Catalog No. 3410 Effective 04/2005

# DELTA T SOLUTIONS

## **DELTA-TEMP™ Warm Water Irrigation**

## If you're heating your greenhouse and not heating your irrigation water, you're wasting energy!

Consider using Delta-T Solutions, DELTA-TEMP 1<sup>TM</sup> or DELTA-TEMP 2<sup>TM</sup> warm water irrigation packages.

Both systems were developed to heat irrigation water from a frigid 35°F up to 70°F to eliminate plant thermal shock, and to save the fuel required to heat up the plant after watering with cold water.

DELTA-TEMP 1<sup>TM</sup> uses the exclusive copper finned tube boiler to control a small buffer tank where irrigation water temperature is controlled by an all brass tempering valve.

DELTA-TEMP  $2^{\text{TM}}$  uses a plate heat exchanger to transfer the heat from an existing steam or hot water boiler to a small buffer tank where the proper water temperature is maintained.

You save energy dollars because both Delta Temps allow instantaneous response without requiring large volumes of water. This means low or no radiation standby loss.





- Prevents thermal shock to plants.
- Increases rooting and germination rate.
- Increases nutrient mixing.
- Prevents spotting and disease.
- Reduces heating requirement when watering.

#### DELTA-TEMP 1<sup>TM</sup>

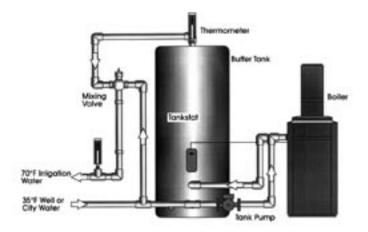
If you're heating with unit heaters or don't have enough boiler capacity this system has all the equipment you need to provide warm water irrigation.

#### DELTA-TEMP 2<sup>TM</sup>

If you have an existing boiler supplying steam or hot water this system is just like adding an additional zone.

### **DELTA-TEMP™** Warm Water Irrigation

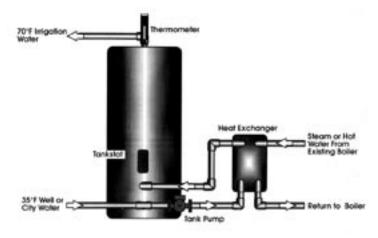
#### **Delta TEMP 1**



The warm water irrigation system is the DELTA-TEMP 1<sup>™</sup> Model DTI-\_\_\_\_ with \_\_\_\_BTUH transfer at \_\_\_\_ GPM load and \_\_\_\_\_°F temperature rise and will consist of the following components:

- Model DT\_\_\_\_ copper fin tube boiler with a \_\_\_\_\_BTU/Hr.
   \_\_\_\_ BTU/Hr Output rated for indoor (outdoor) use and using natural gas (propane gas).
- Tank pump with a stainless steel impeller and bronze fitting to be sized to circulate water from the tank to the boiler.
- Tempering valve shall be of bronze construction for long life and sized for system flow.
- Thermometer to indicate tank temperature.
- Storage tank shall be glass-lined and insulated with a metal jacket.
- Tankstat to control the firing of the boiler and control the recirculation pumps.

#### **Delta TEMP 2**



The warm water irrigation system is the DELTA-TEMP2<sup>TM</sup>
Model DT2-\_\_\_\_\_with \_\_\_\_BTUH transfer at
\_\_\_\_ GPM load and \_\_\_\_°F temperature rise, and will
consist of the following components:

#### **STEAM**

- Heat exchanger shall be of brazed plate or plate and frame design using 316 stainless steel plates.
- Heat exchanger shall be sized using 10 PSI steam.
- Steam Valve to modulate the steam entering the heat exchanger.
- Tank pump with a stainless steel impeller and bronze fitted to be sized to circulate water from the tank to the heat exchanger.
- Thermometer to indicate tank temperature.
- Storage tank shall be glass-lined and insulated with a metal jacket.
- Tankstat to control the firing of the boiler and control the recirculation pumps.

#### **HOT WATER**

- Heat exchanger shall of be brazed plate or plate and frame design using 316 stainless steel plates. Heat exchanger shall be sized using \_\_\_\_\_°F entering water temperature and \_\_\_\_\_°F leaving water on the boiler side.
- The warm water irrigation system is the DELTA-TEMP2™

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## **▲ Delta T Solutions**