



Thank you for choosing ALPHA cooling tower.  
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# COOLING TOWER

Made in Viet Nam

## ALPHA VINA INDUSTRIAL COOLING TOWER

ALPHA COOLING TOWER as one of member in ALPHA VINA .JSC was established in 2011, a leading manufacturer of cooling tower, water pumps, electric motors in Viet Nam . We committ to provide perfect solution for customers in HVAC and water supply & drainage to help them improve working performance, reduce the adverse effects on environment, at the same time, minimize the entire circulatory system energy consumption, ALPHA COOLING TOWER is a certi ed enterprise of QS(quality system), produces full series of "ALPHA" brand cooling tower, and successfully past the testing according to by National Cooling Tower Quality supervision and inspection cent Its products keep a stabe growth in the market of Viet Nam . Based on our strongly development and comprehensive management, with great after-sales service. ALPHA products are well-known for the customers in Viet Nam and Asea.



## CATALOGUE

<b>1. APC Series</b>	<b>1-2</b>
Round Type Cooling Tower	
<b>2. APC-S Series</b>	<b>3-4</b>
Rectangle Type Cross Flow Cooling Tower	
<b>3. APC-F Series</b>	<b>5-6</b>
Square Type Counter Flow Cooling Tower	
<b>4. APC-SC/APC-S Series</b>	<b>7-8</b>
Closed Circuit Cooling tower	
<b>5. APC-I Series</b>	<b>9-10</b>
Industrial Usage Cooling Tower	
<b>6. ACF Series</b>	<b>11-14</b>
Forced Draft Cooling Tower	
<b>7. RTS/NTS Series</b>	<b>15-16</b>
Water Turbine Cooling Tower	
<b>8. Acid and Alkali Resistant Solution</b>	<b>17-18</b>
F.R.P Framework Cooling Tower	
<b>9. Mud &amp; Sands / Oil &amp; Fat / Alga &amp; Moss Waste Water Solution</b>	<b>19-20</b>
Splash Fill Cooling Tower	
<b>10. Project Case</b>	<b>33-27</b>
Alpha Cooling Tower	

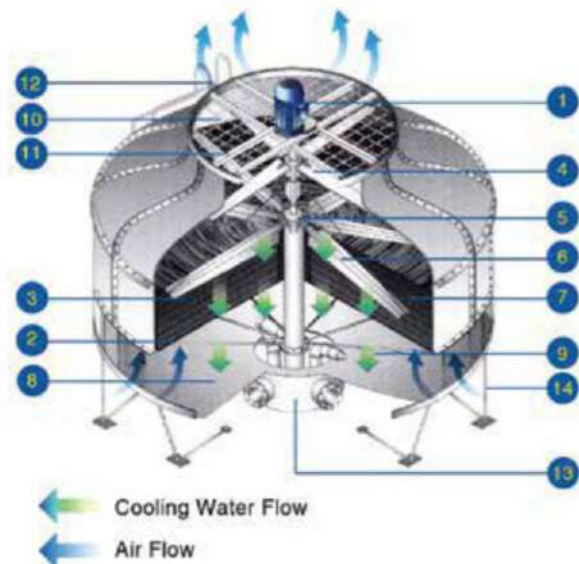


Model Description

**APC - 000**  
counter flow round type cooling tower      cooling capacity

- High efficiency, save energy to the largest extent
- Fit with various environment changes in different industries
- Better solved the problem that environment changes affect of the cooling tower
- Matched equipment running normally
- Completely comply with national standards

Structure



1. Motor & fan drive
2. Air inlet mesh
3. Tower case
4. Fan blade & hub
5. Sprinkler head
6. Drift eliminator
7. Filler
8. Water basin
9. Filler support
10. Fanguard
11. Motor support
12. Ladder
13. Aux. Suction tank
14. Basin support

MODEL APC	10	15	20	25	30	40	50	60	70	80	100	125	150	175	200	225	250	300	350	400	500	600	700	800
MOTOR	220/380V.3Ph 50/60Hz											380/660V.3Ph 50/60Hz												
FAN DRIVE	DIRECT DRIVE											SPEED REDUCER												
FAN BLADE	ABS											ALUMINIUM ALLOY												
CASING	FRP																							
SPRINKLER HEAD	ABS											SPECIAL ALUMINIUM ALLOY WITH STAINLESS STEEL SHAFT												
ELIMINATOR	NONE											FRP												
FILLER	NONE											PVC												
AIR INLET MESH	NONE											HDPE												
LADDER	NONE											HDG												
MOTOR SUPPORT	NONE											HDG												
CASING SUPPORT	FRP											HDG												
BASIN SUPPORT	FRP											HDG												
STRAINER	STAINLESS STEEL MESH																							
WATER BASIN	FRP																							

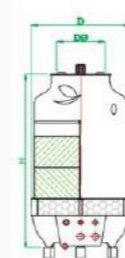
HDG: HOT DIPPED GALVANIZED STEEL  
SS: STAINLESS STEEL  
PVC: POLYVINYL CHLORIDE

HDPE: HIGH DENSITY POLYETHYLENE  
FRP: FIBER GLASS REINFORCED PLASTIC

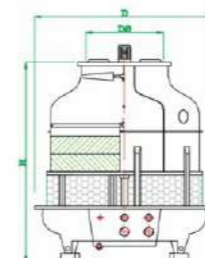
Tower Model APC (RT)	Cooling Capacity (Kcal/hr)	Nominal W.Flow (l/min)	Dimension		Pipe Connection						Fan Assembly			Approx Wt		Pump Head (M)
			H m/m	D m/m	Inlet m/m	Outlet m/m	O.flow m/m	Drain m/m	(Ba) m/m	(Q) m/m	Motor (Hp)	Fan D mm	A.Volumn (m3/min)	Dry (Kg)	Operating (Kg)	
5	19500	65	1303	820	40	40	25	20	20	-	1/6	460	60	35	100	1.2
8	31200	104	1445	830	40	40	25	20	20	-	1/4	460	75	40	138	1.2
10	39000	130	1450	1100	40	40	25	25	20	20	1/4	670	100	48	178	1.3
15	58500	195	1450	1100	50	50	25	25	20	20	1/2	670	140	67	260	1.4
20	78000	260	1580	1200	50	50	25	25	20	20	1/2	670	180	78	330	1.5
25	97500	325	1695	1400	65	65	25	25	20	20	3/4	860	200	95	420	1.6
30	117000	390	1775	1620	65	65	25	25	20	20	3/4	860	225	110	500	1.8
40	156000	520	1785	1830	80	80	25	40	20	25	1	960	280	160	550	1.8
50	195000	650	1825	2040	80	80	25	40	20	25	1	960	330	209	700	1.9
60	234000	780	1825	2040	80	80	25	40	20	25	1 1/2	960	420	215	750	1.9
70	273000	910	2030	2200	100	100	25	40	20	25	2	1180	510	255	960	2
80	312000	1040	2030	2200	100	100	25	40	20	25	2	1180	550	280	1040	2
100	390000	1300	2160	2800	100	100	25	40	25	25	3	1500	700	400	1260	3
125	487500	1625	2260	2800	125	125	25	40	25	25	3	1500	830	430	1620	3
150	585000	1950	2415	3300	125	125	25	40	25	25	5	1700	950	650	2720	3.2
175	682500	2275	2615	3300	125	125	25	40	25	40	5	1700	1150	680	2900	3.2
200	780000	2600	2890	3900	150	150	50	50	40	40	7 1/2	2100	1250	780	3330	3.5
225	877500	2925	2890	3900	150	150	50	50	40	40	7 1/2	2100	1750	790	3400	3.5
250	975000	3250	3000	3900	200	200	50	50	40	40	7 1/2	2100	1850	810	3500	4
300	1170000	3900	3085	4680	200	200	80	50	40	40	10	2400	2200	1000	4000	4
350	1365000	4550	4340	5180	200	200	80	50	40	40	10	2970	2300	1100	4350	4
400	1560000	5200	4340	5180	200	200	80	50	50	50	15	3000	2600	1300	4700	5
500	1950000	6500	4870	5320	250	250	80	50	50	50	15	3000	2750	1400	5000	5
600	2340000	7800	5050	6000	250	250	80	50	50	50	15	3400	3750	1600	5500	5.5
700	2730000	9100	5280	6000	250	250	80	50	50	50	20	3400	3900	1700	5800	5.5
800	3120000	10400	5350	6840	300	300	100	65	50	65	20	3700	5000	1800	6200	6
900	3510000	11700	5570	6840	300	300	100	65	50	65	20	3700	5200	1800	6500	6
1000	3900000	13000	5830	7960	300	300	100	65	50	65	25	4200	5200	1800	7000	6

