Combine an Electro-Boiler® with the efficiency of an Air Source Heat Pump for a 200% EFFICIENT radiant floor heating system!

**SYSTEM CONTROLLER**
- Control and monitor for heat pump
- Digital temperature sensors
- Select system operating mode: HP only, HP with boiler boost, or boiler only
- Monitors and displays all functions of the system
- 2-zone input

**INDOOR UNIT (IDU)**
- Wall-hung, easy access, 2 front panels
- Standard Electro-Boiler optional
- Coax condenser coil
- Cabinet top refrigerant line set stubs and water pipe connection
- Made in USA

**OUTDOOR UNIT (ODU) → SOLD SEPARATELY**
- Standard, R-410A, high efficiency
- Installer can use their own brand
- Compatible with most major brands, single and two-stage heat pump
Why should I be interested in Electro-Boiler Heat Pump?

A NORAIRE SYSTEM CAN SAVE YOU MONEY!

- Your average winter temperature is 35°
- Your home requires 30,000 BTU’S
- A 4-TON NORAIRE SYSTEM WOULD BE 242-297% EFFICIENT

**Example:**

NorAire® Heat Pump Boiler Size Matching, HP Balance Point, & Efficiency

<table>
<thead>
<tr>
<th>AIR REGION</th>
<th>EXAMPLE CITY</th>
<th>DESIGN TEMP</th>
<th>AVERAGE WINTER TEMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>IX</td>
<td>MANHATTAN, N.</td>
<td>32°</td>
<td>30°</td>
</tr>
<tr>
<td>IX</td>
<td>SANTA FE, NM</td>
<td>10°</td>
<td>20°</td>
</tr>
<tr>
<td>IX</td>
<td>RANCHO DES Mts</td>
<td>8°</td>
<td>20°</td>
</tr>
<tr>
<td>VI</td>
<td>SENTRAL, IA</td>
<td>20°</td>
<td>32°</td>
</tr>
</tbody>
</table>

*COULD BE DES MOINES, CLEVELAND, PITTSBURGH

**Fuel Source**
- Electric Boiler 100%
- Modern Fossil Fuel Boiler 90%

NorAire Heat Pump Boiler – Capacity & Performance

3-TON

<table>
<thead>
<tr>
<th>Size</th>
<th>Off Ac*, °F</th>
<th>Minimum Flow, 3 GPM, 60° F</th>
<th>Nominal Flow, 6 GPM, 60° F</th>
<th>Maximum Flow, 7 GPM, 60° F</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>37.4°</td>
<td>59.5%</td>
<td>76.7%</td>
<td>85.7%</td>
</tr>
<tr>
<td>47</td>
<td>33.3°</td>
<td>55.5%</td>
<td>72.1%</td>
<td>80.0%</td>
</tr>
<tr>
<td>55</td>
<td>30.4°</td>
<td>52.0%</td>
<td>68.4%</td>
<td>76.0%</td>
</tr>
<tr>
<td>60</td>
<td>27.5°</td>
<td>48.9%</td>
<td>64.7%</td>
<td>73.0%</td>
</tr>
</tbody>
</table>

4-TON

<table>
<thead>
<tr>
<th>Size</th>
<th>Off Ac*, °F</th>
<th>Minimum Flow, 5.5 GPM, 60° F</th>
<th>Nominal Flow, 8 GPM, 60° F</th>
<th>Maximum Flow, 10 GPM, 60° F</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>46.2°</td>
<td>64.5%</td>
<td>82.7%</td>
<td>94.0%</td>
</tr>
<tr>
<td>47</td>
<td>43.2°</td>
<td>61.5%</td>
<td>79.7%</td>
<td>90.4%</td>
</tr>
<tr>
<td>55</td>
<td>40.2°</td>
<td>58.0%</td>
<td>76.7%</td>
<td>86.0%</td>
</tr>
<tr>
<td>60</td>
<td>37.2°</td>
<td>54.5%</td>
<td>73.6%</td>
<td>83.0%</td>
</tr>
</tbody>
</table>

5-TON

<table>
<thead>
<tr>
<th>Size</th>
<th>Off Ac*, °F</th>
<th>Minimum Flow, 7.5 GPM, 60° F</th>
<th>Nominal Flow, 10 GPM, 60° F</th>
<th>Maximum Flow, 12 GPM, 60° F</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>46.1°</td>
<td>64.0%</td>
<td>82.2%</td>
<td>93.5%</td>
</tr>
<tr>
<td>47</td>
<td>43.1°</td>
<td>61.0%</td>
<td>79.1%</td>
<td>89.4%</td>
</tr>
<tr>
<td>55</td>
<td>40.1°</td>
<td>58.0%</td>
<td>76.0%</td>
<td>86.0%</td>
</tr>
<tr>
<td>60</td>
<td>37.1°</td>
<td>54.5%</td>
<td>73.0%</td>
<td>83.0%</td>
</tr>
</tbody>
</table>

