



NECN Series

Counter Flow Evaporative Condenser



NECN is an exceptionally efficient evaporative condenser, distinguished by its counter flow heat transfer - the air and refrigerant steam move in opposite directions. This innovative design enables a more thorough exchange of heat between the air and refrigerant steam within the condenser, ultimately enhancing condensation efficiency.

Advantages

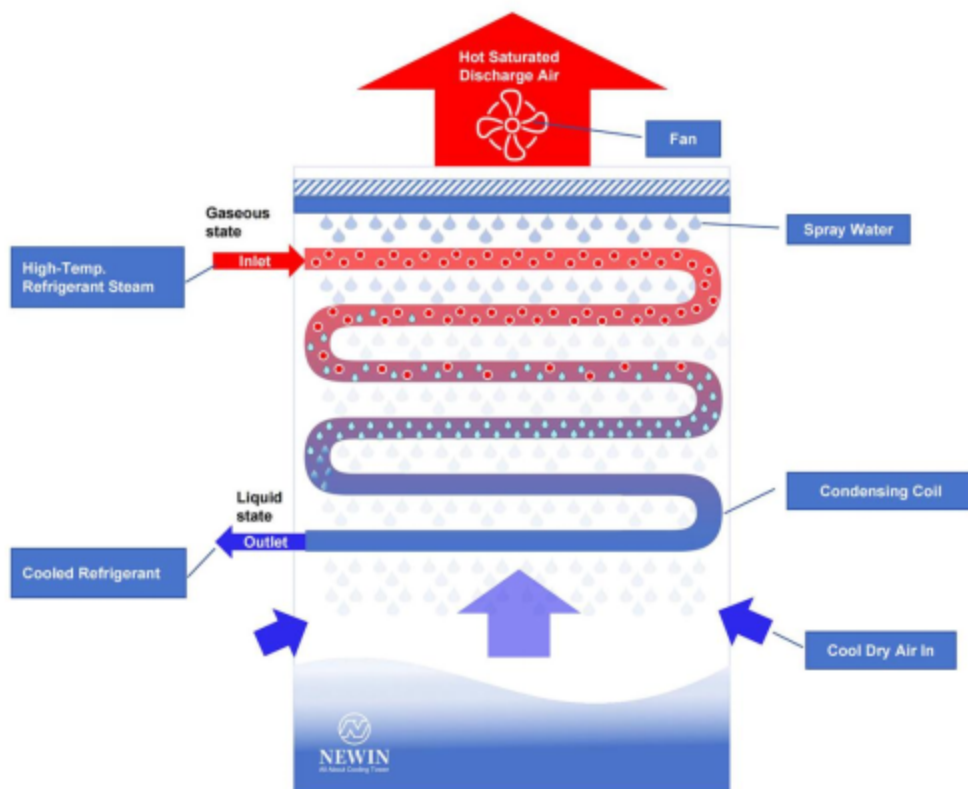
↔ **Counter flow heat transfer, Higher condensation efficiency.**

Fuller heat exchange between air and refrigerant steam, Efficient condensation performance specially in hot and humid conditions.

↔ **Closed circuit system, Energy saving and Environmental protection.**

Gaseous state refrigerant is condensed and closed circulated in the coil unit, Keep media clean, reduce water consumption and maintenance cost, longer equipment service life.

↔ **Compact structure design, Small occupation area, Convenient to the shipment, Ease of installation and maintenance.** (Muti-cells is available)



Operating Principle Of NECN

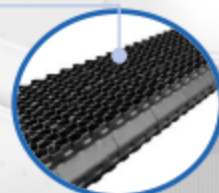
Parts & Options

1. High Efficient Axial Flow Fan

Utilization of the cooling tower special aluminum alloy axial flow fan, forward type blade structure design, small wind resistance, big air volume, low noise, good performance, high efficiency. Streamline high-strength fan stack ensures airflow uniform through the fan inlet and outlet area, maximum reduce the energy consumption. Fan motor's protection class: IP55, Insulation class: F class.

**2. High Performance Drift Eliminator**

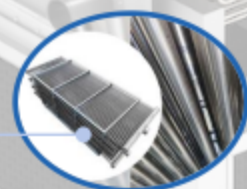
NEWIN made EVD series drift eliminator using advanced self-extinguishing PVC material. The special flow flute design changes the air flow direction, reducing drift loss to below 0.001% and effectively removing moisture from the air. This helps save water and prevents pollution and the spread of germs around cooling towers.

