

VIKING PUMP

A Unit of IDEX Corporation

Viking® OEM Custom Solutions

*When nothing is standard about your application,
Viking sets the standard with customer specific
pump designs to solve unique fluidic challenges.*

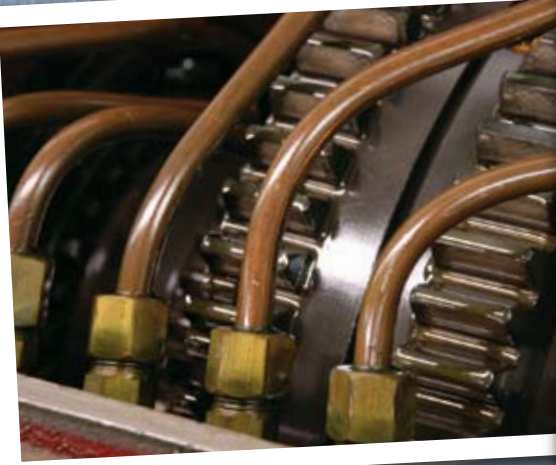


- Pump principle or system customized to match application need
- Built to your specifications
- Vertically integrated foundries from casting to machining to final assembly
- Global manufacturing and sourcing



Pump Principles Available: 5
Capacity to 360 M³/Hr (1,600 GPM)
Pressure to 172 Bar (2,500 PSI)
Viscosity to 1,000,000 cSt (to 4,500,000 SSU)
Temperature -68°C to +400°C (-90°F to +750°F)

IDEX
CORPORATION



Let Viking® OEM pumps give your products a competitive advantage.

Trying to succeed in today's competitive marketplace with standardized pumps puts your products at a distinct disadvantage.

Even though we catalog more than 1,000 different Viking pumps with more than 40,000 active designs, a large percent of our sales are custom-designed pumps. The reason is simple: *Viking is the premier provider in pumping technology.* We know how to analyze your needs and develop the right solution. Delivering the best pump for your application with one-of-a-kind performance is what we do best.

Viking Pump's dedicated engineering group can create new components or modify one of our existing catalog designs from the industry's broadest range of pumps. Our captive, vertically integrated foundries and manufacturing facilities allow us to go from concept to prototype or final assembled pumps, significantly reducing development and production time.

Designed to spec. Built for enhanced reliability.

Whether you're developing a new product or reengineering an existing one, specing the proper pump is a critical step.

- A pump that can't perform up to specifications can ruin your reputation for years to come.
- A pump that's over engineered adds unnecessary cost, putting you at a distinct disadvantage in the marketplace.
- A pump that's poorly built can be extremely costly in terms of service repairs and brand reputation.

So, give us that one mission critical dimension, flow, pressure, viscosity, temperature requirement, or mounting feature - then let the premier pump provider in the industry team with your engineers to design the

Spectrum of Options to Help Reduce Your Life Cycle Costs.

Pump Technologies

To most efficiently move your liquid, Viking offers these positive-displacement pump types:

- Internal gear
- External gear
- Rotary lobe
- Rotary vane
- Gerotor

Sealing Solutions

To combat the single most common cause of downtime and keep your pumps running, Viking offers these sealing options:

- Packing
- Lip seals
- Single mechanical seals
- Double mechanical seals
- Triple lip seals
- Cartridge seals
- Sealless Mag Drive

Chemical Compatibility

To handle chemically active fluids, Viking offers various alloys, composites, and elastomers, including:

- 316 stainless steel
- 316 K stainless steel
- 316 Ti stainless steel
- Alloy C
- Alloy 20
- Monel
- Bronze
- ETFE
- Ryton
- PTFE
- Other elastomers available

Universal Seal Series Industrial-Duty Pumps Offering Design Flexibility and Easy-Maintenance

CAPACITY:
to 360 M³/Hr (1,600 GPM)
PRESSURE:
to 14 BAR (200 PSI)
VISCOSITY:
to 1,000,000 cSt (>4,500,000 SSU)
TEMPERATURE:
-84°C to +400°C (-120°F to +750°F)



necessary new components or prototype pump without extensive or expensive delays. Comprehensive statistical process control programs ensure quality standards during all phases of design, development, and manufacturing.

We will leverage our arsenal of application knowledge, engineering expertise and capabilities to solve your pumping problem.