- PRIMARY APPLICATION IS RADIANT FLOOR HEAT
- SIMPLE INSTALLATION:  
  - HYDRONIC PIPING DIRECT FROM BOILER CABINET TO FLOOR  
  - STANDARD REFRIGERANT LINE INSTALLATION
- ELECTRO-BOILER BOOST FOR ADDED CAPACITY DURING COLDER WEATHER
- INSTALL WITH AN EXISTING FOSSIL FUEL BOILER:  
  - INCREASED EFFICIENCY  
  - DUAL FUEL HEATING PROGRAMS  
  - COMPATIBLE WITH RESIDENTIAL SOLAR VOLTAIC OR SOLAR THERMAL ENERGY SYSTEMS

**NorAire® Heat Pump Boiler – Size & Performance**

**NorAire® Heat Pump Boiler – Size & Performance**

NorAire® Heat Pump Boiler

- 3-TON
  - Off Ac*, °F: 37.4°
  - Minimum Flow, 3 GPM, 60° F: 59.5%
  - Nominal Flow, 6 GPM, 60° F: 76.7%
  - Maximum Flow, 7 GPM, 60° F: 85.7%

- 4-TON
  - Off Ac*, °F: 46.2°
  - Minimum Flow, 5.5 GPM, 60° F: 64.5%
  - Nominal Flow, 8 GPM, 60° F: 82.7%
  - Maximum Flow, 10 GPM, 60° F: 94.0%

- 5-TON
  - Off Ac*, °F: 46.1°
  - Minimum Flow, 7.5 GPM, 60° F: 64.0%
  - Nominal Flow, 10 GPM, 60° F: 82.2%
  - Maximum Flow, 12 GPM, 60° F: 93.5%

**Efficiency**

- Electric Boiler 100%
- Modern Fossil Fuel Boiler 90%

**Example:**

- Your average winter temperature is 35°
- Your home requires 30,000 BTU’S
- A 4-TON NORAIRE SYSTEM WOULD BE 242-297% EFFICIENT

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NorAire® Heat Pump Boiler

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## Specification Table

<table>
<thead>
<tr>
<th></th>
<th>Units</th>
<th>3-Ton</th>
<th>4-Ton</th>
<th>5-Ton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating capacity, EB</td>
<td>Btu/h</td>
<td>34,000 (10 kW)</td>
<td>51,000 (15 kW)</td>
<td>68,000 (20 kW)</td>
</tr>
<tr>
<td>Heating capacity, HP</td>
<td>Btu/h</td>
<td>33,300</td>
<td>44,400</td>
<td>59,100</td>
</tr>
<tr>
<td>Heating capacity, HP @ 47° F</td>
<td>Btu/h</td>
<td>27,300</td>
<td>40,400</td>
<td>49,700</td>
</tr>
<tr>
<td>Power voltage</td>
<td>Volts/60Hz</td>
<td>240, 1 phase</td>
<td>240, 1 phase</td>
<td>240, 1 phase</td>
</tr>
<tr>
<td>IDU source breakers</td>
<td>Amps</td>
<td>(1) 60A</td>
<td>(1) 60A &amp; (1) 30A</td>
<td>(2) 60A</td>
</tr>
<tr>
<td>IDU EL boiler total amps</td>
<td>Amps</td>
<td>42</td>
<td>63</td>
<td>84</td>
</tr>
<tr>
<td>IDU non-EL boiler</td>
<td>Amps</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>IDU width</td>
<td>Inches</td>
<td>26.5</td>
<td>26.5</td>
<td>26.5</td>
</tr>
<tr>
<td>IDU height</td>
<td>Inches</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>IDU depth</td>
<td>Inches</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Line sets</td>
<td>Inches</td>
<td>% and %</td>
<td>% and %</td>
<td>% and %</td>
</tr>
<tr>
<td>Max line set</td>
<td>Feet</td>
<td>75</td>
<td>75</td>
<td>75 (1-⅛&quot;, 50 and up)</td>
</tr>
<tr>
<td>Max vertical separation</td>
<td>Feet</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Water connection</td>
<td>NPT, female</td>
<td>1&quot;</td>
<td>1&quot;</td>
<td>1&quot;</td>
</tr>
<tr>
<td>Maximum water flow</td>
<td>GPM per minute</td>
<td>7</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Nominal water flow</td>
<td>GPM per minute</td>
<td>6</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Minimum water flow</td>
<td>GPM per minute</td>
<td>3</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Internal pressure drop</td>
<td>Ft of head, Rated GPM</td>
<td>2.3</td>
<td>2.4</td>
<td>3</td>
</tr>
<tr>
<td>IDU shipping weight</td>
<td>Pounds</td>
<td>162</td>
<td>162</td>
<td>162</td>
</tr>
</tbody>
</table>

