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## MXL Series

### Cross Flow Induced Draft



# MXL Series

Cross Flow, Induced Draft



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.



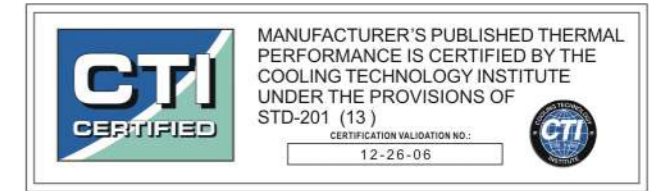
MESAN USA strategically located at the center of the Americas continent, in Miami, Florida, USA, consolidates MESAN Group's global presence and reiterates its commitment to provide world-class products for an ever-expanding market.

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.

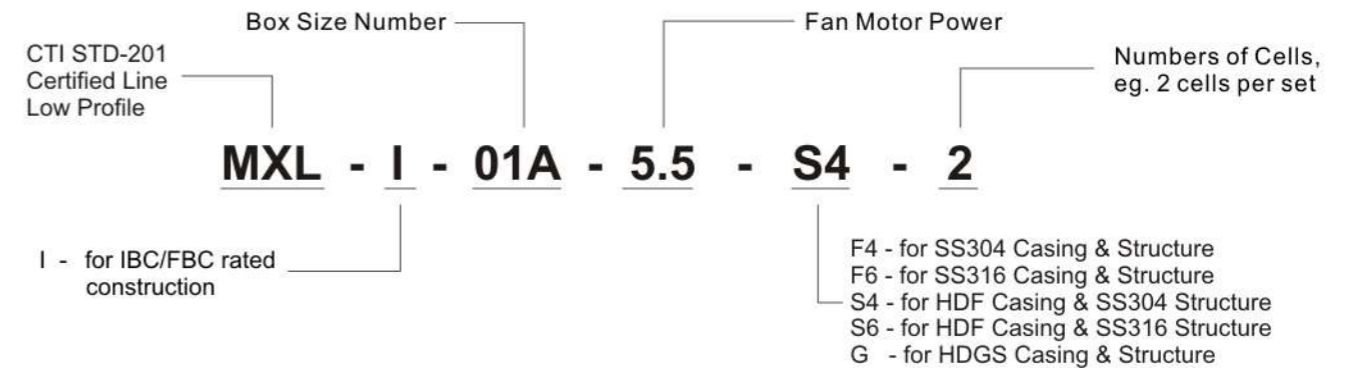
## Overview

The new redesigned MXL series is the most versatile one in our product line up. It now includes many different configurations to fit multiple and varied applications like low profile units, containerized towers, modular units, energy saving models, space saving towers, which gives the customer the opportunity to choose the tower that better adapts to their particular project, and all with the high quality and reliability of all MESAN products.



The MXL series is available in 19 boxes with 139 models with capacities ranging from 142 tons to 1,107 tons.

