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2015



MXR-KM Series

Cross Flow Induced Draft

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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.



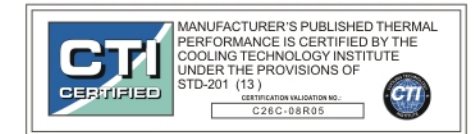
MESAN USA strategically located at the center of the Americas continent, in Miami, Florida, USA, consolidates MESAN Group's global presence and reiterates its commitment to provide world-class products for an ever-expanding market.

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.

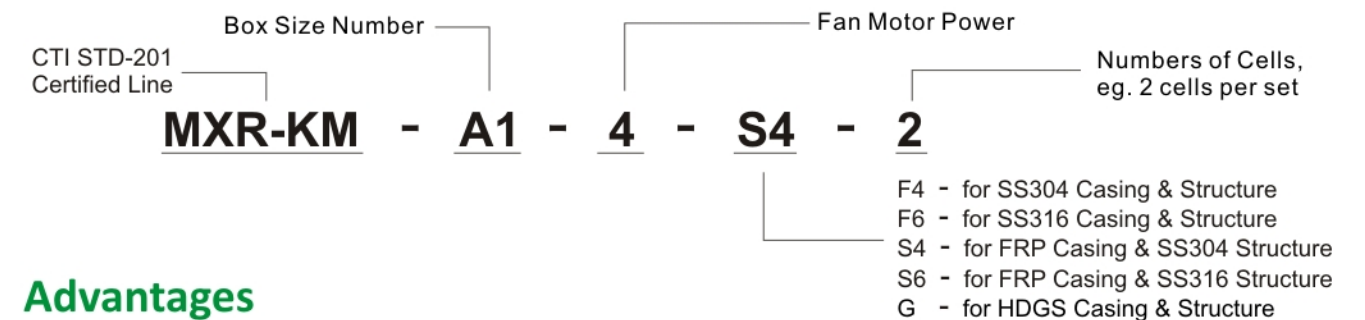
Overview

The MXR-KM Series comes to fill a need in the market for a cost-effective, energy-saving, high-efficiency, inducted-draft, cross-flow cooling tower for all outdoor application. All MXR-KM models are fully compliant with ASHRAE 90.1 and contribute to LEED® certification. Some MXR-KM towers can be precisely assembled in the factory and delivered by the trailer. It ensures the best quality and reduced the installation labor and cost.



The MXR-KM Series is available in 214 models with capacities ranging from 72 tons to 1,384 tons per cell.

Model Designation



Advantages

Long Service Life

The MXR-KM series' standard FRP construction, provides maximum corrosion resistance for long service life. MESAN towers use the highest quality gelcoat finish for smooth surfaces, which are easy to clean and prevent microbial growth. Also available with optional HDGS (G235 hot dipped galvanized steel) and SS-304 or SS-316 (Stainless Steel) for superior corrosion resistance.



Low Maintenance

Motors and drive components are located above the fan blades, with easy access from the top of the fan deck. Nozzle-free water distribution system. Sealed bearings rated for L10-80,000 hours ensure a trouble-free, almost maintenance free, drive assembly.

Low water consumption

Low fan speeds plus very efficient drift eliminators contribute to reduce the water consumption of the MXR-KM towers. Water consumption is one of the two important variables to earn LEED points.

Low Energy Consumption

Maximizing energy savings is at the core of every MESAN product. Low energy consumption is the most important variable to consider when pursuing LEED certification. The MXR-KM series have the lowest motor KW rating per ton of capacity in the market. All models are fully ASHRAE-90.1-2013 compliant, largely exceeding this standard's gpm/HP requirements.

Trust MESAN with
your evaporative cooling needs.

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 are designed to withstand the rigors of the humid environment, and ensure long and reliable operation.



Casing and Structural Elements

Casing

Hand-laid fiberglass with E-glass chopped strand mat, unsaturated polyester resin, and UV-resistant stabilized gel coat, combine to provide excellent corrosion resistance, structural integrity and long service life with minimum maintenance.

Also available as options: HDGS (G235 hot-dipped galvanized steel), SS-304 /316 Stainless Steel casing, and any combination of all these materials.

Hardware (nuts, bolts and washers) are also available standard in HDGS or SS-304 /316 as an option.

Structural Frame

The standard structure is made of heavy-gauge G235 hot-dipped galvanized steel and as an option in SS-304 /316 stainless steel.