**3. Uniform Water Distribution**

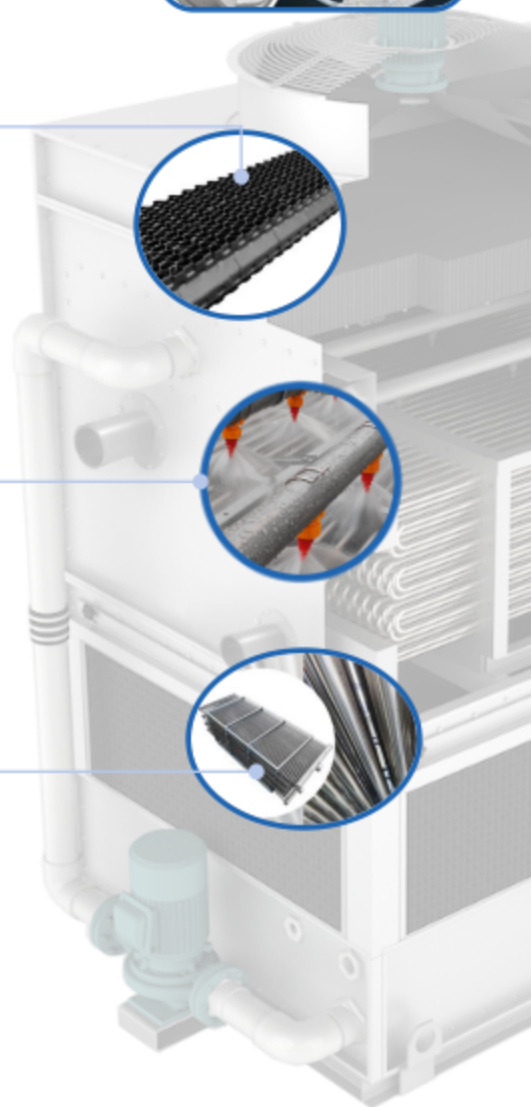
The spray system utilizes SPJT pressure type nozzles to produce a delicate and concentrated liquid mist, propelled by the force of the water pump, resulting in a wide coverage area and uniform distribution.

**4. Stainless Steel Condenser Coil**

The 304 stainless steel condenser coil boasts exceptional anti-corrosion properties, while its unique serpentine coils design enhances heat transfer performance.



* Coil materials: SUS 304/316, Copper or Galvanized steel for option.



5. Heavy-duty Construction

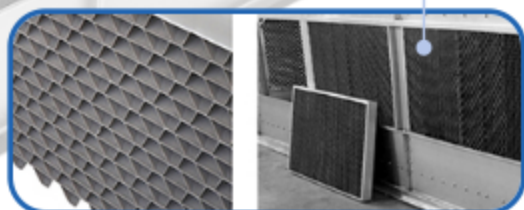
The modular compact structure using the high quality of Z700 galvanized plates is anti-corrosion and high stability. The **Exceptional corrosion resistant NWN-Armour panel** or SUS304/316 plate is optional.

6. Air Inlet Grille

Easy disassembled type air inlet grill, Special 3D stereo 45 degree ventilation channel, greatly improving product rigidity and wind load resistance. It reduces noise and prevents the growth of algae and it is anti-corrosion, anti-ultraviolet and maintenance free.

About NWN-Armour Anti-corrosion Panel

The galvanized steel panel with NWN-Armour anti-corrosion coating exhibits exceptional resistance to corrosion, rivaling the characteristics of stainless steel. It serves as a cost-effective substitute for Stainless Steel 304.



Options

- ▶ Noise reduction upgrade
- ▶ Vibration isolator
- ▶ High-temperature upgrade
- ▶ Anti-Freeze heater
- ▶ Stainless steel casing and framework / bolts and nuts (304 / 316)
- ▶ Dual-speed Motor & VFD motor, or Permanent magnet motor direct-drive fan

Parameter

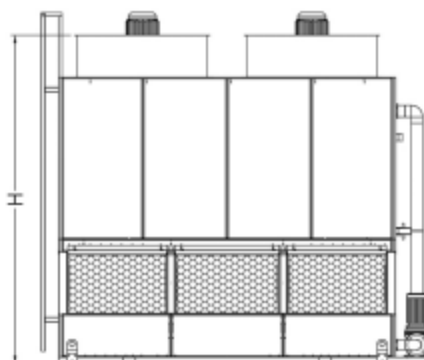
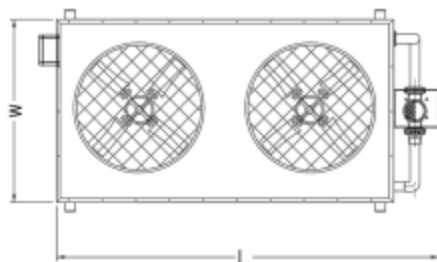


