# ST Series

## Counter Flow Induced Draft Cooling Tower

Engineering Data

Proud Member

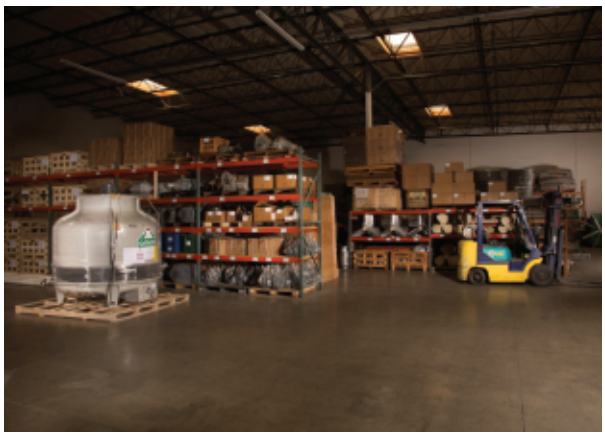
Amcot Cooling Tower Inc.

Since 1986

www.amcot.com

## Company Overview

Amcot Cooling Tower Corporation (Liang Chi USA) was founded in 1988 to provide regional support to the Americas for Liang Chi Industries, Asia's largest producer and manufacturer of cooling towers.



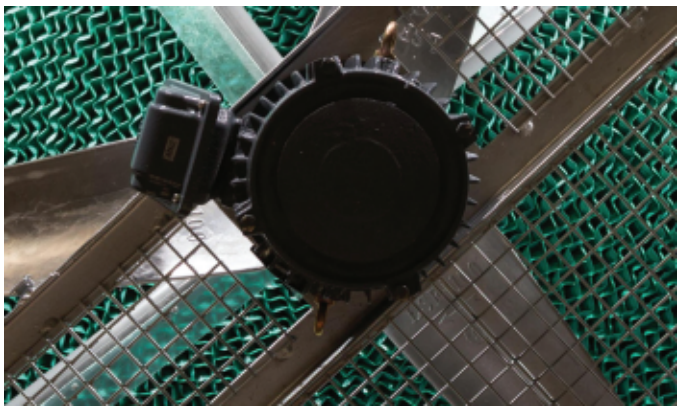
Liang Chi Industries, based in Taipei, Taiwan has roots in the cooling tower industry dating back to the early 1960s as the original designer of the round fiberglass style counter flow cooling tower. Today with more than 15 product lines, 9 of which are CTI 201 certified and ASHRAE 90.1 compliant, Liang Chi remains a global leader in the cooling tower industry.

Amcot offers a variety of distinct cooling tower designs in order to help meet various project requirements and customer preferences.

The ST Series, is our FRP round style open loop counter flow cooling tower which is by far what Amcot has been known for over the past 30 years. With thousands of these units distributed throughout North, Central, South America, and the Caribbean, the Amcot ST Series unit has proven to be a reliable and cost effective solution. The ST Series models have a capacity range of 4 to 826 nominal tons.

The R-LC Series, was Amcot's first CTI 201 Certified cooling tower introduced to the market back in 1996. The R-LC series is a FRP open loop tower design, but in a cross flow configuration which has a more traditional cooling tower profile. The R-LC series towers have a single cell capacity range between 30 and 707 nominal tons. However, the R-LC is a modular type of design which allows for multiple cell configurations so that models can be selected regardless of project size. Amcot's R-LC has been used on hospitals, schools, universities, hotels, Co-gen stations, and manufacturing facilities for steel and plastic.

Amcot's D-LC Series is our newest cooling tower line which was introduced into the USA market in 2016. The unit is CTI 201 Certified under Liang Chi Industries, Amcot's international partner. The D-LC series tower offers customers a counter flow open loop modular type design constructed predominately from fiberglass materials making it ideal for harsh environments. The modular capability allows the unit to be designed and scaled according to project demands. The D-LC series single cell has a capacity ranging from 43 to 641 tons.



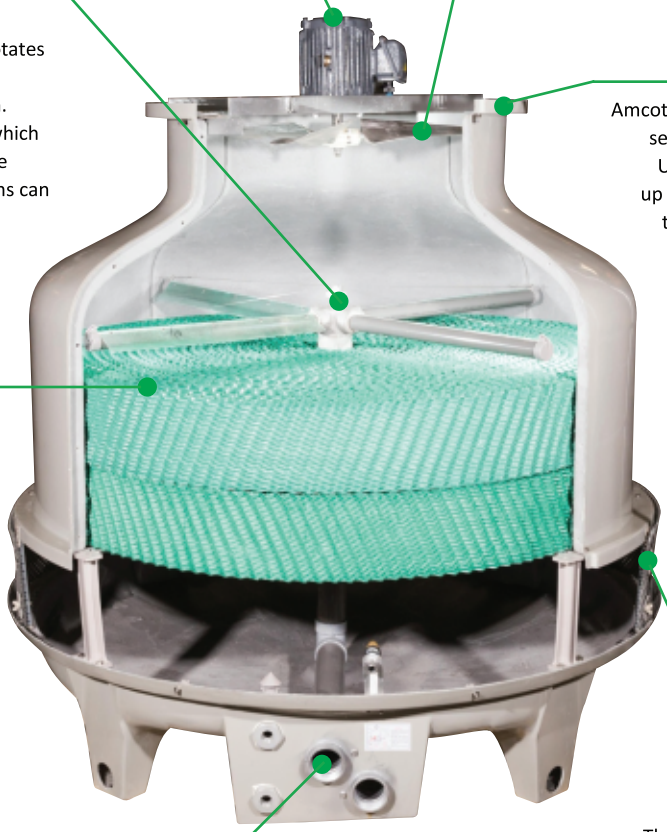
Over the past 30 years, Amcot has worked with clients all over the western hemisphere on a wide range of cooling tower projects. Our goal has been and always will be to provide customers with the best service possible. Our company's success over the years has been a result of clients continuing to support our products with whom we have built strong partnerships. Our entire staff at Amcot is dedicated to providing you with the support you both need and deserve and doing so in a professional and timely manner. The products we deliver shall be reliable, cost effective, efficient, and long lasting. Your satisfaction is our goal!

# ST Series Highlights

**Fan Motor**
ST Series motors are direct drive design for models STH-5 to ST-200. ST-225 to ST-1000 offer belt drive type in order to achieve lower fan speeds and reduced sound. Motors are designed in accordance to IP55 standards and are CSA/UL Certified. Motors are supplied in a wide range of voltages for both single and three phase along with 50/60Hz power supplies.

**Fan Assembly**
Amcot ST Series fans are axial propeller type constructed in nylon, nylon/aluminum, or all aluminum depending on the model. STH-5 to ST-50 use fixed pitch type while ST-60 to ST-1000 use adjustable pitch type of assemblies. Fans are factory balanced and specially designed for only the ST Series cooling tower.

**Water Distribution System**
ST Series cooling towers utilize a unique water distribution system in which the entire assembly rotates under incoming water pressure to distribute water across the heat transfer media in a uniform fashion. This assembly negates the need for spray nozzles which can clog, break, or require a specific water flow rate to operate correctly. Our water distribution systems can easily be removed and disassembled for cleaning and quickly reassembled to minimize downtime during maintenance.



