evapco for LIFE

MTT

COOLING TOWERS

Eurovent-CTI CERTIFIED

CLOSED MOULDED TECHNOLOGY

INDUCED DRAFT, COUNTERFLOW COOLING TOWERS

(241 TO 5315 kW)

PROVEN TECHNOLOGY FOR DEMANDING ENVIRONMENTS!

CERTIFIED EN ISO 9001

Mr. GoodTower® evapco

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

CTI CERTIFIED Mark owned by the Cooling Technology Institute

EAC

Since its founding in 1976, EVAPCO, Incorporated has become an industry leader in the engineering and manufacturing of quality heat transfer products around the world. EVAPCO's mission is to provide first class service and quality products for the following markets:

- Commercial HVAC
- District Energy
- Industrial Process
- Industrial Refrigeration
- Power

EVAPCO's powerful combination of financial strength and technical expertise has established the company as a recognised manufacturer of market-leading products on a worldwide basis. EVAPCO is also recognised for the superior technology of their environmentally friendly product innovations in sound reduction and water management.

EVAPCO is an employee owned company with a strong emphasis on research & development and modern manufacturing plants. EVAPCO has earned a reputation for technological innovation and superior product quality by featuring products that are designed to offer these operating advantages:

- Higher System Efficiency
- Environmentally Friendly
- Lower Annual Operating Costs
- Reliable, Simple Operation and Maintenance

With an ongoing commitment to Research & Development programs, EVAPCO provides the most advanced products in the industry–***Technology for the Future, Available Today***!

EVAPCO products are manufactured on five continents around the world and distributed through hundreds of factory authorized sales representatives.

MTT

EVAPCO, Inc. continues its dedication to making advancements in cooling tower technology. The **MTT** cooling tower is an industry first offering total corrosion resistance with precision moulded LRTM panels. The **MTT** combines Evapco's signature features of easy maintenance, efficient operation and low sound with total corrosion resistance. These features make the **MTT** the best cooling tower choice in the industry for projects that demand the highest level of corrosion resistance coupled with proven reliability.

ULTIMATE Corrosion Protection

- Heavy duty, closed moulded composite fibreglass basin casing panels, and fan cylinders.
- Non-corrosive PVC water distribution, drift eliminators and air inlet louvers.
- Type 304L and 316L stainless steel wetted components.
- Heavy duty hot dip galvanised steel mechanical equipment supports and dry components.

(Optional Type 304L and 316L Stainless Steel available)

Fan Motors and Drive Assembly

- High efficiency motors for all drive configurations.
- Full access to motor from outside.
- Assures long life.

Super Low Sound Fan (Optional)

- 9 to 15dB(A) reduction.
- CTI Certified.

(Available on 8', 10' and 12' wide models)

EVAPCO Power-Band Drive System

- The MTT Cooling Tower features the highly successful, easy maintenance, heavy duty Power-Band Drive System.
- Standard heavy-duty flange mount bearings with a minimum L-10 life of 75,000 hours.
- Extended lube lines.
- External motor/belt adjustment.
- Solid-Back Multi-Groove Power-Band Belts and Totally Enclosed motors are standard.

WST Air Inlet Louvers (Water and Sight Tight)

- Easily removable for access.
- Light-weight, non-corrosive PVC louver frames.
- Improved design to keep sunlight out–preventing biological growth.
- Keeps water in while keeping dirt and debris out.

U.S. Patent No. 7,927,196

For non-standard conditions and applications, consult your local EVAPCO Representative or the factory for assistance.

ECC-CTI Certified
Refer to pages 12-14 for details

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

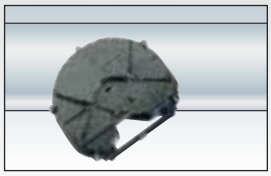
† CTI CERTIFIED

Precision Moulded LRTM Panels

- Panels engineered for strength and structural stability with minimal internal steel framework.
- Smooth internal and external surfaces to prevent dirt and biological build up.

Water Distribution System

- Non-corrosive PVC construction with EvapJet™ nozzles.
- Large orifice nozzles prevent clogging.
- Each nozzle produces large uniform spray pattern for a reduction of nozzles resulting in 66% fewer nozzles.



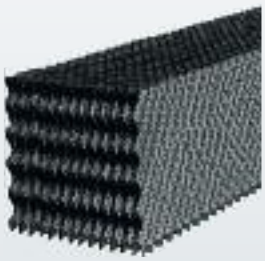
EvapJet™ Nozzle

Water Saver Drift Eliminators

- New patented design reduces drift rate to < 0.001%
- Saves water and reduces water treatment cost
- Greater structural integrity vs. old style blade-type
- Recessed into casing for greater protection
- Drift rate certifications with Eurovent OM-14-2009

EVAPAK® Fill

- Induces highly turbulent mixing of the air and water for superior heat transfer.
- Special drainage tips allow high water loading without excessive pressure drop.
- Flame spread rating of 5 per ASTM E84-81a.

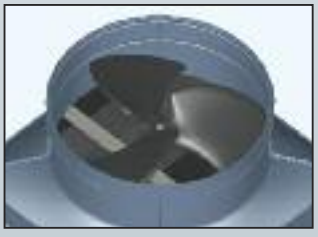


Easy Clean Sloped Basin

- Designed to completely drain the cold water basin.
- Helps prevent build-up of sediment and biological film.
- Eliminates standing water after drain down.
- Reduced water volume.

Optional Low Sound Solutions

- Super Low Sound Fans
- Low Sound Fans
- Water Silencers



Super Low Sound Fan

Water Silencers

Quick Connect Piping System

- Flanged inlet and outlet connections.
- Easy pipe connection at site for quick installation.

† Mark owned by the Cooling Technology Institute

The MTT Design

EVAPCO focuses on continuous improvement and is committed to developing the most innovative products in the industry. In keeping with this commitment, EVAPCO's MTT is the first cooling tower in the industry to feature composite fibreglass panels formed entirely by an advanced, environmentally friendly, LRTM closed mould manufacturing process.

The MTT is the result of a collaborative effort and the combined resources of EVAPCO's global entities. The concept and design basis of the MTT stems from EVAPCO Australia's proven MSS product line, having 20 years of installed history.

Beginning with the MSS concept, Evapco Inc. then further developed the MTT in SolidEdge, a 3D CAD program, then performed standardisation, strength analysis and generated CTI Certified thermal performance at EVAPCO's premier Research and Development Headquarters in Maryland, USA.

EVAPCO Composites Sdn Bhd, in Malaysia then brought the design to life taking responsibility for mould design, pattern making, tooling and finally all FRP parts production utlising LRTM manufacturing process.

The MTT is unique in the industry having SolidEdge designed patterns, moulds machined by 5-axis CNC, and with parts manufactured using LRTM. All aspects of the MTT, from concept to design to manufacture are performed "in-house" and by EVAPCO.

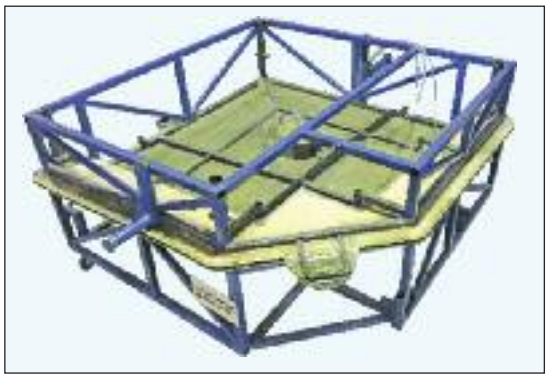
The final assembly of fabricated and globally sourced components is completed at one of EVAPCO's facilities. Country of origin for the final assembled product is available from Australia, Italy or South Africa.

Light RTM Closed Moulding

The LRTM process is an advanced moulding technique utilising a "male" and a "female" mould to create a part. By using two mould surfaces, the resulting parts are high quality with perfectly smooth finishes on both sides.

In the first step of the parts production, a thin layer of gel coat is applied to one or both mould surfaces. Evapco utilises high quality ISO Polyester, UV inhibited, color-match gel coat for superior finish, scratch resistance and UV protection. Next, a reinforcement glass fabric is placed into the female mold cavity. The male mould is aligned over and then lowered to form-fit the female mould. A full vacuum is then applied to the perimeter locking channel which locks the mould set together.

A separate low vacuum is then applied to the part area of the mould cavity. A predetermined volume of resin is then injected in controlled manner by a resin pump; the flow of the resin is aided by the partial vacuum. The resin infuses uniformly through the reinforcement glass fabric towards the center of the part where the resin outlet and catch pot are located. The catch pot allows any excess of resin to be collected and prevents resin from entering the vacuum system. The infusion is deemed complete when the resin has fully and visibly displaced all air from the mould cavity.

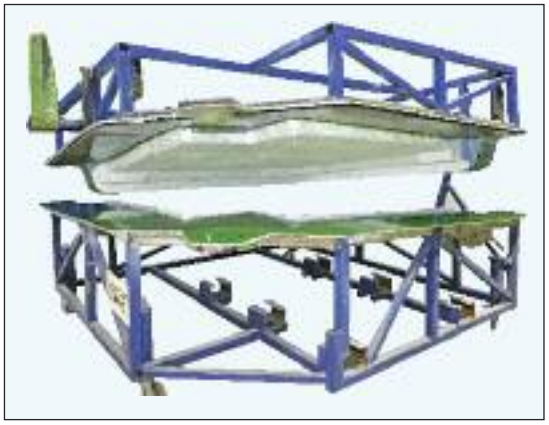


Closed Mould Manufacturing

Once the resin has fully infused, the resin pump is paused and resin flow to the mould is halted. Shortly thereafter the resin proceeds to cure via exothermic reaction; the part is left in the mould for up to 2 hours while it cools and hardens.

Once the part has sufficiently cured, the vacuum is released and the top mould is removed. The part is removed from the mould and then sent for CNC trimming and drilling process. Finally the part is wiped down and prepared for shipment.

While seemingly simple in theory, LRTM requires a commitment of resources and an initial capital investment that is beyond the comfort level of most cooling tower companies. When successfully implemented, the LRTM process provides many benefits including superior quality, 300-400% increased productivity compared to open mould and less VOC emissions leading to a cleaner and more comfortable working environment.



Reinforcement glass fabric loaded into mould cavity

Completed part; removed from mould

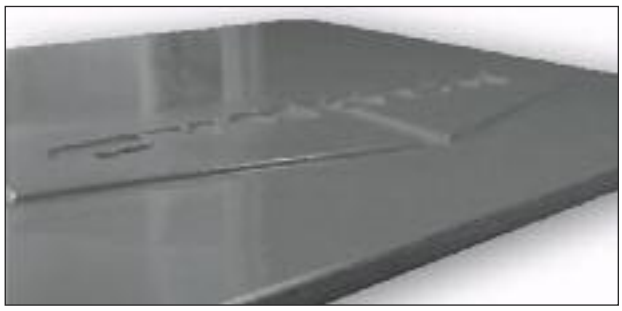
DESIGN FEATURES

Advantages of LRTM

LRTM is widely used in the advanced industries of aerospace, automotive and marine because it produces precision parts, with higher quality and improved surface finish in less time, and with less styrene emissions.

Solid Laminate Construction

All panels of the MTT cooling tower are structural by design, thus reducing the need for a matrix of internal stainless steel bracing and framework. Designed and constructed for superior strength, the MTT panels are formed using LRTM, having consistent physical and mechanical properties.



LRTM panel having uniform part thickness

Tolerance and Parts Repeatability

Consistent high quality parts are the desirable advantage of the LRTM process. With LRTM, part thickness is uniform which ensures part strength and dimensional accuracy. Being able to produce consistent, quality parts is imperative to the final overall quality of the MTT. With quality and precision in the design and manufacture, the MTT has an unprecedented high degree of "fit-n-finish."

Two Sides Perfectly Smooth

LRTM produces aesthetically and physically superior panels having smooth and shiny finish on both sides. The picture shows the superior finish of LRTM as compared to the rough surface otherwise produced by conventional labour intensive open mould FRP processes.

Reduced Styrene Emissions

The closed nature of LRTM moulding provides reduced VOC emissions and a more worker-friendly environment than open mould processes. Simply put, closed mold manufacturing results in a cleaner, safer, and more productive production plant.

Complex Shapes

LRTM provides superior design flexibility for the creation of complex shapes, forms and compound curves. The fibreglass parts used on the MTT have been designed with this curvature complexity providing inherent part strength.

Compound curvature provides innate part strength

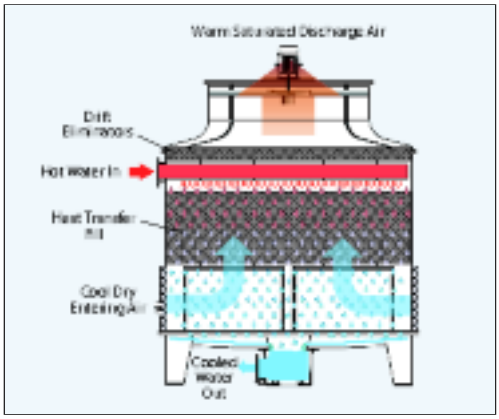
Laboratory Tested for Strength and Consistency

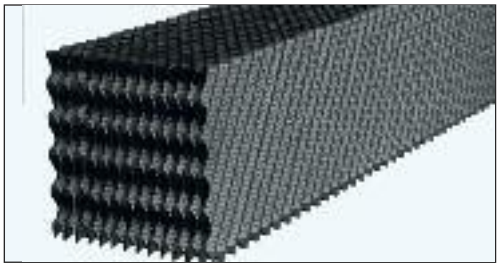
All panel thicknesses have undergone destructive testing for determining the mechanical properties of the LRTM laminates. All tests have been performed in accordance with European (EU) and American (ASTM) Standards, to measure flexural properties, compressive and tensile strengths, modulus and glass content.

The testing results provided a confirmation of theoretical properties of the LRTM manufactured panels.

The Advanced Technology Design

The MTT Cooling Tower product line is an Advanced Technology design which utilises induced draft, counterflow technology – the most efficient in the industry. The counterflow design provides the MTT with inherently better operational and maintenance features. These features are described below:





Principle of Operation

Warm water from the heat source is pumped to the water distribution system at the top of the tower. The water is distributed over the wet deck fill by means of large orifice nozzles. Simultaneously, air is drawn in through the air inlet louvers at the base of the tower and travels upward through the wet deck fill opposite the water flow. A small portion of the water is evaporated which removes the heat from the remaining water. The warm moist air is drawn to the top of the cooling tower by the fan and discharged to the atmosphere. The cooled water drains to the basin at the bottom of the tower and is returned to the heat source.