- HEATING CAPACITY AT 60° F ODU OUTSIDE AIR  
- LOAD CONDITIONS, HYDRONIC RETURN 90° F AND NOMINAL GPM  
- TYPICAL RETURN TO SUPPLY TEMP RISE SHOULD BE 10° TO 15° F  
- ELECTRO-BOILER ENTERING TEMP IS HP COIL OUTPUT, 90° TO 110° F  
- TYPICAL ELECTRO-BOILER TEMP RISE SHOULD BE 10° TO 20° F  
- ELECTRO-BOILER IS DISABLED ABOVE HPBP AND MODULATES BETWEEN HPBP AND SWOVER (BOOST)  
- ELECTRO-BOILER SIZE DETERMINES BTU/H RATING AT COOLEST TEMP  
- DATA MAY BE UPDATED WITHOUT NOTICE

### Product Models, Indoor Unit Only

- **EB-HPH-3-00** 3-Ton Hydronic, 34,000 Btu/h, No AUX Electro-Boiler
- **EB-HPH-3-10** 3-Ton Hydronic, 34,000 Btu/h, 10 kW AUX Electro-Boiler
- **EB-HPH-3-15** 3-Ton Hydronic, 34,000 Btu/h, 15 kW AUX Electro-Boiler
- **EB-HPH-3-20** 3-Ton Hydronic, 34,000 Btu/h, 20 kW AUX Electro-Boiler
- **EB-HPH-4-00** 4-Ton Hydronic, 48,000 Btu/h, No AUX Electro-Boiler
- **EB-HPH-4-10** 4-Ton Hydronic, 48,000 Btu/h, 10 kW AUX Electro-Boiler
- **EB-HPH-4-15** 4-Ton Hydronic, 48,000 Btu/h, 15 kW AUX Electro-Boiler
- **EB-HPH-4-20** 4-Ton Hydronic, 48,000 Btu/h, 20 kW AUX Electro-Boiler
- **EB-HPH-5-00** 5-Ton Hydronic, 57,000 Btu/h, No AUX Electro-Boiler
- **EB-HPH-5-10** 5-Ton Hydronic, 57,000 Btu/h, 10 kW AUX Electro-Boiler
- **EB-HPH-5-15** 5-Ton Hydronic, 57,000 Btu/h, 15 kW AUX Electro-Boiler
- **EB-HPH-5-20** 5-Ton Hydronic, 57,000 Btu/h, 20 kW AUX Electro-Boiler

### Product Models, Indoor Unit Only, for use with Variable Speed Compressor Heat Pumps

- **EB-HPH-V-00** 30,000 to 55,000 Btu/h, No AUX Electro-Boiler
- **EB-HPH-V-10** 30,000 to 55,000 Btu/h, 10 kW AUX Electro-Boiler
- **EB-HPH-V-15** 30,000 to 55,000 Btu/h, 15 kW AUX Electro-Boiler
- **EB-HPH-V-20** 30,000 to 55,000 Btu/h, 20 kW AUX Electro-Boiler

### Optional - Matching Outdoor Unit (ODU)*

- **6400-030** 3-Ton Outdoor Unit, 34,500 Btu/h, 14 SEER Nordyne
- **6400-040** 4-Ton Outdoor Unit, 48,000 Btu/h, 14 SEER Nordyne
- **6400-050** 5-Ton Outdoor Unit, 57,000 Btu/h, 14 SEER Nordyne

* CONTACT FACTORY SALES REPRESENTATIVE FOR CURRENT MODEL AVAILABILITY & SPECIFICATIONS

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PRICE AND SPECIFICATION SUBJECT TO CHANGE WITHOUT NOTICE, ALL RIGHTS RESERVED.

Providing Comfort Through Efficient Energy Solutions