**FRP Construction**
Amcot's ST Series Cooling Tower basin and casing sections are constructed from fiberglass with UV inhibitors. As the casing and basin make up a majority of the cooling tower's structure, the ST offers a lower operation weight than most other towers. In addition, the FRP construction offers superior protection against a wide range of chemicals and it does not rust or corrode like traditional steel towers. This eliminates the need for costly repair services over the life of your tower. With UV inhibitors present not just in the top coat but throughout panel construction, Amcot's FRP will far surpass the life of any other!

**Heat Transfer Media**
The heat transfer media or fill media in the ST series cooling tower consists of PVC embossed sheets that are glued together to form fill packs which is where incoming air intersects with your hot water resulting in the transfer of heat. The fill media achieves effective cooling by increasing the waters' surface area exposure to the air. PVC fill media is designed to be resistant to rot, decay, and biological attack and capable of withstanding continuous hot water temperatures of 115°F.

For water temperatures that exceed 115°F, variations of the ST Series tower are available with high temperature fill media constructed from polypropylene or wood lath.

**Air Inlet Louvers**
The air inlet louvers are located around the complete perimeter of the cooling tower allowing air flow to enter the unit regardless of prevailing wind direction. Louvers can easily be removed for replacement or cleaning and are designed to prevent large debris from entering the cooling tower which can interfere with system operation.

Amcot also offers an Anti-Splash louver which replaces the standard air inlet louver screens to eliminate splash out from occurring.

**Pipe Connections**
The ST Series tower has conveniently located pipe connections for your supply, return, make-up, overflow, and drain piping. On smaller units up to ST-60 all pipe connections are threaded. For ST-70 and greater main supply and return lines are flanged.

# ST Series Specification

**GENERAL**

1.0 SELECTION

Furnish _____ Amcot model ST-_____cooling tower(s). The ST series cooling tower is a factory or field assembled, induced draft, axial fan, counter flow cooling tower with vertical air discharge. The cooling tower's overall dimensions shall not exceed _____in diameter X_____in height. Multiple units can be combined for larger projects.

1.1 PERFORMANCE

The cooling tower(s) shall be designed to provide _____USGPM of total cooling capacity based on an entering hot water temperature of _____°F with a leaving cold water temperature of _____°F and an entering ambient wet-bulb temperature of _____°F. Units shall comply with ASHRAE 90.1 energy standards.

**MATERIALS OF CONSTRUCTION**

2.0 PERFORMANCE

The cold water basin shall be constructed of heavy gauge fiber reinforced polyester (FRP) material with UV inhibitors. Cold water basin construction shall be impervious to rot, decay, biological attack and will not rust or corrode. The cold water basin design shall be sloped to promote positive drainage of the basin to the outlet and drain connections. The basin shall include piping points of connection for the overflow, make-up, drain, inlet, and outlet. Make-up, drain, and overflow connections shall be threaded type. For smaller capacity models the inlet and outlet connections shall be threaded while larger capacity units shall be furnished with flanged inlet and outlet connections. All fasteners shall be stainless steel type.

2.1 CASING PANELS

The casing panels shall be constructed of heavy gauge fiber reinforced polyester (FRP) material with UV inhibitors which is impervious to rot, decay, biological attack and will not rust or corrode. Panels shall be removable type to allow easy access of internal components. The casing panel shall have a viewing port for inspection of the interior components. The panels shall be fastened to the cooling tower structure with all seams designed to be watertight. All fasteners shall be stainless steel type.

**MECHANICAL COMPONENTS**

3.0 MECHANICAL ASSEMBLY

The mechanical assembly of the cooling tower shall be constructed of hot dipped galvanized (HDG) *(Stainless Steel)* materials with an OSHA compliant removable fan guard for maintenance. For towers operating on motor sizes of 7 ½ HP or less, the mechanical assembly shall be direct drive type with no belts, gear drives, or additional components that require maintenance. For models utilizing motor sizes greater than 10 HP, the unit will be provided with a belt drive reducer that is installed external to the cooling tower and enclosed within an epoxy coated steel case to protect belts and pulleys from the outside environment.

3.1 MECHANICAL WARRANTY

The cooling tower's fan drive components shall be covered by a one (1), *(Five (5))* year complete mechanical warranty. Drive components protected by this warranty shall include the fans, bearings, fan shafts, pulleys, bushings, reducers, and fan motors

3.2 FAN MOTOR(S)

_____HP motor shall be premium efficiency that is totally enclosed air over (TEAO) for direct drive units and totally enclosed fan cooled (TEFC) for units with a belt reducer. Motors shall be supplied with sealed bearings and have a minimum SF of 1.15. Motors shall be designed for cooling tower duty and be IP55 type. Motors 1 HP and greater shall be inverter duty type. Motors shall be UL/CSA compliant. Motor power requirement shall be: _____ volts,_____ phase, _____ Hertz.

**ITEMS IN ITALICS ARE OPTIONS OR ALTERNATIVE MATERIALS OF CONSTRUCTION.*

3.3 FAN ASSEMBLY

Fans shall be axial propeller, fixed pitch type up to 48" diameter or adjustable pitch for fans greater than 48" in diameter. Fans less than 36" in diameter shall be constructed with nylon blades and hub for reduced weight and rust/corrosion prevention. Fans between 36" and 48" shall be constructed from nylon with fan blades constructed of aluminum. For fan diameters greater than 48", the hub and blades shall be constructed from aluminum. Fans shall be dynamically balanced at the factory prior to shipping. For field assembled units, the installer will be required to check balance and pitch fans prior to startup in accordance with manufacturer's O&M manual.

3.3 BELT REDUCER

For models with a motor size greater than 10 HP, the unit shall be designed with a belt reducer assembly to provide proper fan speed rotation. The reducer shall be mounted externally and shall be constructed from epoxy coated steel. The reducer housing shall protect the internal banded belts, and pulleys from excessive exposure to moisture and sunlight. The reducer shall be supplied with an adjustable tensioning gauge for belt tensioning and no special tension gauges shall be required.

**4.0 WATER DISTRIBUTION**

4.1 WATER DISTRIBUTION SYSTEM

The unit shall be provided with a non-corrosive water distribution system that utilizes a single inlet connection for each tower. The spray system will be comprised of a rotating center sprinkler head constructed from nylon or aluminum *(Stainless Steel)* that rotates under incoming water pressure. Water will be distributed to the fill media by a series of spray arms with outlet orifices designed to ensure proper water loading of the fill occurs under various flow rates. Spray arms shall be constructed from PVC materials and may be removed for cleaning and maintenance.

**5.0 FILL MEDIA**

5.1 WET-DECK FILL MEDIA

The cooling tower fill shall be PVC (Polyvinyl Chloride) of cross-fluted design for maximum heat transfer. The cross-fluted sheets shall be bonded together to form rigid cellular blocks/sections. The PVC fill shall be self-extinguishing with a flame spread rating of 25 or less per ASTM E84-81a and resistant to rot, decay and biological attack. The fill will be able to withstand continuous water temperature of 115°F and be supported by fill supports constructed of heavy-gauge hot dipped galvanized HDG *(Stainless Steel)* material which allows the fill media to be utilized as an internal service platform for access and maintenance on larger models.

