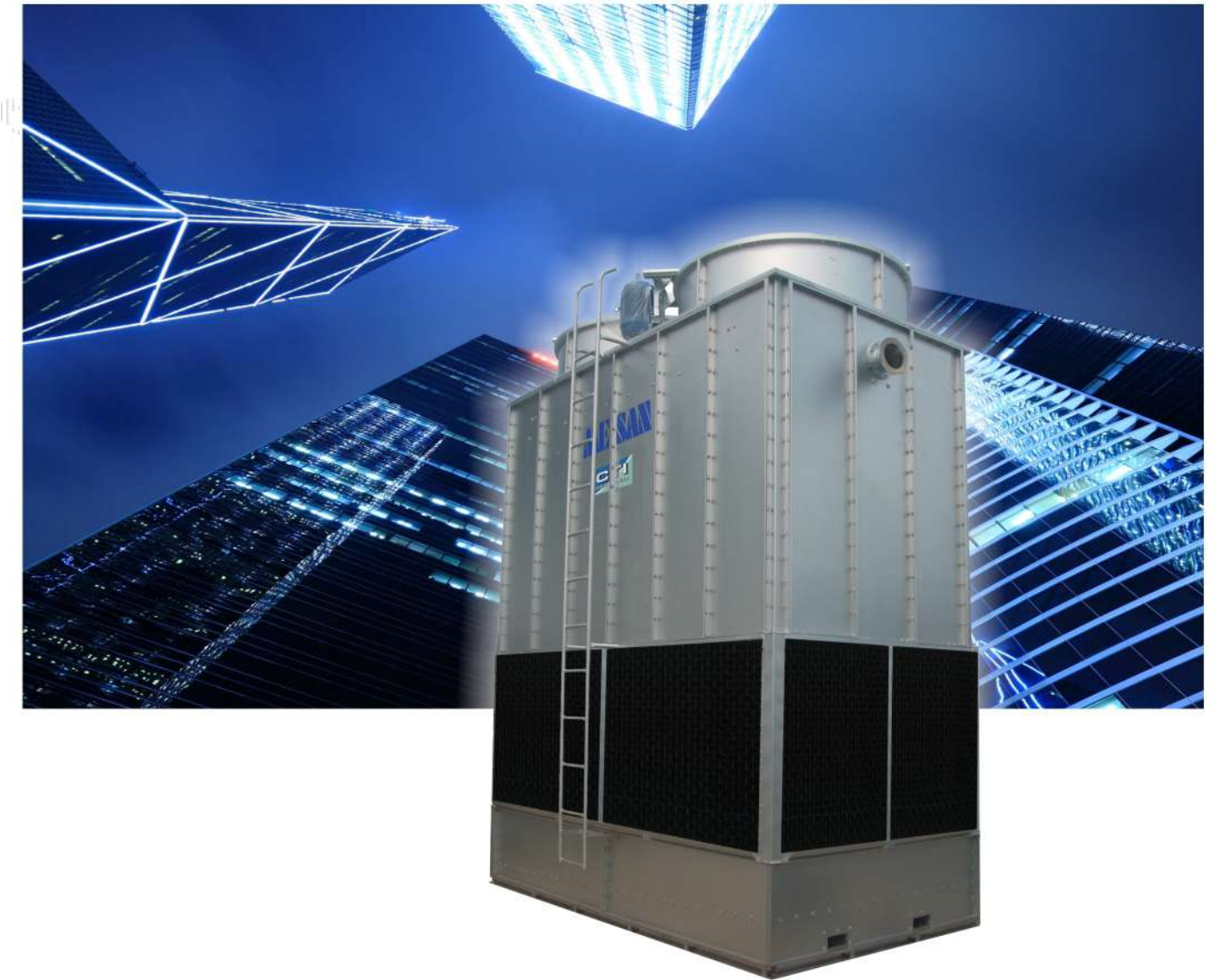




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## MCC Series

Counter Flow, Induced Draft

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2014-12L/MCC/M



For over 40 years, the MESAN Group has engaged in the engineering and manufacturing of high quality, high efficiency evaporative cooling equipment. Through hard work, ethics, and a constant pursuit of excellence, MESAN has become a leader in the cooling tower industry in Asia. Today, MESAN continues to play a vital role in the development of new technologies and products, and is proud to have been selected as a key supplier for many renowned projects in the global market.



