A wide range of heat treatment processes, technologies and applications

- Low consumption of energy, process gases and other utilities, low emissions as well
- Tailor-made device, more than you expect
- Well-timed with the customers needs, manufactured and delivered at a suitable time
- Simple design, modular, fitted and adjusted to tasks and a plant conditions
- Guaranteed quality and repeatable processes results

**Processes:**
- Brazing
- Annealing
- Hardening
- Low pressure carburizing & nitriding (LPC & LPN)
- Solution heat treating
- Sintering
- Tempering

**Materials:**
- Tool steels
- Carburizing steels
- HSLA
- Alloved steels
- Stainless steels
- Alloys and super alloys
- Titanium and titanium alloy

**Industries:**
- Aviation
- Automotive
- Machine
- Tool
- Energy
- Medical
- Nuclear
- Electronic
- Metallurgy
- Commercial heat treatment
- Special

[www.secowarwick.com](http://www.secowarwick.com)
OPTIONS DEDICATED FOR THE STANDARD VACUUM FURNACES

STANDARD
Single chamber horizontal vacuum furnace that complies with US and UE market industrial standards related to heat treatment equipment (or any other if specified)

OPTIONS
- Vertical orientation
- Graphite or metal hot zone
- Improved temperature uniformity
- Multi-zone temperature control
- Load thermocouples port and control
- High temperature operation
- High vacuum
- Ultra-high vacuum
- Low and cryogenic-temperature trap
- Partial pressure control
- Convection heating
- High pressure gas quench
- Cooling gas flow direction
- Color selection

- Selection of PLC and IPC control system
- Power management control system
- Independent data recording
- Remote control and monitoring
- Air control cabinet conditioned

- Low pressure carburizing (LPC) system - FineCarb®
- High temperature LPC - PreNitLPC®
- Low pressure nitriding - FineLPN®
- Nitriding of stainless steel - SuperExpanite
- Isothermal and controlled quenching
- Deep freezing
- Tempering
- Low pressure carburizing simulation software - SimCarb
- Case hardening simulation software - SimHard
- Tool steel’s heat treatment simulation software - G-Quench Pro

DEDICATED AUXILIARY EQUIPMENT
- Manual loader
- Automatic loader
- Casted metal fixture
- Carbon composite fixture
- Closed loop water cooling system
- Gas buffer tank
- Helium recycling system
- Noise protection of the pumping system
- Inlet gas dew point measuring system
- Temperature uniformity frame
- Time-saving spare parts set
## Technical Data

<table>
<thead>
<tr>
<th>Uniform zone (WxHxL)</th>
<th>Vector horizontal</th>
<th>Vector vertical</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>22/24</td>
<td>25/24</td>
</tr>
<tr>
<td>mm</td>
<td>400x400x600</td>
<td>600x400x600</td>
</tr>
<tr>
<td>inch</td>
<td>16”x16”x24”</td>
<td>24”x16”x24”</td>
</tr>
<tr>
<td>Max. load</td>
<td>200 kg (440 lb)</td>
<td>400 kg (880 lb)</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>200-1330°C (400-2430°F)</td>
<td>max 800 (optional 1100)</td>
</tr>
<tr>
<td>Convection heating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature uniformity</td>
<td>+/- 5°C</td>
<td></td>
</tr>
<tr>
<td>Heating power</td>
<td>70 kW</td>
<td>90 kW</td>
</tr>
<tr>
<td>Max. cooling pressure</td>
<td>bar</td>
<td></td>
</tr>
<tr>
<td>Operating vacuum</td>
<td>2.6-10-12-15-25 mbar (range 10^4 to 10^5 Torr)</td>
<td></td>
</tr>
</tbody>
</table>

* other size and parameters also available on request

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