**6.0 AIR INLET LOUVERS**

6.1 INLET LOUVERS

Air inlet louvers shall be constructed using UV resistant polyvinyl chloride (PVC) materials. The inlet louvers shall be designed to permit air flow into the unit along its entire perimeter while preventing large debris from entering the unit. The louver openings shall be designed to minimize air flow resistance to ensure maximum air volume through the unit is achieved. Louvers shall be removable for cold water basin access and for maintenance or replacement.

**7.0 ACCESS**

7.1 The cooling tower shall be furnished with a shipman's style ladder for units that are greater than 76" in height. The ladder shall be constructed of hot dipped galvanized steel (HDG) *(Stainless Steel)* and designed for a maximum weight load of 250 pounds. Internal components of the tower shall be accessible either by removal of the casing panel or through a access hatch in the fan guard for larger units. The fill media may be used as a working platform when following the manufacturer's O&M manual.

**8.0 QUALITY ASSURANCE**

8.1 QUALITY CONTROL

The cooling tower manufacturer shall be certified under ISO 9001 and have a minimum of 20 years' experience in the design, fabrication, and construction of cooling towers.

## *Models STH-5 to ST-1000*

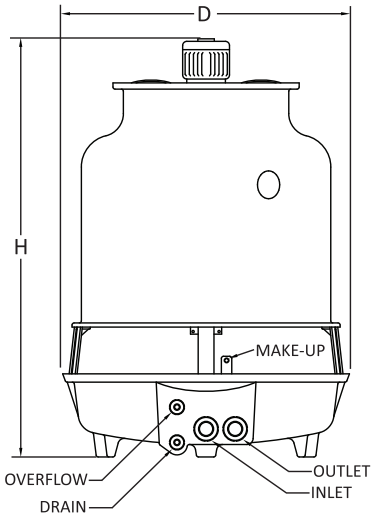
*Single Cell Counter Flow Design*

*3 to 826 Nominal Tons*

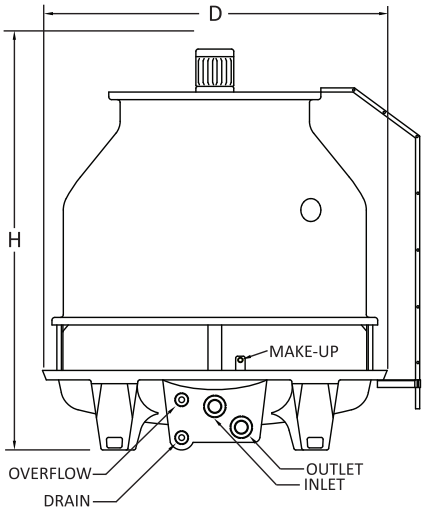
| MODEL | NOMINAL TONS* | TEMPERATURES SHOWN BELOW ARE IN FAHRENHEIT (°F). FLOW RATES ARE IN USGPM. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HWT | 90 | 95 | 90 | 95 | 90 | 95 | 90 | 95 | 90 | 95 | 90 | 95 | 95 | 96 | 98 |
| | | CWT | 80 | 85 | 80 | 85 | 80 | 85 | 80 | 85 | 80 | 85 | 80 | 85 | 85 | 86 | 88 |
| | | AWB | 65 | 65 | 70 | 70 | 72 | 72 | 74 | 74 | 75 | 75 | 78 | 78 | 80 | 80 | 82 |
| STH-5 | 4 | | 17 | 26 | 12 | 20 | 10 | 18 | 8 | 16 | 7 | 15 | 3 | 12 | 8 | 10 | 11 |
| STH-8 | 6 | | 27 | 40 | 20 | 32 | 16 | 29 | 13 | 25 | 11 | 23 | 6 | 18 | 13 | 16 | 17 |
| STH-10 | 7 | | 34 | 50 | 25 | 40 | 20 | 36 | 16 | 31 | 14 | 29 | 7 | 21 | 17 | 20 | 22 |
| STH-15 | 11 | | 51 | 75 | 37 | 60 | 31 | 54 | 25 | 47 | 21 | 44 | 11 | 33 | 26 | 31 | 33 |
| STH-20 | 15 | | 68 | 100 | 49 | 80 | 41 | 72 | 33 | 63 | 29 | 58 | 15 | 45 | 34 | 41 | 44 |
| ST-25 | 19 | | 85 | 122 | 62 | 99 | 52 | 89 | 42 | 78 | 37 | 73 | 20 | 57 | 44 | 52 | 56 |
| ST-30 | 23 | | 101 | 145 | 75 | 118 | 63 | 107 | 52 | 94 | 45 | 88 | 25 | 69 | 54 | 63 | 68 |
| ST-40 | 31 | | 135 | 192 | 100 | 157 | 86 | 142 | 70 | 126 | 62 | 118 | 34 | 93 | 73 | 85 | 91 |
| ST-50 | 39 | | 168 | 236 | 126 | 195 | 108 | 177 | 89 | 158 | 78 | 148 | 44 | 117 | 93 | 108 | 115 |
| ST-60 | 46 | | 202 | 287 | 151 | 235 | 128 | 213 | 105 | 189 | 92 | 177 | 51 | 138 | 109 | 128 | 137 |
| ST-70 | 53 | | 236 | 336 | 175 | 275 | 149 | 248 | 122 | 221 | 107 | 206 | 59 | 159 | 127 | 149 | 159 |
| ST-80 | 62 | | 269 | 380 | 202 | 313 | 172 | 283 | 141 | 252 | 125 | 236 | 70 | 186 | 147 | 172 | 184 |
| ST-100 | 76 | | 337 | 478 | 251 | 392 | 214 | 355 | 174 | 315 | 154 | 295 | 86 | 228 | 182 | 213 | 228 |
| ST-125 | 96 | | 420 | 592 | 316 | 488 | 270 | 442 | 221 | 394 | 196 | 369 | 110 | 288 | 231 | 270 | 288 |
| ST-150 | 117 | | 503 | 704 | 381 | 583 | 327 | 530 | 270 | 473 | 239 | 444 | 137 | 351 | 282 | 328 | 350 |
| ST-175 | 135 | | 587 | 827 | 443 | 682 | 379 | 619 | 311 | 552 | 275 | 517 | 156 | 405 | 325 | 379 | 404 |
| ST-200 | 156 | | 669 | 936 | 508 | 776 | 437 | 706 | 361 | 631 | 320 | 593 | 184 | 468 | 378 | 438 | 468 |
| ST-225 | 169 | | 761 | 1097 | 560 | 891 | 473 | 802 | 383 | 708 | 335 | 660 | 182 | 507 | 399 | 470 | 504 |
| ST-250 | 191 | | 841 | 1196 | 628 | 981 | 535 | 886 | 436 | 788 | 384 | 737 | 214 | 573 | 455 | 533 | 570 |
| ST-300 | 227 | | 1012 | 1447 | 750 | 1181 | 637 | 1066 | 517 | 945 | 454 | 882 | 250 | 681 | 539 | 633 | 678 |
| ST-350 | 273 | | 1171 | 1639 | 889 | 1358 | 764 | 1235 | 630 | 1105 | 559 | 1037 | 321 | 819 | 659 | 765 | 817 |
| ST-400 | 310 | | 1342 | 1887 | 1013 | 1558 | 868 | 1415 | 713 | 1262 | 631 | 1183 | 359 | 930 | 746 | 868 | 927 |
| ST-500 | 408 | | 1653 | 2236 | 1301 | 1895 | 1142 | 1745 | 968 | 1584 | 875 | 1500 | 544 | 1224 | 1018 | 1159 | 1231 |
| ST-600 | 468 | | 2007 | 2807 | 1525 | 2327 | 1311 | 2117 | 1082 | 1895 | 961 | 1778 | 553 | 1404 | 1132 | 1314 | 1403 |
| ST-700 | 567 | | 2319 | 3156 | 1813 | 2665 | 1585 | 2448 | 1338 | 2216 | 1204 | 2095 | 737 | 1701 | 1404 | 1605 | 1706 |
| ST-800 | 624 | | 2677 | 3742 | 2033 | 3103 | 1748 | 2822 | 1443 | 2526 | 1282 | 2371 | 737 | 1872 | 1510 | 1752 | 1870 |
| ST-1000 | 826 | | 3295 | 4424 | 2617 | 3769 | 2310 | 3480 | 1974 | 3171 | 1792 | 3009 | 1141 | 2478 | 2079 | 2353 | 2497 |

