

# COMFORT PLUS HYDRONIC SYSTEM

*The Premier Off-Peak Hydronic Heating System for Radiant and Forced Air Heating*

- Low Cost Electric Heat (100% Efficient)
- Comfortable, Clean, Quiet, Even Heat
- Hydronic Heating with Electric Thermal Storage (ETS)
- Safe and Reliable
- Easy to Operate

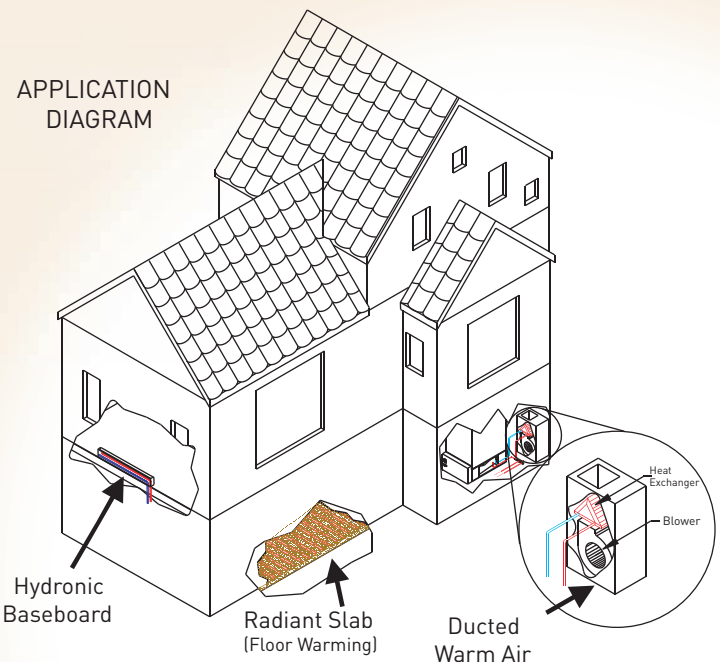
Ideal for residential or commercial applications to include:

- Radiant Floor Systems
- Hydronic Baseboards
- Free Standing Radiators
- Supplemental Heat for a Heat Pump
- Make-up Air Tempering and Demand Management

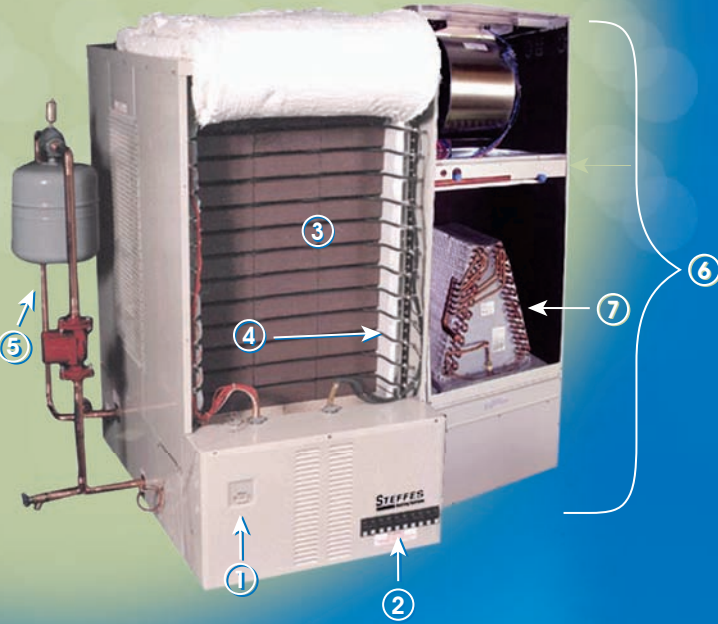
The Comfort Plus Hydronic system adds a new dimension to heating by blending hydronic heating with Electric Thermal Storage (ETS) technology. During off-peak hours, when electricity costs and energy usage generally are substantially lower, the Comfort Plus Hydronic unit converts electricity into heat and stores that heat in specially designed high-density ceramic bricks located inside the unit. Through the use of a heat exchanger, this stored heat is transferred as needed from the storage media to a water or glycol solution, which is circulated to areas where the heat is needed. The Comfort Plus Hydronic system has the ability to utilize off-peak, time of day (or time of use), demand-based or other preferential electric rates to generate considerable savings for the consumer, while delivering the many benefits associated with hydronic heating.

The system is extremely flexible and can handle multiple heating zones. Heat can be delivered via a radiant floor system, baseboard radiation, free standing radiators, a forced air system or almost any combination of zoned delivery systems. The Comfort Plus Hydronic System can also be used as a supplement to a single or multiple heat pump system installation. The built-in microprocessor provides the ability to easily adjust output water temperature, thereby reducing or eliminating the need for costly add-on controls.