DESIGN CONDITIONS

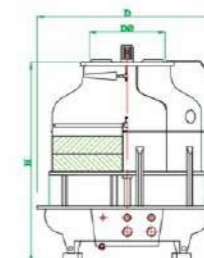
Entrance temp.  $t_1 = 37^\circ\text{C}$       Wet bulb temp.  $t_{wb} = 28^\circ\text{C}$   
 Leaving temp.  $t_2 = 32^\circ\text{C}$       Dry bulb temp.  $t_{db} = 31.5^\circ\text{C}$       Atmospheric pressure  $P_a = 9.94 \times 10^4 \text{Pa}$



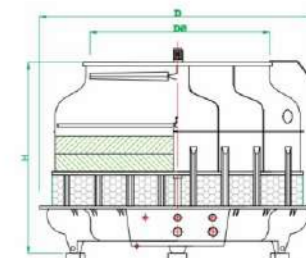
APC 5~30RT



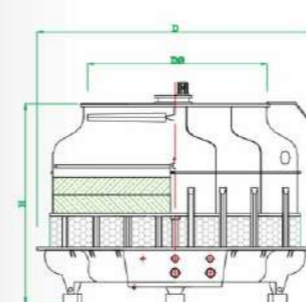
APC 40~50RT



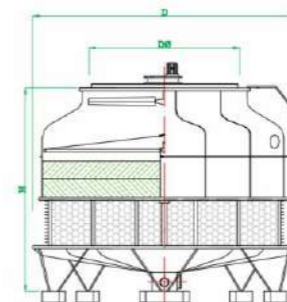
APC 60RT



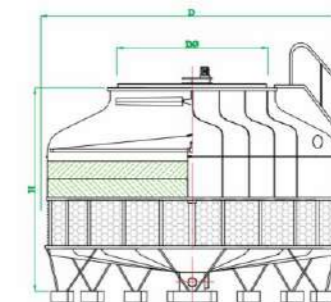
APC 70~125RT



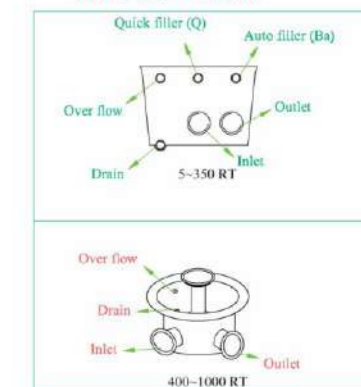
APC 175~350RT



APC 400~500RT



APC 600~1000RT



### Model Description

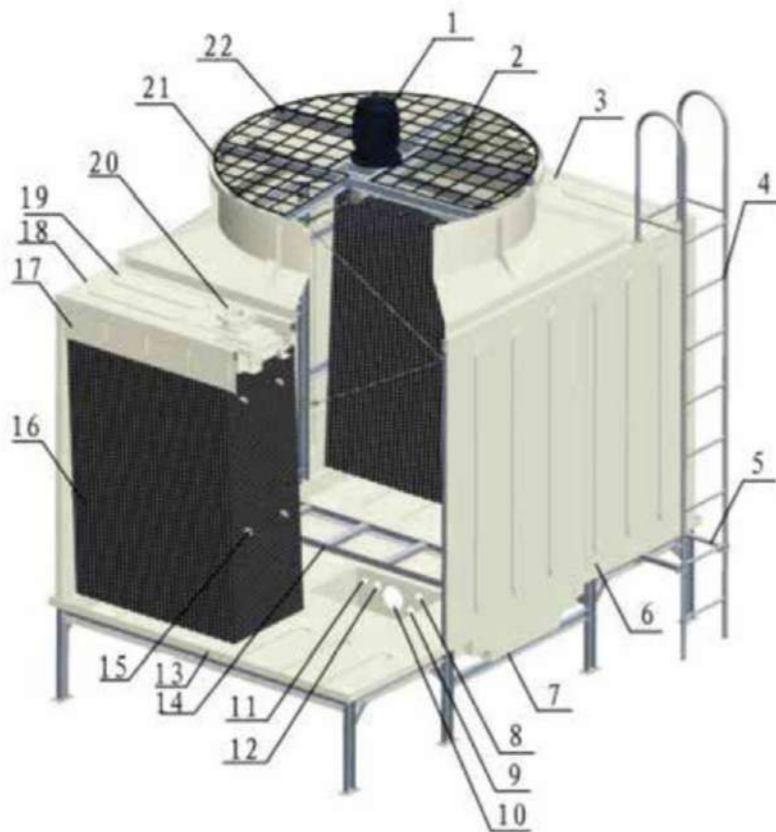
**APC-S - 000**

cross flow rectangle  
type cooling tower

water flow

- Space saving, lightweight structures
- Good corrosion resistance
- Convenient combination and easy maintenance
- Energy saving, low Noise

