

DELTA T SOLUTIONS

Heating Systems for All Types Of Greenhouses

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Delta T Solutions hot water heating systems utilize the physics of heat to efficiently heat the plants. Placing the heat under the plants allows the heat source to react faster to temperature changes at the plant level. Heating from below offers a more consistent temperature, better plant quality and lower heating costs.

Heating Systems:

- Hot Water Boilers
- Heat Exchangers
- EPDM Rubber Tube Bench-Top Heating
- EPDM Rubber Tube In-Ground Heating
- High Density Polyethylene Concrete Floor Heating
- Twin-Fin Aluminum Tube heating
- Multi-Fin Aluminum Tube heating
- Warm Water Irrigation
- Hot Water unit Heaters
- Gas Fired Unit heaters
- One Source System Responsibility



You know what you want – to heat your greenhouse efficiently. You also want a heating system that can withstand the harsh greenhouse environment. This is why Delta T Solutions carries a full product line of stainless steel encased Sterling unit heaters and RBI boilers. Their stainless steel construction provides maximum protection against moisture and rust. And while they are built to last; no other heating units are more efficient, economical and safe.

It's a fact; no other company is more devoted to meeting your heating needs than Delta T. That's because we are the only company dedicated solely to greenhouse heating. Contact us for a representative nearest you.

Boilers

Natural Draft Boiler

These boilers are the workhorses of the industry. Basically this style of gas fired boiler uses surrounding air to provide the required heat for radiation. The high quality construction, quiet operation and a variety of control options make these boilers the perfect choice for greenhouses.

The grower's choice for natural draft boilers, they offer fast response, smooth heat transfer, load matching and up to 82% energy efficiency. Integral, 2-pass heat exchanger and standard bronze headers ensure long-life performance and years of worry-free service.

The heat exchanger rests on a solid structural frame, which reduces thermal shock. All sheet metal components are made of 16 or 18-gauge satin coat steel. All units are equipped with 100% copper and bronze waterway to prevent rust and corrosion.

Natural draft boilers are available sizes from 100,000 btu/hr up to 4,000,000 btu/hr. The smaller boilers uses modulating burners to provide precision control of the gas supply to the system, while the larger boilers use 4 stage firing to provide precision control to the system.



Sealed Combustion Boiler

These units offer superior performance and serviceability in a high efficiency, multi-stage boiler. At the heart of the unit is the sealed combustion chamber that provides the flexibility of using outside air or mechanical room air for combustion. The chamber design, with fan-assisted, multi-speed blowers and state-of-the-art staging control, offers high efficiency stage firing in a compact package. This boiler virtually eliminates heat loss. With the sealed combustion design this boiler also provides a low Nox rating that meets the strictest air-quality standards.

Oil Fired Boiler

For capacities up to 15,000,000 btu/hr, the Delta T oil fired boilers are A.S.M.E. stamped for working pressures of 125 PSI. They come completely assembled, wired and fire tested for quality assurance. Easy to maintain, there is full access to the water sections, combustion chamber and the easily removable tube bundle.

Electronic Boiler Control

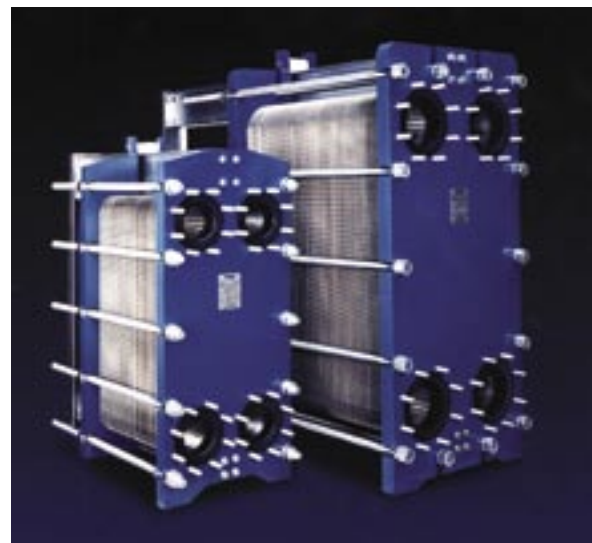
Delta T's electronic boiler control contains a microprocessor based energy management control that regulates water temperature by sequencing up to twelve stages on a single multiple boiler installation. Its advanced design and revolutionary logic structure ensures lower operating costs and a superior growing environment.

The boiler control has on-board diagnostics with LED indicators. It features outdoor reset, self-testing, adjustable pump shutdown delay (0-10 minutes) and auxiliary test interface for easy field testing. The boiler control offers more than just savings on operating costs, it can maximize crop turnovers. And that's what really makes the boiler control pay for itself.

Heat Exchangers

Delta T offers steam to water and water-to-water heat exchangers. All of Delta T's heat exchangers represent the latest technology in performance and are designed for superb efficiency, low maintenance, long life and fitting into tight spaces. Understanding how important growing space is, Delta T's heat transfer units use up to 80% less floor space than shell and tube models and weigh up to 10 times less. That means they are easy to ship, handle and don't use up precious growing space.

