The SiTec High Pressure STC-TCS Converter is a key equipment for polysilicon production. The high pressure converter is used for the conversion of Silicon Tetrachloride [STC] formed in the deposition process to Trichlorosilane [TCS].

The High Pressure STC-TCS Converter is a 2nd generation of SiTec's STC-TCS Converters resulting out of the further development of the current technology. It enables an environmentally friendly closed loop polysilicon production, reducing the manufacturing costs and minimizing environmental impacts.

The SiTec High Pressure STC-TCS Converter stands out due to high conversion efficiency and increased throughput, reducing the specific investment costs significantly. The optimized design with integrated heat exchanger system and heat isolation lowers the energy consumption and reduces operation costs considerably.

- Guaranteed performance
- Low average energy consumption due to optimized heat recovery
- Fully integrated converter package with gas supply, power supply and automation systems
- High conversion efficiency due to integrated high performance quenching system
- Long lifetime and high performance of internals due to special graphite
- TÜV-proven equipment
- Manufactured according to customer-specific standards
Key Equipment for Polysilicon Plants

High Pressure STC-TCS Converter

Technical Data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of carbon doubles</td>
<td>24 pieces</td>
</tr>
<tr>
<td>Total weight</td>
<td>~ 24,000 kg</td>
</tr>
<tr>
<td>Energy consumption / kg STC converted</td>
<td>&lt; 1.4 kWh/kg</td>
</tr>
<tr>
<td>Molar conversion efficiency</td>
<td>&gt; 19 % [22 % average]</td>
</tr>
<tr>
<td>Operating pressure</td>
<td>~ 18 barg</td>
</tr>
<tr>
<td>Converter gas input</td>
<td>~ 18,000 kg/h</td>
</tr>
<tr>
<td>AC supply system</td>
<td>6, 10 or 20 kV¹</td>
</tr>
</tbody>
</table>

¹ System will be aligned according to customer specific requirements

Services

- Commissioning and start-up by experienced SiTec team
- Supervision during ramp-up phase

SiTec GmbH is a leading company providing an Integrated Engineering and Technology Package for solar and microelectronic grade polysilicon.
Our proven technology has been realized in numerous projects in China, South Korea, India, North America, Europe, CIS and Middle East.

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