



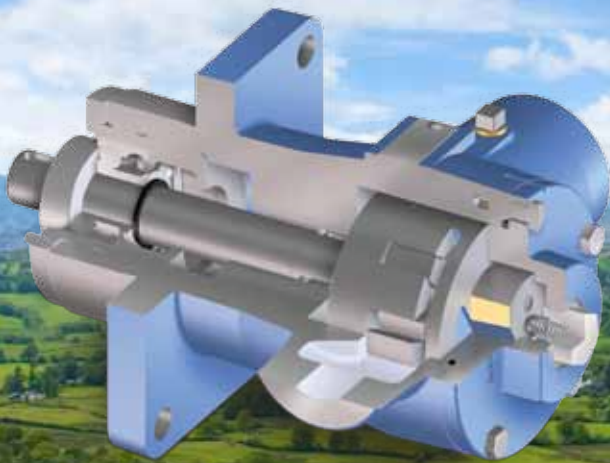
WIND POWER LUBRICATION PUMPS

- **Maximum reliability in any climate**
- **Gearbox-drive with flow in one direction, regardless of shaft rotation**
- **Motor drive or hydraulic drive options**

Experience Shows • Innovation Flows

VIKING PUMP

A UNIT OF **IDEX** CORPORATION



Internal Gear Pump

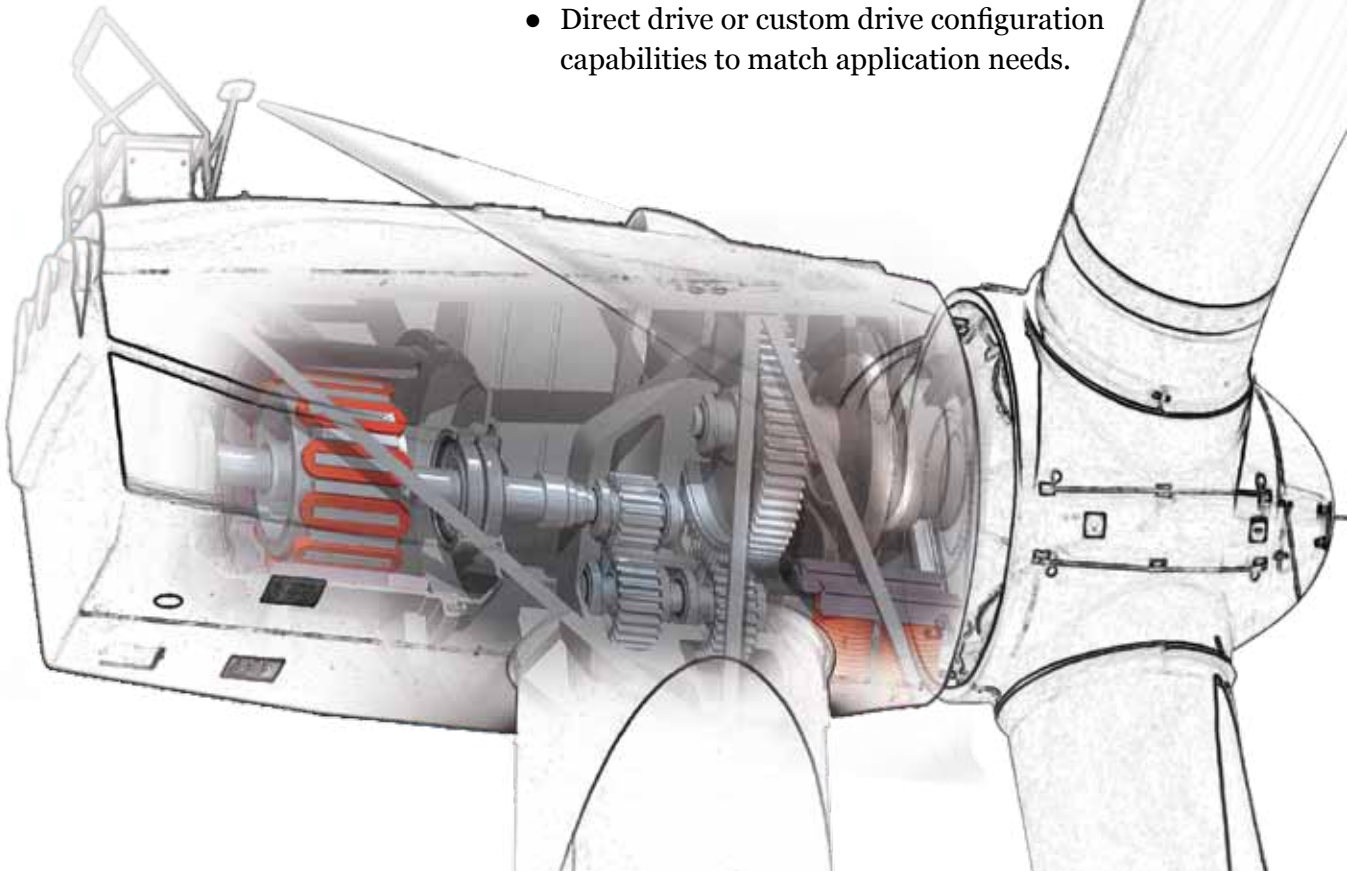


Spur Gear External Gear Pump

OUR EXPERIENCE SHOWS IN...

Service to the Global Wind Power Industry

- Viking Pump has thousands of gearbox lubrication pumps installed in established wind turbine applications.
- High reliability in even the most extreme climate conditions.
- Lubrication pumps designed with 20+ year economic life ensure sustained reliability and minimize maintenance.
- Lower life cycle costs minimize investment.
- Unsurpassed durability and performance standards in a positive displacement pump.
- Direct drive or custom drive configuration capabilities to match application needs.





Gerotor Internal Gear Pump

Custom Applications

Problem-Solving Innovation

Viking has developed products by leveraging the spectrum of options that come with owning vertically integrated foundries, machining, assembly and R & D labs with documented quality manufacturing processes. Our customer relationships are true partnerships. We have accomplished more together than we could on our own.

Spectrum of options include:

- Many pump technologies to meet the application needs
- Broad capacity range
- Pressures to >35 BAR (500 PSI)
- Temperature ranges from -84°C to 370°C (-120°F to 700°F)
- Sealing solutions to prevent leakage
- Porting flexibility
- Reversing capability
- Displacement options to meet application specifications

Viking® Provides Proven, Reliable Wind Power Lubrication Pump.