Let Viking® ensure that your product outperforms the competition on the job and in the marketplace using our:

- **Extensive experience.** Backed by nearly 100 years of fluid handling experience in thousands of applications with a wide variety of operating conditions, Viking OEM Pumps are built for the toughest fluid handling problem – yours. With over 8 million applied pumps, Viking’s reliability, performance, and cost-efficiency is second to none.
- **Dedicated customer support.** Any company worth its weight knows success has just as much to do with the support after the sale as the sale itself. Your Viking pump is supported by a field team of OEM regional managers and factory-certified staff, all with direct access to our fully staffed engineering department. We can reduce your cost of ownership and free up storage areas with our just-in-time (JIT) delivery capabilities. In order to reduce the number of SKU’s and provide you greater inventory control, your pumps are available as complete units with motors. You will find that when it comes to service, there’s not much your dedicated Viking OEM Team can’t do.
- **Manufacturing capabilities.** We use ISO9001-2000, Six-Sigma, and Lean/Kaizen in our documented quality manufacturing processes as the catalyst to remove waste, reducing development costs to deliver superior products on schedule. Dedicated, vertically integrated Viking foundries produce everything from steel to Alloy C to Alloy 20 for use in our state-of-the-art machining equipment. Unmatched in the industry, these quality controls are built into every craftsman-assembled pump coming off our production lines.



Heavy Duty High Speed Compact, Heavy-Duty Pumps for Clean, Less Viscous Liquids

- CAPACITY:**
to 17 M³/Hr (75 GPM)
- PRESSURE:**
to 17 BAR (250 PSI)
- VISCOSITY:**
to 5,500 cSt (25,000 SSU)
- TEMPERATURE:**
to +177°C (to +350°F)



Abrasion Resistance

To combat the effects of abrasives, Viking offers a variety of hard materials for various parts, including:

- Tungsten carbide
- Silicon carbide
- Ceramic
- Hardened iron, steel, and stainless steel
- Various hard coatings
- Composites

Port Selection

To accommodate various piping setups, Viking’s heavy-duty pumps offer a variety of port orientation and configuration options, including:

- 90° and 180° ports
- Tapped ports
- ANSI, DIN, JIS and SAE compatible flanges
- Flat and raised face flanges
- Oversized ports
- Top, bottom, side, or completely custom porting for suction and discharge

Accessories

To complete your pump system, Viking offers accessories, including:

- Power load monitors
- Lid-Ease® strainers
- Duplex fuel oil sets
- Gear reducers – helical offset and in-line
- Drive selections

There's nothing standard about your application or our solution.

Our OEM team is trained and experienced in meeting unique needs with unique solutions.

Just tell your Viking® OEM customer service representative what you're trying to accomplish. What do you want to pump? At what rate? Are there dimensional restraints? How will you drive the pump? Are there special needs, such as filtering and load monitoring?

Don't worry about knowing all the details. Your Viking expert has the knowledge and experience to get to the heart of your needs and work with you to design the best solution.

Viking's database of fluid dynamics and characteristics includes details on more than 1,400 liquids. If yours is not among them, we'll be glad to test and design a pump for moving it.

Is there an existing Viking pump that can economically meet your needs? Is your need so innovative that it's never been done before? We have nearly 100 years of experience and over 40,000 catalog pumps to pull from when designing a cost-effective solution for your pumping challenge.

Can an existing Viking pump design be modified to meet your needs? It's one of the things we do best with the help of our dedicated engineering, vertically integrated foundries, and manufacturing facilities.

Advanced equipment in our research and development lab can predict the performance of your OEM pumps based on your operating conditions. Routine tests include: absorptions spectrophotometry, direct carbon analyzing, pyrometric immersion, NPSH, noise, vibration, viscosity, shear-sensitivity, hydrostatic, and durability testing.

Our extensive and exhaustive testing is your assurance that your Viking OEM pumps will perform in the field to your standards from day one and beyond.

Viking OEM Pumps In Action - Problem Solved!

