MESAN

MXL SERIES

Cross Flow
Induced Draft

CTI CERTIFIED

Trust MESAN With Your Evaporative Cooling Needs

Overview

MANUFACTURER'S PUBLISHED THERMAL PERFORMANCE IS CERTIFIED BY THE COOLING TECHNOLOGY INSTITUTE UNDER THE PROVISIONS OF STD-201 (17)
CERTIFICATION VALIDATION NO.: C26C - 08R09

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 choo se 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

CTI STD-201 Certified Line
Box Size Number
Fan Motor Power
Numbers of Cells, eg. 2 cells per set

MXL - I - 01A - 5.5/V - S4 - 2

I- for IBC/FBC rated construction

V - Velocity Recovery Stack
Q - Super Low Noise Fan
E - Drift Eliminator
A - Louver

F4 - for SS304 Casing & Structure
F6 - for SS316 Casing & Structure
S4 - for HDF Casing & SS304 Structure
S6 - for HDF Casing & SS316 Structure
G - for HDGS Casing & Structure

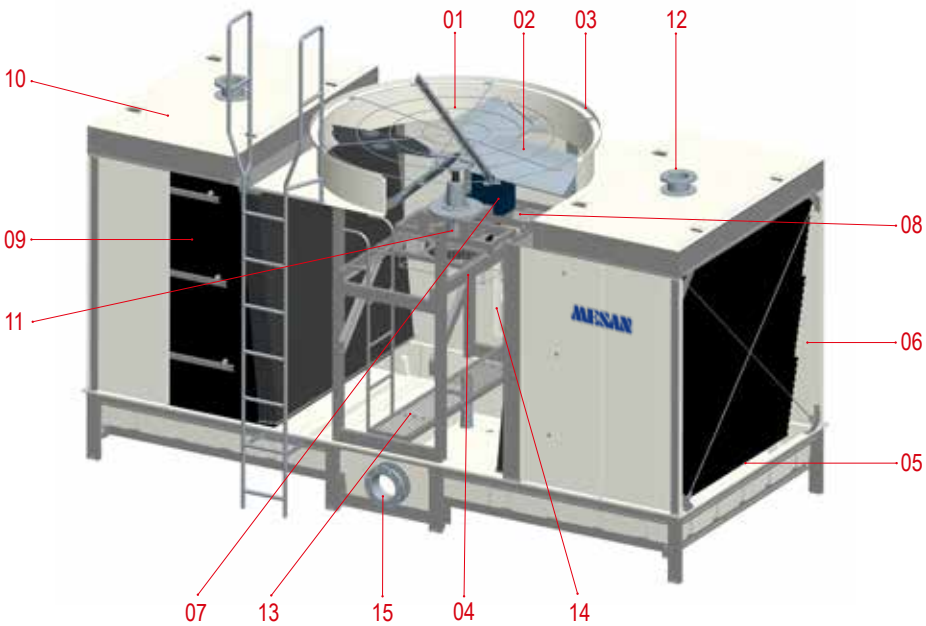
Advantages

- 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-90.1-2019, 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.

MXL SERIES

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 Water Outlet



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. IP65 motors are also available as an option.

Axial Fan

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

Super Low Noise Fan

The Super Low Noise's wide chord blade design is designed to maximize cooling efficiency and low noise performance up to 15dBA reduction. Our Super low sound fan cooling tower is CTI STD-201 certified to ensure maximum efficiency for low sound operation.

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 for 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

Hot Water Basin

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 air flow, for reduced air pressure drop and lowest energy consumption.

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

Factory Assembled

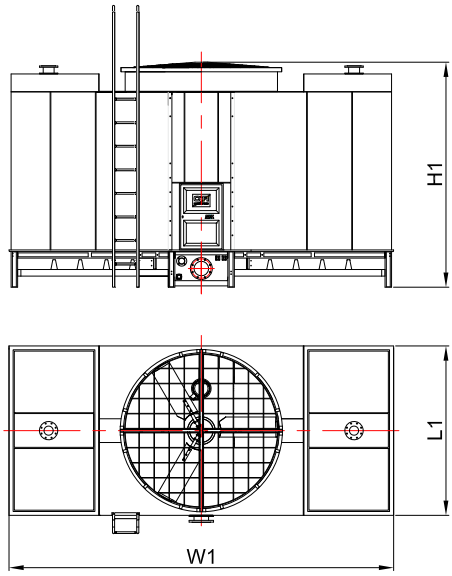
Box size 01, up to water flow 182m^3/h can be containerized. Units 4,000 mm and higher can be pre-assembled in two halves (upper and lower) and shipped as factory pre-assembled on trailers.

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.

