SGen-3000W water-cooled generator series

for gas and steam power applications from 540–1,300 MVA
The SGen-3000W generator series integrates proven design and manufacturing technologies to deliver world-class performance, reliability and customer value. It expands our modular approach to high output levels requiring efficient hydrogen cooling. Our modular “building block” approach allows Siemens Energy generators to share many features and components across the portfolio. With a water-cooled stator, the SGen-3000W series provides high operational flexibility and outstanding component robustness.

Key Benefits

- High output capability
- Operational flexibility
- High reliability
- Small footprint
- Proven features and components
- ISO class zone-A

1. **Stator**: Fleet-proven design of water-cooled stator bars with hollow stainless steel conductors
2. **Rotor**: 10,000 start/stop cycles without rotor removal during operational life cycle
3. **Generator frame with integral coolers**: easy service and maintenance of axial coolers
4. **Shaft sealing**: low maintenance gland seals with operational track record
5. **Simple ventilation**: 1-stage axisymmetric blower with radially cooled rotor and stator
6. **Smaller footprint**: ~15% lower foundation loads
7. **Stator core**: low complexity due to common assembly across generator products
SGen-3000W generator series
for reliable gas and steam power generation

Our water- / hydrogen-cooled generators provide the flexibility and durability to operate in today’s fluctuating grid environment. They can be coupled to other OEM turbines and meet environmental requirements as well as your individual needs.

- **Steam plants**: flexible integration into steam power plant applications or steam tailing applications
- **Large simple or combined cycle power plants**: suitable for peak, intermediate or base load duty, as well as cogeneration applications

### Technical specifications for the SGen-3000W generator series

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Apparent power</th>
<th>Efficiency</th>
<th>Design power factor</th>
<th>Terminal voltage</th>
<th>Design insulation class</th>
<th>Approx. weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGen5-3000W</td>
<td>50 Hz</td>
<td>up to 1,300 MVA</td>
<td>Up to 99%</td>
<td>0,8</td>
<td>Up to 27 kV</td>
<td>Class F</td>
<td>Up to 425 t</td>
</tr>
<tr>
<td>SGen6-3000W</td>
<td>60 Hz</td>
<td>up to 1,300 MVA</td>
<td>Up to 99%</td>
<td>0,85</td>
<td>Up to 26 kV</td>
<td>Class F</td>
<td>Up to 390 t</td>
</tr>
</tbody>
</table>

### SGen-3000W generator series:
simple installation, flexible operation and easy maintenance

#### Simple installation:
- Arrives on site with rotor and coolers in-stalled
- Footprint requires minimal space
- Bolt-on static excitation system
- Full line of user-friendly auxiliaries

#### High operational flexibility:
- Design supports high ramp-up/down rates, frequent start/stop with low thermal mechanical stresses in stator windings
- Closed-loop water cooling less sensitive to water chemistry (no contact to copper)
- Automated auxiliaries with redundancies

#### Easy maintenance:
- Common components across portfolio improve availability of spare parts
- Digitalization packages available to equip and monitor generator health
- Easy generator access for any required maintenance or service

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