

# COMFORT PLUS

## Forced Air Furnace



### Off-Peak Heating

The Steffes Comfort Plus Forced Air furnace (4100 series) is a type of Electric Thermal Storage (ETS) system which utilizes low-cost, off-peak electricity to provide economical and comfortable heating.

ETS systems convert electricity to heat during off-peak hours and store that heat in specially designed ceramic bricks located inside the unit. Off-peak hours are times during the day or night when the demand for electricity is lower. Because electricity is plentiful, the power company can offer substantial discounts on electricity rates allowing consumers to capture significant savings in their energy bills.

Find Out More at:  
[www.steffes.com/comfortplusforcedair](http://www.steffes.com/comfortplusforcedair)

### Applications and Operation

The Comfort Plus Forced Air furnace can be installed as a standalone furnace or as a supplement to other heating systems, such as a heat pump. While heat pumps are known for providing efficient low-cost heating and cooling, they require supplemental heat during colder temperatures. When demand for heat is greater than a heat pumps capacity, the Comfort Plus Forced Air furnace adds the precise amount of its stored off-peak heat as needed to ensure constant comfort while still allowing full optimization of the heat pumps efficiency.

Operation is completely automatic. A sensor monitors outdoor temperature to regulate the amount of heat stored in the bricks. The room thermostat is set to control heat delivery so the desired comfort level can be maintained using the safe, clean, reliable and economical stored off-peak heat.



## Components

1. Return air plenum (separately ordered or installer supplied)
2. AC or heat pump coil (must be installer supplied, if applicable)
3. Air filter
4. Built-in circuit breakers for power disconnect
5. Programmable microprocessor based control panel and digital display
6. Electric heating elements
7. High density heat storage bricks
8. Supply air plenum with 1/2 HP or 3/4 HP variable speed blower



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

U.S. Pat #5086493 • Canada Pat #2059158

5-year limited manufacturer's warranty

**SPECIFICATIONS** For standard 240V units. 208V, 277V, and 347V configurations also available. Contact factory for technical specifications.

| MODEL                                                                                                                                 | 4120                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                      |                      | 4130                  |          | 4140                  |          |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------|-----------------------|----------|-----------------------|----------|
| 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 |
| Circuits Required<br>Elements<br>Blower/Control                                                                                       | 1-20 amp<br>2-30 amp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1-30 amp<br>2-40 amp | 1-40 amp<br>2-50 amp | 4-40 amp              | 4-50 amp | 4-50 amp              | 4-60 amp |
|                                                                                                                                       | 1-15 amp (7 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) |          |
|                                                                                                                                       | 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. Refer to the Maximum Maintainable Heat Loss for heating abilities in specific charge strategies.                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |                      |                       |          |                       |          |
| Approximate Installed Weight                                                                                                          | 2,267 lbs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |                      | 3,139 lbs             |          | 3,991 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.                                                                                                                                                                                                                                                                                                                                                                                                                                           |                      |                      |                       |          |                       |          |
| Unit Dimensions - W x D x H<br>w/o Ducting<br>w/ Factory-Built Ducting (1/2 HP)<br>w/ Factory-Built Ducting (3/4 HP)                  | 29.2" x 47.4" x 46.6"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |                      | 29.2" x 47.4" x 57.6" |          | 29.2" x 47.4" x 68.6" |          |
|                                                                                                                                       | 77.6" x 47.4" x 46.6"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |                      | 77.6" x 47.4" x 57.6" |          | 77.6" x 47.4" x 68.6" |          |
|                                                                                                                                       | 82.1" x 47.4" x 46.6"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |                      | 82.1" x 47.4" x 57.6" |          | 82.1" x 47.4" x 68.6" |          |
|                                                                                                                                       | There are required installation clearances to account for. Contact the factory for information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                      |                      |                       |          |                       |          |
| Duct Openings<br>Supply Air Outlet (1/2 HP)<br>Supply Air Outlet (3/4 HP)<br>Return Air Inlet                                         | 18" x 22.6" (in factory-built plenum)<br>22.5" x 22.6" (in factory-built plenum)<br>10.5" x 22.3" (in unit) or 26.2" x 22.25" (if using a factory-built plenum)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                      |                      |                       |          |                       |          |
|                                                                                                                                       | 26" x 22" x 31"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                      |                      |                       |          |                       |          |
| Maximum Coil Dimensions<br>(W x D x H)                                                                                                | The factory-built return air plenum is configured for housing an indoor coil. Dimensions listed are that of the inner coil area in this plenum. For larger coils, field provisions to the plenum are necessary or it will need to be supplied by the installer.                                                                                                                                                                                                                                                                                                                                                                                                                         |                      |                      |                       |          |                       |          |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                      |                      |                       |          |                       |          |
| Supply Air Delivery (Field Selectable)<br>1/2 HP Variable Speed CFM ratings<br>3/4 HP Variable Speed CFM ratings                      | 1000, 1200, 1400, 1600<br>1200, 1400, 1600, 2000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                      |                      |                       |          |                       |          |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                      |                      |                       |          |                       |          |
| Heating Ability Based on Charge Time (BTU/hr)<br>8 Consecutive Charge Hours<br>12 Consecutive Charge Hours<br>6/4/6/8 Charge Strategy | 20,414                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 27,996               | 34,175               | 41,994                | 49,212   | 55,992                | 65,615   |
|                                                                                                                                       | 30,621                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 41,994               | 45,566               | 62,991                | 65,615   | 83,988                | 87,487   |
|                                                                                                                                       | 30,621                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 41,994               | 54,242               | 62,991                | 81,363   | 83,988                | 99,735   |
|                                                                                                                                       | 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 lost statically must be taken into account. Contact a local Steffes 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/hr delivery rate is the listed value multiplied by .78 heat use factor.) |                      |                      |                       |          |                       |          |

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

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