Hamon Deltak

Heat Recovery Steam Generators for Power Generation
HRSGs for Any Size Gas Turbine

Hamon Deltak's Resources
Provide Worldwide Presence

Hamon Deltak designs are manufactured worldwide following our stringent quality control systems.

Whether your plant will be 100% base loaded or cycled daily...whether it will be for a 40 MW turbine or a 450 MW turbine, Hamon Deltak can meet your requirements. With a combination of flexibility and experience unrivaled in the heat recovery industry, we can deliver a design to provide the lowest lifetime cost (and best value) to your project.

The Knowledge & Experience to Design and Produce Any Size HRSG

Hamon Deltak Capabilities

- Steam Pressure
  - Single
  - Dual
  - Triple
  - Reheat

- Circulation
  - Natural
  - Forced

- Supplementary Duct Firing
  - Natural Gas
  - Crude Oil
  - No. 2 Oil
  - Others

- Operation Modes
  - Cycling
  - Fast Start
  - Load Swings

- Construction Options
  - Modular
  - C-Section Modules
  - Bundles

- Environmental
  - SCR/CO
  - Anhydrous NH₃
  - Aqueous NH₃
  - Noise Attenuation

- Arrangement
  - Horizontal
  - Vertical
  - Top Support

Large Gas Turbines
100-450+ MW
GE, Mitsubishi, Siemens; F, G and above class

Medium Gas Turbines
40-100 MW
GE, Siemens

Industrial Gas Turbines
<40 MW
GE, Solar, Rolls Royce, Pratt & Whitney, Siemens
Expertise to Optimize the Life-Cycle of Fast Start HRSGs

Advanced analysis techniques are employed by Hamon Deltak to determine stresses and optimize equipment life. Rapidly cycling HRSGs place new demands on components. Special expertise is critical to balance operating response requirements with component life.

SH1 Top Header Nozzle
Cold Start Thermal Gradient
T = 3600 sec (at Max Pressure)
Equivalent Stress

\[ S_{eq} = 6200 \text{ psi} \]
Constructability is Built into Every Unit

Working with leading EPC firms, Hamon Deltak has developed new techniques to minimize on-site erection and assembly. By integrating these techniques, learned from the field and from our customers, we’ve dramatically improved the constructability of our designs, reduced the number of field welds and shortened the overall installation time, saving our customers’ money and time on installation.

Construction Options

<table>
<thead>
<tr>
<th>Modular</th>
<th>Modules</th>
<th>C-Section</th>
<th>Bundles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbine model(s)</td>
<td>Small, Aero, thru Frame 6</td>
<td>F class and larger</td>
<td>Large Frame</td>
</tr>
<tr>
<td>Typical</td>
<td>Single wide</td>
<td>Double wide</td>
<td>Double or Triple wide</td>
</tr>
<tr>
<td>Heat exchange sections</td>
<td>Complete module with casing and Hx section</td>
<td>Preassembled sections with casing sidewalls, roof and floor – in C-sections</td>
<td>Preassembled sections – truck shipped with lifting frames</td>
</tr>
<tr>
<td>Temporary steel</td>
<td>none</td>
<td>Truss sections for lifting C-sections, assembled and removed in field</td>
<td>One lifting frame per bundle</td>
</tr>
<tr>
<td>Duct sections, field joints, casing walls</td>
<td>Fabricated panels - flats</td>
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</tr>
<tr>
<td>Casing sequence</td>
<td>Back to front, modules then field joints and duct sections</td>
<td>C-sections set, aligned and welded out, then field joints and duct sections</td>
<td>Casing construction completed before setting bundles</td>
</tr>
</tbody>
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