



Frigo Espacios

Av. Patria #844, Jardines Universidad, Zapopan, Jalisco.
México C.P. 45110 .

www.frigoespacio.com

ventas@frigoespacios.com

The data will be modified without notice for technique improvement.



Spindle DX Series Cooling Tower



INTRODUCTION

Dalian Spinde Environmental Equipment Co., Ltd. (formerly known as Dalian Speed Cooling Tower Co., Ltd.) is located in the beautiful coastal city of Dalian. It was jointly invested and constructed by Japan Spinde Manufacturing Co., Ltd. and Dalian Bingshan Group Co., Ltd. Officially opened on May 22, with a registered capital of 652 million yen. The company has automated production equipment and modern laboratories, and is the designated teaching and experimental base of Dalian University of Technology.

Dalian Spinde Environmental Equipment Co., Ltd. is mainly engaged in the manufacture and sale of various cooling towers and precision air-conditioning equipment. It is one of the standard-setting units in China's cooling tower industry.

The cooling tower produced by the company has the characteristics of high efficiency, energy saving, small size, light weight, quiet operation, sensitive control, beautiful appearance, long service life, small loss of water droplets, and convenient maintenance. Can be widely used in automobiles, data centers, hotels, shopping malls, theaters, textiles, chemicals, tobacco, steel and other fields of the national economy.

In 2015, the Precision Air Conditioning Division was established and began to manufacture and sell high-precision constant temperature and humidity air conditioners. All products of the division adopt the technology of Japanese Spinde, which can provide high-precision temperature and humidity control solutions, and have the production and manufacturing capabilities of high-precision constant temperature and humidity air conditioners and clean room related equipment. The highest control accuracy of air-conditioning products can reach $\pm 0.02^{\circ}\text{C}$ temperature and $\pm 0.5\%$ humidity. It is suitable for semiconductor and liquid crystal panel manufacturing, ultra-precision mold and parts processing, ultra-precision measurement and many other industries and fields that have strict requirements on the working environment.

Since its inception, the company has adhered to strict management, strengthened the awareness of technological excellence, and established a set of effective management systems and systems. It has successively obtained high-tech enterprise certification, ISO14001 environmental management system certification, ISO9001:2008 quality management system certification, GB/T28001-2011 occupational health and safety management system certification, EU CE certification, and ISO27001 information security management system certification.



Founded in 1918, Japan Spindle Manufacturing Co., Ltd. is a century-old enterprise with a registered capital of 3.28 billion yen. It is a wholly-owned subsidiary of Japan's Sumitomo Heavy Machinery Group. The head office is located in Amagasaki City, Hyogo Prefecture, Japan. The company consists of three divisions: industrial machinery, environmental machinery, and air conditioning and heating. The main products of the Industrial Machinery Division are spinning machines; the main products of the Environmental Systems Division are dust collectors, etc.; the main products of the Air Conditioning and Heating Division are cooling towers and precision air conditioners.



Dalian Bingshan Group Co., Ltd. is a large-scale mixed-ownership enterprise group with a history of nearly 100 years. Bingshan Group has established 1 listed company, 18 Sino-foreign joint ventures, and 24 domestic-funded enterprises focusing on industrial refrigeration and heating, commercial refrigeration, air conditioning and environment, core components, engineering and services, and new businesses. With total assets of 13 billion yuan and 12,000 employees, it is one of the top 500 manufacturing enterprises in China.

In recent years, Bingshan Group's cooling and heating products, projects and solutions have served more than 70 countries and regions, and have been upgraded from simple refrigeration equipment to complete sets of refrigeration and refrigeration projects, becoming an important participant in the construction of international cold chain logistics infrastructure.

Certification

Over the years, Dalian Spinde Environmental Equipment Co., Ltd. has continuously provided excellent products to the market through unremitting efforts and research and exploration, through the technical support of Japan Spinde, united with national key universities, established R&D centers, and laboratories. It has been recognized by international and domestic industry authorities.

Enterprise qualification certification



JCI (Japan Cooling Tower Industry Association) was established in 1963 and is an authoritative non-profit organization in the cooling tower industry in Japan.

JCI carries out work in cooling tower noise control, maintenance, technology application, information collection and standard formulation, in order to improve the product quality of cooling towers. The cooling towers of JCI members must meet the strict standards set by JCI in terms of performance, noise, maintenance and other design indicators, and each factory cooling tower is affixed with the JCI label.



GB/T 7190 "Mechanical Ventilation Cooling Tower" was drafted by Beijing FRP Research and Design Institute, China Water Conservancy and Hydropower Research Institute, etc., and 9 enterprises including Dalian Spinde Environmental Equipment Co., Ltd. participated in the drafting of mechanical ventilation cooling towers standard. The standard has strict requirements on cooling towers in terms of performance, noise, energy consumption, floating water rate, etc. The latest 2018 version requires performance to meet more than 95% of the calibration value, and the noise level is divided into (IIIIIIIVV according to different requirements.) level, the energy consumption is divided into (1~5) levels according to different working conditions, and the floating water rate needs to be no more than 0.01% of the rated water volume.