High Efficiency Drift Eliminators

An extremely efficient drift eliminator system is standard on MTT Cooling Towers. The system removes entrained water droplets from the air stream to limit the drift rate to less than 0.001% of the recirculating water rate in accordance with CTI ATC-140. The drift eliminators are constructed of inert polyvinyl chloride (PVC), effectively eliminating corrosion of these vital components.

EVAPAK® Fill

EVAPCO's PVC fill design used in the MTT Cooling Tower range is designed to induce highly turbulent mixing of the air and water for superior heat transfer. Special drainage tips allow high water loadings without excessive pressure drop. The fill is constructed of inert polyvinyl chloride, (PVC), will not rot or decay, and is formulated to withstand water temperatures of up to 55°C. The fill is also constructed in easy to handle and removable block form. For design conditions with dirty water or higher temperatures, special fill types are available. Consult your EVAPCO representative for further details.

High Temperature Solutions

EVAPCO's standard fill and drift eliminators can withstand temperatures up to 55°C. For higher temperature applications, EVAPCO can provide HPVC which is rated for temperatures up to 66°C. For high temperature applications, the standard PVC water distribution system is upgraded to CPVC.

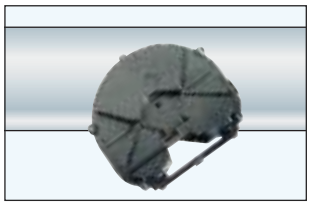
Wide-Pak Fill

Evapco's Wide-Pak fill is CTI certified and is suitable for dirty water applications. The Wide-Pak fill maximises efficiency while its wide flute design prevents clogging. Contact your local Evapco representative for performance de-rates when performing selections using Wide-Pak Fill.

DESIGN ADVANTAGES

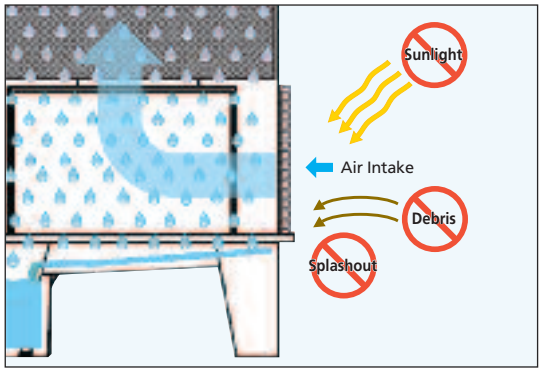
Pressurised Water Distribution System

The water distribution system is constructed of PVC pipe and EvapJet™ ABS plastic water diffusers for corrosion protection in this key area. The piping is easily removable for cleaning. The wide orifice nozzles mounted on the side of the pipe used in the MTT water distribution system help prevent clogging, reducing the maintenance costs of the water distribution system.



EvapJet™ nozzle

The spray pressure for all MTT Cooling Towers is between 7 and 41 kPA at the inlet header. The actual spray pressure will be shown on the submittal which is prepared for each unit.



Reduced Joints

The LRTM allows larger, and more complex shapes to be manufactured compared to other processes such as pultruded FRP. As such, the construction of the MTT generally requires less FRP sections and therefore, joints. This improves joint sealing of FRP panels and minimises the occurrences of leaks.

WST Air Inlet Louvers (Water and Sight Tight)

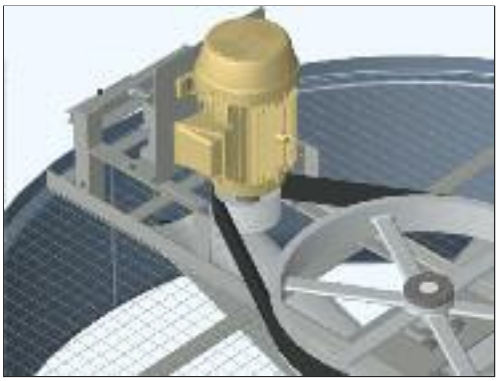
EVAPCO's WST Inlet Louvers keep water in and sunlight out of induced draft products. The unique non-planar design is made from light-weight framed PVC sections which have no loose hardware, enabling easy unit access. The louver air channels are optimise to maintain fluid dynamic and thermodynamic efficiency and block all line-of-sight paths into the basin eliminating splash-out; even when the fans are off. Additionally, algae growth is minimised by blocking all sunlight. The combination of easy access, no splash-out and minimised algae growth saves the end user money on maintenance hours, water consumption and water treatment costs.

Stainless Steel Strainers

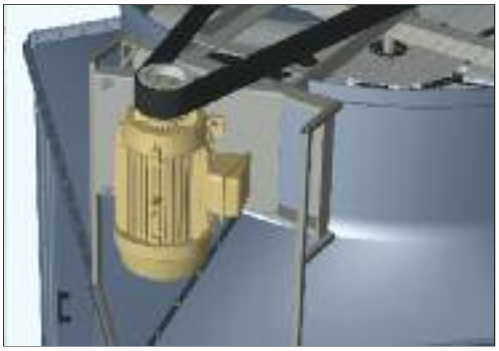
Strainers are subjected to harsh conditions though the life cycle of the tower. The stainless steel strainer is provided by EVAPCO as standard to ensure longevity of the tower pumping system, limiting large dirt or debris from entering.

The Advanced Technology POWER-BAND Drive System Design

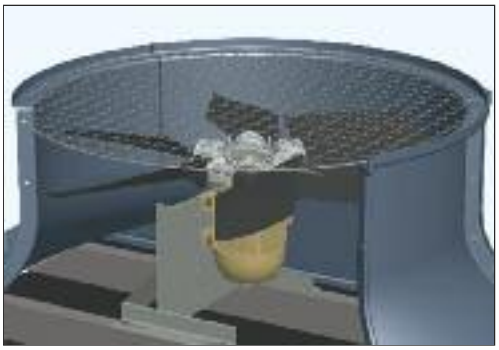
The MTT adopts the standard belt drive system utilised in EVAPCO's induced draft counter flow towers. EVAPCO Power-Band Belt Drive system is engineered for heavy-duty cooling tower operation and provides trouble-free operation in the most severe of cooling tower applications. The Power-Band drive system is applicable to 8' wide box sizes and larger.



Drive configuration for 12' wide units and larger.



Drive configuration for 8' and 10' wide units and larger.



Drive configuration for 4' wide units.

The fan motor and drive assembly are mounted externally to the unit in a belt drive configuration. Belt tension is checked and adjusted by tightening the J-bolts on the motor base or moving the motor along the all thread. The lubrication lines are extended to the motor base, making bearing lubrication easy. All motors and lubrication lines are safely accessible with the (optional) ladder-platform and perimeter handrails accessory.

The 8' and 10' units utilise under slung and shaft up TEFC motors, outside the discharge air stream. Units that are larger than 10' utilise TEAO motors which are installed atop of the tower and in the discharge air stream.

Fan Motors

All MTT Cooling Tower models utilize heavy duty totally enclosed fan motors designed specifically for cooling tower applications suitable for VFD applications. In addition to the standard motors offered on each cooling tower, EVAPCO offers many optional motors to meet your specific needs, including Multi-Speed Motors.

Power-Band Belt Drive

The Power-Band drive is a solid-back multi-groove belt system that has high lateral rigidity. The belt is designed for cooling tower service, and is constructed of neoprene with polyester cords. The drive belt is sized for 150 percent of the motor nameplate horsepower ensuring long and trouble free operation.

Drive System Pulleys

Drive system pulleys located in the warm, moist atmosphere inside the cooling tower are constructed of an aluminium alloy.

Fan Shaft Bearings

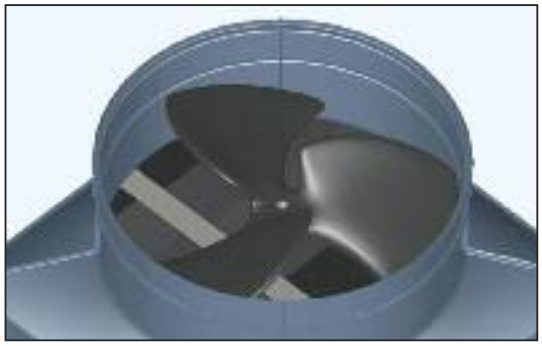
The fan shaft bearings on the MTT cooling tower are specially selected to provide long life, minimising costly downtime. They are rated for a minimum L-10 life of 75,000 hours, making them the heaviest duty flange mount bearing in the industry used for cooling tower duty.

4' Wide Models Only

The fan motor is mounted internally, in a direct drive configuration. Access to the drive system for maintenance is via the access panel and ladder and platforms are not required. The TEAO fan motor is epoxy coated as standard.

DESIGN ADVANTAGES

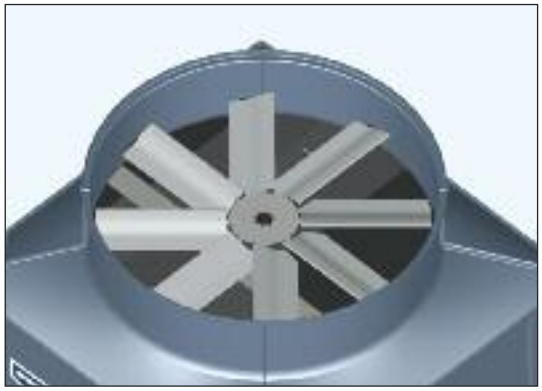
The Expanded Family of the EVAPCO Super Low Sound Fans



Super Low Sound Fan 9 – 15 dB(A) Reduction!

The Super Low Sound Fan offered by EVAPCO utilises an extremely wide chord blade design available for sound sensitive applications where the lowest sound levels are desired. The fan is two-piece molded heavy duty FRP construction utilising a forward swept blade design. The Super Low Sound fan is capable of reducing the unit sound pressure levels **9 dB(A) to 15 dB(A)**, depending on specific unit selection and measurement location compared to the original MTT fan. The Super Low Sound Fan will have no impact on unit thermal performance and is **CTI Certified**. See Table 1 for low sound height and operating weight additions.

Note: *Available on 8', 10' and 12' wide models only.*



Low Sound Fan* 4 – 7 dB(A) Reduction!

The Low Sound Fan offered by EVAPCO is a wide chord blade design for sound sensitive application where low sound levels are desired. The Low Sound Fan shall utilise a unique soft-connect blade-to-hub design that is compatible with Variable Speed Drives. Since the blades are not rigidly connected to the fan hub, no vertical vibration forces are transmitted to the unit structure which reduces sound pressure levels **4 dB(A) to 7 dB(A)**, depending on specific unit selection and measurement location. The fans are high efficiency axial propeller type and are CTI Certified on the MTT line of cooling Towers.

** The CTI Certified Low Sound Fan will have a thermal performance de-rate up to 3.5%. Consult the factory or evapSelect® program for actual thermal performance.*

Water Silencer – Reduces Water Noise in the Cold Water Basin up to 7 dB(A)!

EVAPCO's water silencers are located in the cold water basin. The water silencers reduces the high frequency noise associated with the falling water and is capable of reducing overall sound levels **4dB(A) to 7dB(A)** measured at 1.5 m from the side or end of the unit. The water silencers reduce overall sound level **9dB(A) to 12 dB(A)** (depending on water loading and louver height) measured 1.5 m from the side or end of the unit when water is circulated with fans off.

The Water Silencers are constructed of lightweight PVC sections and can be easily removed for access to the basin area. This option has no impact on unit thermal performance.

Note: *Water Silencers are not available on 4' wide models and models with "No Basin".*

Table 1: ***Super Low Sound Fan height and weight additions.***

Box Size	SUPER LOW SOUND	
	Height Add (mm)	Additional Weight (kg)
8 x 8	260	90
10 x 10	330	30
12 x 12	330	30

Standard and Optional Maintenance Features

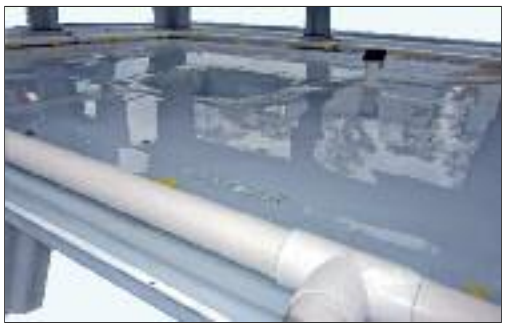
Routine maintenance is the key to a long lasting cooing tower. EVAPCO has cooling tower maintenance features and accessories to complement the robust design of the MTT. The two main areas that requires easy access for routine maintenance is the motor and drive assemblies as well as the cold water basin.

Drive Ladder and Platform Access

These two accessories are available on 8' wide units and larger.
The ladder platform provides access to the motor and lubrication lines for motor checks and maintenance. Where required, EVAPCO is able to provide safety cages for the ladder.

Access Door

EVAPCO's MTT incorporates one man-sized access door for maintenance as standard. The access panel is designed such that the fill blocks and drift eliminators can be easily removed and replaced for cooling tower cleaning. Additional access panels may be added subject to approval from the factory, contact your local sales representative for more information.



Sump Sweeper Piping

Set up around the perimeter of the basin, the MTT's sump sweeper piping washes the debris toward the sump outlet.
This option is also available with high flow educator nozzles to facilitate in pan cleaning.
The system contains one inlet and one outlet connection. Filters, mechanical separators, external piping or controls
are not included. Contact your local sale representative for flow rate recommendations.

Easy Basin Access

The cold water basin section is easily accessible from ground level by (2) two nuts and bolts on the inlet louver assembly surrounding the cooling tower and lifting out the light weight louver. The basin can be accessed from all (4) four sides of the cooling tower.

APPLICATION

MTT

Design
EVAPCO Cooling Towers are designed to be corrosion resistant for long and trouble-free operation. Proper equipment selection, installation and maintenance are necessary to ensure full unit performance while maximising the equipment's service life. Some major considerations in the application of a tower are below. For additional information, please contact the factory.

