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MST-7100 Series

Closed Circuit
Cross Flow Induced Draft

- Specifications & Design are subject to change without notice.
- One year warranty under normal operation.
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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-90.1-2010 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

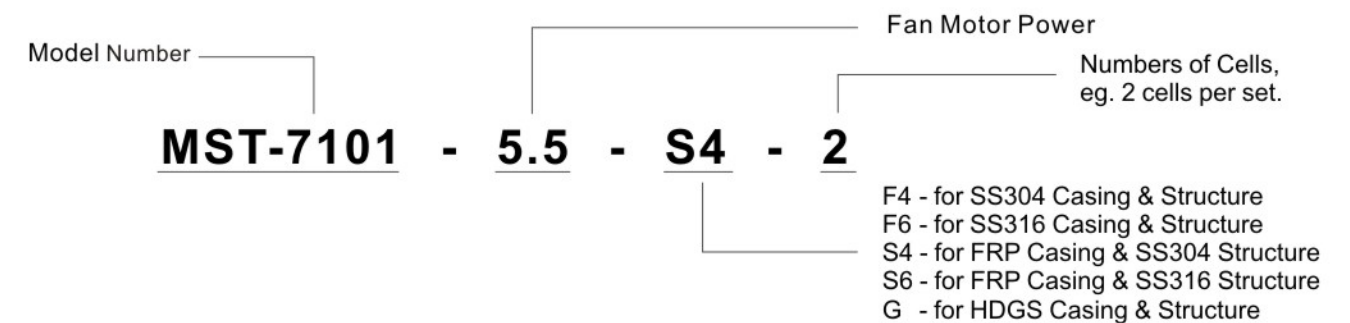
The MST-7100 series is a closed circuit, cross-flow induced draft type cooling tower. They completely isolate process cooling fluid from the atmosphere to keep it clean and contaminant free in a chiller system loop. A closed loop system protects the quality of the process fluid, reduces system maintenance costs and provides added protection to expensive chillers.

The MST-7100 is the only closed circuit tower in the market which offer SS304 coils as a standard feature opposed to advanced coils standard for all other manufacturers.

The MST-7100 series is available in 8 boxes with 27 models with capacities ranging from 61m³/h to 317m³/h.



Model Designation



Advantages

Improved Efficiency of Cooling Equipment

Sustaining optimum performance in an open type system will require regular maintenance to assure top efficiency. High-efficiency chillers and heat exchangers rely on clean process water to function properly and are significantly impacted by even small amounts of fouling. A closed circuit system protects the quality of the process fluid, reduces system maintenance, and provides operational flexibility.

Less Maintenance & Less Operating Cost

The payback on the initial investment in a closed circuit system is just a few years, due to the following savings:

- Reduced water treatment costs for evaporative equipment.
- Operating in "free cooling" mode during the winter to save energy consumption.
- Reduced energy consumption due to higher efficiency on the chillers or water-cooled VRV units.

Trust MESAN with your evaporative cooling needs.

Tower Structure



Casing and Structure

Casing

The MST-7100 series is available in FRP construction (Fiberglass Reinforced Polyester), Hot-dipped galvanized steel (HDGS) and SS-304/316 stainless steel. Also available in any combination of these materials.

Structural Frame

All structural frames are HDGS (Hot Dipped Galvanized Steel).

* SS304 and Ss316 are also available upon request.



Components

Infill

The vacuum formed PVC high efficiency infill with special design to maximize the heat transfer while protecting the coil surfaces from scaling.

Coil

- Stainless steel coils offer the best corrosion resistance and longest service life. Special design ensures complete drain out for winterizing or flushing purposes.
- All coils are pressure-tested at 375 psi.
- Flow balancing valves are provided for the process water loop.