### Structure

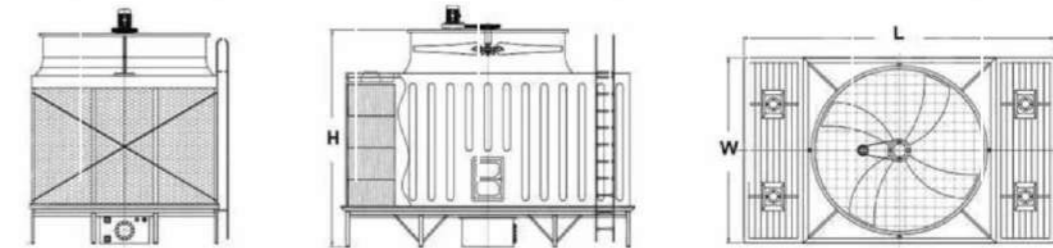


1. Motor
2. Fan
3. Fan stack
4. Ladder
5. Ladder support
6. Casing
7. Tower support
8. Overflow
9. Drain
10. Water outlet
11. Quick feed
12. Auto feed
13. Water basin
14. Access way
15. Infill support
16. Infill
17. Wind shield
18. Distribution basin
19. Distribution basin cover
20. Water distribution
21. Fan guard
22. Motor support

### Optional Accessories

- Noise reduction upgrade
- Handrail&safety caged ladder
- Vibration isolator&Rubber mat
- High- temperature upgrade
- Anti- Freeze heater
- Stainless steel framework / bots and nuts (304/316)

Item Model	Water flow (l/ min)	Dimension (mm)			Fan		Water Pressure (Kpa)	Weight (kg)	
		Length	Width	Height	Diameter (mm)	Motor (Kw)		Dry	Wet
APC-S-80	1040	1450	2700	2720	1200	1.1	32	460	1010
APC-S-100	1300	1450	2700	3260	1200	2.2	36	550	1450
APC-S-125	1625	1600	2820	3700	1500	2.2	38	800	2220
APC-S-150	1950	1980	3200	3700	1500	4	38	850	2260
APC-S-175	2275	2320	3600	3700	1800	4	38	1080	2830
APC-S-200	2600	2600	3800	3700	2000	5.5	40	1180	3550
APC-S-225	2925	2600	3800	3700	2000	5.5	40	1500	3650
APC-S-250	3250	2450	4260	3750	2000	7.5	40	1750	3510
APC-S-300	3250	2450	4260	3750	2000	7.5	40	1850	3610
APC-S-350	4550	3150	4080	3935	2400	11	40	1960	5800
APC-S-400	5200	3150	4080	3935	2400	11	40	1960	5800
APC-S-500	6500	3500	5800	4300	2850	11	42	2850	6270
APC-S-600	7800	37500	6050	4500	3200	11	42	3250	6880
APC-S-700	9100	4000	6300	5100	3200	11	47	3660	7350
APC-S-800	10400	4500	6800	5800	3700	18.5	47	4260	8500
APC-S-900	11700	4500	6800	5200	3400	15	47	4680	9360
APC-S-1000	13000	4500	6800	5800	3700	18.5	53	5100	10260



#### DESIGN CONDITIONS

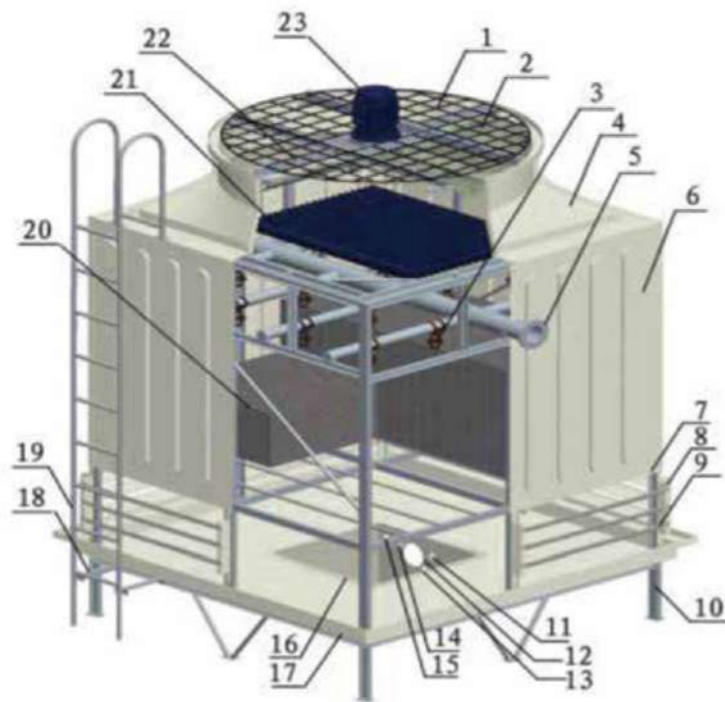
Entrance temp.  $t_1 = 37^\circ\text{C}$     Wet bulb temp.  $t_{wb} = 28^\circ\text{C}$   
 Leaving temp.  $t_2 = 32^\circ\text{C}$     Dry bulb temp.  $t_{db} = 31.5^\circ\text{C}$     Atmospheric pressure  $P_0 = 9.94 \times 10^4 \text{Pa}$

## Model Description



- Counter flow design
- Prevent dust goes into the fill blocks
- PVC fill block not exposure to sunshine, less legionella and algae
- Reliable cooling efficiency

## Structure

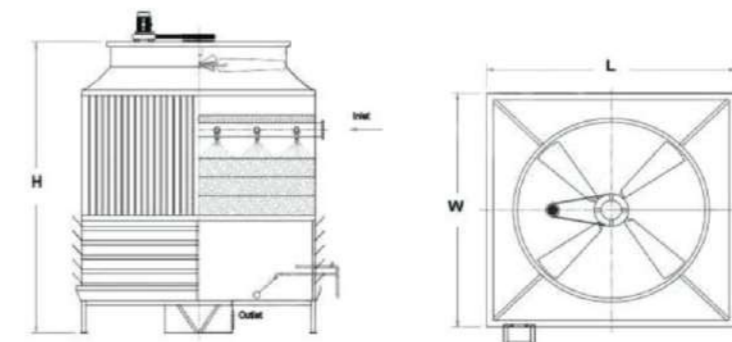


- |                   |                      |
|-------------------|----------------------|
| 1. Fan guard      | 14. Quick feed       |
| 2. Fan            | 15. Auto feed        |
| 3. Nozzle         | 16. Suction tank     |
| 4. Fan stack      | 17. Water basin      |
| 5. Water inlet    | 18. Ladder support   |
| 6. Casing         | 19. Ladder           |
| 7. Breakwater     | 20. Infill           |
| 8. Blind carrier  | 21. Drift eliminator |
| 9. Air inlet      | 22. Motor support    |
| 10. Tower support | 23. Motor            |
| 11. Overflow      |                      |
| 12. Water outlet  |                      |
| 13. Drain         |                      |

## Optional Accessories

- Noise reduction upgrade
- Handrail&safety caged ladder
- Vibration isolator&Rubber mat
- High- temperature upgrade
- Anti- Freeze heater
- Stainless steel framework / bots and nuts (304/316)

