

Press Release

A wind tunnel designed for the needs of the wind industry

WindGuard Aeroacoustic Wind Tunnel in Bremerhaven celebrates 10-year-anniversary

Bremerhaven, 2018-11-13: This year Deutsche WindGuard's large scale aeroacoustic wind tunnel in Bremerhaven celebrates its tenth anniversary. "When the wind industry became established in the early 2000s, it became apparent that noise emission was an issue with rotor blades at the time", recalls Dr.-Ing. Knud Rehfeldt, Managing Director of Deutsche WindGuard Engineering GmbH. "The existing wind tunnels with their high background noises could not provide the testing conditions for the new industry requirements. So when some of our customers approached us about a wind tunnel for rotor blade aerodynamics, we thought that was a great idea and immediately got to work"

In 2006, WindGuard's Knud Rehfeldt and his team set out to develop a wind tunnel specifically for the wind industry. It would have to have an excellent flow quality, a low background noise, achieve high wind speeds and Reynolds numbers. To reduce the sound level of the wind tunnel itself, the tunnel is built with acoustically-decoupled sections, and incorporates approximately 2000 m² of special noise absorbing elements. The tunnel was built in 2007 and inaugurated in 2008. Today, after 10 years of operation, well over 100 different airfoils tested and several thousand measurements, the wind tunnel is running and constantly adding new capabilities. Development has never stopped. "Today the maximum flow speed of the wind tunnel reaches 360 km/h at Reynolds Numbers of 6 million and the background noise level has been reduced by more than 10dB", says Nicholas Balaesque, head of acoustic wind tunnel testing at Deutsche WindGuard. „The collaboration between colleagues from many WindGuard departments has been crucial for the successful outcome of many campaigns. Especially the synergy that has developed between all seven WindGuard wind tunnels has helped improve the measurement quality and extend the range of offered wind tunnel related services."

For an interview with Nicholas Balaesque on ten years of wind tunnel history, please also see our blog, WindGuard Insight. <https://www.windguard.de/WindGuardInsight/>

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Deutsche WindGuard – The Wind Professionals

Deutsche WindGuard Engineering operates WindGuard's aeroacoustic large scale wind tunnel in Bremerhaven since 2008. The wind tunnel offers extensive possibilities for the aerodynamic and acoustic measurement of airfoils at high Reynolds-numbers and wind speeds of up to 100 m/s. With four calibration wind tunnels, a variable density wind tunnel, a climatic wind tunnel, and the acoustically optimized large wind tunnel, Deutsche WindGuard Wind Tunnel Centre offers ideal conditions for measuring, testing and R&D. Deutsche WindGuard Engineering GmbH is a part of the Deutsche WindGuard Group. In a complex energy market, Deutsche WindGuard is committed to providing extensive scientific, technical, and operational services, which are unbiased and manufacturer-independent. Deutsche WindGuard was founded in 2000, with headquarters in Varel and subsidiaries in Germany, the United States, India and China; it employs more than 170 experienced experts.

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