LIANG CHI
Cooling Tower

CROSSFLOW TYPE (MODEL LHC)



The Liang Chi MODEL LHC is a compact cooling tower specifically designed to serve industrial application which demand the proven dependability, and durability of towers.

LIANG CHI INDUSTRY CO., LTD.

INTRODUCTION

In order to meet today's demand for environmental control, industry has shown a growing interest in water reclamation. This is particularly so in the petroleum, petro-chemical and steel mills when the tremendous amount of water is consumptively utilized in the system.

Liang Chi has started research and development of equipment in this field since 1972. Working in close cooperation with foreign leading manufacturers, Liang Chi developed a standardized range of model LHC cooling tower. It is mechanically designed with crossflow induced draft type, specifically suited for industrial process system.

As the result of extensive experience gained in actual use over many years, Liang Chi cooling tower model LHC is recognized as products meeting the utlimately requirement of today's technology.

LHC COOLING TOWER ADVANTAGES FOR OWNERS

1. HIGHEST PERFORMANCE

Provide with more wetted surface for uniform water distribution and higher heat transfer efficiency. The filling and drift eliminator allow the maximum air volume through the cooling tower.

2. MINIMUM MAINTENANCE

Construct with durable materials for cooling tower like preservative treated wood, fiberglass reinforced polyester and asbestos cement boards. The steel is hot dip galvanized after fabrication to be anti-corrosive.

3. OPERATING ECONOMY

Optimize with special axial fans, speed reducer and drift eliminator etc. It is maximized the cooling performance at lower energy.

4. SOUND LEVEL

Design with large fans at low speed operation to minimize noise pollution. The ventri fan cylinder will be added on larger cooling tower for low noise level.









LIANG CHI

PROVIDES ALL THESE TOWERS :

1. LHC-575-2D-C4, DAIREN CHEMICAL CORP. TAIWAN
2. LHC-660D-RCC6, CAPCO, LINYUAN, KAOHSIUNG, R.O.C.
3. LHC-820D-C2(RC), CAPCO, TAIWAN, R.O.C.
4. LHC-615D-C6, PT. INDAH KIAT PULP & PAPER, INDONESIA
5. LHC-615D-C1, CHINESE PETROCHEMICAL CORP., TOUFAN, R.O.C.



SERIES 300 & 400 GENERAL DESCRIPTION & FEATURES



V-BELT REDUCER
WITH FAN BLADE

MECHANICAL EQUIPMENT

All mechanical equipment for our Cross-Flow Type Cooling Tower is especially designed and manufactured by ourselves for cooling tower application. For example, the Fans are made of cast aluminum alloy for smooth quiet operation. Adjustable pitch blades can be freely adjusted to attain a maximum of air discharging efficiency according to requirements of air volume. Belt Reducer, or Gear Reducer (Licenced by Nippon Gear Co., Ltd. Japan), are proven our design with an overall efficiency of 95%. There is no public nuisance problem from our Cross-Flow Type Cooling Towers.

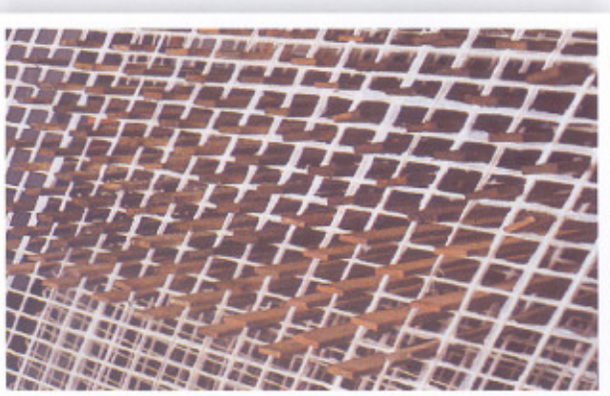


GEAR REDUCER
WITH FAN BLADE



FAN CYLINDER

Fiberglass Reinforced Polyester fan cylinders employ "Aero Dynamic Contour " design. This design allows close tolerance on fan blade tip clearance plus less interference of air passing through the tower.



