

## Evaporative Condensers

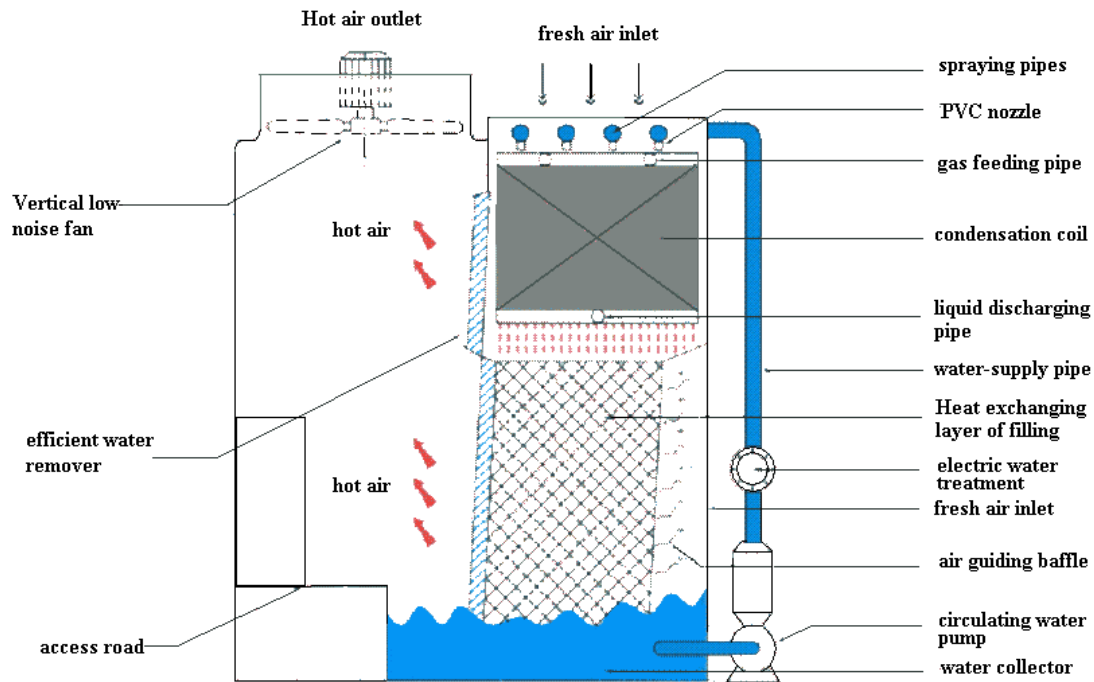


Energy-efficient evaporative condenser is one energy-saving heat exchange equipment based on advanced heat exchanging technology; it integrates traditional condenser, cooling tower, water circulating pump, pool and connecting water pipe. There are many advantages such as less land occupied, convenient installation, low noise, water and electricity saving, investment saving, low running cost, non-pollution, long life and easy repairing, it is the new-generation environmental protected product, desirable replacement of traditional shell and tube condenser, as well as it's the best choice for enterprises in chemical industry, medicine, industrial refrigeration, beer, beverage and food low-temperature processing and building air conditioner refrigeration.

### Running Principle

high-temperature gaseous refrigerant in the coils transfers heat with air and spraying water outside it. The refrigerant is condensed from gas to liquid state gradually. Thanks to the powerful fan and special design of the coil, spraying water covers the surface of coils completely. The effectiveness of heat exchange is obvious. The temperature of spraying water and air rise after absorb heat. Partial water transfer to gas. Taking away vast amounts of heat. The water in hot air is prevented by baffle and is collected in PVC heat transferring layer. Those water is cooled by flowed air, and fall into collective groove. Then it is pumped

into spraying system and circulate again. Lost water is supplied by water level regulator.



## Features

- ◆ Wide application – superior performance and complete specification

Utilize perfect combination of condensation coils and feeding heat exchange layer, cooling water touches condensation coils to the full by air in taking from the top side, which overcomes “dry point” of water film in pipe wall and scale deposit is easy to appear on the wall, realizes heat exchange efficiently. (Its heat exchange efficiency is improved by 4 times based on speculated parameters of evaporative condenser for ammonia refrigeration of the national standard of 7658.5-95), it can run for long time and absolutely saves water and energy.