Water Distribution System

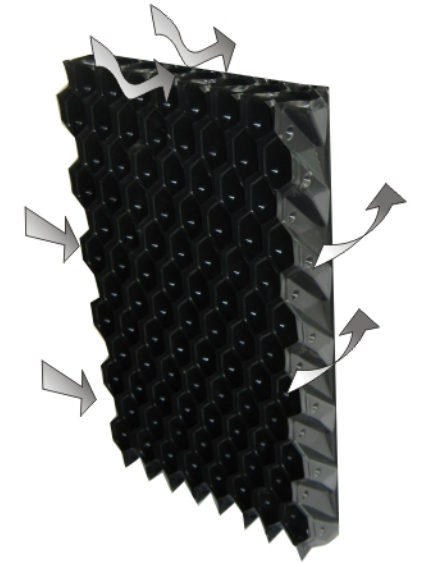
Hot Water Basins

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.



Other Features

Internal Walkway

OSHA-compliant internal walkway that runs all the way across the tower is provided for easy maintenance access.

Cold Water Basin

1. The cold water basin is deep enough to help increase the NPSH for the pumps, and reduce the risk of cavitation.
2. A suction strainer is also a standard feature.
3. Brass make-up water valves with polymer floats are standard.
4. Equalizer connections are available for multiple cell applications.
5. Self-balancing single inlet piping is available on smaller towers (up to Size E). This reduces installation time and costs (materials and labor).

Factory Assembled

Sizes A1 to G1 can be precisely assembled at factory and shipped to the job-site reduced installation time and costs. (available in some markets only)



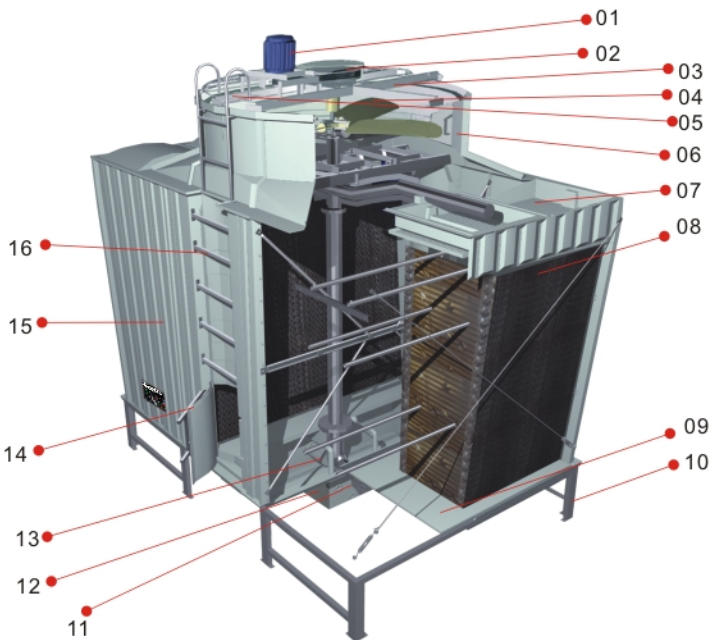
MXR-KM Series

Cross Flow Induced Draft

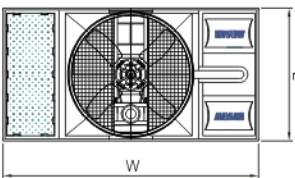
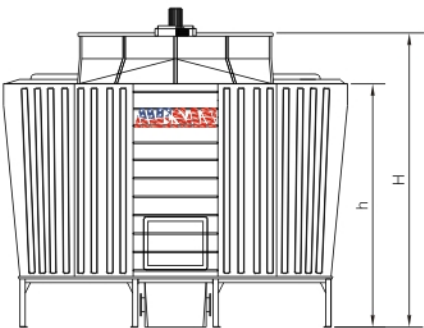


Model: A ~ E Cooling Capacity: 72 ~ 424 Tons

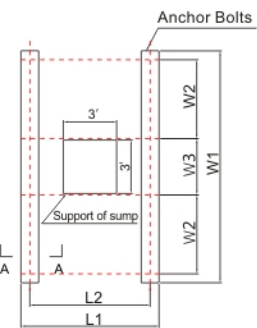
01. Motor
02. V-Belt Reducer
03. Motor Support
04. Fan
05. Fan Guard
06. Fan Stack
07. Hot Water Basin
08. Infill
09. Cold Water Basin
10. Lower Frame
11. Water Inlet
12. Suction Tank
13. Water Outlet
14. Access Door
15. Casing
16. Ladder



