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MXR-KM Series

Cross Flow Induced Draft

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MXR-KM 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.

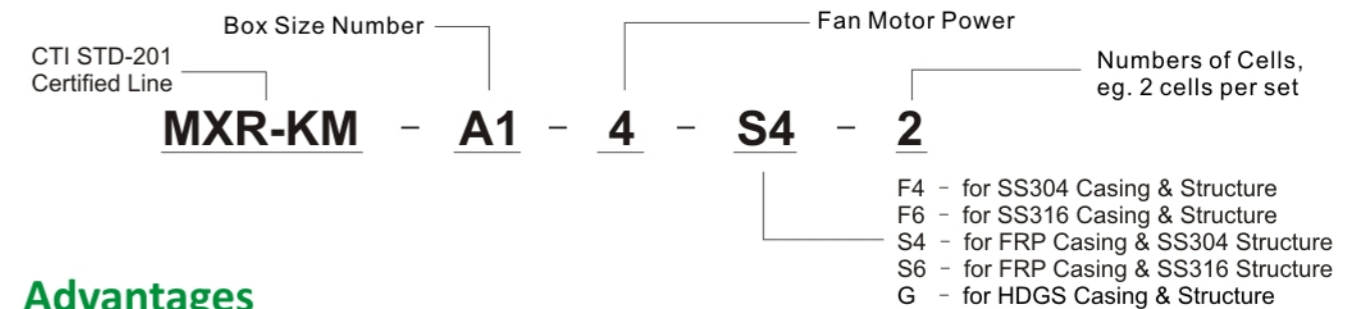
Overview

The 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 which earns up to 2 LEED® points towards green building certification. Some MXR-KM towers can be precisely assembled in the factory and delivered by trailer. It ensures the best quality and reduced installation labor and cost.



The MXR-KM Series is available in 214 models with capacities ranging from 59m³/h to 1,140 m³/h 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 m³/h/kw 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 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.

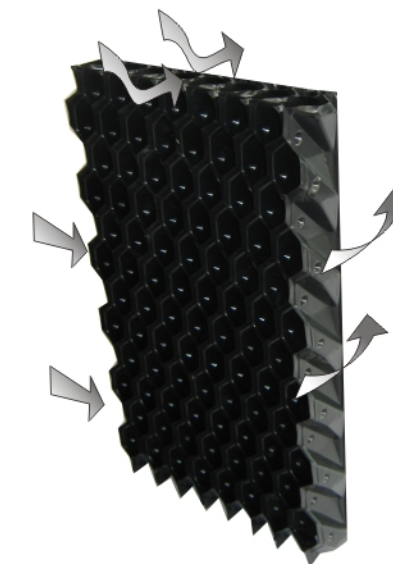
Structural Frame

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).

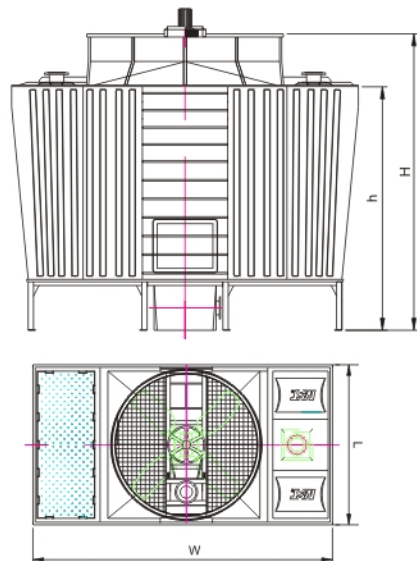
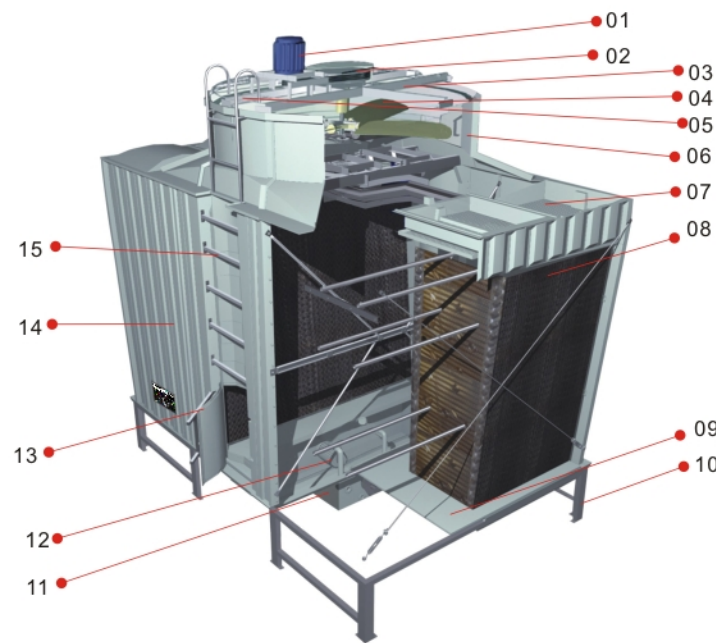
Factory Assembled

