

# STEFFES COMFORT PLUS HYDRONIC FEATURES

## (5100 Series)

### **1. NORTH AMERICAN MADE:**

- ◆ Steffes, located in Dickinson, ND is the only North American manufacturer of a family of off-peak Electric Thermal Storage (ETS) heating products to include Room Units, Centrally Ducted Furnaces, Hydronic Furnaces and Load Management Controls for both the residential and commercial markets.

### **2. VERSATILITY**

- ◆ The Comfort Plus Hydronic Furnace is designed to handle multiple heating zones and can deliver heat through a single or any combination of many heat delivery systems such as such as radiant floor, baseboard radiation, free standing radiators or forced air (with the interface of a Steffes Air Handler).

### **2. HEAT PUMP APPLICATIONS**

- ◆ The Comfort Plus Hydronic can be used to supplement single or multiple heat pump installations with the addition of the Steffes Air Handler. In heat pump applications, the furnace allows the heat pump's efficiency to be fully utilized while eliminating the cool discharge air temperatures that are often associated with a heat pump. It can interface to almost any heat pump system.

### **3. MULTI-FUNCTION MICROPROCESSOR:**

- ◆ The microprocessor technology incorporated into the Comfort Plus units allows for customization to individual power company and end-user immediate and future needs without the addition of extra costly devices.
- ◆ Allows for diagnostic testing of such things as brick core temperature, room temperature, outdoor temperature, and power line carrier operation from the digital display panel.
- ◆ Built-in security lock out allows the power company to limit access to the units functions and programming.
- ◆ User selectable control panel display options provide information to indicate unit operation.

### **4. VARIOUS SIZE/CONFIGURATIONS:**

- ◆ Various models and configurations are available to meet any heating requirement.
- ◆ In standard configuration, Comfort Plus units can be connected to 208V or 240V. For 277V configuration, refer to the 7100 series product line.

### **5. AUTOMATIC CORE CHARGING:**

- ◆ The amount of heat stored in the brick core is automatically regulated based on outdoor temperature and the energy requirements of the application. The charging parameters can be set to the user's specific comfort needs.

### **6. CHARGE DELAY (SOFT START):**

- ◆ Allows the heating elements to be staged on at the end of an on-peak control period or power interruption to minimize voltage fluctuation.

### **7. WEATHER RESPONSIVE WATER DELIVERY TEMPERATURES:**

- ◆ Zone temperatures are automatically adjusted based on outdoor temperatures so optimum comfort and efficiency is maintained.

### **8. AUTOMATIC PUMP/CIRCULATOR TICKLING:**

- ◆ Intermittently cycles pumps/circulators during long periods of system inactivity to extend system components life. (Approximately once every hour.)<sup>4</sup>

### **9. DEMAND BASED INPUT (kW) LOADING:**

- ◆ Minimum number of heating elements are energized during off-peak hours to fully satisfy core charging requirements. This reduces the chance of transformer and service entrance overload and reduces system loading at the start of off-peak periods.

**10. POWER LINE CARRIER COMMUNICATION (15-CHANNEL CAPABILITY):**

- ◆ A built-in Power Line Carrier Receiver allows for quick, wireless reception of information such as the on-peak and/or off-peak control signal, outdoor temperature information and room temperature set back, from the optional Steffes Power Line Carrier Transmitting device (transceiver) on one of 15 selectable frequency channels. (This can reduce the overall installation and equipment costs.)

**11. COMFORT OVERRIDE**

- ◆ If enabled, this feature allows for the automatic override of an on-peak control signal if the brick core storage is depleted during the on-peak period and the room temperature falls a predetermined number of degrees below the set point. This feature works well in time-of-use applications and can be enabled or disabled at the power company's discretion.

**12. FREEZE PROTECTION:**

- ◆ With the addition of the freeze protection temperature sensor, this feature will maintain a minimum temperature in the home. It allows the heating elements to come on during a peak control period and deliver heat only if the room temperature falls below a predetermined set point. This feature works especially well in time-of-use applications and can be enabled or disabled at the power company's discretion.

**13. CONSTRUCTION FEATURES:**

- ◆ Outside cabinet is manufactured with 20 Gauge steel that is powder painted for great resistance to scratching.
- ◆ By using insulation that contains no organic binders, there are no offensive startup odors. The insulation retains its integrity for years to come.
- ◆ Built-in circuit breakers eliminate the need for a service disconnect.
- ◆ Built-in auxiliary load control system for devices such as an air conditioner, water heater, etc.
- ◆ Dual zone electronic core temperature ensures maximum efficiency and long element life.
- ◆ All heating elements are in-coloy sheathed, low watt density for long life.

**14. QUALITY CONTROL:**

- ◆ To ensure each Comfort Plus unit meets high quality and performance standards; all units are tested prior to packaging and shipping. All Steffes equipment is UL and cUL safety listed.

**15. QUALITY PACKAGING:**

- ◆ Each heater is packaged in a box, protected with styrofoam, and secured to its own custom designed wooden pallet to help ensure the product arrives damage free.

**16. OPTIONAL CONTROLS AND ACCESSORIES:**

- ◆ Power line carrier transmitter and receiver devices (transceivers), relay panels, time clock module for peak control signaling purposes, low voltage wall thermostats, freeze protection thermostats, and remote communication devices.

**17. RESEARCH:**

- ◆ Steffes has a Research & Development team dedicated solely to the development of innovative, reliable and quality heating products.

**18. FACTORY SUPPORT:**

- ◆ A factory direct toll free telephone number **1-888-STEFFES (783-3337)**, training, promotional literature, technical assistance, and sizing support is provided from Steffes. In addition, replacement parts are readily available for quick and prompt shipment.
- ◆ A newsletter is published 3-4 times per year while news bulletins are more frequently sent to update you on technology updates, service issues, industry information, etc.

**19. WARRANTY:**

- ◆ **Five-year** limited warranty, from date of installation, on all heater components. The optional controls and accessories have a **three-year** limited warranty. A product registration card and owners manual is supplied with each heater.