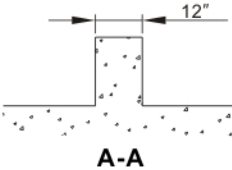
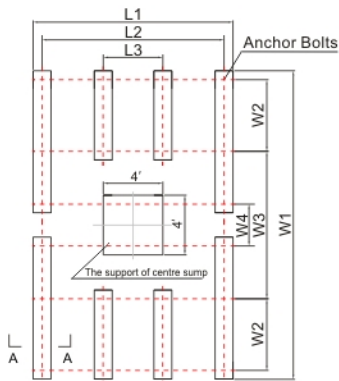
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Model A ~ D



Model E



Model	Foundation Dimensions							Pipe Connections				
MXR-KM	L1	L2	L3	W1	W2	W3	W4	Inlet	Outlet	Overflow	Drain	M-U
A	7'- 7 3/4"	6'- 8"	—	12'- 10"	4'- 4 1/4"	3'- 1 1/2"	—	6"	6"	2"	1 1/2"	3/4"
B	8'- 2 1/2"	7'- 2 1/2"	—	13'- 2 1/4"	4'- 6 1/2"	3'- 1 1/2"	—	6"	6"	2"	1 1/2"	1"
C	9'- 3 1/2"	8'- 3 1/2"	—	14'- 1"	4'- 9 3/4"	3'- 5 1/4"	—	8"	8"	2"	1 1/2"	1"
D	10'- 6"	9'- 6 1/4"	—	14'- 9 1/2"	5'- 2 1/4"	3'- 5 1/4"	—	8"	8"	3"	2"	1"
E	11'	10'	3'- 3 1/4"	16'- 11 1/2"	3'- 11 1/4"	8'- 1 1/4"	2'- 3 1/2"	10"	10"	3"	2"	1 1/2"

Product Technical Data

Model	Nominal	Motor	Tower Dimensions			
			L	W	H	h
A1-1.1	72	1 1/2	6'- 11"	12'- 11 1/2"	11'- 4 1/2"	9'- 4 1/4"
A1-1.5	79	2				
A1-2.2	90	3				
A1-3	100	5				
A1-4	109	5	6'- 11"	12'- 11 1/2"	11'- 4 1/2"	9'- 4 1/4"
A2-1.1	75	1 1/2				
A2-1.5	83	2				
A2-2.2	95	3				
A2-3	106	5	6'- 11"	13'- 3"	13'- 3/4"	11'- 1/4"
A2-4	117	5				
A2-5.5	129	7 1/2				
A3-2.2	104	3				
A3-3	115	5	6'- 11"	13'- 3"	13'- 3/4"	11'- 1/4"
A3-4	127	5				
A3-5.5	142	7 1/2				
A4-2.2	109	3	6'- 11"	13'- 3"	13'- 3/4"	11'- 1/4"
A4-3	123	5				
A4-4	134	5				
A4-5.5	149	7 1/2				
A5-2.2	114	3	6'- 11"	13'- 3"	14'- 8 3/4"	12'- 8 1/4"
A5-3	127	5				
A5-4	141	5				
A5-5.5	155	7 1/2				
A5-7.5	175	10	6'- 11"	13'- 3"	14'- 8 3/4"	12'- 8 1/4"
A6-2.2	119	3				
A6-3	132	5				
A6-4	146	5				
A6-5.5	163	7 1/2	7'- 5 1/4"	13'- 7"	12'- 7 3/4"	10'- 6 1/2"
A6-7.5	182	10				
B1-2.2	113	3				
B1-3	126	5	7'- 5 1/4"	13'- 7"	12'- 7 3/4"	10'- 6 1/2"
B1-4	140	5				
B1-5.5	157	7 1/2				
B2-2.2	118	3	7'- 5 1/4"	13'- 7"	12'- 7 3/4"	10'- 6 1/2"
B2-3	131	5				
B2-4	144	5				
B2-5.5	160	7 1/2				
B2-7.5	178	10	7'- 5 1/4"	13'- 11"	14'- 3 1/2"	12'- 2"
B2-11	203	15				
B3-3	140	5				
B3-4	154	5	7'- 5 1/4"	13'- 11"	14'- 3 1/2"	12'- 2"
B3-5.5	171	7 1/2				
B3-7.5	192	10				
B4-3	144	5				
B4-4	160	5	7'- 5 1/4"	13'- 11"	14'- 3 1/2"	12'- 2"
B4-5.5	178	7 1/2				
B4-7.5	197	10				
B5-3	143	5	7'- 5 1/4"	13'- 11"	14'- 10 1/2"	12'- 9 1/4"
B5-4	159	5				
B5-5.5	178	7 1/2				
B5-7.5	198	10				
B6-3	149	5	7'- 5 1/4"	13'- 11"	14'- 10 1/2"	12'- 9 1/4"
B6-4	165	5				
B6-5.5	185	7 1/2				
B6-7.5	205	10				