MESAN is an ISO-9001 and 14001 certified company; our towers were the first ones in Hong Kong and China to obtain the CTI STD-201 performance certification, all of our products are ASHRAE-90.1-2013 compliant, a requisite towards LEED certification for Green Buildings by the USGBC (United States Green Building Council). All this confirms MESAN's constant pursuit of excellence and world-class quality.

MESAN's focus on engineering, research and development, quality management and excellent customer service, is the powerful combination that drives the MESAN brand up on a constant and steady growth. The many patents granted, are proof of MESAN's strive for delivering new environmentally friendly technologies and energy efficient products for the global markets.



MESAN USA strategically located at the center of the Americas continent, in Miami, Florida, USA, consolidates MESAN Group's global presence and reiterates its commitment to provide world-class products for an ever-expanding market.

MESAN USA offers local presence, local inventory of equipment and spare parts and bilingual technical support as well as customer service, in English and Spanish. All products offered by MESAN USA have been engineered to meet and exceed all codes and standards applicable in this hemisphere.

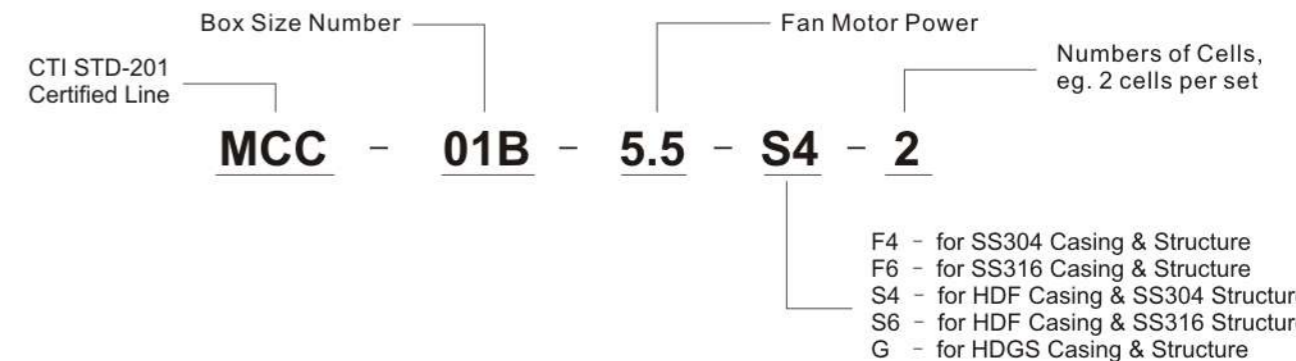
## Overview

The MCC Series comes to fill a need in the market for a cost-effective, energy-saving, high-efficiency induced-draft counter-flow cooling tower for all outdoor applications. All MCC models are fully compliant with ASHRAE 90.1 and contribute to LEED® Certification. Some MCC towers come in 3 modules, that can be precisely assembled at the factory and shipped inside a 40' container and delivered to the job-site to reduce the installation cost and time.



The MCC Series is available in 20 different box sizes with multiple motors, for a total of 164 models ranging between 95 tons and 1,143 tons per cell.

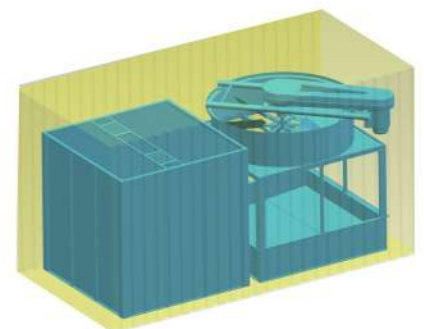
## Model Designation



## Advantages

### Modular Construction

Some MCC sizes come in pre-assembled modules easily stackable in the field. Even the infill comes in factory-assembled blocks and pre-installed inside the middle section of the unit. The result is a reduced field assembly time and consequent reduction on installation costs for the customer.