FILLING & GRID

The timber splash bars are preservative-treated, supported on close centers by non-corrosive FRP (Fiberglass Reinforced Plyester) grids. The FRP Grids holds the filling in position permanently to assure uniform water distribution throughout the life of the tower, reducing drift loss to a minimum and result to maximum cooling efficiency.

NOZZLE

The "Liang Chi Nozzle" metering orifices used in the hot water basin of our Cross-Flow Type Cooling Tower Model LHC are specially designed to deliver required water distribution and are highly resistant to temperture and weathering damage. The use of these "Liang Chi Nozzle" also eliminates the need for a separate diffusion deck to provide complete water distribution throughout the filling area.



DISTRIBUTION VALVE

The distribution valve used in our Cross-flow Type Cooling Tower Model LHC is made of cast iron valve body and brass control disk. It keep the water flow smoothly without interruption and being easily adjusted for long life and low maintenance.



SERIES 300 & 400 STANDARD SPECIFICATIONS

· Fan Motor	· 220, 346, 380, 415, 440V, 3 Ph 50 Hz / 60 Hz
· Reducer	· Belt Reducer, or Gear Reducer
· Fan Blade	· Cast Aluminum Alloy
· Framework	· Preservative-treated Timber
· Fan Cylinder	· Fiber Glass Reinforced Polyester
· Fan Deck	· Preservative Treated Timber
· Casing (Side Plate)	· Fiberglass Reinforced Polyester (F.R.P.)
· Filling	· Preservative-treated Timber
· Filling Grid	· Fiberglass Reinforced Polyester (F.R.P.)
· Hot Water Basin	· Preservative Treated Timber
· Drift Eliminator	· P.V.C. or Preservative-Treated Timber
· Inlet Louver	· Corrugated Asbestos Cement Board (or F.R.P.)
· Ladder And Handrail	· Wood Strip or Galvanized Steel Pipe
· Flow Control Valve	· Cast Iron Valve Body And Brass Control Disk
· Metering Oriffice	· Polypropylene
· Structure Connectors	· Galvanized Steel
· Basin	· Concrete (Furnished by Purchaser)

PURCHASER'S SPECIFICATIONS

Purchaser's specifications must clearly outline all conditions which are applicable to the installation so that economical cooling tower selection can be made based on a total cost evaluation including not only capital investment but also operating costs. Items which should be given consideration for inclusion in specifications are listed below.

1. DESIGN CONDITION

1. Total Heat Load : Kcal / Hr
2. Circulating Water Flow : M^3 / Hr
3. Pump Head Required : M
4. Water Inlet Temp : ^oC
5. Water Outlet Temp : ^oC
6. Ambient Wet Bulb Temp : ^oC
7. Average Wind Velocity and Direction
8. Available Installation Area
9. Electrical Voltage and Frequency
10. Conditions of Area Surrounding Installation Site.