Table 1. Technical Specification

Item	Heat Rejection Capacity (KW)	Dimension (mm)			Axial Fan		Spray Pump		NH3 Ammonia Charge (kg)	Weight (kg)	
		Length	Width	Height	Air Volume (m ³ /h)	Power (Kw)x Qty	Flow (m ³ /h)	Power (Kw)		Dry	Wet
NECN-40	40	1150	900	1920	10500	0.55	14	0.75	8	350	600
NECN-64	64	1150	1150	1920	13050	0.75	14	0.75	9	400	700
NECN-80	80	2000	1150	2200	26100	0.75*2	30	1.1	11	520	1000
NECN-120	120	2000	1150	2200	26100	0.75*2	30	1.1	13	570	1100
NECN-160	160	2500	1150	2200	36600	1.1*2	40	1.5	18	650	1600
NECN-200	200	2500	1150	2350	36600	1.1*2	40	1.5	28	750	1700
NECN-280	280	2500	1400	2650	40600	1.5*2	40	1.5	41	850	1800
NECN-320	320	2500	1400	2650	40600	1.5*2	60	1.5	43	1050	2000
NECN-400	400	2500	1400	2650	46900	2.2*2	60	1.5	45	1250	2300
NECN-480	480	2500	1400	2650	53000	2.6*2	60	1.5	65	1350	2400

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NECN-560	560	3000	1400	2850	63800	3.5*2	65	2.2	65	1650	3000
NECN-640	640	3000	1400	2850	90000	4*2	65	2.2	81	1850	3300
NECN-800	800	3000	2180	2850	90000	4*2	110	3	83	2050	3800
NECN-1000	1000	3518	2180	3250	110000	5.5*2	110	3	109	2450	4300
NECN-1200	1200	3518	2180	2850	150000	7.5*2	110	3	120	3150	4300
NECN-1400	1400	4010	2980	3910	180000	7.5*2	170	5.5	142	3700	7100
NECN-1600	1600	4010	2980	3910	220000	7.5*2	170	5.5	166	4180	7600
NECN-2000	2000	4510	2980	3910	300000	11*2	170	5.5	220	5050	8900
NECN-2400	2400	7036	2180	2850	300000	7.5*4	220	3*2	237	6300	8600
NECN-2800	2800	8020	2980	3910	360000	7.5*4	340	5.5*2	283	7400	14200
NECN-3200	3200	8020	2980	3910	440000	7.5*4	340	5.5*2	330	8360	15200
NECN-4000	4000	8020	2980	3910	600000	11*4	340	5.5*2	438	10100	17800

