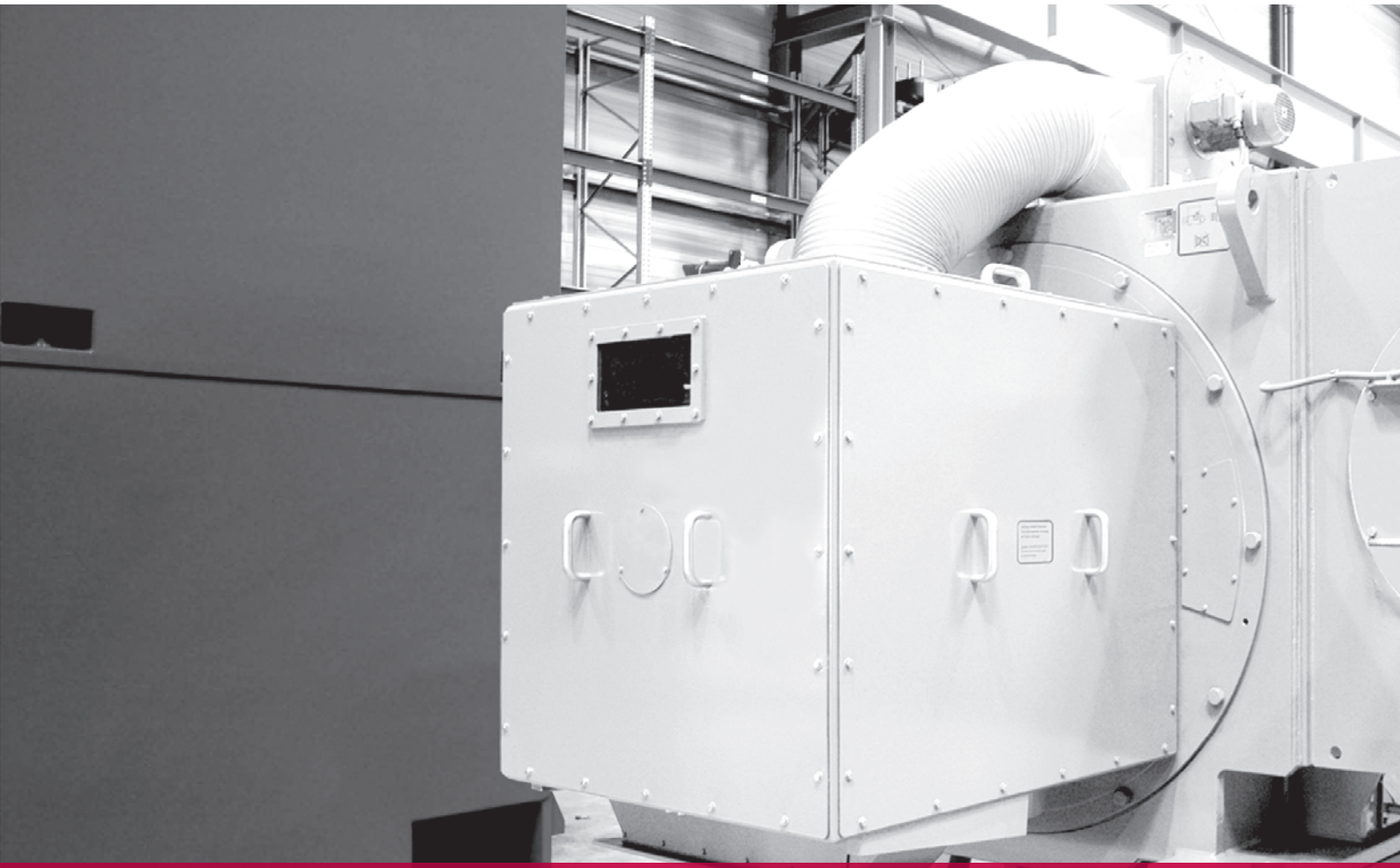
OFFSHORE WIND TURBINES

Number one for offshore solutions:
VEM wind power generators
Brake motors for yaw and pitch drives