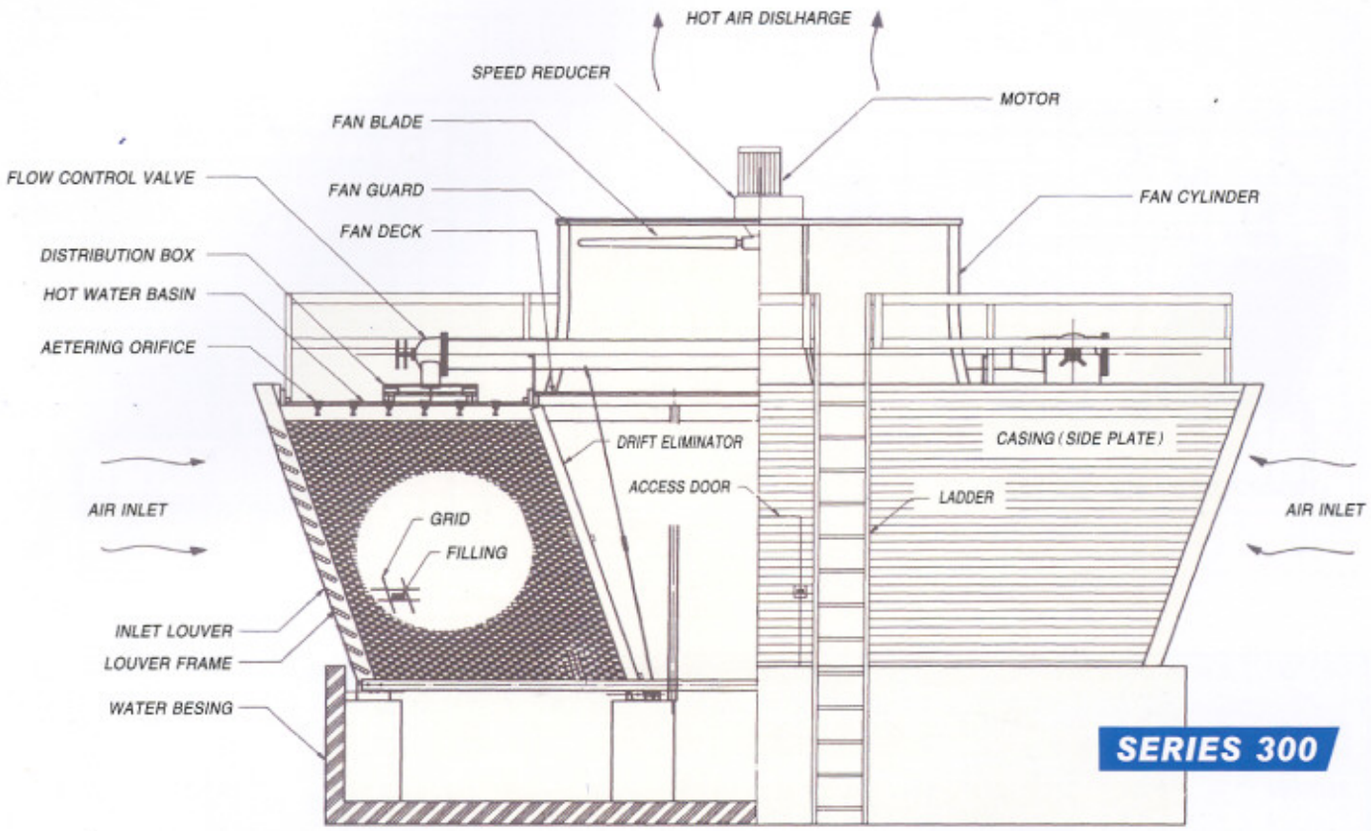
2. MATERIALS TO BE USED

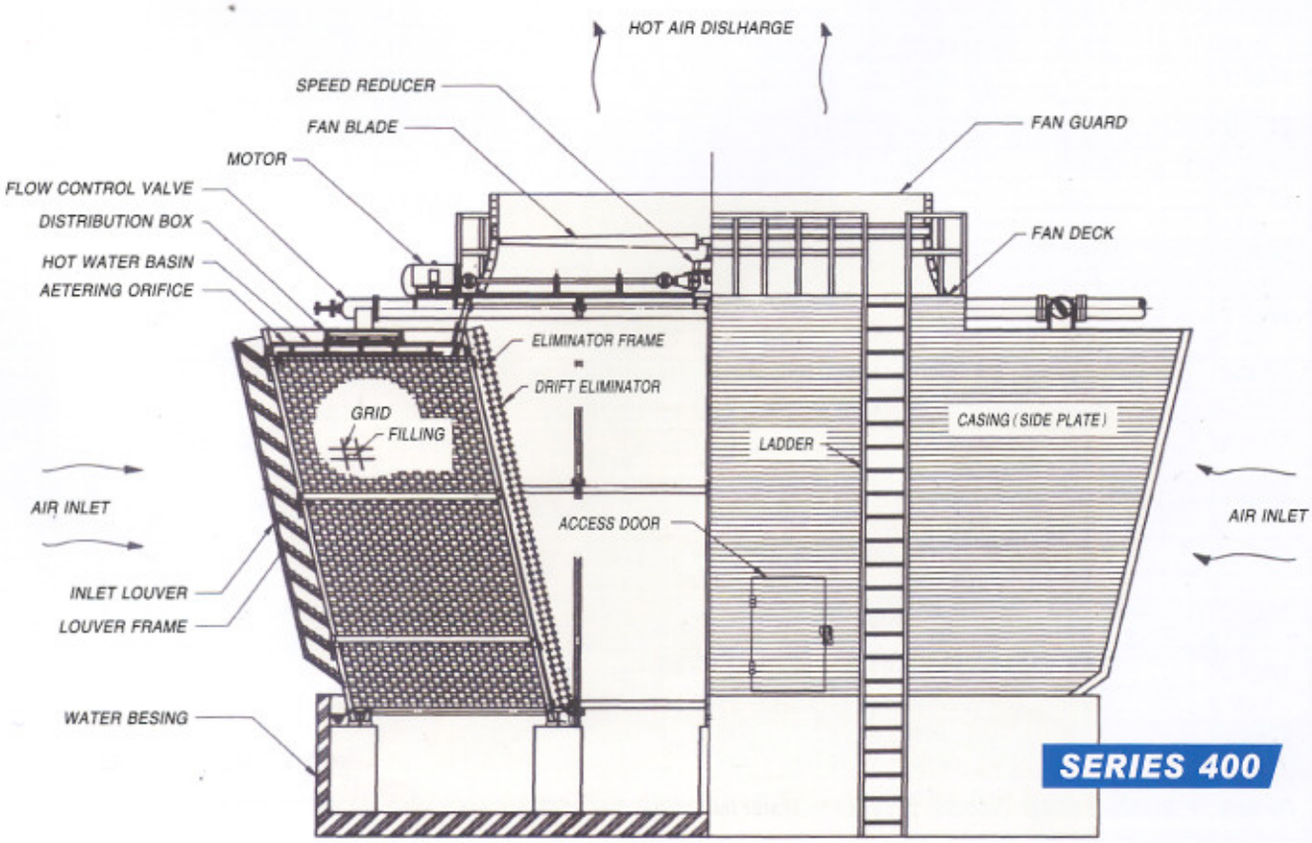
1. Mechanical Equipment Material Including Fan, Reducer & Drive Shaft
2. Materials of Framework and Casing
3. Materials and Treatment of Structure Connectors