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

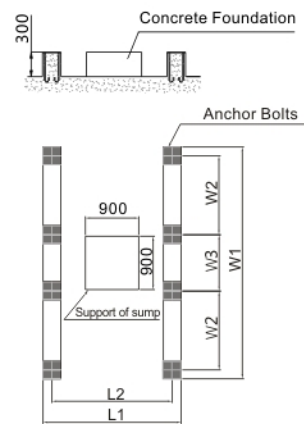


Model: A ~ E Cooling Capacity: 59~344m³/h

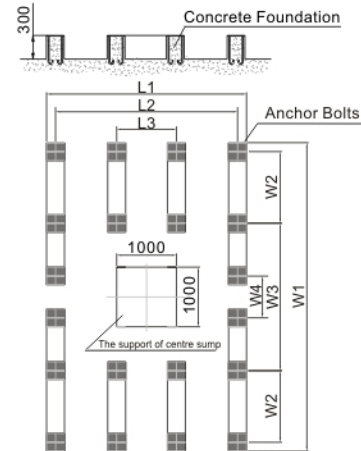
01. Motor
02. V-Belt Reducer
03. Motor Support
04. Fan
05. Fan Guard
06. Fan Stack
07. Hot Water Basin
08. Infill
09. Cold Water Basin
10. Lower Frame
11. Suction Tank
12. Water Outlet
13. Access Door
14. Casing
15. Ladder



Model A ~ D



Model E



Model	Foundation Dimensions							Pipe Connections				
	L1	L2	L3	W1	W2	W3	W4	Inlet	Outlet	Overflow	Drain	M-U
MXR-KM	mm	mm	mm	mm	mm	mm	mm	DN	DN	DN	DN	DN
A	2,330	2,030	—	3,910	1,330	950	—	100x2	125	50	40	20
B	2,500	2,200	—	4,020	1,385	950	—	125x2	150	50	40	25
C	2,830	2,530	—	4,290	1,470	1,050	—	150x2	200	50	40	25
D	3,200	2,900	—	4,510	1,580	1,050	—	150x2	200	80	50	25
E	3,350	3,050	1,000	5,170	1,200	2,470	700	200x2	250	80	50	40

Product Technical Data

Model	Nominal Water Flow Rate	Motor	Tower Dimensions			
			L	W	H	h
MXR-KM	m ³ /h	kw	mm	mm	mm	mm
A1-1.1	59	1.1	2,110	3,950	3,470	2,850
A1-1.5	65	1.5				
A1-2.2	74	2.2				
A1-3	82	3				
A1-4	90	4	2,110	3,950	3,470	2,850
A2-1.1	62	1.1				
A2-1.5	68	1.5				
A2-2.2	78	2.2				
A2-3	87	3				
A2-4	96	4	2,110	4,040	3,980	3,360
A3-2.2	86	2.2				
A3-3	95	3				
A3-4	105	4	2,110	4,040	3,980	3,360
A3-5.5	117	5.5				
A4-2.2	90	2.2				
A4-3	101	3	2,110	4,040	3,980	3,360
A4-4	110	4				
A4-5.5	123	5.5				
A5-2.2	94	2.2	2,110	4,040	4,490	3,870
A5-3	105	3				
A5-4	116	4				
A5-5.5	128	5.5				
A5-7.5	144	7.5	2,110	4,040	4,490	3,870
A6-2.2	98	2.2				
A6-3	109	3				
A6-4	120	4				
A6-5.5	134	5.5				
A6-7.5	150	7.5				
B1-2.2	93	2.2	2,270	4,140	3,855	3,210
B1-3	104	3				
B1-4	115	4				
B1-5.5	129	5.5				
B2-2.2	97	2.2	2,270	4,140	3,855	3,210
B2-3	108	3				
B2-4	119	4				
B2-5.5	132	5.5				
B2-7.5	147	7.5				
B2-11	167	11				
B3-3	115	3	2,270	4,240	4,355	3,710
B3-4	127	4				
B3-5.5	141	5.5				
B3-7.5	158	7.5				
B4-3	119	3	2,270	4,240	4,355	3,710
B4-4	132	4				
B4-5.5	147	5.5				
B4-7.5	162	7.5				
B5-3	118	3	2,270	4,240	4,535	3,890
B5-4	131	4				
B5-5.5	147	5.5				
B5-7.5	163	7.5				
B6-3	123	3	2,270	4,240	4,535	3,890
B6-4	136	4				
B6-5.5	152	5.5				
B6-7.5	169	7.5				