*NOMINAL TONS IS BASED ON 1 TON = 3GPM AT 95°F HWT - 85°F CWT - 78°F AMBIENT WET-BULB. 1 TON = 15,000 BTU/HR.

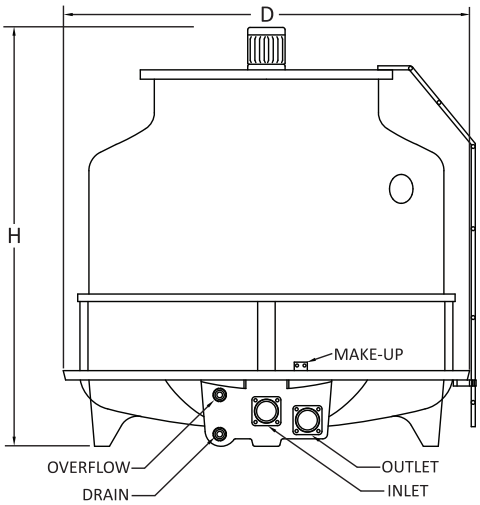
# ST Series Physical Data



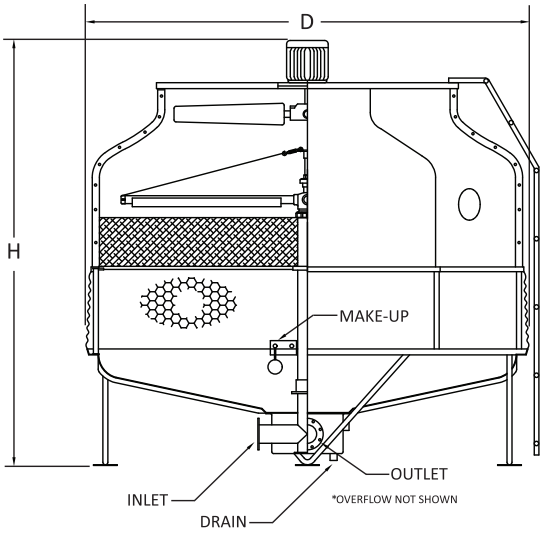

**STH-5 ~ ST-30**



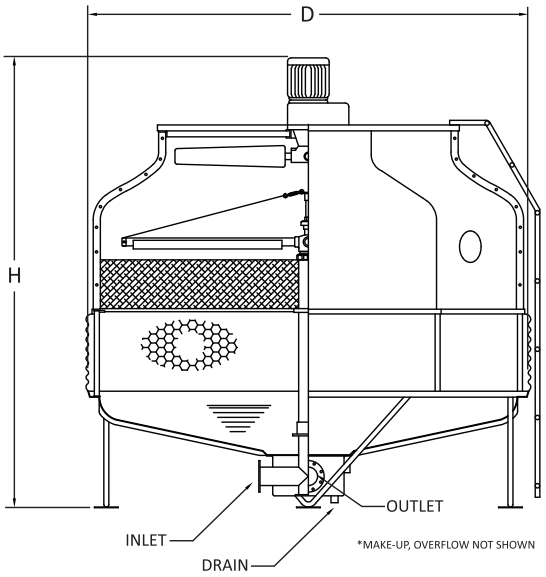

**ST-40 ~ ST-60**



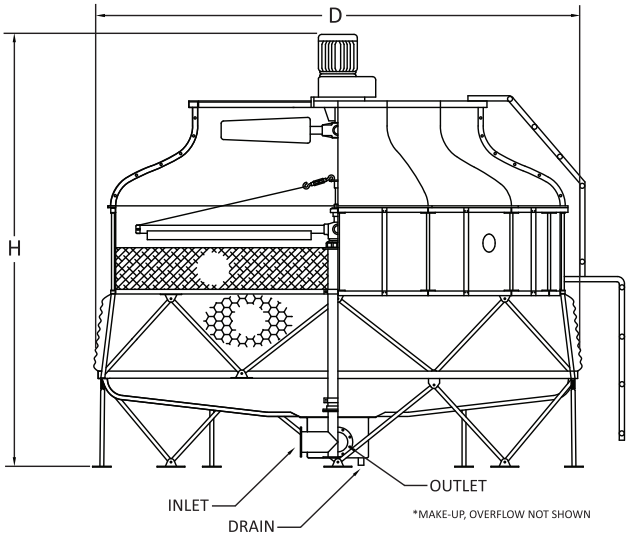

**ST-70 ~ ST-175**




**ST-200**




**ST-225 ~ ST-350**




**ST-400 ~ ST-1000**

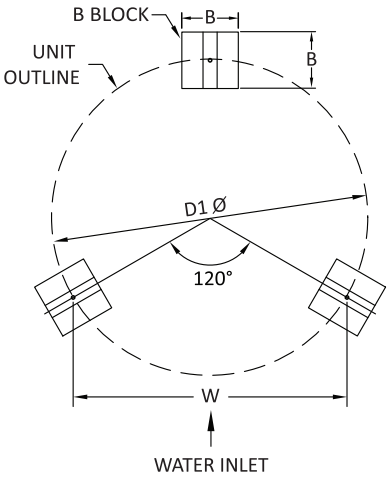
# ST Series Physical Data

| MODEL | NOMINAL TONS[1] | NOMINAL DIMENSIONS (INCHES) | | PIPING CONNECTIONS (INCHES) | | | | | FAN MOTOR (HP) | FAN DIAMETER (INCHES) | AIR VOLUME (CFM) | NOMINAL WATER FLOW (GPM) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HEIGHT (H) | DIAMETER (D) | INLET | OUTLET | MAKE-UP | OVERFLOW | DRAIN | | | | |
| STH-5 | 4 | 61 | 29 | 1 1/2 | 1 1/2 | 1/2 | 1 | 3/4 | 1/6 | 19 | 2100 | 12 |
| STH-8 | 6 | 72 | 34 | 1 1/2 | 1 1/2 | 1/2 | 1 | 3/4 | 1/6 | 19 | 2620 | 18 |
| STH-10 | 7 | 72 | 34 | 1 1/2 | 1 1/2 | 1/2 | 1 | 3/4 | 1/4 | 19 | 3500 | 21 |
| STH-15 | 11 | 82 | 46 | 2 | 2 | 1/2 | 1 | 1 | 1/4 | 26 | 4700 | 33 |
| STH-20 | 15 | 83 | 46 | 2 | 2 | 1/2 | 1 | 1 | 1/2 | 26 | 6300 | 45 |
| ST-25 | 19 | 78 | 54 | 2 1/2 | 2 1/2 | 1/2 | 1 | 1 | 3/4 | 30 | 7000 | 57 |
| ST-30 | 23 | 76 | 62 | 2 1/2 | 2 1/2 | 1/2 | 1 | 1 | 1 | 30 | 8100 | 69 |
| ST-40 | 31 | 83 | 72 | 2 1/2 | 2 1/2 | 3/4 | 1 | 1 | 1 1/2 | 38 | 9800 | 93 |
| ST-50 | 39 | 83 | 79 | 3 | 3 | 3/4 | 1 | 1 | 1 1/2 | 38 | 11500 | 117 |
| ST-60 | 46 | 84 | 79 | 3 | 3 | 3/4 | 1 | 1 | 1 1/2 | 46 | 14700 | 138 |
| ST-70 | 53 | 89 | 86 | 4 | 4 | 3/4 | 1 | 1 | 1 1/2 | 46 | 17500 | 159 |