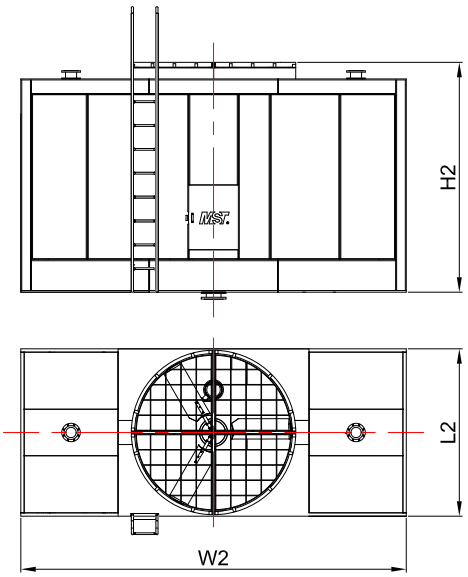
MXL SERIES

Product Technical Data

Models: 01A~02A



Models: 01A~02A–G/F4/F6

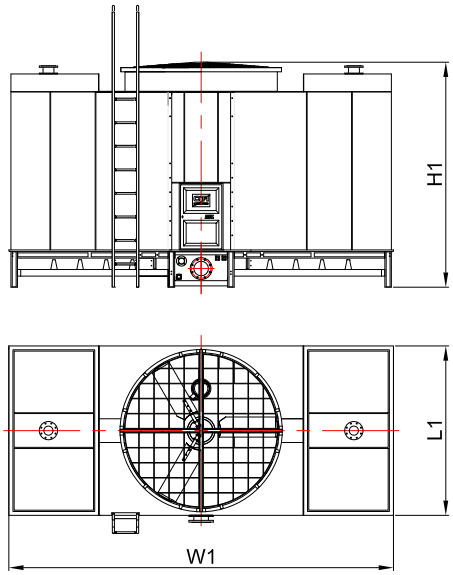


Model	FRP Towers							Steel Towers（G/F4/F6）					Remarks
			Dimensions (mm)			Dry Weight (kgs)	Operating Weight (kgs)	Dimensions (mm)			Dry Weight (kgs)	Operating Weight (kgs)	
MXL	Motor (kW)	Nominal Tons	L1	W1	H1			L2	W2	H2			
01A	3	142	2,268	5,272	2,965	1,841	4,681	2,204	5,208	2,955	2,154	5,510	CNT
	4	156				1,848	4,718				2,160	5,560	
	5.5	172				1,864	4,774				2,190	5,640	
	7.5	191				1,875	4,835				2,206	5,715	
	11	216				1,917	4,927				2,248	5,830	
01B	3	173	2,268	5,272	3,649	2,101	4,941	2,204	5,208	3,632	2,340	5,910	
	4	192				2,108	4,978				2,345	5,980	
	5.5	213				2,124	5,034				2,376	6,090	
	7.5	236				2,135	5,095				2,390	6,190	
	11	267				2,177	5,187				2,432	6,350	
02A	4	191	2,590	5,880	3,065	2,255	5,755	2,526	5,816	2,958	2,434	6,860	TRL
	5.5	211				2,261	5,761				2,451	6,920	
	7.5	235				2,292	5,792				2,492	7,010	
	11	266				2,318	5,818				2,522	7,090	
	15	295				2,358	5,858				2,571	7,220	
	18.5	316				2,434	5,934				2,563	7,260	
	22	335				2,458	5,958				2,588	7,330	

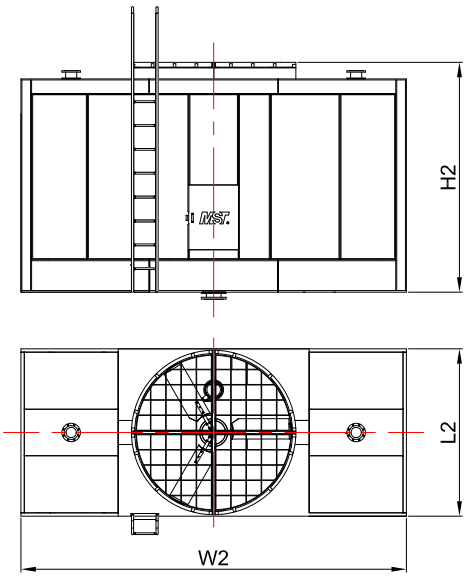
❶ Nominal cooling capacity represents 35˚C EWT, 29.4˚C LWT with 25.6˚C WBT and 0.681m^3/h per ton.
❷ Satisfactory performance is based on precise selection, proper system design and installation in a clean and well-ventilated location.
❸ CNT: Containerized, TRL: Trailer (Subject to the road conditions), CKD: Knocked-down model.