As setting feeding heat exchange layer, temperature of circulated cooling water will not raise as environment temperature goes up, which cause high exhaust pressure and low efficiency of heat exchange. Cooling water can be dropped to 5°C, it guarantees temperature exchange and improves heat exchange on unit area.

STZ evaporative condensers heat rejection is from 295KW to 2245KW, complete specification and meet requirements of different customers and conditions.

◆ Low cost of installation and convenient installation

Fans use direct-coupled structure with simple layout, low noise, no transmission loss, high efficiency, and little friction among parts, which overcomes installation and maintenance difficulties caused by complex drive system.



STZ evaporative condenser integrates condenser, cooling tower, water circulating pump, pool with water connecting pipe assembled by way of upper and lower standard boxes with base of equipment. It is placed on the floor or ceiling or overlap arranged with fluid container, and STZ evaporative condenser could remove your trouble of inadequate locations.

◆ Long life- good and durable quality

STZ condensation coils are made of stainless pipes, they pass 2.5MPa pressure test in water and super thick hot galvanizing after assembling, which ensures long life for running.

Body case is made of import super thick double-surface hot galvanizing steel, which is the highest standard of galvanized sheet in industry, thickness of which is 0.05mm with zinc-rich paint on both sides of sheet. Feeding heat exchange layer uses PVC honeycomb cross-flow feeding. Its special S-model design makes large flowing membrane on feeding surface, which prolongs staying time of water and improves water cooling and life without aging and deformation.

◆ Low cost in maintenance-simple maintenance and high reliability

You can repair floating valve and clean filtering mesh without stopping STZ evaporative condenser, and its special repairing tunnel is convenient for check and clean of internal structure. Its outsider repairing staircase facilitates checking and repairing of fan and spraying devices on top.

There is no friction running parts in STZ evaporative condenser except in water pump and fan axial, which applies IP55 outdoor and full-closed water-proof electric machine and good bearings, therefore, fault rate is low.

◆ Low cost in running-low cost, environmental-protection and energy-conservation



As STZ evaporative condenser has special structure, good quality and many advantages especially in areas with high humidity and high temperature, therefore STZ evaporative condenser is your best choice.

Evaporative condenser has special heat performance (heat removing volume in unit area is 3 times that of water cooled shell and tube condenser) and low condensing temperature; its water recycling device gets 0.001% elegant rate of cooled water with little consumption of cooled water, small running power and electricity-saving; absolutely low annual running fee. With low noise and environmental-protection, it is real energy-conserving and environmental-protecting products.

### Introduction of Major Parts

**Circulating water pump** it applies mechanical sealing with long life, outdoor-machine with special bearings guaranteeing reliable running. It has large flow, low power, low noise and good performance.



**Electric water treating instrument:** Equipped with advanced electric water treating instrument, you can start the function of decaling, derusting and disinfection of condenser when put through of 220V power and make cooling water clean.

**Vertical axial ventilator:** ventilation system is aluminum-alloy axial ventilator for cooling tower and top wind-leaf structure, which has small wind resistance, large blast, low noise, good performance and high efficiency. And wind-leaf can be directly installed on the machine, which reduces driving parts. The machine applies full-closed, self-cooling and low-noise special cooling tower with protection class of Ip55, which is small in volume, light in weight, good in performance and durable in running.

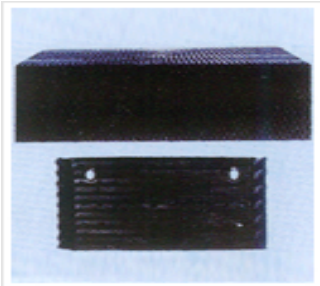


**S-shaped condensing coil pipe:** made by oval seamless steel, and each route is installed after checked to guarantee material quality and pressure, and coil pipe passes 2.5 MPa pressure test to guarantee no leakage. It applies superthick integral hot galvanizing with strong corrosion.

**Advanced water distribution system:** spraying system of cooling water applies large-flow PVC nozzle, which



guarantees continuous flow on coil pipe surface and avoids “dry point” of water membrane of condensing pipe, improves sprinkling and heat exchanging effect.