Now in addition to the containerized towers, MESAN also offers new models designed to be pre-assembled off-site and transported on regular flat-bed trailers. These models identified in this catalog tables with the suffix "TRL" have a reduced width to comply with most road regulations.



Trust MESAN with your evaporative cooling needs.

## Tower Structure



## 3 Components

### Motor

TEAO motor, IP55 enclosure, class F insulation, high efficiency, low noise and weatherproof, specially designed for the humid environment of cooling towers. Also available, two speed, and inverter-duty motors.

### Fan

Aerodynamic airfoil extruded aluminum fan blades, are low noise, high efficiency, dynamically balanced, with adjustable pitch blades and self-centering conical hub bushings (tapered-lock), for smooth and quiet operation.



### Panel and Structure

The MCC series is available in several construction materials:

- HDF (high density FRP), which is a special manufacturing process that produces very smooth surfaces on both sides of the components and higher structural strength. Smooth inner surface on wet parts reduces bacteria growth and facilitates maintenance, and provides the ultimate corrosion resistance.
- HDGS (Hot Dipped Galvanized Steel). G235 quality is the highest galvanized grade in the market.
- SS-304 or SS-316 stainless steel construction are also available for the highest corrosion resistance.

### Water Distribution System

Non corrosive water distribution piping, non-clogging large diameter spray nozzles, ensure complete and uniform coverage of the heat transfer surfaces for optimal thermal performance.

### Infill

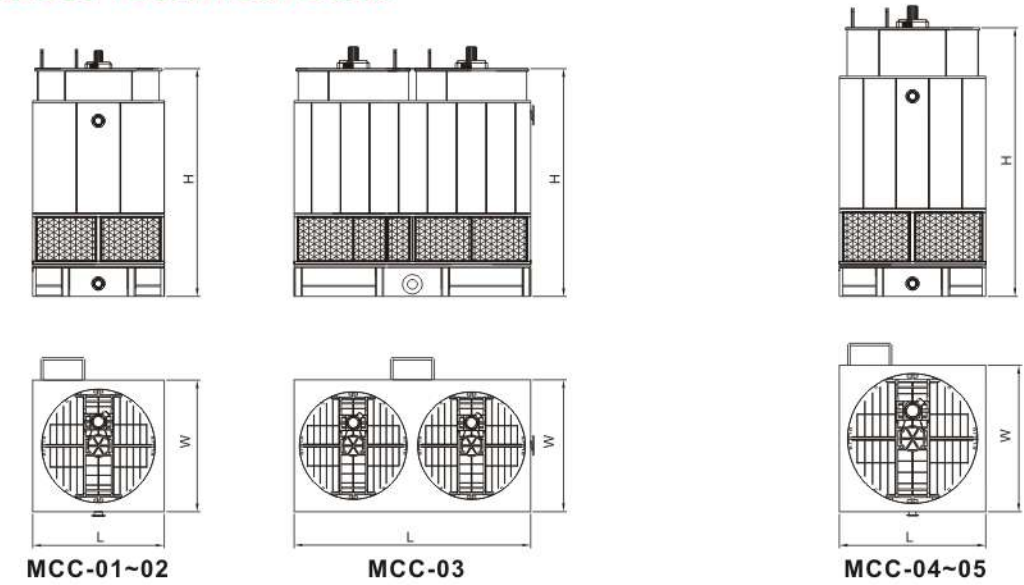
High efficiency, PVC heat transfer surfaces with proprietary design that combines excellent contact between air and water while offering very little resistance to airflow for the lowest fan energy consumption.



### Air Inlet Louver

The sectional louver made from light-weight corrosion-free PVC sections offers easy access to cold water basin. Each louver section is easily removed without using any tools. These louvers are designed in a way that offers low resistance to airflow, while protecting the water in the basin from sunlight that promotes algae growth. These louvers also attenuate the water splashing noise and reduce water losses.