Product Technical Data

Models: 02B~02C



Models: 02B~02C–G/F4/F6



Model	FRP Towers							Steel Towers (G/F4/F6)					Remarks
	Motor (kW)	Nominal Tons	Dimensions (mm)			Dry Weight (kgs)	Operating Weight (kgs)	Dimensions (mm)			Dry Weight (kgs)	Operating Weight (kgs)	
MXL			L1	W1	H1			L2	W2	H2			
02B	4	222	2,590	5,880	3,567	2,462	5,962	2,526	5,816	3,468	2,745	7,310	TRL
	5.5	247				2,468	5,968				2,762	7,380	
	7.5	272				2,499	5,999				2,803	7,470	
	11	308				2,525	6,025				2,833	7,570	
	15	342				2,565	6,065				2,882	7,730	
	18.5	365				2,640	6,140				2,874	7,820	
	22	387				2,664	6,164				2,899	7,910	
02C	4	251	2,590	5,880	4,097	2,748	6,248	2,526	5,816	3,978	3,012	7,650	
	5.5	279				2,754	6,254				3,019	7,710	
	7.5	308				2,785	6,285				3,070	7,810	
	11	349				2,811	6,311				3,100	7,940	
	15	387				2,851	6,351				3,149	8,060	
	18.5	414				2,926	6,426				3,191	8,210	
	22	439				2,950	6,450				3,166	8,230	

❶ Nominal cooling capacity represents 35˚C EWT, 29.4˚C LWT with 25.6˚C WBT and 0.681m^3/h per ton.
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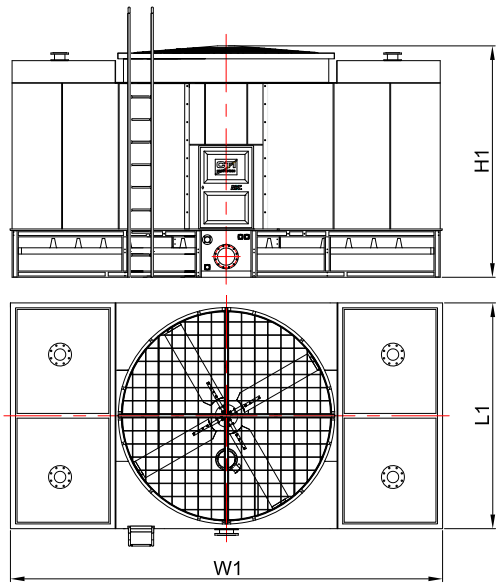
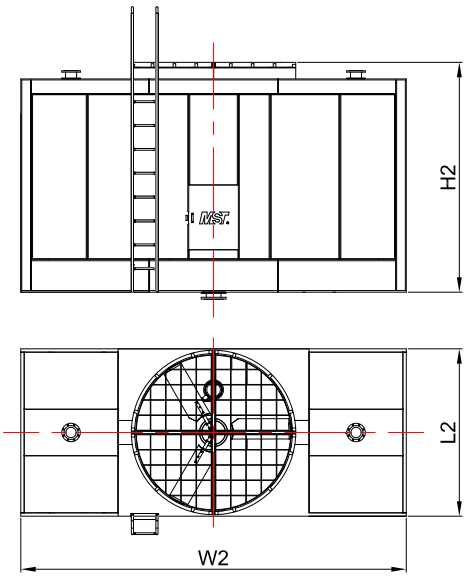
MXL SERIES

Product Technical Data

Models: 03A~03C



Models: 03A~03C–G/F4/F6



Model	FRP Towers							Steel Towers（G/F4/F6）					Remarks
			Dimensions (mm)			Dry Weight (kgs)	Operating Weight (kgs)	Dimensions (mm)			Dry Weight (kgs)	Operating Weight (kgs)	
MXL	Motor (kW)	Nominal Tons	L1	W1	H1			L2	W2	H2			
03A	4	210	2,990	6,112	3,165	2,776	7,076	2,926	6,048	3,010	2,863	8,140	TRL
	5.5	233				2,782	7,082				2,870	8,170	
	7.5	257				2,813	7,113				2,924	8,250	
	11	292				2,839	7,139				2,944	8,310	
	15	323				2,879	7,179				2,993	8,390	
	18.5	346				2,954	7,254				3,038	8,450	
	22	365				2,978	7,278				3,081	8,510	
03B	4	247	2,990	6,112	3,667	3,089	7,389	2,926	6,048	3,520	3,415	8,870	
	5.5	273				3,095	7,395				3,422	8,920	
	7.5	302				3,126	7,426				3,476	9,010	
	11	343				3,152	7,452				3,496	9,070	
	15	380				3,192	7,492				3,545	9,160	
	18.5	407				3,267	7,567				3,577	9,210	
	22	432				3,291	7,591				3,620	9,280	
03C	4	285	2,990	6,112	4,237	3,430	7,730	2,926	6,048	4,030	3,873	9,520	
	5.5	316				3,436	7,736				3,880	9,560	
	7.5	349				3,467	7,767				3,934	9,660	
	11	396				3,493	7,793				3,954	9,740	
	15	439				3,533	7,833				4,003	9,840	
	18.5	468				3,608	7,908				4,035	9,900	
	22	496				3,632	7,932				4,078	9,970	
	30	549				3,693	7,993				4,165	10,130	

