



# DRIVE SYSTEMS FOR WIND TURBINES

High reliability on performances  
and safety components

**LEROY-SOMER™**

***Nidec***  
All for dreams

# Know-how & Expertise

## Leroy-Somer part of NIDEC, a world specialist in generators and drive systems

Leroy-Somer is a recognized expert in the design and production of wind turbine generators up to 5 MW, and a major player in the design and manufacturing of orientation systems.

Combining know-how and wealth of experience Leroy-Somer increases regularly its market shares in special application drive systems for wind turbine auxiliary equipment.

Deep involvement of the R&D departments results in innovative and reliable solutions meeting the requirements of this demanding sector.

With industrial sites in Europe, North and South America and Asia, Leroy-Somer is well established in high-growth markets to support its customers' international development.

With the strength of its 7,300 employees behind it, the company has set up an international network of 40 expertise centres capable of providing sales and technical support throughout the world.



## Reliability and long-lasting service life

**The reliability of Leroy-Somer solutions is due to proven and tested construction choices, including:**

- Balancing classes that significantly reduce internal vibrations
- Electrical and mechanical sizing incorporating a thermal reserve to increase the service life of windings
- Special surface treatments for increased resistance to harsh environments
- Very high degree of concentricity of the bearing unit to increase the service life of the bearings
- High-efficiency solutions that reduce the temperature rise in the motors and increase their service life

## Proven technologies

To meet the expectations of manufacturers, operators and engineers, Leroy-Somer is at the forefront of fixed or variable speed drive technologies.

Leroy-Somer solutions guarantee optimum torque performance, fully matching application requirements.

The electrical and mechanical dimensioning of auxiliary drive systems allow machines to be installed in confined spaces.

Permanent magnet drive system solutions, integration of control electronics, and the choice of liquid cooling are alternatives to push forward compactness.

# TRIED AND TESTED DRIVE SYSTEMS



## “Pitch”: orientation of the blades

- *Motors for hydraulic power units*
- *Brake motors for mechanical drive*



## Lubrication

- *Oil pump motors for lubrication of the gearbox*
- *Fixed or variable speed drive*



## Ventilation of the nacelle

- *Motors and fans for air treatment or temperature control*





## Cooling

- Fan motor for generator cooling circuit
- Fixed or variable speed drive



## Fixed speed motors

- High efficiency
- Single or dual speed, ventilated or non-ventilated
- High specific output power solutions
- Reduced risks of condensation
- Increased corrosion resistance



## Integrated variable speed motors

- Torque control and stability at low speed
- Energy saving
- Electronics integrated with the motor
- 50/60 Hz universal solution
- Electronics moulded in resin



## Brake motors

- Motor technology suited to the transient phases generated by the orientation movement
- Choice of braking torque and brake inertia for protecting the orientation mechanics
- Increased corrosion resistance
- Adapted for different power supply voltages



## “Yaw”: orientation of the nacelle

- Brake motor for the nacelle orientation movement



# Worldwide presence

## Extensive worldwide presence for the benefit of all our customers

Through our integrated organisation and our 7300 employees, our global presence is assured. Our technical assistance services and local services comprise:



### 27 industrial sites

Producing complete ranges of high quality products, optimised for the requirements of specific industries.



### 40 centres of expertise

Offering an excellent customer assistance service for any product, any automation solution or any request for service.



### 8 engineering and design platforms

Developing market-leading products and sets of functionalities using the latest cutting-edge techniques.



### 3 regional dispatch centres

Guaranteeing rapid delivery of our products..





**100 years** of industrial experience  
Large installed base  
Experts in **electrical rotating machines**  
Comprehensive **range of power**  
**Dedicated team** aiming at your satisfaction  
No compromise on **quality**

**LEROY-SOMER**<sup>™</sup>

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