| ST-80 | 62 | 89 | 86 | 4 | 4 | 3/4 | 1 | 1 | 2 | 46 | 18900 | 186 |
| ST-100 | 76 | 96 | 104 | 4 | 4 | 1 | 1 | 1 | 3 | 58 | 24500 | 228 |
| ST-125 | 96 | 97 | 120 | 5 | 5 | 1 | 2 | 1 | 3 | 58 | 29060 | 288 |
| ST-150 | 117 | 105 | 130 | 5 | 5 | 1 | 2 | 2 | 5 | 69 | 33260 | 351 |
| ST-175 | 135 | 112 | 130 | 5 | 5 | 1 | 2 | 2 | 5 | 69 | 40250 | 405 |
| ST-200 | 156 | 133 | 148 | 6 | 6 | 1 1/4 | 2 | 2 | 5 | 69 | 43760 | 468 |
| ST-225 | 169 | 147 | 148 | 6 | 6 | 1 1/4 | 2 | 2 | 7 1/2 | 93 | 61270 | 507 |
| ST-250 | 191 | 157 | 148 | 8 | 8 | 1 1/4 | 2 | 2 | 7 1/2 | 93 | 61270 | 573 |
| ST-300 | 227 | 161 | 175 | 8 | 8 | 1 1/4 | 2 | 2 | 10 | 93 | 77020 | 681 |
| ST-350 | 273 | 162 | 189 | 8 | 8 | 1 1/4 | 2 | 2 | 10 | 93 | 77020 | 819 |
| ST-400 | 310 | 204 | 182 | 8 | 8 | 2 | 4 | 2 | 15 | 117 | 91030 | 930 |
| ST-500 | 408 | 183 | 220 | 10 | 10 | 2 | 4 | 2 | 15 | 117 | 91030 | 1224 |
| ST-600 | 468 | 206 | 260 | 10 | 10 | 2 | 4 | 2 | 20 | 133 | 125000 | 1404 |
| ST-700 | 567 | 216 | 260 | 10 | 10 | 2 | 4 | 2 | 20 | 133 | 125000 | 1701 |
| ST-800 | 624 | 239 | 299 | 12 | 12 | 2 | 4 | 3 | 30 | 141 | 175000 | 1872 |
| ST-1000 | 826 | 247 | 299 | 12 | 12 | 2 | 4 | 3 | 30 | 141 | 175000 | 2478 |

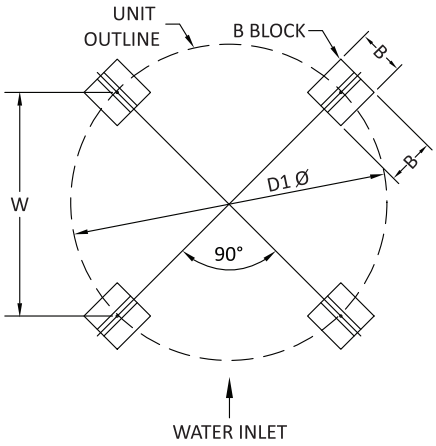
**NOTES:**

1) NOMINAL TONS IS BASED ON 1 TON = 3GPM AT 95°F HWT - 85°F CWT - 78°F AMBIENT WET-BULB. 1 TON = 15,000 BTU/HR.
2) ST-125 TO ST-175 5" INLET/OUTLET CONNECTIONS USE 6" FLANGE PATTERN.
3) AIR VOLUME IS NOMINAL AND MAY CHANGE DEPENDING ON SPECIFIC DESIGN CONDITIONS.
4) REFER TO TECHNICAL DATA SHEETS AND GA DRAWINGS FOR ADDITIONAL DATA.
5) DATA HEREIN IS SUBJECT TO CHANGE WITHOUT NOTIFICATION.