Customer Industry

Renewable Energy

Customer Problem

A prominent wind turbine manufacturer needed a direct drive lube pump designed to lubricate the turbine when driven either direction and had 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 OEM Solution

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

Customer Benefit

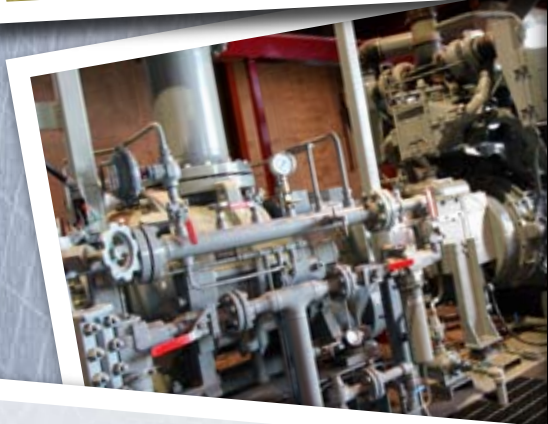
Pump design matched to the application provides increased reliability and simplified installation. Reduced maintenance requirements/costs achieved per unit through elimination of one pump and one electric motor.

Customer Industry

Transportation

Customer Problem

A locomotive manufacturer had serious reliability issues with their engine driven main lube pump. A replacement design had to fit the existing pump's envelope, match porting and mounting dimensions. Application called for 122 M³/Hr (530 GPM) at 9 BAR (125 PSI) of lube oil and be direct drive through the diesel engine at 1275 RPM.



Mag Drive Spur Gear
Sealless, High Pressure
Pumps for Precise Flow

CAPACITY:
to 45 M³/Hr (200 GPM) - Spur Gear
to 7.2 M³/Hr (32 GPM) - Spur Gear Mag Drive

PRESSURE:
to 172 BAR (2,500 PSI)

VISCOSITY:
to 216,000 cSt (1,000,000 SSU)

TEMPERATURE:
-40°C to +232°C (-40°F to +450°F)



Spur Gear
High Pressure Pumps
for Precise Flow

Viking® positive-displacement pumps are meeting the most demanding needs in the world for industrial fluid handling through:

- Smooth, near-laminar flow minimizing friction loss and cavitations
- Self-priming design capable of pulling a suction lift
- Sealless Mag-Drive internal gear models provide the highest level of liquid containment.
- Relatively constant output, regardless of changes in pressure, makes them ideal for metering applications.
- Flow proportional to speed and reversible (most models) for same-pump loading and unloading.

Here are just a few examples of applications where Viking pumps delivered proven solutions:

- Thin to semi-solids – solvent to caulking compounds
- Cryogenic to molten – liquefied gases to molten sulfur
- Inert to corrosive – oil to brine
- Newtonian to non-newtonian – water to latex
- Lubricating to non-lubricating – grease to DI water
- Acidic to alkaline – citric acid to caustic soda
- Clean to abrasive – liquid soaps to filled polymers
- Low to high vapor pressure – heat transfer oil to ammonia
- Edible to toxic – chocolate to sodium cyanide



Custom Solutions
Customer Specific Designs
to Solve Unique Challenges

CAPACITY:
to 360 M³/Hr (1,600 GPM)

PRESSURE:
to 172 BAR (2,500 PSI)

VISCOSITY:
to 1,000,000 cSt (4,500,000 SSU)

TEMPERATURE:
to +370°C (to +700°F)

Viking OEM Solution

Viking developed a new heavy duty pump to drop in place of the existing pump, matching the mounting and plumbing interfaces. The new main lube pump delivered a more reliable design at a competitive price.

Customer Benefit

Viking OEM pump design offered a much more reliable design of a critical component, thus improving the over-all reliability and design of the engine.

Customer Industry

Cleaning equipment manufacturer

Customer Problem

A dry cleaning equipment manufacturer was developing a new machine to utilize a new cleaning technology. They needed a sealless magnetic coupling assembly to drive the cleaning drum.

Viking OEM Solution

Viking utilized its mag drive pump technology to develop a custom canister/magnetic coupling assembly to enable the cleaning drum to be belt driven and sealless, mating up to their equipment.

Customer Benefit

A solution designed to customer specifications, increasing reliability and durability.



A Unit of IDEX Corporation

Worldwide Leader Since 1911 for Positive Displacement Pumping Solutions for Industrial, OEM, and Sanitary Applications.

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 many thousands of customers who use millions of 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:

-40°C to 370°C (-40°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 pump life significantly, while reducing maintenance and unplanned downtime, which enables 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, backed by Viking Application Engineers and Viking Region Managers strategically located around the world.

Quality Manufacturing

Viking uses ISO9001-2000, Six-Sigma, and Lean/Kaizen in its worldwide manufacturing and assembly processes to remove waste, reduce development costs, and deliver superior products on schedule. 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 Viking designs, or pumps designs derived from more than 1,000 Viking catalog pumps with more than 40,000 active configurations. So, 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:

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