SENSE EXPERIENCE
EXPERIENCE VISION

VEM

VEM – the pioneer

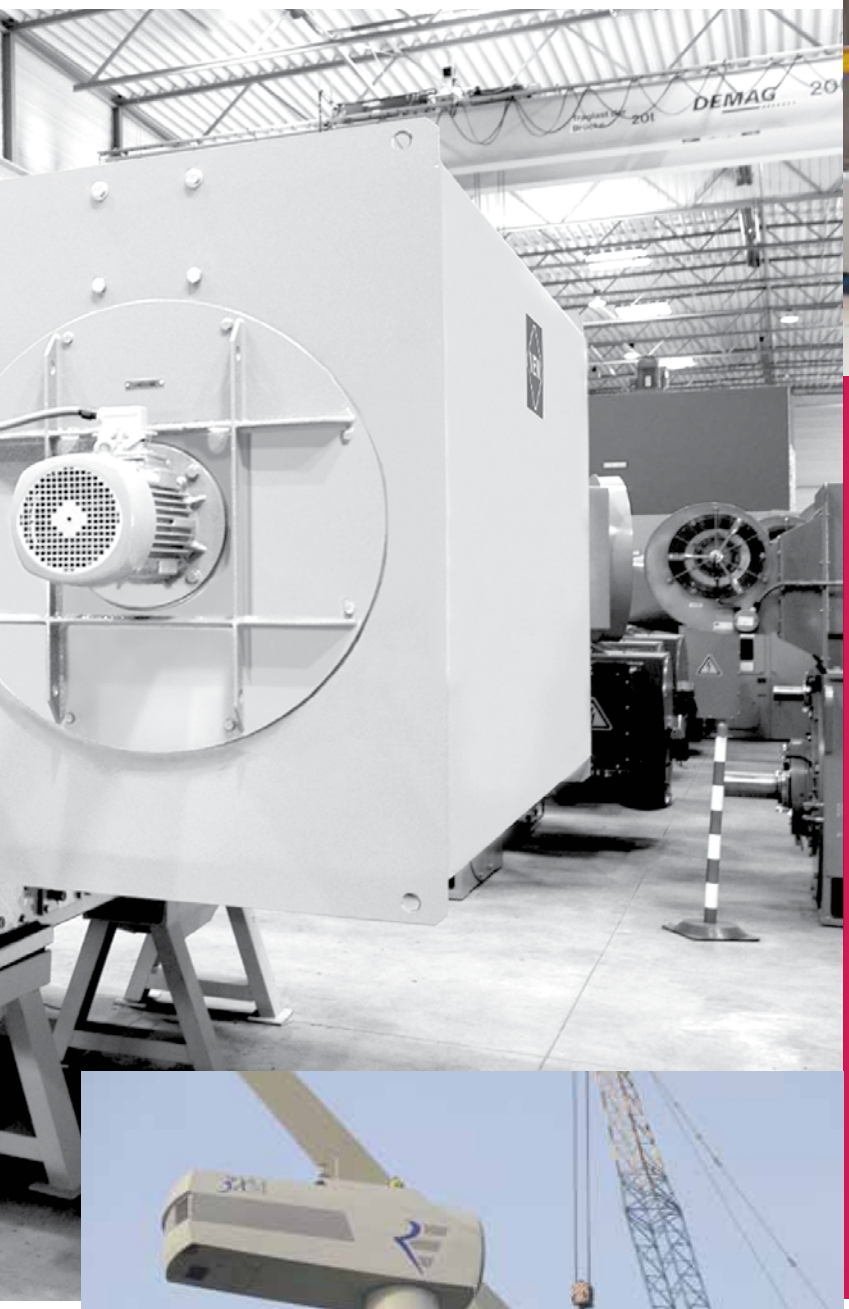


Visionary but already reality: Offshore wind turbines. They bring us a significant step closer to solution of our global energy problems. The erection and operation of these colossal installations out in the open sea calls for careful planning, stamina and above all **engineering mastery**. When it comes to high-performance wind power generators, VEM holds **pole position** in the line-up of manufacturers of electric motors.

The overwhelming majority of the high-power **offshore wind turbines** currently operating worldwide incorporate generators from VEM. A similar **pioneering** role is assumed with regard to expansion of the output range. The Dresden VEM factory has been manufacturing wind power generators for many years – with outputs from 1.5 MW to **7 MW**. These double-fed high-speed asynchronous and synchronous machines are also suitable for use in high-voltage applications.

As a **full-liner** for drive machines, VEM also supplies **low-voltage machines** for use on wind turbines. As auxiliary drives, they deliver reliable service under even the harshest of ambient conditions. Such three-phase asynchronous brake motors are in proven use as setting drives for **pitch and yaw control systems**. Further products for the wind power segment include low-voltage machines for oil circulation, hydraulic and cooling systems.

Powerful presence



Manufacturing of wind power generators
at VEM Sachsenwerk

The arguments for VEM and its wind power generators:

- High vertical range of manufacture, as the prerequisite for fast and flexible response to customer wishes
- Tailored for particular local conditions
- Load and bearing lifetime ratings in compliance with Germanischer Lloyd, TÜV
- Optimum efficiency, also in partial load range, and low-noise machine operation
- Dimensions adapted to the specific nacelle design with 3D CAD system
- Consistently high insulation resistance of the form-wound coil
- Stainless steel slip rings
- Rotor winding designed for high rates of voltage rise in converter operation

Erection of an offshore wind turbine

Sectional view of the nacelle of a wind turbine

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