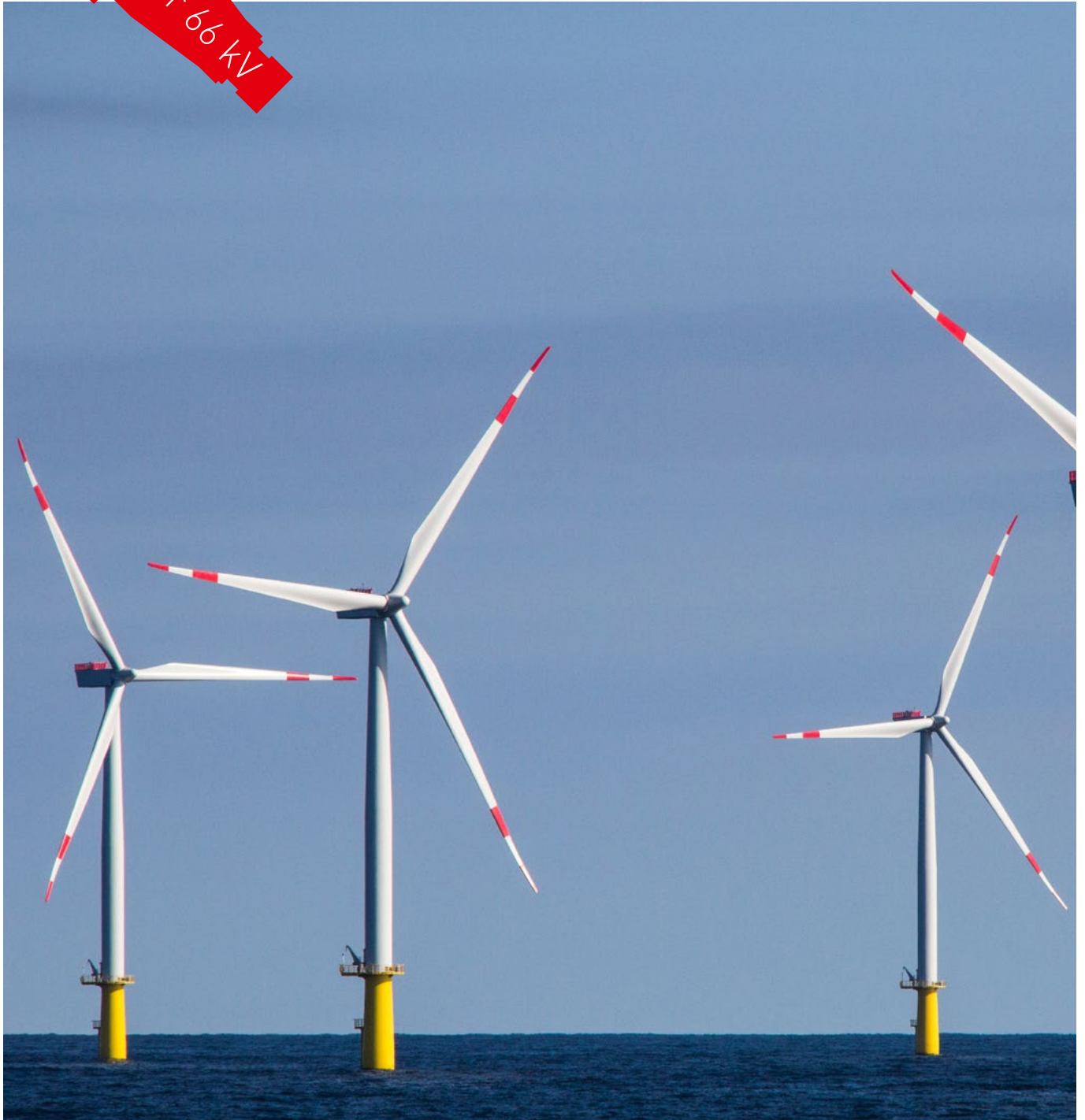


SEANEX for 66 kV

**PFISTERER**



## Offshore Wind Farm

Power generation on the high seas presents huge challenges to all the parties involved. This requires reliable partners with experience.

# Offshore Wind Farm

## All connection components from a single source

Energy distribution and energy transmission have been PFISTERER core competences for almost 100 years. As experts for interfaces in energy networks, we supply connection components and turnkey cable systems for all voltage levels as a complete system. Our pluggable systems as well as our bolted connectors connect all system parts of the wind farm reliably and quickly. All system components are made specifically for maritim operation: weather-resistant, salt-water resistant and designed for offshore environment.

