Cast Aluminum Fan Blades 30, 33, 36, 42 or 48" diameter
- Heavy Wall Galvanized Steel Coil
- 4, 6, 8, or 10 Rows Deep; 3, 4, or 6 fpi
- 870, 1160, or 1750 rpm Totally Enclosed Fan Motors Prewired to NEMA 4X Junction Boxes
- Heavy-Duty PVC Coated Fan Screens
- Individually Compartmentalized Fan Sections
- Rigid Hot Dip Galvanized Steel Pipe Motor Mounts



NTM/NTL DIMENSIONAL DATA



Model	Tons *	CFM **	D (INCHES)
NTM1	3.1 – 8.1	7893 – 11476	44-3/4 – 63-3/4
NTL1	4.3 - 14.4	10997 – 20586	45 – 78-1/4
NTM2	6.2 – 16.3	15786 – 22952	45-1/2 – 64-1/2
NTL2	8.6 – 28.8	21994 – 41172	46 - 79-1/4
NTM3	9.2 – 24.7	23679 – 34428	46-1/4 – 65-1/4
NTL3	12.9 – 43.3	32991 – 61758	47 – 80-1/4
NTM4	12.3 – 32.5	31572 – 45904	46-3/4 - 65-3/4
NTL4	17.2 – 57.7	43988 - 82344	48 - 81-1/4
NTM5	15.4 – 40.7	39465 – 57380	47-1/2 – 66-1/2

* Capacity range for 3 fpi frosted coil at 10°F TD

** CFM range equals 625 fpm face velocity or less

NOTES:

- 1. Right hand models shown.
- 2. All dimensions are for reference and should not be used for prefabrication of piping or supports.
- 3. For water defrost, add 6" to height.
- 4. 13/16" holes are located in each mounting bracket and support leg.
- 5. 45° downblow arrangement, penthouse arrangement shown dotted for clarity.

NTC MODELS

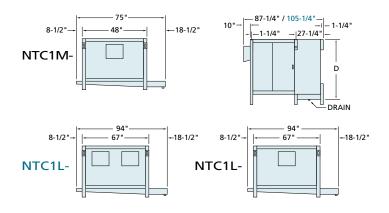
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Centrifugal Fan Product Freezers and Coolers

Standard Construction Features:

- Heavy Duty Galvanized Steel, Forward Curved Centrifugal Blower Wheels - 20, 27, 30, or 36" Diameter
- Heavy Wall Galvanized Steel Coil
- 4, 6, 8, or 10 Rows Deep; 3, 4, or 6 fpi
- 1750 rpm Totally Enclosed Fan Motors with Sealed Bearings
- Large Hinged Access Doors on Both Ends of the Unit
- Unique Motor Base Design for Easy Belt Tensioning
- Tubular Steel Fan Shaft with Forged Journal Ends
- Heavy Duty Self-Aligning Bearings

NTC DIMENSIONAL DATA



-18-1/2"

8-1/2"-

NTC2L-

- 161

134"

8-1/2"→

NTC2L-

Model	Tons *	CFM **	D (INCHES)
NTC1M	3.0 – 7.4	7285 – 10437	44-3/4 – 63-3/4
NTC1L	4.3 – 9.9	10998 – 13522	45 – 78-1/4
NTC1L	5.8 - 14.0	14658 – 19536	45 – 78-1/4
NTC2L	8.5 – 20.7	21681 – 29184	46 – 79-1/4
NTC2L	11.2 – 26.9	26636 - 36768	46 – 79-1/4
NTC3L	12.4 – 31.2	30205 – 43990	47 – 80-1/4
NTC3L	17.0 – 42.8	41382 - 60702	47 – 80-1/4
NTC4L	16.6 – 41.4	40806 - 58368	48 – 81-1/4
NTC4L	23.1 – 53.8	57384 - 73536	48 – 81-1/4