Piping
Cooling tower piping should always be designed and installed in accordance with good engineering practices and territory regulations. All piping should be anchored by properly designed hangers and supports with allowance made for possible expansion and contraction. No external loads should be placed upon cooling tower connections, nor should any of the piping supports be anchored to the unit framework.
The piping connection locations shown on the drawings included in this catalogue and on the website are standard locations that may be changed. If the piping connection locations shown do not meet the needs of a particular project, contact the factory to determine a viable solution.

Air Circulation
In reviewing the system design and unit location, it is important that adequate fresh air is provided to enable proper unit performance. The ideal location is on an unobstructed rooftop or at ground level, away from walls and other barriers. Care must be taken when locating towers in wells or enclosures or next to high walls as the potential for recirculation increases. Recirculation increases the wet bulb temperature of the entering air, causing the leaving water temperature to rise above the design conditions. For these cases, the unit should be elevated so it is even with the adjacent wall, reducing the probability of recirculation. For additional information, see the EVAPCO's Equipment Layout Manual. Engineering assistance is also available from the factory to identify potential recirculation problems and recommend solutions.

Water Treatment
Proper water treatment is an essential part of the maintenance required for all evaporative cooling equipment. A well designed and consistently implemented water treatment program will help to ensure efficient system operation while maximising the equipment's service life. A qualified water treatment company should design a site specific water treatment protocol based on equipment (including all metallurgies in the cooling system), location, make-up water quality and usage.
Without proper water treatment, the equipment can be susceptible to scale build-up on its heat exchange surfaces, biological growth in the recirculating water and corrosion of its components. Your site specific water treatment protocol should include procedures for routine operation, startup after a shut-down period, and system lay-up, if applicable.

Recirculating Water System
The cooling in a tower is accomplished by the evaporation of a portion of the recirculated spray water. As this water evaporates, it leaves behind mineral content and impurities. Therefore, it is important to bleed-off an amount of water proportional to that which is evaporated to prevent the build up of impurities. If this is not done, the mineral content and/or the corrosive nature of the water will continue to increase. This can ultimately result in heavy scaling or a corrosive condition.

Bleed-off
Evaporative cooling equipment requires a bleed or blow-down line to remove concentrated water from the system. The mineral concentration is monitored by measuring the conductivity of the water. EVAPCO recommends an automated conductivity controller to maximise the water efficiency of your system. Based on recommendations from your water treatment supplier, the conductivity controller should open and close a bleed valve to maintain the conductivity of the recirculating water.

Control of Biological Contaminants
Evaporative equipment should be inspected regularly to ensure good microbiological control. Inspections should include both monitoring of microbial populations via culturing techniques and visual inspections for evidence of biofouling. Poor microbiological control can result in loss of heat transfer efficiency, increase corrosion potential, and increase the risk of pathogens such as those that can cause risk to health. If excessive microbiological contamination is detected, a more aggressive mechanical cleaning and/or water treatment program should be undertaken.

Technical Support Services

EVAPCO's evap*Select*™ Equipment Selection Program

Evap*Select*™ is a Web based computer selection program which allows the design engineer to choose EVAPCO models and optimize unit selections. The program allows the engineer to evaluate the equipment's thermal performance, space, energy requirements and water consumption. Once the model is selected and optional equipment features are inserted, the engineer may output a complete specification **AND** a unit drawing from this program.

The software is designed to provide the user with maximum flexibility in analyzing the various selection parameters while in a friendly and familiar Windows format.

The **Evap*Select*™** software is available to all consulting engineering offices and design-build contractors. The programs are distributed through the local EVAPCO sales representative or the EVAPCO offices.

EVAPCO's Website

Log on to EVAPCO's new and improved website **http://www.evapco.eu** for expanded product information. Product literature, Rigging and Maintenance Instructions are all accessible online from your computer.

The **Evap*Select*™** Equipment Selection Software program may be accessed using Microsoft Internet Explorer after contacting your local EVAPCO sales representative.
Users may make Requests for Quotation through the website or by e-mailing EVAPCO at this address:

evapco.europe@evapco.eu

With the Evap*Select*™ program, equipment selections, written specifications, unit drawing files and EVAPCO on-line information are readily available from the comfort of your own office!

In its continuing commitment to be the leaders in evaporative cooling equipment design and services, EVAPCO MTT Cooling Towers are now ***Independently Certified*** by ***CTI***, to perform thermally in accordance with the published data.

What is CTI?

Cooling Technology Institute

The Cooling Technology Institute is an organization headquartered in the United States with over 400 member companies from around the globe. CTI membership is composed of manufacturers, suppliers, owner operators, and test agencies from over 40 countries. In 2008 CTI certified more than 5000 Evaporative Heat Transfer Systems (EHTS) from 49 product line of 24 participants.

CTI's Mission and Objectives

This can be best explained by the CTI's published Mission statement and Objectives revised in December 2003 and published on their website **www.cti.org**.

CTI Mission Statement

To advocate and promote the use of environmentally responsible Evaporative Heat Transfer Systems (EHTS) for the benefit of the public by encouraging:

- Education
- Research
- Standards Development and Verification
- Government Relations
- Technical Information Exchange

CTI Objectives

- Maintain and expand a broad base membership of individuals and organizations interested in Evaporative Heat Transfer Systems (EHTS).
- Identify and address emerging and evolving issues concerning EHTS.
- Encourage and support educational programs in various formats to enhance the capabilities and competence of the industry to realize the maximum benefit of EHTS.
- Encourage and support cooperative research to improve EHTS technology and efficiency for the long-term benefit of the environment.
- Assure acceptable minimum quality levels and performance of EHTS and their components by establishing standard specifications, guidelines, and certification programs.
- Establish standard testing and performance analysis systems and procedures for EHTS.
- Communicate with and influence governmental entities regarding the environmentally responsible technologies, benefits, and issues associated with EHTS.
- Encourage and support forums and methods for exchanging technical information on EHTS.

Benefits to the End User

CTI defines an independent testing certification program that is specifiable, enforceable and available to all equipment manufacturer's. End users that purchase CTI certified products are assured that those products will perform thermally as specified.
Additionally CTI certification is the first step for the Green Building Concept in Europe:

- LEED - Leadership in Energy and Environmental Design
- Best Available Practice
- Green Building Rating System

Thermal Performance Guarantee

In addition to the CTI Certification, Evapco unequivocally guarantees the Thermal Performance of ALL Evapco Equipment. Every unit order is confirmed with a submittal package that includes an Evapco Thermal Performance Guarantee Certificate.

CTI CERTIFICATION

CTI Certification Program

CTI Certification Process

- Submit Application for Certification
- CTI completes a technical review of the product line submitted
- CTI performs an initial qualification test in a laboratory on a specified model number
- CTI issues an Approval Letter with Validation Number if test is passed. Letter is also distributed to all members of CTI to inform everyone that a successfull certification has been completed. The Certification Validation Number assigned should be fixed to each tower sold and displayed in all catalogs and other literature
- Product Line must undergo an Annual Reverification Test - Different model number is selected every year
- More details can be found on the CTI website **www.cti.org**

CTI Certification Test Parameters

- Entering Wet Bulb temperature - 12.8°C to 32.2°C
- Cooling Range - Minimum of 2.2°C
- Cooling Approach - Minimum of 2.8°C
- Process Fluid Temperature - Maximum of 51.7°C
- Barometric Pressure - 91.4 to 105 kPa
- More details can be found on the CTI website **www.cti.org**

CTI Certification Limitations

- Specific manufacturer's product line name and model numbers
- Applicable only to product lines and model numbers submitted
- Multiple cell model numbers are allowed if the airflow is not affected or the configuration impact is included in the unit rating
- Optional accessories are allowed if the airflow is not affected or the accessory impact is accounted for in the rating
- More details can be found on the CTI website **www.cti.org**

Evapco Europe CTI Certified AT Product Line

AT Line of CTI Certified Cooling Towers

- CTI Certification Validation Number 99-13-01
- Includes CE compliant fan screen
- Includes the use of side, end or bottom water inlet configuration
- Includes optional Super Low Sound Fan (SLSF)
- Includes optional pan Water Silencers (WS)
- Includes optional Low Sound Fan (LSF)
- Includes optional Wide-Pak Fill
- Includes optional external service platform and ladders for access
- **evap***Select*™ Technical data sheet will state "ECC-CTI Certified Cooling Tower"
- Unit will receive a CTI and ECC Certified Shield located near the nameplate

Note

All CTI Certified Product Lines of all manufacturers with CTI certified products can be found on the website: **http://www.cti.org/certification.shtml**

† Marks owned by the Cooling Technology Institute

In 2007 Evapco launched the initiative to create the "European Chapter" of CTI.
At the start of this initiative, Eurovent and CTI established a "Memorandum of Understanding". Since then the "Operational Manual for Certification of Cooling Towers" and the "Eurovent Rating Standard for Cooling Towers" were written. Both documents are strongly tied to the CTI documents STD 201 and ATC 105. A common **"Eurovent-CTI"** Certification program has become the European Standard for independent thermal performance rating of cooling towers.

EUROVENT – CTI cooperation

EUROVENT Association

Initially founded in 1958 EUROVENT Association represents the European refrigeration, air conditioning, air handling, heating and ventilation industry and trade associations from European and non-European countries. Over 1000 companies in 13 European countries, employing 150000 employees who jointly generate more than € 25 to 30 billion of annual output are member of this organization.

EUROVENT mission

EUROVENT represents, promotes and defends the industry to relevant national and international bodies and cooperates with other European umbrella associations. Over the years EUROVENT has become a well-known and respected stakeholder in all industry related matters and, in particular, in climate change and energy efficiency.
EUROVENT develops product certification programs for the entire industry through the EUROVENT Certification Company.

EUROVENT Certification

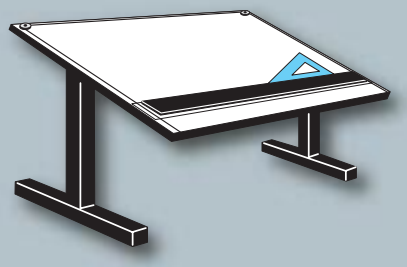
The main objective of the EUROVENT Certification Company (ECC) is to certify cooling equipment (and/or components) independently from EUROVENT Association. With a common set of well-defined procedures and criteria for the rating of products, comparison of product performance ensures a healthy and solid competition on a market open to all manufacturers. When a manufacturer participates in a certification program, he has to present its list of models or model ranges together with their performance data. The files are evaluated by the ECC Certification and a predefined number of units are selected for testing by **independent laboratories**. If the results comply with the relevant standards, the submitted models or ranges will be listed in the **EUROVENT Certification Online Directory**. Models are subject to regular random testing to verify compliance with catalogue data.

Benefits

The Certification Mark guarantees specifying engineers, installers and end users that the products marketed by a participant have been submitted to independent testing and that they have been accurately rated.
Through specification of **certified products**, the engineer's tasks become easier, since there is no need to carry out detailed comparison and performance testing.

EUROVENT CERTIFIED PERFORMANCE
CT N° : 12.02.008
Range : AT
www.eurovent-certification.com

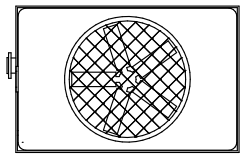
MTT

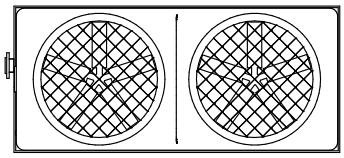


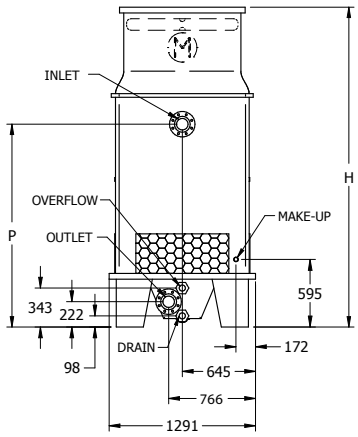
Engineering Data & Dimensions

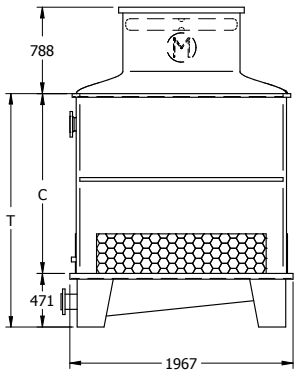
MODELS: MTT 14-2F6 to 14-3G6
MTT 14-2E9 to 14-3F9

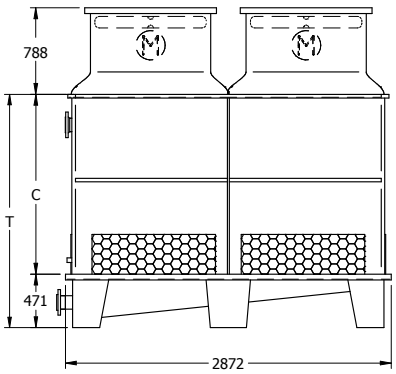
	MTT 14-2F6 TO 14-3G6	MTT 14-2E9 TO 14-3F9
INLET	(1) 100 INLET	(1) 100 INLET
OUTLET	(1) 100 OUTLET	(1) 100 OUTLET
MAKE-UP	(1) 25 MAKE-UP	(1) 25 MAKE-UP
OVERFLOW	(1) 50 OVERFLOW	(1) 50 OVERFLOW
DRAIN	(1) 50 DRAIN	(1) 50 DRAIN











All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section*			H	T	P	C
MTT 14-2F6	560	840	560	2,2	7,5	2819	2056	1787	1629
MTT 14-3F6	605	880	605	2,2	7,4	3124	2361	2092	1934
MTT 14-2G6	565	845	565	4	8,8	2819	2056	1787	1629
MTT 14-3G6	610	885	610	4	8,7	3124	2361	2092	1934
MTT 14-2E9	815	1.245	815	(2) 1.5	10,3	2819	2056	1787	1629
MTT 14-3E9	880	1.305	880	(2) 1.5	10,2	3124	2361	2092	1934
MTT 14-2F9	840	1.265	840	(2) 2.2	11,7	2819	2056	1787	1629
MTT 14-3F9	905	1.330	905	(2) 2.2	11,5	3124	2361	2092	1934

NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

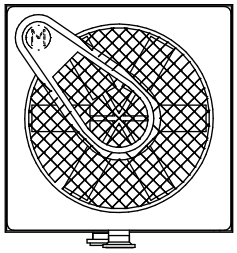
* Ships as one piece. Contact factory for alternate arrangements.