## Product Technical Data



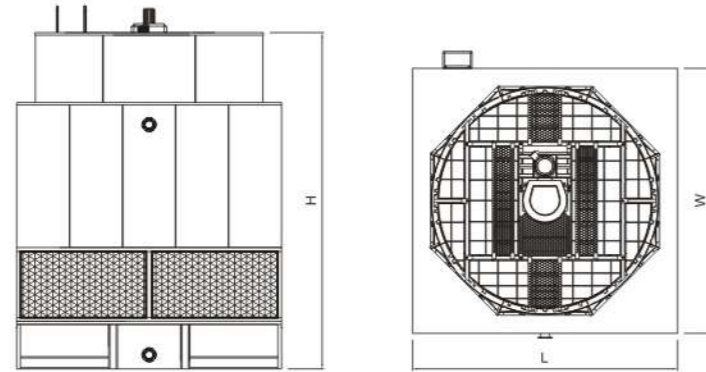
Model	Nominal Tons	Motor kw	L mm	W mm	H mm	Remark
01B	2.2	95	2,268	2,268	3,920	CNT
	3	106				
	4	116				
	5.5	128				
	7.5	141				
02B	3	141	2,268	2,768	3,920	CNT
	4	154				
	5.5	170				
	7.5	188				
	11	213				
03B	4.4	191	4,070	2,268	3,920	TRL
	6	211				
	8	232				
	11	255				
	15	282				
	22	320				

Model	Nominal Tons	Motor kw	L mm	W mm	H mm	Remark
04B	2.2	114	2,520	2,520	4,627	TRL
	3	126				
	4	138				
	5.5	153				
	7.5	169				
05B	3	156	2,868	2,868	4,652	TRL
	4	170				
	5.5	188				
	7.5	207				
	11	235				
	15	260				

### Notes:

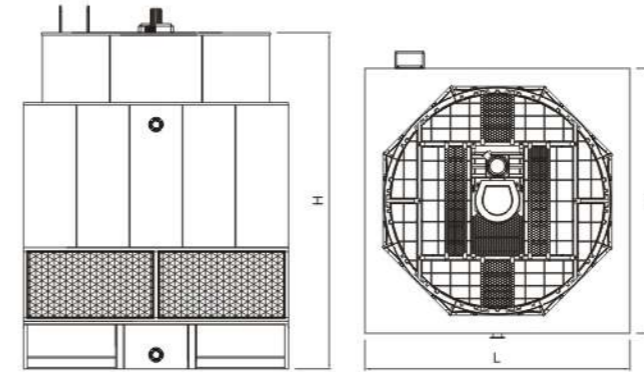
- 1) Nominal cooling capacity represents 35°C EWT, 29.4°C LWT with 25.6°C WBT and 0.681m<sup>3</sup>/h per ton.
- 2) Satisfactory performance is based on precise selection, proper system design and installation in a clean and well-ventilated location.
- 3) CNT: Containerized, TRL: Trailer, CKD: Knocked-down model.

