



Equipment for Wind Power Applications

# Wind Energy



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PROVEN QUALITY. LEADING TECHNOLOGY.



## Graco Solutions for the Global Wind Energy Market



As the wind energy market grows, Graco is ready to support you with innovative equipment that will help you meet productivity demands.

As a world leader in fluid handling systems, Graco offers complete packages for wind energy manufacturing applications including equipment for:

- **Spraying protective coatings on towers**
- **Manufacturing rotor blades**
  - Resin infusion process to manufacture rotor blades
  - Gelcoat surface coating equipment
  - Adhesive bonding of rotor blades
  - Adhesive dispensing for blade repair
  - Foam dispensing into rotor blades and housings
- **Automatically lubricating**
  - Manufacturing machine tools
  - Blade pitch bearings
  - Main shaft bearings
  - Yaw axis gears
  - Generators
  - Gearboxes



## A Network of Support for the Wind Energy Market



### Global support

With infrastructure throughout the world, your company will benefit from Graco's knowledgeable, global network of professionals.

### Proven track record

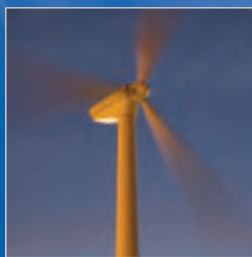
Graco has close working relationships with many of the world's leading manufacturers and material suppliers serving the wind energy market. With Graco, you can expect responsive service and support, as well as the accuracy and reliability you demand from your manufacturing equipment.

### Global distribution

With more than 30,000 distributors worldwide, you can count on quick turnaround times for replacement parts and service. With Graco's authorized distributors, you have access to experts who understand the unique needs of your business.

### Global manufacturing

- Minneapolis, Minnesota USA
- Rogers, Minnesota USA
- Anoka, Minnesota USA
- Sioux Falls, South Dakota USA
- North Canton, Ohio USA
- Suzhou, China
- Maasmechelen, Belgium





## Innovative Solutions that Help Shape Your Future



### **Innovation**

Because we invest heavily in research and engineering, you get innovations and technologies that will increase your production capacity.

### **Built for performance**

You'll discover that our equipment is designed to streamline your operation and maximize uptime. In addition, Graco equipment is built with precision machined components for longer life and reliability.

### **Build your bottom line by:**

- Maximizing your plant's production capacity
- Reducing rework due to better, more reliable equipment performance
- Saving labor costs and training time with easy-to-use, intuitive user controls
- Taking charge of your fluid inventory and managing your quality control
  - Keeping your in-plant and in-the-field machinery lubricated and running at peak performance
  - Minimizing material consumption while maximizing machinery efficiency



### **Choose Graco**

From blade manufacturing to tower painting to lubrication solutions, Graco is your source for durable, reliable fluid handling systems required for manufacturing the highest-quality wind power components. Depend on Graco for long-lasting, reliable performance.



## Rotor Blade Manufacturing Equipment

### Graco® DC12 High-Volume Adhesive Dispensing System

- Dispenses high-viscosity adhesives for blade, platform and root bonding applications
- Delivers flow rates up to 26 lb (12 kg) per minute—for faster processing
- Precision, positive displacement metering pumps achieve superior dispensing accuracy
- Optional ratio and flow rate monitoring with data collection for quality assurance

### GlasCraft® Gelcoat System

- Gelcoat spray system for production or repair applications
- Dispenses polyester and vinyl ester based coatings
- Infinite adjustment of catalyst ratio—no tools required
- Provides high-efficiency performance at low spraying pressures
- Available in internal and external mix configurations

### GlasCraft Resin Transfer Molding (RTM) Systems

- For low-pressure injection of polyester and vinyl ester resin
- Features the Accu-Pressure sensor, which eliminates the problem of over-pressuring the mold
- Recirculation function keeps materials mixed and eliminates wasted material
- Dispenses 2.5 gpm (9.5 lpm) of material
- Advanced programmable logic controller optimizes productivity and process management

### Graco PR70 Two-Component Dispensing System

- Portable tabletop dispensing system for blade repair applications
- Two-component dispensing without solvent flush and disposal
- Proven ratio accuracy to +/- 1 percent
- High-to-low-viscosity materials dispensed on demand

### Graco DL High-Volume Rotary Metering System

- Resin metering system for vacuum infusion processes
- Controlled resin output for varying demand throughout the infusion process
- Real time flow rate and ratio verification
- Low maintenance AC gear

### Graco HFR Metering System™

- Hydraulic fixed ratio polyurethane processing equipment
- High-performance precision metering for carbon fiber wound blades
- Fully configurable, modular design
- Dispenses foam inside the housings for noise dampening
- Dispenses foam inside blades for additional structural integrity
- For rates up to 50 lb/min (23 kg/min)





## Tower Painting Equipment

### Graco Xtreme® Series Sprayers

- Handles the toughest protective coatings and corrosion control materials
- Provides material tracking, system diagnostics and runaway control
- Tested to outperform and outlast other sprayers in the market

### Graco XM Series Protective Coatings Equipment

- Handles the toughest plural-component materials
- Ratio assurance system prevents off-ratio proportioning
- Easy-to-use controls shorten training and startup time
- Data reporting verifies that materials were correctly proportioned

## In-Plant and Turbine Lubrication Equipment

### Graco Automatic Lubrication Systems

- Dispenses precise amounts of lubricant at specific intervals to your critical bearing points, eliminating waste and extending equipment life
- A wide range of grease and oil pumps to meet your specific performance needs and input power requirements
- Precision engineered metering solutions with positive feedback ensures that all bearings get properly lubricated

### Graco Lubrication Dispense Equipment

- Efficiently transfers, uploads and evacuates bulk oil and grease
- Accurately meters and dispenses a wide range of grease, oil, anti-freeze and hydraulic fluids
- Durable hose reels improve workflow and are ideal for maintenance and production



For more information, call 877-844-7226 or email [info@graco.com](mailto:info@graco.com)





Graco Inc. and Subsidiaries  
Worldwide Headquarters  
88-11th Avenue N.E.  
Minneapolis, MN 55413  
[www.graco.com](http://www.graco.com)

For more information, call 877-844-7226 or email [info@graco.com](mailto:info@graco.com)

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