## Model Designation



## Advantages

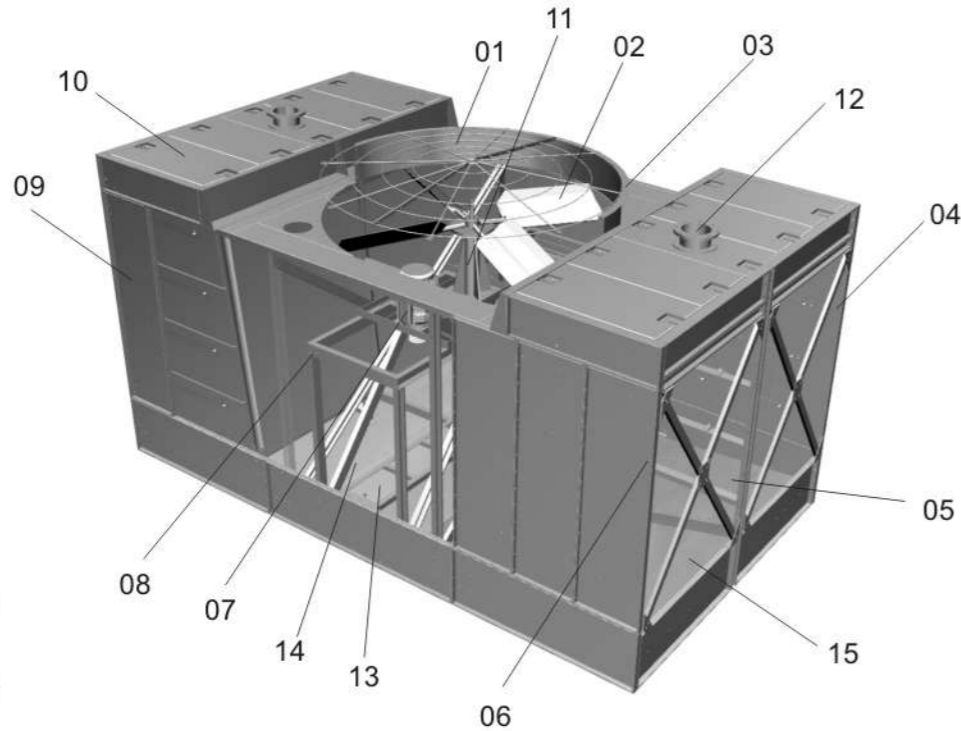
- Application versatility, there always is a configuration to meet any application
- Flexibility, the MXL series easily adapts to the changing demands of the different global markets
- Code compliance, the MXL series meets and exceeds many standards and codes like ASHRAE-90.1 2013 (in some models), IBC (International Building Code), FBC (Florida Building Code) (for MXL-I models), etc
- Performance guarantee, all models in the MXL series are CTI-certified as per STD-201
- Reliability, industrial-grade construction and unique design features, not only differentiates us from our competitors but ensures the longest service life
- Broadest materials offering, the MXL series can be manufactured in our proprietary HDF (High Density Fiberglass), HDGS (Hot-Dipped Galvanized Steel, or SS-304 and SS-316 (two grades of stainless steel). We can also combine any of these materials.



Trust MESAN with your evaporative cooling needs.

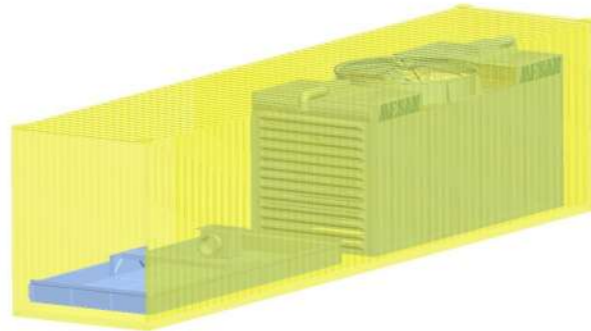
## Tower Structure

- 01 Fan Guard
- 02 Fan
- 03 Fan stack
- 04 Framework
- 05 Basin
- 06 Casing
- 07 Motor
- 08 Motor Support
- 09 Infill
- 10 Hot Water Basin
- 11 V-Belt Reducer
- 12 Water Inlet
- 13 Internal Walkway
- 14 Access Door
- 15 Cold Water Basin



## Factory Assembled

Model 01, up to water flow 182m<sup>3</sup>/h can be containerized. Units 4,000 mm and higher can be pre-assembled in two halves (upper and lower) and shipped as factory pre-assembled on trailers. For contractors, to be able to take delivery of fully assembled units means reduced installation labor and costs with unsurpassed turn around times. It also ensures the best quality and sealing between wet surfaces.



## Mechanical Components

### Motor

TEAO type, IP55 enclosure, class F insulation, high efficiency, and specially designed to operate within the high-humidity environment of a cooling tower.

### Fan

High efficiency, axial, aluminum alloy fans, with innovative low drag, aerodynamic airfoil blade design, adjustable pitch blades and low-noise.



## Speed Reducer

Fans are driven by low-speed V-belt reducers. Our reducers have very sturdy design with large diameter high tensile strength steel shafts; NSK permanently lubricated sealed bearings, isolated from the airstream within a sealed enclosure. Our V-belts designed to withstand the rigors of the humid environment, and ensure long and reliable operation.

## Casing and Structure Elements

### Casing and Structure

The MXL 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. HDF allows for self-supporting fiberglass casings with almost no steel structure. Smooth inner surfaces on wet parts reduces bacteria growth and facilitates maintenance. This material provides the ultimate corrosion resistance.