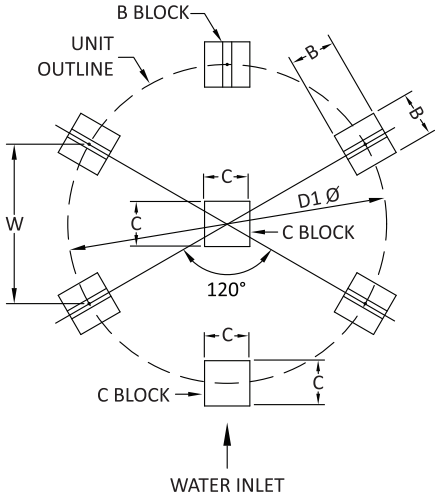
# ST Series Foundation Data



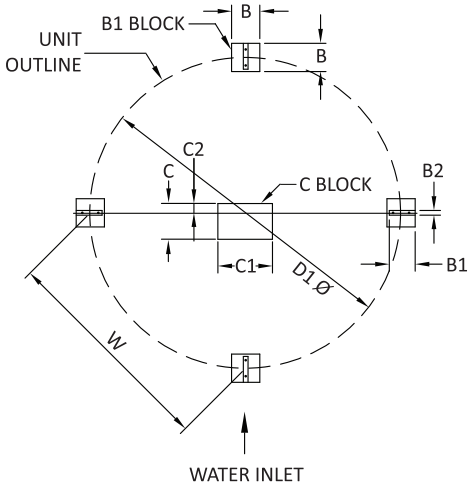

**STH-5 ~ ST-25**



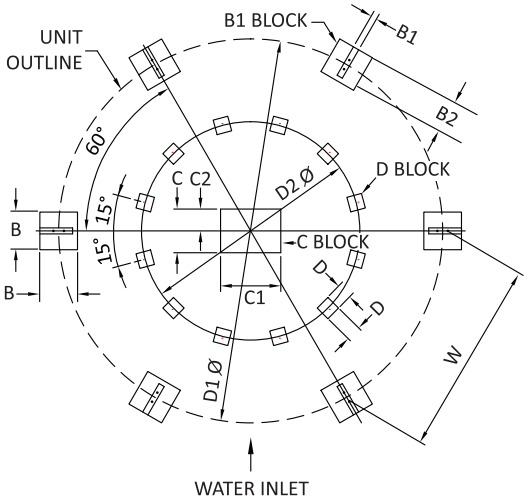

**ST-30 ~ ST-60**



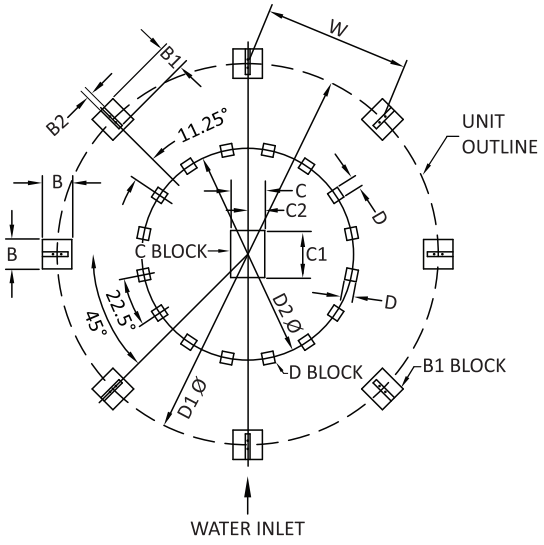

**ST-70 ~ ST-175**



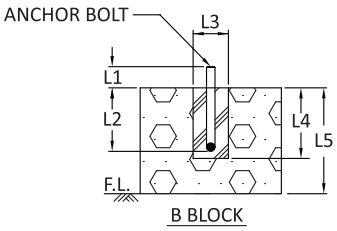

**ST-200 ~ ST-350**



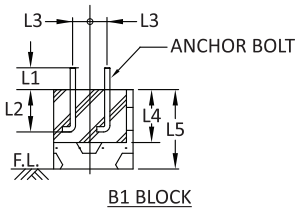

**ST-400 ~ ST-500**



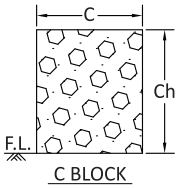

**ST-600 ~ ST-1000**



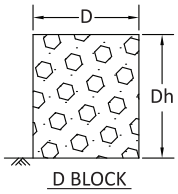

B BLOCK




B1 BLOCK




C BLOCK




D BLOCK

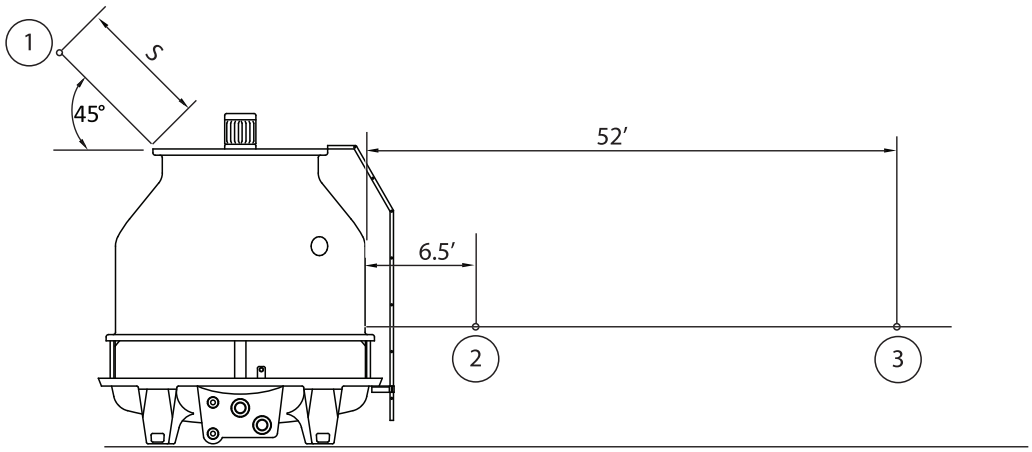
# ST Series Foundation Data

| MODEL | DRY WEIGHT (LBS) | OPERATING WEIGHT (LBS) | DIMENSIONS | | | | | | | | | | | | | | | | | ANCHOR BOLTS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | D1 | D2 | W | B | C | Ch | B1 | B2 | C1 | C2 | D | Dh | L1 | L2 | L3 | L4 | L5 | QTY | SIZE |
| STH-5 | 88 | 253 | 21 5/8" | - | 18 3/4" | 8" | - | - | - | - | - | - | - | - | 1 1/4" | 3 3/4" | 2" | 4" | 6" | 3 | 1/2" X 5" |
| STH-8 | 110 | 280 | 25 1/2" | - | 22 1/4" | 8" | - | - | - | - | - | - | - | - | 1 1/4" | 3 3/4" | 2" | 4" | 6" | 3 | 1/2" X 5" |
| STH-10 | 121 | 441 | 25 1/2" | - | 22 1/4" | 8" | - | - | - | - | - | - | - | - | 1 1/4" | 3 3/4" | 2" | 4" | 6" | 3 | 1/2" X 5" |
| STH-15 | 176 | 573 | 37 3/8" | - | 32 3/8" | 8" | - | - | - | - | - | - | - | - | 1 1/4" | 3 3/4" | 2" | 4" | 6" | 3 | 1/2" X 5" |
| STH-20 | 198 | 727 | 37 3/8" | - | 32 3/8" | 8" | - | - | - | - | - | - | - | - | 1 1/4" | 3 3/4" | 2" | 4" | 6" | 3 | 1/2" X 5" |
| ST-25 | 227 | 887 | 44" | - | 38 1/4" | 8" | - | - | - | - | - | - | - | - | 1 1/4" | 3 3/4" | 2" | 4" | 6" | 3 | 1/2" X 5" |
| ST-30 | 253 | 1074 | 52 1/2" | - | 37" | 8" | - | - | - | - | - | - | - | - | 1 1/4" | 3 3/4" | 2" | 4" | 6" | 4 | 1/2" X 5" |
| ST-40 | 369 | 1133 | 57 7/8" | - | 40 7/8" | 10" | - | - | - | - | - | - | - | - | 1 1/4" | 3 3/4" | 2" | 4" | 8" | 4 | 1/2" X 5" |
| ST-50 | 435 | 1313 | 66 1/8" | - | 46 3/4" | 10" | - | - | - | - | - | - | - | - | 1 1/4" | 3 3/4" | 2" | 4" | 8" | 4 | 1/2" X 5" |
| ST-60 | 504 | 1472 | 66 1/8" | - | 46 3/4" | 10" | - | - | - | - | - | - | - | - | 1 1/4" | 3 3/4" | 2" | 4" | 8" | 4 | 1/2" X 5" |
| ST-70 | 610 | 1555 | 69 3/8" | - | 34 1/2" | 10" | 10" | 12" | - | - | - | - | - | - | 1 1/4" | 3 3/4" | 2" | 4" | 8" | 5 | 1/2" X 5" |
| ST-80 | 642 | 1588 | 69 3/8" | - | 34 1/2" | 10" | 10" | 12" | - | - | - | - | - | - | 1 1/4" | 3 3/4" | 2" | 4" | 8" | 5 | 1/2" X 5" |
| ST-100 | 887 | 2361 | 92 1/2" | - | 46 1/4" | 12" | 12" | 14" | - | - | - | - | - | - | 1 1/2" | 6 1/2" | 2" | 8" | 12" | 5 | 5/8" x 8" |
| ST-125 | 1025 | 2983 | 103 1/8" | - | 51 1/2" | 12" | 12" | 14" | - | - | - | - | - | - | 1 1/2" | 6 1/2" | 2" | 8" | 12" | 5 | 5/8" x 8" |
| ST-150 | 1375 | 5731 | 112 1/2" | - | 56 1/4" | 12" | 16" | 16" | - | - | - | - | - | - | 1 1/2" | 6 1/2" | 2" | 8" | 12" | 5 | 5/8" x 8" |
| ST-175 | 1569 | 5887 | 112 1/2" | - | 56 1/4" | 12" | 16" | 16" | - | - | - | - | - | - | 1 1/2" | 6 1/2" | 2" | 8" | 12" | 5 | 5/8" x 8" |
| ST-200 | 1914 | 7612 | 132" | - | 93 3/8" | 12" | 15" | 16" | 11" | 2" | 23" | 4" | - | - | 1 1/2" | 6 1/2" | 2 3/4" | 8" | 12" | 8 | 5/8" x 8" |