The flat plate (FP) heat exchangers are rugged and reliable, yet very compact. Designed for a wide variety of fluid-to-fluid applications, the exchangers are perfect for greenhouses that require efficient heat transfer. They are economical to install and operate. The copper brazed, stainless steel plates offer a high efficient, low fouling heat transfer surface. Nickel brazed, FPN Series are also available. They are rated at 300 psi working pressure.



Heating Tubes

Delta Tube™ SD

This system provides the best growing environment for propagators, plug producers and general growing. Healthy, more uniform plants and at least 20% fuel savings make this system the grower's choice. The quality synthetic tubing that will not break down under ultra violet rays. It is durable and requires little maintenance.

Delta Tube™ LD

The Delta Tube large diameter EPDM rubber tube in-ground heating system is ideal for larger ranges. The system excels in the nursery industry and is economical for starter houses because it can save 20% or more than conventional forced air heating. The high quality synthetic tubing will not break down under ultra violet rays. It is durable, low maintenance with a low volume quick response.



Delta Tube™ HD

The Delta Tube HD is a high density polyethylene floor heating system that is an excellent choice for heating warehouses, retail areas, potting areas and greenhouses. It installs easily. And because the tubing is installed directly into the concrete floor, it doesn't get in the way. It is great for areas where run-off is a concern. Special manifolds are concealed in a 2' x 3' box in the floor. No tubing is left exposed.

Delta T also offers Delta Tube HDPEX tubing to meet the strict codes required in some areas. For systems where oxygen barrier is required we offer the Delta Tube HDPEXOX.



Fin Heating

Delta Fin™ SF

Delta Fin SF125 and SF200 multi fin is the right choice for uniform convection heating. This system is for heating the greenhouse from the perimeter or running under the gutter for snow melting. Constructed of aluminum it dissipates heat quickly. The result is energy efficiency. The external surface

of 100 lineal feet of the Delta Fin is approximately the same as 844 lineal feet of 2" bare pipe. This means it would take 844 feet of 2" pipe to produce the same amount of heat as it would take 100 lineal feet of Delta Fin™ SF200. Its high BTU output means you need fewer units.

It is easy to install because the fittings don't require threading to connect with the all aluminum coupler. And its simple design makes the Delta Fin easy to maintain or replace parts. Ideal for cold spots and hard-to-heat areas, it is available in 2" and 1.25" with a stock length of 12'.



Delta Fin™ TF

The Delta Fin TF comes in two sizes: Delta Fin TF1 with a 3/8" integral fins on the top and bottom or the Delta Fin™ TF2 with 1.0" fins. The Delta Fin provides the necessary heat with very low water volume for high efficiency and quick response time.

Basically the fins heat the greenhouse from below the bench. The result is maximum temperature control and accelerated plant growth. It is manufactured with high quality hardened aluminum to be durable and rust free. And with the pop on aluminum coupler, the installation is quick and easy.



Unit Heaters



Gas Fired Unit Heaters

The “TF” is a propeller type unit heater that combines the latest tubular heat exchanger with in-shot burner technology. Built with quality materials, the Sterling gas fired unit heaters is unsurpassed for reliability. Available in two cabinet styles, Low Profile (sizes 30 -90 MBH) and Vertical type (100 -400 MBH).

Standard Features:

- 20 gauge tubular heat exchangers
- Aluminized steel or all stainless steel
- 9 sizes ranging from 100 to 400 MBH
- In shot type burner
- Hot surface pilot ignition system
- 20 gauge jacket panels w /baked enamel finish
- Also available with the all stainless steel cabinet
- Power vented
- Easy access control panel
- Certified for category I and III venting
- Terminal strip low voltage wiring
- 81% thermal efficiency
- 10 year warranty
- Factory fire tested

All motors are encased in stainless steel and include internal thermal overload protection for reliability and long life. The easy to install units have low current motors that are extremely efficient and virtually maintenance free.

Hot Water Unit Heaters

Sterling model “HS” horizontal unit heaters are available in both serpentine and header type units. Serpentine units offer outputs from 8,030 to 35,900 BTU’s and are ideal for hot water installations with limited clearances. Header type horizontal units range from 18,000 to 360,000 and can operate with either hot water or steam. Both units come standard with totally enclosed motors. Explosion proof motors are optional.



DeltaBench Warm Bench System

Designed for 1-6 benches, Delta T’s DeltaBench commercial grade system is perfect for propagation and germination heating. System uses radiant heat to warm the soil and plant roots. Rooting and plant growth is accelerated by controlling the soil temperature. It provides fuel savings of 20% or more over conventional forced-air heating.

Delta Temp™ Warm Water Irrigation

Delta Temp heats irrigation water from a frigid 35° F up to 70° F. The systems eliminate root zone thermal shock and save fuel required to heat up crops after watering. The system saves energy dollars because it allows instantaneous response without requiring large volumes of water. This means low or no radiation - standby loss. The system actually increases rooting germination rates and nutrient mixing, while preventing spotting and diseases on crops.

When heating with unit heaters or minimal boiler capacity, the Delta Temp I is the choice for providing warm water irrigation. For greenhouses with an existing boiler supplying steam or hot water, the Delta Temp II system is just like adding an additional zone.