❶ Nominal cooling capacity represents 35˚C EWT, 29.4˚C LWT with 25.6˚C WBT and 0.681m^3/h per ton.
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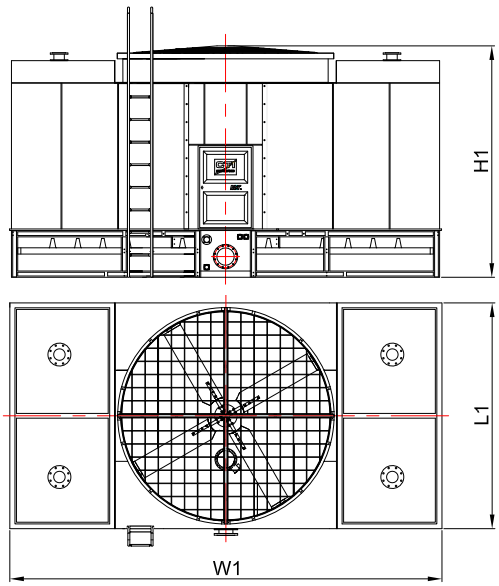
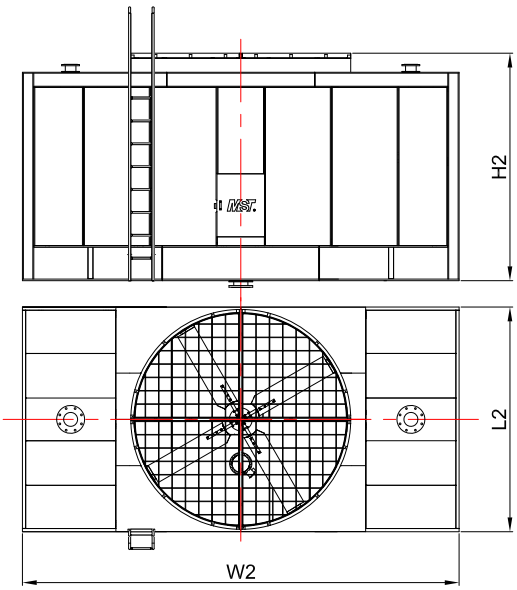
Product Technical Data

Models: 04A~04B



Models: 04A~04B–G/F4/F6



Model	FRP Towers							Steel Towers (G/F4/F6)					Remarks
			Dimensions (mm)			Dry Weight (kgs)	Operating Weight (kgs)	Dimensions (mm)			Dry Weight (kgs)	Operating Weight (kgs)	
MXL	Motor (kW)	Nominal Tons	L1	W1	H1			L2	W2	H2			
04A	7.5	295	3,600	6,890	3,318	3,721	10,021	3,536	6,870	3,070	4,235	12,510	TRL
	11	336				3,747	10,047				4,255	12,580	
	15	371				3,788	10,088				4,320	12,680	
	18.5	398				3,820	10,120				4,368	12,740	
	22	420				3,844	10,144				4,398	12,790	
	30	465				3,991	10,291				4,488	12,910	
	37	499				4,099	10,399				4,580	13,030	
04B	7.5	351	3,600	6,890	3,820	4,097	10,397	3,536	6,870	3,580	4,723	13,200	
	11	398				4,123	10,423				4,743	13,270	
	15	440				4,163	10,463				4,808	13,360	
	18.5	471				4,195	10,495				4,856	13,440	
	22	499				4,219	10,519				4,886	13,500	
	30	552				4,366	10,666				4,976	13,630	
	37	592				4,474	10,774				5,052	13,750	
	45	631				4,621	10,921				5,198	13,920	

❶ Nominal cooling capacity represents 35˚C EWT, 29.4˚C LWT with 25.6˚C WBT and 0.681m^3/h per ton.
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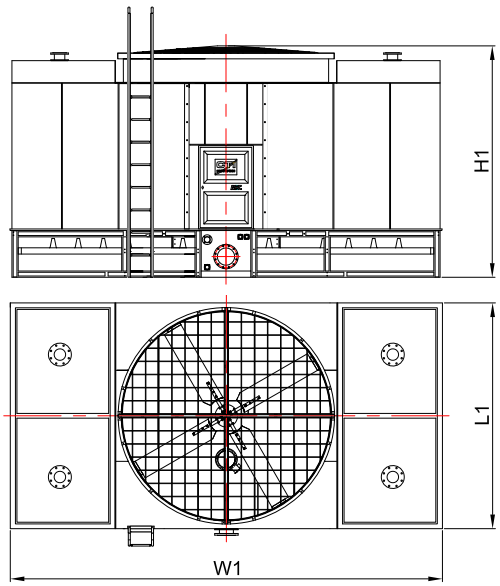
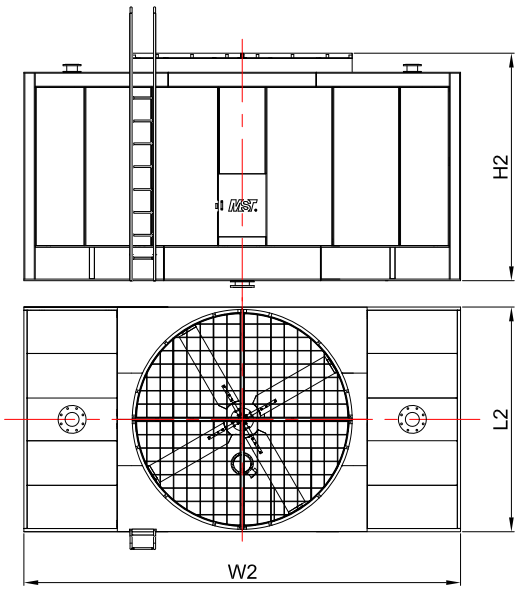
MXL SERIES