Table 2. Heat Emission Correction Index for R717

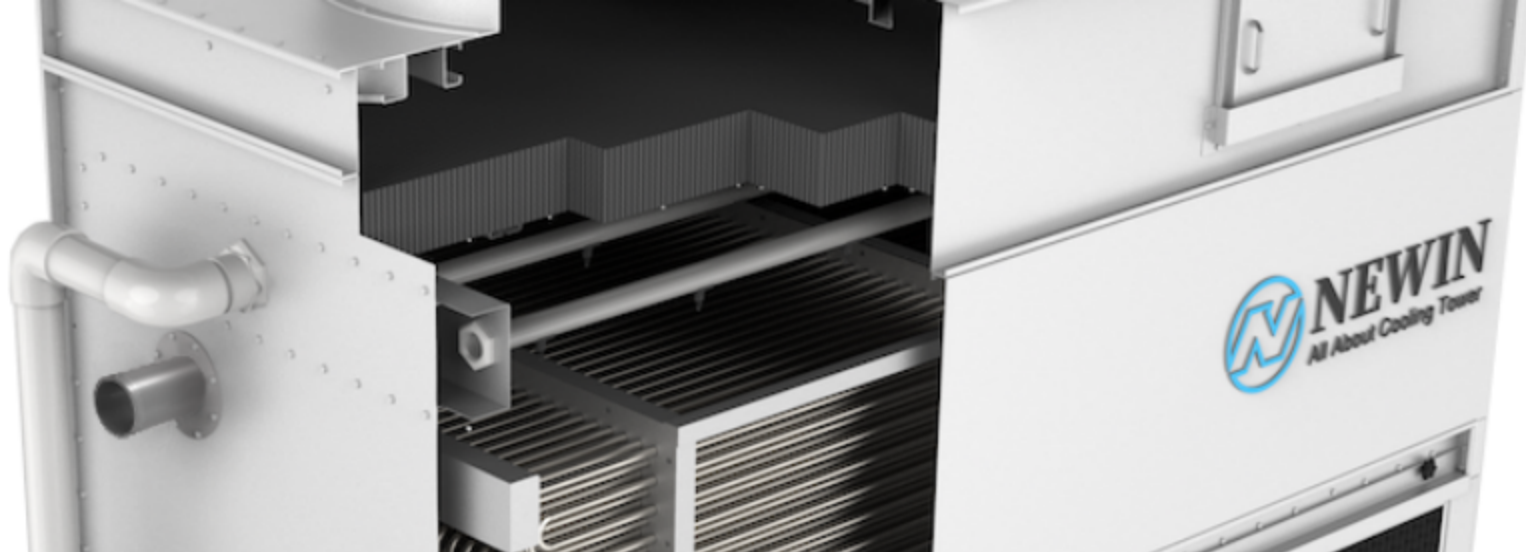
Condensing Temp. (°C)	Air Inlet Wet Bulb Temp. (°C)												
	18	19	20	21	22	23	24	25	26	27	28	29	30
30	1.40	1.51	1.63	1.79	1.99	2.24	2.56	3.00					
32	1.18	1.25	1.32	1.43	1.55	1.70	1.88	2.11					
34	1.02	1.07	1.12	1.19	1.28	1.36	1.48	1.61	1.80	2.06			
35	0.95	0.99	1.03	1.08	1.15	1.23	1.30	1.39	1.53	1.69	1.90	2.15	2.47
36	0.89	0.92	0.96	1.01	1.07	1.13	1.20	1.28	1.39	1.53	1.70	1.91	2.17
38	0.78	0.81	0.83	0.86	0.90	0.94	0.99	1.05	1.12	1.21	1.31	1.44	1.59
40	0.70	0.72	0.74	0.76	0.80	0.83	0.87	0.91	0.96	1.02	1.09	1.18	1.29
42	0.63	0.64	0.66	0.68	0.71	0.74	0.76	0.80	0.84	0.88	0.93	0.99	1.06
44	0.56	0.58	0.59	0.61	0.63	0.65	0.67	0.70	0.76	0.76	0.79	0.83	0.86

Table 3. Heat Emission Correction Index for R22 &R134a

Condensing Temp. (°C)	Air Inlet Wet Bulb Temp. (°C)													
	10	12	14	16	18	19	20	21	22	23	24	25	26	28
29	0.86	0.94	1.03	1.15	1.37	1.43	1.55	1.68	1.92	2.10	2.52	3.10		
31	0.77	0.83	0.90	0.99	1.10	1.17	1.24	1.34	1.47	1.62	1.83	2.10	2.48	
33	0.69	0.73	0.79	0.86	0.94	1.00	1.02	1.10	1.20	1.28	1.40	1.56	1.75	2.38
35	0.62	0.66	0.70	0.76	0.83	0.86	0.90	0.93	1.00	1.07	1.18	1.25	1.38	1.68
37	0.57	0.60	0.63	0.67	0.72	0.76	0.78	0.82	0.85	0.90	0.96	1.02	1.10	1.30
39	0.55	0.57	0.59	0.62	0.65	0.68	0.70	0.72	0.75	0.79	0.84	0.88	0.95	1.10
41	0.48	0.49	0.52	0.54	0.57	0.59	0.61	0.63	0.66	0.68	0.71	0.75	0.78	0.90
43	0.44	0.46	0.48	0.50	0.52	0.54	0.55	0.57	0.59	0.61	0.63	0.66	0.68	0.75
45	0.41	0.42	0.44	0.46	0.48	0.49	0.50	0.52	0.53	0.55	0.56	0.58	0.61	0.66

Instructions for Selection

1. Confirm condensing temperature, wet bulb temperature.
2. Calculate total heat abstraction amount that goes through system to condensers.
3. Take a reference to below Table 2. or Table 3., select heat abstraction amount correction index.
4. Total amount of heat abstraction multiplies heat correction index equals to the condensing load during the working conditions.
5. Take a reference to Graph Specification sheet, select the heat abstraction amount data which is bigger or equivalent to the data after correction.



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