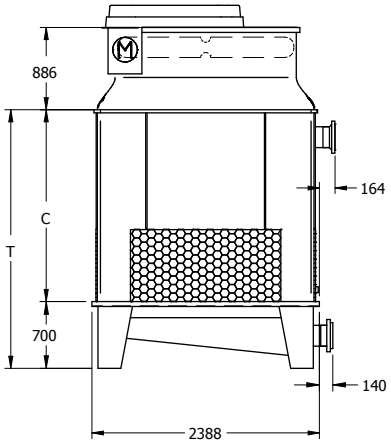
ENGINEERING DATA & DIMENSIONS

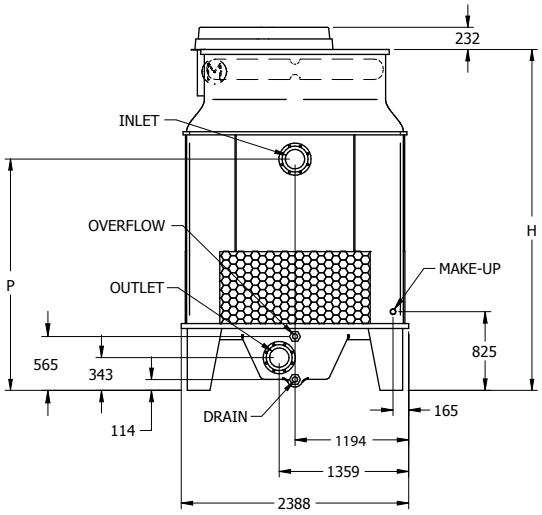
MTT

MODELS: MTT 18-2G8 to 18-4J8

	MTT 18-2G8 TO 18-4J8
INLET	(2) 200 INLET
OUTLET	(2) 200 OUTLET
MAKE-UP	(1) 50 MAKE-UP
OVERFLOW	(1) 50 OVERFLOW
DRAIN	(1) 50 DRAIN







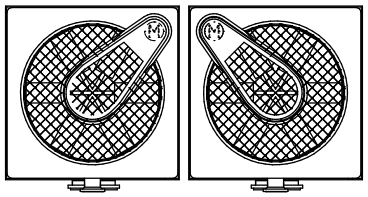
All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

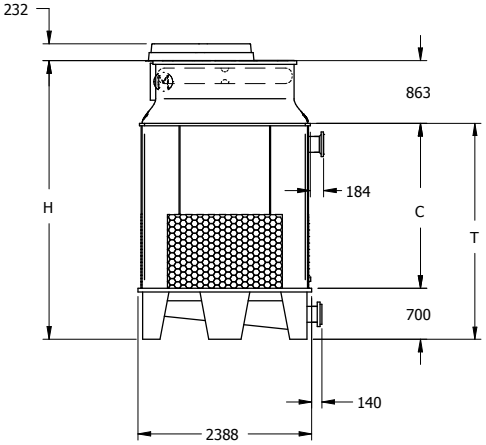
Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 18-2G8	1465	2.230	905	4	14,3	3577	2714	2426	2058
MTT 18-3G8	1565	2.330	1005	4	14,1	3881	3018	2731	2362
MTT 18-4G8	1660	2.425	1100	4	13,8	4186	3323	3036	2667
MTT 18-2H8	1490	2.255	905	5,5	16,3	3577	2714	2426	2058
MTT 18-3H8	1590	2.355	1005	5,5	16,0	3881	3018	2731	2362
MTT 18-4H8	1685	2.450	1100	5,5	15,8	4186	3323	3036	2667
MTT 18-2I8	1490	2.260	905	7,5	17,9	3577	2714	2426	2058
MTT 18-3I8	1590	2.360	1005	7,5	17,6	3881	3018	2731	2362
MTT 18-4I8	1685	2.455	1100	7,5	17,3	4186	3323	3036	2667
MTT 18-3J8	1645	2.415	1005	11	19,9	3881	3018	2731	2362
MTT 18-4J8	1740	2.510	1100	11	19,6	4186	3323	3036	2667

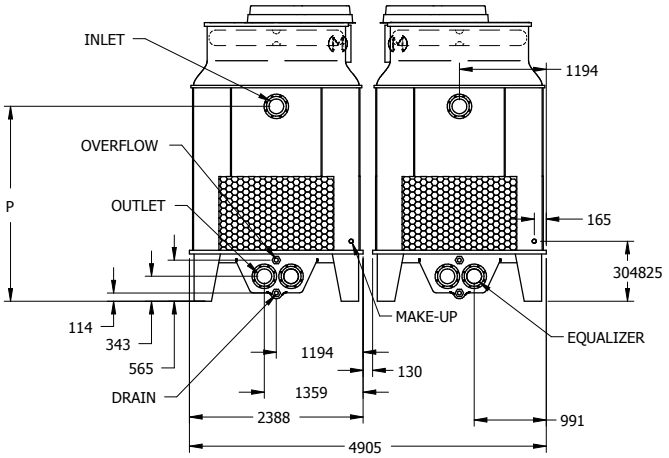
NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

MODELS: MTT 216-2G8 to 216-4J8

	MTT 216-2G8 TO 216-4J8
INLET	(2) 200 INLET
OUTLET	(2) 200 OUTLET
MAKE-UP	(2) 50 MAKE-UP
OVERFLOW	(2) 50 OVERFLOW
DRAIN	(2) 50 DRAIN
EQUALIZER	(2) 200 EQUALIZER







All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 216-2G8	3020	4.555	955	4	28,5	3831	2968	2680	2312
MTT 216-3G8	3210	4.745	1050	4	28,1	4136	3272	2985	2617
MTT 216-4G8	3400	4.935	1000	4	27,6	4440	3577	3290	2992
MTT 216-2H8	3065	4.600	955	5,5	32,6	3831	2968	2680	2312
MTT 216-3H8	3255	4.790	1050	5,5	32,0	4136	3272	2985	2617
MTT 216-4H8	3445	4.980	1000	5,5	31,5	4440	3577	3290	2992
MTT 216-2I8	3075	4.610	955	7,5	35,7	3831	2968	2680	2312
MTT 216-3I8	3265	4.800	1050	7,5	35,1	4136	3272	2985	2617
MTT 216-4I8	3455	4.990	1000	7,5	34,5	4440	3577	3290	2992
MTT 216-3J8	3375	4.910	1050	11	39,9	4136	3272	2985	2617
MTT 216-4J8	3565	5.100	1000	11	39,2	4440	3577	3290	2992

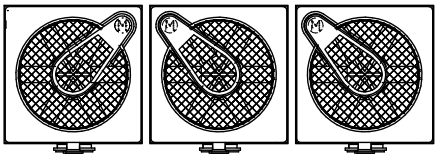
NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

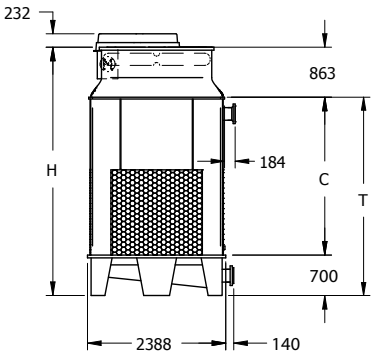
ENGINEERING DATA & DIMENSIONS

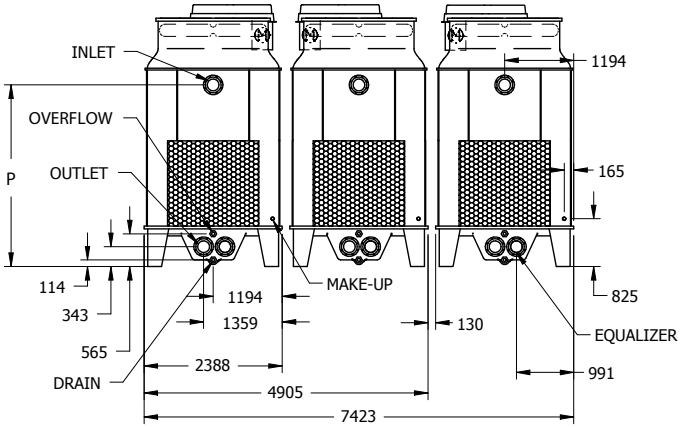
MTT

MODELS: MTT 324-2G8 to 324-4J8

	MTT 324-2G8 TO 324-4J8
INLET	(3) 200 INLET
OUTLET	(3) 200 OUTLET
MAKE-UP	(3) 50 MAKE-UP
OVERFLOW	(3) 50 OVERFLOW
DRAIN	(3) 50 DRAIN
EQUALIZER	(3) 200 EQUALIZER







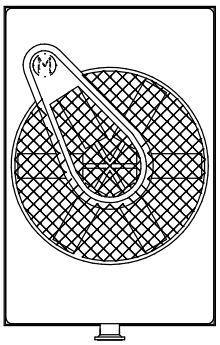
All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

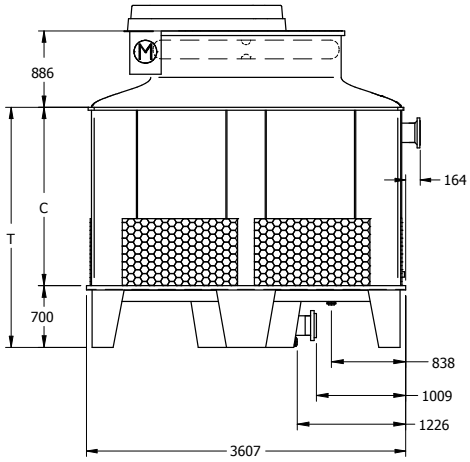
Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 324-2G8	4695	6.995	860	4	42,8	4288	3425	3137	2769
MTT 324-3G8	4995	7.295	960	4	42,2	4593	3730	3442	3073
MTT 324-4G8	5280	7.580	1055	4	41,5	4898	4035	3747	3378
MTT 324-2H8	4765	7.060	860	5,5	48,9	4288	3425	3137	2769
MTT 324-3H8	5060	7.360	960	5,5	48,0	4593	3730	3442	3073
MTT 324-4H8	5350	7.650	1055	5,5	47,2	4898	4035	3747	3378
MTT 324-2I8	4775	7.075	860	7,5	53,6	4288	3425	3137	2769
MTT 324-3I8	5075	7.375	960	7,5	52,7	4593	3730	3442	3073
MTT 324-4I8	5360	7.660	1055	7,5	51,8	4898	4035	3747	3378
MTT 324-3J8	5240	7.540	960	11	59,8	4593	3730	3442	3073
MTT 324-4J8	5525	7.825	1055	11	58,8	4898	4035	3747	3378

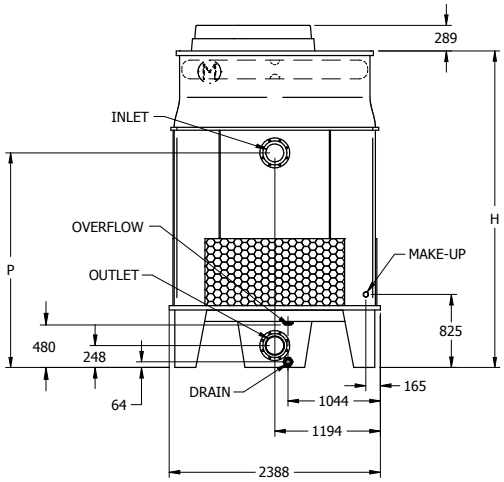
NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

MODELS: MTT 18-2H12 to 18-4L12

	MTT 18-3H12 TO 18-4L12
INLET	(2) 200 INLET
OUTLET	(2) 200 OUTLET
MAKE-UP	(1) 50 MAKE-UP
OVERFLOW	(1) 50 OVERFLOW
DRAIN	(1) 50 DRAIN







All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m³/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 18-2H12	2265	2.955	1395	5,5	22,5	3577	2714	2426	2058
MTT 18-3H12	2405	3.095	1540	5,5	22,2	3881	3018	2731	2362
MTT 18-4H12	2545	3.235	1680	5,5	21,8	4186	3323	3036	2667
MTT 18-2I12	2270	2.960	1395	7,5	24,7	3577	2714	2426	2058
MTT 18-3I12	2415	3.105	1540	7,5	24,3	3881	3018	2731	2362
MTT 18-4I12	2555	3.245	1680	7,5	23,9	4186	3323	3036	2667
MTT 18-2J12	2330	3.020	1395	11	28,1	3577	2714	2426	2058
MTT 18-3J12	2470	3.160	1540	11	27,6	3881	3018	2731	2362
MTT 18-4J12	2615	3.300	1680	11	27,1	4186	3323	3036	2667
MTT 18-2K12	2360	3.050	1395	15	30,8	3577	2714	2426	2058
MTT 18-3K12	2500	3.190	1540	15	30,2	3881	3018	2731	2362
MTT 18-4K12	2640	3.330	1680	15	29,7	4186	3323	3036	2667
MTT 18-3L12	2515	3.200	1540	18,5	32,4	3881	3018	2731	2362
MTT 18-4L12	2655	3.345	1680	18,5	31,9	4186	3323	3036	2667

NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

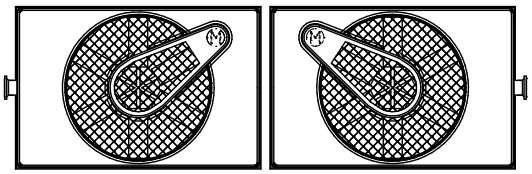
ENGINEERING DATA & DIMENSIONS

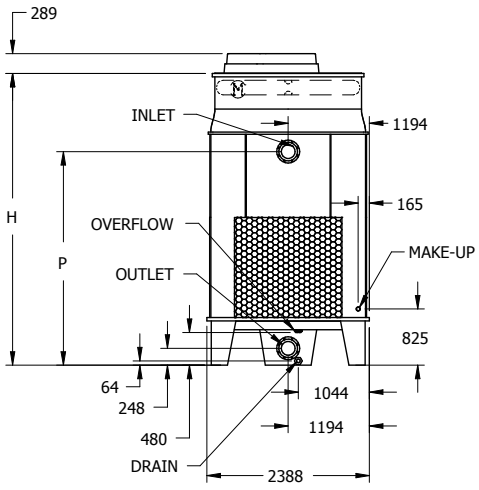
MTT

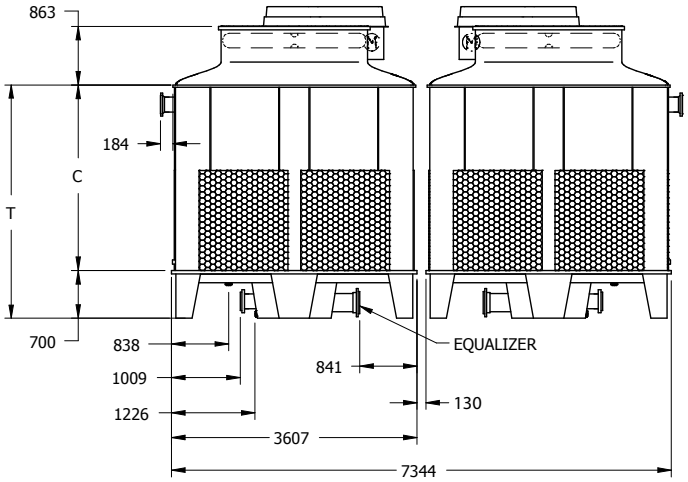
ENGINEERING

MODELS: MTT 28-2H24 to 28-4L24

	MTT 28-2H24 TO 28-4L24
INLET	(2) 200 INLET
OUTLET	(2) 200 OUTLET
MAKE-UP	(2) 50 MAKE-UP
OVERFLOW	(2) 50 OVERFLOW
DRAIN	(2) 50 DRAIN
EQUALIZER	(2) 250 EQUALIZER







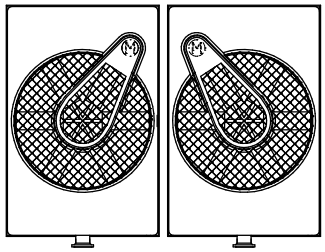
All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

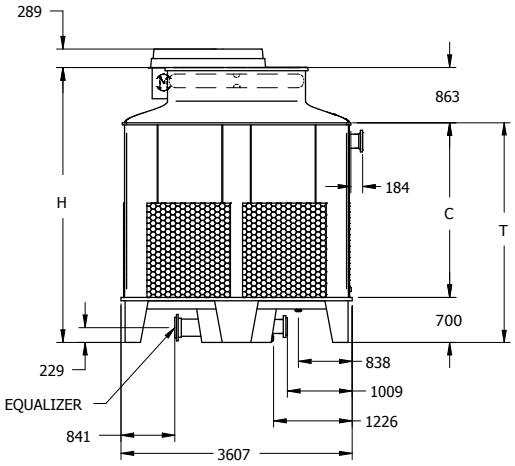
Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 28-2H24	4770	6.150	1310	5,5	45,1	4288	3425	3137	2769
MTT 28-3H24	5055	6.430	1450	5,5	44,4	4593	3730	3442	3073
MTT 28-4H24	5335	6.715	1590	5,5	43,6	4898	4035	3747	3378
MTT 28-2I24	4790	6.170	1310	7,5	49,4	4288	3425	3137	2769
MTT 28-3I24	5070	6.450	1450	7,5	48,6	4593	3730	3442	3073
MTT 28-4I24	5350	6.730	1590	7,5	47,7	4898	4035	3747	3378
MTT 28-2J24	4910	6.285	1310	11	56,2	4288	3425	3137	2769
MTT 28-3J24	5190	6.570	1450	11	55,2	4593	3730	3442	3073
MTT 28-4J24	5470	6.850	1590	11	54,3	4898	4035	3747	3378
MTT 28-2K24	4960	6.340	1310	15	61,6	4288	3425	3137	2769
MTT 28-3K24	5245	6.620	1450	15	60,4	4593	3730	3442	3073
MTT 28-4K24	5525	6.905	1590	15	59,4	4898	4035	3747	3378
MTT 28-3L24	5270	6.650	1450	18,5	64,8	4593	3730	3442	3073
MTT 28-4L24	5550	6.930	1590	18,5	63,7	4898	4035	3747	3378

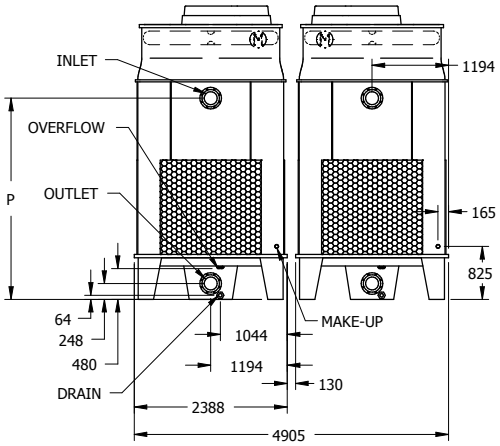
NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

MODELS: MTT 216-2H12 to MTT 216-4L12

	MTT 216-2H12 TO 216-4L12
INLET	(2) 200 INLET
OUTLET	(2) 200 OUTLET
MAKE-UP	(2) 50 MAKE-UP
OVERFLOW	(2) 50 OVERFLOW
DRAIN	(2) 50 DRAIN
EQUALIZER	(2) 250 EQUALIZER







All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

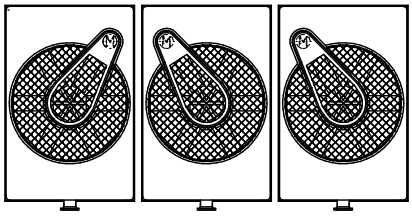
Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 216-2H12	4770	6.150	1310	5,5	45,1	4288	3425	3137	2769
MTT 216-3H12	5055	6.430	1450	5,5	44,4	4593	3730	3442	3073
MTT 216-4H12	5335	6.715	1590	5,5	43,6	4898	4035	3747	3378
MTT 216-2I12	4790	6.170	1310	7,5	49,4	4288	3425	3137	2769
MTT 216-3I12	5070	6.450	1450	7,5	48,6	4593	3730	3442	3073
MTT 216-4I12	5350	6.730	1590	7,5	47,7	4898	4035	3747	3378
MTT 216-2J12	4910	6.285	1310	11	56,2	4288	3425	3137	2769
MTT 216-3J12	5190	6.570	1450	11	55,2	4593	3730	3442	3073
MTT 216-4J12	5470	6.850	1590	11	54,3	4898	4035	3747	3378
MTT 216-2K12	4960	6.340	1310	15	61,6	4288	3425	3137	2769
MTT 216-3K12	5245	6.620	1450	15	60,4	4593	3730	3442	3073
MTT 216-4K12	5525	6.905	1590	15	59,4	4898	4035	3747	3378
MTT 216-3L12	5270	6.650	1450	18,5	64,8	4593	3730	3442	3073
MTT 216-4L12	5550	6.930	1590	18,5	63,7	4898	4035	3747	3378

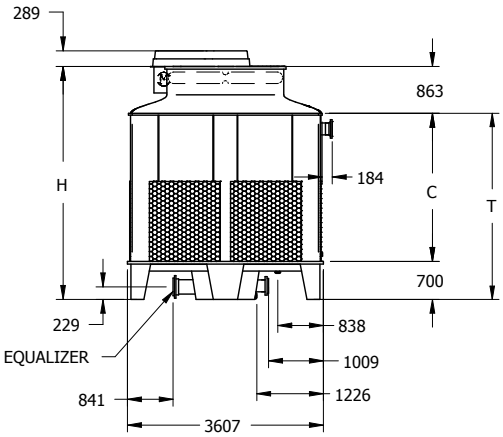
NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

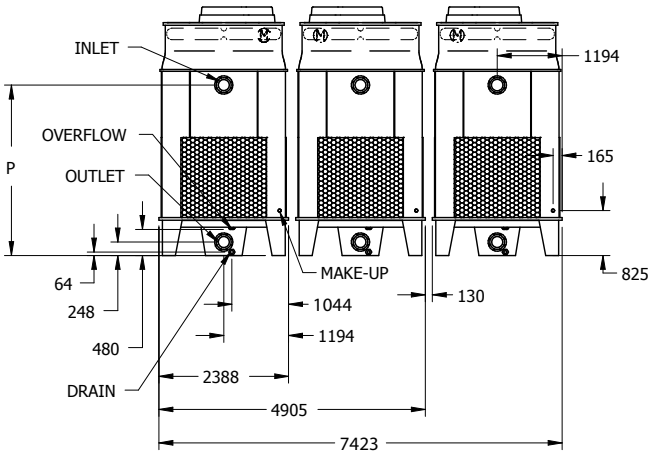
ENGINEERING DATA & DIMENSIONS

MODELS: MTT 324-2H12 to 324-4L12

	MTT 324-2G8 TO 324-4J8
INLET	(3) 200 INLET
OUTLET	(3) 200 OUTLET
MAKE-UP	(3) 50 MAKE-UP
OVERFLOW	(3) 50 OVERFLOW
DRAIN	(3) 50 DRAIN
EQUALIZER	(3) 200 EQUALIZER







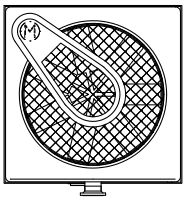
All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

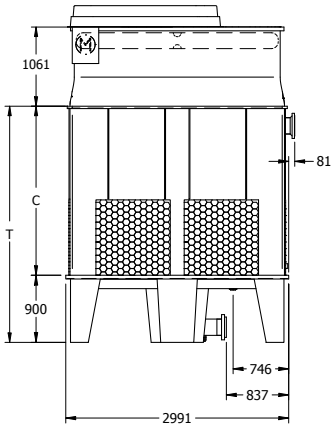
Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 324-2H12	7160	9.225	1310	5,5	67,7	4288	3425	3137	2769
MTT 324-3H12	7580	9.650	1450	5,5	66,7	4593	3730	3442	3073
MTT 324-4H12	8000	10.070	1590	5,5	65,4	4898	4035	3747	3378
MTT 324-2I12	7185	9.255	1310	7,5	74,2	4288	3425	3137	2769
MTT 324-3I12	7605	9.675	1450	7,5	73,0	4593	3730	3442	3073
MTT 324-4I12	8030	10.095	1590	7,5	71,7	4898	4035	3747	3378
MTT 324-2J12	7360	9.430	1310	11	84,4	4288	3425	3137	2769
MTT 324-3J12	7785	9.850	1450	11	83,0	4593	3730	3442	3073
MTT 324-4J12	8205	10.275	1590	11	81,5	4898	4035	3747	3378
MTT 324-2K12	7445	9.510	1310	15	92,5	4288	3425	3137	2769
MTT 324-3K12	7865	9.935	1450	15	90,8	4593	3730	3442	3073
MTT 324-4K12	8285	10.355	1590	15	89,3	4898	4035	3747	3378
MTT 324-3L12	7905	9.975	1450	18,5	97,4	4593	3730	3442	3073
MTT 324-4L12	8330	10.395	1590	18,5	95,8	4898	4035	3747	3378

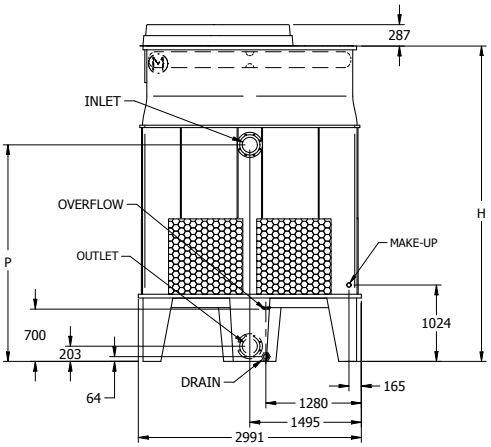
NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

MODELS: MTT 110-2G10 to MTT 110-4K10

	MTT 110-2G10 TO 110-4K10
INLET	(2) 200 INLET
OUTLET	(2) 200 OUTLET
MAKE-UP	(1) 50 MAKE-UP
OVERFLOW	(1) 50 OVERFLOW
DRAIN	(1) 50 DRAIN







All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

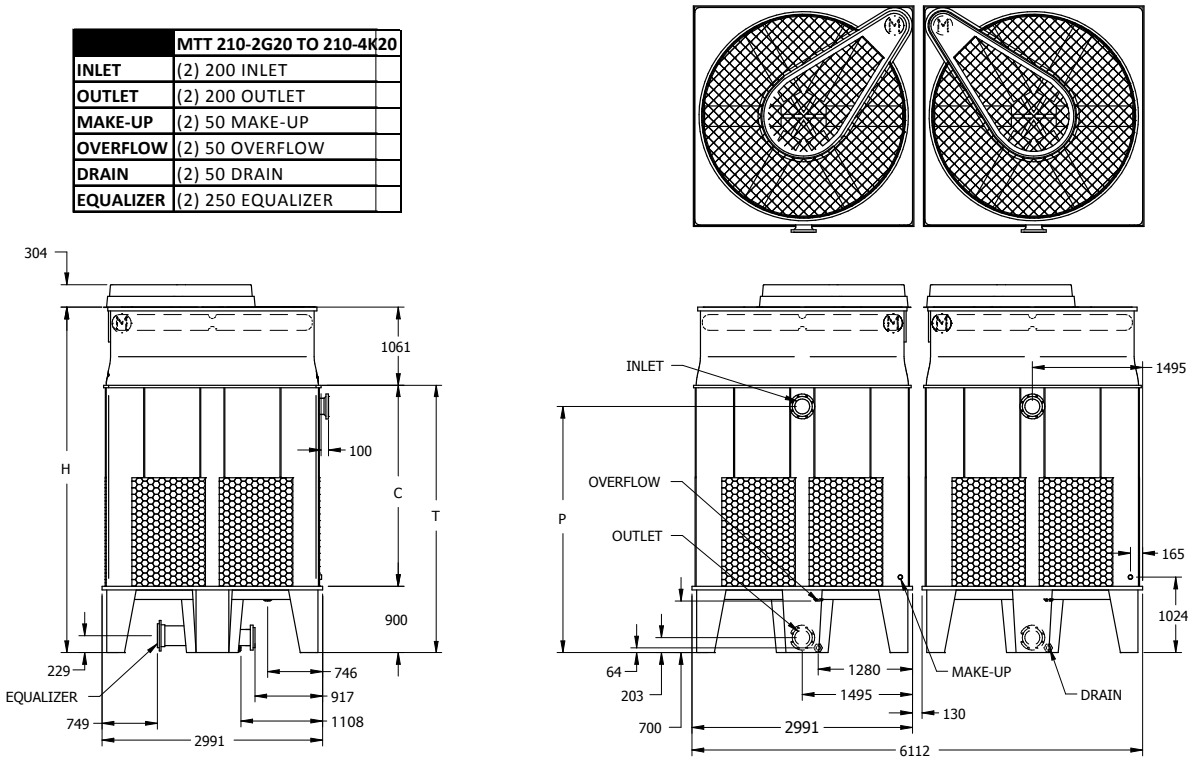
Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 110-2G10	2120	3.030	1330	4	21,3	4229	3168	2880	2312
MTT 110-3G10	2265	3.175	1245	4	20,9	4534	3472	3185	2617
MTT 110-4G10	2405	3.315	1390	4	20,6	4839	3777	3490	2992
MTT 110-2H10	2140	3.055	1330	5,5	24,2	4229	3168	2880	2312
MTT 110-3H10	2285	3.200	1245	5,5	23,9	4534	3472	3185	2617
MTT 110-4H10	2425	3.340	1390	5,5	23,4	4839	3777	3490	2992
MTT 110-2I10	2150	3.060	1330	7,5	26,6	4229	3168	2880	2312
MTT 110-3I10	2295	3.205	1245	7,5	26,1	4534	3472	3185	2617
MTT 110-4I10	2435	3.350	1390	7,5	25,7	4839	3777	3490	2992
MTT 110-2J10	2210	3.120	1330	11	30,2	4229	3168	2880	2312
MTT 110-3J10	2355	3.265	1245	11	29,7	4534	3472	3185	2617
MTT 110-4J10	2495	3.405	1390	11	29,2	4839	3777	3490	2992
MTT 110-3K10	2370	3.285	1245	15	32,4	4534	3472	3185	2617
MTT 110-4K10	2515	3.425	1390	15	31,9	4839	3777	3490	2992

NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

ENGINEERING DATA & DIMENSIONS

MODELS: MTT 210-2G20 to 210-4K20

	MTT 210-2G20 TO 210-4K20
INLET	(2) 200 INLET
OUTLET	(2) 200 OUTLET
MAKE-UP	(2) 50 MAKE-UP
OVERFLOW	(2) 50 OVERFLOW
DRAIN	(2) 50 DRAIN
EQUALIZER	(2) 250 EQUALIZER



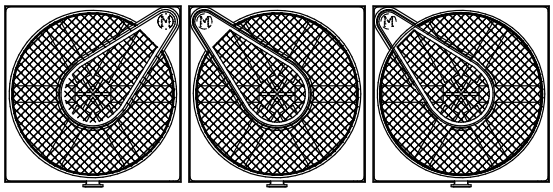
All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

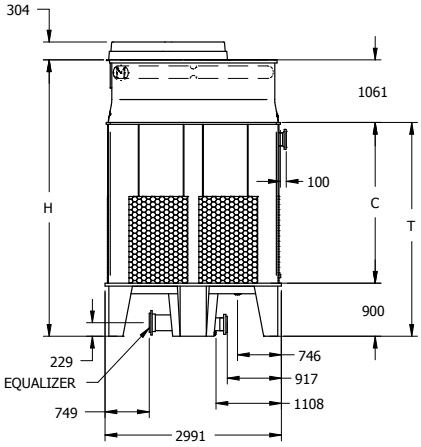
Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 210-2G20	4545	6.370	1250	4	42,6	4686	3625	3337	2769
MTT 210-3G20	4825	6.650	1395	4	41,9	4991	3929	3642	3073
MTT 210-4G20	5115	6.940	1540	4	41,2	5296	4234	3947	3378
MTT 210-2H20	4590	6.415	1250	5,5	48,5	4686	3625	3337	2769
MTT 210-3H20	4870	6.695	1395	5,5	47,7	4991	3929	3642	3073
MTT 210-4H20	5160	6.985	1540	5,5	46,9	5296	4234	3947	3378
MTT 210-2I20	4610	6.430	1250	7,5	53,1	4686	3625	3337	2769
MTT 210-3I20	4890	6.715	1395	7,5	52,3	4991	3929	3642	3073
MTT 210-4I20	5180	7.005	1540	7,5	51,4	5296	4234	3947	3378
MTT 210-2J20	4725	6.550	1250	11	60,4	4686	3625	3337	2769
MTT 210-3J20	5010	6.830	1395	11	59,3	4991	3929	3642	3073
MTT 210-4J20	5300	7.120	1540	11	58,3	5296	4234	3947	3378
MTT 210-3K20	5045	6.865	1395	15	64,9	4991	3929	3642	3073
MTT 210-4K20	5335	7.160	1540	15	63,9	5296	4234	3947	3378

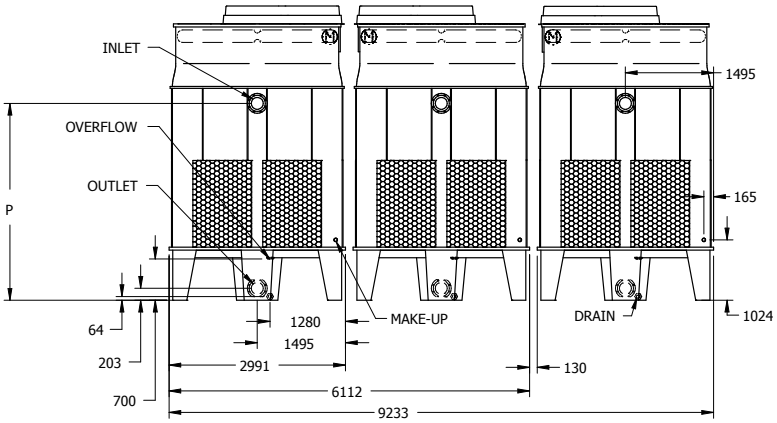
NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

MODELS: MTT 310-2G30 to MTT 310-4K30

	MTT 310-2G30 TO 310-4K30
INLET	(3) 200 INLET
OUTLET	(3) 200 OUTLET
MAKE-UP	(3) 50 MAKE-UP
OVERFLOW	(3) 50 OVERFLOW
DRAIN	(3) 50 DRAIN
EQUALIZER	(3) 250 EQUALIZER







All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

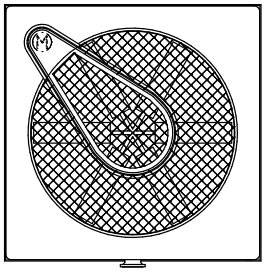
Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 310-2G30	6815	9.555	1250	4	63,9	4686	3625	3337	2769
MTT 310-3G30	7240	9.975	1395	4	62,8	4991	3929	3642	3073
MTT 310-4G30	7675	10.410	1540	4	61,8	5296	4234	3947	3378
MTT 310-2H30	6885	9.620	1250	5,5	72,7	4686	3625	3337	2769
MTT 310-3H30	7305	10.045	1395	5,5	71,6	4991	3929	3642	3073
MTT 310-4H30	7745	10.480	1540	5,5	70,4	5296	4234	3947	3378
MTT 310-2I30	6915	9.650	1250	7,5	79,7	4686	3625	3337	2769
MTT 310-3I30	7335	10.070	1395	7,5	78,4	4991	3929	3642	3073
MTT 310-4I30	7770	10.505	1540	7,5	77,1	5296	4234	3947	3378
MTT 310-2J30	7090	9.825	1250	11	90,6	4686	3625	3337	2769
MTT 310-3J30	7510	10.245	1395	11	89,0	4991	3929	3642	3073
MTT 310-4J30	7945	10.680	1540	11	87,6	5296	4234	3947	3378
MTT 310-3K30	7565	10.300	1395	15	97,4	4991	3929	3642	3073
MTT 310-4K30	8000	10.735	1540	15	95,9	5296	4234	3947	3378

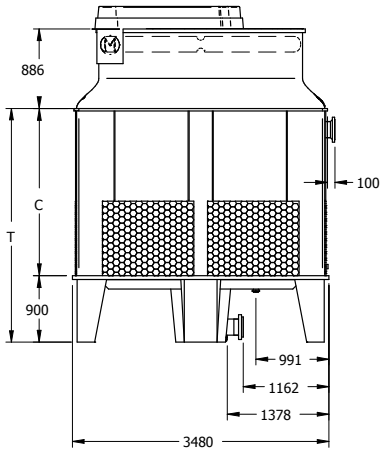
NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

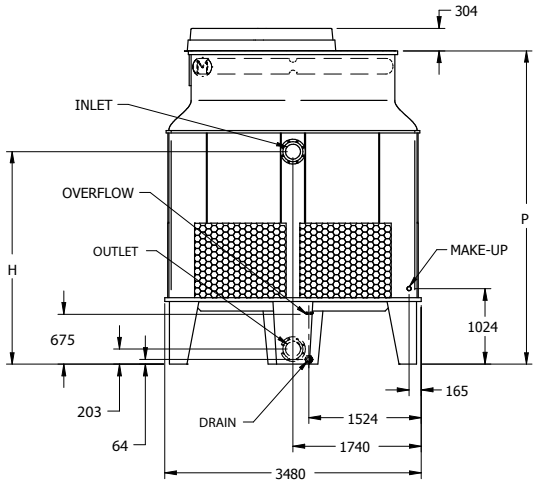
ENGINEERING DATA & DIMENSIONS

MODELS: MTT 111-2I11 to 111-4M11

	MTT 111-2I11 TO 111-4M11
INLET	(1) 200 INLET
OUTLET	(1) 200 OUTLET
MAKE-UP	(1) 50 MAKE-UP
OVERFLOW	(1) 50 OVERFLOW
DRAIN	(1) 50 DRAIN







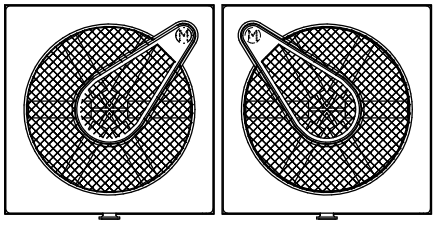
All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

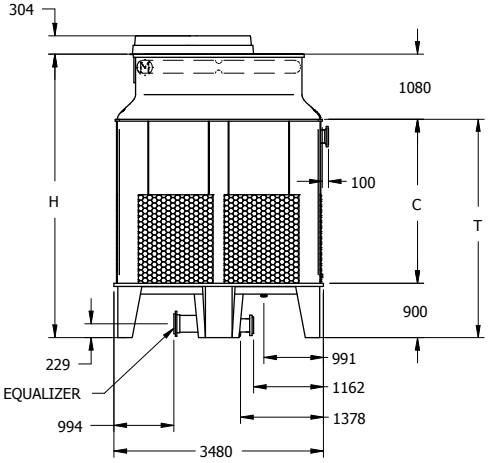
Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 111-2I11	2.725	3.865	1.300	7.5	32,6	4248	3168	2880	2312
MTT 111-2J11	2.785	3.925	1.300	11	37,1	4248	3168	2880	2312
MTT 111-2K11	2.810	3.950	1.300	15	40,6	4248	3168	2880	2312
MTT 111-3I11	2.915	4.055	1.890	7.5	32,0	4553	3472	3185	2617
MTT 111-3J11	2.975	4.115	1.950	11	36,4	4553	3472	3185	2617
MTT 111-3K11	3.005	4.140	1.980	15	39,9	4553	3472	3185	2617
MTT 111-3L11	3.015	4.155	1.990	18.5	42,8	4553	3472	3185	2617
MTT 111-4I11	3.105	4.245	2.080	7.5	31,5	4858	3777	3490	2922
MTT 111-4J11	3.165	4.305	2.140	11	35,8	4858	3777	3490	2922
MTT 111-4K11	3.195	4.330	2.170	15	39,2	4858	3777	3490	2922
MTT 111-4L11	3.205	4.345	2.180	18.5	42,1	4858	3777	3490	2922
MTT 111-4M11	3.230	4.370	2.205	22	44,6	4858	3777	3490	2922

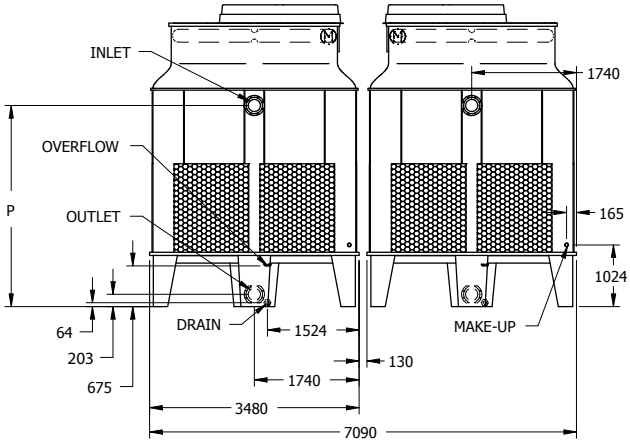
NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

MODELS: MTT 211-2I22 to MTT 211-4M22

	MTT 211-2I22 TO 211-4M22
INLET	(2) 200 INLET
OUTLET	(2) 200 OUTLET
MAKE-UP	(2) 50 MAKE-UP
OVERFLOW	(2) 50 OVERFLOW
DRAIN	(2) 50 DRAIN
EQUALIZER	(2) 250 EQUALIZER







All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 211-2I22	5.770	8.045	1.850	(2) 7.5	65,1	4686	3626	3337	2769
MTT 211-2J22	5.890	8.165	1.910	(2) 11	74,1	4686	3626	3337	2769
MTT 211-2K22	5.940	8.220	1.935	(2) 15	81,1	4686	3626	3337	2769
MTT 211-3I22	6.150	8.430	2.040	(2) 7.5	64,1	4991	3930	3642	3073
MTT 211-3J22	6.270	8.545	2.100	(2) 11	72,9	4991	3930	3642	3073
MTT 211-3K22	6.325	8.600	2.125	(2) 15	79,7	4991	3930	3642	3073
MTT 211-3L22	6.350	8.625	2.140	(2) 18.5	85,5	4991	3930	3642	3073
MTT 211-4I22	6.525	8.800	2.225	(2) 7.5	63,0	5296	4235	3947	3378
MTT 211-4J22	6.640	8.920	2.285	(2) 11	71,6	5296	4235	3947	3378
MTT 211-4K22	6.695	8.970	2.315	(2) 15	78,4	5296	4235	3947	3378
MTT 211-4L22	6.720	9.000	2.325	(2) 18.5	84,2	5296	4235	3947	3378
MTT 211-4M22	6.770	9.045	2.350	(2) 22	89,1	5296	4235	3947	3378

NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

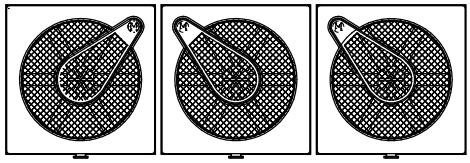
ENGINEERING DATA & DIMENSIONS

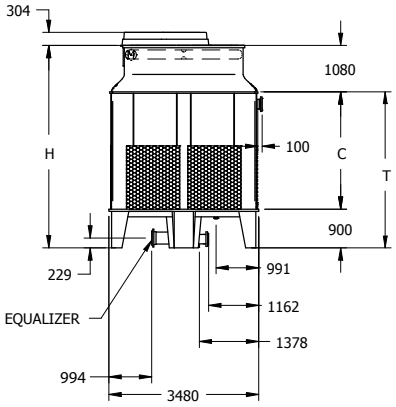
MTT

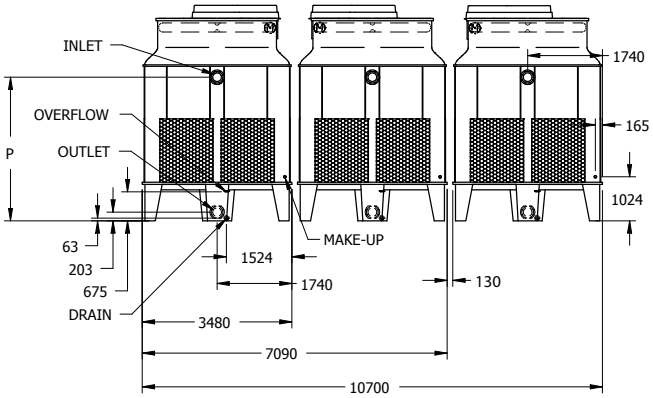
ENGINEERING

MODELS: MTT 311-2I33 to 311-4M33

	MTT 311-2I33 TO 311-4M33
INLET	(3) 200 INLET
OUTLET	(3) 200 OUTLET
MAKE-UP	(3) 50 MAKE-UP
OVERFLOW	(3) 50 OVERFLOW
DRAIN	(3) 50 DRAIN
EQUALIZER	(3) 250 EQUALIZER







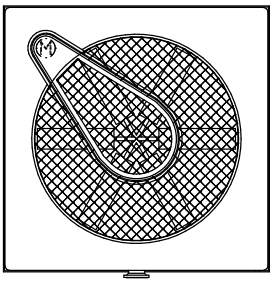
All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

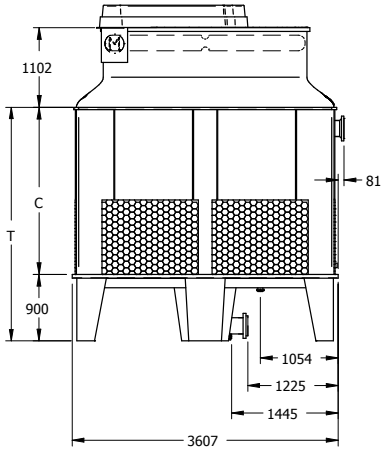
Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 311-2I33	8.655	12.070	1.850	(3) 7.5	97,7	4686	3626	3337	2769
MTT 311-2J33	8.830	12.245	1.910	(3) 11	111,2	4686	3626	3337	2769
MTT 311-2K33	8.915	12.330	1.935	(3) 15	121,8	4686	3626	3337	2769
MTT 311-3I33	9.225	12.640	2.040	(3) 7.5	96,1	4991	3930	3642	3073
MTT 311-3J33	9.405	12.820	2.100	(3) 11	109,4	4991	3930	3642	3073
MTT 311-3K33	9.485	12.900	2.125	(3) 15	119,7	4991	3930	3642	3073
MTT 311-3L33	9.525	12.940	2.140	(3) 18.5	128,4	4991	3930	3642	3073
MTT 311-4I33	9.785	13.200	2.225	(3) 7.5	94,5	5296	4235	3947	3378
MTT 311-4J33	9.960	13.375	2.285	(3) 11	107,5	5296	4235	3947	3378
MTT 311-4K33	10.045	13.460	2.315	(3) 15	117,8	5296	4235	3947	3378
MTT 311-4L33	10.085	13.500	2.325	(3) 18.5	126,4	5296	4235	3947	3378
MTT 311-4M33	10.150	13.565	2.350	(3) 22	133,8	5296	4235	3947	3378

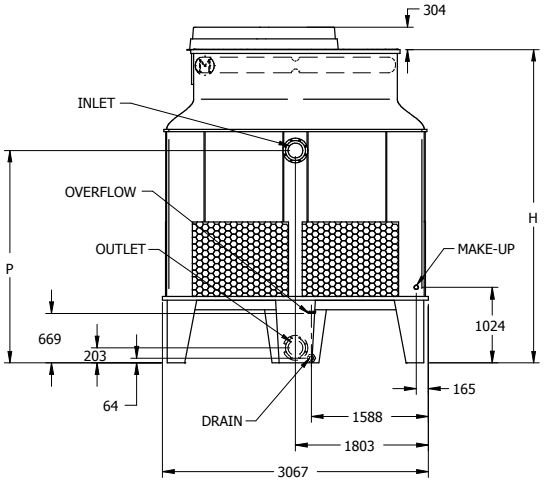
NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

MODELS: MTT 112-2I12 to MTT 112-4N12

	MTT 112-2I12 TO 112-4N12
INLET	(1) 200 INLET
OUTLET	(1) 200 OUTLET
MAKE-UP	(1) 50 MAKE-UP
OVERFLOW	(1) 50 OVERFLOW
DRAIN	(1) 50 DRAIN







All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 112-2I12	2810	4.030	1750	7,5	33,7	4248	3168	2880	2312
MTT 112-3I12	3005	4.225	1670	7,5	33,2	4553	3472	3185	2617
MTT 112-4I12	3205	4.425	1870	7,5	32,6	4858	3777	3490	2922
MTT 112-2J12	2870	4.090	1750	11	38,4	4248	3168	2880	2312
MTT 112-3J12	3070	4.290	1670	11	37,7	4553	3472	3185	2617
MTT 112-4J12	3270	4.490	1870	11	37,1	4858	3777	3490	2922
MTT 112-2K12	2900	4.120	1750	15	42,0	4248	3168	2880	2312
MTT 112-3K12	3100	4.320	1670	15	41,3	4553	3472	3185	2617
MTT 112-4K12	3300	4.520	1870	15	40,6	4858	3777	3490	2922
MTT 112-2L12	2910	4.130	1750	18,5	45,1	4248	3168	2880	2312
MTT 112-3L12	3110	4.330	1670	18,5	44,3	4553	3472	3185	2617
MTT 112-4L12	3310	4.530	1870	18,5	43,6	4858	3777	3490	2922
MTT 112-2M12	2935	4.155	1750	22	47,8	4248	3168	2880	2312
MTT 112-3M12	3135	4.355	1670	22	46,9	4553	3472	3185	2617
MTT 112-4M12	3335	4.555	1870	22	46,2	4858	3777	3490	2922
MTT 112-4N12	3415	4.635	1870	30	50,6	4858	3777	3490	2922

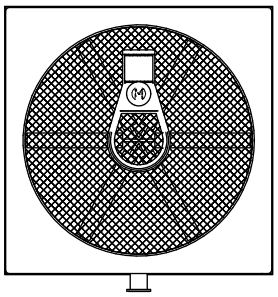
NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

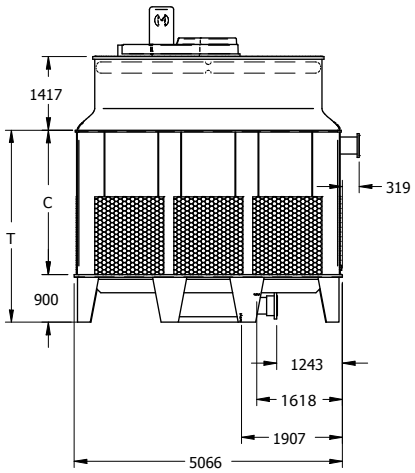
ENGINEERING DATA & DIMENSIONS

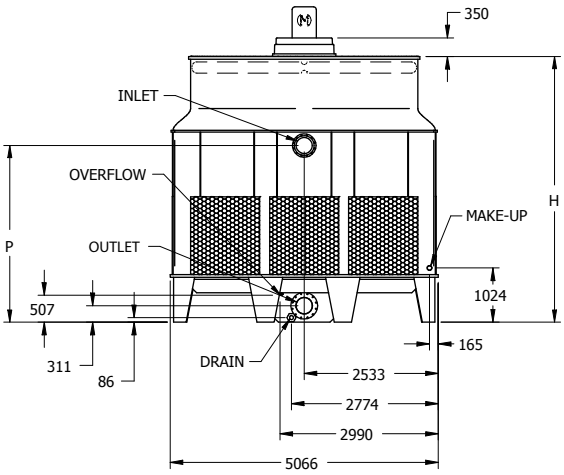
MTT

MODELS: MTT 116-2L16 to 116-4O16

	MTT 116-2L16 TO 116-4O16
INLET	(1) 300 INLET
OUTLET	(1) 300 OUTLET
MAKE-UP	(1) 80 MAKE-UP
OVERFLOW	(1) 80 OVERFLOW
DRAIN	(1) 80 DRAIN







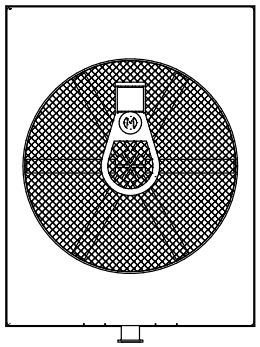
All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

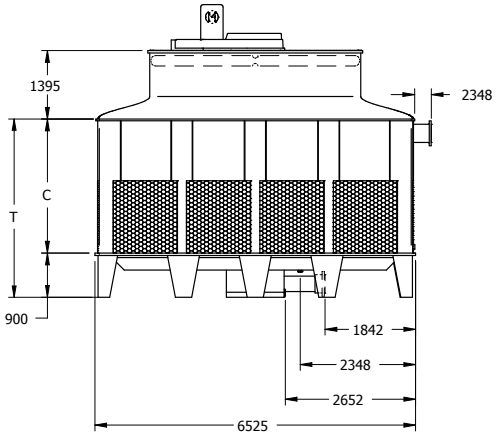
Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 116-2L16	6445	9.410	3345	18,5	69,3	5020	3625	3337	2769
MTT 116-3L16	6820	9.790	3720	18,5	68,2	5324	3930	3642	3073
MTT 116-4L16	7205	10.170	4100	18,5	67,0	5629	4234	3947	3378
MTT 116-2M16	6475	9.440	3345	22	73,5	5020	3625	3337	2769
MTT 116-3M16	6850	9.815	3720	22	72,3	5324	3930	3642	3073
MTT 116-4M16	7230	10.195	4100	22	71,0	5629	4234	3947	3378
MTT 116-2N16	6550	9.515	3345	30	80,7	5020	3625	3337	2769
MTT 116-3N16	6925	9.895	3720	30	79,3	5324	3930	3642	3073
MTT 116-4N16	7305	10.275	4100	30	78,0	5629	4234	3947	3378
MTT 116-3O16	6930	9.895	3720	37	85,2	5324	3930	3642	3073
MTT 116-4O16	7310	10.280	4100	37	83,8	5629	4234	3947	3378

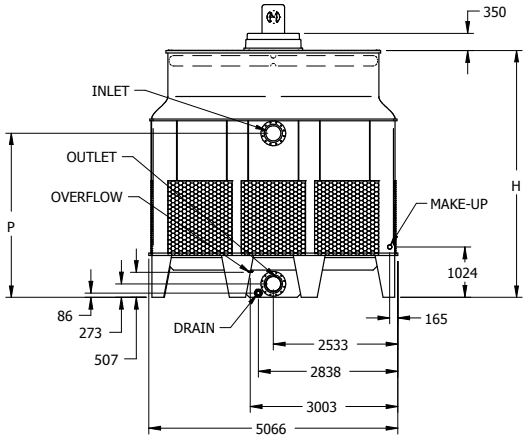
NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

MODELS: MTT 116-2L20 to MTT 116-4Q20

	MTT 116-2L20 TO 116-4Q20
INLET	(1) 350 INLET
OUTLET	(1) 350 OUTLET
MAKE-UP	(1) 80 MAKE-UP
OVERFLOW	(1) 80 OVERFLOW
DRAIN	(1) 80 DRAIN







All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

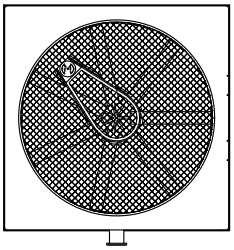
Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 116-2L20	8010	11.890	4205	18,5	82,8	5020	3625	3337	2769
MTT 116-3L20	8495	12.375	4690	18,5	81,5	5324	3930	3642	3073
MTT 116-4L20	8970	12.850	5165	18,5	80,1	5629	4234	3947	3378
MTT 116-2M20	8035	11.910	4205	22	87,8	5020	3625	3337	2769
MTT 116-3M20	8520	12.395	4690	22	86,4	5324	3930	3642	3073
MTT 116-4M20	8995	12.875	5165	22	85,0	5629	4234	3947	3378
MTT 116-2N20	8110	11.990	4205	30	96,4	5020	3625	3337	2769
MTT 116-3N20	8595	12.475	4690	30	94,8	5324	3930	3642	3073
MTT 116-4N20	9070	12.950	5165	30	93,2	5629	4234	3947	3378
MTT 116-3O20	8600	12.480	4690	37	101,9	5324	3930	3642	3073
MTT 116-4O20	9075	12.955	5165	37	100,2	5629	4234	3947	3378
MTT 116-4P20	9235	13.115	5165	45	106,2	5629	4234	3947	3378
MTT 116-4Q20	9295	13.170	5165	55	114,2	5629	4234	3947	3378