Product Technical Data

Models: 04C~04E



Models: 04C~04E–G/F4/F6

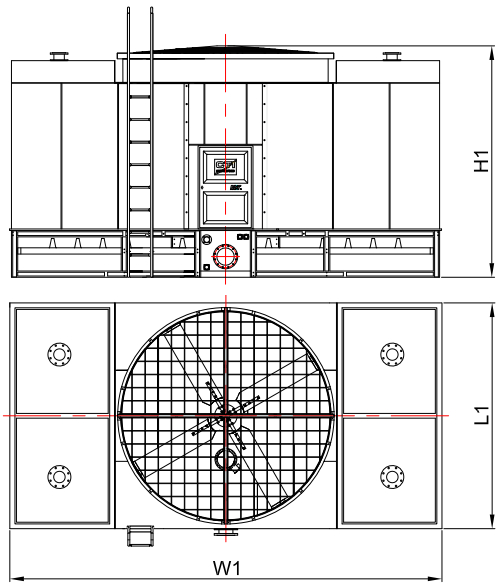


Model	FRP Towers							Steel Towers（G/F4/F6）					Remarks
MXL	Motor (kW)	Nominal Tons	Dimensions (mm) L1	Dimensions (mm) W1	Dimensions (mm) H1	Dry Weight (kgs)	Operating Weight (kgs)	Dimensions (mm) L2	Dimensions (mm) W2	Dimensions (mm) H2	Dry Weight (kgs)	Operating Weight (kgs)	
04C	7.5	399	3,600	6,890	4,350	4,484	10,784	3,536	6,870	4,090	5,102	13,770	TRL
	11	452				4,510	10,810				5,122	13,840	
	15	501				4,550	10,850				5,171	13,950	
	18.5	536				4,582	10,882				5,219	14,020	
	22	567				4,606	10,906				5,265	14,110	
	30	627				4,754	11,054				5,355	14,260	
	37	672				4,862	11,162				5,431	14,390	
	45	716				5,008	11,308				5,561	14,560	
04D	7.5	442	3,600	6,890	4,848	4,736	11,036	3,536	6,870	4,600	5,731	14,590	
	11	501				4,762	11,062				5,751	14,690	
	15	555				4,802	11,102				5,800	14,790	
	18.5	594				4,834	11,134				5,897	14,940	
	22	628				4,858	11,158				5,927	15,020	
	30	697				5,006	11,306				6,017	15,190	
	37	747				5,114	11,414				6,109	15,330	
	45	790				5,260	11,560				6,239	15,490	
04E	7.5	484	3,600	6,890	5,338	5,051	11,351	3,536	6,870	5,110	6,084	15,150	
	11	549				5,077	11,377				6,104	15,260	
	15	608				5,117	11,417				6,169	15,410	
	18.5	652				5,149	11,449				6,201	15,510	
	22	690				5,173	11,473				6,231	15,600	
	30	763				5,321	11,621				6,321	15,770	
	37	818				5,429	11,729				6,397	15,880	
	45	872				5,575	11,875				6,543	16,080	

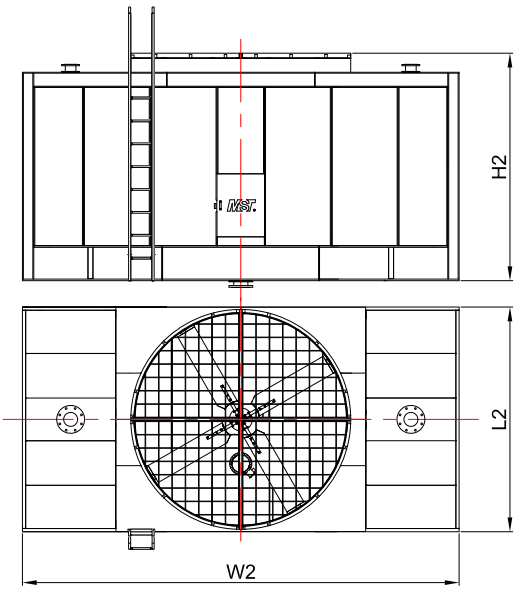
❶ Nominal cooling capacity represents 35˚C EWT, 29.4˚C LWT with 25.6˚C WBT and 0.681m^3/h per ton.
❷ Satisfactory performance is based on precise selection, proper system design and installation in a clean and well-ventilated location.
❸ CNT: Containerized, TRL: Trailer (Subject to the road conditions), CKD: Knocked-down model.