| ST-225 | 2112 | 7744 | 132" | - | 93 3/8" | 12" | 15" | 16" | 11" | 2" | 23" | 4" | - | - | 1 1/2" | 6 1/2" | 2 3/4" | 8" | 12" | 8 | 5/8" x 8" |
| ST-250 | 2266 | 7854 | 132" | - | 93 3/8" | 12" | 15" | 16" | 11" | 2" | 23" | 4" | - | - | 1 1/2" | 6 1/2" | 2 3/4" | 8" | 12" | 8 | 5/8" x 8" |
| ST-300 | 2823 | 9995 | 156 1/8" | - | 110 3/8" | 12" | 15" | 16" | 11" | 2" | 23" | 4" | - | - | 1 1/2" | 6 1/2" | 2 3/4" | 8" | 12" | 8 | 5/8" x 8" |
| ST-350 | 2996 | 10164 | 169 1/8" | - | 119 5/8" | 12" | 15" | 16" | 11" | 2" | 23" | 4" | - | - | 1 1/2" | 6 1/2" | 2 3/4" | 8" | 12" | 8 | 5/8" x 8" |
| ST-400 | 4776 | 14984 | 200 3/4" | 114 1/2" | 100 3/8" | 20" | 23" | 16" | 17" | 3" | 31 1/2" | 11 1/2" | 8" | 12" | 1 1/2" | 6 1/2" | 2 3/4" | 8" | 12" | 12 | 5/8" x 8" |
| ST-500 | 5342 | 15550 | 216 1/2" | 122" | 108 1/4" | 20" | 23" | 16" | 17" | 3" | 31 1/2" | 11 1/2" | 8" | 12" | 1 1/2" | 6 1/2" | 2 3/4" | 8" | 12" | 12 | 5/8" x 8" |
| ST-600 | 7401 | 23637 | 255 1/8" | 141 3/4" | 97 5/8" | 20" | 23" | 16" | 17" | 3" | 31 1/2" | 11 1/2" | 8" | 12" | 1 1/2" | 6 1/2" | 2 3/4" | 8" | 12" | 16 | 3/4" x 8" |
| ST-700 | 7848 | 24127 | 255 1/8" | 141 3/4" | 97 5/8" | 20" | 23" | 16" | 17" | 3" | 31 1/2" | 11 1/2" | 8" | 12" | 1 1/2" | 6 1/2" | 2 3/4" | 8" | 12" | 16 | 3/4" x 8" |
| ST-800 | 9636 | 26356 | 295 1/4" | 163 9/16" | 113" | 20" | 23" | 16" | 17" | 3" | 31 1/2" | 11 1/2" | 8" | 12" | 1 1/2" | 6 1/2" | 2 3/4" | 8" | 12" | 16 | 3/4" x 8" |
| ST-1000 | 10199 | 27359 | 295 1/4" | 163 9/16" | 113" | 20" | 23" | 16" | 17" | 3" | 31 1/2" | 11 1/2" | 8" | 12" | 1 1/2" | 6 1/2" | 2 3/4" | 8" | 12" | 16 | 3/4" x 8" |

**NOTES:**

1) DIMENSION INDICATED ABOVE ARE SUBJECT TO CHANGE WITHOUT NOTIFICATION.
2) ANCHOR SIZES ARE RECOMMENDED MINIMUM SIZE FOR CONCRETE EMBEDMENT.
3) FOUNDATION DETAILS HEREIN ARE FOR CONCRETE CURBS/PIERS.
4) FOR STEEL I-BEAM PLEASE MAINTAIN BOLT DIAMETER AND L1 DISTANCE.
5) IT IS THE INSTALLER'S RESPONSIBILITY TO FOLLOW ALL APPLICABLE LOCAL/STATE/COUNTRY CODES.

# ST Series Sound Data




## *Models STH-5 to ST-1000*

| MODEL | 1 | 2 | 3 | S |
|---|---|---|---|---|
| STH-5 | 67 | 63 | 53 | 5' |
| STH-8 | 68 | 63 | 53 | 5' |
| STH-10 | 69 | 64 | 53 | 5' |
| STH-15 | 70 | 64 | 54 | 5' |
| STH-20 | 71 | 64 | 54 | 5' |
| ST-25 | 72 | 66 | 54 | 5' |
| ST-30 | 72 | 67 | 55 | 5' |
| ST-40 | 86 | 77 | 65 | 5' |
| ST-50 | 86 | 77 | 65 | 5' |
| ST-60 | 86 | 78 | 66 | 5' |
| ST-70 | 86 | 78 | 66 | 5' |
| ST-80 | 86 | 78 | 66 | 5' |
| ST-100 | 87 | 78 | 66 | 5' |
| ST-125 | 87 | 78 | 66 | 5' |

| MODEL | 1 | 2 | 3 | S |
|---|---|---|---|---|
| ST-150 | 88 | 78 | 66 | 6' |
| ST-175 | 88 | 79 | 67 | 6' |
| ST-200 | 88 | 79 | 67 | 6' |
| ST-225 | 88 | 79 | 67 | 8' |
| ST-250 | 88 | 79 | 67 | 8' |
| ST-300 | 88 | 79 | 67 | 8' |
| ST-350 | 88 | 79 | 67 | 8' |
| ST-400 | 88 | 80 | 68 | 10' |
| ST-500 | 88 | 80 | 68 | 10' |
| ST-600 | 89 | 79 | 67 | 11' |
| ST-700 | 89 | 79 | 67 | 11' |
| ST-800 | 90 | 80 | 68 | 12' |
| ST-1000 | 90 | 80 | 68 | 12' |

Lp SOUND PRESSURE LEVELS ARE EXPRESSED IN (Db) REFERENCE 0.0002 MICROBAR.

