

DE-ICING / ANTI-ICING SLIP RINGS

Reliable solutions for wind turbines in cold climate or climate change regions



Ice accretion on wind turbine blades can affect both its energy production and lifetime. Wind farm operators have generally two solutions: either to stop the wind turbine during icing events, which can have a strong impact on the profitability of a wind plant, or to install an ice protection device. Ice protection systems can be regrouped in two categories: anti-icing and de-icing. Anti-icing systems prevent ice buildup at the surface of the blade while de-icing systems remove accumulated ice from the surface of the blade. While there are several types of ice protection systems, heating the wind turbine blade is currently the most efficient protection technique against ice accretion.

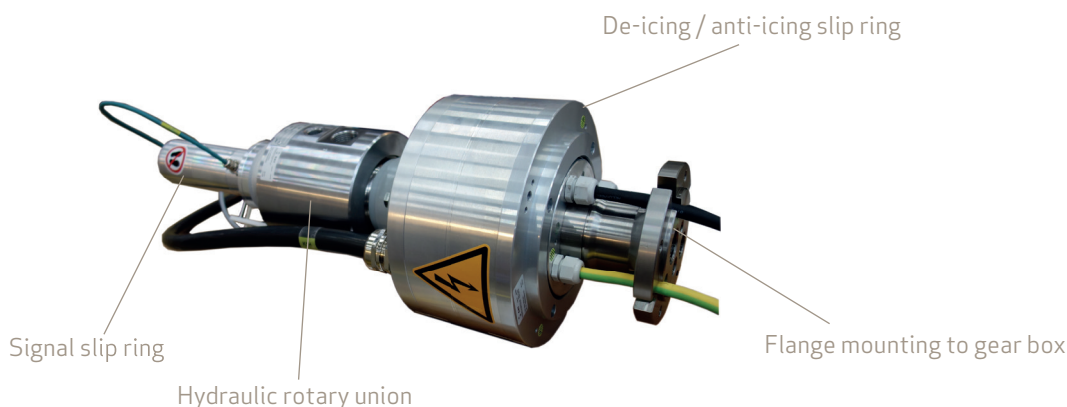
Moog offers slip rings for blade heating – with both anti-icing and de-icing capabilities – which can be retrofit onto the most established wind turbine models, for both hydraulic and electric blade pitch control.

ADVANTAGES

- Optimized performance for more power during cold weather periods
- Increased uptime
- Replacements for existing CWP turbines
- Customized solutions for hydraulic and electrical pitch control

Features:

- Long service life, low maintenance
- Robust housing design
- Two ball bearings integrated
- Resistant against humidity and vibration
- UL / CSA certification available



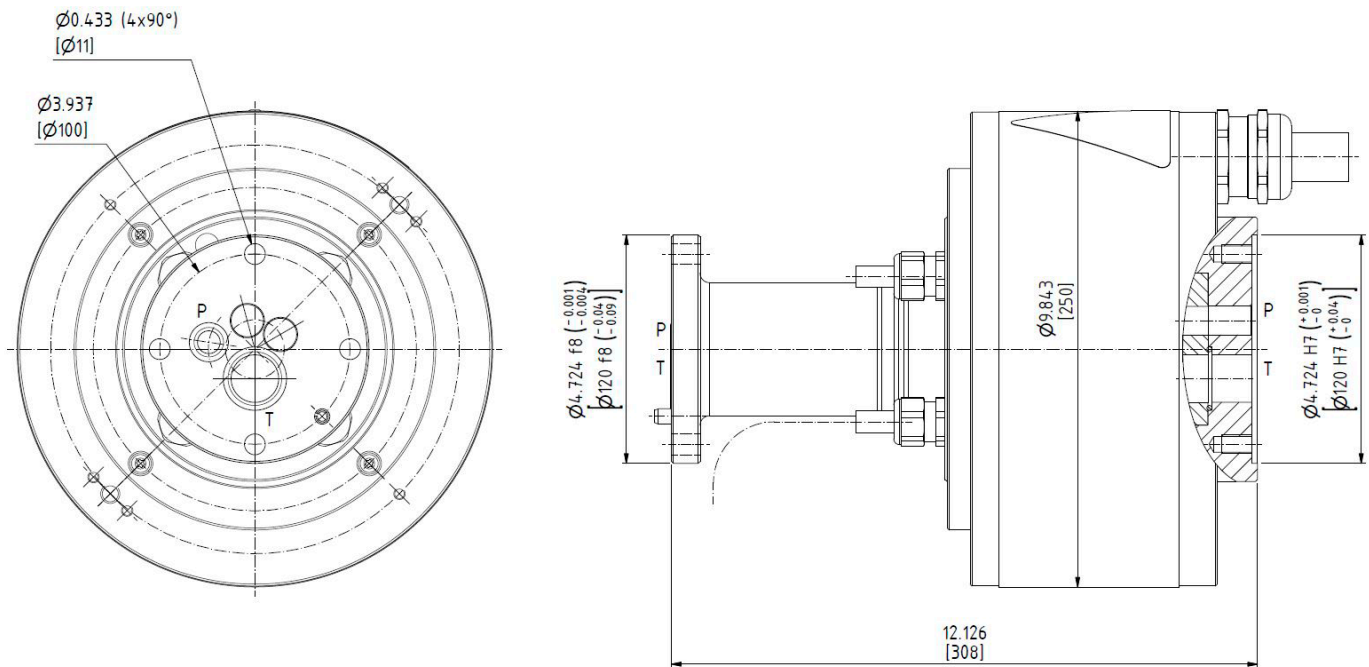
Kombi ESW250/12/4 + M60EXP2-1 + ESR70/32/17

Combination of de-icing/anti-icing slip ring + hydraulic rotary union + hub signal slip ring for hydraulic blade pitch control

SPECIFICATIONS

TECHNICAL DATA

Power	Up to 100 A and 690 V
Contact Material	Gold / gold technology (for highest contact quality)
Sealing	IP64 (higher protection class on request)
Temperature	-30 °C to +40 °C (-22 °F to 104 °F) in operation -45 °C to +50 °C (-49 °F to 122 °F) in survival mode



Customized solutions for your specific project available on request

Dimensions in inches [mm]

Moog has offices around the world.
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