Notes:

- 1) Nominal tons flow rate is for 3gpm of water cooled from 95°F to 85°F at a 78°F entering wet-bulb temple.
- 2) Satisfactory performance is based on precise selection, proper system design and installation in a clean and well-ventilated location.

Model	Nominal	Motor	Tower Dimensions			
			L	W	H	h
C1-3	153	5	8'- 6 1/4"	14'- 7 1/4"	14'- 1/4"	11'- 4 1/4"
C1-4	169	5				
C1-5.5	188	7 1/2				
C1-7.5	206	10				
C2-3	158	5	8'- 6 1/4"	14'- 7 1/4"	14'- 1/4"	11'- 4 1/4"
C2-4	175	5				
C2-5.5	195	7 1/2				
C2-7.5	216	10				
C3-4	188	5	8'- 6 1/4"	14'- 10 3/4"	15'- 8 1/2"	13'- 1/4"
C3-5.5	210	7 1/2				
C3-7.5	234	10				
C3-11	267	15				
C4-4	194	5	8'- 6 1/4"	14'- 10 3/4"	15'- 8 1/2"	13'- 1/4"
C4-5.5	217	7 1/2				
C4-7.5	242	10				
C4-11	276	15				
C5-4	198	5	8'- 6 1/4"	14'- 10 3/4"	16'- 9 1/2"	14'- 1 1/4"
C5-5.5	221	7 1/2				
C5-7.5	246	10				
C5-11	282	15				
C5-15	313	20	8'- 6 1/4"	14'- 10 3/4"	16'- 9 1/2"	14'- 1 1/4"
C6-4	204	5				
C6-5.5	228	7 1/2				
C6-7.5	255	10				
C6-11	290	15	9'- 8 1/4"	15'- 6 1/2"	15'- 7 1/4"	13'- 1/4"
C6-15	323	20				
D1-4	211	5				
D1-5.5	237	7 1/2	9'- 8 1/4"	15'- 6 1/2"	15'- 7 1/4"	13'- 1/4"
D1-7.5	263	10				
D1-11	301	15				
D2-4	219	5	9'- 8 1/4"	15'- 6 1/2"	15'- 7 1/4"	13'- 1/4"
D2-5.5	245	7 1/2				
D2-7.5	273	10				
D2-11	311	15				
D3-4	223	5	9'- 8 1/4"	15'- 6 1/2"	16'- 8 1/4"	14'- 1 1/4"
D3-5.5	250	7 1/2				
D3-7.5	279	10				
D3-11	318	15				
D3-15	355	20	9'- 8 1/4"	15'- 6 1/2"	16'- 8 1/4"	14'- 1 1/4"
D4-4	231	5				
D4-5.5	259	7 1/2				
D4-7.5	288	10				
D4-11	328	15	10'- 2 3/4"	17'- 9 3/4"	16'- 4 1/4"	13'- 7 1/4"
D4-15	365	20				
E1-5.5	274	7 1/2				
E1-7.5	306	10	10'- 2 3/4"	17'- 9 3/4"	18'- 1"	15'- 3 1/2"
E1-11	348	15				
E1-15	387	20				
E2-5.5	301	7 1/2	10'- 2 3/4"	17'- 9 3/4"	18'- 1"	15'- 3 1/2"
E2-7.5	333	10				
E2-11	381	15				
E2-15	424	20				
E3-5.5	294	7 1/2	10'- 2 3/4"	17'- 9 3/4"	18'- 1"	15'- 3 1/2"
E3-7.5	328	10				
E3-11	375	15				
E3-15	418	20				