CQC Energy Conservation and Water Conservation Certification is a standard and specification formulated for implementing the national call for energy conservation and water conservation, issued by the China Quality Certification Center. The certification standard has made more stringent regulations on the energy consumption and floating water rate of cooling tower products, and also put forward requirements on the quality control of products.



Products that have passed the energy-saving and water-saving certification can only be equipped with the main purchased parts that have been confirmed through its audit, which reduces the risk of product quality problems from the source. After the main performance and energy efficiency indicators of the product are tested and passed, the China Quality Certification Center will issue the energy-saving and water-saving certification certificate, and allow the use of energy-saving and water-saving product certification marks.





Content

01	..... Company Profile	19	..... Non-standard options
03	..... Certification	20	..... Precautions
06	..... How to choose a cooling tower	21	..... Results showcase
07	..... DX series cooling tower		
09	..... DX series cooling tower product features		
11	..... DX-M series cooling tower		



How to choose a cooling tower

✕ Refer to the table below as required by the project. Preliminary selection of the desired series of products. For detailed plans and suggested options, please consult local sales staff.

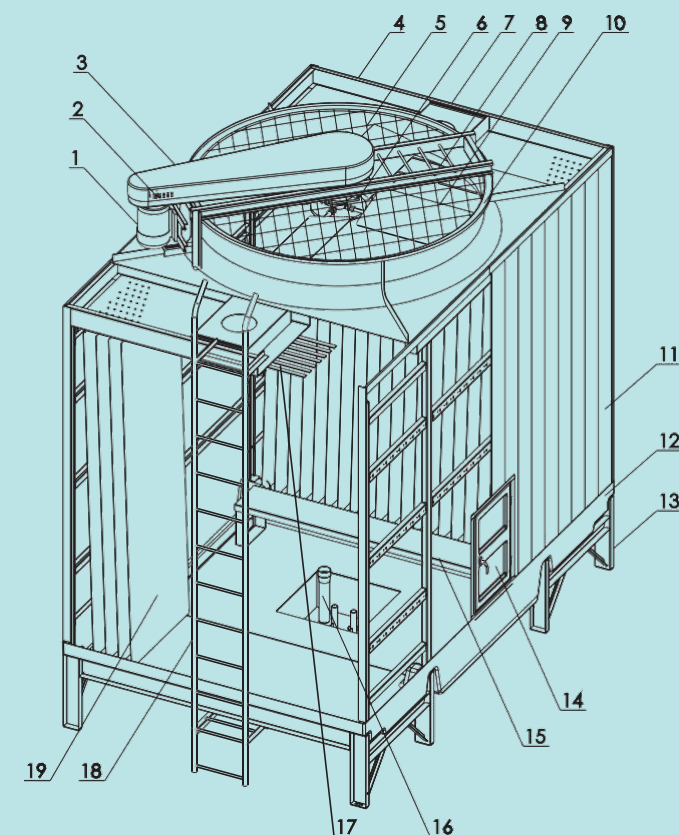


DX series cooling tower

Energy saving and environmental protection/reliable operation/easy maintenance



DX series cooling tower structure diagram



- | | |
|----------------------|---------------------|
| 1.全封闭室外电机 (-) | 11.外板 (硬质聚氯乙烯树脂) |
| 2.皮带轮及皮带 (-) | 12.冷水槽 (玻璃纤维增强聚酯树脂) |
| 3.皮带防护盖 (玻璃纤维增强聚酯树脂) | 13.架台 (钢材, 热浸镀锌) |
| 4.散水槽 (钢材, 热浸镀锌) | 14.检修门 (玻璃纤维增强聚酯树脂) |
| 5.风机防护网 (钢材, 热浸镀锌) | 15.塔内步廊 (钢材, 热浸镀锌) |
| 6.风机轴承组件 (钢材, 热浸镀锌) | 16.配管槽 (钢材, 热浸镀锌) |
| 7.散水箱 (钢材, 热浸镀锌) | 17.分水板 (聚氯乙烯树脂) |
| 8.风机支撑 (钢材, 热浸镀锌) | 18.爬梯 (钢材, 热浸镀锌) |
| 9.风机叶片 (玻璃纤维增强聚酯树脂) | 19.悬挂式填料 (硬质聚氯乙烯树脂) |
| 10.风机组套 (玻璃纤维增强聚酯树脂) | |

Four core features: energy saving and environmental protection, easy maintenance, easy installation, reliable operation

After more than 20 years of practical exploration and continuous research and development, Spinde cooling tower has become an excellent supplier and strategic partner for many customers to optimize their production, living and working environments. The product quality has been well received by customers. In the future, we will be determined to innovate and pursue excellence.