* Capacity range for 3 fpi frosted coil at 10°F TD

** CFM range equals 625 fpm face velocity or less

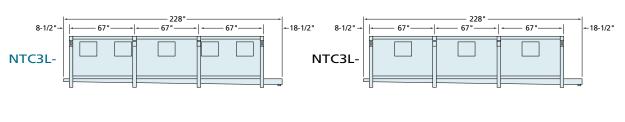
NOTES:

~18-1/2"

1. Right hand models shown.

2. All dimensions are for reference and should not be used for prefabrication of piping or supports.

- 3. For water defrost, add 6" to height.
- 4. 13/16" holes are located in each mounting bracket and support leg





161

134"





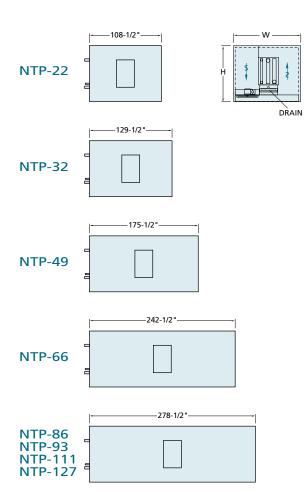
NTP MODELS

Engineered Penthouse Units for Product Freezers and Coolers

Standard Construction Features:

- Heavy Wall Galvanized Steel or Aluminum Coil
- 6, 8, or 10 Rows Deep; 3 or 4 fpi
- Insulated galvanized Steel Drain Pan
- One Piece, 4" Thick Polyurethane Foam-in-Place Insulated Enclosure
- Smooth Aluminum Interior Walls with White Embossed Aluminum Exterior
- Pitched, Standing Seam Galvanized Steel Roof
- Two 30" x 60" Oversized Access Doors with Removable Perimeter Heating Cable
- Heavy Duty 8 Gauge G-235 Galvanized Steel Support Base
- Heavy Duty 36" Diameter Cast Aluminum Fan Blades
- 1160 or 1750 rpm Totally Enclosed Fan Motors
- · Easily Accessible Motors and Fans with Internal Motor Lifting Channel

NTP DIMENSIONAL DATA



Model	Tons *	CFM **	H x W	Fans
NTP-22	7.1 – 11.9	13459 – 19935	102" x 104"	1
NTP-32	10.1 – 16.3	19063 – 26023	102" x 104"	2
NTP-49	15.4 – 24.8	28881 – 39481	102" x 108"	3
NTP-66	21.6 – 33.7	41571 – 53506	102" x 108"	4
NTP-86	27.8 – 43.5	53095 - 68868	102" x 114"	5
NTP-93	30.0 - 46.3	57550 – 72588	114" x 114"	5
NTP-111	35.5 – 59.8	67276 – 99861	114" x 120"	5
NTP-127	39.8 – 65.5	74227 – 105767	114" x 120"	5

* Capacity range for 3 fpi frosted coil at 10°F TD

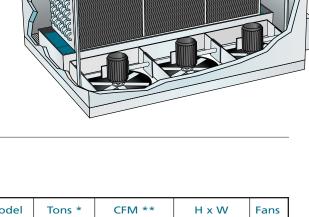
** CFM range equals 600 to 800 fpm nominal face velocity

NOTES:

1. Right hand models shown.

- 2. All dimensions are for reference only and should not be used for prefabrication of piping or supports.
- Standard unit base is non-insulated and flat. Pitched base is available to match roof slope. Insulated bottom panel is available for unit mounting above the roof.
- 4. Unit base must be evenly supported around the full unit perimeter.
- 5. Four lifting lugs are factory supplied on the base of the unit for rigging.





EVAPCO-YOUR ONE SOURCE FOR QUALITY REFRIGERATION SYSTEM COMPONENTS.

Evaporative Condensers



Induced Draft Models





Forced Draft Models

Cooling Towers & Closed Circuit Coolers





Induced Draft Models

Critical Process Air Systems





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Custom **Recirculators &**

Vessels

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