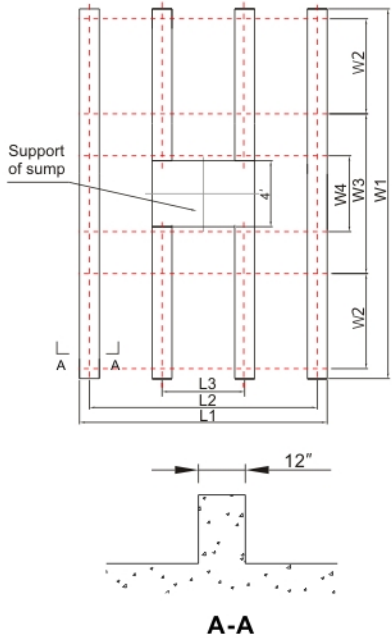
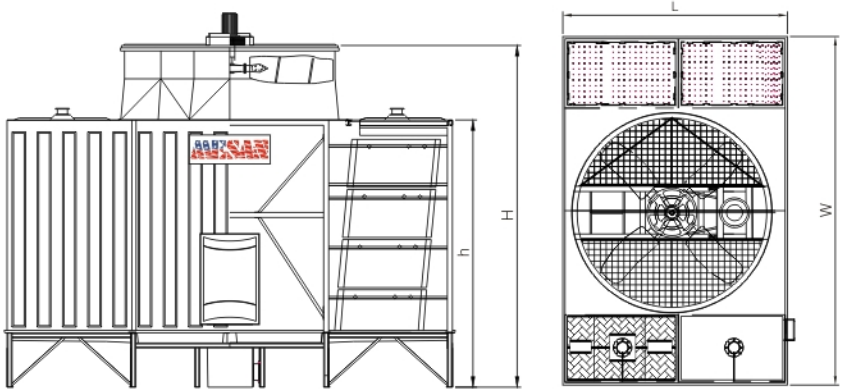
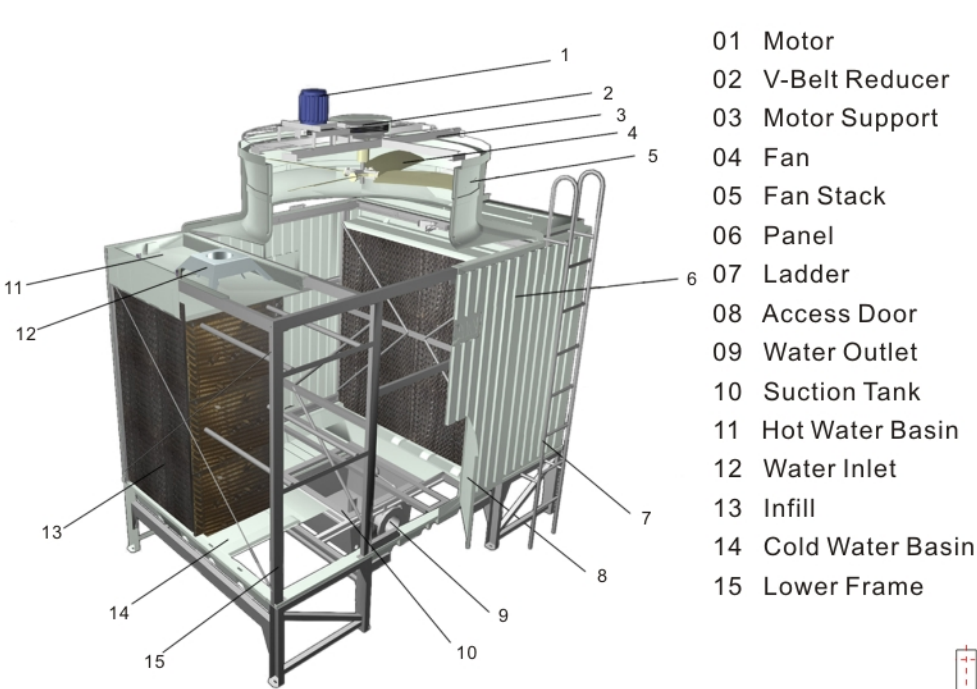
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MXR-KM Series