The packing adopts Japanese Spinde patented technology (composite sine wave structure), which is suspended and installed obliquely, which is in line with the flow direction of the circulating water, so that the heat exchange area is fully utilized and the heat exchange efficiency is high;

100% virgin modified PVC material vacuum forming. Long lasting;

Snap connection between fillers, no need to bond, green and environmental protection;

The axial-flow silent series fans specially developed by Japan Spinde for the cooling tower application environment can reduce the noise by about 6dB;



Energy saving and environmental protection



Cross-flow cooling tower, which can directly enter the tower body for maintenance operations;

The tower top water tank is made of hot-dip galvanized steel, which has high strength and is convenient for maintenance and operation;

The oil filling port of the fan is set on the outside of the fan duct, next to the motor, which is convenient for maintenance and operation;



Easy maintenance



The cold water tank is integrated, with few joints, which greatly saves on-site installation time;

After the main components are assembled in the factory, they are shipped to the site for splicing. Some models can choose to leave the factory as a complete machine, which not only ensures the installation quality of the product, but also shortens the on-site assembly period;



Easy to install



Reliable operation

High-quality rotating parts:

The belt adopts Japanese-made continuous belt, with uniform force and small tension attenuation; the pulley and belt are provided with protective cover, which can effectively avoid the phenomenon of wet slippage, etc., and the operating environment is good, safe and reliable;

The motor adopts the special motor for the fully enclosed outdoor cooling tower of the international brand; the motor is arranged on the side of the air duct and does not come into contact with the high-temperature saturated humid air generated during the operation of the cooling tower, and operates reliably;

The bearing with seat has an adjustable center function and a waterproof structure with three layers of sealing, which ensures the smooth operation of the transmission system;

Seismic design, high strength of the tower body, which can meet the horizontal seismic intensity of 1.0g and the vertical seismic intensity of 0.5g;

Flame retardant design, the filler has passed the national fire test and international SGS test, the oxygen index is above 32, and it has reached the flame retardant B1 level, with high safety.

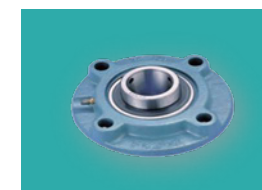
All steels such as the tower body frame are treated with hot-dip galvanized anti-corrosion treatment, which meets the GB and JIS hot-dip galvanized standards;

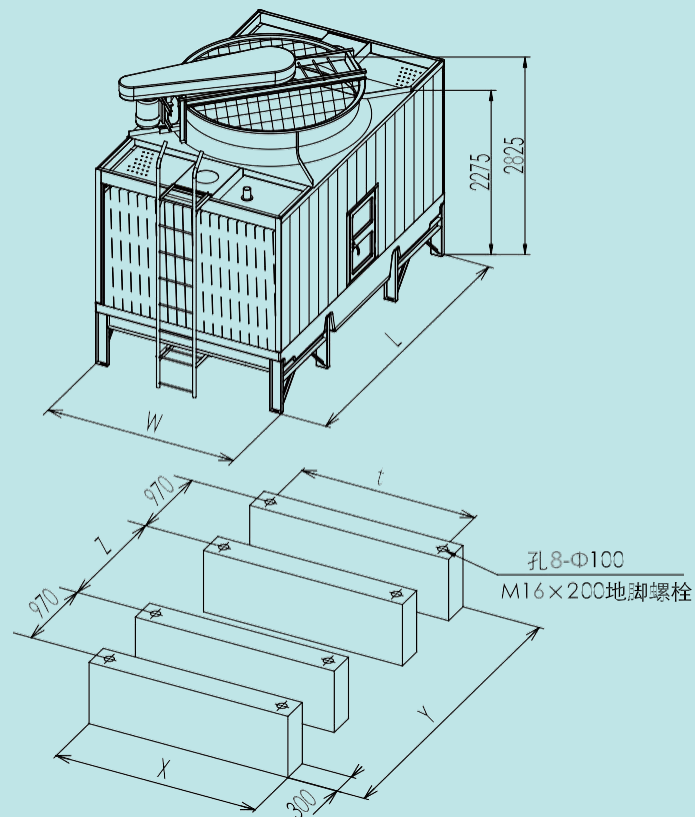
The water distribution tank and piping tank are made of hot-dip galvanized steel, with high strength, safety and reliability, and long service life;

The lower cold water tank is integrated, reducing the number of joints and avoiding the risk of leakage of circulating water;

The water outlet is equipped with an anti-vortex stainless steel filter, which can effectively prevent evacuation, has high anti-corrosion performance, and ensures the safe operation of the cooling water system;