Item Model	Water flow (m <sup>3</sup> /h)	Dimension (mm)			Fan		Water Pressure (Kpa)	Weight (kg)	
		Length	Width	Height	Diameter (mm)	Motor (Kw)		Dry	Wet
APC-F-60	60	1800	1800	3800	1350	2.2	38	750	1400
APC-F-80	80	2000	2000	4200	1450	4	40	950	1970
APC-F-100	100	2250	2250	4200	1750	4	45	1050	2150
APC-F-125	125	2500	2500	4200	2100	4	45	1250	2580
APC-F-150	150	2750	2750	4200	2100	5.5	45	1420	2900
APC-F-175	175	3000	3000	4200	2400	5.5	46	1600	4290
APC-F-200	200	3250	3250	4200	2400	7.5	46	1750	4520
APC-F-250	250	3500	3500	4400	2400	7.5	46	2150	5290
APC-F-300	300	3750	3750	4900	2850	11	49	2620	6050
APC-F-350	350	4000	4000	4900	3200	11	50	2950	6590
APC-F-400	400	4500	4500	5100	3200	15	52	3520	7850
APC-F-500	500	5000	5000	5100	3700	15	54	4150	9180
APC-F-600	600	5250	5250	5300	3700	18.5	54	4680	10220
APC-F-700	700	5500	5500	5500	4200	22	56	5460	11380
APC-F-800	800	6000	6000	5500	4200	30	56	6520	13300
APC-F-900	900	6500	6500	5600	4500	30	58	7550	15270
APC-F-1000	1000	7000	7000	5600	4500	30	58	8200	16870



**DESIGN CONDITIONS**

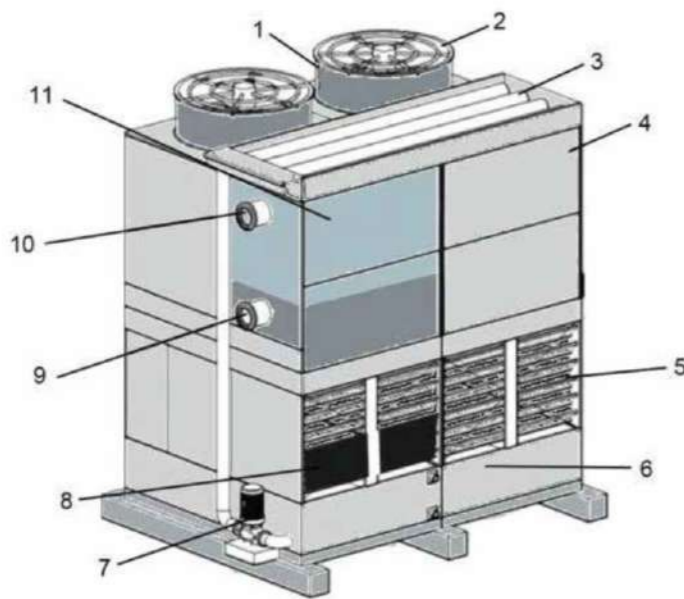
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 Wet bulb temp.  $t_{wb} = 28^\circ\text{C}$   
 Dry bulb temp.  $t_{db} = 31.5^\circ\text{C}$   
 Atmospheric pressure  $P_a = 9.94 \times 10^4 \text{Pa}$

### Model Description



- Convenient transportation & installation
- Excellent heat exchange performance
- Convenient maintenance without stop working
- Low operation cost, energy saving and environmental friendly
- Low failure rate
- Small cover area, low comprehensive investment

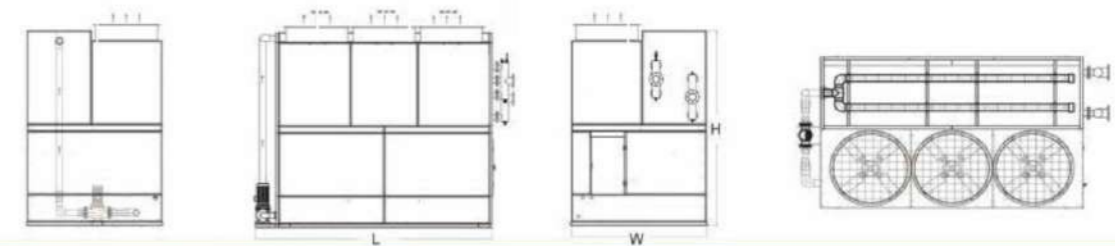
### Structure



1. Fan stack
2. Fan
3. Distribution system
4. Casing
5. Air inlet louver
6. Water basin
7. Spray pump
8. Fills
9. Water outlet
10. Water inlet
11. Coil cooler

- ◆ Energy industry
- ◆ Chemical industry
- ◆ Plastic industry
- ◆ Pharmaceutical industry
- ◆ Food processing industry
- ◆ Industrial refrigeration
- ◆ HVAC system
- ◆ Metal processing industry
- ◆ Machinery manufacturing

Item Model	Water flow (m <sup>3</sup> /h)	Dimension (mm)			Fan		Spray Pump		Inlet/Outlet Pipe Diameter (mm)	Weight (kg)	
		Length	Width	Height	Air Volume (m <sup>3</sup> /h)	Power (Kw)xQty	Flow (m <sup>3</sup> /h)	Power (Kw)		Dry	Wet
APC-SC-30	30	2500 2550	1970	2263 2263	32000	1.1*2	32.5	1.5	80	T:850 G:930	3100 3230
APC-SC-40	40	2500 2550	1970	2263 2263	32000	1.1*2	32.5	1.5	80	T:900 G:1080	3230 3420
APC-SC-50	50	3100 3160	1970	2395 2395	48000	1.1*3	45	2.2	80	T:1160 G:1280	3820 3940
APC-SC-60	60	3100 3160	1970	2395 2395	48000	1.1*3	45	2.2	80	T:1250 G:13900	3950 4100
APC-SC-70	70	3100 3160	1970	2890 2890	48000	1.1*3	58	2.2	100	T:1320 G:1500	4090 4310
APC-SC-80	80	3100 3160	1970	2890 2890	48000	1.1*3	58	2.2	100	T:1460 G:1610	4230 4400
APC-SC-100	100	3100 3160	1970	2890 2890	48000	1.1*3	58	2.2	100	T:1630 G:1800	4420 4590
APC-SC-125	125	3840 4600	2340	3120 3120	64000	1.1*4	89	4	125	T:1870 G:2040	5820 5990
APC-SC-150	150	4350 5220	2340	3645 3645	80000	1.5*4	100	5.5	150	T:2130 G:2350	6560 6780
APC-SC-175	175	4350 5220	2340	3645 3645	80000	1.5*4	130	5.5	150	T:2400 G:2580	6780 6960
APC-SC-200	200	4350 5220	2340	3645 3645	80000	1.5*4	130	5.5	150	T:2650 G:2820	6930 7120
APC-SC-250	250	5630	2340	3890	120000	2.2*4	172	7.5	200	T:2920 G:3200	8630 9110



#### DESIGN CONDITIONS

Entrance temp.  $t_1 = 37^\circ\text{C}$     Wet bulb temp.  $t_{wb} = 28^\circ\text{C}$   
 Leaving temp.  $t_2 = 32^\circ\text{C}$     Dry bulb temp.  $t_{db} = 31.5^\circ\text{C}$     Atmospheric pressure  $P_o = 9.94 \times 10^4 \text{Pa}$