The Comfort Plus Hydronic system is easy to operate. Just set the room thermostat to the desired comfort level and enjoy the safe, clean, reliable and economical heat this off-peak hydronic system provides.



With the optional air handler, you can enjoy forced air heating and/or cooling in addition to radiant hydronic heating.



## COMPONENTS

- 1 Programmable microprocessor-based control panel and digital display
- 2 Built-in circuit breakers for power disconnect
- 3 High density heat storage bricks
- 4 Electric heating elements
- 5 Primary water loop and accessories - Required (separately ordered or contractor supplied)
- 6 Air handler (optional) - 1/2 HP or 1 HP high efficiency variable speed (ECM) blower with hydronic coil and air filter
- 7 AC or heat pump coil - (installer supplied - if applicable)

## OTHER FEATURES

- Automatic core charging based on outdoor temperature
- Easily selectable outlet water temperature or can automatically adjust based on outdoor temperature (outdoor reset feature)
- Digital display provides operating and servicing information
- Interfaces easily to heat pumps or air conditioners (if using air handler)
- Built-in power line carrier receiver
- Optional time clock module available for peak control

## SPECIFICATIONS for standard 240V units

208V, 277V, and 347V configurations also available. Contact factory for technical specifications.

1kW = 3412 BTU/hr 1kWh = 3412 BTU

MODEL	5120			5130		5140	
	14.0 kW	19.2 kW	24.8 kW	28.8 kW	37.2 kW	38.4 kW	45.6 kW
Charging Input	14.0 kW	19.2 kW	24.8 kW	28.8 kW	37.2 kW	38.4 kW	45.6 kW
Element Current Draw	59 amps	80 amps	104 amps	120 amps	155 amps	160 amps	190 amps
Element Circuits Required	(3) 30 amp	(3) 40 amp	(3) 50 amp	(4) 40 amp	(4) 50 amp	(4) 50 amp	(4) 60 amp
Pump and Blowers/Controls Circuit Required	1 - 15 amp (10 amps maximum load)						
	Unit is factory configured with multiple line voltage, single phase circuit connections. If single feed to the element and blowers controls circuits is desired, an optional single feed kit is available. Phase balancing is recommended when making connections in 3-phase applications.						
Storage Capacity	120 kWh (409,440 BTU)		180 kWh (614,160 BTU)		240 kWh (818,880 BTU)		
Approximate Installed Weight	2,218 lbs.		3,046 lbs.		3,894 lbs.		
	Contact a building contractor or architect if you have structural weight concerns of the installation surface selected. Adhere to all national and local electrical and building code placement requirements for electric heating appliances.						
Pipe Size – Water Inlet/Water Outlet	1"						
Output Water Temperature Selection Range	50°F to 185°F						
Maximum Working Pressure	20 PSIG Standard (Optional pressure relief valves providing 60 PSIG or 125 PSIG maximum working pressure available as special factory orders).						
Minimum Flow Rate (primary loop)	1 GPM per 10,000 BTU of required output at 20°F temperature rise (10 GPM maximum)						
Internal Pressure Drop (assuming 50% glycol mix)	.1 ft @ 2 GPM .2 ft @ 4 GPM		.4 ft @ 6 GPM .7 ft @ 8 GPM		1.1 ft @ 10 GPM		
Heating Ability Based on Charge Time							
8 Consecutive Charge Hours (BTU/hr)	20,414	27,996	32,808	41,994	49,212	55,992	65,615
12 Consecutive Charge Hours (BTU/hr)	30,621	41,994	43,774	62,991	65,615	83,988	87,487
6/4/6/8 Charge Strategy (BTU/hr)	30,621	41,994	54,242	62,991	81,363	83,988	99,738
	The size and heating ability of the system required for an application is dependent on the heat loss of the area and the power company's off-peak hours. If the unit is not installed within the heated area, heat loss statically must be taken into account. Contact your local dealer or power company for assistance in selecting an appropriately sized system for your specific charge strategy. The 6/4/6/8 strategy listed is 8 hours off-peak at night plus 4 hours off-peak mid-day. (The heating ability figures listed have a heat use allowance factored in for sizing purposes. Average BTU delivery rate is the listed value multiplied by .78 heat use factor.)						

## UNIT DIMENSIONS



NOTE: There are required installation clearances. Refer to technical data sheet available at [www.steffes.com](http://www.steffes.com)

## WARRANTY

Steffes Corporation proudly offers product warranties. The heating system is covered by a five-year limited parts warranty.