4. Materials and Treatment of Piping System

3 OTHER ITEMS

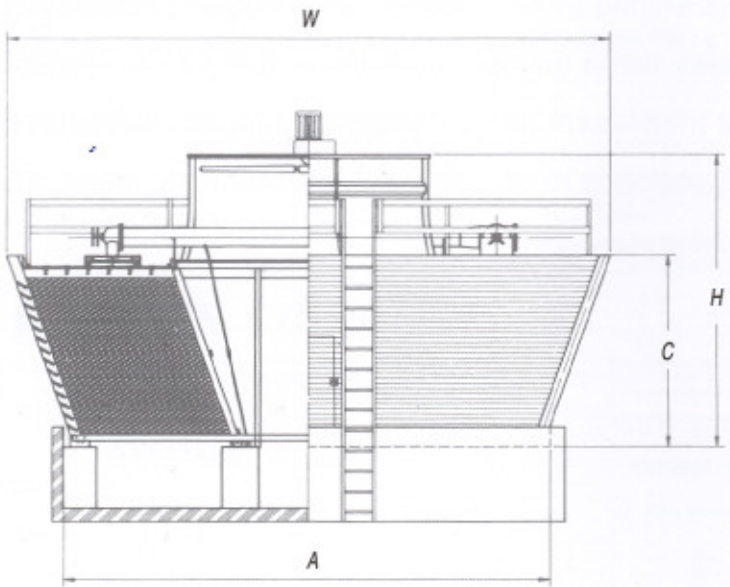
1. Purpose of Tower Useage
2. Location of Piping
3. Capacity of Cold Water Basin
4. Quality of Circulation Water
5. Time of Delivery