### Model Description

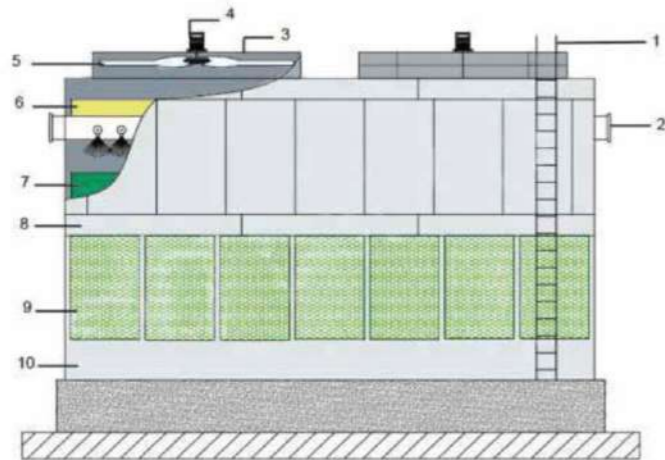
**APC-SF - 000**

counter flow closed  
circuit cooling tower

water flow

- Large internal space
- Smaller wind resistance
- Non-stop maintenance
- Simple maintenance work
- Excellent heat exchange performance
- Smaller occupied area

### Structure

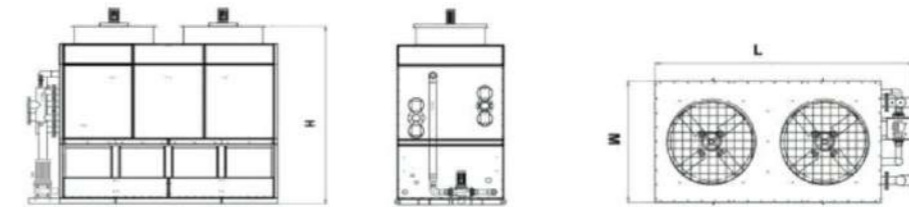


- 1 - Ladder
- 2 - Water inlet
- 3 - Fan stack
- 4 - Motor
- 5 - Fan
- 6 - Drift Eliminator
- 7 - Coil cooler
- 8 - Casing
- 9 - Air inlet louver
- 10 - Water basin

### Application Industries

- ♦ Energy industry
- ♦ Pharmaceutical industry
- ♦ HVAC system
- ♦ Chemical industry
- ♦ Food processing industry
- ♦ Metal processing industry
- ♦ Plastic industry
- ♦ Industrial refrigeration
- ♦ Machinery manufacturing

Item Model	Water flow (m <sup>3</sup> /h)	Dimension (mm)			Fan		Spray Pump		Inlet/Outlet Pipe Diameter (mm)	Weight (kg)	
		Length	Width	Height	Air Volume (m <sup>3</sup> /h)	Power (Kw)xQty	Flow (m <sup>3</sup> /h)	Power (Kw)		Dry	Wet
APC-SC-30	30	2500 2550	1970 1970	2263 2263	32000	1.1*2	32.5	1.5	80	T:850 G:930	3100 3230
APC-SC-40	40	2500 2550	1970 1970	2263 2263	32000	1.1*2	32.5	1.5	80	T:900 G:1080	3230 3420
APC-SC-50	50	3100 3160	1970 1970	2395 2395	48000	1.1*3	45	2.2	80	T:1160 G:1280	3820 3940
APC-SC-60	60	3100 3160	1970 1970	2395 2395	48000	1.1*3	45	2.2	80	T:1250 G:13900	3950 4100
APC-SC-70	70	3100 3160	1970 1970	2890 2890	48000	1.1*3	58	2.2	100	T:1320 G:1500	4090 4310
APC-SC-80	80	3100 3160	1970 1970	2890 2890	48000	1.1*3	58	2.2	100	T:1460 G:1610	4230 4400
APC-SC-100	100	3100 3160	1970 1970	2890 2890	48000	1.1*3	58	2.2	100	T:1630 G:1800	4420 4590
APC-SC-125	125	3840 4600	2340 2340	3120 3120	64000	1.1*4	89	4	125	T:1870 G:2040	5820 5990
APC-SC-150	150	4350 5220	2340 2340	3645 3645	80000	1.5*4	100	5.5	150	T:2130 G:2350	6560 6780
APC-SC-175	175	4350 5220	2340 2340	3645 3645	80000	1.5*4	130	5.5	150	T:2400 G:2580	6780 6960
APC-SC-200	200	4350 5220	2340 2340	3645 3645	80000	1.5*4	130	5.5	150	T:2650 G:2820	6930 7120
APC-SC-250	250	5630	2340 2340	3890	120000	2.2*4	172	7.5	200	T:2920 G:3200	8630 9110



#### DESIGN CONDITIONS

Entrance temp.  $t_1 = 37^\circ\text{C}$     Wet bulb temp.  $t_{wb} = 28^\circ\text{C}$   
 Leaving temp.  $t_2 = 32^\circ\text{C}$     Dry bulb temp.  $t_{db} = 31.5^\circ\text{C}$     Atmospheric pressure  $P_0 = 9.94 \times 10^4 \text{Pa}$



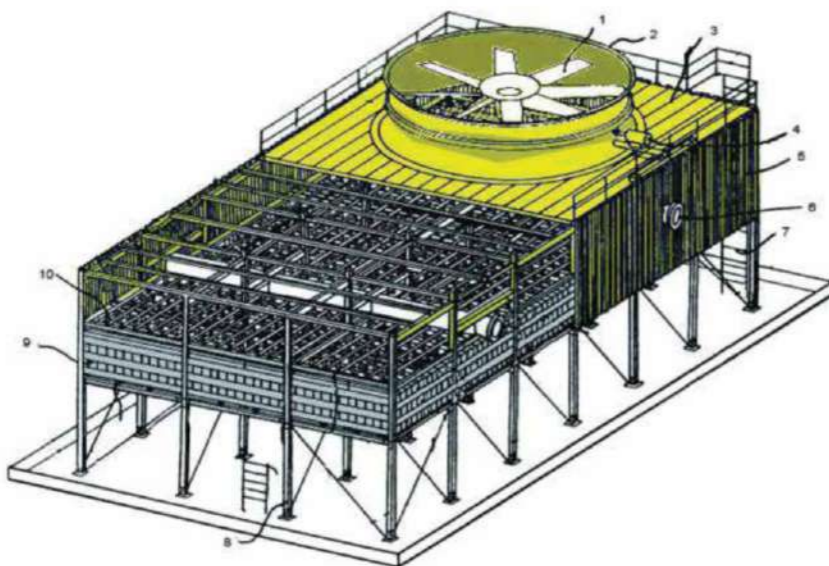
## Model Description

# NTG - 0000

industrial usage cooling tower      water flow

- Cooling capacity from 800 tons to 4000 tons per cell, for big cooling capacity, multi-cells are available.
- Great quality firm fiberglass reinforced plastic (F.R. P)parts resist corrosion.
- PVC drift eliminator to avoid the big water loss from the cooling tower.
- PVC filling (or PP infill for high temp.) is designed for maximum air/water contact for efficient heat transfer.
- Well adjusted Aluminum alloy or FRP drive fan to make sure its long service life.
- Totally enclosed fan cooled motor is designed for outdoor operation- stands up to severe service duty.
- Convenient fencing and aisle make it easy for maintenance or replacing the damageable parts.