Product Technical Data

Models: 04F~05B



Models: 04F~05B–G/F4/F6



Model	FRP Towers							Steel Towers（G/F4/F6）					Remarks
			Dimensions (mm)			Dry Weight (kgs)	Operating Weight (kgs)	Dimensions (mm)			Dry Weight (kgs)	Operating Weight (kgs)	
MXL	Motor (kW)	Nominal Tons	L1	W1	H1			L2	W2	H2			
04F	7.5	520	3,600	6,890	5,840	5,347	11,647	3,536	6,870	5,620	6,440	15,710	TRL
	11	590				5,373	11,673				6,460	15,860	
	15	653				5,413	11,713				6,525	16,020	
	18.5	700				5,445	11,745				6,557	16,120	
	22	741				5,469	11,769				6,587	16,210	
	30	820				5,616	11,916				6,677	16,380	
	37	879				5,724	12,024				6,769	16,520	
	45	939				5,871	12,171				6,899	16,700	
05A	11	436	4,260	7,273	3,822	4,737	12,737	4,196	7,252	3,580	5,290	18,690	CKD
	15	483				4,777	12,777				5,356	18,800	
	18.5	517				4,809	12,809				5,388	18,860	
	22	547				4,833	12,833				5,435	18,942	
	30	606				4,894	12,894				5,526	19,080	
	37	650				5,002	13,002				5,602	19,200	
	45	693				5,148	13,148				5,749	19,380	
05B	11	498	4,260	7,273	4,352	5,107	13,107	4,196	7,252	4,090	5,720	19,350	
	15	550				5,147	13,147				5,769	19,460	
	18.5	590				5,179	13,179				5,818	19,550	
	22	624				5,203	13,203				5,848	19,610	
	30	691				5,264	13,264				5,922	19,770	
	37	741				5,372	13,372				6,015	19,910	
	45	791				5,518	13,518				6,162	20,110	
	55	845				5,568	13,568				6,249	20,250	

❶ Nominal cooling capacity represents 35℃ EWT, 29.4℃ LWT with 25.6℃ WBT and 0.681m^3/h per ton.
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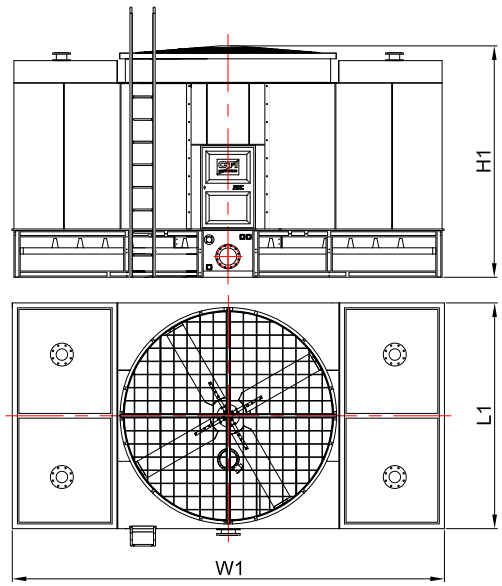
❸ CNT: Containerized, TRL: Trailer (Subject to the road conditions), CKD: Knocked-down model.

