Heating and Cooling Coils

Heating and Cooling Coils
For over 20 years, AAON has supplied the coil needs of industrial and commercial HVAC customers. Today, AAON offers a wide selection of chilled water, hot water, steam, and refrigerant fin and tube coil configurations. AAON coils can be easily configured with the AAON ECat selection software from an expansive list of features to meet your coil construction and performance specifications. All AAON coils follow a rigorous manufacturing process and testing routine to ensure they are free from leaks before shipment.

Quick Ship Coils Available
The AAON design expertise and manufacturing processes allow for emergency quick shipments with lead times as short as one business day. Contact your local AAON representative for further details on available quick shipments.

Booster Coils
Booster coil configurations are available that are sure to meet your exact needs for supplemental heating. The coil options include tube diameter, rows deep, finned height and length, fin thickness, fin material, fins per inch, tube wall, connection size and type, and casing configuration. Using the AAON ECat selection software, the critical criteria can be selected to ensure that the right AAON booster coil is selected to provide optimum performance in any application.

Heating Coils
Whether a job calls for steam distributing heat or hot water heat, AAON heating coils are designed to fit any application. All AAON heating coils are available with multiple tubing diameter options, a variety of tube wall thicknesses, and multiple rows deep. Hot water heating coils can be circuited in a full, half, or quarter serpentine circuiting to optimize heating performance. Steam coils are configured as tube-in-tube distributing to maximize performance at low entering air temperature conditions. Since AAON hot water coils are rated for entering water temperatures as high as 200°F and steam distributing coils rated for entering superheated steam as high as 15 psig, AAON heating coils can satisfy the rigorous demands of the HVAC marketplace.
**Chilled Water Cooling Coils**

AAON offers an array of options to satisfy hydronic cooling coil requirements whether the application calls for chilled water only or a glycol solution for freeze protection. With multiple tubing diameter options, coil circuitry options and fin densities, and up to 12 rows deep for additional latent capacity for dehumidification applications, AAON cooling coils can maximize performance regardless of the job specification. Designed to save installation and maintenance time and money, all hydronic coils include factory installed manifolds designed to handle a wide range of water flow rates. World class leak testing equipment and manufacturing processes, and AHRI 410 certification, ensure AAON hydronic coils are the best.

AAON chilled water and hot water coils are certified in accordance with AHRI Standard 410, Forced Circulation Air-Cooling and Air-Heating Coils. The AHRI Certification program is administered and governed by AHRI, which ensures that various types of heating, ventilation, air conditioning, refrigeration, and water heating products perform according to manufacturers' published claims. Products that are certified through the AHRI Certification Program are continuously tested by an independent third-party laboratory, contracted by AHRI, to determine the product’s ability to conform to one or more product rating standards or specifications. Specifying AHRI Certified AAON Coils instills confidence in coil performance.

**DX Evaporator or Condenser Coils**

For any system requiring direct expansion refrigerant coils, AAON can provide the evaporator or condenser coil to match the exact need. DX evaporator coils are available with multiple rows, multiple fins per inch options, and can be configured with interlaced or face split circuitry for capacity modulation and capitalize on valuable energy savings. DX condenser coils are available with multiple rows, up to 22 fins per inch, and can be configured with interlaced or face split circuitry. All DX evaporator coils and heat pump condenser coils include rifled tube enhancements and refrigerant distributors that ensure proper refrigerant distribution into the coil. AAON DX coils are designed to maximize performance no matter the specific job requirements.
**Coil Leak Testing**

All AAON coils, whether they are for hydronic or DX systems, surpass all standard industry leak test specifications. Each coil has an individual barcode that is scanned as it follows a rigorous leak test routine including gross leak testing, vacuum decay testing, and final leak testing with trace gas where each outcome being stored electronically for data analysis. Every coil must pass each step of the leak test procedure before it receives final approval and ships to the customer or is installed in one of the world class AAON rooftop units, chillers, outdoor mechanical rooms, air handling units, self contained units, or condensing units. Using the test data, AAON is also able to continually improve the manufacturing processes to offer the best coils available.
**AAON Selection Software**

The AAON ECat software allows each coil selection to precisely match your application requirements. The coil can be configured based on the desired MBH, with the ECat software varying the rows, fins per inch, and circuitry to find the closest match. The coil can also be configured based on specific coil characteristics input with the ECat software providing a performance rating. The software calculates coil performance including sensible and latent capacity, airside pressure drop, leaving air conditions, and even glycol solution ratings. Coil options in the ECat software are nearly limitless with the flexibility to select specific fin densities, specific tube diameters and circuitry to optimize pressure drop through the coil. The AAON ECat selection software gives you the assurance that the designed coil will meet the exact needs of your job specifications.