Optional Accessories

Motor	High Efficiency Motor	Others	Basin Sweeper Systems with Filter/Separator Package
	Two Speed Motor		Basin Heater
	VFD Motor		Discharge Sound Attenuator
Fan	FRP Fan		OSHA Fan Guard
	Low Noise Fan		OSHA Ladder Safety Cage and Handrail
Reducer	180° Gear Reducer		Removable Strainer
	90° Gear Reducer		Service Platform to Fully Cover the Cold Water Basin
Infill	ASTM PVC Infill		SS/ HDGS Louver
	High Temperature PP Infill		Variable and Constant Speed Control Panels

Mechanical 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.

High Efficiency Fan

High efficiency axial aluminum alloy fans with innovative aerodynamic blade design, adjustable pitch blades at low fan tip speeds with low noise emission ensures optimum performance and low power consumption.

* Also available with FRP fan for special application.



V-Belt Reducer

- Carbon steel rotating shaft with Japan NSK bearing and Mitsubishi transmission belts able to withstand the adverse humid air assure long credible operation and higher performance.

* Also available with Gear box reducer

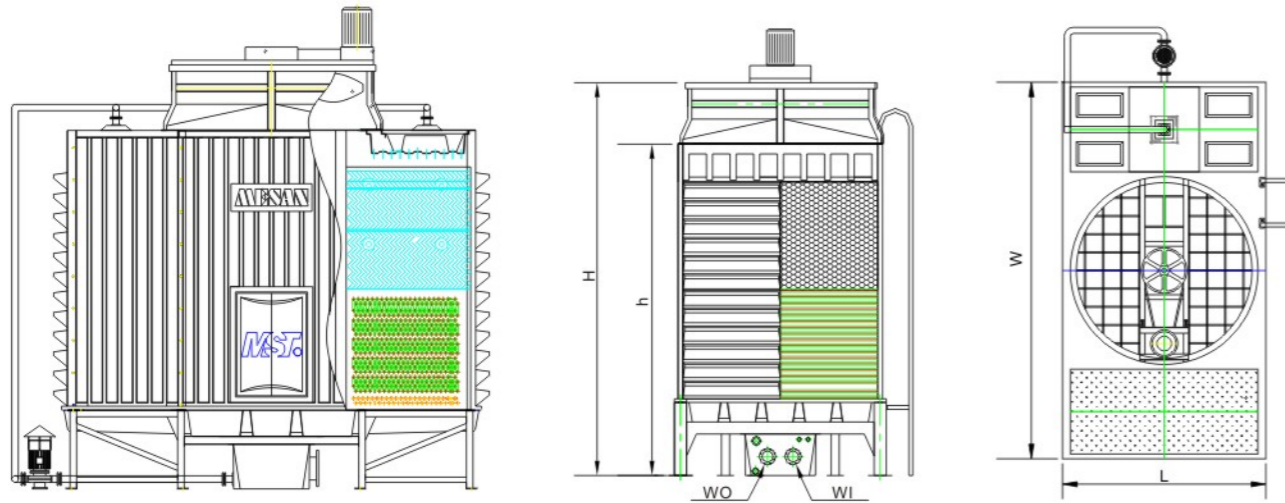
- Pulley is cast iron dynamically balanced to guarantee the performance and ensures quiet operation.