A prominent wind turbine manufacturer needed a direct drive lube pump designed to lubricate the turbine when driven either direction. They also required special porting requirements. Existing smaller turbine design required two lube oil pumps: one directly driven off the gearbox with one direction flow and a second electric driven pump to lube when the turbine back milled.

Viking used a catalog pump as the starting element for the lube pump. Then a reversing head and a helical gear direct drive arrangement was designed to provide one-directional flow inside a custom housing with a face ported inlet and NPT outlet.

Customer Benefit:

Pump design matched to the application provides increased



reliability and simplified installation. Reduced maintenance requirements/costs achieved per unit through elimination of one pump and one electric motor.



A Unit of IDEX Corporation

Leader in Positive Displacement Pumping Solutions.

Innovation and Experience

Viking Pump has been a pump industry leader and innovator since its founding in 1911. We continue to build on our ever growing experience delivering innovative new pumping solutions, including custom designs, to thousands of customers who use Viking pumps in some of the world's toughest applications.

Broad Performance Range

Capacity:

0.5 to 360 M³/Hr (0.1 to 1,600 GPM)

Pressure:

0 to 172 Bar (0 to 2,500 PSI)

Temperature:

-84°C to 370°C (-120°F to 700°F)

Viscosity:

0.5 to 1,000,000 cSt (28 to 4,500,000 SSU)

Ultimate in Sealing Solutions

Viking's offering of packing, component mechanical seals, cartridge seals and sealless Mag Drive technology provides the best choices for sealing flexibility needed to provide your application a customized sealing solution every time - saving you money, time and unplanned downtime.