**Booster Coil Details**

- **Fin densities from 8 to 16 fins per inch to optimize performance and air side pressure drop**
- **Slip and Drive Coil Casing Type**
- **Coil inlet and outlet available with either sweat or threaded connections (MPT or FPT)**

**Booster Coils**

<table>
<thead>
<tr>
<th>Type</th>
<th>Tube Material</th>
<th>Fin Material</th>
<th>Casing Material</th>
<th>Casing Type</th>
<th>Rows</th>
<th>FPI</th>
<th>Circuitry</th>
<th>Tube Diameter (OD)</th>
<th>Connection Type</th>
<th>Optional Corrosion Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot Water or Steam</td>
<td>Copper</td>
<td>Aluminum or Copper</td>
<td>G90 Galvanized, Aluminum, or 304 Stainless Steel</td>
<td>U-Flange, Slip and Drive or None</td>
<td>Up to 12</td>
<td>Up to 16</td>
<td>Quarter to Double Serpentine, or Steam Distributing</td>
<td>1/2&quot; or 5/8&quot;</td>
<td>Sweat, MPT, or FPT*</td>
<td>Polymer E-Coating</td>
</tr>
</tbody>
</table>

* MPT (Male Pipe Thread) and FPT (Female Pipe Thread)
Hydronic Coil Details

Hydronic Coils

<table>
<thead>
<tr>
<th>Type</th>
<th>Tube Material</th>
<th>Fin Material</th>
<th>Casing Material</th>
<th>Casing Type</th>
<th>Rows</th>
<th>FPI</th>
<th>Circuitry</th>
<th>Tube Diameter (OD)</th>
<th>Connection Type</th>
<th>Optional Corrosion Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot Water Coils</td>
<td>Copper</td>
<td>Aluminum or Copper</td>
<td>G90 Galvanized, Aluminum, or 304 Stainless Steel</td>
<td>U-Flange, Slip and Drive or None</td>
<td>Up to 12</td>
<td>Up to 16</td>
<td>Quarter to Double Serpentine</td>
<td>1/2&quot; or 5/8&quot;</td>
<td>Sweat, MPT, or FPT*</td>
<td>Polymer E-Coating</td>
</tr>
<tr>
<td>Steam Coils</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Steam Distributing</td>
<td>5/8&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chilled Water Coils</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Quarter to Double Serpentine</td>
<td>1/2&quot; or 5/8&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* MPT (Male Pipe Thread) and FPT (Female Pipe Thread)

Fin densities from 8 to 16 fins per inch to optimize performance and air side pressure drop.

Up to 12 rows circuited to optimize coil performance and water side pressure drop.

Standard coils are completely encased for structural integrity but can be manufactured without casing for a specific application.

Manifolds include drain plug, vent plug, and Schrader valves to allow verification of positive pressure and leak free coils.

Manifolds designed to minimize water side pressure drop for a range of flow rates.

Coil inlet and outlet available with either sweat (as shown) or threaded connections (MPT or FPT).
### DX Coils Details

| Type          | Tube Material | Fin Material | Casing Material | Casing Type        | Rows | FPI | Circuitry | Connection Type | Optional Coating | Factory Installed TXV Equalizer Line | Interlaced or Face Split Circuiting for Capacity Modulation | Stepped Suction Manifold to Prevent Compressor Liquid Refrigerant Returning to the Compressor and Extending Compressor Life | Coils are Completely Encased for Structural Integrity | Fin Densities from 8 to 20 FPI Per Inch to Optimize Performance and Airside Pressure Drop | 6 Row High Capacity Available for Dehumidification Applications and Increased Energy Efficiency. | Every Coil Has a Unique Barcode That Allows Thorough Analysis of Every Step of the Manufacturing Process | Gas Flux Brazing on All Distributors for a Cleaner Joint with Less Refrigerant Leaks | DX Coil Details |
|---------------|---------------|--------------|----------------|---------------------|------|-----|-----------|----------------|----------------|-------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Evaporator Coils**
- Copper
- Aluminum or Stainless Steel

**Condenser Coils**
- Copper
- Aluminum or Stainless Steel

- **TC**
- **GC**.catalog code, and **C**.type or **None**.
- **3/8” or 1/2”**
- **Sweat, MPT, or FPT**
- **Polymer E-Coating**

* MPT (Male Pipe Thread) and FPT (Female Pipe Thread)
**Corrosion Protection**

All AAON coils can be selected in ECat with the industry leading corrosion protection of a 6,000-hour salt spray tested polymer e-coating of the entire coil, not just the fin pack. With less than a 1% reduction in heat transfer, the polymer e-coating allows coated coils to perform as designed. After two continuous years of simulated harsh coastal service, polymer e-coated coils saw no degradation in performance as compared to nearly a 60% reduction coil performance of a non-coated coil. Also available are AAON coils with copper tubes, copper fins and aluminum or 304 stainless steel coil casing. Copper fin and tube construction helps to avoid galvanic corrosion in the fin pack, and aluminum or stainless steel casing helps to prevent corrosion of coil casing.

<table>
<thead>
<tr>
<th>Polymer E-coated Coils</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Procedure</td>
<td>Coating Performance</td>
</tr>
<tr>
<td>Dry Film Thickness</td>
<td>ASTM D7091-05</td>
</tr>
<tr>
<td>Water Immersion</td>
<td>ASTM D870-02</td>
</tr>
<tr>
<td>Salt Spray</td>
<td>ASTM B117-97</td>
</tr>
<tr>
<td>Heat Transfer Reduction</td>
<td>AHRI 410</td>
</tr>
<tr>
<td>Operating pH Range</td>
<td>n/a</td>
</tr>
</tbody>
</table>

**Don’t see the specific coil you need?**  AAON can meet your requirements with custom coils designed specifically for your exact application.

For more information about AAON coils, contact your local AAON sales representative.

---

It is the intent of AAON to provide accurate and current product information. However, in the interest of product improvement, AAON reserves the right to change pricing, specifications, and/or design of its product without notice, obligation or liability. Copyright © AAON, all rights reserved throughout the world. AAON® and AAONAIRE® are registered trademarks of AAON, Inc., Tulsa, OK.