Cross Flow Induced Draft



Model: F ~ K Cooling Capacity: 293 ~ 1384 Tons



Model	Foundation Dimensions							Pipe Connections				
	L1	L2	L3	W1	W2	W3	W4	Inlet	Outlet	Overflow	Drain	M-U
F	12'- 3 3/4"	11'- 3 3/4"	4'- 1 1/4"	18'- 4 1/2"	4'- 8 3/4"	7'- 11 1/4"	3'- 9 1/4"	8" x 2	10"	3"	2"	1 1/2"
G	13'- 11 1/4"	12'- 11 1/2"	4'- 9"	20'- 11 1/4"	5'- 7"	8'- 9 1/2"	3'- 9 1/4"	6" x 4	10"	3"	2"	1 1/2"
H	15'- 3"	14'- 3 1/4"	4'- 9"	22'- 2 1/4"	5'- 7"	10'- 1/2"	3'- 9 1/4"	6" x 4	12"	4"	4"	2"
I	17'- 6 3/4"	16'- 6 3/4"	5'- 5 3/4"	24'- 6 1/2"	5'- 7"	12'- 4 3/4"	3'- 9 1/4"	6" x 4	12"	4"	4"	2"
J	18'- 10 1/2"	17'- 10 1/2"	5'- 10 3/4"	25'- 6 1/4"	5'- 7"	13'- 4 3/4"	3'- 9 1/4"	8" x 4	14"	4"	4"	2"
K	20'- 8"	19'- 8 1/4"	4'- 9"	27'- 2"	5'- 7"	15'- 1/4"	3'- 9 1/4"	8" x 4	14"	4"	4"	2"

Product Technical Data

Model	Nominal Tons	Motor HP	Tower Dimensions			
			L	W	H	h
F1-5.5	293	7 1/2	11'- 7"	17'- 11 3/4"	16'- 4 1/2"	12'- 9 1/2"
F1-7.5	327	10				
F1-11	373	15				
F1-15	415	20				
F2-5.5	318	7 1/2	11'- 7"	17'- 11 3/4"	18'- 1/4"	14'- 5 1/4"
F2-7.5	356	10				
F2-11	405	15				
F2-15	453	20				
F2-18.5	487	25				
F2-22	516	30				
F3-5.5	325	7 1/2	11'- 7"	17'- 11 3/4"	18'- 7"	15'
F3-7.5	364	10				
F3-11	415	15				
F3-15	464	20				
F3-18.5	499	25				
F3-22	529	30				
G1-11	454	15	13'- 2 3/4"	20'- 6 1/2"	17'- 1"	13'- 5 3/4"
G1-15	504	20				
G1-18.5	540	25				
G1-22	572	30				
G1-30	634	30				
G1-37	680	30				
G2-11	477	15	13'- 2 3/4"	20'- 6 1/2"	18'- 2"	14'- 7 1/4"
G2-15	533	20				
G2-18.5	573	25				
G2-22	608	30				
G2-30	676	40				
G3-11	489	15	13'- 2 3/4"	20'- 6 1/2"	18'- 9"	15'- 2"
G3-15	546	20				
G3-18.5	588	25				
G3-22	624	30				
G3-30	694	40				
H1-11	488	15	14'- 6 1/2"	21'- 9 1/2"	17'- 3"	13'- 5 3/4"
H1-15	549	20				
H1-18.5	590	25				
H1-22	626	30				
H1-30	697	40				
H2-11	533	15	14'- 6 1/2"	21'- 9 1/2"	18'- 11"	15'- 2"
H2-15	595	20				
H2-18.5	640	25				
H2-22	680	30				
H2-30	756	40				
H3-11	555	15	14'- 6 1/2"	21'- 9 1/2"	20'- 1/4"	16'- 3"
H3-15	619	20				
H3-18.5	668	25				
H3-22	709	30				
H3-30	789	40				
H3-37	849	50				
H4-18.5	696	25	14'-6 1/2"	21'-9 1/2"	22'-3 3/4"	18'-6 3/4"
H4-22	738	30				
H4-30	823	40				
H4-37	886	50				
H4-45	949	60				
H4-55	1,017	75				
H4-75	1,135	100				

Notes:

- 1) Nominal tons flow rate is for 3gpm of water cooled from 95°F to 85°F at a 78°F entering wet-bulb temple.
- 2) Satisfactory performance is based on precise selection, proper system design and installation in a clean and well-ventilated location.

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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

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



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