## Product Technical Data

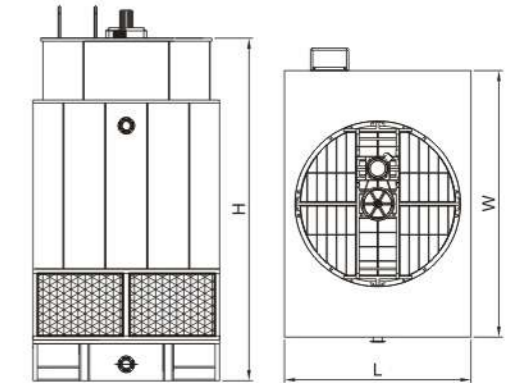


MCC-06-09

## Product Technical Data



MCC-10-11



MCC-12-14

5

Model	Nominal Tons	Motor kw	L mm	W mm	H mm	Remark
06A	5.5	244	3,670	3,670	4,892	TRL
	7.5	270				
	11	307				
	15	339				
	18.5	363				
	22	383				
06B	5.5	266	3,670	3,670	4,892	
	7.5	294				
	11	333				
	15	368				
	18.5	395				
	22	418				
07A	5.5	301	4,170	4,170	5,292	CKD
	7.5	333				
	11	377				
	15	417				
	18.5	446				
	22	473				
07B	5.5	326	4,170	4,170	5,292	
	7.5	361				
	11	410				
	15	454				
	18.5	486				
	22	514				
08A	7.5	383	4,670	4,670	5,480	CKD
	11	434				
	15	481				
	18.5	515				
	22	545				
	30	603				
08B	7.5	414	4,670	4,670	5,480	
	11	470				
	15	520				
	18.5	556				
	22	589				
	30	652				
09A	11	527	5,072	5,072	5,480	
	15	584				
	18.5	625				
	22	662				
	30	734				
	09B	11				561
15		621				
18.5		665				
22		703				
30		779				

**Notes:**

- Nominal cooling capacity represents 35°C EWT, 29.4°C LWT with 25.6°C WBT and 0.681m<sup>3</sup>/h per ton.
- Satisfactory performance is based on precise selection, proper system design and installation in a clean and well-ventilated location.
- CNT: Containerized, TRL: Trailer, CKD: Knocked-down model.

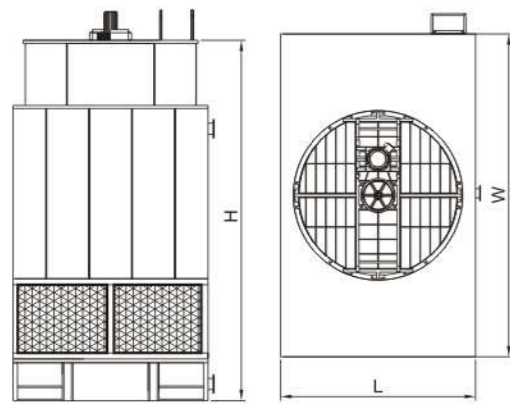
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Model	Nominal Tons	Motor kw	L mm	W mm	H mm	Remark
10A	11	590	5,572	5,572	5,480	CKD
	15	653				
	18.5	700				
	22	741				
	30	820				
	37	879				
10B	11	646	5,572	5,572	5,480	
	15	715				
	18.5	766				
	22	812				
	30	900				
	37	964				
11A	15	746	6,072	6,072	5,480	
	18.5	798				
	22	845				
	30	936				
	37	1,004				
	45	1,071				
11B	15	794	6,072	6,072	5,480	
	18.5	851				
	22	901				
	30	998				
	37	1,070				
	45	1,143				
12B	2.2	123	2,520	2,868	4,627	TRL
	3	137				
	4	150				
	5.5	166				
	7.5	183				
	11	208				
13B	15	230	2,520	3,600	4,627	
	18.5	247				
	3	150				
	4	160				
	5.5	181				
	7.5	200				
14B	11	228	2,868	3,600	4,652	
	15	252				
	18.5	269				
	22	283				
	4	205				
	5.5	228				
7.5	251					
11	285					
15	316					
18.5	338					
22	357					

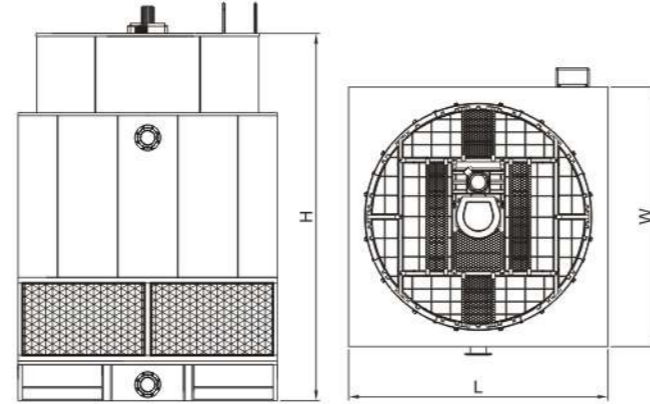
**Notes:**

- Nominal cooling capacity represents 35°C EWT, 29.4°C LWT with 25.6°C WBT and 0.681m<sup>3</sup>/h per ton.
- Satisfactory performance is based on precise selection, proper system design and installation in a clean and well-ventilated location.
- CNT: Containerized, TRL: Trailer, CKD: Knocked-down model.