## Structure



- 1 - Fan
- 2 - Fan stack
- 3 - Guardrail
- 4 - Motor
- 5 - Casing
- 6 - Water inlet
- 7 - Ladder
- 8 - Tower support
- 9 - Fills
- 10 - Distribution

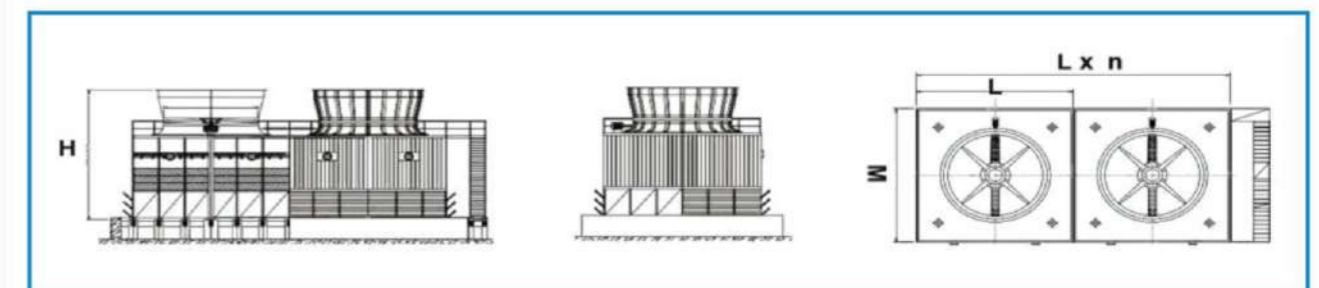
## Application Industies

- ♦ Electricpower Industry
- ♦ Petroleum Chemical Industry
- ♦ Chemical Fertilizer Industry
- ♦ Sugar Processing Industry

Item Model	Water flow (m <sup>3</sup> /h)	Cooling Capacity Kcal/h	Dimention (mm)			Fan		Water Pressure (x10Kpa)	Weight (kg)	
			Length	Width	Height	Diameter (mm)	Power (Kw)		Dry	Wet
NTG-800	800	8.0x10 <sup>6</sup>	7400	7400	7800	4700	30	8.0	11.63	18.45
NTG-1000	1000	1.0x10 <sup>7</sup>	9000	9000	8700	5460	45	8.8	19.68	31.23
NTG-1500	1500	1.5x10 <sup>7</sup>	10500	10500	9500	6000	55	10.0	29.34	46.75
NTG-2000	2000	2.0x10 <sup>7</sup>	12000	12000	10200	7700	90	11.0	45.03	68.69
NTG-2500	2500	2.5x10 <sup>7</sup>	13500	13500	10700	8000	132	11.5	46.20	75.30
NTG-3000	3000	3.0x10 <sup>7</sup>	15000	15000	11400	8530	160	12.0	65.00	99.20
NTG-3500	3500	3.5x10 <sup>7</sup>	16000	16000	12100	9140	160	13.3	76.05	104.80
NTG-4000	4000	4.0x10 <sup>7</sup>	17400	17400	12400	9140	200	13.5	78.50	132.00

### MATERIAL

Casing	Fiberglass Reinforced Polyester
Frame	Galvanized steel / Concrete
Infill	PVC
Drift eliminator	PVC
Distribution system	Galvanized steel & P.V.C
Ice-melting pipe	Galvanized steel
Clapboard	Fiberglass Reinforced Polyester
Pool	Concrete



### DESIGN CONDITIONS

Entrance temp.  $t_1 = 37^\circ\text{C}$       Wet bulb temp.  $t_{wb} = 28^\circ\text{C}$   
 Leaving temp.  $t_2 = 32^\circ\text{C}$       Dry bulb temp.  $t_{db} = 31.5^\circ\text{C}$       Atmospheric pressure  $P_0 = 9.94 \times 10^4 \text{Pa}$

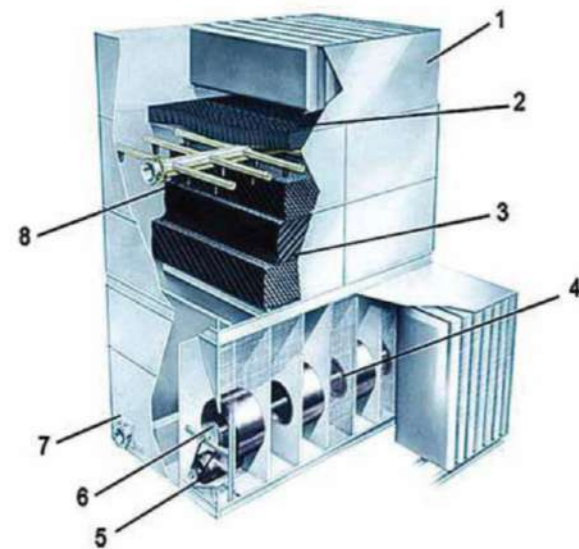
## Model Description

**ACF - 000**

forced draft cooling tower
water flow

- Modular structure, high quality Zinc magnesium aluminum material
- Multi channel V- belt transmission, low noise, smooth running
- Centrifugal fan to meet cooling tower heat transfer performance
- IEC International Standard Motor with high efficiency, low noise, and long life

## Structure

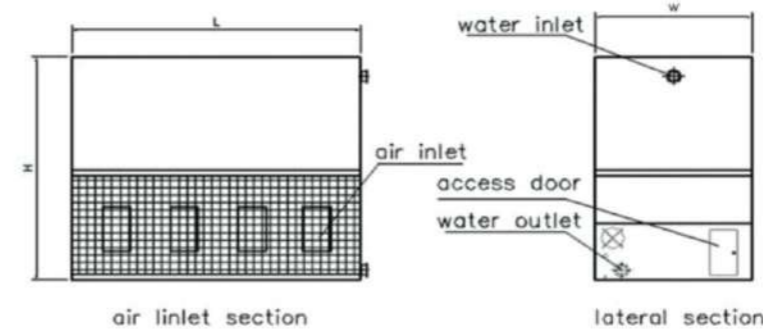


- 1.Casing
- 2.Drift eliminator
- 3.Fill media
- 4.Driven system
- 5.Motor
- 6.Centrifugal fan
- 7.Water basin
- 8.Nozzle

## Main parts

	NCF-	NCF-S	NCF-SS
Frame	galvanized magnesium aluminum plate	304# stainless steel	316# stainless steel
Casing			
Water Basin	304# stainless steel	304# stainless steel	316# stainless steel
Bolts&Nuts			
Nozzle	ABS plastic		
Fill Media	PVC film fill		
Drift Eliminator	PVC cellular type		
Fan	Zinc-coated centrifugal fan		
Sinlencer	Asbestos board		