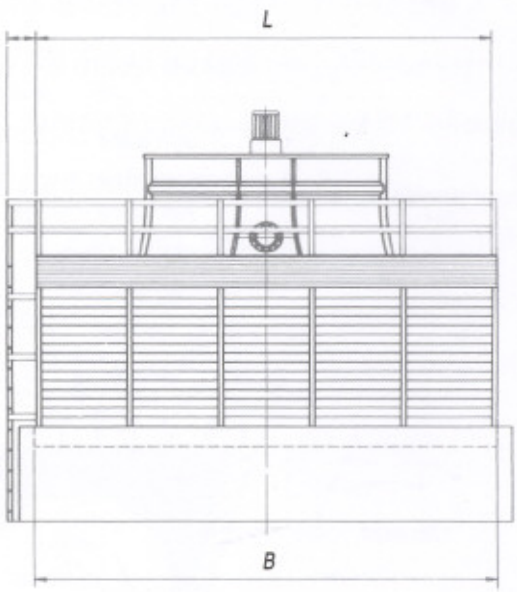
SERIES 300 & 400 CONSTRUCTIONS





SERIES 300 STANDARD DIMENSION

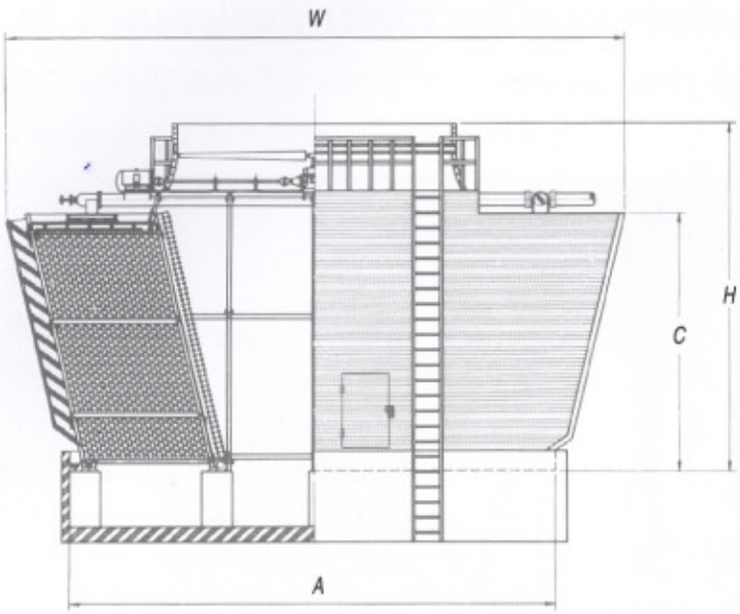


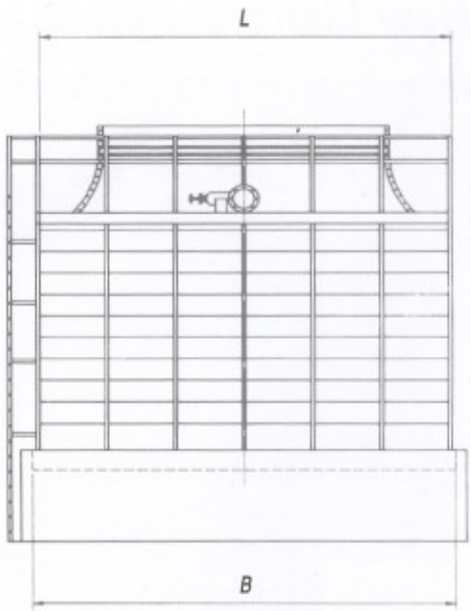


MODEL LHC	NOMINAL WATER FLOW M^3/min	DIMENSION mm						FAN DIA. m/m	PUMP HEAD M	OPERATING WEIGHT:kgs
		W	L	H	A	B	C			
361D-C1	3.0	5725	2580	3616	4570	2640	2190	1750∅	4.5	6360
2	6.0	5725	5020	3616	4570	5080	2190	1750∅	4.5	12720
362D-C1	3.1	6335	2580	3616	5180	2640	2190	1750∅	4.5	7270
2	6.2	6335	5020	3616	5180	5080	2190	1750∅	4.5	14540
363D-C1	3.7	5725	2580	4240	4165	2640	2815	1750∅	5.5	7060
2	7.4	5725	5020	4240	4165	5080	2815	1750∅	5.5	14120
364D-C1	4.0	6335	2580	4240	4775	2640	2815	1750∅	5.5	8020
2	8.0	6335	5020	4240	4775	5080	2815	1750∅	5.5	16040
365D-C1	4.2	6945	2580	4240	5385	2640	2815	1750∅	5.5	8970
2	8.4	6945	5020	4240	5385	5080	2815	1750∅	5.5	17940
366D-C1	4.5	6335	3800	3166	5180	3860	2190	2400∅	5.0	9530
2	9.0	6335	7460	3166	5180	7520	2190	2400∅	5.0	19060
367D-C1	4.9	6945	3800	3166	5790	3860	2190	2400∅	5.0	10860
2	9.8	6945	7460	3166	5790	7520	2190	2400∅	5.0	21720
368D-C1	5.9	6335	3800	3794	4775	3860	2815	2400∅	5.5	10570
2	11.8	6335	7460	3794	4775	7520	2815	2400∅	5.5	21140
369D-C1	6.4	6945	3800	3794	5385	3860	2815	2400∅	5.5	11920
2	12.8	6945	7460	3794	5385	7520	2815	2400∅	5.5	23840
370D-C1	6.8	7555	3800	3794	5995	3860	2815	2400∅	5.5	13300
2	13.6	7555	7460	3794	5995	7520	2815	2400∅	5.5	26600
371D-C1	7.0	6345	5020	3794	4775	5080	2815	2400∅	5.5	13360
2	14.0	6345	9900	3794	4775	9960	2815	2400∅	5.5	26720
372D-C1	7.5	6945	5020	3794	5385	5080	2815	2400∅	5.5	15120
2	15.0	6945	9900	3794	5385	9960	2815	2400∅	5.5	30240
373D-C1	8.1	7555	5020	3794	5995	5080	2815	2400∅	5.5	16930
2	16.2	7555	9900	3794	5995	9960	2815	2400∅	5.5	33860
374D-C1	9.2	6945	6240	4240	5385	6300	2815	3000∅	5.5	17410
2	18.4	6945	12340	4240	5385	12400	2815	3000∅	5.5	34820
