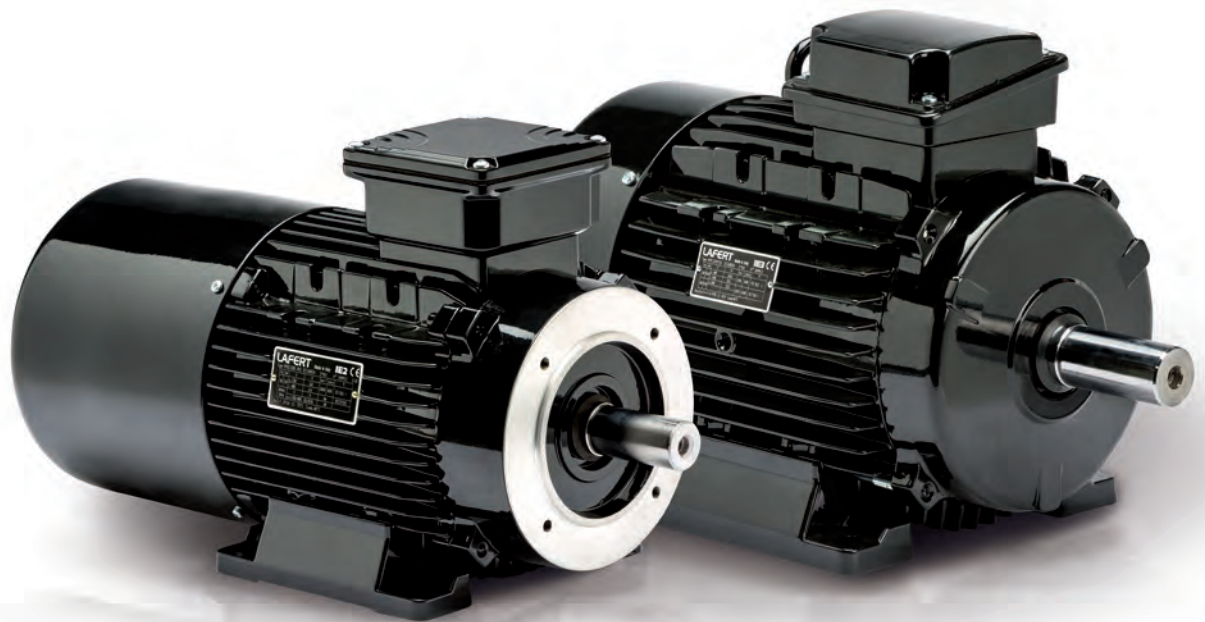


# SOLUTIONS FOR THE GLOBAL WIND INDUSTRY



BROCHURE 2018





# WORLD LEADING MOTOR SUPPLIER FOR THE WIND INDUSTRY

The offshore and onshore wind turbine business fits perfectly into the Lafert Group portfolio of industry sectors due to the experiences gained in over 50 years of specialist application motor production.

Focusing on the areas of Industrial Automation, Energy saving and Wind Industry, Lafert is the preferred partner for many of the world leaders in the Wind Industry with motors installed in more than 20,000 nacelles on turbine installations worldwide.

The strong focus on quality and lifetime reliability, combined with the challenge of continuous improvements in motor efficiencies puts Lafert in a strong position as the partner of choice.

The motor range includes:

- AC and PM motors designed specifically for Wind Industry applications with an efficiency level IE2-IE3-IE4-IE5;
- Single speed and two speed AC motors;
- Dedicated multispeed PM motors controlled by a frequency converter;
- Brake motors with AC or DC brake;
- Mechanical and electrical adaptations to specific applications;
- Mechanical components and paint systems delivering high corrosion protection for offshore environment.

Lafert can offer, where there is a strong focus on efficiency and weight, IE4-IE5 PM motor technology, in general PM motors are half the weight of AC motors of a similar power/size.

Mechanical components and paint systems have been tested thoroughly with an in-house life cycle climatic chamber test system for arduous environments to a point that we have exceeded our customers expectations in many areas.

This combined with the ability to friction weld motor shafts with magnetic and stainless steel materials mean that corrosion of critical components really can be a concern of the past.

Especially for the offshore applications, Lafert can achieve a corrosive category of up to C5-M(H) which means that our corrosion protection system meets the highest requirements for protection of water condensation and neutral salt spray as defined in DS/EN ISO 12944.