Conscience quality

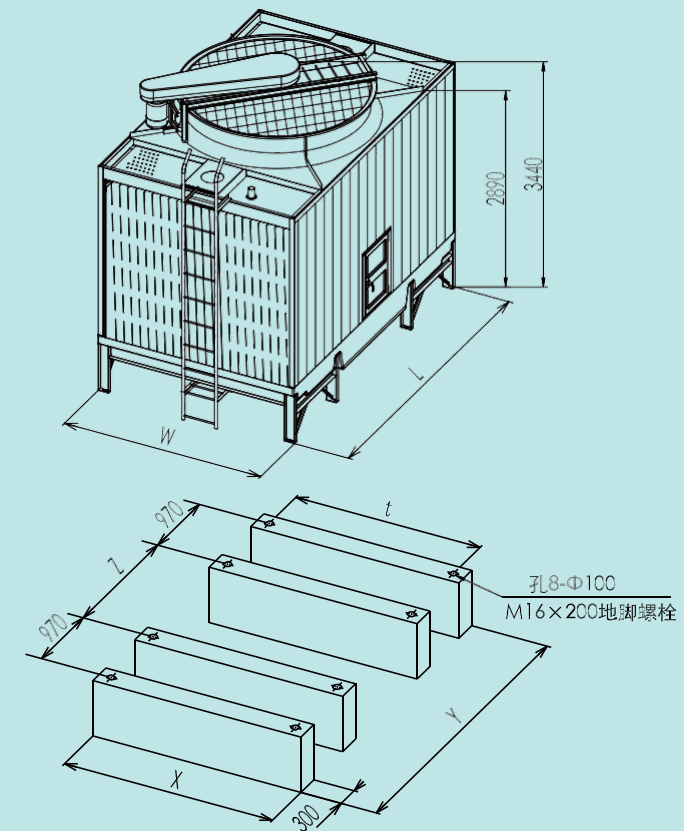


DX-M series Standard amount of water 56~123m³/h

Model (1)	CW ₍₂₎ (m ³ /h)	Dimensions		Base size				Fan		Weight		Pipe connection(DN)					
		W	L	X	Y	Z	t	Diameter	Motor	DW	Runing	IL	OL	sewage	overflow	Hydrate	
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kW)	(kg)	(kg)	(mm)	(mm)	(mm)	(mm)	(mm)	
DX-M1111-A	56	1450	3060	1600	3270	1030	1300	1300	1.5	720	1760	100x2	125	50	50	25x2	
DX-M1111-B	66	1450	3060	1600	3270	1030	1300	1300	2.2	730	1770	100x2	125	50	50	25x2	
DX-M1221-B	75	1750	3260	1900	3470	1230	1600	1500	2.2	800	2180	100x2	125	50	50	25x2	
DX-M1221-C	85	1750	3260	1900	3470	1230	1600	1500	4.0	810	2190	100x2	125	50	50	25x2	
DX-M1321-C	94	1850	3360	2000	3570	1330	1700	1500	4.0	880	2340	100x2	150	50	50	25x2	
DX-M1331-C	104	1850	3360	2000	3570	1330	1700	1600	4.0	880	2380	100x2	150	50	50	25x2	
DX-M1431-D	113	2050	3460	2200	3670	1430	1900	1600	5.5	940	2580	100x2	150	50	50	25x2	
DX-M1441-D	123	2050	3460	2200	3670	1430	1900	1700	5.5	945	2600	100x2	150	50	50	25x2	

Note (1): The listed model is a single unit, and there are several splicing units in this series, but they are not listed.

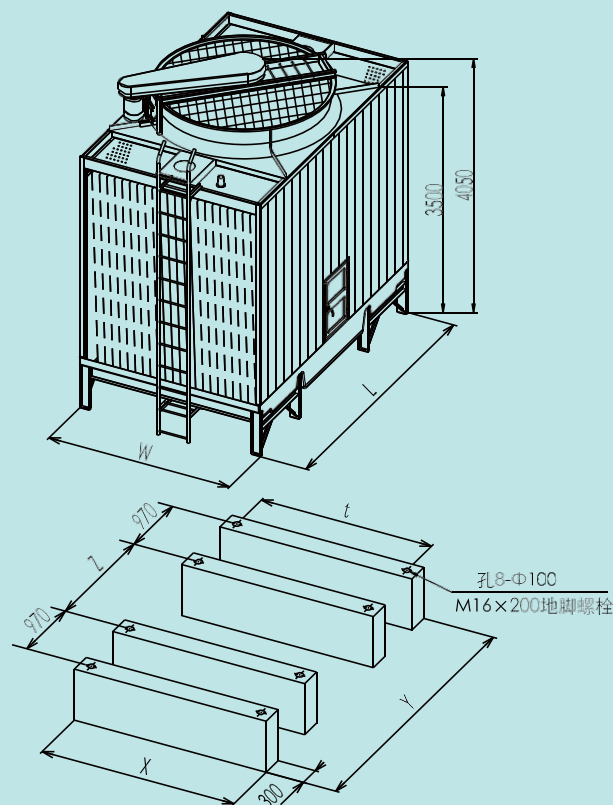
Note (2): Design conditions for circulating water volume: the inlet water temperature is 37°C, the outlet water temperature is 32°C, and the outside air wet bulb temperature is 28°C.

DX-M series Standard water volume 132~170m³/h

Model (1)	CW ₍₂₎ (m ³ /h)	Demision		Base size				Fan		Weight		Pipe connection (DN)					
		W	L	X	Y	Z	t	Diamete	Motor	DW	Runing	IL	OL	Sewage	overflow	Hydrate	
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kW)	(kg)	(kg)	(mm)	(mm)	(mm)	(mm)	(mm)	
DX-M2441-D	132	2050	3460	2200	3670	1430	1900	1700	5.5	1035	2700	125x2	150	50	50	25x2	
DX-M2541-D	142	2250	3660	2400	3870	1630	2100	1700	5.5	1090	2985	125x2	200	65	65	32x2	
DX-M2551-D	151	2250	3660	2400	3870	1630	2100	1850	5.5	1090	3025	125x2	200	65	65	32x2	
DX-M2651-D	161	2400	3760	2550	3970	1730	2250	1850	5.5	1140	3260	125x2	200	65	65	32x2	
DX-M2661-E	170	2400	3760	2550	3970	1730	2250	2000	7.5	1150	3290	125x2	200	65	65	32x2	

Note (1): The listed model is a single unit, and there are several splicing units in this series, but they are not listed.