## Product Technical Data



MCC-LT-01 ~ 02, 04 ~ 06

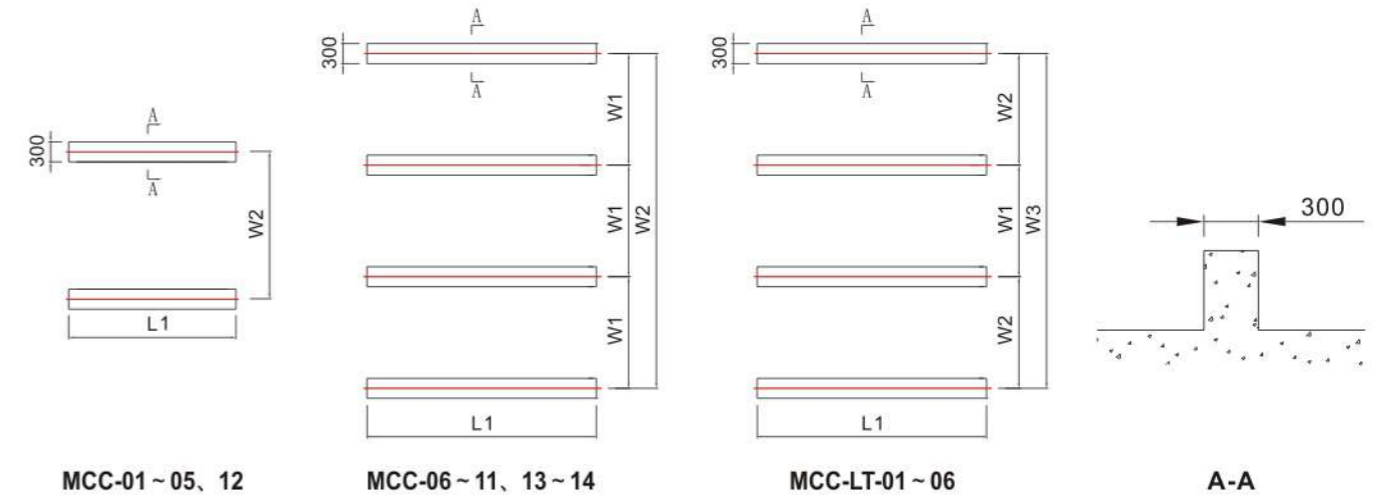


MCC-LT-03

Model	Nominal Tons	Motor kw	L mm	W mm	H mm	Remark	
LT-01	3	175	2,575	4,260	4,755	TRL	
	4	192					4
	5.5	214					5.5
	7.5	236					7.5
	11	269					11
	15	298					15
LT-02	3	222	2,990	5,485	4,855	TRL	
	4	244					4
	5.5	270					5.5
	7.5	299					7.5
	11	341					11
	15	379					15
	18.5	405					18.5
	22	430					22
LT-03	5.5	233	3,600	3,600	5,095	TRL	
	7.5	258					7.5
	11	294					11
	15	326					15
	18.5	349					18.5
	22	370					22
	30	411					30

Model	Nominal Tons	Motor kw	L mm	W mm	H mm	Remark					
LT-04	7.5	298	3,605	4,260	5,195	TRL					
	11	338					11				
	15	374					15				
	18.5	402					18.5				
	22	426					22				
	30	473					30				
	LT-05	11					408	3,605	5,485	5,730	TRL
15		454	15								
18.5		486	18.5								
22		515	22								
30		571	30								
37		612	37								
LT-06		11	440	3,605	6,095	5,730	TRL				
		15	487								
	18.5	523	18.5								
	22	553	22								
	30	615	30								
	45	703	45								