375D-C1	9.8	7555	6240	4240	5995	6300	2815	3000∅	5.5	19520
2	19.6	7555	12340	4240	5995	12400	2815	3000∅	5.5	39040
376D-C1	10.3	8165	6240	4240	6605	6300	2815	3000∅	5.5	21870
2	20.6	8165	12340	4240	6605	12400	2815	3000∅	5.5	43740

Remark : 1. Standard design condition is based on Water Inlet 37°C, Water Outlet 32°C, Ambient Wet Bulb Temp. 27°C.

SERIES 400 STANDARD DIMENSION





MODEL LHC	NOMINAL WATER FLOW M^3/min	DIMENSION mm						FAN DIA. m/m	PUMP HEAD M	OPERATING WEIGHT: kgs
		W	L	H	A	B	C			
451D-C1	7.7	7800	3800	6095	5700	3860	4595	3000 ∅	6	16910
2	15.4	7800	7460	6095	5700	7520	4595	3000 ∅	6	33820
452D-C1	10.7	8415	5020	6095	6310	5080	4595	3600 ∅	6	22090
2	21.4	8415	9900	6095	6310	9960	4595	3600 ∅	6	44180
453D-C1	12.8	9025	6240	6095	6920	6300	4595	4270 ∅	6	28060
2	25.6	9025	12340	6095	6920	12400	4595	4270 ∅	6	56120
454D-C1	16.2	9025	7460	6595	6920	7520	4595	4270 ∅	6	32760
2	32.4	9025	14780	6595	6920	14840	4595	4270 ∅	6	65520
456D-C1	8.6	9025	3800	6095	6920	3860	4595	3000 ∅	6	20665
2	17.2	9025	7460	6095	6920	7520	4595	3000 ∅	6	41330
457D-C1	11.8	9635	5020	6095	7530	5080	4595	3600 ∅	6	27015
2	23.6	9635	9900	6095	7530	9960	4595	3600 ∅	6	54030
458D-C1	16.2	10245	6240	6595	8140	6300	4595	4270 ∅	6	34120
2	32.4	10245	12340	6595	8140	12400	4595	4270 ∅	6	68240
459D-C1	17.9	10245	7460	6595	8140	7520	4595	4270 ∅	6	39955
2	35.8	10245	14780	6595	8140	14840	4595	4270 ∅	6	79910
472D-C1	15.1	10080	5020	7010	7530	5080	5510	3600 ∅	7	30850
2	30.3	10080	9900	7010	7530	9960	5510	3600 ∅	7	61700
473D-C1	19.1	10590	6240	7510	8140	6300	5510	4270 ∅	7	38850
2	38.2	10590	12340	7510	8140	12400	5510	4270 ∅	7	77700
474D-C1	20.6	10590	7460	7510	8140	7520	5510	4270 ∅	7	45600
2	41.2	10590	14780	7510	8140	14840	5510	4270 ∅	7	91200
475D-C1	22.4	11300	7460	7510	8750	7520	5510	4880 ∅	7	47600
2	44.8	11300	14780	7510	8750	14840	5510	4880 ∅	7	95200

