

SIEMENS

Ingenuity for life

SeaFloat Power Plants

Solution with the SGT-A65

The SCC-A65 SeaFloat plant utilizes the advanced and robust but lightweight industrial SGT-A65 aeroderivative gas turbine. Perfectly fitted for high start/stop cycles and highest start-up reliability

Short project duration

The high degree of modularized design and delivery based on pre-assembled and pre-tested plant modules minimizes the manpower required at yard as well as it is minimizing the hook up and commissioning time at final location.

Reliability and high cycle operation

The long-term track record with 115 SAG-A65 installations around the world, a total of over 1.8 million operating hours and the fleet leader having 110.000 operating hours, proves the outstanding operation and start-up reliability. Start-up reliability on either gas or liquid fuel is >99% with start-up time from cold to full load in ca. 5 minutes or ca. 2 minutes in case of hot re-start after grid interruption.

Typical fields of application

Peak operation as well as base load capability, excellent part load efficiency in combined and simple cycle as well as the flexibility in fuel make the SGT-A65 a perfect choice for a wide range of industrial and oil and gas applications. It can also be operated with 100% hydrogen

and is an important player for floating Power-to-X applications. The short start-up time, the start-up reliability and the capability to operate in high start/stop cycles and last not least its back-start capability make it a perfect fit to sustain weak grids.

Less project risks

Typical soil risks do not apply to SeaFloat. Project risk resulting from brown field activities such as demolition works, site leveling activities, relocation of existing structure can be avoided by using SeaFloat power plants when for instance replacing outdated plants. Due to installation at modern ship yards the project progress is not depending on availability of qualified labor and infrastructure at the final location of installation/operation.

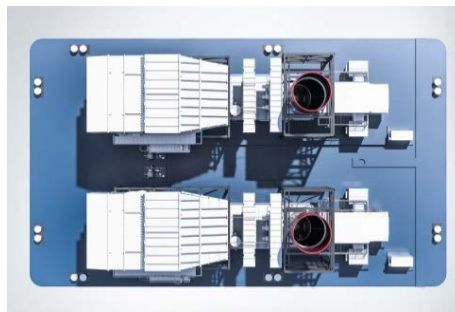
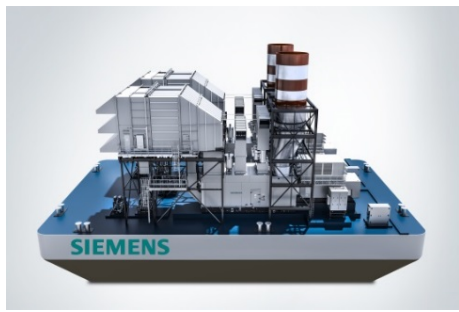
Availability and maintenance

Operation and maintenance is simple and easy. A 24 hours exchange with a lease engine or spare core avoids the need for on-board maintenance. Remote satellite condition monitoring grants timely preparation for maintenance to satisfy highest availability requirements.

Key benefits

- Highest flexibility based on a fast ramp up of approx. 5 min from cold start
- Re-start is possible within 2 min only
- Lowest OPEX due to easy maintenance within 24 hours
- Excellent support including black-start for weak grids
- Dual fuel and dual frequency OCGT
- Fuel changeover at base load





The SGT-A65 package is built from fully assembled and tested modules to allow quick installation at ship yards and fast hook up to the electrical grid at place of destination.

Due to its design with three independent shafts, the gas turbine is highly flexible, offering high power and efficiency with minimal drop-off at part-load conditions. The SGT-A65 can cold start to full load in ca. 5 minutes (or ca. 2 minutes for hot start) and additionally has high cyclic life capability.

The engine can easily be slide out and be exchanged within 24h. Timely planning of maintenance and availability of spare machine is granted by remote satellite condition.

| Simple cycle power generation | 1 x DLE with ISI (50 / 60 Hz) | 1 x WLE with ISI (50 / 60 Hz) | 2 x DLE with ISI (50 / 60 Hz) | 2 x WLE with ISI (50 / 60 Hz) |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Net Power output | 65 / 67 MW(e) | 68 / 71 MW(e) | 130 / 134 MW(e) | 136 / 142 MW(e) |
| Net efficiency | 42.3 / 43 % | 41.1 / 41.2 % | 42.3 / 43 % | 41.1 / 41.2 % |

| Combined cycle power generation | DLE 1x1 (50Hz/60Hz) | DLE 2x1 (50Hz/60Hz) | DLE with ISI 1x1 (50Hz/60Hz) | DLE with ISI 2x1 (50Hz/60Hz) |
|---------------------------------|---------------------|---------------------|------------------------------|------------------------------|
| Net plant power output | 72.5 / 74.5 MW(e) | 147 / 151 MW(e) | 86.0 / 88 MW(e) | 175 / 151 MW(e) |
| Net efficiency | 54.4 / 54.7 % | 55 / 55.3 % | 54.5 / 55 % | 55.3 / 55.3 % |

| Emissions | |
|---|---|
| NOx, [ppmV / mg/Nm ³] | <25 / 51.3 @ 15% O ₂ (50-100% GT load) |
| Emissions, CO, [ppmV / mg/Nm ³] | <5 / 6.3 @ 15% O ₂ (50-100% GT load) |

| | |
|---|---|
| <p>Installed performance at:</p> <ul style="list-style-type: none"> 25°C ambient air temperature 25°C sea water temperature 60% relative humidity <p>Gas fuel supply 60 Bar(a), 90°C, 48.6 MJ/kg LHV (Siemens standard gas composition).</p> <p>Including transformation and auxiliary losses. Excluding condenser cooling water pumps and auxiliary consumption of the barge, power ship or other structures.</p> | <p>DLE - Dry Low Emissions (option)</p> <p>WLE - Wet Low Emission (option)</p> <p>ISI - Inlet Sprav Intercooling (option)</p> |
|---|---|

Table: Installed performance