## Foundation



MCC-01 ~ 05, 12

MCC-06 ~ 11, 13 ~ 14

MCC-LT-01 ~ 06

A-A

Model	Foundation Dimensions				Pipe Connections				
	L1	W1	W2	W3	Inlet	Outlet	Overflow	Drain	M-U
MCC	mm	mm	mm	mm	DN	DN	DN	DN	DN
01	2,505	—	2,205	—	125	125	50	40	25
02	2,505	—	2,705	—	150	150	50	40	25
03	4,310	—	2,205	—	200	200	80	40	25
04	2,760	—	2,460	—	125	125	50	40	25
05	3,105	—	2,805	—	150	150	50	40	25
06	3,900	1,200	3,600	—	200	200	80	40	25
07	4,410	1,370	4,110	—	250	250	80	50	40
08	4,905	1,535	4,605	—	250	250	80	50	40
09	5,300	1,670	5,010	—	250	250	80	50	40
10	5,800	1,835	5,505	—	300	300	100	100	50
11	6,300	2,000	6,000	—	350	350	100	100	50
12	2,760	—	2,805	—	150	150	50	40	25
13	2,760	1,180	3,540	—	150	150	50	40	25
14	3,105	1,180	3,540	—	200	200	80	40	25
LT-01	2,810	1,405	1,395	4,495	150	150	50	40	25
LT-02	3,225	1,810	1,805	5,720	200	200	80	40	25
LT-03	3,835	1,185	1,175	3,835	200	200	80	40	25
LT-04	3,840	1,405	1,395	4,495	200	200	80	40	25
LT-05	3,840	1,810	1,805	5,720	250	250	80	50	40
LT-06	3,840	2,010	2,010	6,330	250	250	80	50	40

### Notes:

Secure the base of the cooling tower with the anchor bolts. Buyer is responsible for the tower support and for the positioning and diameter of the anchoring bolts to comply with local building codes.

### Notes:

- Nominal cooling capacity represents 35°C EWT, 29.4°C LWT with 25.6°C WBT and 0.681m<sup>3</sup>/h per ton.
- Satisfactory performance is based on precise selection, proper system design and installation in a clean and well-ventilated location.
- CNT: Containerized, TRL: Trailer, CKD: Knocked-down model.

### Optional Accessories

#### HDGS Construction

For those jobs requiring non-combustible tower casings, we offer a low cost hot-dipped galvanized option, using G235 steel, the highest grade available.

#### Stainless-steel Construction

When the ultimate corrosion resistance and non combustibility is required, we offer either SS304 or SS316 construction; also any combination of the two is available.

#### Motors

Single-speed, TEAO enclosure, but as optional we can also supply NEMA-Premium, VFD-compatible or 2-speed motors.

#### Super Low Noise Fan

Standard fans are low-noise aluminum airfoil blades, but also available are the "Silent-Choice" super low-noise type with over 15dBA reduction in noise levels.

#### Gear Reducers

Our standard is belt-driven speed reducers, but as an option we also offer 90° and 180° gear reducers.

#### Discharge Sound Attenuators

Designed for low air pressure drop, our discharge sound attenuators offer a cost-conscious way to mitigate noise from the tower fan.

### Other Optional Accessories



MESAN guarantees the thermal performance of its CTI certified products. All CTI models are fully compliant with ASHRAE 90.1. Cooling Technology Institute (CTI) is dedicated to promoting truthful rating of cooling tower capacity, provides a third party independent verification and periodic monitoring of the products thermal efficiency. Having CTI certified products eliminates the need for costly onsite field test and ensures the system performance will meet the design objectives, for the benefit of the building owners, operators and public.

#### MXR-KM



#### MXL



#### MXC



#### MCC



<b>Motor</b>	High Efficiency Motor	<b>Others</b>	Basin Heater
	Two Speed Motor		Discharge Sound Attenuator
	VFD Motor		OSHA Fan Guard
<b>Fan</b>	FRP Fan		OSHA-compliant Ladder Safety Cage and Handrail
	Low Noise Fan		Removable Strainer
<b>Reducer</b>	180° Gear Box		Service Platform to Fully Cover the Cold Water Basin
	90° Gear Box		SS/HDGS Louver
<b>Infill</b>	ASTM PVC Infill		Variable and Constant Speed Control Panels
	High Temperature PP Infill		Vibration Cut-off Switch