Remark : 1. Standard design condition is based on Water Inlet 37°C, Water Outlet 32°C, Ambient Wet Bulb Temp. 27°C.

COOLING TOWER APPLICATION ASSISTANCE

How Liang Chi gives an immediate cooling tower assistance to meet your requirement around the world.



With more than 20 years in manufacture of cooling towers, Liang Chi can give you access to a range of best reliability and easiest maintenance for air-conditioning and industrial process.

Selecting the right cooling tower applications for your plant can be a puzzle, but Liang Chi's engineers assist you in making the solution. As a result, this assistance will produce optimum performance and economy for our customers around the world.

With all the benefits of field-erection experience and knowledge for special cooling tower applications, our high-trained team of engineers are ready to meet your future need efficiently, economically.

NOTE

Please contact your local Liang Chi distributor for further information including special specifications.

VARIETES OF COOLING TOWER SERIES & HI-LINE PUMP
(DETAILS AVAILABLE UPON REQUEST)

LBC *Our LBC Bottle Type Cooling Tower is made of Fiberglass Reinforced Polyester which is non-rusting, non-erosive, and high rigidity. It's light, weight, compact design with large tower in unassembled form. The transportation presents no problem. Only simple fundation base for the tower is required. Quick delivery enables meeting all kinds of construction schedule.*


LBC

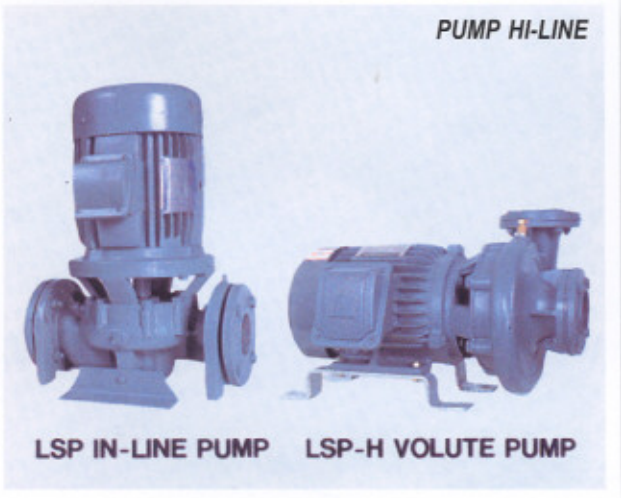
LBC-W *Specially designed for industrial water with high temperature and poor water such as including dust, scale or calcium carbonate etc. This FRP counter flow Bottle Type cooling tower uses presertive-treated woods for fillings and could resist high temperature successfully and do not block up the holes of the fillings easily. If did, anybody could clean it without any trouble.*


LBC-W

LRC Series ***(Low Noise Cooling Tower)***

Features low noise & easy maintenance, light weight & less space & muti-cell installation, unique distribution system & efficient heat exchange, low power consumption, and low maintenance cost.

PUMP HI-LINE *Special used for cooling tower*


PUMP HI-LINE

LSP IN-LINE PUMP LSP-H VOLUTE PUMP


LRC

LIANG CHI COOLING TOWERS

THE BIGGEST MANUFACTURER OF COOLING TOWER IN TAIWAN WHOSE PRODUCTS ARE ALL OVER THE WORLD



Taipei Headquarter / Taoyuan Plant

LIANG CHI INDUSTRY CO., LTD.

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