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Product Technical Data



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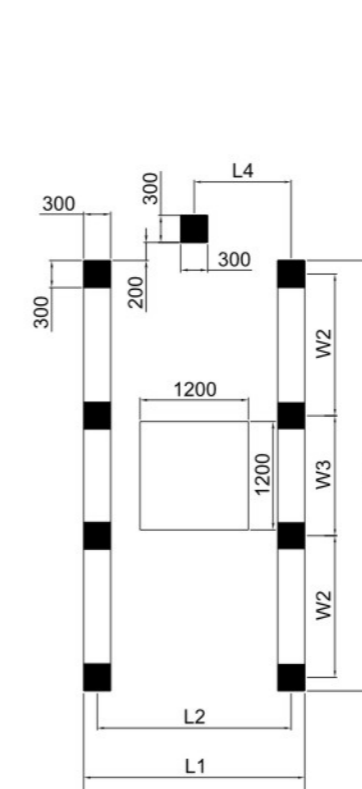
Model	Specification		Tower Dimensions				Pipe Connections				
	Water Flow	Motor	L	W	H	h	Inlet	Outlet	Overflow	Drain	M-U
MST-7100	m ³ /h	kW	mm	mm	mm	mm	DN	DN	DN	DN	DN
7101	3	61	3	2,200	4,300	3,650	100	100	50	40	25
	4	67	4								
	5.5	75	5.5								
7102	4	68	4	2,200	4,450	3,800	100	100	50	40	25
	5.5	76	5.5								
	7.5	80	7.5								
7103	5.5	92	5.5	2,750	5,250	3,950	125	125	80	50	25
	7.5	101	7.5								
	11	111	11								
7104	7.5	120	7.5	2,750	5,270	4,520	125	125	80	50	25
	11	130	11								
	15	140	15								
7105	7.5	140	7.5	2,940	5,070	4,320	150	150	80	50	25
	11	152	11								
	15	170	15								
7106	11	175	11	2,940	5,580	4,830	150	150	80	50	25
	15	190	15								
	18.5	200	18.5								
7107	11	217	11	3,840	6,430	4,150	200	200	80	50	40
	15	235	15								
	18.5	250	18.5								
	22	260	22								
7108	11	250	11	3,840	6,430	4,500	200	200	80	40	40
	15	272	15								
	18.5	290	18.5								
	22	300	22								
	30	317	30								

Notes:

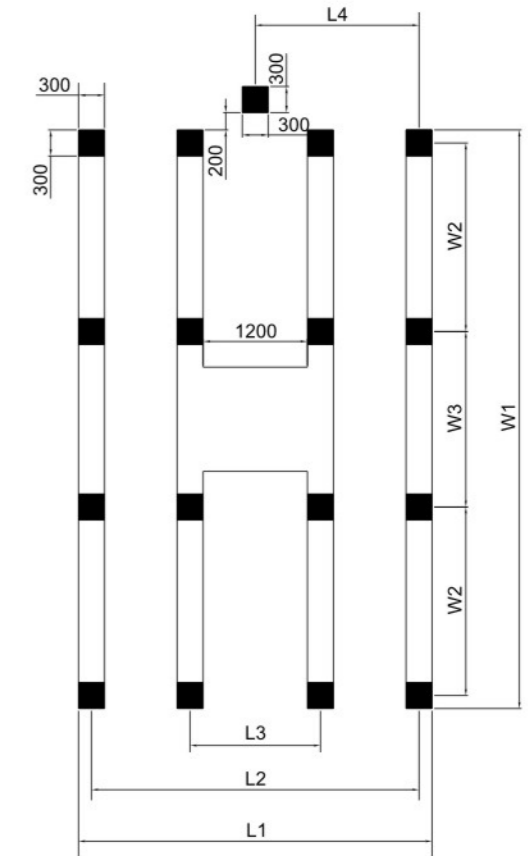
- 1) Nominal water flow is defined as rate of water cooled from 37°C to 32°C with 28°C wet-bulb temperature.
- 2) Satisfactory performance is based on precise selection, proper system design and installation in a clean and well-ventilated location.

Foundation

MST-7101~7106



MST-7107~7108



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Model	Foundation Dimensions						
	L1	L2	L3	L4	W1	W2	W3
MST-7100	mm	mm	mm	mm	mm	mm	mm
7101	2,450	2,150	—	1,075	4,770	1,570	1,330
7102	2,450	2,150	—	1,075	4,770	1,570	1,330
7103	2,980	2,680	—	1,340	5,480	1,720	1,740
7104	2,980	2,680	—	1,340	5,480	1,720	1,740
7105	3,180	2,880	—	1,440	5,800	1,880	1,740
7106	3,180	2,880	—	1,440	5,800	1,880	1,740
7107	4,070	3,770	1,500	1,885	6,660	2,170	2,020
7108	4,070	3,770	1,500	1,885	6,660	2,170	2,020