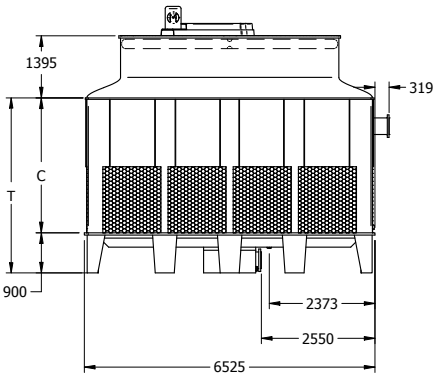
NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

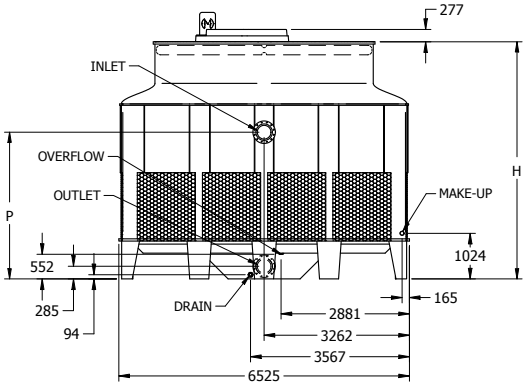
ENGINEERING DATA & DIMENSIONS

MODELS: MTT 120-3N20 to 120-4Q20

	MTT 120-3N20 TO 120-4Q20
INLET	(2) 200 INLET
OUTLET	(2) 200 OUTLET
MAKE-UP	(1) 50 MAKE-UP
OVERFLOW	(1) 50 OVERFLOW
DRAIN	(1) 50 DRAIN





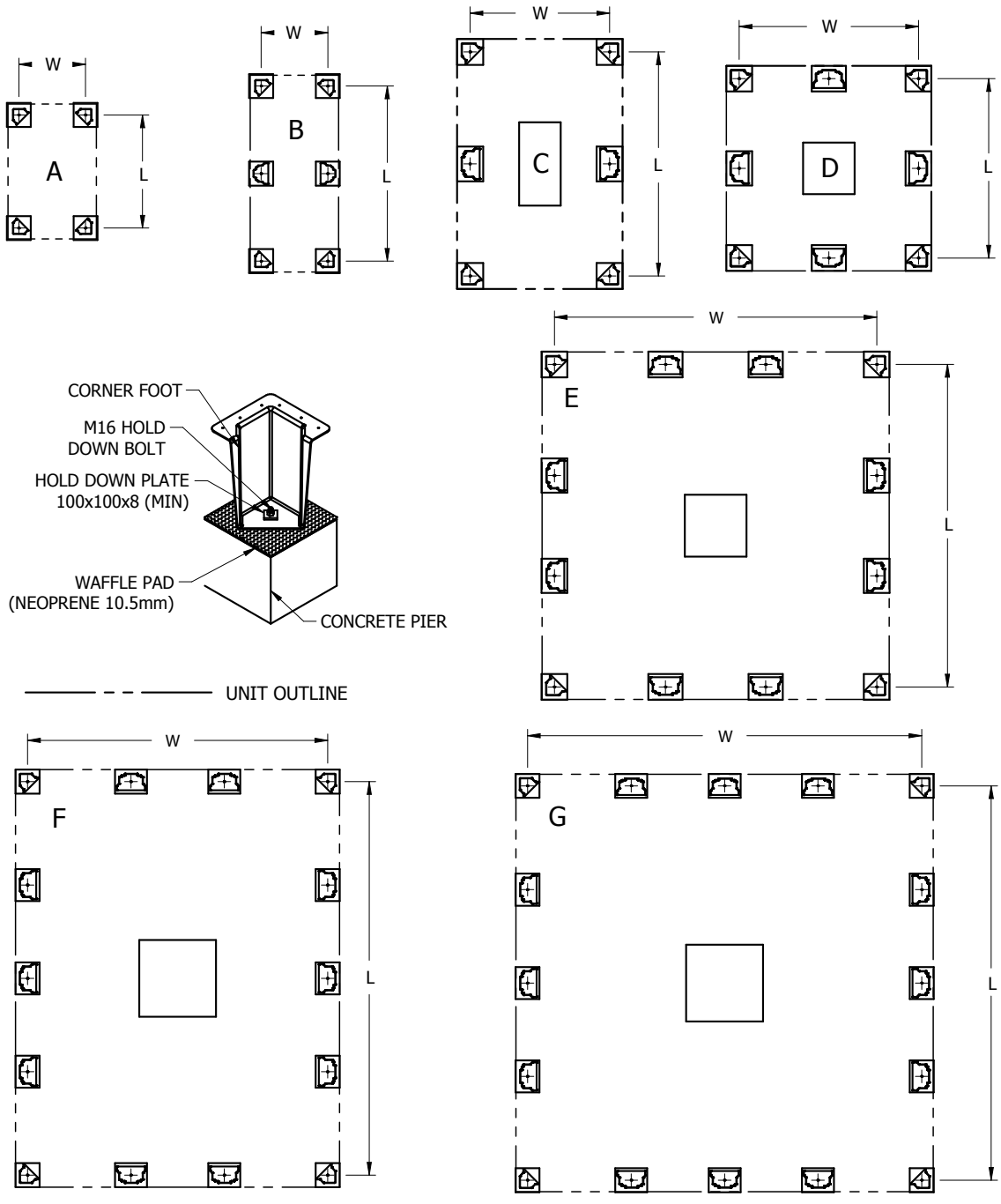


All Inlet and Outlet Connections are: DIN 2576 Flange (Europe) Inlet DN100; Outlet DN100. Make-up MPT DN25; Overflow: FPT DN50; Drain FPT DN50

Model No.	Weights (Kg)			Fan Motor (kW)	Air Flow (m^3/s)	Dimensions (mm)			
	Shipping	Operating	Heaviest Section			H	T	P	C
MTT 120-3N20	9750	16.160	5365	30	112,9	5324	3930	3642	3073
MTT 120-4N20	10365	16.775	5980	30	111,0	5629	4234	3947	3378
MTT 120-3O20	9755	16.165	5365	37	121,3	5324	3930	3642	3073
MTT 120-4O20	10370	16.780	5980	37	119,3	5629	4234	3947	3378
MTT 120-3P20	9850	16.260	5365	45	128,7	5324	3930	3642	3073
MTT 120-4P20	10465	16.875	5980	45	126,5	5629	4234	3947	3378
MTT 120-3Q20	9910	16.320	5365	55	138,2	5324	3930	3642	3073
MTT 120-4Q20	10525	16.935	5980	55	135,9	5629	4234	3947	3378

NOTE: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.

PIER SUPPORT LAYOUT



Box size	Diagram	Model	Dimension (mm)	
			W	L
4x6	A	MTT 14-2F6 to MTT 14-3G6	973	1649
4x9	B	MTT 14-2E9 to MTT 14-3F9	973	2554
8x8	A	MTT 18-2G8 to MTT 18-3J8	2013	2013
8x12	C	MTT 18-3H12 to MTT 18-4L12	2013	3232
10x10	D	MTT 110-2G10 to MTT 110-3J10	2016	2016
11x11	D	MTT 111-2I11 to MTT 111-4M11	3105	3105
12x12	D	MTT 112-2I12 to MTT 112-4L12	3232	3232
16x16	E	MTT 116-2L16 to MTT 116-4O16	4691	4691
16x20	F	MTT 116-2L20 to MTT 116-4Q20	4691	6150
20x20	G	MTT 120-3O20 to MTT 120-4Q20	6150	

NOTES:

1. These are suggested arrangements for preliminary layout purposes. Consult your EVAPCO representative for factory certified pier support drawings and alternate layout arrangements.
2. The recommended support for the MTT Cooling Tower is concrete piers located under the feet and sump (where applicable).
3. Piers should be level before setting the unit in place. Do not level the unit by shimming between it and the piers.
4. Concrete Piers and Anchor bolts are to be furnished by others.
5. All pier dimensions should be a minimum of 300mm x 500mm. All centre sump dimensions should be minimum 1200mm x 1200mm.
6. Dimensions and data are subject to change without notice. Refer to the factory certified drawings for exact dimensions.

SPECIFICATIONS

MTT

General

Furnish and install factory assembled cooling tower(s) of induced draught, counter flow design with horizontal multiple side air entries and vertical air discharge.

The total fan power should not exceed _____ kW and the total overall unit dimensions should not exceed the following:
Length: _____ mm Width: _____ mm Height: _____ mm

Approved manufacturer **Evapco – model MTT** _____

Thermal Performance – Performance Warranty

The tower shall be capable of performing the thermal duties as shown in the schedule and on the drawings, and its design thermal rating shall be certified by the Cooling Technology Institute (C.T.I.) and the Eurovent Certification Company (ECC). Only models with performance certified by CTI and ECC will be approved. Manufacturers' performance guarantee without ECC-CTI certification for the proposed model or an independent field performance test shall not be accepted.

Applicable Standards

a) CTI ATC 128 Test Code for Measurement of Sound from Water Cooling Towers
b) CTI STD 201 Standard for Thermal Performance
c) Eurovent Rating Standard for Cooling Towers

MTT COOLING TOWER: Material of Construction

Cooling Tower Basin

a) All cold water basin panels shall be constructed heavy-duty fibreglass of uniform thickness not less than 7 mm.
b) All fibreglass panels shall be perfectly smooth on both faces from a closed moulding process.
c) Each surface to be protected by UV inhibited gelcoat.
d) All internal and external hardware in the basin section to be type 304L stainless steel (Optional SS 316L).
e) Basin strainer shall all be type 304L stainless steel construction (Optional SS 316L).

Air Inlet Louvres

a) The air inlet louvers shall be constructed from UV inhibited polyvinyl chloride (PVC) and is set within a PVC frame that allows for easy removal of louvers for access to the entire basin area for maintenance.
b) The louvers shall have a minimum of two changes in air direction and shall be of a non-planar design to prevent splash out, block direct sunlight and debris from entering the basin.

Casing Section

a) All casing panels shall be of heavy-duty fibreglass construction, perfectly smooth on both faces from a closed moulding process;
b) Structural corner posts and intermediate posts shall be not less than 7 mm thickness. Casing panels (cladding) shall be of uniform thickness not less than 5 mm.
c) Internal wetted steel parts within the casing shall be type 304L stainless steel (Optional SS 316L).
d) All internal and external hardware in the casing to be type 304L stainless steel (Optional SS 316L).
e) The casing shall totally encase the complete fill section to protect the fill from direct sunlight exposure.

Drift Eliminators

a) The eliminators shall be constructed entirely of Polyvinyl Chloride (PVC) in easily handled sections.
b) Design shall incorporate three changes in air direction and limit the water carryover.

Water Distribution System

a) Spray nozzles shall be precision moulded ABS, large orifice spray nozzles utilizing fluidic technology for superior water distribution over the fill media and to minimize water distribution system maintenance.
b) Spray header and branches shall be Polyvinyl Chloride (PVC) for corrosion resistance.
c) Pipe connections shall be provided with ring flange type connections.

Heat Transfer Media

a) Fill media shall be constructed of Polyvinyl Chloride (PVC) of cross-fluted design and suitable for sustained inlet water temperatures up to 55°C.
b) Fill shall be self-extinguishing, have a flame spread of 5 under A.S.T.M. designation E-84-81a, and shall be resistant to rot, decay and biological attack.
c) The cross-fluted sheets shall be bonded together for maximum strength and durability. Fill packs which are not bonded together are not allowed.

Fan Section

a) All fandeck and cylinder panels shall be heavy-duty fibreglass of uniform thickness not less than 5 mm.
b) Fan drive: motor base frame to be welded, heavy-duty type structural steel, hot dip galvanised after fabrication (Option SS 304L or SS 316L).
c) Fan screen and all hardware in the fan section shall also be galvanized (Option SS 304L or SS 316L).

Access Door

An access door shall be provided to facilitate maintenance or removal of fill, drift eliminators and the water distribution system.

Belt Drive Fan

a) Fans having diameter 1000 mm or less shall be high efficiency axial propeller type, using a high strength die cast aluminium hub and fiberglass reinforced polypropylene (PPG) wide chord blades. Each fan shall be statically balanced and installed in a closely fitted cowl with venturi air inlet for maximum fan efficiency.
b) Fans having diameter greater than 1000 mm shall be high efficiency axial propeller type with aluminium wide chord blade construction. Each fan shall be statically balanced and installed in a closely fitted cowl with venturi air inlet for maximum fan efficiency.
c) Fans designed for Super Low Sound shall be high efficiency axial propeller type with FRP hub and blade construction. Fans shall be one-piece moulded with forward sweeping blades for superior sound quality. Fans shall be statically balanced and installed in a closely fitted cowl with venturi air inlet for maximum fan efficiency.
d) Fans shall be covered with a heavy gauge galvanized steel wire screen (Option SS 304L or SS 316L)

Direct Drive Fans

Fans having diameter less than 1000 mm shall be mounted directly on the motor shaft in a direct drive configuration.

Fan Motor

Fan motor(s) shall be totally enclosed, ball bearing type electric motor(s) with IP56 protection rating suitable for moist air service.

Sound Levels

The maximum sound pressure levels (dB) measured 15 m from the cooling tower operating at full fan speed shall not exceed the sound levels detailed below:

Location	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)
1.5 m from discharge									
1.5 m from air inlet									

Warranty

The products will be warranted for a period minimum two years from the date of shipment.

ACCESSORIES

Vibration switch

a) A vibration limit switch shall be installed on the mechanical equipment support. The purpose of this switch will be interrupt power to the motor in the event of excessive vibration.
b) The switch shall be adjustable for sensitivity, and shall require manual reset.
c) Wiring and sensitivity adjustment shall be by others.

Handrails, ladder and safety cage

Cooling tower(s) shall be provided with fixed ladder to service platform providing access for belt tensioning, bearing lubrication and inspection of the drive system.

Water silencers

a) The water silencers shall be located in the falling water area of the cold water basin.
b) The manufacturer shall submit sound data showing overall sound levels when water silencers are fitted, water running and fans at full speed measured at 1.5m from the side or end of the unit.
c) The water silencers shall be constructed of lightweight PVC sections and able to be easily removed for access to the basin area.
d) The water silencers shall have no impact on the unit's thermal performance.

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