DIABON® graphite block heat exchanger

DIABON graphite block heat exchangers are one of the most robust and flexible types for heat exchange of corrosive media available on market. SGL Carbon’s advanced constructive design in combination with superior graphite qualities ensures an efficient and reliable operation for our customers even at toughest applications.

SGL Carbon’s outstanding reputation as the global leading supplier is based on more than 10000 references for graphite block heat exchangers – the largest reference base in industry for block types. Deep understandings of our customer’s applications in combination with optimized designs are the benefits for our customers based on our large source of experience.

Customer benefits

- **Long lifetime**: e. g. superior corrosion resistance by full range of graphite and impregnation qualities available (Ultra fine & fine grain graphite, PTFE or phenolic resin impregnation, etc.)
- **High plant availability**: sturdy design, superior graphite and soft gaskets between blocks result in significant reduced risk of block damages/unplanned production stops
- **Compactness**: ultra efficient block drillings and resin film free holes available
- **Low maintenance costs**: ease of handling for fast and cost effective maintenance
- **Flexibility**: large range of design options available to allow optimized heat exchanger for a wide range of applications
- **Service excellence**: fast and competent services for repairs and spare parts

Example applications

- Heat exchange of corrosive applications e. g. hydrochloric acid, sulphuric acid, phosphoric acid, hydrofluoric acid, pickling liquors etc.
- Functions: Heating, cooling, condensation, evaporation, absorption, heat recovery by interchanger

Product information

- 3 base types: CK/NCK (cylindrical), NEC (cubical), KU (monolithic)
- Heat Exchange area: from 0.5 m² up to 850 m²
- Base design: a stack of graphite blocks or one monolithic block mounted into steel shell/steel plates
- blocks up to 1500 mm diameter from one piece of graphite
- No. 1 supplier worldwide with > 10000 references
- Full range of graphite qualities: fine grain, ultra fine grain, phenolic resin/PTFE impregnation
- Design options for falling film, multi-pass, both sides’ corrosives, temperature crossing etc.

By the way: DIABON phenolic resin impregnated graphite is certified by FDA (Food and Drug Administration)
# Data of DIABON® graphite block heat exchanger

<table>
<thead>
<tr>
<th>Technical specifications</th>
<th>Units</th>
<th>Type CK/NCK</th>
<th>Type NEC</th>
<th>Type KU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block shape</td>
<td></td>
<td>cylindrical</td>
<td>cubical</td>
<td>monolithic</td>
</tr>
<tr>
<td>Main application</td>
<td></td>
<td>universal</td>
<td>pharmaceutical/fine chemicals</td>
<td>interchanger (two corrosives)</td>
</tr>
<tr>
<td>Specific advantages</td>
<td></td>
<td>Sturdy design, compactness, easy handling</td>
<td>Both sides corrosive, no risk of cross-contamination, more than one service media, modular expansion</td>
<td>Both sides corrosive, no gaskets, monolithic block, small temperature gradients, ultra efficient</td>
</tr>
<tr>
<td>Block gaskets</td>
<td></td>
<td>soft PTFE</td>
<td>soft PTFE</td>
<td></td>
</tr>
<tr>
<td>Standard drilling diameter</td>
<td></td>
<td>8/16 mm</td>
<td>10 mm</td>
<td>8/16 mm</td>
</tr>
<tr>
<td>Drilling patterns</td>
<td></td>
<td>single or double</td>
<td>single</td>
<td></td>
</tr>
<tr>
<td>Max. design temperature</td>
<td>°C</td>
<td>220</td>
<td>220</td>
<td>220</td>
</tr>
<tr>
<td>Standard design/test pressure (higher pressure on request)</td>
<td>barg</td>
<td>6/7.8</td>
<td>6/7.8</td>
<td>9/11.7</td>
</tr>
<tr>
<td>Max. heat exchange area</td>
<td>m²</td>
<td>850</td>
<td>150</td>
<td>46</td>
</tr>
<tr>
<td>Standard connections</td>
<td></td>
<td>DIN/ANSI</td>
<td>DIN/ANSI</td>
<td>DIN/ANSI</td>
</tr>
<tr>
<td>Standard painting</td>
<td></td>
<td>sandblasting according to SA 2 ½, DIN 55928</td>
<td>one base coat with 1-component epoxy-zinc primer; dry film thickness 40 µm</td>
<td></td>
</tr>
</tbody>
</table>

![DIABON graphite block heat exchanger diagram](attachment:image.png)

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**Graphite Materials & Systems | SGL CARBON GmbH**

Sales Europe/Middle East/Africa | pt-europe@sglcarbon.com
Sales Americas | pt-americas@sglcarbon.com
Sales Asia/Pacific | pt-asia@sglcarbon.com
www.sgiprocesstechnology.com

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