Lafert focuses on many motor applications within the Wind Industry; but especially:

- Yaw and Pitch drive
- Oil hydraulic and power pack
- Pumps and ventilation
- Service or person lift.

## MOTORS' DEDICATED DESIGN

- Reliable, robust and high quality
- Mechanical components and paint systems tested for severe environments
- High corrosion protection level for offshore environment (ISO 12944)
- Specific motor internal protection (moisture-proof varnish)
- Specific wire insulation design for high voltage

CORROSIVITY CATEGORY as defined in DS/EN ISO 12944	DURABILITY RANGES	DS/EN ISO 6270 (water condensation) Hours	EN ISO 9227 (neutral salt spray) Hours
C3	Low (L)	48	120
	Medium (M)	120	240
	High (H)	240	480
C4	Low (L)	120	240
	Medium (M)	240	480
	High (H)	480	720
C5-M	Low (L)	240	480
	Medium (M)	480	720
	High (H)	720	1440



### **YAW BRAKE MOTORS**

In order to generate a maximum amount of energy from wind, the optimal orientation and the positioning of the nacelle are of a fundamental importance.

The **Yaw Drive** mechanism require reliable and efficient components.

- **Brake Motors** size 100 to 132, depending on needed brake torque and system design (2 to 6 poles depending on application and technical specifications).
- Soft start based on a dedicated winding design, to secure long lifetime of the Yaw gear.
- AC or DC brake with a dedicated corrosion protection thanks to stainless steel brake disks.

### **PITCH CONTROL MOTORS**

**Pitch Control Motors** have the primary purpose of set wind turbine blades at the best angle to the wind.

- Strong **AC Motor range** that includes possibilities for customisation to meet specific application needs.
- Compact high performance **PM Servo Motors** optimized by size/output, in IE4 or IE5; PM Motors can be in IEC housing and are half the weight of AC Motors of a similar power/size.
- Specifically designed for harsh environment in the hub/Nacelle, with special attention to vibration and temperature level.

### **HYDRAULIC PUMPS AND VENTILATION**

Different applications in the Nacelle system require driving and control of hydraulic pumps for on board motorizations (for example pitch positioning) and cooling/ lubrication liquid.

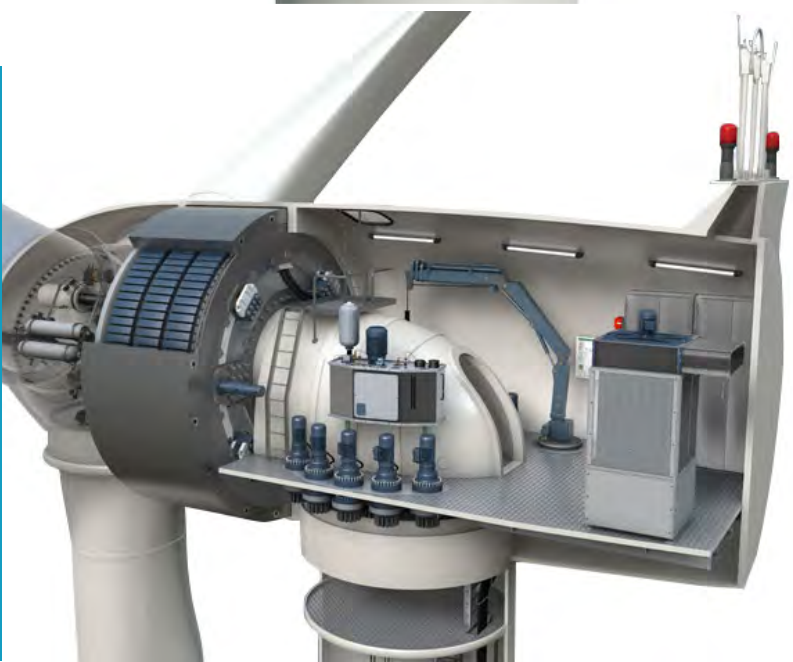
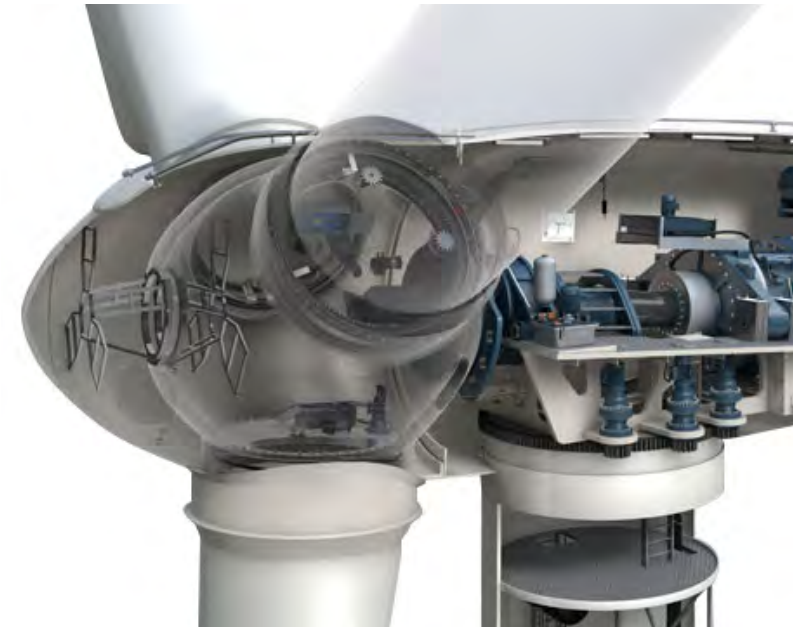
- **Cooler Motors** 0.37 to 15kW with strong customisation of the motor components such as shaft, flange or electrical design according to Wind Sector technical features.
- **Hydraulic Pump Motors** with output up to 37kW and possible use of two speed motors.