### Converter station

Constructing cable systems on offshore substations requires the ultimate discipline of cable-laying. Highly complex cable routes must be installed in a confined space around many corners and on several levels. Considerable time pressure and the construction of other subsections at the same time further complicate the task. Successfully overcoming this challenge requires meticulous planning and specialists with solid experience in the industry.

PFISTERER has been there from the very beginning. We have closely accompanied the process from the idea of a power station on the high seas to the construction of the first offshore wind farm. PFISTERER has set industry standards, our project management and our products are state-of-the-art today. With CONNEX offers PFISTERER a dry pluggable connection system, that meets all offshore requirements.

### Wind turbine

The interface to the wind farm network, the cable connection between the static tower and moving nacelle, and the connection to the generator – these are the challenges involved in every single wind turbine in the wind farm. PFISTERER has the right solution for all challenges.

SICON screw connectors can connect all different kinds of cable easily, without using special tools. The pluggable PLUG system connects the generator, individual tower segments, converter and transformer into a complete electrical system. SEANEX is used for the connection to the inter-array cabling.

### Turnkey cable systems from the specialists

The services we at PFISTERER provide include the entire project management, the evaluation, the installation and assessment of the cable systems including high-voltage cable systems with XLPE cables up to 550 kV.

- Engineering, project work for all AC cable lines, including planning and feasibility analyses
- Preparing technical guidelines, taking system-specific cable types into account, as well as laying and operating methods
- Calculating static and dynamic current carrying capacity in accordance with IEC, and overload operation, using own software
- Computer-assisted calculation of tensile forces
- Project realisation / site management including commissioning

#### CONNEX

The dry pluggable CONNEX connection system connects the transformer, MV and HV GIS without time-consuming SF<sub>6</sub> gas work. CONNEX connection joints in cast resin technology up to 170 kV enable pluggable connections that can be separated quickly if necessary.

- No gas monitoring
- Fully submersible and salt water resistant

The longitudinal water barrier prevents water penetration as a result of cable faults.

The solid-insulated CONNEX connections are maintenance-free and the only ones on the market with DNV-GL certification.





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## SEANEX LEVEL OF 66 KV CONNECTING.

### Connecting the transformer

Both sides are easy to connect. On the low-voltage side with the PLUG, on the high-voltage side with the new SEANEX vor 66 kV applications.

- Quick and easy installation
- No on-site oil work required
- Ester oils use approved



### Connecting the switching station

The new SEANEX Connector is the respons of PFISTERER for the 66 kV challenges.

- Most compact design
- Pre-manufactured and tested cables possible
- According to the new standards EN 50673 and IEC 60840

For all cables class 2 and 5 and up to 72.5 kV voltage level.

### Interface to the wind farm network

Plug-in cast resin SEANEX joints doesn't require SF<sub>6</sub> or any liquid insulation material. With the new SEANEX connector, a reliable and maintenance-free connection is created, which can be easily disconnected whenever it is necessary.

- No gas monitoring
- Fully submersible and salt-water resistant

The vertical barrier prevents water penetration as a result of cable faults.



### Connection between the gondola and tower

The PLUG system's high-quality materials and sophisticated technology guarantee reliable contact during the entire service life of the system.

- Low contact resistance
- No creep corrosion

More than 4,100 PLUG connections are installed on the Global Tech I.

### Connection from generator and converter

The low profile PLUG connectors are quick and safe to install and maintenance-free. The connection can be quickly and easily unplugged whenever necessary.

- Short assembly time onshore
- Low space requirement
- Quick plugging offshore

The plug coding prevents faulty connections.



### Connection of different cables

With the patented SICON screw connectors, ultra-flexible copper and cost-effective aluminium conductors can easily be connected to one another.

- Reliable contact of all conductors
- Installation with standard tools

Stepless share off of the SICON bolt without torque wrench.



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The PFISTERER Group is amongst the world's leading specialist equipment and system suppliers in the energy infrastructure industry. Around 2,100 employees develop, produce and distribute components and complete solutions for the particularly sensitive interfaces in modern energy networks. With a complete range of products and services, the PFISTERER Group provides customised solutions for the complete transmission chain from low and medium to high and ultra-high voltage. Everything from a single source. Worldwide.