Model	Nominal Water Flow Rate	Motor	Tower Dimensions							
			L	W	H	h				
MXR-KM	m ³ /h	kw	mm	mm	mm	mm				
C1-3	126	3	2,600	4,450	4,275	3,460				
C1-4	139	4								
C1-5.5	155	5.5								
C1-7.5	170	7.5								
C2-3	130	3	2,600	4,450	4,275	3,460				
C2-4	144	4								
C2-5.5	161	5.5								
C2-7.5	178	7.5								
C3-4	155	4	2,600	4,540	4,785	3,970				
C3-5.5	173	5.5								
C3-7.5	193	7.5								
C3-11	220	11								
C4-4	160	4	2,600	4,540	4,785	3,970				
C4-5.5	179	5.5								
C4-7.5	199	7.5								
C4-11	227	11								
C5-4	163	4	2,600	4,540	5,115	4,300				
C5-5.5	182	5.5								
C5-7.5	203	7.5								
C5-11	232	11								
C5-15	258	15	2,600	4,540	5,115	4,300				
C6-4	168	4								
C6-5.5	188	5.5								
C6-7.5	210	7.5								
C6-11	239	11	2,600	4,540	5,115	4,300				
C6-15	266	15								
D1-4	174	4					2,950	4,740	4,755	3,970
D1-5.5	195	5.5								
D1-7.5	217	7.5								
D1-11	248	11								
D2-4	180	4	2,950	4,740	4,755	3,970				
D2-5.5	202	5.5								
D2-7.5	225	7.5								
D2-11	256	11								
D3-4	184	4	2,950	4,740	5,085	4,300				
D3-5.5	206	5.5								
D3-7.5	230	7.5								
D3-11	262	11								
D3-15	292	15	2,950	4,740	5,085	4,300				
D4-4	190	4								
D4-5.5	213	5.5								
D4-7.5	237	7.5								
D4-11	270	11	3,120	5,430	4,985	4,145				
D4-15	301	15								
E1-5.5	226	5.5								
E1-7.5	252	7.5								
E1-11	287	11	3,120	5,510	5,335	4,495				
E1-15	319	15								
E2-5.5	248	5.5								
E2-7.5	274	7.5								
E2-11	314	11	3,120	5,430	5,500	4,660				
E2-15	349	15								
E3-5.5	242	5.5								
E3-7.5	270	7.5								
E3-11	309	11	3,120	5,430	5,500	4,660				
E3-15	344	15								

Notes:

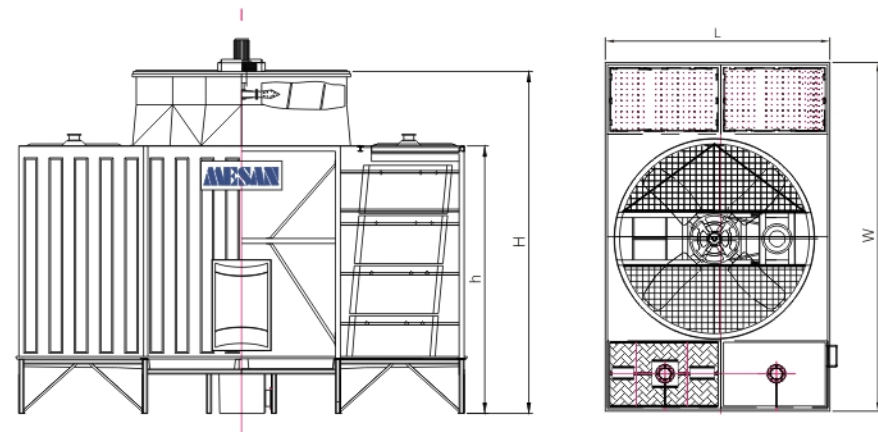
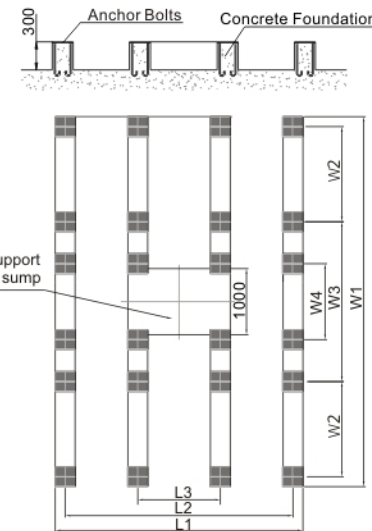
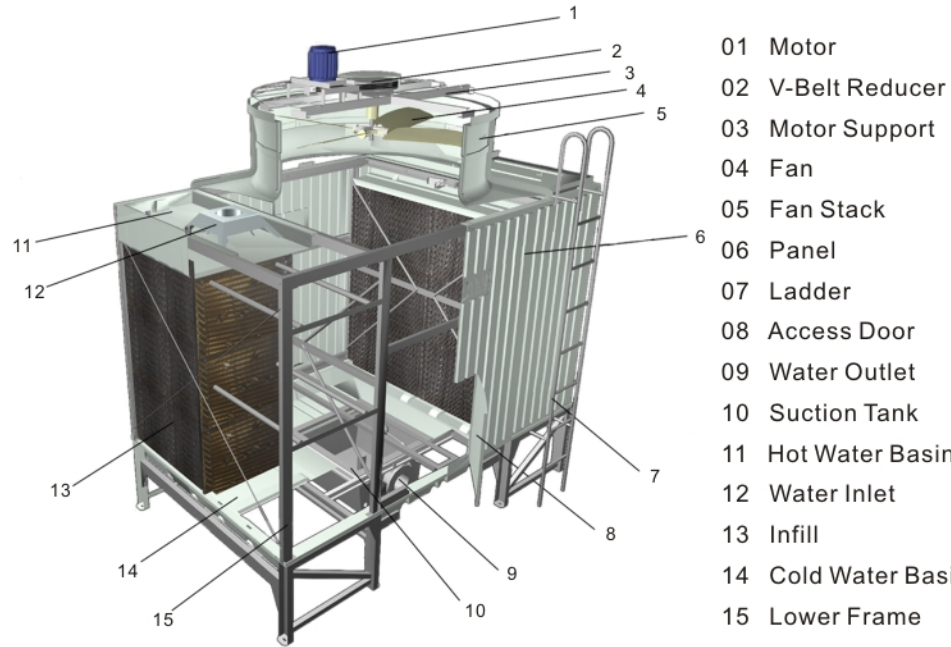
- 1) Nominal water flow is defined as rate of water cooled from 37°C to 32°C with 28°C wet-bulb temperature.
- 2) Satisfactory performance is based on precise selection, proper system design and installation in a clean and well-ventilated location.

MXR-KM Series

Cross Flow Induced Draft



Model: F ~ K Cooling Capacity: 241~1140m³/h



Model	Foundation Dimensions							Pipe Connections				
	L1	L2	L3	W1	W2	W3	W4	Inlet	Outlet	Overflow	Drain	M-U
MXR-KM	mm	mm	mm	mm	mm	mm	mm	DN	DN	DN	DN	DN
F	3,750	3,450	1,250	5,600	1,440	2,420	1,150	200×2	250	80	50	40
G	4,250	3,950	1,450	6,380	1,700	2,680	1,150	125×4	250	80	50	40
H	4,650	4,350	1,450	6,760	1,700	3,060	1,150	150×4	300	100	100	50
I	5,350	5,050	1,667	7,480	1,700	3,780	1,150	150×4	300	100	100	50
J	5,750	5,450	1,800	7,780	1,700	4,080	1,150	200×4	350	100	100	50
K	6,300	6,000	1,450	8,280	1,700	4,580	1,150	200×4	350	100	100	50