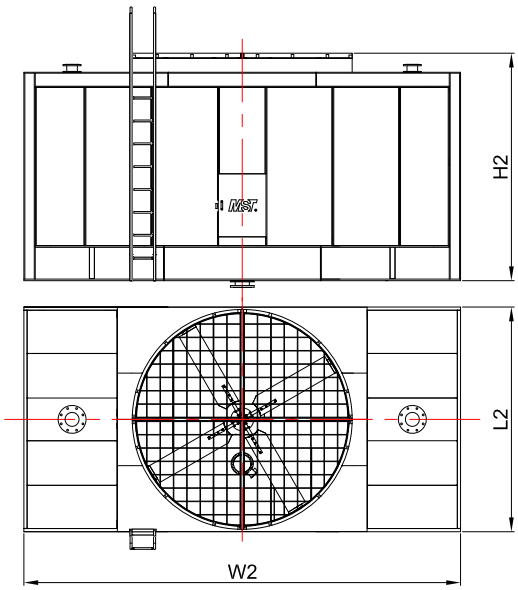
MXL SERIES

Product Technical Data

Models: 05C~05E



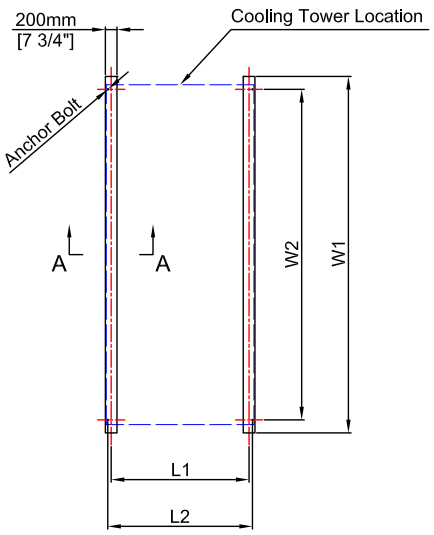
Models: 05C~05E–G/F4/F6



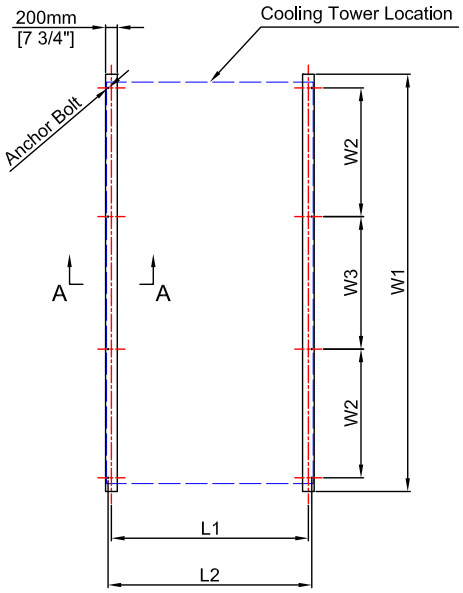
Model	FRP Towers							Steel Towers（G/F4/F6）					Remarks
	Motor (kW)	Nominal Tons	Dimensions (mm)			Dry Weight (kgs)	Operating Weight (kgs)	Dimensions (mm)			Dry Weight (kgs)	Operating Weight (kgs)	
MXL			L1	W1	H1			L2	W2	H2			
05C	11	553	4,260	7,273	4,850	5,372	13,372	4,196	7,252	4,600	6,640	20,520	
	15	612				5,412	13,412				6,689	20,630	
	18.5	656				5,444	13,444				6,721	20,730	
	22	694				5,468	13,468				6,751	20,800	
	30	768				5,529	13,529				6,825	20,970	
	37	822				5,637	13,637				6,918	21,120	
	45	876				5,784	13,784				7,065	21,330	
	55	938				5,834	13,834				7,152	21,470	
05D	11	605	4,260	7,273	5,340	5,711	13,711	4,196	7,252	5,110	7,085	21,200	CKD
	15	669				5,751	13,751				7,134	21,360	
	18.5	718				5,783	13,783				7,166	21,450	
	22	760				5,807	13,807				7,196	21,550	
	30	843				5,868	13,868				7,270	21,730	
	37	903				5,976	13,976				7,363	21,890	
	45	963				6,123	14,123				7,510	22,080	
	55	1,029				6,173	14,173				7,597	22,220	
05E	11	652	4,260	7,273	5,842	6,040	14,040	4,196	7,252	5,620	7,570	21,970	
	15	721				6,080	14,080				7,636	22,140	
	18.5	772				6,112	14,112				7,668	22,250	
	22	818				6,136	14,136				7,698	22,360	
	30	906				6,197	14,197				7,789	22,560	
	37	970				6,305	14,305				7,865	22,700	
	45	1,036				6,451	14,451				8,012	22,900	
	55	1,107				6,501	14,501				8,090	23,040	
	75	1,227				7,001	15,001				8,590	23,540	

❶ Nominal cooling capacity represents 35˚C EWT, 29.4˚C LWT with 25.6˚C WBT and 0.681m^3/h per ton.
❷ Satisfactory performance is based on precise selection, proper system design and installation in a clean and well-ventilated location.
❸ CNT: Containerized, TRL: Trailer (Subject to the road conditions), CKD: Knocked-down model.

