

# COMMERCIAL HYDRONIC SYSTEM



## DEMAND-FREE, OFF-PEAK HEATING

The Steffes ThermElect Hydronic Furnace is a commercial, institutional, and industrial heating system that blends hydronic heating with Electric Thermal Storage (ETS) technology. Schools, hospitals, and churches are just a few examples of facilities that have been successful in reducing their peak demand, better managing their energy consumption, and saving money with off-peak ETS heating systems.

## OPERATION

The low cost electricity is utilized to store electricity as heat in specially designed high-density ceramic brick. Brick core temperature is regulated by outdoor temperature and heat need. The stored heat is transferred from the bricks to a water solution which is circulated to where heat is needed.

The control system allows for easy customization and building load management integration. The ThermElect Hydronic Furnace is an environmentally friendly heating system offering great safety and reliability with minimal maintenance.

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[www.steffes.com/ets](http://www.steffes.com/ets)

## APPLICATIONS

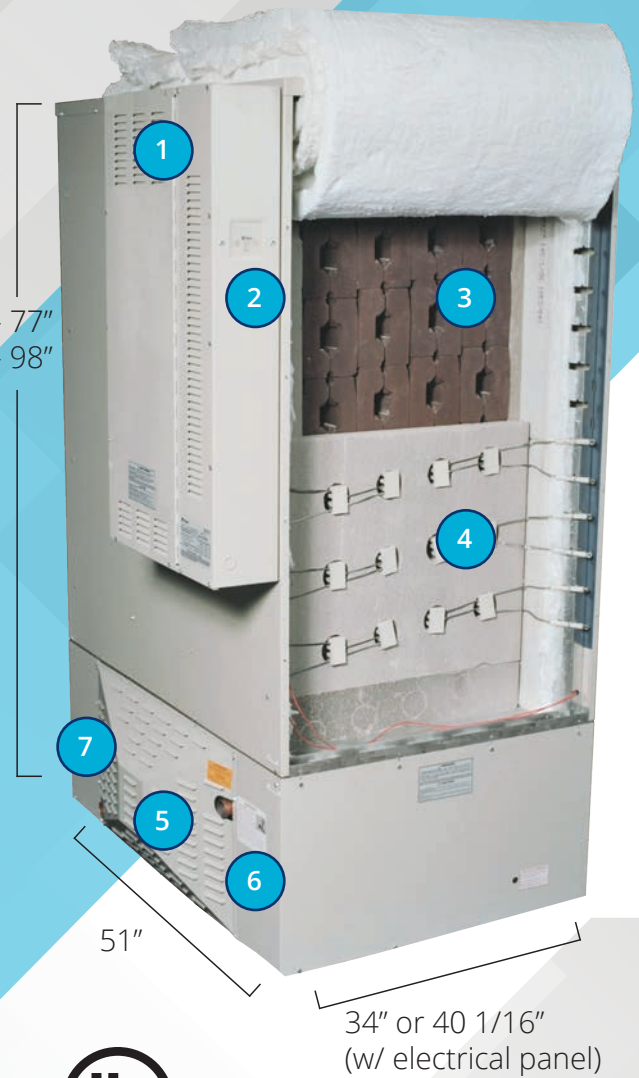
The Steffes ThermElect Hydronic off-peak electric heating system is extremely flexible and can handle multiple zones. Its versatility allows it to be used in, but not limited to, any of the following applications: primary space heating, supplement to heat pumps or boiler systems, pre-heating of fresh air, and domestic water heating.



## UNIQUE FEATURES

- Selectable outlet water temperature (can automatically adjust based on outdoor temperature)
- Built-in energy and demand management control center can be used as a stand-alone system or can receive a 4-20mA or 1-5 Volt DC signal from an external energy management system
- Heat storage is regulated automatically or by local control based on heating need and/or power capacity of facility
- Programmable microprocessor-based control system allows for application customization and self-diagnostics
- Digital display provides operating and diagnostic information
- Super insulation package ensures low surface temperatures and minimal static heat dissipation
- BACnet communication control interface available
- Integrated SSR control to provide variable input power regulation

9150 - 77"  
9180 - 98"



## COMPONENTS

- |                       |                   |
|-----------------------|-------------------|
| 1. Electrical Panel   |                   |
| 2. Digital Display    | 5. Heat Exchanger |
| 3. Heat Storage Brick | 6. Water Outlet   |
| 4. Heating Elements   | 7. Water Inlet    |



## SPECIFICATIONS

	Model 9150		Model 9180	
Voltages (3 Phase)	277/480V	347/600V	277/480V	347/600V
Charging Input	50.4kW	53kW	75.6kW	80kW
Storage Capacity (see Note)	290kWh (989,480 BTU)		440kWh (1,501,280 BTU)	
Approximate Installed Weight	4,670 lbs		6,530 lbs	
Pipe Size – Water Inlet & Outlet	1.5"			
Output Water Temp Selection Range	50 °F to 185 °F (10 °C to 85 °C)			
Maximum Working Pressure	60 PSIG (standard); 125 PSIG (optional)			
Minimum Flow Rate (Primary Loop)	1 GPM per 10,000 BTU of required output at 20 °F (-6.7 °C) temperature rise (30 GPM maximum)			
Internal Pressure Drop (assuming 50% glycol mix)	.7 ft @ 15 GPM 1.2 ft @ 20 GPM		1.8 ft @ 25 GPM 2.5 ft @ 30 GPM	

**NOTE:** The size and heating capability of the system required for an installation is dependent on the thermal load and the demand profile of the facility. The daily rate structure of the utility can also affect size of furnace needed in the application.

*Manufacturer reserves the right to discontinue or change at any time, specifications or designs, without notice or incurring obligations.*

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