These installations often operate in harsh environments and this demands guaranteed quality on special finishes and anti-corrosion treatments.

### **LIFT MOTORS**

Laferet can offer different solutions for **service and persons lift**.

- **Brake Motors**, 1.5 to 3kW, produced according to specific Wind Turbine rules.
- **Small Brake Motors**, 0.37 to 2.2kW, single or two speed.



**Lafert S.p.A.**

Via J. F. Kennedy, 43  
I-30027 San Donà di Piave (Venice), Italy  
Tel. +39 / 0421 229 611 | Fax +39 / 0421 222 908  
info.lafert@lafert.com

1=1

[www.lafert.com](http://www.lafert.com)**Branches & Partners****Lafert GmbH**

Wolf-Hirth-Straße 10  
D-71034 Böblingen  
Germany  
Phone +49 175 550 4526  
lafert.germany@lafert.com

**Lafert Electric Motors Ltd.**

Unit 17 Orion Way  
Crewe, Cheshire CW1 6NG  
United Kingdom  
Phone +44 / (0) 1270 270 022  
Fax +44 / (0) 1270 270 023  
lafertuk@lafert.com

**Lafert Moteurs S.A.S.**

L'Isle d'Abeau Parc de Chesnes  
75, rue de Malacombe  
F - 38070 St. Quentin-Fallavier France  
Phone +33 / 474 95 41 01  
Fax +33 / 474 94 52 28  
info.lafertmoteurs@lafert.com

**Lafert Motores Eléctricos, S.L.**

Polígono Pignatelli, Nave 27  
E - 50410 Cuarte de Huerva  
(Zaragoza) - Spain  
Phone +34 / 976 503 822  
Fax +34 / 976 504 199  
info@lafert.es

**Lafert N.A. (North America)**

5620 Kennedy Road - Mississauga  
Ontario L4Z 2A9 - Canada  
Phone +1 / 800/661 6413 - 905/629 1939  
Fax +1 / 905/629 2852  
sales@lafertna.com

**Lafert Electric Motors (Australia)**

Factory 3, 117-123 Abbott Road,  
Hallam - VIC 3803 - Australia  
Phone +61 / (0)3 95 46 75 15  
Fax +61 / (0)3 95 47 93 96  
info@lafertaust.com.au

**Lafert Singapore Pte Ltd**

48 Hillview Terrace #02-08  
Hillview Building - Singapore 669269  
Phone +65 / 67630400 - 67620400  
Fax +65 / 67630600  
info@lafert.com.sg

**Lafert (Suzhou) Co., Ltd.**

No.3 Industrial Plant Building Yue Xi Phase 3,  
Tian E Dang Lu 2011, 15104 Wu Zhong  
Economic Development Zone, Suzhou, China  
Phone +86 / 512 6687 0618  
Fax +86 / 512 6687 0718  
info.lafertsuzhou@lafert.com