HDGS (Hot Dipped Galvanized Steel), this is a cost effective alternative to casing construction, with good structural strength and adequate corrosion resistance. 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

### Hot Water Basins

Gravity water flow distribution, without nozzles, plus high efficiency diffuser baffles, ensure uniform coverage of the infill surface.

### Infill

High efficiency infill, maximizes the contact surface between water and air, allowing for higher evaporation rates and improved heat transfer, while offering the lowest resistance to air flow, for reduced air pressure drop and lowest energy consumption. Staggered infill sheets, are designed for easier replacement in smaller sections, as opposed to other brands' design in very large full height sheets that are very costly to replace. If a small section of MESAN's infill gets accidentally damaged, there is no need to replace the whole sheets, just the small damaged section.

Another feature of MESAN's infill is the built-in primary drift eliminators, that when coupled with the optional secondary drift eliminators provides the lowest possible drift losses.



### Product Technical Data

Model	Nominal Tons	Motor	L mm	W mm	H mm	Remark						
		kw										
01A	3	142	3	2,268	5,272	2,940	CNT					
	4	156	4									
	5.5	172	5.5									
	7.5	191	7.5									
	11	216	11									
01B	3	173	3	2,268	5,272	3,620		CNT				
	4	192	4									
	5.5	213	5.5									
	7.5	236	7.5									
	11	267	11									
02A	4	191	4	2,590	5,880	2,940	TRL					
	5.5	211	5.5									
	7.5	235	7.5									
	11	266	11									
	15	295	15									
	18.5	316	18.5									
	22	335	22									
02B	4	222	4	2,590	5,880	3,440		TRL				
	5.5	247	5.5									
	7.5	272	7.5									
	11	308	11									
	15	342	15									
02C	4	251	4	2,590	5,880	3,970			TRL			
	5.5	279	5.5									
	7.5	308	7.5									
	11	349	11									
	15	387	15									
	18.5	414	18.5									
03A	4	210	4	2,990	6,112	3,090	TRL					
	5.5	233	5.5									
	7.5	257	7.5									
	11	292	11									
	15	323	15									
	18.5	346	18.5									
	22	365	22									
	03B	4	247					4		2,990	6,112	3,590
		5.5	273					5.5				
		7.5	302					7.5				
		11	343					11				
15		380	15									
18.5		407	18.5									
22		432	22									
03C	4	285	4	2,990	6,112	4,120	TRL					
	5.5	316	5.5									
	7.5	349	7.5									
	11	396	11									
	15	439	15									
	18.5	468	18.5									
	22	496	22									
	30	549	30									

**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-ventilatd location.
- 3)CNT: Containerized, TRL: Trailer.

### Product Technical Data

Model	Nominal Tons	Motor	L mm	W mm	H mm	Remark						
		kw										
04A	7.5	295	7.5	3,600	6,890	3,190	TRL					
	11	336	11									
	15	371	15									
	18.5	398	18.5									
	22	420	22									
	30	465	30									
04B	7.5	351	7.5	3,600	6,890	3,690		TRL				
	11	398	11									
	15	440	15									
	18.5	471	18.5									
	22	499	22									
	30	552	30									
	37	592	37									
04C	7.5	399	7.5	3,600	6,890	4,220	TRL					
	11	452	11									
	15	501	15									
	18.5	536	18.5									
	22	567	22									
	30	627	30									
	37	672	37									
	45	716	45									
	04D	7.5	442					7.5	3,600	6,890	4,720	TRL
11		501	11									
15		555	15									
18.5		594	18.5									
22		628	22									
30		697	30									
37		747	37									
45		790	45									
04E		7.5	484	7.5	3,600	6,890	5,210	TRL				
		11	549	11								
	15	608	15									
	18.5	652	18.5									
	22	690	22									
	30	763	30									
	37	818	37									
04F	7.5	520	7.5	3,600	6,890	5,710	TRL					
	11	590	11									
	15	653	15									
	18.5	700	18.5									
	22	741	22									
	30	820	30									
	37	879	37									
	45	939	45									