## *Models ST-LN-5 to ST-LN-1000*

| MODEL | 1 | 2 | 3 | S |
|---|---|---|---|---|
| ST-LN-5 | 66 | 62 | 53 | 5' |
| ST-LN-8 | 67 | 62 | 53 | 5' |
| ST-LN-10 | 68 | 63 | 53 | 5' |
| ST-LN-15 | 68 | 63 | 53 | 5' |
| ST-LN-20 | 69 | 63 | 53 | 5' |
| ST-LN-25 | 69 | 64 | 54 | 5' |
| ST-LN-30 | 69 | 64 | 54 | 5' |
| ST-LN-40 | 72 | 67 | 56 | 5' |
| ST-LN-50 | 72 | 68 | 57 | 5' |
| ST-LN-60 | 74 | 68 | 58 | 5' |
| ST-LN-70 | 74 | 69 | 59 | 5' |
| ST-LN-80 | 74 | 70 | 60 | 5' |
| ST-LN-100 | 75 | 70 | 61 | 5' |
| ST-LN-125 | 75 | 70 | 60 | 5' |

| MODEL | 1 | 2 | 3 | S |
|---|---|---|---|---|
| ST-LN-150 | 76 | 71 | 61 | 6' |
| ST-LN-175 | 76 | 72 | 62 | 6' |
| ST-LN-200 | 76 | 72 | 62 | 6' |
| ST-LN-225 | 78 | 73 | 63 | 8' |
| ST-LN-250 | 78 | 74 | 64 | 8' |
| ST-LN-300 | 79 | 75 | 65 | 8' |
| ST-LN-350 | 79 | 75 | 65 | 75 |
| ST-LN-400 | 80 | 76 | 66 | 10' |
| ST-LN-500 | 80 | 76 | 66 | 10' |
| ST-LN-600 | 80 | 76 | 66 | 11' |
| ST-LN-700 | 80 | 77 | 67 | 11' |
| ST-LN-800 | 81 | 77 | 67 | 12' |
| ST-LN-1000 | 81 | 77 | 67 | 12' |

Lp SOUND PRESSURE LEVELS ARE EXPRESSED IN (Db) REFERENCE 0.0002 MICROBAR.

*ST-LN is a variation of ST Series tower that incorporates lower RPM motors, extended chord fans, and water silencers to reduce overall sound levels. For more information on Low Noise models, please contact your local representative or Amcot directly.*

## Field Assembly

Amcot's ST series models STH-5 to ST-80 typically ship preassembled from our facility. For models ST-100 to ST-175 customers may choose to either have these units ship preassembled on flatbed trailers or unassembled via traditional carriers. For models ST-200 to ST-1000, these units ship unassembled. Because of this, Amcot offers field assembly services by experienced team members whom can travel to the project jobsite and provide erection of the units for customers. This optional service allows customers to either perform the assembly themselves or allow us to assist so that they may remain focused on other project tasks. For more information, please contact your local representative or Amcot directly.

## ST Series Alternate Configurations

The ST Series Cooling Towers are also offered in three (3) unique variations, each of which are designed for specific application demands:

### ST-LN Series

The ST-LN series cooling towers are specially designed for sound sensitive installation locations such as hotels, schools, residential towers, and commercial office buildings to name a few. The ST-LN series towers incorporate an extended chord fan design and combine this with a low RPM motor to allow the ST-LN series to generate equivalent CFMs to that of the normal ST but at much lower sound levels. In addition, the ST-LN Series incorporates a water diffuser located in the cold water basin which helps to eliminate the rain noise that is generated as the water in the tower is transferred from the fill media to the cold water basin.

### ST-PP Series

The ST-PP series cooling towers are specially designed for projects where hot water temperatures are likely to exceed the ST base models' maximum continuous operating temperature of 115°F. These scenarios tend to be found in industrial or manufacturing applications versus commercial or HVAC projects. ST-PP Series cooling towers utilize fill media constructed of Polypropylene materials that have the ability to withstand continuous hot water temperatures up to 160°F. In addition to alternate fill materials of construction, all interior PVC piping is removed and replaced by either CPVC or HDG materials to ensure proper operation under such conditions.

### ST-W Series

Amcot's ST-W series is a FRP cooling tower constructed with wood splash bar (also known as wood lath) for applications that have hot water temperatures beyond that which would be suitable for the ST-PP series or when project design may not allow for heat exchangers or bypass piping designs to be incorporated. ST-W series cooling towers are also designed for applications where the circulating system water has a high level of solids which could easily foul or clog PVC or CPVC fill media due to their smaller flute sizes.

## ST Series Spare Parts

With thousands of ST Series towers constantly in operation, it is critical to Amcot that we stock a wide range of parts in our main warehouse which can quickly be packaged and shipped to customers when the time comes. With over 15,000 square feet of warehouse space dedicated to spare parts for the ST series towers, quick turnaround of critical components is an important part of our day to day operations.

# Amcot Accessories & Components

Amcot also offers the following accessories for cooling tower systems:

## Heat Exchangers

Many water systems utilize shell & tube or plate & frame style heat exchangers to help protect sensitive equipment downstream from outside pollutants or when alternate process fluids are used which cannot be exposed to the outside environment. By combining an open loop tower with a heat exchanger, clients can avoid the increasing costs associated with closed loop towers and evaporative condenser while still achieving their goals. Our heat exchangers can be designed for a wide range of applications and fluids. All of our heat exchangers are manufactured in the USA and can be provided with a wide range of certifications depending on project requirements or customer needs.

## Water Pumps

Amcot provides a wide range of water pumps designed and manufactured in the USA for a wide range of cooling tower applications. We offer pumps from ¼ horsepower up to over 100 horsepower in size. Pumps can be furnished in a wide range of styles from close coupled, split case, vertical inline just as a few examples. In addition, Amcot can offer pump skids and control panels, both of which can be customized to meet your needs. Our pump panels are available in NEMA1, 3R, and 4, and are UL/CSA rated. Panels can even incorporate VFD drives for variable flow applications when needed.

## Control Panels

Our cooling tower and pump control panels are specifically designed for cooling tower systems. Cooling tower control panels can be outfitted with a wide array of options and configurations to help support accessories such as vibration switches, electronic water level controls, and basin heaters. Panels can be supplied with either standard temperature on/off fan controls or we can install are VFD drive for added flexibility. All of our panels are manufactured and assembled in the USA and are UL/CSA recognized.

## *What Fiberglass Cooling Towers Are All About!*

**For more information please contact our local representative or Amcot directly.**

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