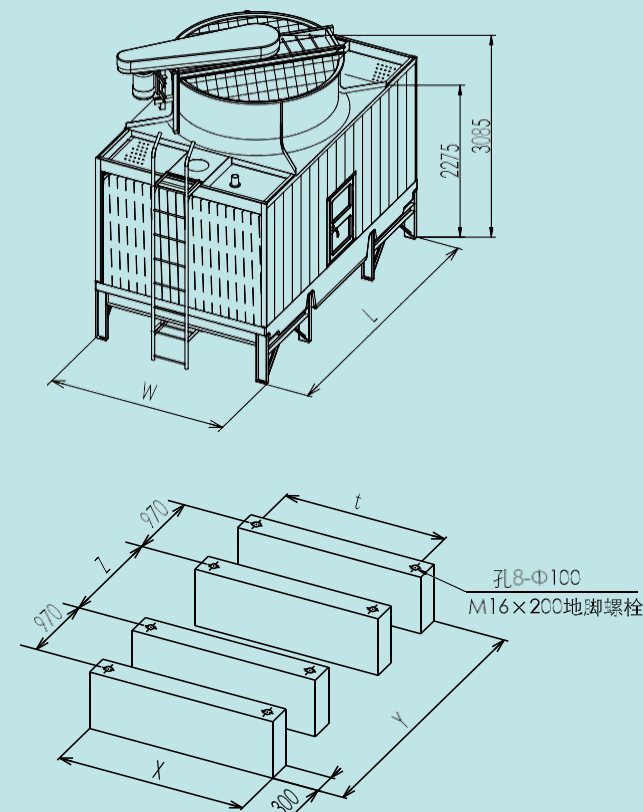
Note (2): Design conditions for circulating water volume: the inlet water temperature is 37°C, the outlet water temperature is 32°C, and the outside air wet bulb temperature is 28°C.

DX-M series Standard amount of water 132~189m³/h

Model (1)	CW (2)	OL		Base size				Fan		Weight		Pipe connection(DN)					
		W	L	X	Y	Z	t	Diameter	Motor	DW	Running	IL	OL	Sewage	Overflow	Hydrate	
	(m ³ /h)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kW)	(kg)	(kg)	(mm)	(mm)	(mm)	(mm)	(mm)	
DX-M3221-D	132	1750	3260	1900	3470	1230	1600	1500	5.5	1160	2530	125x2	150	50	50	25x2	
DX-M3331-D	142	1850	3360	2000	3570	1330	1700	1600	5.5	1250	2720	125x2	150	50	50	25x2	
DX-M3441-D	151	2050	3460	2200	3670	1430	1900	1700	5.5	1310	2960	125x2	150	50	50	25x2	
DX-M3541-D	161	2250	3660	2400	3870	1630	2100	1700	5.5	1410	3290	125x2	200	65	65	32x2	
DX-M3551-E	170	2250	3660	2400	3870	1630	2100	1850	7.5	1440	3320	125x2	200	65	65	32x2	
DX-M3651-E	179	2400	3760	2550	3970	1730	2250	1850	7.5	1520	3590	125x2	200	65	65	32x2	
DX-M3661-E	189	2400	3760	2550	3970	1730	2250	2000	7.5	1550	3620	125x2	200	65	65	32x2	

Note (1): The listed model is a single unit, and there are several splicing units in this series, but they are not listed.

Note (2): Design conditions for circulating water volume: the inlet water temperature is 37°C, the outlet water temperature is 32°C, and the outside air wet bulb temperature is 28°C.