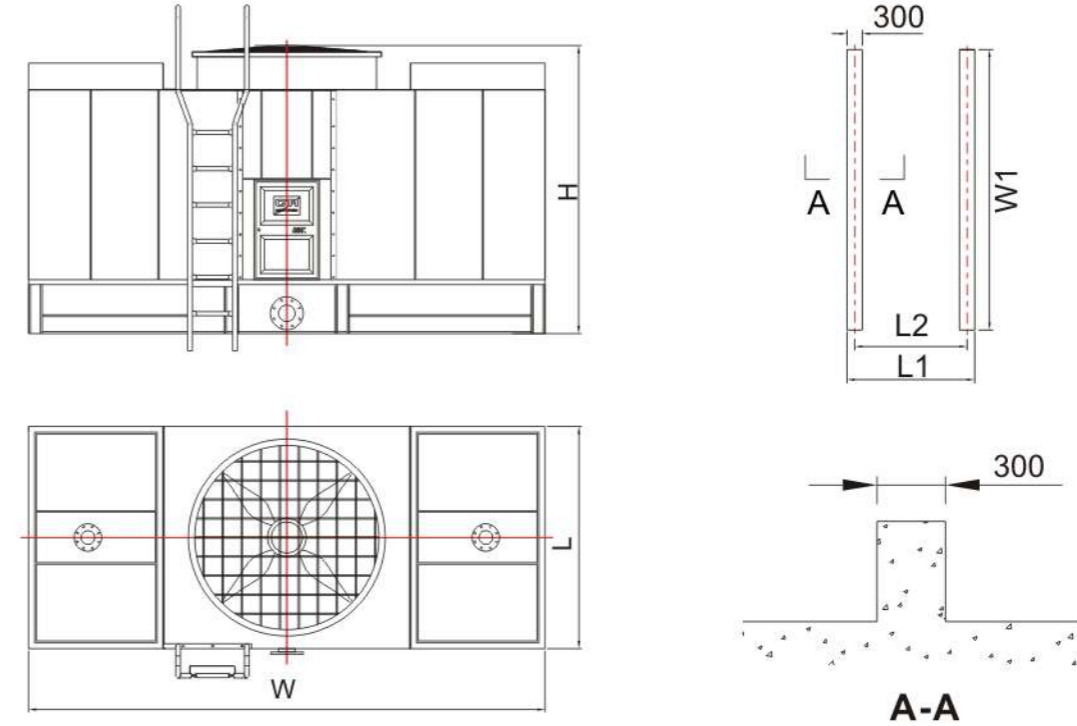
**Notes:**

- 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-ventilatd location.
- 3)CNT: Containerized, TRL: Trailer.

## Product Technical Data

Model	Nominal Tons	Motor kw	L mm	W mm	H mm	Remark
05A	11	436	4,260	7,273	3,690	
	15	483				
	18.5	517				
	22	547				
	30	606				
	37	650				
	45	693				
05B	11	498	4,260	7,273	4,220	CKD
	15	550				
	18.5	590				
	22	624				
	30	691				
	37	741				
	45	791				
05C	11	553	4,260	7,273	4,720	
	15	612				
	18.5	656				
	22	694				
	30	768				
	37	822				
	45	876				
05D	11	605	4,260	7,273	5,210	
	15	669				
	18.5	718				
	22	760				
	30	843				
	37	903				
	45	963				
05E	11	652	4,260	7,273	5,710	CKD
	15	721				
	18.5	772				
	22	818				
	30	906				
	37	970				
	45	1,036				
55	1,107					

## Foundation and Piping



Model	Foundation Dimensions			Pipe Connections				
	L1	L2	W1	Inlet	Outlet	Overflow	Drain	M-U
MXL	mm	mm	mm	DN	DN	DN	DN	DN
01A	2,505	2,205	5,500	125 x 2	150	50	40	25
01B	2,505	2,205	5,500	150 x 2	200	80	40	25
02	2,825	2,525	6,200	150 x 2	200	80	40	25
03	3,225	2,925	6,400	200 x 2	250	80	50	40
04A~04D	3,835	3,535	7,200	125 x 4	250	80	50	40
04E~04F	3,835	3,535	7,200	150 x 4	300	100	100	50
05A~05C	4,500	4,200	7,600	150 x 4	300	100	100	50
05D~05E	4,500	4,200	7,600	200 x 4	350	100	100	50

### 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.

### 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.

## 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.

To meet Florida Building Code's high-wind load ratings, we offer a special construction option called MXL-I rated for 150 psf. Only in metal construction though

### 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

<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



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