**Efficient dehydrator:** it applies specially designed corrosion glass steel, whose structure can remove wet air from coil pipe by changing flowing direction and make elegant rate up to 0.001%.

**Good PVC feeding:** it applies PVC honey-comb cross feeding, and its shortcut inletting design can quickly take heat of water and special feeding route can form large flowing membrane on feeding surface and extends staying time of water in feeding and improve cooling effect, while feeding is resistant to 68°C water with good flame resistance, small wind coefficients, anti-aging and anti-deformation.

**Efficient flat-tube radiating coil pipes:** flat and oval tube design makes compact arrangement and small pipe gap, and pipe area in unit space will be larger, air resistance will be smaller, and heat exchanging between pipes and water more longer and completer. Compared with other factories, it has more exchanging area and volume in unit time.



### Parameters STZ Standard Series

Model	Heat exchanging Capacity KW	Axial fan Qty	Axial fan		Water circulating pump		NH3 filling volume NH3 Kg	Weight	
			Air volume	Power Kw	Flow m <sup>3</sup> /h	Power KW		Net weight Kg	Runnin g Kg
STZ-375	375	1	60000	4	45	1.5	32	3760	4810
STZ-430	430	1	60000	4	45	1.5	40	3970	5020
STZ-475	475	1	60000	4	45	1.5	48	4210	5260
STZ-495	495	1	65000	5.5	45	1.5	48	4290	5340
STZ-525	525	1	75000	5.5	65	2.2	49	4380	5650
STZ-550	550	1	62000	4	65	2.2	61	4780	6050
STZ-595	595	1	75000	5.5	65	2.2	61	4870	6140
STZ-670	670	1	75000	5.5	65	2.2	73	5220	6499
STZ-700	700	1	75000	5.5	65	2.2	73	5740	7350

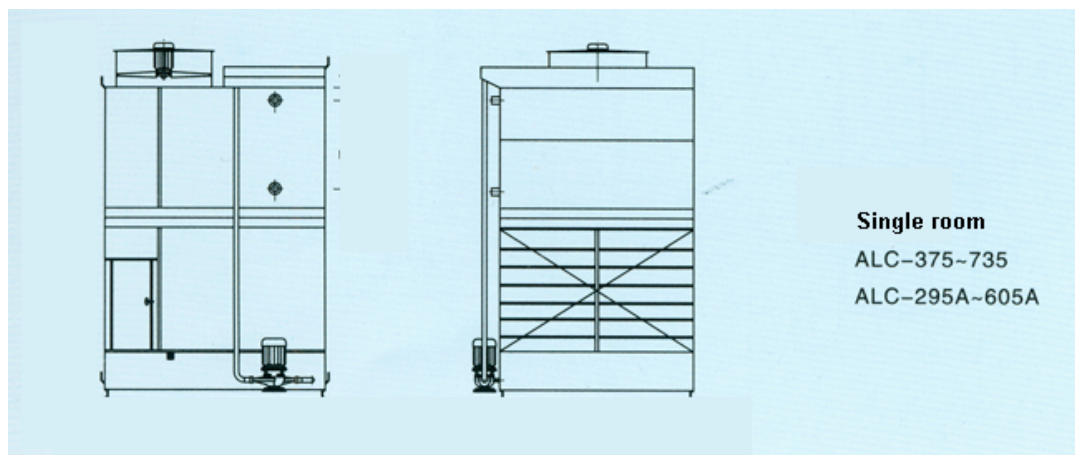
STZ-735	735	1	87000	7.5	65	2.2	73	5830	7440
STZ-870	870	2	2×60000	2×4	100	3	81	6640	8740
STZ-900	900	2	2×65000	2×5.5	100	3	81	6810	8910
STZ-960	960	2	2×60000	2×4	100	3	97	7090	9190
STZ-1000	1000	2	2×65000	2×5.5	100	3	97	7290	9390
STZ-1050	1050	2	2×72000	2×7.5	100	3	97	7370	9470
STZ-1165	1165	2	2×62000	2×4	130	4	124	8040	11260
STZ-1285	1285	2	2×75000	2×5.5	130	4	124	8200	11420
STZ-1335	1335	2	2×87000	2×7.5	130	4	124	8380	11600
STZ-1420	1420	2	2×75000	2×5.5	130	4	149	8850	12070
STZ-1490	1490	2	2×87000	2×7.5	130	4	149	9030	12250
STZ-1575	1575	3	3×60000	3×4	130	4	146	9320	12170
STZ-1620	1620	3	3×65000	3×5.5	130	4	146	9580	12430
STZ-1690	1690	3	3×72000	3×7.5	130	4	146	9740	12590
STZ-1710	1710	3	3×75000	3×5.5	170	5.5	150	10400	14540
STZ-1765	1765	3	3×87000	3×7.5	170	5.5	150	10620	14760
STZ-1935	1935	3	3×75000	3×5.5	170	5.5	186	11580	15720
STZ-2010	2010	3	3×87000	3×7.5	170	5.5	186	11800	15940
STZ-2140	2140	3	3×75000	3×5.5	170	5.5	224	12520	16660
STZ-2245	2245	3	3×87000	3×7.5	170	5.5	224	12760	16900