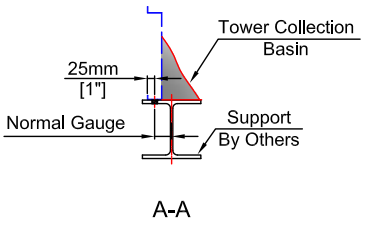
Foundation and Piping



Suitable For：MXL-01/02-G/F4/F6



Suitable For：MXL-03/04/05-G/F4/F6
MXL-01/02/03/04/05 FRP Tower



Model	Foundation Dimensions						Pipe Connections				
	L1	L2	W1	W2	W3	Anchor Bolt	Inlet	Outlet	Overflow	Drain	M-U
MXL	mm	mm	mm	mm	mm	mm	DN	DN	DN	DN	DN
FRP Towers											
01A	2,040	2,154	5,500	2,099	910	8×Φ12	125×2	150	50	40	25
01B	2,040	2,154	5,500	2,099	910	8×Φ12	150×2	200	80	40	25
02	2,360	2,476	6,100	2,403	910	8×Φ12	150×2	200	80	40	25
03	2,760	2,876	6,300	2,519	910	8×Φ12	200×2	250	80	50	40
04A−04D	3,370	3,486	7,100	2,918	890	8×Φ12	125×4	250	80	50	40
04E−04F	3,370	3,486	7,100	2,918	890	8×Φ12	150×4	300	100	100	50
05A−05C	4,030	4,146	7,500	3,109	891	8×Φ12	150×4	300	100	100	50
05D−05E	4,030	4,146	7,500	3,109	891	8×Φ12	200×4	350	100	100	50
Steel Towers（G/F4/F6）											
01A	2,040	2,154	5,500	5,048	//	4×Φ19	125×2	150	50	40	25
01B	2,040	2,154	5,500	5,048	//	4×Φ19	150×2	200	80	40	25
02	2,360	2,476	6,100	5,656	//	4×Φ19	150×2	200	80	40	25
03	2,760	2,876	6,300	2,001	1,846	8×Φ19	200×2	250	80	50	40
04A−04D	3,370	3,486	7,100	2,201	2,268	8×Φ19	200×2	250	80	50	40
04E−04F	3,370	3,486	7,100	2,201	2,268	8×Φ19	250×2	300	100	100	50
05A−05C	4,030	4,146	7,500	2,201	2,650	8×Φ19	250×2	300	100	100	50
05D−05E	4,030	4,146	7,500	2,201	2,650	8×Φ19	300×2	350	100	100	50

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

MXL SERIES

Other Optional Accessories

Motor	NEMA Premium	**Low Sound**	Supper Low Noise Fan
	Two-speed		Discharge Sound Attenuators
Fan	VFD FRP Fan	**Others**	Anti-Corrosion Epoxy Coating
	Super Low Noise Fan		Basin Heater
Reducer	180° Gear Box		Basin Sweeper System
	90° Gear Box		OSHA Fan Guard
Infill	ASTM PVC Infill		OSHA-Ladder Safety Cage and Handrail
	High Temperature PP Infill		
	SS304 Incombustible Infill		Removable Strainer
	High Efficiency Drift Eliminator		Service platform
	in PVC/SST		Vibration Cut-off Switch
Air Inlet Louver	PVC/FRP/HDGS/ Stainless Steel Louver		Extended warranty

Cooling Tower Filtration System

Mesan offers pre-installed basin sweeping piping system for our cooling towers to work with VAF™ filtration system to minimize legionella contamination in building water systems and make water treatment more effective.

Cooling Tower Filtration Benefits

- Improves energy efficiency ~ 10%
- Significantly reduces buildup of habitat and food source for Legionella
- Reduces chemical costs ~ 14%
- Reduces maintenance costs ~ 80%
- Increases system life

Major Features of VAF™ Automatic Screen Filtration

- Remove particulate down to 10 micron targeting on Legionella
- Patented drive mechanism for cleaning nozzles without motors
- Multiple towers cleaned with one system (X™ System)

VAF™ filtration systems
an EVOQUA brand

More Savings Smart Cooling

COOLGREEN™ a smart automated energy efficiency water filtration and automated chemical dosing water treatment solutions to deliver best-inclass process control for killing the bacteria, improving the operational efficiencies, reduce cost of maintenance and chemical while conserving water and minimizing waste to achieve more reliable and more sustainable for the industry.

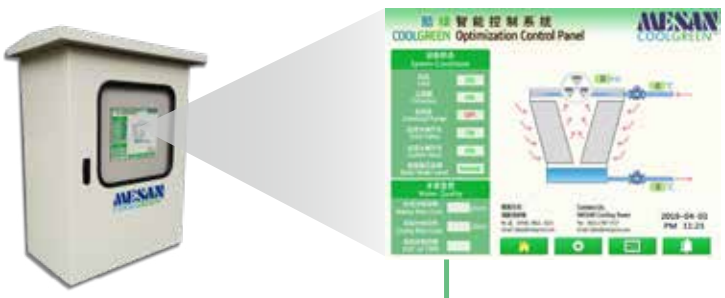
Advantages

- Reduce energy costs by maintaining consistently high heat transfer efficiencies
- Reduce chemical costs by increasing chemical effectiveness
- Reduce buildup of habitat and food source for Legionella
- Minimize maintenance, downtime, and water loss

Features

- VFD for the fan motor
- Self cleaning screen filter
- Automatic chemical dosing by water quality

* Customizable



Options

- VFD control & fan speed monitoring with Inlet & Outlet temperature
- Basin heater control
- Vibration cut off switch interface
- Water filtration ON/OFF by turbidity sensor
- Flush recovery vessel
- pH level indicator

Tower Control

1. VFD controls cooling tower's motor, lower power consumption and lower noise
2. Varies flow control for cooling tower, which achieve the highest energy saving for cooling system

Water Filtration Control

1. Pump operates by timing control to start the filtration mode
2. Flush valve operates by pressure difference between filter inlet and outlet piping

Water Treatment Control

1. Chemical dosing pump operates by conductivity and cycle of concentration in the cold water basin
2. Chemical dosing pump operates by pH value in the cold water basin

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2020-03M / MXL-EN