Item Model	Water flow (m <sup>3</sup> h)	Power (Kw)	Dimension (mm)		Inlet pipe diameter (mm)	Outlet pipe diameter (mm)	Weight (kg)	
			Length	Height			Dry	Wet
ACF-100	100	11	2800	4350	200	200	2200	5300
ACF-125	125	15	2800	4350	200	200	2200	5300
ACF-135	135	18.5	2800	4350	200	200	2200	5300
ACF-150	150	22	2800	4710	200	200	2200	5300
ACF-165	165	22	2800	4950	200	200	2200	5300
ACF-180	180	22	3800	4350	200	200	3350	7200
ACF-200	200	22	3800	4710	200	200	3350	7200
ACF-220	220	30	3800	4710	200	200	3350	7200
ACF-235	235	30	3800	4950	200	200	3350	7200
ACF-250	250	37.5	3800	4950	200	200	3350	7200
ACF-265	265	18.5x2	5480	4350	250	250	5050	11800
ACF-290	290	18.5x2	5480	4710	250	250	5050	11800
ACF-305	305	18.5x2	5480	4710	250	250	5050	11800
ACF-325	325	18.5x2	5480	4950	250	250	5050	11800



### DESIGN CONDITIONS

Entrance temp.  $t_1 = 37^\circ\text{C}$   
 Leaving temp.  $t_2 = 32^\circ\text{C}$   
 Wet bulb temp.  $t_{wb} = 28^\circ\text{C}$   
 Dry bulb temp.  $t_{db} = 31.5^\circ\text{C}$   
 Atmospheric pressure  $P_0 = 9.94 \times 10^4 \text{Pa}$

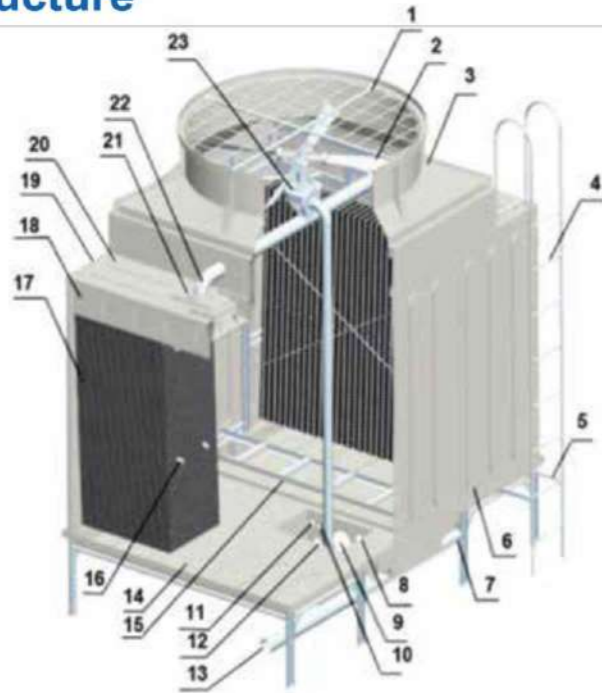
### Model Description

**RTS - 000 - 0**

cross flow  
water turbine cooling tower  
water flow  
nos of cells

- A new type cooling tower which driven by a water turbine instead of driven by electric motor
- Safety operation and easy maintenance
- Energy saving and cost effective

### Structure

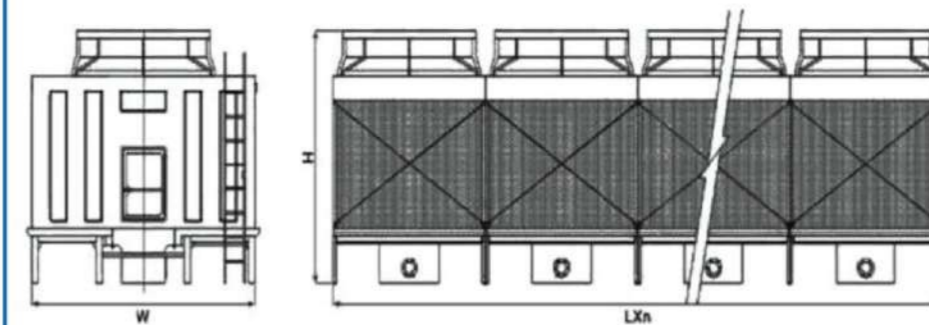


- |                   |                              |
|-------------------|------------------------------|
| 1. Fan            | 12. Drain                    |
| 2. Fan guard      | 13. Water inlet              |
| 3. Fan stack      | 14. Water basin              |
| 4. Ladder         | 15. Internal ladder          |
| 5. Ladder support | 16. Infill support           |
| 6. Casing         | 17. Infill                   |
| 7. Tower support  | 18. Baffle board             |
| 8. Auto feed      | 19. Distribution basin       |
| 9. Water outlet   | 20. Distribution basin cover |
| 10. Quick feed    | 21. Water distribution       |
| 11. Overflow      | 22. Distribution water pipe  |
|                   | 23. Hydroturbine             |

### Optional Accessories

- Noise reduction upgrade
- Handrail&safety caged ladder
- Vibration isolator&Rubber mat
- High- temperature upgrade
- Anti- Freeze heater
- Stainless steel framework / bots and nuts (304/316)

Model	Item	Water flow (m <sup>3</sup> /h)	Dimension (mm)			Fan Diameter (mm)	Head loss (kpa)	Weight (kg)	
			Length	Width	Height			Dry	Wet
NTS-100-1		100	2200	2200	4670	145	1500	1130	2230
NTS-125-1		125	2200	2200	4670	145	1800	1190	2300
NTS-150-1		150	2800	2800	4670	145	1800	1540	2970
NTS-175-1		175	2800	2800	4670	145	2100	1620	3040
NTS-200-1		200	3200	3200	4670	150	2100	1970	4330
NTS-225-1		225	3200	3200	4670	150	2400	2110	4520
NTS-250-1		250	3600	3600	4670	160	2400	2650	5390
NTS-300-2		300	5600	2800	4670	145	1800	2260	4460
NTS-350-2		350	5600	2800	4670	145	2100	2380	4600
NTS-400-2		400	6400	3200	4670	150	2100	3080	5940
NTS-450-2		450	6400	3200	4670	150	2400	3240	6080
NTS-500-2		500	7200	3600	4670	160	2400	3940	8660
NTS-525-3		525	8400	2800	4870	150	2100	4860	9120
NTS-600-3		600	9600	3200	4870	160	2100	5910	12990
NTS-700-4		700	11200	2800	4870	150	2100	6480	12160
NTS-800-4		800	12800	3200	4870	160	2100	7880	17320
NTS-900-4		900	12800	3200	4870	160	2400	8440	18080
NTS-1000-4		1000	14400	3600	4870	170	2100	10600	21560



#### DESIGN CONDITIONS

Entrance temp.  $t_1 = 37^\circ\text{C}$   
 Leaving temp.  $t_2 = 32^\circ\text{C}$   
 Wet bulb temp.  $t_{wb} = 28^\circ\text{C}$   
 Dry bulb temp.  $t_{db} = 31.5^\circ\text{C}$   
 Atmospheric pressure  $P_a = 9.94 \times 10^4 \text{ Pa}$

## F.R.P Framework Cooling Tower

### Introduction

F.R.P Framework Cooling Tower is a type of open circuit cooling tower designed to special applicant in corrosive liquid cooling process. Such as, Sea water, Chemical fluids, Wood industrial, Steel plant water waste water, Waste water treatment etc. It's a good replacement material of old treated wood frame cooling tower. The pultruded F.R.P profiles has good strength which can compare to carbon steel profiles, But better acid-base resistance property.