## Parameters of STZ Low-noise and Energy-Saving Series

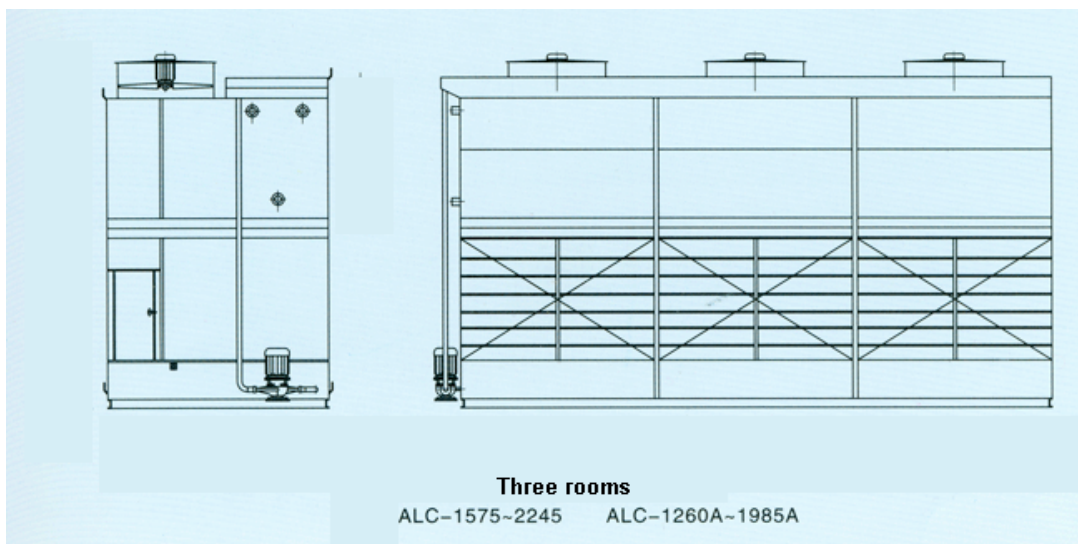
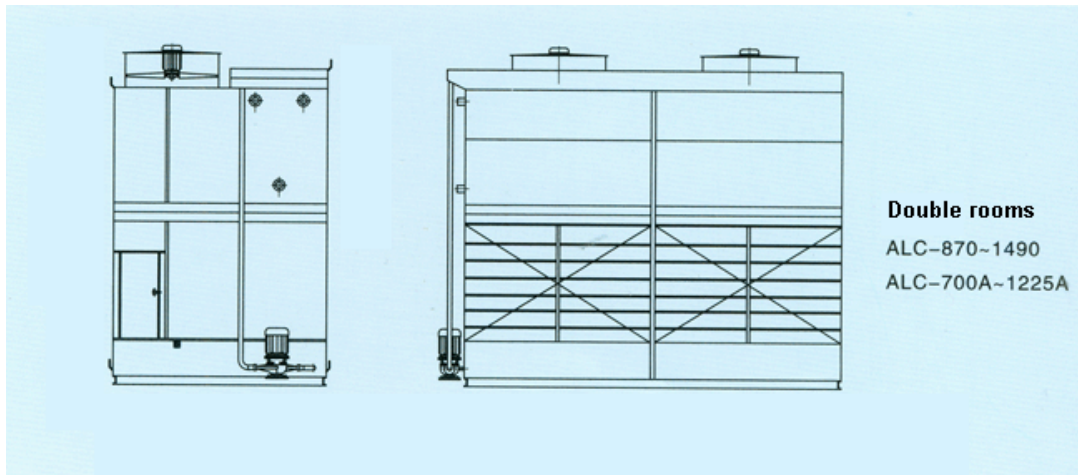
Model	Heat exchanging Capacity KW	QTY	Axial fan		Water circulating pump		NH3 filling volume Kg	Weight	
			Air volume	Power Kw	Flow m <sup>3</sup> /h	Power KW		Net weight Kg	Runnin g Kg
STZ-295A	295	1	37000	2.2	45	1.5	32	3710	4760
STZ-320A	320	1	46000	3	45	1.5	32	3730	4780
STZ-345A	345	1	37000	2.2	45	1.5	40	3920	4970
STZ-365A	365	1	46000	3	45	1.5	40	3940	4990