Product Technical Data

Model	Nominal Water Flow Rate	Motor	Tower Dimensions			
			L	W	H	h
MXR-KM	m ³ /h	kw	mm	mm	mm	mm
F1-5.5	241	5.5	3,530	5,480	4,990	3,900
F1-7.5	269	7.5				
F1-11	307	11				
F1-15	342	15				
F2-5.5	262	5.5	3,530	5,480	5,490	4,400
F2-7.5	293	7.5				
F2-11	334	11				
F2-15	373	15				
F2-18.5	401	18.5	3,530	5,480	5,665	4,575
F2-22	425	22				
F3-5.5	268	5.5				
F3-7.5	300	7.5				
F3-11	342	11	4,030	6,260	5,205	4,110
F3-15	382	15				
F3-18.5	411	18.5				
F3-22	436	22				
G1-11	374	11	4,030	6,260	5,540	4,450
G1-15	415	15				
G1-18.5	445	18.5				
G1-22	471	22				
G1-30	522	30	4,030	6,260	5,715	4,620
G1-37	560	37				
G2-11	393	11				
G2-15	439	15				
G2-18.5	472	18.5	4,430	6,640	5,255	4,110
G2-22	501	22				
G2-30	557	30				
G3-11	403	11				
G3-15	450	15	4,430	6,640	5,765	4,620
G3-18.5	484	18.5				
G3-22	514	22				
G3-30	572	30				
H1-11	402	11	4,430	6,640	6,100	4,955
H1-15	452	15				
H1-18.5	486	18.5				
H1-22	516	22				
H1-30	574	30	4,430	6,640	6,800	5,655
H2-11	439	11				
H2-15	490	15				
H2-18.5	527	18.5				
H2-22	560	22	6,080	8,160	6,365	5,220
H2-30	623	30				
H3-11	457	11				
H3-15	510	15				
H3-18.5	550	18.5	6,080	8,160	6,875	5,730
H3-22	584	22				
H3-30	650	30				
H3-37	699	37				
H4-18.5	573	18.5	6,080	8,160	7,220	6,075
H4-22	608	22				
H4-30	678	30				
H4-37	730	37				
H4-45	782	45	6,080	8,160	7,220	6,075
H4-55	838	55				
H4-75	935	75				
I1-15	556	15				
I1-18.5	598	18.5				
I1-22	636	22				
I1-30	708	30				
I1-37	761	37	5,130	7,360	6,200	5,055
I2-15	580	15				
I2-18.5	623	18.5				
I2-22	664	22				
I2-30	740	30	5,130	7,360	6,365	5,220
I2-37	796	37				
I2-45	851	45				
I3-15	593	15				
I3-18.5	639	18.5	5,530	7,660	6,200	5,055
I3-22	679	22				
I3-30	756	30				
I3-37	814	37				
I3-45	871	45	5,530	7,660	6,365	5,220
I3-55	930	55				
J1-15	633	15				
J1-18.5	682	18.5				
J1-22	725	22	5,530	7,660	6,365	5,220
J1-30	808	30				
J1-37	869	37				
J1-45	930	45				
J2-18.5	697	18.5	5,530	7,660	6,365	5,220
J2-22	741	22				
J2-30	826	30				
J2-37	889	37				
J2-45	952	45	5,530	7,660	6,875	5,730
J3-18.5	736	18.5				
J3-22	785	22				
J3-30	874	30				
J3-37	941	37	6,080	8,160	6,365	5,220
J3-45	998	45				
K1-18.5	737	18.5				
K1-22	784	22				
K1-30	875	30	6,080	8,160	6,875	5,730
K1-37	941	37				
K1-45	1008	45				
K2-22	829	22				
K2-30	926	30	6,080	8,160	7,220	6,075
K2-37	997	37				
K2-45	1067	45				
K2-55	1140	55				
K3-22	854	22	6,080	8,160	7,220	6,075
K3-30	954	30				
K3-37	1028	37				
K3-45	1100	45				

Notes:

- 1) Nominal water flow is defined as rate of water cooled from 37°C to 32°C with 28°C wet-bulb temperature.
- 2) Satisfactory performance is based on precise selection, proper system design and installation in a clean and well-ventilated location.

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

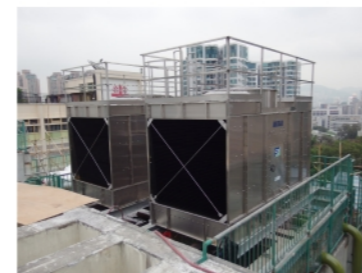
Our standard is belt-driven speed reducers, but as an option we also offer 90° and 180° gear reducers.

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



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