### F.R.P framework cooling tower



Replacement material of old treated wood

#### Features

- ◆ Light Weight, High Strength
- ◆ Acid and Alkali Resistant
- ◆ Long-life Span
- ◆ Easy Assembly and Disassembly
- ◆ #304 or #316 Stainless Steel Fastener

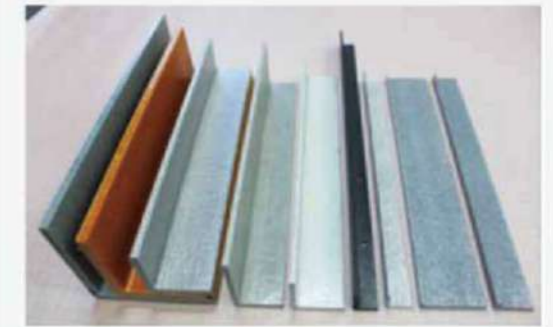
## Splash Fill Cooling Tower

### HOW TO FIX THE PROBLEM THAT EASY BLOCKING OF COOLING TOWER FILM FILLS?

For industrial applicants, most of the time, the water contents are very complex. It may include Oil, Fibers, chemical precipitation and physical solid in the process water. All these contents make the cooling tower easy blocked, and efficiency decrease very fast and shorten the service lifetime. In order to solve this problem, ALPHA Cooling Tower engineer team design and use the F.R.P. "L" type splash fills in ALPHA industrial waste water cooling towers. After years testing and marketing, the cooling tower has been received a good reputation from users in various of industries.

### L type splash fills

- ◆ Made by high strength pultruded FRP material
- ◆ With-stand water temperature up to 100°C
- ◆ Anti-corrosion, working well with both acidic water and alkaline water



- ◆ Strong "L" shape structure, ensures very long lifetime
- ◆ Not easy blocking, working with oil, fiber, solide contents, chemical, sands and small rocks.
- ◆ Multi-layers splashing water distribution ensures high thermal performance.
- ◆ Easy installing and Easy maintenance.

## Cooling Tower Infill

### Counter flow



### Cross flow



## Cooling Tower Infill

### Drift Eliminator



## Cooling Tower Driveassembly

### Sprinkler Head



Motor



Air Inlet Mesh



Belt Reducer



Sprinkler Head



Nozzles



Sprinkler Head ABS

## Cooling Tower Driveassembly

### Cooling Tower Fan



Abs Fan



Alloy Fan



Alloy Fan



Fan Stack



CÔNG TY CỔ PHẦN TIÊN HƯNG - HƯNG YÊN  
APC - S - 500



CÔNG TY THỰC PHẨM DOVICO - NINH BÌNH  
APC - S - PP350 x 2



TRUNG TÂM LỄ HỘI YÊN TỬ - QUẢNG NINH  
LGG - APC - S - 300C2



CÔNG TY CỔ PHẦN NHỰA - ĐỒNG NAI  
APC - 175RT



XÍ NGHIỆP MAY SỐ 5 - TỔNG CÔNG TY MAY - BẮC GIANG  
LGG - APC - S - 300C2



CÔNG TY TNHH SPG VINA  
APC - 25RT



VIỆN KIỂM SÁT HÀ NỘI  
APC - S200 x 2



NHÀ MÁY DRAGOJET - KCN QUẾ VÕ - BẮC NINH  
APC - S - 400



CÔNG TY TNHH MÔI TRƯỜNG VIỆT XANH  
APC - S - 250RT - C2



ĐÀI TRUYỀN HÌNH TP. HCM (HTV)  
500RT



NHÀ MÁY AUSTDOOR NHƠN TRẠCH - ĐỒNG NAI



GOLDSUN - BẮC NINH  
APC - S - 900



CÔNG TY THÉP ĐÔNG NAM Á - BUỒN MÊ THUỘT  
APC - 400



NHÀ MÁY TÔN HOA SEN - NGHỆ AN  
APC - S - 3200DC8 (400 x 8)



CÔNG TY HÓA CHẤT ĐÔNG Á - PHÚ THỌ  
STA - 400x4



SÂN BAY NỘI BÀI - HÀ NỘI  
APC - S - 900 x 2



NHÀ MÁY DÂY CÁP ĐIỆN LS VINA - HẢI PHÒNG  
APC - S - 1800DC6 (300x6)



NHÀ MÁY THÉP ĐÔNG BƯ - HẢI DƯƠNG  
APC - S - 15000x1



NHÀ MÁY NHÔM - ĐÀK NÔNG  
APF - 1500RT



NHÀ MÁY TÔN HOA SEN PHÚ MỸ - BÀ RỊA VŨNG TÀU  
APC - S - 1500



CÔNG TY KPS TEX VINA PHÚ THỌ  
APC - S - 300 x 2



NHÀ MÁY NHÔM - LÂM ĐỒNG  
APC - S7000RT



NHÀ MÁY NHÔM - LÂM ĐỒNG  
APC - S7000RT





NHÀ MÁY THỰC PHẨM DOVICO - NINH BÌNH  
APC - S - PP300C2



CÔNG TY HÓA CHẤT ĐÔNG Á - PHÚ THỌ  
APC - S - 2500



NHÀ MÁY HIANG KIES - KCN NHƠN TRẠCH - ĐỒNG NAI  
STA - 750SUN - DC2



CÔNG TY JEEN & JEEN - KCN QUẾ VÕ - BẮC NINH  
APC - F - 250



TỔNG CÔNG TY MÁY - THÁI BÌNH  
APC - 300 X 2



CÔNG TY OTO HUYNHDAI - NINH BÌNH



CÔNG TY KSA - THANH HÓA  
APC - 80



TỔNG CÔNG TY MÁY LGC - BẮC GIANG  
APC - S - 300 x 4



TÒA NHÀ VIETTEL - BÌNH DƯƠNG  
MODEL: STA - 750RT



TÒA NHÀ ICON4 - HÀ NỘI  
APC - S - 900DC3 x 2 SETS



CÔNG TY GẠCH MEN TAKAO - PHÚ THỌ  
APC - 150 x 2



CÔNG TY AUSDOOR - HƯNG YÊN  
APC-80 X 5 BỘ