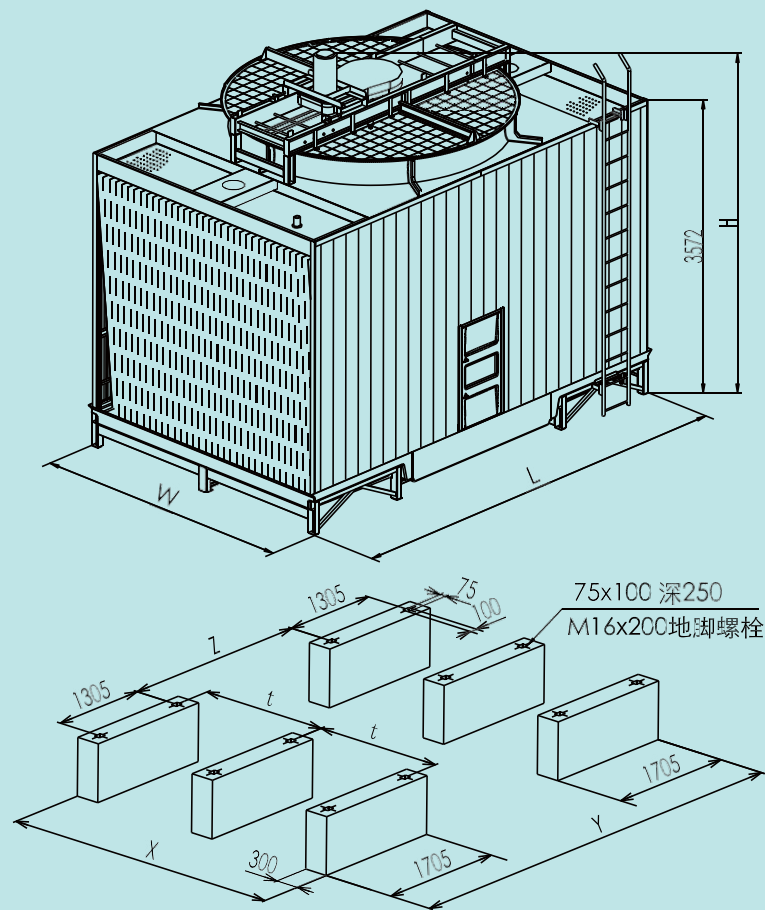
DX-J series silent type Standard amount of water 56~123m³/h

Model (1)	CW (2)	OL		Base size				Fan		Weight		Pipe connection(DN)					
		W	L	X	Y	Z	t	Diameter	Motor	DW	Running	IL	OL	Sewage	Overflow	Hydrate	
	(m ³ /h)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kW)	(kg)	(kg)	(mm)	(mm)	(mm)	(mm)	(mm)	
DX-J1111-A	56	1450	3060	1600	3270	1030	1300	1300	1.5	735	1785	100x2	125	50	50	25x2	
DX-J1111-B	66	1450	3060	1600	3270	1030	1300	1300	2.2	745	1785	100x2	125	50	50	25x2	
DX-J1221-B	75	1750	3260	1900	3470	1230	1600	1500	2.2	820	2210	100x2	125	50	50	25x2	
DX-J1221-C	85	1750	3260	1900	3470	1230	1600	1500	4.0	830	2210	100x2	125	50	50	25x2	
DX-J1321-C	94	1850	3360	2000	3570	1330	1700	1500	4.0	900	2350	100x2	150	50	50	25x2	
DX-J1331-C	104	1850	3360	2000	3570	1330	1700	1600	4.0	900	2400	100x2	150	50	50	25x2	
DX-J1431-D	113	2050	3460	2200	3670	1430	1900	1600	5.5	1050	2580	100x2	150	50	50	25x2	
DX-J1441-D	123	2050	3460	2200	3670	1430	1900	1700	5.5	1075	2605	100x2	150	50	50	25x2	

Note (1): The listed model is a single unit, and there are several splicing units in this series, but they are not listed.

Note (2): Design conditions for circulating water volume: the inlet water temperature is 37°C, the outlet water temperature is 32°C, and the outside air wet bulb temperature is 28°C.

DX large capacity series standard water volume 250~400m³/h



Model (1)	CW (2)	OL			Base size				Fan		Weight		Pipe connection(DN)				
		W	L	L	X	Y	Z	t	Diameter	Motor	DW	Running	IL	OL	Sewage	Overflow	Hydrate
	(m³/h)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kW)	(kg)	(kg)	(mm)	(mm)	(mm)	(mm)	(mm)
DX-M3661A-E	250	2350	4550	4500	2550	4740	1730	2250	2200	7.5	1930	5070	125x2	200	50	50	40x2
DX-M3771-F	300	2750	4850	4670	2950	5040	2030	1325	2475	11	2170	5720	150x2	200	80	80	40x2
DX-M3881-F	350	3050	5150	4670	3250	5340	2330	1475	2775	11	2290	6040	150x2	250	80	80	40x2
DX-M3991-F	400	3450	5440	4670	3650	5640	2630	1675	3048	11	2420	6370	200x2	250	80	80	40x2



Non-standard options:

- ◆ **Air deflector:**
When the cooling tower is installed near a building or wall, due to the limited space, the air discharged from the cooling tower may be sucked again, which will reduce the cooling performance. Install air ducts to reduce recirculation. In addition, when there is a requirement for noise on one side of the cooling tower, a 45°C or 90°C air guide can be installed to guide the exhaust gas from the cooling tower to the other side, thereby reducing noise.
- ◆ **Low noise fan:**
On the premise of ensuring the heat dissipation, the fan speed is reduced by adopting a wide blade and multi-blade scheme to reduce the operating noise of the cooling tower. Compared with standard products, the noise can usually be reduced by about 5dB(A).
For occasions with higher requirements on noise, forward-swept blades can be used, which can reduce noise by 10dB(A) compared with standard products
above!
- ◆ **Variable capacity control:**
The variable-speed operation of the cooling tower is realized by a two-speed motor or a variable-frequency motor. When the load decreases or the external wet bulb temperature decreases, the cooling tower fan can be controlled to operate at a low speed according to the temperature of the outlet water of the tower body. When the 4/6P two-speed motor runs at low speed, the heat dissipation of the tower is about 67% of that at high speed, the motor energy consumption is reduced to 30%, and the noise is reduced by about 8dB(A).
- ◆ **All Steel/Stainless Steel Cooling Tower:**
When there are higher requirements for environmental protection, appearance or corrosion resistance, users can choose an all-steel cooling tower or an all-stainless steel cooling tower.
- ◆ **Tower top guardrail, cage ladder:**
Routine maintenance operations need to climb to the top of the cooling tower. Maintenance personnel can go up to the top of the tower through the standard steel straight ladder of the tower body. Optional tower top guardrails and safety cages of the steel straight ladder make maintenance operations safer.
- ◆ **Diffuser cover:**
Adding a diffuser cover can effectively reduce dust, debris, etc. from falling into the diffuser. Available in hot-dip galvanized and fiberglass. In addition to the above functions, the patterned steel water tank cover can also be used as an inspection platform.
- ◆ **Internal inspection platform:**
When the tower body is relatively high, the maintenance of the fan drive system is difficult to operate. The optional tower maintenance platform is convenient for users to enter the tower for maintenance of the fan drive system.
- ◆ **Antifreeze device:**
When the cooling tower is used in winter in cold regions, the freezing expansion of the circulating water distribution water can cause the components inside the tower to crack. For an open cooling tower, when the cooling tower stops running, all the circulating water in the tower flows into the cold water tank, and the water tank heater is automatically turned on or off by the control system. Generally, it is set to ensure that the water temperature in the cold water tank is above 3°C. For fluid coolers, use a sump heater to protect the spread water from freezing. The circulating water in the coil is protected from freezing by adding antifreeze or antifreeze system with heater.

Precautions

- ◆ **Equipment layout:**
The cooling tower relies on the evaporation of circulating water to dissipate heat, so a large amount of continuous fresh air is required for cooling during operation of the cooling tower, so the unit needs to be installed in a place with good ventilation conditions, preferably on the roof or away from walls and obstacles. And a floor with good air circulation.

If the cooling tower is arranged in the circumstance where the surrounding is closed or close to the high wall, the reasonable arrangement should be fully considered to avoid the backflow phenomenon. When the hot and humid air discharged from the cooling tower flows back to the fresh air inlet, a backflow phenomenon occurs, resulting in an increase in the wet bulb temperature of the air inlet and a decrease in the heat dissipation capacity. When the field situation is complicated, please contact Spinde, and professional technicians will judge the potential backflow and provide solutions.
- ◆ **Pipeline configuration:**
In addition to avoiding heat reflux, the layout of the cooling tower should also avoid the following situations: Avoid using it in places with many ash layers and polysulfite gas, otherwise it will cause damage to the heat exchanger and piping;
Avoid using it near kitchens, toilets, ammonia gas, and copier exhausts;
It should be avoided to use in smoke windows and places that can be radiated by heat sources;
It should be used in an open place where the sound will not be amplified by echo;
- ◆ **Cooling tower design and installation**
should follow appropriate codes and practices. All associated connecting piping should be properly supported and able to withstand the expansion and contraction stresses of the piping system. Avoid adding additional loads to the tower body at the junctions of the cooling tower, nor should pipe supports be attached to the tower body. The suction part of the circulating water pump should be set below the cooling tower drain; in order to reduce the amount of return water, it should be one-way valve should be set at the outlet of the cooling tower; the pipelines higher than the cooling tower, especially the pipelines set horizontally above the tower body should be as short as possible to reduce the amount of water flowing into the water tank after the pump is stopped; when there are multiple water diffusers, the inlet of each water diffuser should be installed. water volume control valve;
- ◆ **Water quality management:**
Corrosive substances and insoluble substances such as calcium carbonate also exist in any good supply water, and they concentrate over time. Under the influence of atmospheric pollution, scale and corrosion gradually increase, resulting in malfunctions. Therefore, proper water quality management is an important part of cooling tower equipment maintenance. Reasonable water quality management helps the system operate effectively and prolong the service life of the equipment as much as possible.



Landmark building



Shanghai World
Financial Center



Great Hall of the
People



Chairman Mao
Memorial Hall



Shanghai World Expo
China Pavilion



Government building



Some customers:
 Harbin Trade Union Building
 Jilin Provincial Party
 Committee
 Shenyang Tiexi Court Dalian
 Customs
 Hebei Daily
 Tianjin Human Resources
 and Social Security Bureau
 State Federation of Trade
 Unions
 Zhengzhou City
 Procuratorate
 Xi'an Real Estate Exchange
 Building Qingdao National
 Ocean Laboratory Shanghai
 Museum
 Suzhou Intermediate
 People's Court Jiangsu
 Provincial Government
 Service Center Zhejiang
 News Cultural Industry
 Building Ningbo Employee
 Service Center
 Zhongke Hefei Micro and
 Small Gas Turbine Research
 Institute Shenzhen
 Meteorological Bureau
 Xiamen Southeast
 International Shipping Center
 Headquarters Building
 Chengdu Planning Hall
 Wuhan National Cyber
 Security Talent and
 Innovation Base