STZ-385A	385	1	37000	2.2	45	1.5	48	4160	520
STZ-420A	420	1	46000	3	45	1.5	48	4180	5230
STZ-490A	490	1	47000	3	65	2.2	61	4750	6020
STZ-570A	570	1	47000	3	65	2.2	73	5170	6440
STZ-605A	605	1	62000	4	65	2.2	73	5200	6470
STZ-700A	700	2	2×37000	2×2.2	100	3	81	6540	8640
STZ-740A	740	2	2×46000	2×3	100	3	81	6580	8680
STZ-780A	780	2	2×37000	2×2.2	100	3	97	6990	9090
STZ-850A	850	2	2×46000	2×3	100	3	97	7030	9130
STZ-890A	890	2	2×47000	2×3	130	4	99	7280	10500
STZ-990A	990	2	2×47000	2×3	130	4	124	7980	11200
STZ-1155A	1155	2	2×47000	2×3	130	4	149	8750	11970
STZ-1255A	1255	2	2×62000	2×4	130	4	149	8810	12030
STZ-1260A	1260	3	3×37000	3×2.2	130	4	146	9170	12020
STZ-1360A	1360	3	3×46000	3×3	130	4	146	9260	12110
STZ-1590A	1590	3	3×47000	3×3	170	5.5	186	11430	15570
STZ-1735A	1735	3	3×62000	3×4	170	5.5	186	11680	15820
STZ-1845A	1845	3	3×47000	3×3	170	5.5	224	12370	16510
STZ-1985A	1985	3	3×62000	3×4	170	5.5	224	12430	16570

### Overall Dimension Sketch of the STZ Series Evaporative Condenser







### Attention in Installation

1. Check loading capacity of the foundation according to running weight and safety coefficients of condenser.
2. Units must be installed on top of buildings or grounds with good ventilation. There are no air reflows if installed in places with obstacles around.
3. Pipe design and installation must correspond to national standards. Pipes should be symmetrically arranged in multi-units system, whose size should be considered according to flowing speed and low-pressure.
4. The easiest and valid method for circulating system to prevent frost is distant storage slot installation in the room, or install electric, steam or hot-water heater on bottom slot. In low temperature in winter, wind-cooled could replace water-cooled with dry-running



mode (water pump out of work while fans work). In the same time, water must be evacuated form slot emptyly and electric heater is not in working.

### **Maintenance for Units Running**

1. Circulating water system. As evaporation of partial spraying water, mineral and other impurity in water are left, therefore, must drain and clean the impurity regularly.
2. Control of biological pollution. Examine water quality of biological pollution regularly and take farther treatment flow water ad mechanical cleaning program if biological pollution is detected. Keep surface clean without pollution and impurity, make water collector is in good working status.
3. Water treatment. If mineral content of supplementary water is high and cannot be removed by draining method, ask relevant treating company to deal with the problem. If use chemical to remove impurity, the chemical can't destroy galvanizing layer of components.

#### Technical Changes

The data and illustrations in this catalogue are not binding and only provide an approximate description. We reserve the right to make changesto the product delivered compared with the data and illustrations in this catalogue, e.g. in respect of technical data, design, fittings, material and external appearance.

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