Material Options Matched to Application

Viking's dedicated iron and alloys foundries provide pump construction materials from cast iron to Alloy C. Application-specific materials of construction extend a pump's life significantly, while reducing maintenance and unplanned downtime, enabling increased production and a better bottom line.

Liquid Integrity Protection

Viking has developed multiple positive displacement pump principles to protect shear-sensitive liquids, and low-shear options to prevent damage to fibers, polymers and solids. Full-jacketing options provide precise temperature control throughout the pump. The Viking Mag Drive[®] and other seal options prevent fluid contact with air, assuring liquid integrity.

Local Applications and Engineering Support

Over 245 Authorized Viking Pump Distributors in 68 countries provide local application support and service. They are backed by Viking Application Engineers and Viking Region Managers strategically located around the world.

Quality Manufacturing

Viking uses ISO9001-2008, Six-Sigma, and Lean/Kaizen in its worldwide manufacturing and assembly processes to remove waste, reduce development costs, and deliver superior products. Dedicated Viking foundries and manufacturing facilities utilize state-of-the-art CNC equipment to assure unmatched quality is built into every pump.

Custom Designed Solutions

Viking has provided custom designed pumps to end-users and OEMs since its first pump in 1911, when Viking invented the gear-within-a-gear pumping principle to remove water from a rock quarry. Today, enabled by Viking's engineering staff, extensive applications experience and in-house foundries, more than 20% of Viking's sales are new designs or pump designs derived from one of our 40,000 active configurations. Whether you are an end-user or an OEM, Viking can provide custom designed pumping solutions to meet your specific needs.



For more information, contact your local Authorized Viking Pump Distributor or contact Viking at:

VIKING PUMP, INC.

A Unit of IDEX Corporation
406 State Street
Cedar Falls, Iowa 50613-0008 U.S.A.
Telephone: (319) 266-1741
Fax: (319) 273-8157
E-mail: info.viking@idexcorp.com
Web site: www.vikingpump.com

CANADA

Windsor, Ontario
Phone: (519) 256-5438
Fax: (519) 256-5070
www.vikingpumpcanada.com

EUROPE

Shannon, Ireland
Phone: +353 (61) 471933
Fax: +353 (61) 475046
www.vikingpump.com

LATIN AMERICA

Mexico D.F., C.P.
Phone: +52 (55) 5255-1357
Fax: +52 (55) 5255-1356

Brazil - Sao Paulo
Phone: +55 (19) 3871-3500
Fax: +55 (19) 3871-6400

ASIA-PACIFIC GROUP

Singapore
Phone: +65-6763-6633
Fax: +65-6764-4020
www.idexfmt-asia.com

China - Shanghai
Phone: +86-21-5241-5599
Fax: +86-21-5241-8339
www.idexfmt-asia.com

China - Beijing
Phone: +86-10-6566-9090
Fax: +86-10-6567-5152
www.idexfmt-asia.com

China - Guangzhou
Phone: +86-20-3886-6156
Fax: +86-20-3886-2776
www.idexfmt-asia.com

India - Mumbai
Phone: +91-22-66780049/53
Fax: +91-9820334270
www.idexfmt-asia.com

ASIA-PACIFIC GROUP

China - Chengdu
Phone: +86-28-86767458
Fax: +86-28-86767468
www.idexfmt-asia.com

China - Suzhou
Phone: +86-512-62833000
Fax: +86-512-62833010
www.idexfmt-asia.com

Korea - Seoul
Phone: +82-19-9134-1110
Fax: +82-2-556-0788
www.idexfmt-asia.com

Australia & New Zealand
Phone: +61 0 4577 4534
Fax: +61 0 448 480 640
www.idexfmt-asia.com

MIDDLE EAST
IDEX Middle East FZE
Dubai, UAE
Phone: +971-4-299-1095/1097
Fax: +971-4-299-1069
www.idexfmt-asia.com