Real photos of
some customers:



Nanjing Great
Hall of the
People



State Bureau
of Letters and
Calls



State Military
Commission



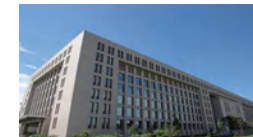
Shanghai
Party School



Zhengzhou People's
Congress Office
Building



Sinopec



Ministry of
Public
Security



National
Security
Agency



National Development
and Reform
Commission



Shaanxi Provincial
Public Security
Department



West Lake
State Guest
House



All-China
Federation of
Trade Unions

Public utilities



Some customers:

Daqing Airport
Changchun China Resources Natural Gas
Shenyang Tianxing Bus Terminal
Dalian Zhoushuizi International Airport
Peking University First Hospital
Shijiazhuang Telecom
Zhengzhou Metro Line 1, Line 2 Xi'an
Xianyang Airport
Tianjin First Central Hospital Qingdao
International Shipping Center Shanghai
Oriental Sports Center Suzhou High-speed Railway Underground Space
Station Nanjing State Grid Electric Power Research Institute
Hangzhou Metro Line 2 and Line 5
Ningbo Metro Line 1, Line 2, Line 3 Hefei
Pudong Development Bank
Guangzhou University Town Fourth Cold Station Xiamen Huaqiao University
Chengdu South Railway Station Wuhan
Qintai Concert Hall

Real photos of some customers :



Hangzhou Alibaba Ant Financial Headquarters



Liaoning Province Mobile Communication Office Building



Changchun Netcom Building



Industrial and Commercial Bank of China Dalian Branch



Beijing China Netcom



Bank of China Zhejiang Branch



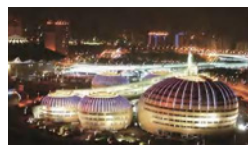
Jiangsu Co., Ltd. Three Network Hub Center



Beijing Wukesong Basketball Stadium



Shanghai F1 Circuit



Henan Provincial Art Center



Commercial real estate / hotel



Some customers:

Harbin Intime City
Changchun Eurasia Group
Shenyang Changbai China Resources Real Estate Plaza Dalian Castle Hotel
Beijing International Trade
Shijiazhuang Oriental Ginza Plaza Zhengzhou Mixc City
Xi'an Ecological Garden Hotel Tianjin Hedong Wanda Plaza Qingdao China Resources Mixc Plaza Shanghai Shimao Shenkeng Hotel Suzhou Four Seasons Hotel
Nanjing Golden Eagle Shangri-La Hangzhou InterContinental Ningbo Hefei Sasseur Art Commercial Plaza Guangzhou Anhuahui Xiamen China Resources Center
Chengdu CapitaLand Tianfu Commercial Plaza Wuhan Optics Valley Financial Center

Real photos of some customers :



Shanghai Zhengda Plaza



Beijing International Trade Phase III



Xiamen World Trade Center Twin Towers



InterContinental Shanghai Shimao Shenkeng



Conrad Sanya Haitang Bay



Shangri-La Hotel, Kunshan



The Westin Greentown Resort Zhujiajian



Shenyang China Resources LaCrosse Hotel



Sofitel Wanda Harbin



The Westin Tianjin



Chengdu Intime Plaza



Wuhan CapitaMall

industrial production



Some customers:

Heilongjiang Hongzhan Biology
Changchun Hehe Biology
Changchun FAW Qiming
Shenyang Liming Aero Engine
Volkswagen FAW Engine (Dalian)
Co., Ltd. Beijing Benz
Shijiazhuang Uni-President
Enterprise Co., Ltd. Zhengzhou
Foxconn
Xi'an Master Kong Water Plant
Phase II Tianjin Great Wall
Motors
Qingdao Haier Zhengda
Pharmaceutical Co., Ltd.
Shanghai Tsumura
Pharmaceutical Co., Ltd.
BOE (Suzhou) Intelligent
Manufacturing Service Industrial
Park Nanjing Nanrui Jibao
Hangzhou Huadong Medicine
Ninghai Geely
Wuhu Chery Automobile
Guangzhou Automobile Toyota
Xiamen Silan Microelectronics
Zhejiang Haoqing Automobile
Chengdu Branch

Real photos of some customers



Suzhou
BOE



Lankao
Foxconn



Jiangzhong
Pharmaceutical



Inner Mongolia
Mengniu Dairy
Group



Shanghai Hua Hong NEC
Electronics Co., Ltd.



Beijing Benz



BAIC New Energy
Verification Center



Guangqi
Honda



Volkswagen FAW
Engine (Dalian)



Tianjin FAW
Toyota



Shenyang
Bridgestone Tire



Shandong
Dezhou Huaneng
Power Plant

Foreign customers



Grand Hyatt Puerto
Rico



Shangri-La Hotel,
Jakarta



Japan Tobacco
Industry
Headquarters



Dubai Torch
Tower



The Sentosa Hotel
Singapore



Intel Malaysia
Branch



Dubai Waterfront



Islamabad Prime Minister's Secretary Building